



musikelectronic geithain

# BASIS 10



**Instructions for installation and use**

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## **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**

Technical data and appearances are subject to changes without notice. Errors and omissions excepted. Musikelectronic Geithain GmbH assumes no liability for any loss which may be suffered by any person who relies either wholly or in part upon any description, photograph or statement contained herein. Musikelectronic Geithain GmbH products are sold through authorized fulfillers and resellers only. Fulfillers and resellers are not agents of Musikelectronic Geithain GmbH and have absolutely no authority to bind Musikelectronic Geithain GmbH by any express or implied undertaking or representation. This manual is copyrighted. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system without the prior written permission of Musikelectronic Geithain GmbH.

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### **3 System description**

We have reimagined the compact subwoofer to create the perfect partner for our smallest loudspeakers. The BASIS 10 not only impresses with its compact form factor, but also leaves nothing to be desired thanks to its remarkable low-end performance and innovative features.

With an amplifier power of 800W per channel, this subwoofer delivers powerful and precise bass. A dedicated channel allows for the connection of an additional passive subwoofer or passive loudspeaker. Expanding the setup with a second subwoofer enables a stereo bass configuration, which not only doubles the output but also simplifies placement within the listening environment. All channels are also equipped with configurable DSP filters, allowing the sound to be optimally adapted to the acoustic conditions of the room. The distance from the main speaker to the subwoofer can be compensated via a time delay adjustable up to 2,000 ms.

Thanks to the optional Dante interface with built-in network switch, the BASIS 10 is perfectly suited for professional audio setups. The input signals from the Dante audio stream can also be routed to the analog XLR outputs, making even analog studio monitors Dante-capable within this setup. The BASIS 10 is not just a subwoofer, but a statement for the highest audio quality and flexibility.

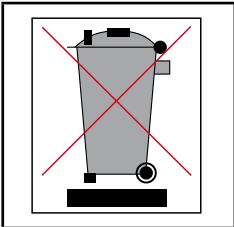
Experience the perfect fusion of design, performance, and technology.

## 4 Basic information

### 4.1 Guidelines

This product complies to requirements of current European and national guidelines. The conformity is ascertained, corresponding declarations and records are deposited with the manufacturer.

### 4.2 Disposal



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

#### 4.2.1 Germany

It is not allowed to dispose of used electrical equipment as domestic waste.

Non-reusable parts of the mounting accessories have to be disposed according to national environmental regulations.

Ensure disposal of damaged mounting accessories before they could be reused.

But do not dispose these products and accessories at official collecting points for recycling either!

Disposal of Musikelectronic Geithain GmbH products labelled with a waste bin sign have thus to be disposed of by Musikelectronic Geithain GmbH alone. Please call Musikelectronic Geithain GmbH at the number stated below if you have a Musikelectronic Geithain GmbH product to be disposed. We will offer you a straightforward and professional disposal not affecting cost.

If there is no waste bin sign on one of your Musikelectronic Geithain GmbH products, because they have been sold before March 2006 then by law the owner is in charge of the disposal. For these we will be happy to assist and offer you proper ways of disposal.

Declaration: With the ElektroG (law relating to electrical and electronic equipment and appliances) we have complied with the EU-directive on waste electrical and electronic equipment (WEEE, 2002/96/EC).

The Musikelectronic Geithain GmbH has thus labelled all products mentioned in the WEEE from 03/24/2006 onwards with a sign with a crossed out waste bin and a white bar below. This sign indicates that the disposal into the domestic waste is prohibited and that the product has been put into circulation at the 03/24/2006 earliest.

The Musikelectronic Geithain GmbH has been legally registered as a manufacturer with the registration office EAR. Our WEEE registration No. is: DE 72 4045 19

#### **4.2.2 EU, Norway, Iceland and Liechtenstein**

It is not allowed to dispose of used electrical equipment as domestic waste.

The Musikelectronic Geithain GmbH has thus labelled all products coming from EU-Member countries as well as Norway, Iceland and Liechtenstein (except Germany) mentioned in the WEE from 08/13/2005 onwards with a sign with a crossed out waste bin and a white bar below. This sign indicates that the disposal into the domestic waste is prohibited and that the product has been put into circulation at the 08/13/2005 earliest.

Unfortunately the European directive WEEE has been complied with implementing different national provisions of law throughout all member countries, which makes it impossible for us to offer consistent solutions for the disposal throughout Europe.

Responsible for complying with these provisions of law is the local distributor (importer) of each country.

For proper disposition of used products in accordance with these local provisions in the mentioned countries of the European Union (except Germany) please ask your local dealer or the local authorities.

#### **4.2.3 Other countries**

For proper disposition of used products in accordance with these local provisions in other countries please ask your local dealer or the local authorities.

### 4.3 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 during the life cycle at a safe place. The instructions are an important part of the product.
- ◀ Heed all warnings. Follow all instructions.
- ◀ The product may only be used in accordance with the information provided in the user manual. Before and during the usage of the amplifier please ensure that all recommendations, especially the safety recommendations in the user manual, are adhered to.
- ◀ Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury, and damage to the product.
- ◀ The heat sink must not be blocked or covered. This product should not be installed unless proper ventilation is provided or manufacturer's instructions have been adhered to.
- ◀ 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.
- ◀ Clean only with dry or slightly moistened cloth.
- ◀ Protect the power cord from being walked on, pinched or damaged in any other way. Pay particular attention to plugs and the point where they exit the device.
- ◀ Do not attempt to service this product yourself as opening or removing cover may expose you to dangerous voltage or other hazards.
- ◀ Refer all servicing to qualified service personnel.

**Water, rain, humidity and dust**

The device is not protected against water, rain or excessive humidity and mustn't be exposed to these environmental conditions or operated next to them. Employ appropriate safety measures to prevent dust and dirt to get into the device. Dust and humidity are often the main reason for high voltage creepage paths and serious electrical dangers.

**Maintenance**

Unplug the device from the mains supply and refer to your authorised retailer or authorised repair and maintenance shop or the manufacturer. Maintenance is only allowed by one of the stated groups, because opening or removing the cover could expose you to dangerous voltages or other dangers. Maintenance is required when ...

