musikelectronic geithain

RL 901K
ME 901K

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 speakers RL 901K and ME 901K are active 3-way-monitors with cardioid radiation characteristics in the frequency range of 30 to 250 Hz. The RL 901K is designed for professional users in medium-size to large audio, video or film studios. For the discerning music enthusiast in the private domain the high-end speaker ME 901K with added baffle was designed.

By the cardioid radiation characteristic of both speakers reflections on the back walls of listening rooms can be minimized. The transfer characteristic can be matched to the acoustical conditions of the reproduction room as well as to the set-up situation by a low-frequent infinitely variable adaptation within two adjustable frequency ranges. The unit for the medium and high-frequency range is combined in a coaxial manner with a long-throw bass system and is provided with a directivity index, which supplements in an excellent way that of the bass system. The total directivity index of the monitor was optimized for larger listening distances. The whole system is superior by excellent localization behaviour. The high-power long-throw bass system is driven in a compact cabinet so that optimum impulse behaviour can be reached. Moreover, with a series of constructional measures we have provided that convincing lowest values of non-linear distortions and colorations could be reached.

The three-channel MOSFET power amplifier with electronic crossover is integrated within the back wall of the cabinet. An intermittent LED lighting signals when the overload limit is reached. After crossing of the maximum level the output level will be reduced by 20 dB to avoid any overloading of the components.

A variety of special stands and racks is available as accessories.

3 Basic information

3.1 Guidelines

This product complies to requirements of current European and national guidelines (Elektromagnetische Verträglichkeit 89/336/EWG).

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 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 Guarantee acknowledgements

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

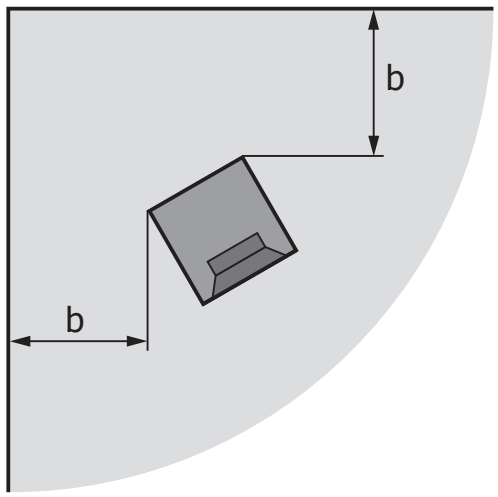
4 Positioning

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.

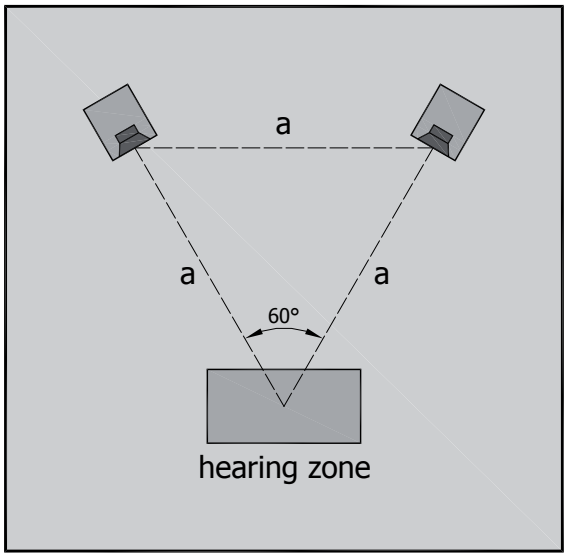
The speakers however utilize cardioid radiation characteristics with rearward attenuation greater than 10 dB. Because of this structural measurement installation near walls is considerably less critical. For optimum listening experience a minimum distance of 20 cm (7,9") to walls and furniture should be ensured. Avoid corner installations because unwanted bass accentuation could arise.



- Minimum distance to wall b ≥ 20 cm (7.9")

4.2 Stereo operation

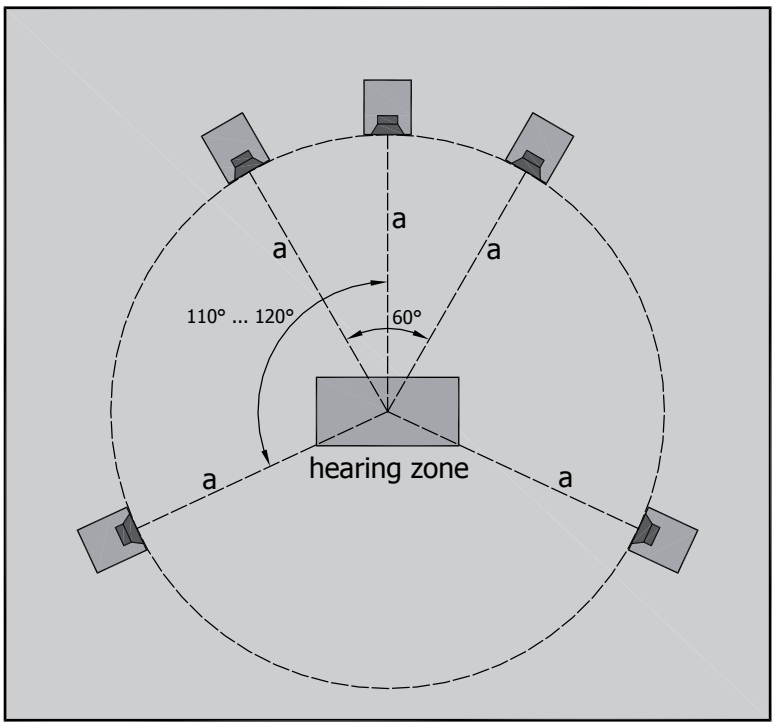
The optimum position of the speakers in your listening environment is the so-called stereo triangle (see figure). The base distance between the speakers and the distance to the hearing zone form an equilateral triangle (stereo triangle). A distance less than 2 m (6 ft) or more than 4 m (13 ft) should be avoided. For precise, spacial reproduction turn the speakers inside, directed to the hearing zone.



