musikelectronic geithain

RL 906

Instructions for installation and use

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1 Introduction

Dear customer,

Thank you for your trust you have put in us by buying these speakers. You decided upon a quality product that in regard to tonal and technical characteristics complies to the utmost expectations.

The usual burn-in period is not required, because the speakers are artificially aged in-house.

Please read the technical description and manual to take advantage of the capabilities of these speakers and ensure safe operation.

2 System description

The RL 906 is a compact two-way loudspeaker consequently optimised for usage as a near-field monitor. Either in an outside broadcasting van, on top of the meter bridge or in the home studio and even as an precious hi-fi monitor it is more than convincing.

By Musikelectronic Geithain's coaxial technology a directivity was realised, that is especially adjusted to the requirements of near-field monitoring, meaning small base widths and short listening distances. Homogeneity, neutral tone quality and directional definition are most widely compatible to the greater speakers from the RL series. This allows seamless working without familiarisation phases along the whole audio production, regardless if it is in an outside broadcasting van, the cutting room or in the great studio. The RL 906 is barely greater than a controlling monitor, but it houses the power capability of a full-valued studio monitor. The bass reproduction as well as the maximum level meet the requirements of most challenges. In 5 channel applications, demanding a higher level in the lowest frequency range, the RL 906 is perfectly combined with our models from the Basis series whereby it moves closer to the greater models.

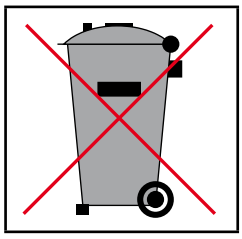
The loudspeaker is equipped with a 13 cm (5") cone woofer and a coaxial arranged 25 mm (1") tweeter. Each is powered by a separate MOSFET-amplifier with active crossover and electronic overload protection. The amplifier is situated in the back of the cabinet. The RL 906 provides a balanced XLR-type input with an adjustable input level. To compensate their placement, the speaker features three controllers to continuously adjust the high- and low-frequency response and also the frequencies around 300 Hz. These controllers are attached to the cabinet's backside. A two-coloured LED indicates the state of the amplifier and warns of clipping.

A variety of special stands and racks is available as accessories. According fixing elements have been integrated into the loudspeaker cabinet.

3 Basic information

3.1 Guidelines

This product complies to requirements of current European and national guidelines (Elektro-magnetische Verträglichkeit 89/336/EWG). The conformity is ascertained, corresponding declarations and records are deposited with the manufacturer.



Products built by us belong to B2C-class of the WEEE guidelines and must not be disposed with domestic waste.

3.2 Safety instructions

Like using any other electrical device you should observe the following operation guidelines, safety instructions and warning signs to ensure optimum functionality and safety of operation!

- Read these instructions carefully.
- Keep these instructions.
- Do not attempt to service this product yourself as opening or removing cover may expose you to dangerous voltage or other hazards.
- Electrical devices are not intended for use by kids.
- Operate this device only with the mains voltage stated on the backside.
- Do not install the device near any heat sources.
- Do not expose the device to direct sun radiation.
- Do not install the device in rooms with high humidity.
- Ensure sufficient air ventilation when installing the device in a shelf or wall.
- Do not try to insert anything into device openings.
- The device shall not be exposed to dripping or splashing and no objects filled with liquids shall be placed on the device.
- There is risk of electric shock when the device is open.
- Refer all servicing to qualified service personnel.
- Clean only with dry or slightly moistened cloth.

3.3 Unboxing

Unpack the speaker carefully and check for visible damages by inappropriate transport. In case of damages report them to your retailer. Keep the packaging, in case the speaker has to be transported in the future.

3.4 Delivery contents

- Speaker
- Mains cable
- Technical description and user manual

3.5 Cleaning

The speaker is made of real wood veneer and should be nurtured in the same way as furnishings. We advice quality wax polish to ensure durability of the veneer. Surfaces can also be cleaned with tidy, slightly damped, fuzz-free, smooth cloth.

3.6 Environmental conditions

Ensure the following environmental conditions:

Operating temperature	+ 15°C ... + 35°C
Storage temperature range	- 25°C ... + 45°C
Relative humidity	45 % ... 75 %

3.7 Guarantee acknowledgements

Opening the device by unauthorised personnel leads to all claims under guarantee expire. In case of destruction by overload, misuse or outside influences there are no claims under guarantee.

