musikelectronic geithain

BASIS 11K
BASIS 13K
BASIS 14K

Instructions for installation and use

Table of contents

1 Introduction

Dear customer,

Thank you for the 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 Disclaimer

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3 System description

BASIS 11K, BASIS 13K and BASIS 14K complement the lower octave of our active control speakers as well as the central bass unit for stereo playback. On request, the BASIS models with our multichannel bass processor can also be integrated in surround loudspeaker systems. Furthermore, the subwoofers can be operated with suitable AV receivers, so that an optimal interaction with our passive high-end loudspeakers is possible.

We have developed special long-throw driver systems for our active bass speakers, which guarantee a low-distortion reproduction. All BASIS models have a cardioid-shaped radiation pattern to minimize backward room reflections. Due to the so-called K-technology (cardioid radiation characteristics in the bass range), which we have already been successfully using for many years with our 3- and 4-way active loudspeakers, the backward attenuation of more than 10 dB can achieve excellent results of the space-dependent transmission process even in acoustically critical rooms. As a result of this design principle, the placement of the bass speakers in their listening room is greatly simplified.

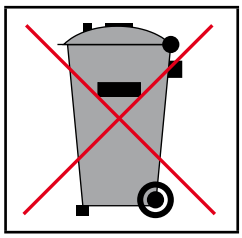
The amplifier output stages work with a 1000 W PWM power module. An electronic limiter acts as a protection device and protects the low-frequency drivers against overloads. A rear-mounted LED signals the response of the protection device and the operating state of the bass speaker. The distance from the front speaker to the subwoofer can be 0 to 1 m. In this area, a phase correction is possible. By a switchable high-pass filter, the lower frequency limit can be increased to 40 Hz. The crossover frequency is continuously adjustable between 60 and 80 Hz. The transmission range of the LFE channel ends at 120 Hz. The entire control and power electronics as well as all plug-in and control elements are integrated in the rear of the cabinet.

As an option, the bass speakers are available with a grille. An output on our subwoofers enables the operation of another passive bass speaker BASIS 11KP, BASIS 13KP or BASIS 14KP. This extension realizes an acoustic performance doubling and makes the choice of the site less critical. Furthermore, the system can be switched with a wired remote control in the bypass mode. All output channels are connected directly to the input channels - the bass channel is disabled, the LFE channel remains active.

4 Basic information

4.1 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.

4.2 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.
- 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.
- 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.

4.3 Unboxing

The speakers are shipped in proper condition. Unpack the speaker carefully and check for visible damages. In case of damages report them to your retailer. Keep the packaging, in case the speaker has to be transported in the future.

4.4 Delivery contents

- Speaker
- Mains cable
- Technical description and user manual

4.5 Cleaning

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

4.6 Environmental conditions

Ensure the following environmental conditions in your listening room:

- Operating temperature + 15°C ... + 35°C (+ 59°F ... + 95°F)
- Storage temperature range – 25°C ... + 45°C (– 13°F ... + 113°F)
- Relative humidity 45 % ... + 75 %

4.7 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.

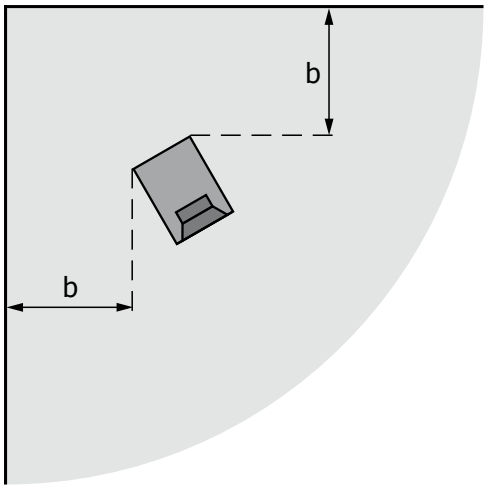
5 Positioning

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.