- Distance between speakers and your listening position a = 2 ... 4 m (6 ... 13 ft)

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 = 2 ... 4 m (6 ... 13 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

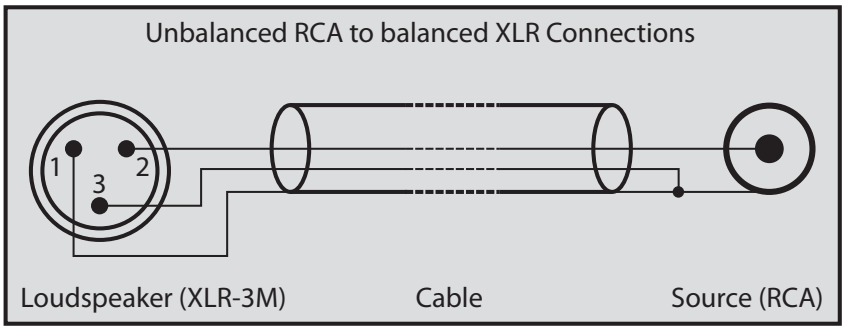
Check the mains voltage state on the backside of the device. If your local mains voltage does not match the specification of the speaker, please refer to your retailer or direct distribution. When the stated and your local mains voltage comply connect the mains connector of the speaker to the socket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

5.2 Cable connection

The input of the integrated amplifier is electrically balanced. When your signal source also utilizes 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**
Earth	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 tow-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

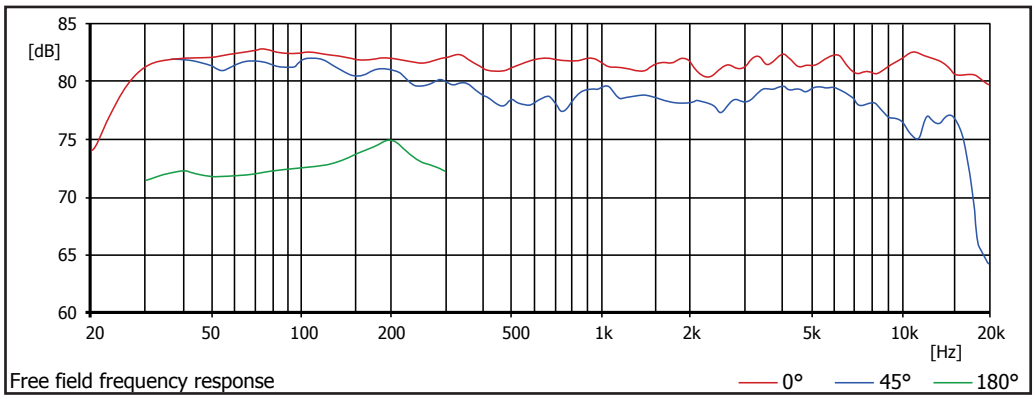
The "Level" controller is used for level adjustment over the full frequency range.