- ◀ ... liquid has been spilled or objects have fallen into the device,
- ◀ ... the device has been exposed to moisture,
- ◀ ... the device has been dropped or suffered damage in any other way,
- ◀ ... the device exhibits a distinct change from its normal function or performance.

**Repair and replacement parts**

All service and repair work must be carried out by an authorised retailer or an authorised repair and maintenance shop or the manufacturer. When replacement parts are required, please ensure that only replacement parts specified by the manufacturer are used. The use of unauthorized replacement parts may result in injury and/or damage through fire or electric shock or other electricity-related hazards.

**Transport**

To ship this device, always use the original shipping carton and packaging materials. For best protection pack it the same way as the manufacturer.

**Air vents and heat sink**

The air vents and the heat sink are provided to ensure reliable operation of the device and to protect it from overheating. The air vents and the heat sink must not be blocked or covered. This device should not be installed unless proper ventilation is provided or manufacturer's instructions have been adhered to.

**Cleaning**

Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners.

**Lightning**

For added protection of the product during lightning storms, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.

### **Interference of external objects and/or liquids with the appliance**

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the device.

### **Connecting**

When you connect the device to other equipment, turn off the power and unplug all of the equipment from the supply source. Failure to do so may cause an electric shock and serious personal injury. Read the user's manual of the other equipment carefully and follow the instructions when making the connections.

### **Sound level**

Reduce the level to minimum before you turn on the speaker to prevent sudden high levels of noise which may cause hearing or speaker damage.

### **Power failure**

In case of power failure while the amplifier is powered up, it will automatically restart as soon as the mains supply is restored. All settings made before the power failure are restored.

### **Speakon connectors and Speakon cords**



To prevent electric shock, do not operate the product with any of the conductor portion of the speaker wire exposed.

Employ appropriate safety measures when connecting the power cord. When installing or connecting the product, disconnect it from mains supply. The product mustn't be connected to other alternating voltages and sockets than demanded on the back of the device.

**IMPORTANT:** Only off-the-shelf cables are allowed to be used to connect the product to mains.

**IMPORTANT:** To disconnect the product from mains, first disconnect the power cord from the socket, and then remove the cable from the product.



**THE MAINS CONNECTION MUSTN'T BE DISCONNECTED FROM PROTECTIVE EARTH. THAT'S ILLEGAL AND DANGEROUS!**

## **4.4 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.

## **4.5 Delivery contents**

- ◀ Subwoofer BASIS 10
- ◀ Mains cable

- ◀ Technical description and user manual

#### **4.6 Cleaning**

The subwoofer is made of real wood veneer or has a high quality lacquer surface and needs to be nurtured in the same way as furnishings. We advise quality wax polish for the veneer or surface cleaner for the lacquer to ensure durability of the veneer or lacquer and colour. Surfaces can also be cleaned with tidy, slightly dampened, fuzz-free, smooth cloth.

#### **4.7 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 %

#### **4.8 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.

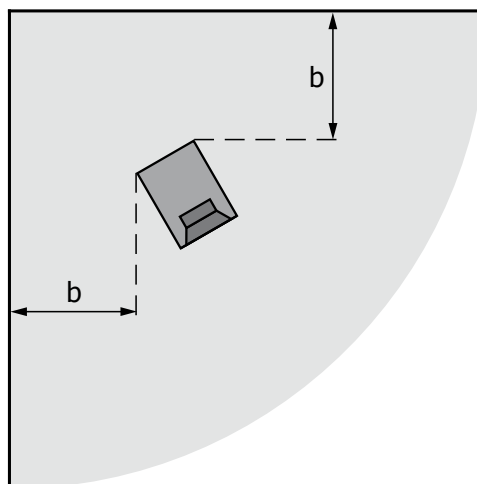
## 5 Positioning

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 subwoofer behaves as a punctual sonic source, with sonic waves spherical radiated without any constructional measures. Back wall reflections are therefore unavoidable.

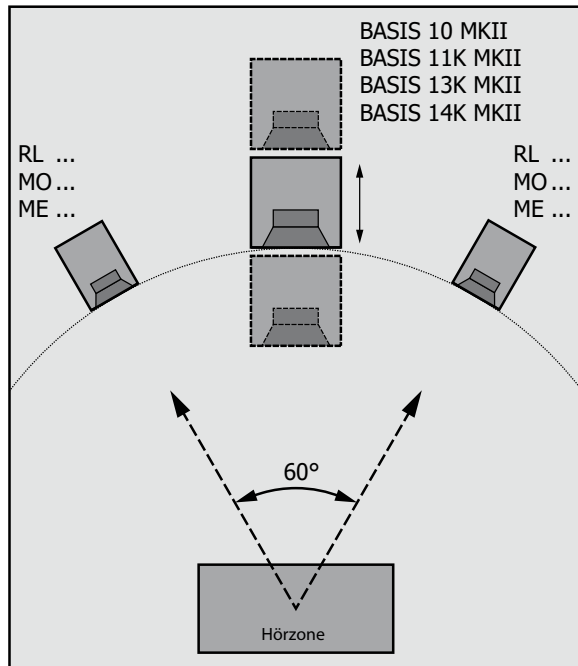
For optimum listening experience a minimum distance of 50 cm (19.7") to walls and furniture should be ensured. Avoid corner installations because unwanted bass accentuation could arise.



