

optimic
ALL EARS ON YOU

Instruction manual

Congratulations on your brand new optimic®!



Please read these operating instructions carefully and familiarize yourself with your optimic® before using it for the first time.

The operating instructions are intended to help you understand the functions of your optimic® and at the same time provide important information on safe connection and operation.

Keep these operating instructions and always pass them on to other users together with the optimic®.

Intended use

The optimic® supports you in the optimal adjustment of your microphone. It is installed between the microphone and the sound system. Only use the optimic as described in these operating instructions. Any other use is considered improper and may result in property damage or personal injury.

Scope of delivery

- (1) optimic®
- (2) Power supply

Optional available accessories

- Carrying bag
- USB stick (16 GB)
- 19" rack tray for mounting up to 3 optimic side by side
- XLR cable basic or premium

Table of contents

Safety instructions	1
Technical data	2
Overview optimic®	2
Connecting optimic®	3
Using multiple microphones	
Calibration	4
Performing calibration	
Cancel Calibration	
Use multiple microphones	
Audio Recording	5
Technical requirements for USB storage medium	
Start audio recording	
Stop audio recording	
Manually adjust signal strength	6
Adjusting preamplification	
Disassemble the optimic®	6
Cleaning the optimic®	6
Troubleshooting	6
Declaration of conformity	7
Proper disposal -----.....	7
Adjusting the sound reinforcement system	7
Important operating elements of sound reinforcement systems	
Summary - Procedure for connecting the optimic®	
Procedure during calibration of the optimic®	

Safety instructions

⚠ Risk of injury due to damaged components

Using a damaged optomic or power supply unit can lead to fire or electric shock, for example.

- ▶ Check the optomic and the power supply unit for external damage before each use. If any damage is found, do not operate the optomic.
- ▶ Do not make any modifications or repairs to the optomic. Have all maintenance work performed by the manufacturer.

⚠ Risk of accident and injury due to cable routing

The optomic and the connected cables can become tripping hazards if the cables are not routed correctly.

- ▶ Ensure proper cable routing and secure the cables against slipping.

⚠ Risk of accident and injury in case of unauthorized use

Ensure that persons with reduced physical, sensory or mental capabilities, as well as inexperienced or uninformed persons, only use the optomic under the instruction of a responsible person.

- ▶ Keep the optomic out of reach of children.
- ▶ Ensure that unauthorized persons (e.g. children or animals) do not have access to the optomic and the power supply unit when the device is used unsupervised.

Attention - Danger of short circuit due to moisture

Liquid can penetrate the optomic housing and cause a short circuit in the electronics.

- ▶ Do not expose the optomic to rain or moisture.
- ▶ Do not use the optomic near water.
- ▶ Store the optomic in a dry place.

Attention - Danger of short circuit due to wrong power supply unit

The use of an incorrect power supply unit can, for example, cause a short circuit in the electronics.

- ▶ Use the optomic only with the supplied power supply.

Attention - Danger of short circuit due to overheating

High heat exposure or lack of air circulation can lead to overheating of the optomic and cause a short circuit in the electronics.

- ▶ Only use the optomic at ambient temperatures up to +50 °C.
- ▶ Make sure that all ventilation slots are unobstructed and not covered.
- ▶ Protect the optomic from prolonged exposure to strong sunlight.
- ▶ Do not place the optomic near heat sources.

Attention - Risk of equipment damage

The optomic and the connected cables can be damaged by falling, pulling, bending and crushing.

- ▶ When setting up the optomic, make sure that it is placed on a level and stable surface.
- ▶ Make sure that the cables are routed properly.

Environmental note

- ▶ Disconnect the optomic from the power supply when not in use for a longer period of time. The data of a previous calibration remain stored on the optomic.