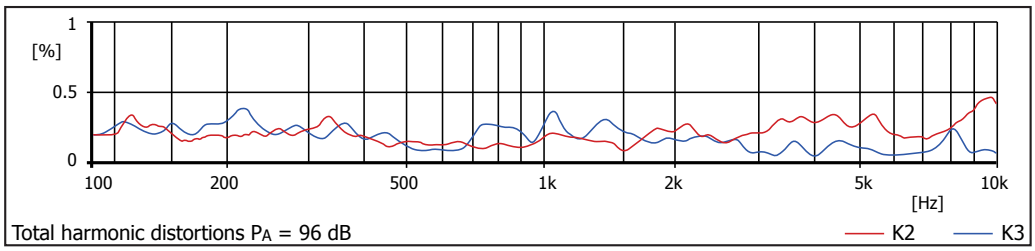
6 Technical data

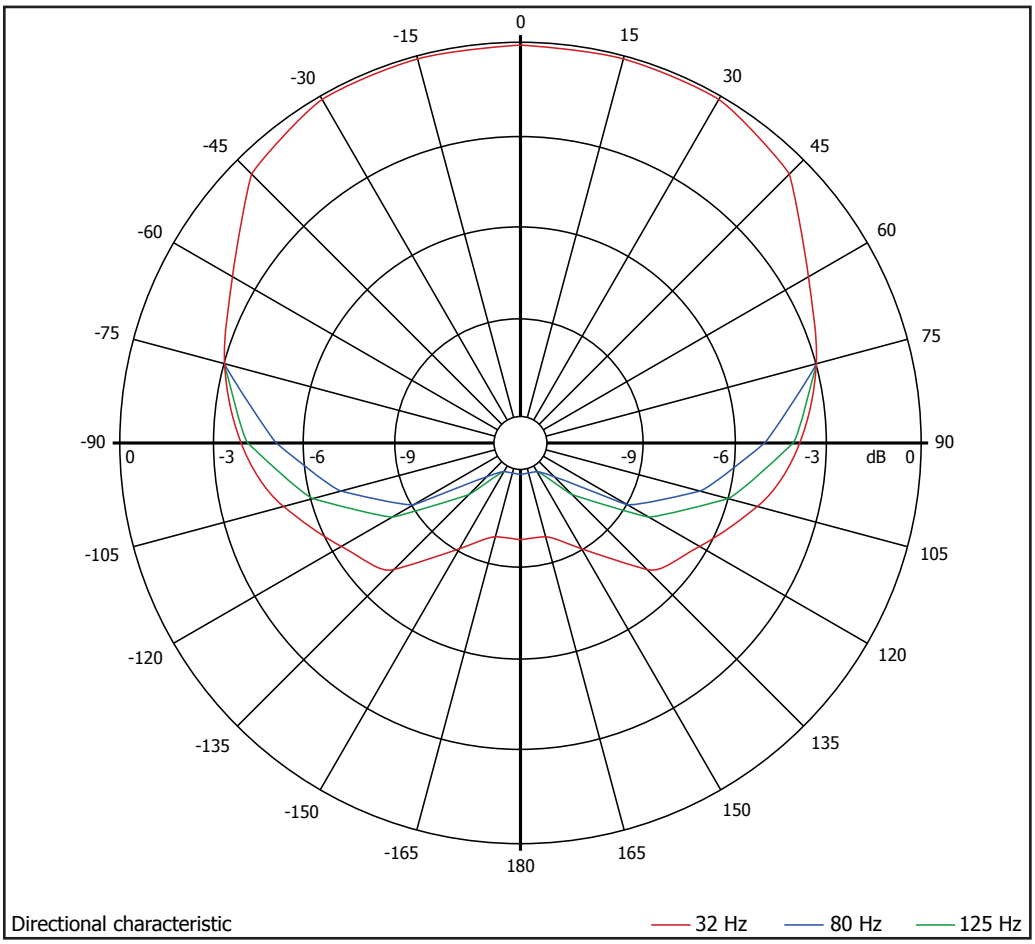
General	Active 3-way-monitor for listening distances between 2 and 4 m
Maximum SPL from 100 Hz ... 6 kHz	 116 ... 122 dB / r = 1 m (3.3 ft)
Bandwidth	25 Hz ... 20 kHz ± 3 dB
Calibration: Acoustic output level / PE = - 14 dBu	 89 dB / r = 1 m (3.3 ft)
Directivity index from 200 Hz ... 10 kHz	 Increasing from 5 to 10 dB
Inherent noise sound level	≤ 7 dB (A) / r = 1 m (3.3 ft)
Total harmonic distortion measured at 96 dB / r = 1 m (3.3 ft) from 100 Hz ... 10 kHz	 ≤ - 44 dB
Nominal Input level	+ 6 dBu adjustable
Input impedance	≥ 10 kOhm RC balanced
Electronic Crossover frequencies	550 Hz and 2.8 kHz
Nominal output power amplifier LF MF HF	 180 Watt / 4 Ohm 100 Watt / 4 Ohm 100 Watt / 4 Ohm
Input Connector	XLR 3F
Loudspeaker systems Woofer Mid-range unit Tweeter	 400 mm (16") cone 125 mm (5") cone 25 mm (1") dome
Operation and Clipping indicator	LED on front side
Power requirements	230 Volt ~ ± 10 %, 50 Hz ... 60 Hz 115 Volt ~ ± 10 %, 50 Hz ... 60 Hz (optional) 100 Volt ~ ± 10 %, 50 Hz ... 60 Hz (optional)
Power consumption	35 VA at standby; max 300 VA at full load
Mains Connection	IEC power connector
Dimensions (H x W x D) RL 901K ME 901K	 550 x 500 x 430 mm (21.6 x 19.7 x 17 inch) 561 x 500 x 441 mm (22.1 x 19.7 x 17.4 inch)
Weight RL 901K ME 901K	 48 kg (105.6 lbs) 49 kg (107.8 lbs)
Temperature requirements for use for storage Humidity	 + 15°C ... + 35°C (59°F ... 95°F) - 25°C ... + 45°C (- 13°F ... 113°F) 45 ... 75 %
Design of the Cabinet RL 901K ME 901K	MDF-wood veneered or varnish with holding device, with handles without holding device, without handles

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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