5.1 Positioning near walls

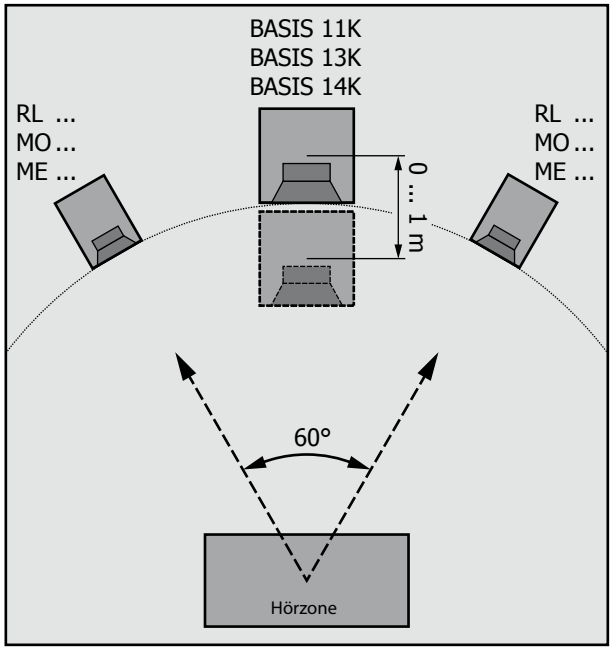
When speakers are installed near walls sound quality is physically affected. Every customary speaker behaves as a punctual sonic source in the low frequency range, with sonic waves spherical radiated without any constructional measures. Back wall reflections are unavoidable.

The subwoofers BASIS 11K, BASIS 13K and BASIS 14K 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

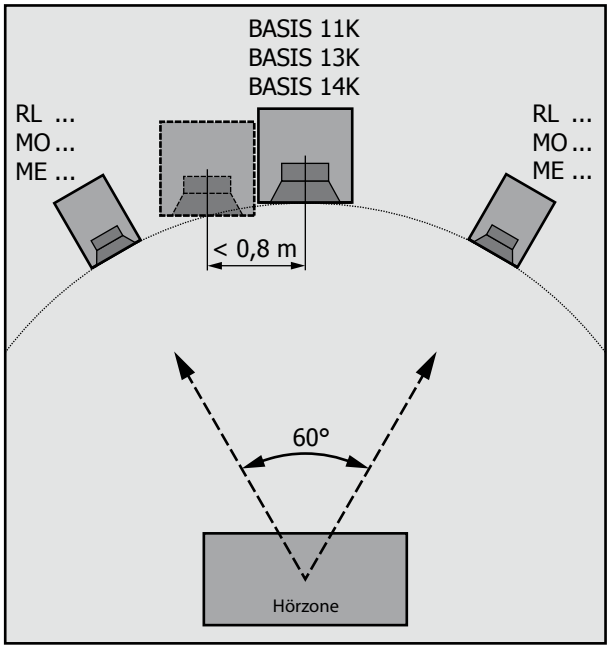


- Minimum distance to wall b ≥ 20 cm (7.9″)