Technical data

Temperature range	+10 °C to +50 °C
Relative humidity range	20 % to 80 %
Voltage supply	9 to 12 V; never over: +-24 V
Rated voltage	9 V
Current consumption (at nominal voltage)	
- optimic	- 600 mA
- optimic with USB storage medium	- up to 800 mA
Dimensions b x t x h	154,5 mm x 213 mm x 44 mm
Weight	2100 g

Overview optimic®

Front Side



Back Side



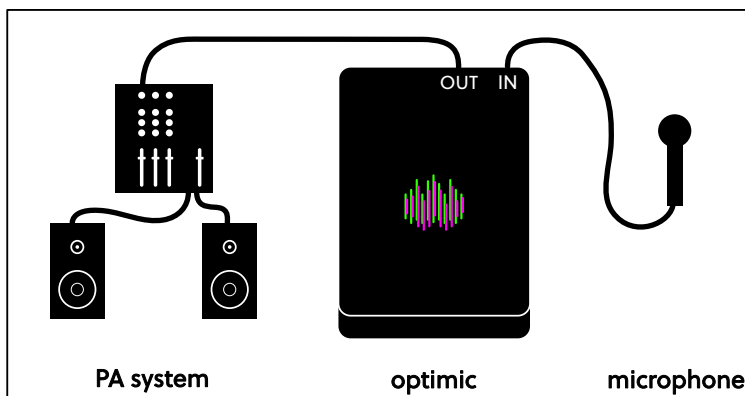
- (2) Input-Jack
- (4) Output-Jack
- (5) DC-Jack

NOTE: The Ethernet socket is used as a maintenance port. Please do not connect any devices to this jack.

- (6) Fan
- (7) Ventilation slots
- (8) USB port (Typ A)
- (9) Recording button with status LED
- (10) 48 V phantom power button with status LED
- (11) Signal LED
- (12) Gain button with 3 status LEDs
- (13) Calibration button with status LED

Connect the optimic®

NOTE: Two XLR cables are required to connect the optimic® between the sound system and the microphone. The cable length depends on the positioning of the individual devices in the room. Please have the appropriate XLR cables ready.



1. Set up the sound system. (see the manufacturer's operating instructions)
2. Position the microphone in the room as it will mainly be used later
3. Set up the optimic® (1) in the vicinity of the sound system or microphone.
4. Connect the XLR cable to the microphone or radio receiver. (see the manufacturer's operating instructions)
5. Connect the XLR cable of the microphone or radio receiver to the input socket (3) of the optimic®.
6. Connect the XLR cable to the microphone input socket of the sound system. (see the manufacturer's operating instructions).
7. Connect the XLR cable of the sound system to the output socket (4) of the optimic®.
8. Connect the power supply unit (2) to the DC socket (5) of the optimic®.
9. Connect the power supply unit (2) to a properly installed socket

- ▶ The left status LED of the gain key (12) lights up as soon as the power supply is established. The optimic® starts.
- ▶ All status LEDs of the gain key (12) light up briefly one after the other as soon as the optimic® is ready for operation.

NOTE: Performing the calibration is recommended!

10. Switch on the microphone and check whether the microphone requires phantom power, i.e. an active power supply. (see the manufacturer's operating instructions)
Attention: Some microphones that do not require phantom power can be damaged if it is switched on by mistake!
11. If necessary, press the 48V button (10) on the optimic® to activate the 48 V phantom powering of the microphone.
 - ▶ Status LED of the 48V key (10) flashes and then lights up green.
12. Switch on the sound system and reduce the volume. (see the manufacturer's operating instructions)

Note: Tips on setting up the sound system can be found in the section "Setting up the sound system".

Using multiple microphones

NOTE: It is not possible to connect multiple microphones to one optimic®. Each microphone requires its own optimic® with the appropriate amount of XLR cables. Depending on the sound system, several optimic® can be used side by side.

Calibration

The calibration ensures that the optimic® is individually adjusted to the sound system, the microphone and the room and can thus work optimally and error-free. The calibration takes place in 3 phases:

1. test of the sound system
2. test of the microphone
3. calibration of the room

Perform calibration

1. Press and hold the *Calib* key (13) on the optimic® for 3 seconds to start the test of the sound system.

- ▶ Status LED of the *Calib* Key (13) flashes green during the complete calibration.
- ▶ Welcome text is played back via the connected PA system.