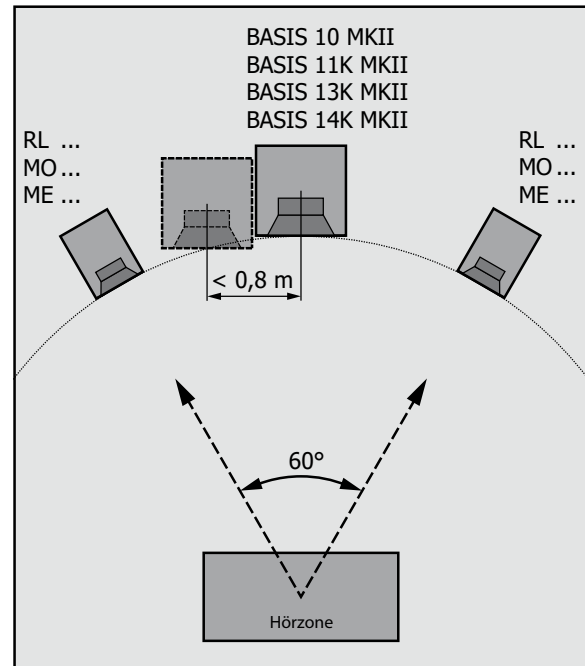
◀ Minimum distance to wall

$$b \geq 50 \text{ cm (19.7")}$$

## 5.2 Stereo and surround operation

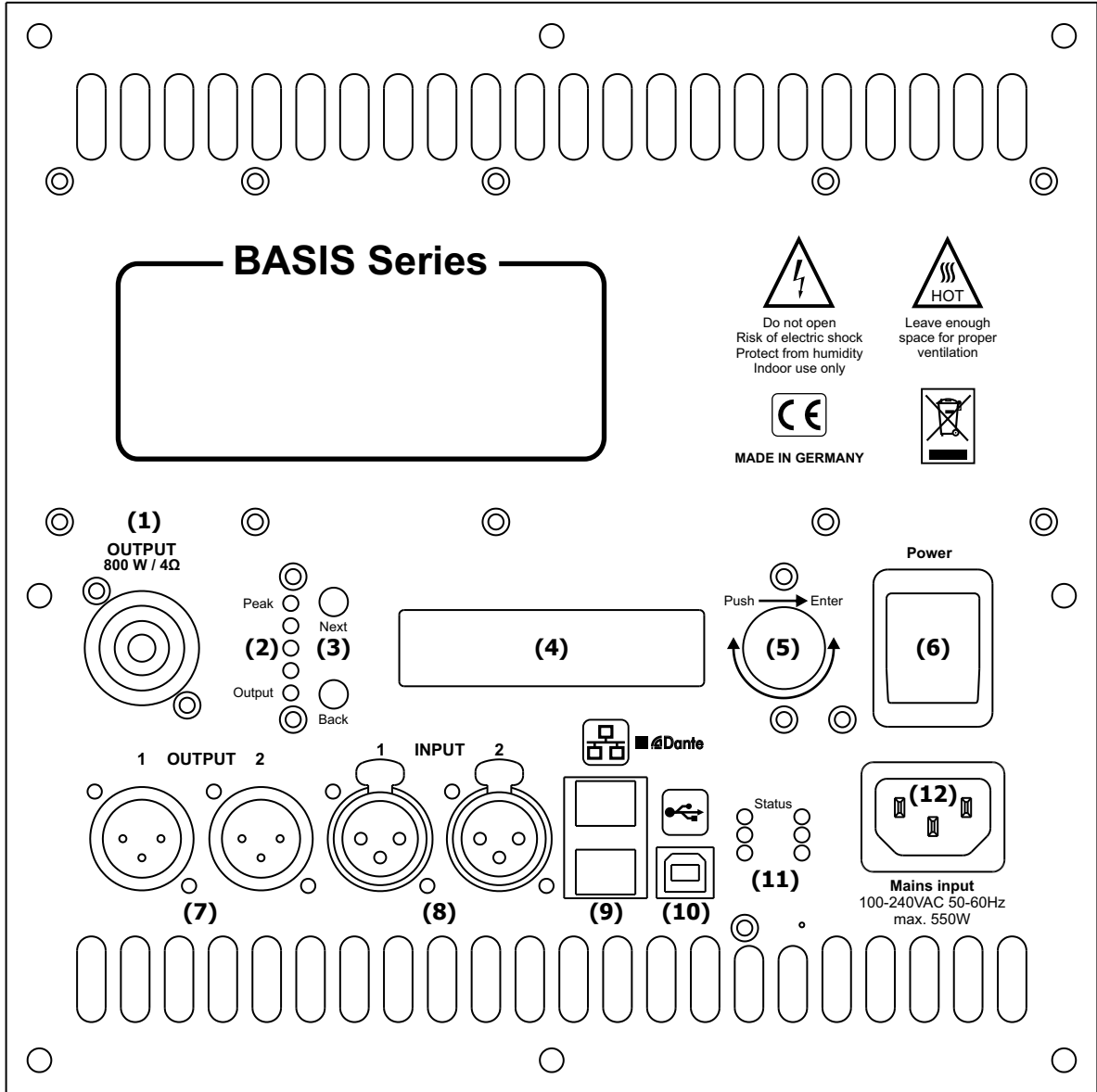


A range adjustment of the device can be made on the back (see chapter »9.5 Channel menu« on page 21) or with the Software *ME-Geithain DSP Control*.



It is not necessary to place the subwoofer exactly in the middle of the stereo base, since locating the sound source below 100Hz 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 10.

6 Controls and connections



**Output Speakon NL4MP (1)**

Connection to a passive speaker or subwoofer. The signal is internally connected to the contacts 1+ and 1-. Using a shielded cable is mandatory. Therefore the shield is internally connected through PE to contact 2-.

**LED level indicator (2)**

Indicates the level on the device and in case limiting or clipping.

**NEXT and BACK button (3)**

Controls the device and is used to navigate the menu and to set parameters (see chapter »9 Operation and configuration of the device« on page 19).

**LCD display (4)**

A 2 × 16 digits display shows user interactions and status. During action it could be dimmed or even shut down

**Rotary encoder (5)**

Controls the device and is used to navigate the menu and to set parameters (see chapter »9 Operation and configuration of the device« on page 19).

**On/off switch (6)**

This switch disconnects mains and completely turns off the device.

**LINE Output XLR3 M (7)**

Symmetrical output connectors.

**LINE Input XLR3 F (8)**

Symmetrical input connectors, for input signals up to +24dBu.

**Ethernet port 10/100 Mbit/s RJ45 (9)**

The network interface allows configuration with ME Geithain DSP Control or optionally available audio transmission via Dante/AES67 in a standard TCP/IP network. DHCP is the factory setting.