5.2 Stereo and surround operation



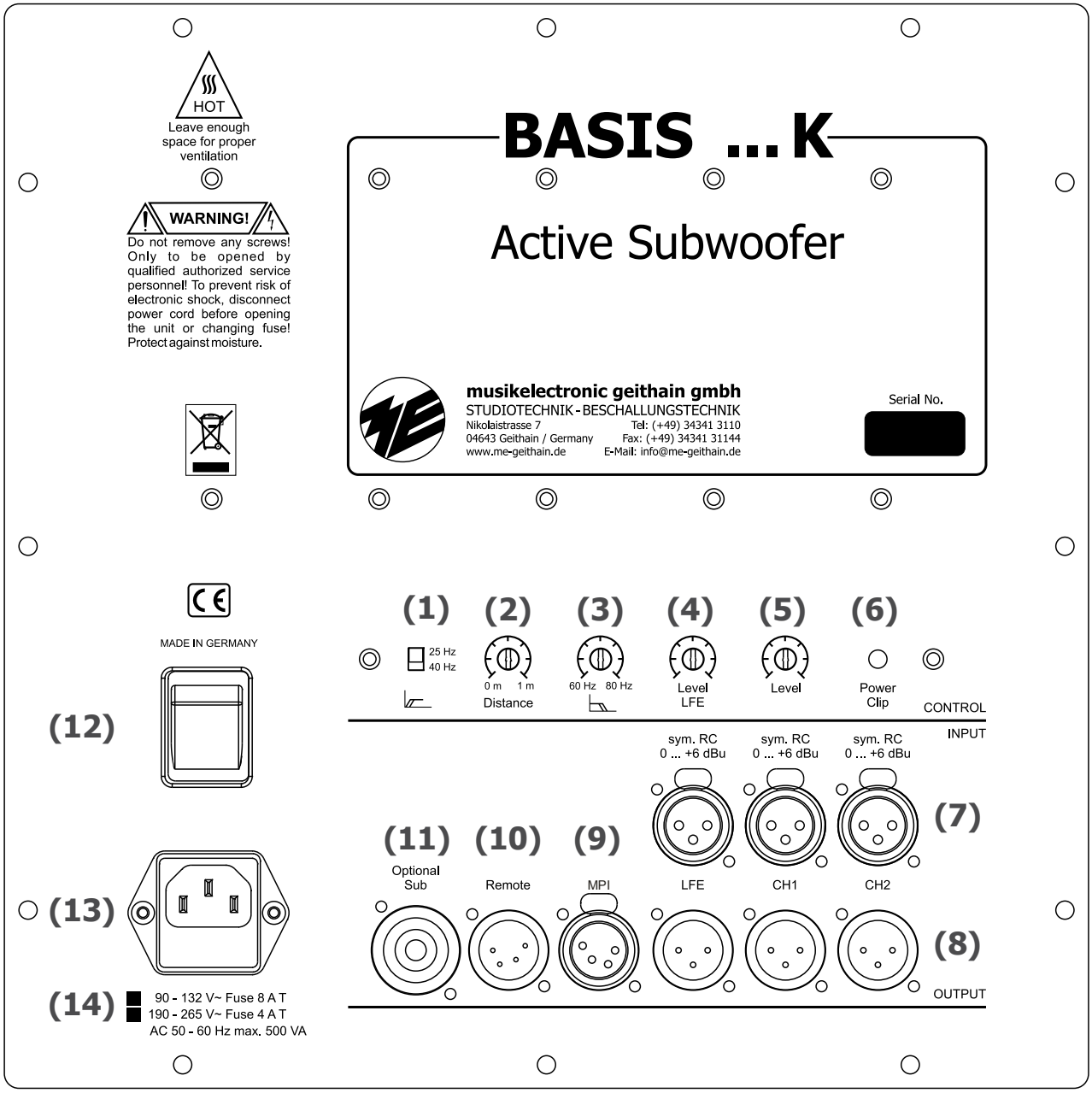
The distance of the BASIS 11K, BASIS 13K and BASIS 14K should not exceed 1 m (3’3”) in the direction of the listening zone to the plane of the front speakers. A range adjustment is provided for the devices in this range and can be made on the adjustment knob (2) (see the figure in chapter 6).



It is not necessary to place the subwoofers exactly in the middle of the stereo base, since locating the sound source below 100 Hz is only possible to a limited extent. But it should always be on the same level between both front systems. Placing the subwoofer outside the stereo base may result in unwanted localization of the BASIS 11K, BASIS 13K and BASIS 14K.

6 Set-up the speakers

In this chapter we inform you how to connect your BASIS 11K, BASIS 13K oder BASIS 14K to mains and your signal source and how to connect the subwoofer to your active RL or MO speakers. Ensure that the mains switch (12) on the backside is in position "OFF". Only when your speaker is completely connected (see chapters 6.1and 6.2) you can take the device into operation by use of the mains switch.