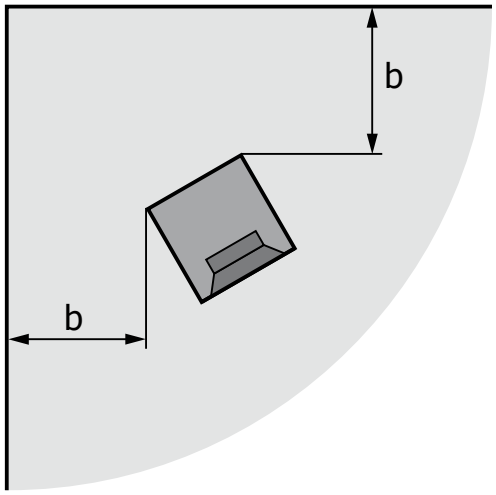
4 Positioning

Our speakers do not impose special requirements neither in stereo nor in multichannel set-ups. Nonetheless speaker positioning has influence on listening impression because every room is individually designed and furnished. The following advices are just guidelines that ease proper positioning. In addition we offer a measurement service to take advantage of the capabilities of your listening environment.

4.1 Positioning near walls

When speakers are installed near walls sound quality is physically affected. Every customary speaker behaves as a punctual sonic source in the low frequency range, with sonic waves spherical radiated without any constructional measures. Back wall reflections are unavoidable.

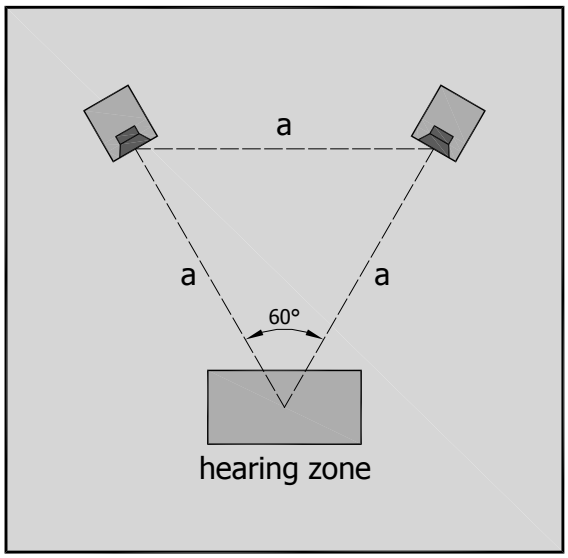
For optimum listening experience a minimum distance of 50 cm (20”) to walls and furniture should be ensured. Avoid corner installations because unwanted bass accentuation could arise.



- Minimum distance to wall b ≥ 50 cm (20”)

4.2 Stereo operation

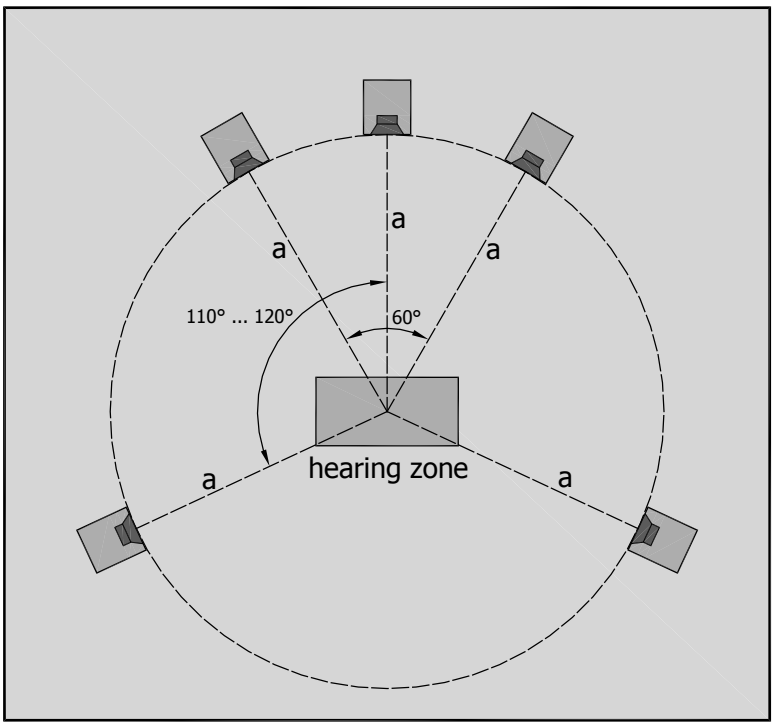
The optimum position of the speakers in your listening environment is the so-called stereo triangle (see figure). The base distance between the speakers and the distance to the hearing zone form an equilateral triangle (stereo triangle). A distance less than 1 m (3.3 ft) or more than 2.6 m (8.6 ft) should be avoided. For precise, spacial reproduction turn the speakers inside, directed to the hearing zone.