**USB port type B (10)**

Used to configure the device with the software ME Geithain DSP Control.

**LED status indicator (11)**

Detailed information on the function of the LEDs is found in chapter »7.3 Status indication« on page 14.

**Mains supply (11)**

Connection to mains.

## 7 Set-up the subwoofer

This chapter explains how to connect your subwoofer to mains and your signal source and how to connect the subwoofer to your active RL or MO speakers. Ensure that the mains switch (6) on the backside is in position "0". Only when your subwoofer is completely connected (see chapters 7.1 and 7.2) you can take the device into operation by use of the mains switch.

The subwoofer can be connected to every common pre-amplifier ( $U_a = 1V \dots 5V$ ;  $R_i < 600\Omega$ ).

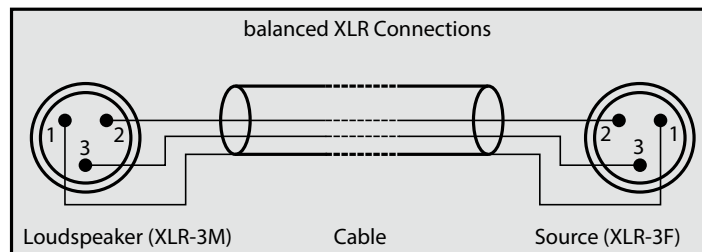
### 7.1 Mains connection

The speaker has a wide-range power supply unit and is therefore compatible with all common mains voltages.

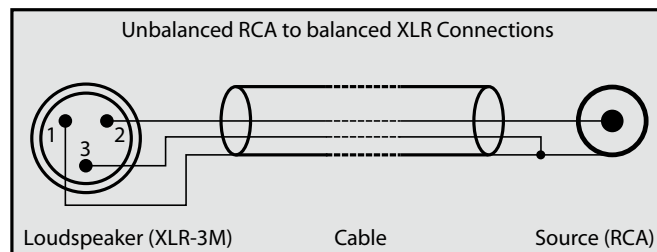
### 7.2 Cable connection

The inputs of the integrated amplifier are electrically balanced. When your signal source also utilizes balanced connectors, please use a cable wired as stated in the table and figure:

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

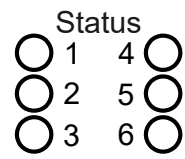


When using a signal source with unbalanced outputs (RCA) you need to balance the connecting cables. This avoids hum and other noise interferences. The table and the following figure show the wiring.



### 7.3 Status indication

Both LED strips on the back of the subwoofer are used as status indicator (11) of the device.



- ◀ LED 1 on: clipping detected on any input
- ◀ LED 2 on: any input is muted
- ◀ LED 3 on: a Dante module is installed
- ◀ LED 4 on: Connection to the software ME Geithain DSP Control established
- ◀ LED 5 on: DHCP address received
- ◀ LED 6 on: device is connected to network

## 8 Connection and system integration

The BASIS 10 can be flexibly integrated into stereo and surround systems. Thanks to freely configurable inputs and outputs, extensive DSP functions and the optional Dante/AES67 interface, the device can be used in both classic analogue setups and modern network-based audio environments.

### 8.1 Analogue inputs and outputs

The subwoofer has two balanced line inputs (XLR3F) and two balanced line outputs (XLR3M). Signal processing is completely digital internally. Each input signal is converted to A/D in the device and can then be freely routed to the four internal DSP channels. Routing can be set either using the supplied *ME-Geithain DSP Control* software (Windows/Mac) or directly on the device via the rear control panel with display, buttons and rotary encoder. The analogue outputs can be used to control external satellite speakers, additional amplifiers or an active subwoofer. In standard operation, the device passes the filtered and time-corrected signal to the outputs, creating a complete stereo system with subwoofer support.

### 8.2 Dante / AES67 integration

In the optional Dante version, the audio signal can also be fed digitally via the network. The Dante interface provides up to two input channels which, like the analogue inputs, can be freely routed to the internal DSP channels. The audio routing in the network is configured using the Dante Controller software. The digitally processed and filtered signals can be output to the analogue outputs as desired. This allows the device to be used as a Dante receiver and D/A converter at the same time to integrate analogue loudspeakers or amplifiers into a Dante-based system. The device supports sample rate conversion, which means it can be operated independently of the network's clock source.

### 8.3 Signal processing and filter functions

Internal signal processing is handled by a powerful DSP with freely adjustable filters and extensive customisation options:

- ◀ Variable crossover frequencies and filter slopes up to 48 dB/octave
- ◀ Choice of high-pass, low-pass, band-pass, notch, shelving or all-pass filters
- ◀ Ten parametric biquad filters per channel
- ◀ Time delay up to 2,000 ms per channel for runtime correction between subwoofer and satellites
- ◀ Up to 100 presets can be stored, including the factory presets combining the subwoofer and ME-Geithain loudspeakers

The signal levels and gains can be adjusted via the *ME-Geithain DSP Control* software or the control panel on the rear of the unit.

The internal signal flow is shown schematically in in chapter »9.5 Channel menu« on page 21.

#### **8.4 Stereo mode**

In stereo mode, the BASIS10 is typically operated with two analogue inputs (left/right) or corresponding Dante channels. The internal filters separate the low frequency range from the signal and forward the filtered high-pass signal to the satellite outputs. This creates a full-fledged, phase- and delay-corrected 2.1 system with high precision in the bass range. Delay and level adjustment is performed via the internal DSP; additional filters and equalisation can be activated as required. The standard preset is designed for combined operation with compact ME Geithain loudspeakers and can be individually adjusted or complemented with your own presets if required.

#### **8.5 Surround / LFE mode**

For use in surround setups or studio monitoring, the BASIS 10 can be operated in LFE mode. In this preset, only input 1 is used for the LFE signal, while the remaining channel processing (crossover frequencies, levels, bass management) is performed externally – e.g. in a surround controller, mixing console or preamplifier. The internal low-pass filter can be deactivated in this mode, while the protective filters (e.g. subsonic) remain active. In this mode, the analogue outputs are configured as loop-through outputs so that the input signal can be passed on unchanged.