6.1 Mains connection

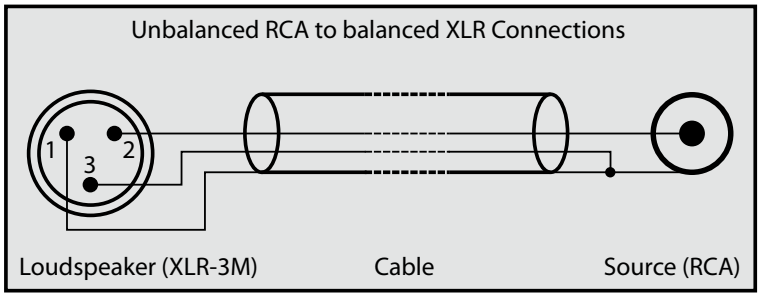
Before start-up check the mains voltage stated (14) on the backside of the device. If your local mains voltage does not match the specification of the speaker, please refer to your retailer or direct distribution. When the stated and your local mains voltage comply connect the mains connector of the speaker to the socket (13) with the included mains cable.

6.2 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.



6.3 LFE connection

The LFE input of the BASIS 11K, BASIS 13K or BASIS 14K is used to reproduce the LFE signal or to use them as subwoofers. Use the the LFE output of your signal source and connect it to the LFE input at the subwoofer (7).

6.4 Integration into stereo or surround speaker systems

For stereo or multi-channel operation, the channels connected to the BASIS 11K, BASIS 13K or BASIS 14K will pass through the active crossover of the subwoofer. Here, the bass frequencies of the signals are filtered and played back via the bass system. The main and surround speakers are relieved in the bass range.

For stereo operation, the left and right channels of your audio source are connected to the input jacks CH1 and CH2 on the BASIS 11K, BASIS 13K or BASIS 14K (7). Connect the speakers of the two stereo channels to the output jacks CH1 and CH2 (8). Please note that the inputs and outputs CH1 and CH2 are not interchanged when connecting to each other. The following table shows a circuit example for stereo operation:

	Input (from signal source)	**Output (to the speakers)**
CH1	Front left	Front left
CH2	Front right	Front right

If you want to integrate your subwoofer into surround speaker systems, please use our multichannel bass processor BCU 7.1. Connect the device to the MPI socket (9) on the BASIS 11K, BASIS 13K or BASIS 14K using the cable supplied with the BCU 7.1. The device can control up to 7 channels. The BCU 7.1 is not included but can be ordered from your dealer.

6.5 Bass extension

Our subwoofers BASIS 11K, BASIS 13K and BASIS 14K enable the parallel operation of other BASIS models. The bass extension results in an acoustic doubling of performance and a more even sound field distribution, especially in acoustically less attenuated rooms.

The extension can be realized with our active bass systems BASIS 11K, BASIS 13K and BASIS 14K as well as with the passive subwoofers BASIS 11KP, BASE 13KP and BASIS 14KP. The passive subwoofer can be connected to its active BASIS 11K, BASIS 13K or BASIS 14K via a Speakon input on the rear panel.

For parallel operation of a second active BASIS model, the LFE output (8) is provided on the amplifier unit. With this option, the second subwoofer can be controlled separately. For bass extension with a passive woofer please use the Speakon output (11). The room acoustics adjustment of the BASIS 11KP, BASIS 13KP and BASIS 14KP are is carried out via their central bass unit. The maximum power of 1000 W of the active BASIS model will in this case be split between the two subwoofers.

6.6 Remote switch

The remote switch is not included as the controller is not required for normal operation. You can order this from your dealer. The switch is only needed if a playback of the program material without

bass support is provided. Turning on the controller will directly connect the stereo speakers and, if the multichannel bass processor is used, the center and surround speakers, and mute the subwoofer. For this use case the connector (10) is provided.