- Distance between speakers and your listening position a = 1 … 2.6 m (3.3 … 8.6 ft)
- Adjust the speaker horizontally to the height of the ear at the listening position

4.3 Surround operation

In surround operation the stereo triangle (see Stereo operation) is extended to a circle. The hearing zone is the center of this circle. Position all speakers in the same distance to the hearing zone. The center speaker is positioned in the middle between both front speakers. Pay attention to positioning the front and rear speakers horizontally along one plane. The angle between center and rear speakers should be about 110° - 120°.



- Distance between speakers and your listening position a = 1 … 2.6 m (3.3 … 8.6 ft)

5 Connecting the speakers

In this chapter we inform you how to connect your speakers to mains and your signal source. Ensure that the mains switch on the backside is in position "OFF". Only when your speaker is completely connected (see chapters 5.1 and 5.2) you can take the device into operation by use of the mains switch.

5.1 Mains connection

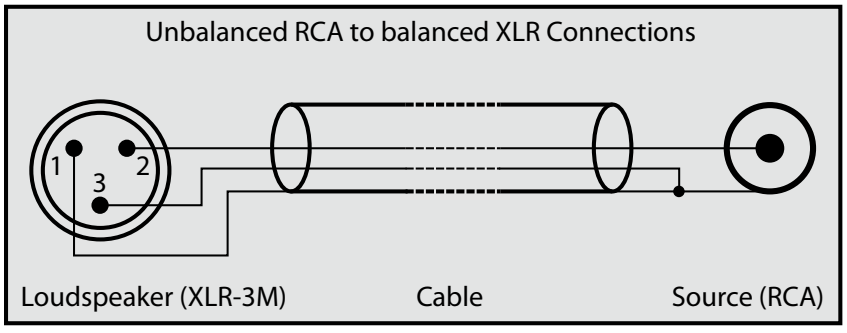
Check the mains voltage stated on the backside of the device. If your local mains voltage does not match the specification of the speaker, please refer to your retailer or direct distribution. When the stated and your local mains voltage comply connect the mains connector of the speaker to the socket with the included mains cable.

5.2 Cable connection

The input of the integrated amplifier is electrically balanced. When your signal source also utilises balanced connectors, please use a cable wired as stated in the table:

	Balanced connector (amplifier)	Balanced connector (signal source)	Unbalanced connector (Signal source)
	XLR	**XLR**	**RCA**
Erde	Pin 1	Pin 1	Ring
Signal +	Pin 2	Pin 2	Tip
Signal -	Pin 3	Pin 3	Ring

When using a signal source with unbalanced outputs (RCA) you need to balance the connecting cables. This avoids hum and other noise interferences. The table and the following figure show the wiring.



To carry the signal connect the XLR socket of the speaker to your signal source.

5.3 Status indication

The two-coloured LED at the front of the speaker is used as status indicator of the device.

- LED green indicates normal operation of the device
- LED red indicates the operation of the overload protection circuit;
  Output power limitation to protect the components from overloading