#### **8.6 Bass extension through the Speakon output**

The BASIS10 has a separate amplifier channel. This channel can be configured completely independently and can drive both a passive subwoofer or a passive loudspeaker. An output power of 800 W at 4Ω is available for this purpose. The connection is made through the Speakon output on the rear of the device. As with the other channels, configuration is carried out using the *ME-Geithain DSP Control* software or the control panel on the rear of the device.

In LFE mode – i.e. when used without connected satellites – one of the two analogue outputs can be used to forward the signal to another active BASIS10. The bass extension results in a doubling of acoustic power and a more even sound field distribution, especially in acoustically less attenuated listening rooms.

Fitting combinations of speakers and subwoofers as well as their factory presets are shown as a table in chapter »8.7 Factory presets« on page 18.

## 8.7 Factory presets

#	Name	Beschreibung	Pegel ( $P_e = -14\text{dBu}$ )	X-over	Input 1	Input 2	Output 1	Output 2	Speakon Out
1	Standard	Stereo Standard Preset	75 dB	100 Hz	Left	Right	Left HP 80Hz	Right HP 80Hz	None
2	LFE	LFE Preset Subwoofer	85 dB	120 Hz	LFE	LFE	LFE Thru	LFE Thru	optional B 10 P
3	MO-1 MKII	Mono Subwoofer Stereo MO-1 MKII	75 dB	100 Hz	Left	Right	Left MO-1 MKII	Right MO-1 MKII	None
4	MO-2	Mono Subwoofer Stereo MO-2	83 dB	80 Hz	Left	Right	Left MO-2	Right MO-2	None
5	RL906	Mono Subwoofer Stereo RL906	76 dB	80 Hz	Left	Right	Left RL906	Right RL906	None
6	RL904	Mono Subwoofer Stereo RL904	83 dB	80 Hz	Left	Right	Left RL904	Right RL904	None
7	B 10 P + RL904	Stereo Subwoofer Stereo RL904	83 dB	80 Hz	Left	Right	Left RL904	Right RL904	Basis 10 P
8	B 10 P + RL94X 806	Stereo Subwoofer Stereo RL940 / RL941 / ME806	90 dB	80 Hz	Left	Right	Left Speaker	Right Speaker	Basis 10 P
9	ME25	Single Subwoofer Single ME25	85 dB	80 Hz	Left or Right	None	None	None	Left or Right ME25
10	ME 100	Single Subwoofer Single ME100	85 dB	80 Hz	Left or Right	None	None	None	Left or Right ME 100

## 9 Operation and configuration of the device

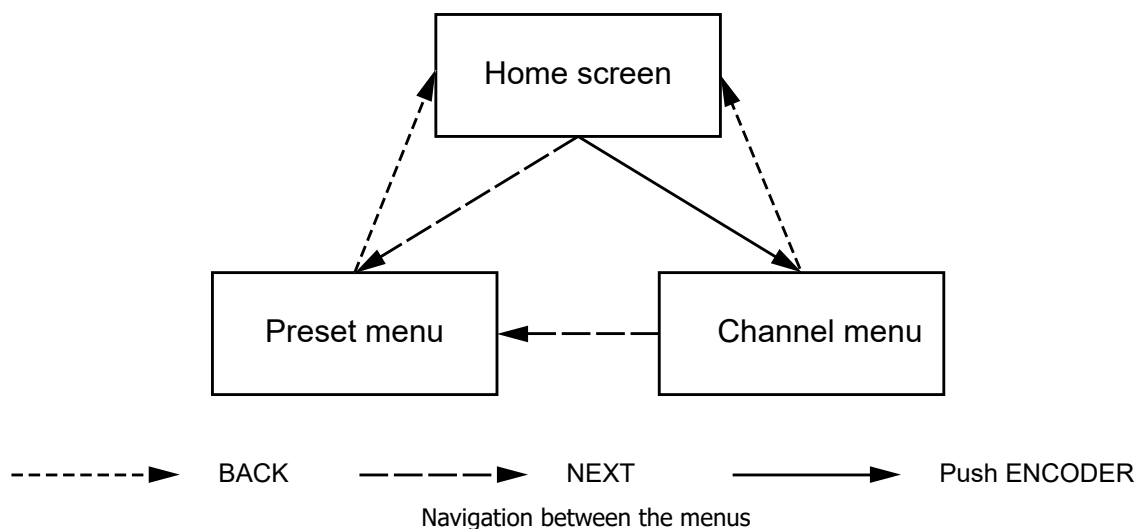
The BASIS 10 can be configured directly at the device or comfortably with a personal computer and ME Geithain DSP Control.

### 9.1 Desktop software ME Geithain DSP Control

For BASIS 10 configuration and monitoring is possible via the integrated USB or RJ45 ports with a personal computer (IBM-PC or Macintosh). The according software as well as a user manual is available for download from the Musikelectronic Geithain GmbH website.

### 9.2 Menu structure

When the BASIS 10 is switched on the display shows the Home screen with device name and currently loaded preset. Underneath is the Preset menu, used to load and save presets, show the serial number of the DSP module and switch to the LOCKED status. The signal processing parameters of the currently loaded preset are configured in the Channel menu. If there is no input in the lower levels the amplifier returns to the Home screen.