2. Adjust the sound system so that the greeting text can be heard clearly at a comfortable volume. (see the manufacturer's operating instructions)

NOTE: Tips on setting up the sound system can be found in the section "Setting up the sound system".

3. Press the *Calib* Key (13) on the optimic® to start the microphone test.

- ▶ The proper function of the connected microphone is checked.

NOTE: If a problem is detected, an error message is output via the connected sound system. (see section "Troubleshooting")

4. If the microphone is working properly, the calibration of the room will start automatically.

Important: Do not speak into the microphone while the room is being calibrated!

- ▶ The room is being calibrated. Short feedbacks can be heard.
- ▶ After successful completion of the calibration, an acoustic feedback is given via the connected sound system.

NOTE: A repetition of the calibration is recommended if the optimic® is installed in a new room or the sound system or microphone is changed.

Cancel calibration

1. Press the *Calib* key (13) on the optimic® for 3 seconds to cancel a calibration in progress. The optimic® emits an acoustic feedback.

Use multiple microphones

NOTE: Each optimic® must be calibrated individually. The other microphones do not need to be switched off during calibration.

Audio recording

Data protection notice

When audio recording events, there is a risk that private information may be recorded without the consent of the people

- ▶ Observe the applicable data protection laws of the country in which you are conducting the audio recording.

Technical requirements for USB storage medium

- USB Port (Typ A)
- FAT32 formatting
- only one partition on the medium
- Storage Size > 250 MB

NOTE: Approximately 1 GB of storage space is required for 120 min of audio recording

Starting audio recording

1. Insert the USB storage medium into the USB port (8) on the optimic®.
2. Press the Rec key (9) on the optimic® to start the audio recording.

Status LED "Rec"	Description
off	- No USB storage device detected
lights green	- USB storage medium recognized - optimic® is ready for audio recording
lights red	- USB storage device detected - Audio recording running
flashes red	- USB storage device detected - IMPORTANT: storage size < 250 MB (30 minutes) - Audio recording is running
flashes red and green for 3 seconds	- USB storage device detected - IMPORTANT: no memory available - Audio recording is stopped

Stop audio recording

CAUTION - Risk of data loss

Removing the USB storage medium without first ending the audio recording can lead to data loss.

- ▶ Stop audio recording by pressing the Rec button and wait until the status LED lights up green before removing the USB storage medium from the optimic®.

1. Press the Rec key (9) on the optimic® to stop audio recording.
2. Wait until the "Rec" status LED lights up green again.
3. Remove the USB storage medium horizontally from the USB port (8) on the optimic®.

Adjust signal strength manually

IMPORTANT: Manual adjustment of the signal strength should only be carried out if necessary, for example if a microphone has to be replaced at short notice. Optimally, the microphone is adjusted via the calibration.

The signal LED (11) indicates whether a speech signal is coming from the connected microphone to the optimic®.

Status-LED "Sig"	Description
off	- No voice signal detected
flashes green (analogous to speech)	- Speech signal detected - Preamplifier is optimally adjusted
flashes green irregularly (not analogous to speech frequency)	- Speech signal detected - IMPORTANT: Speech signal too weak; Preamplification must be increased
lights up red (analogous to the speech signal)	- Speech signal detected - IMPORTANT: Speech signal too strong; Preamplification must be decreased

Adjusting the preamplification

NOTE: The factory setting is +6 dB gain. The corresponding status LED lights up green.

1. Press the *gain* key (12) on the optimic® to adjust the preamplification.
 - ▶ Status LED of the selected preamplification (0 / +6 / +20) lights up green.

Disassembling the optimic®

Carry out the steps listed under "Connecting the optimic®" in reverse order.