5.4 Adjustment controller

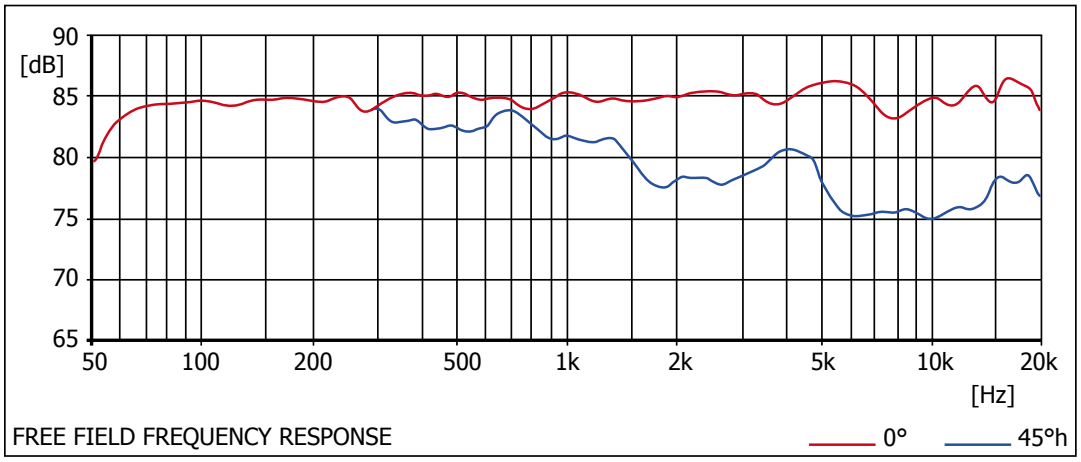
The "Level" controller is used for level adjustment over the full frequency range.

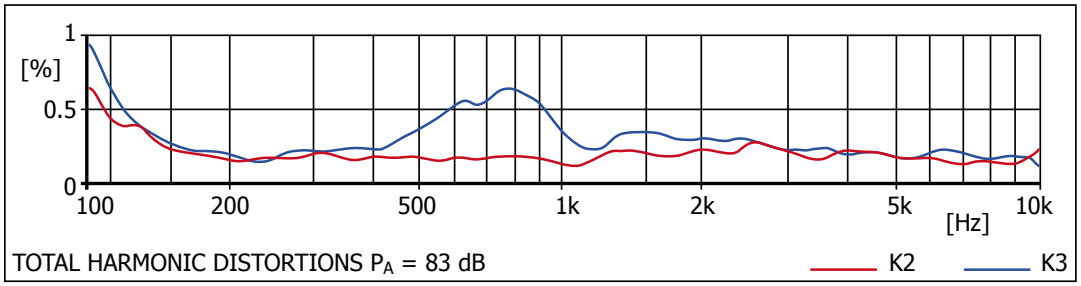
6 Specifications

General	Active 2-way coaxial loudspeaker for listening distances between 1 m and 2.6 m (3.3 ft and 8.6 ft)
Maximum SPL from 100 Hz ... 3 kHz	 104 ... 108 dB / r = 1 m (3.3 ft)
Bandwidth	50 Hz ... 20 kHz ± 3 dB
Calibration: Acoustic output level / P_E = -14 dBu	 76 dB / r = 1 m (3.3 ft)
Directivity Index from 200 Hz ... 10 kHz	 Increasing from 1.5 to 11 dB
Inherent noise sound level	≤ 7 dB(A) / r = 1 m (3.3 ft)
Total harmonic distortion measured at 83 dB / r = 1 m (3.3 ft) from 150 Hz ... 10 kHz	 ≤ -40 dB
Nominal input level	+ 6 dBu adjustable
Input impedance	≥ 10 kOhm RC balanced
Electronic crossover frequencies	3 kHz
Nominal output power amplifier LF HF	 80 W / 4 Ohm 80 W / 4 Ohm
Input connector	XLR 3F
Loudspeaker systems Woofer Tweeter	 130 mm (5″) cone 25 mm (1″) dome
Operation and clipping indicator	LED on front side
Power requirements	230 V ~ ± 10 %, 50 ... 60 Hz 115 V ~ ± 10 %, 50 ... 60 Hz (Optional) 100 V ~ ± 10 %, 50 ... 60 Hz (Optional)
Power consumption	Max. 100 VA at full load
Mains connection	IEC power connector
Temperature requirements for use for storage humidity	 + 15°C ... + 35°C -25°C ... + 45°C 45 % ... 75 %
Dimensions (h x w x d)	255 x 180 x 200 mm (10 x 7.1 x 7.9 inch)
Weight	5.5 kg (12.1 lbs)
Design of the cabinet	MDF wood in ash black veneered; optional other veneers or colours with holding device; optional without holding device

7 Acoustic measurements

All acoustic measurements are carried out under anechoic conditions with 1 m (3.3 ft) distance.





8 Notes

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