### 9.3 Home screen

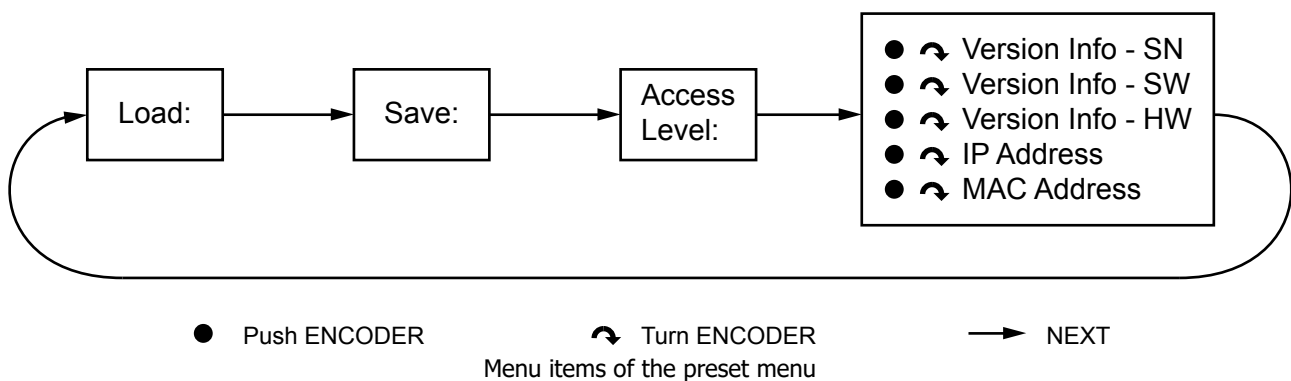
In the first row of the display the Home screen shows the name of the device. In delivery conditions the name complies with the type of the speaker. The second row shows the number of the current preset, then the name of the preset. A "\*" at the end of the line indicates that the BASIS 10 is currently processing data (loading presets, synchronising with the PC software, etc.). Meanwhile controlling the device is not possible.

A "!" at the beginning of the first line indicates unsaved changes in the current configuration.

## 9.4 Preset menu

The preset menu is at any time accessible by pressing NEXT. The first menu item is LOAD to load a saved preset. Press NEXT again to go on through the preset menu. Turning the rotary encoder changes between presets and pressing it down loads the shown preset. Another menu item asks to confirm the decision by choosing YES and then pressing down the rotary encoder. Choose NO, press NEXT or BACK to abort the action and return to the Home screen. Preset number one in the device holds the factory settings. This preset cannot be overwritten so that it is always possible to restore the factory settings.

Handling the menu item SAVE works in the same way. After choosing a save location, insert a name for the preset. Chapter »9.6 Entering names and passwords« on page 23, describes the procedure.

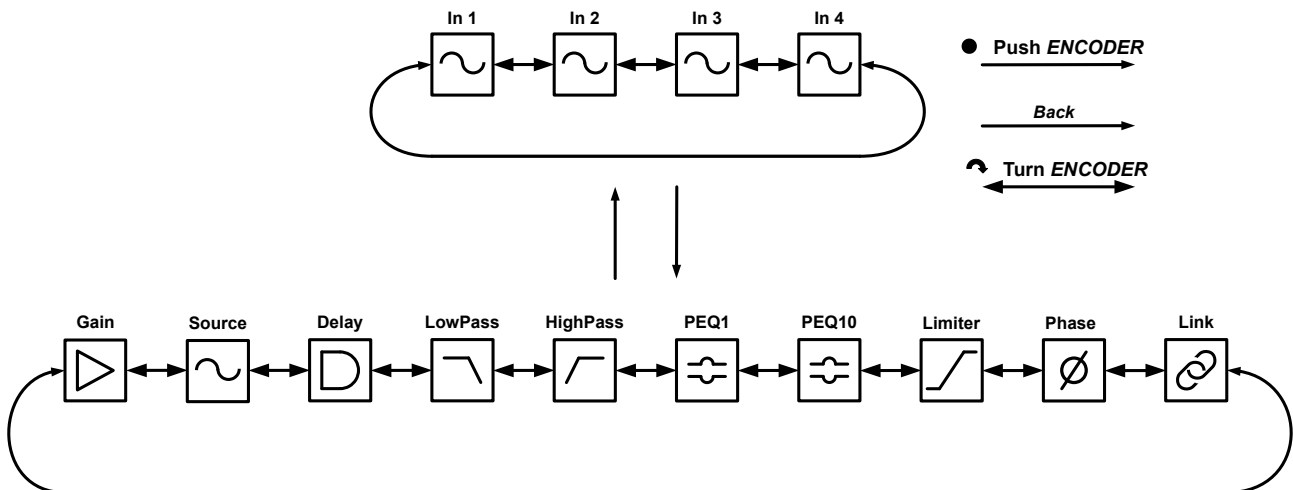


After menu item SAVE follows the access level. To choose the LOCKED status, insert a password according to the user level. In chapter »9.6 Entering names and passwords« on page 23, is a description of the procedure.

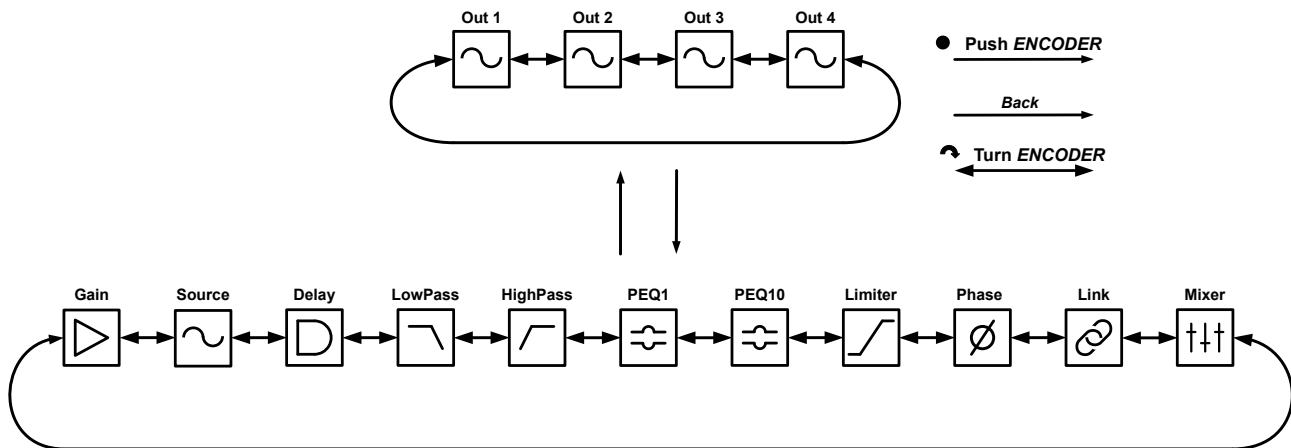
The last menu item is the information panel. Turn the rotary encoder to browse through items showing the current hardware version, serial number of the DSP module, software version and the IP and MAC address of the device.