6.7 Using big main speakers

For large main speakers, the BASIS 11K, BASIS 13K or BASIS 14K should be used exclusively for the subwoofer channel (LFE). The connection of the individual speakers to the subwoofer is therefore not advisable, as an additional bass reproduction, in addition to the large main speakers, serves no purpose.

6.8 Acoustical room adjustment of the subwoofer

After the subwoofer is properly positioned and connected, the volume (5) will be adjusted to that of the main speakers. Then adjust the volume of the additional LFE channel (subwoofer) (4). We recommend gradual adjustment of the level. As an advantage start this procedure with stereo mode. Usually listeners have the most listening experiences in this mode, so that they react very sensitively to errors in the sound image.

In case it was not possible to place the BASIS 11K, BASIS 13K or BASIS 14K at the same level as the stereo speakers, please use the "Distance" knob (2) to correct the distance (see chapter 5.2). Please note that the maximum correction for the distance of the subwoofer to the level of the front speakers (in the direction of the listening zone) is 1 m.

On delivery, the f_u switch (lower limit frequency) is set to 25 Hz. If you require a higher overall level, a lower limit frequency of 40 Hz may be useful (1). This adjustment applies when using the subwoofer as the central bass unit in stereo or surround mode, as well as in LFE mode. Via the controller (3) you can adjust the crossover frequency between 60 and 80 Hz. This setting is possible when using the subwoofer as the central bass unit. By default, we recommend a crossover frequency of 80 Hz. The optimum range should be set by acoustic measurements. The upper limit frequency of the LFE channel is not adjustable and is 120 Hz.

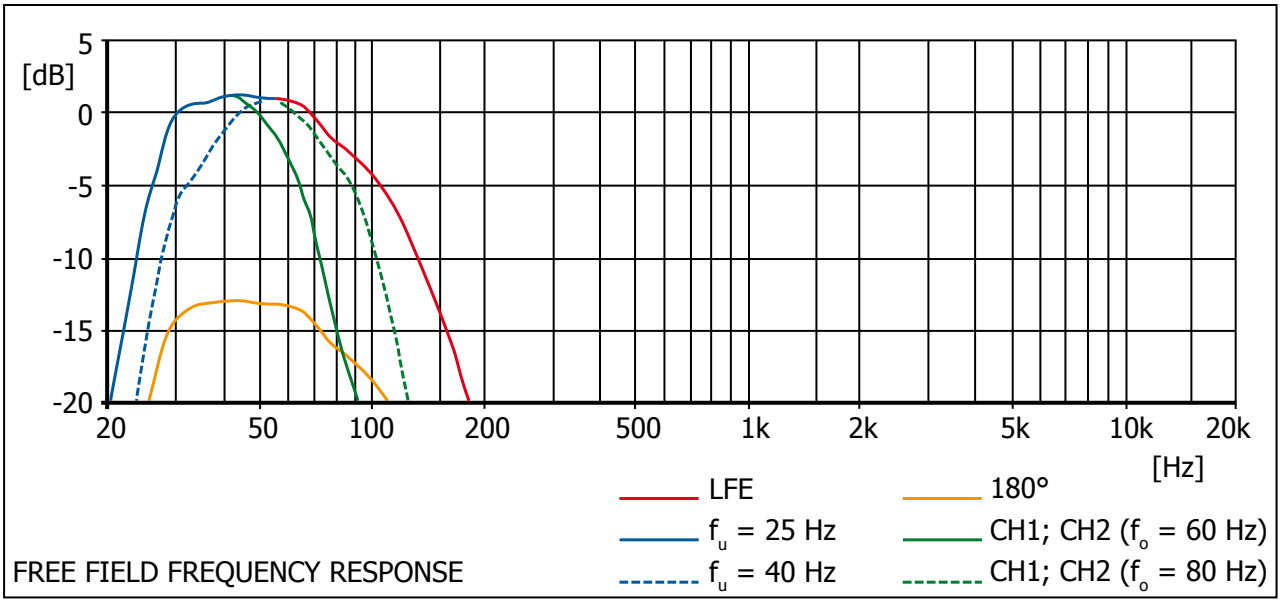
For studio applications with reference status, professional measurement in the control room is appropriate.