NOTE: Press the safety latches to release the XLR connectors and remove the XLR cables.

cleaning the optimic®

- Clean the optimic® only when it is not connected to the power supply.
- Clean the optimic® with a dry, lint-free cloth.
- Do not use any solvents or cleaning agents.
- Remove dust from the ventilation slots with a soft brush if necessary.

Troubleshooting

During calibration, an error occurred while testing the microphone.

Check the following points and then press the Calib button (13) to restart the test of the microphone:

- ▶ Microphone switched on. (see the manufacturer's operating instructions).

Wired microphone:

- ▶ XLR cable properly connected to the microphone and to the optimic®.
- ▶ If necessary: Phantom power of the microphone activated. (see operating instructions of the manufacturer)



Wireless microphone:

- ▶ Functionality ensured. (see operating instructions of the manufacturer)

If an error still occurs when testing the microphone:

- ▶ Replace XLR cable of the microphone.
- ▶ Replace the microphone.

Then press the *Calib* key (13) to restart the test of the microphone.

Declaration of Conformity

In accordance with:



EMV
Security

EN IEC 61000-6-3:2021 / 61000-6-1: 2019 / 61000-3-2: 2019+A1:2021
EN 61000-3-3: 2013+A2:2021

Proper disposal



The "crossed-out wheeled garbage can" symbol means that you are required by law to dispose of this equipment separately from unsorted municipal waste. Disposal via household waste, such as the residual waste garbage can or the yellow garbage can, is prohibited. Avoid misdirected waste by disposing of it correctly at special collection and return points. Observe the currently applicable regulations.

Setting the PA sound system



RISK OF HEARING DAMAGE

Volume levels that are too high for extended periods of time and very loud feedback noise can damage hearing.

- ▶ Adjust the volume of the sound system to a safe level.
- ▶ Adjust the sound system carefully and do not turn all controls to full at the same time, otherwise you will push the feedback protection of the *optimic*® to its physical limits.

Attention: Be sure to observe the operating instructions of the manufacturer of the sound system! Read the following information completely before you start setting the sound system.

The correct setting of the sound reinforcement system is crucial for the proper functioning of the *optimic*®.

Important controls of PA sound systems

Each sound system has a **master/main** control to regulate the overall volume. The volume of the sound system depends on the dimensioning of the power amplifiers/amplifiers and the loudspeakers.

IMPORTANT: Always pull the master/main control to the lowest possible level when first adjusting it, and then gradually increase the volume to a comfortable level.

Every sound system has at least one **input** (= microphone input jack). The *optimic*® is connected to this with an XLR cable.



Each input has a **gain control** - usually a rotary knob. This can be used to control the sensitivity of the input.

Important: The optimic® outputs a strong line-level signal! Set the gain control to the lowest possible value.

Some PA sound systems have additional **equalizer controls** per input - usually as knobs labeled "Bass", "Mid" and "Treble". The sound can be influenced by these.

IMPORTANT: The sound shaping is done by the optimic®. Therefore, set all equalizer controls to the "0" or 12 o'clock position.

Each input has a **volume control** - usually as a knob or slider with a scale from $-\infty$ to 0 dB. This can be used to control the volume of the individual inputs among each other.

IMPORTANT: Set the volume controls to a value between -10 and 0 dB. Adjustments are still possible later.

Summary - Procedure for connecting the optimic®

1. Set the Master/Main control to the lowest possible value.
2. Set the gain control to the lowest possible value.
3. Set all equalizer controls to the "0" or 12 o'clock position.
4. Set the volume control to a value between -10 and 0 dB.
5. Press and hold the Calib key (13) on the optimic® for 3 seconds to start the test of the PA sound system.

Procedure during calibration of the optimic®

1. Gradually increase the value of the Master/Main control until the greeting text can be heard clearly at a comfortable volume.

IMPORTANT: If the playback of the welcome text is too quiet although the Master/Main control is set to the highest value, adjust the Volume control. If this is still too quiet, adjust the Gain control. Always increase the slider values step by step.



Supporting videos can
be found here:



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