## 9.5 Channel menu

The channel menu is used to browse between the inputs and changing the parameters of the signal processing chain of the according channel. Enter the channel menu by pressing the rotary encoder. The first row shows the current input, an arrow, and the current item. When a left arrow is shown in the first row, the rotary encoder allows choosing an input. Press it down to confirm. When a right arrow is shown, choose a sub-item, shown in the first, similarly to selecting an input. If no arrow is shown between input and sub-item, the parameter is changeable through the rotary encoder. Pressing down the rotary encoder browses through the parameters if more parameters are available to this sub-item. Press NEXT or BACK to confirm any changes. Pressing NEXT redirects to the Preset menu. When pressing BACK, the right arrow reappears to enable choosing between sub-items. All changes remain stored until a new preset is loaded, even when the device is powered off.



Signal processing chain of input channels



Signal processing chain of output channels

### 9.5.1 Adjustable Parameters

#### Inputs

- Gain** Adjust the gain of the channel, e.g. to adjust the balance or volume between analogue and AES signals.  
 ◀ In1 ... In4: Mute, -47dB... 12dB
- Source** Choose the signal source in this menu.  
 ◀ Analog In1 ... In4 or In1+2 and In3+4  
 ◀ AES Channel A (Placeholder, currently unusable)  
 ◀ AES Channel B (Placeholder, currently unusable)  
 ◀ AES A+B (Placeholder, currently unusable)  
 ◀ Dante (if Dante module is purchased)  
 ◀ White Noise  
 ◀ Pink Noise  
 ◀ Sine
- Delay:**  
 ◀ Delay every input signal, e.g. for compensation of different distances in a 5.1 set-up.  
 ◀ 0...2,000ms
- LowPass** Use low-pass filtering on the input signal with different slopes, filter characteristics and variable frequencies.  
 ◀ Freq: 20Hz...20.000Hz  
 ◀ Type: BUT 6, 12, 18, 24dB; BES 6, 12, 18, 24dB; LR 12, 24dB  
 ◀ Enabled: Off...On
- HighPass:** Use high-pass filtering on the input signal with the same parameters as the low-pass filter, e.g. filtering the low frequencies of the satellites in a 5.1 set-up.  
 ◀ Freq: 20Hz...20.000Hz  
 ◀ Type: BUT 6, 12, 18, 24dB; BES 6, 12, 18, 24dB; LR 12, 24dB  
 ◀ Enabled: Off...On
- PEQ1...10:** Parametric filters for adjustments to the room acoustics.  
 ◀ Gain: -12...12dB  
 ◀ Freq: 20Hz...20.000Hz  
 ◀ Type: Bell, Notch, High Shelf, Low Shelf, Allpass, Band Pass, High Pass, Low Pass  
 ◀ Enabled: Off...On  
 ◀ Q: 0,1...25
- Limiter** Limiter for the input signal.  
 ◀ Pressing the ENCODER switches between Thr.: and Rel.:  
 ◀ Pressing BACK jumps back to the level above  
 ◀ Thr.: -48dBu ... 24dBu  
 ◀ Rel.: 10ms ... 10,000ms  
 ◀ Attenuation is only adjustable through the software

- Phase**
- ◀ Pressing the encoder switches between Normal and Inverted
  - ◀ Pressing BACK goes back to the level above
- Link**
- Use this option to group analogue and digital input signals so that the settings of the left channel are automatically copied to the right channel. Pressing the ENCODER switches between On and Off. Pressing BACK goes back to the level above
- ◀ Off ... On
- Outputs**
- The same adjustments as the inputs and the following additional options:
- Mixer**
- Access only possible as soon as one output pair is not linked. Pressing the ENCODER chooses the input, every other press cycles through the inputs 1 to 4 to adjust the individual gain. Pressing BACK jumps back to the level above.
- ◀ Gain: OFF, -47 dB ... 0 dB

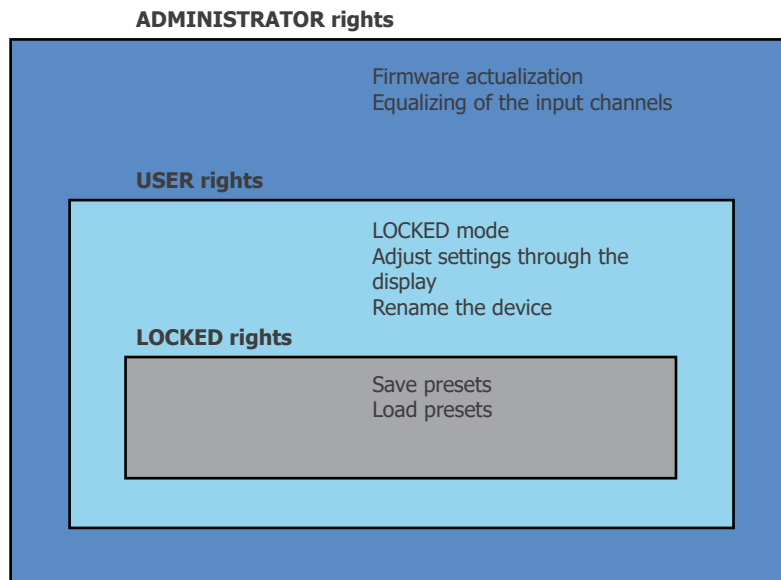
## 9.6 Entering names and passwords

To insert strings like names and passwords through the panel, choose a digit with the rotary encoder and confirm by pressing the rotary encoder down. The cursor will then jump right to the next position. Press BACK and the cursor jumps back to the position to the left.

To confirm a name, press the NEXT button. To access a password protected function it is sufficient to enter the right password.

## 9.7 User rights

The user rights are split into three user levels with different permissions: LOCKED, USER and ADMINISTRATOR. The levels USER and ADMINISTRATOR are password protected. The LOCKED level prevents changes to the configuration of the device by unauthorized personnel. The device could be started up in the LOCKED mode or USER mode.