6.9 Technical data

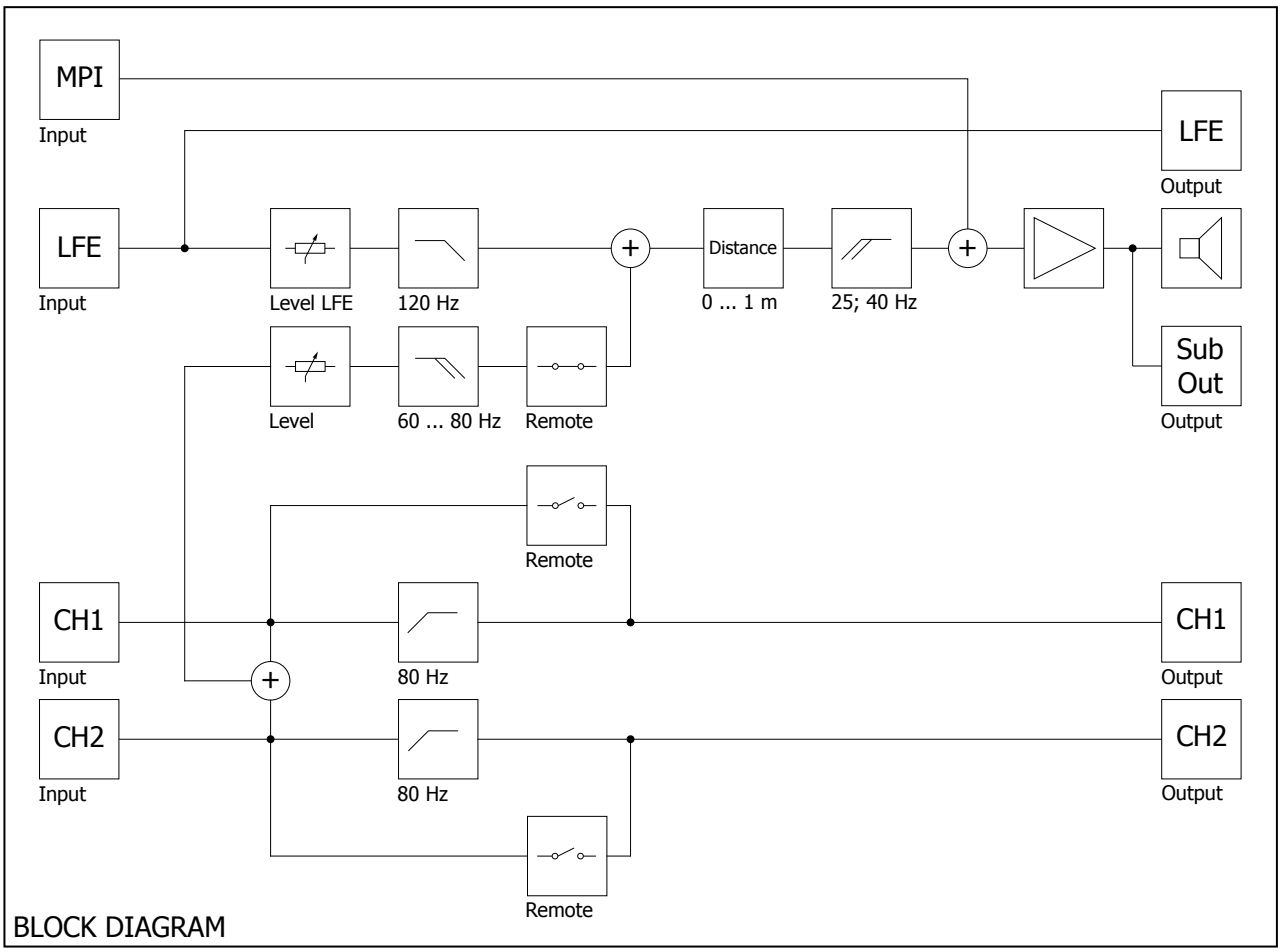
General	Bass extension for our active speakers and subwoofer for our passive high-end speakers
Principle of construction	cardioid radiation characteristics in the bass range
Maximum SPL measured at f = 63 Hz	
BASIS 11K	112 dB / r = 1 m (3'3"); 2 π
BASIS 13K	118 dB / r = 1 m (3'3"); 2 π
BASIS 14K	122 dB / r = 1 m (3'3"); 2 π
Bandwidth	25 Hz ... (60 Hz ... 80 Hz, continuously adjustable) - 6 dB; 2 π
with high-pass	40 Hz ... (60 Hz ... 80 Hz, continuously adjustable) - 6 dB; 2 π
LFE	25 Hz ... 120 Hz - 6 dB; 2 π
Calibration	
Acoustic output level / P_E = - 14 dBu and f = 50 Hz	89 dB / r = 1 m (3'3"); 2 π
Inherent noise sound level	GK0 / DIN 15996 r = 1 m (3'3"); 2 π
Nominal input level	- 9 dBu ... + 6 dBu adjustable
Output level HP	
CH1, CH2	+ 6 dBu @ 2 kΩ symmetrical
Input impedance	> 10 kΩ RC symmetrical
Bass output level	adjustable
Nominal output power of the PWM amplifier	max. 1000 W @ 4 Ω
Electronic crossover	LP 24 dB / octave HP 12 dB / octave
Distance correction	adjustable delay between 0 ... 1 m to the front speaker
Power requirements	90 ... 132 V, 55 ... 65 Hz or 190 ... 265 V, 45 ... 55 Hz
Power consumption	20 VA when idle, max. 500 VA at full load
Operation and clipping indicator	LED at back of the cabinet