### Standard passwords

Administrator: TsAmAD7

User: tSAmPUr4

## 10 Specifications

### Acoustic characteristics

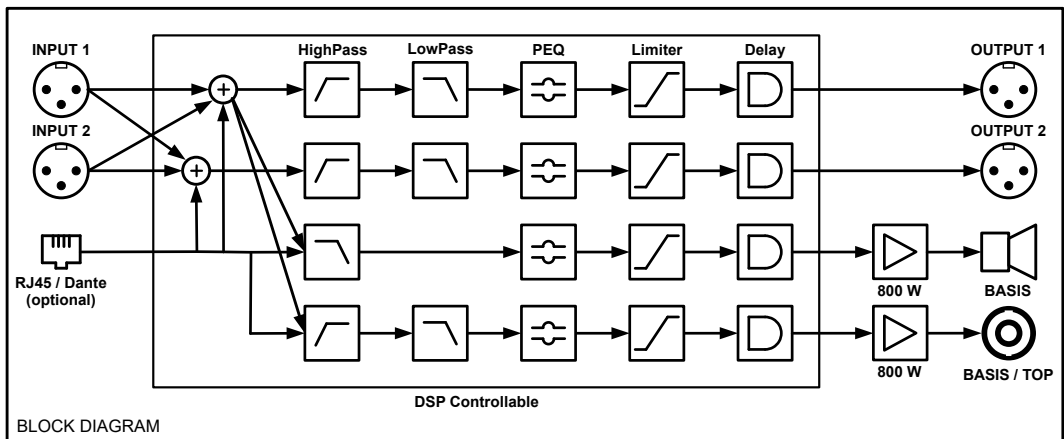
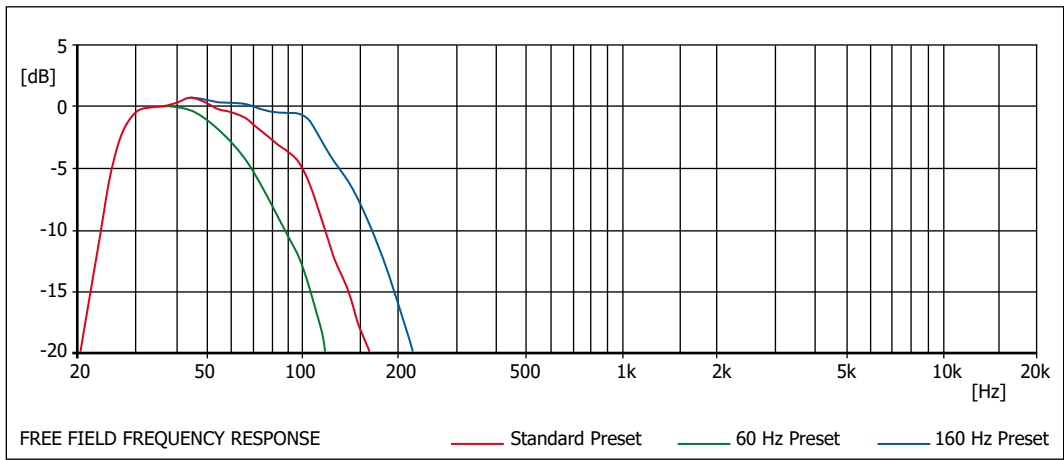
Application area	Bass extension for our nearfield monitors and high-end loudspeakers
Design	Subwoofer in sealed enclosure
Maximum SPL <i>measured at <math>f = 63\text{ Hz}</math></i>	109 dB / $r = 1\text{ m}$ (3'3") ( $2\pi$ )
Bandwidth (with standard preset)	25 Hz ... 100 Hz $-6\text{ dB}$ ( $2\pi$ )
Bass output level	adjustable
Distance correction	All channels delayable up to 2000 m (667 m or 2188.3 ft)
Loudspeaker systems	200 mm (8") long-excursion driver

### Electrical parameters

Maximum input level	+24 dBu
DSP crossover	LP: 24 dB/oct (configurable up to max. 48 dB/oct) HP: 12 dB/oct (configurable up to max. 48 dB/oct)
Output Power of PWM Power Module	2× 800 W / 4Ω
Input connectors	2× XLR 3F analogue optional Dante via RJ45
Output connectors	3× XLR 3M 1× Speakon NL4 for satellite or passive subwoofer optional Dante via RJ45
Control inputs	2× RJ45 Ethernet (Dante option with integrated switch) 1× USB
Level and signal indicators	LED bar on the rear panel
Equalizer	10 free programmable filters per channel
Presets	100 programmable presets
Power requirements	80 V ... 264 V, 47 Hz ... 63 Hz
Mains connection	IEC power connector
<b>Physical parameters</b>	
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%
Dimensions H × W × D	240 mm × 240 mm × 320 mm (9.5" × 9.5" × 12.6")
Weight	14.2 kg (31.4 lbs)
<b>Cabinet and options</b>	
Design of the cabinet	Cabinet and front panel in MDF black semi-gloss varnish; customisable cabinet in other colours or veneers on request; customisable front panel in other colours or solid wood on request
<b>Other parameters</b>	
Calibration: <i>Acoustic output level / <math>P_E = -14\text{ dBu}</math> and <math>f = 50\text{ Hz}</math></i>	75 dB / $r = 1\text{ m}$ (3'3")
Output level H1, CH2	+12 dBu
Input impedance	≥ 21 kΩ RC balanced
Power consumption	max. 500 VA at full load

### 11 Acoustic measurements and block diagram

All acoustic measurements are carried out under anechoic conditions with 1 m (3'3") distance.



## 12 Troubleshooting

<b>Error description</b>	<b>Possible causes</b>	<b>Corrective measures</b>
Screen dark	Device in stand-by	Press any key
	Device is switched off	Ensure the device is switched on
No sound	Speakers are not connected correctly	Examine the XLR connections to the speakers
	In-/outputs are muted	Deactivate muting at the device or in the software
	No input signal available	Apply an analogue or digital input signal
Network does not recognize the device	Network cable defect	Exchange the network cable
	No DHCP in the network	Connect the PC directly to the amplifier with a network cable and check the network settings of the device

## 13 Notes





**musikelectronic geithain gmbh**

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