Input connectors	3x XLR 3F
Output connectors	3x XLR 3M 1x Speakon NL4 (driving BASIS 11KP / 13KP / 14KP)
Connector for Bypass switch (remote)	XLR 4M
Connector für BCU 7.1 (MPI)	XLR 4F
Drive units	
BASIS 11K	280 mm (11") cone
BASIS 13K	320 mm (13") cone
BASIS 14K	400 mm (14") cone
Dimensions (H × W × D)	
BASIS 11K	350 mm x 350 mm x 350 mm (13.8" x 13.8" x 13.8")
BASIS 13K	400 mm x 400 mm x 400 mm (15.8" x 15.8" x 15.8")
BASIS 14K	550 mm x 500 mm x 430 mm (21.7" x 19.7" x 16.9")
Weight	
BASIS 11K	15,8 kg (34.8 lbs)
BASIS 13K	23,3 kg (51.4 lbs)
BASIS 14K	37,8 kg (83.3 lbs)

Environmental conditions	
for use	+ 15°C ... + 35°C (+ 59°F ... + 95°F)
for storage	- 25°C ... + 45°C (- 13°F ... + 113°F)
humidity	45 % ... 75 %
Design of the cabinet	MDF wood in ash black veneered; optional different veneers or colours with handles; optional without handles (only BASIS 14K and BASIS 14KP)

7 Acoustic measurements and block diagram



FREE FIELD FREQUENCY RESPONSE



BLOCK DIAGRAM

8 Notes

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STUDIO MONITORING - HIGHEND LOUDSPEAKER - SOUND REINFORCEMENT SYSTEMS

SYSTEMS

Nikolaistraße 7
04643 Geithain / Germany

Phone: +49 (0) 34341 3110
Fax: +49 (0) 34341 31144

Email: info@me-geithain.de

www.me-geithain.de