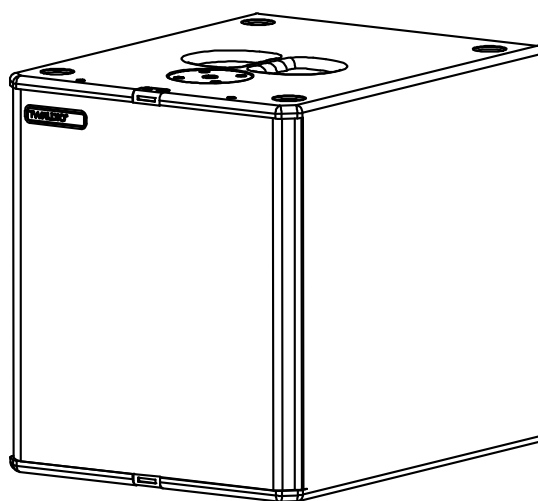


B15 | **Operation manual**



Introduction

Thank you for choosing a high-quality product “MADE IN GERMANY” from the brand TWAUDIÖ.

Our B15 loudspeaker is a true multi-talent, especially with the optional passive crossover PWB15. The 1× 15“ fitted bass reflex system is suitable for the switchable bi-amp mode or as a passive bass extension for our M and C series loudspeakers.

The passive crossover has a satellite output with a switchable high-pass filter. This enables the B15 loudspeaker to be passively used without additional system controllers together with various 8 ohm loudspeakers with one standard amplifier.

If you lend your product to another party, inform that party of the safety-related operating procedures and hand over this assembly guide. If you require additional copies of this manual, you can obtain them free of charge from TWAUDIÖ or download them from www.twaudio.de

Instructions in this user manual

Strictly adhere to the instructions contained in this operating manual that are marked as follows:



This symbol in combination with the signal word “Warning” identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to serious injury or even death.



This symbol in combination with the signal word “Warning” identifies a potentially hazardous situation for persons with a pacemaker. Failure to comply with this safety instruction can lead to serious injury or even death.



This symbol in combination with the signal word “Caution” identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to light or moderate injury.



This symbol in combination with the signal word “Note” identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to product damage.



This symbol in combination with the signal word “Tip” identifies additional information or notes that will simplify working with TWAUDIÖ products on the basis of practical experience.

Notes on the products**Read manual
before use!**

Before using the device, carefully read the operating manual and keep it with the B15 loudspeaker.

General information

Operation manual: OM-B15

Version 2.0 en, 01/2022

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All information contained in this operating manual was correct to the best of our knowledge at the time of printing.

Quality warranties or assurance of suitability for a certain type of use based on the technical specifications, dimensions and weights are not granted by TWAMBO.

TWAMBO also shall not assume liability for any secondary damage (property damage and/or personal injury) nor for the failure to comply with this operating manual!

TWAMBO reserves the right to update this document based on recent developments.

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1. Safety | Intended use

Please adhere to the following safety instructions to avoid risks when operating loudspeakers.

The B15 loudspeaker was developed for use in professional sound systems. The loudspeaker may only be used by trained and qualified personnel.

Note the operating modes described in this operating manual. Other uses are not permissible.

Damage caused by improper use is not covered by TWAMBO.



Loudspeakers generate an electromagnetic field. Persons with pacemakers are not permitted to remain in the immediate vicinity of loudspeakers as the electromagnetic fields can cause pacemakers to malfunction.



When working with heavy loads exceeding 20 kg (44 lbs.), use suitable aids (dollies, hoisting slings, etc.). Multiple persons may be required depending on the situation.

Ensure that the units are in a stable position and are firmly attached. A falling loudspeaker can result in serious personal injury and property damage.

When using and assembling TWAUDIÖ loudspeakers, only use materials specified by TWAUDIÖ. These tasks must be performed by qualified personnel. Adhere to the applicable safety regulations.



When setting up loudspeakers, ensure that they are not exposed to the following ambient conditions:

- Direct sunlight
- Humidity
- Jolting
- Dust



Keep away from the immediate vicinity of loudspeakers that are operated at high sound pressure levels. These loudspeaker systems are capable of endangering your health. Sound levels beginning as low as approximately 90 dB SPL can lead to long-term hearing impairment.



Avoid:

- Feedback
- Distorted signals (clipping) and
- Peaks resulting from switching on devices, plugging in devices or unplugging devices during operation.

Such signals can lead to loudspeaker overload and ultimately to loudspeaker failure.



Ensure that the loudspeaker is not exposed to permanent thermal overloads. Thermal overloads may cause a fire and result in serious personal injury and property damage.

Note that TWAMBO does not provide a warranty for damage that can be attributed to this type of overload and therefore cannot be held liable for any secondary damage.



A permanent magnetic field is present in the immediate vicinity of loudspeakers. Ensure that objects which react sensitively to magnetic fields are not located in the immediate vicinity of the loudspeaker. In particular, this applies to magnetic storage media, magnetic stripe cards such as debit cards and CRT displays. A distance of approximately one meter is sufficient to avoid damage.



Check loudspeakers and accessory parts regularly for visible wear. This is essential to ensure continuing fault-free operation. Worn parts should be replaced immediately. Spare parts are available from TWAUDiO.

2. Overview

2.1 Components

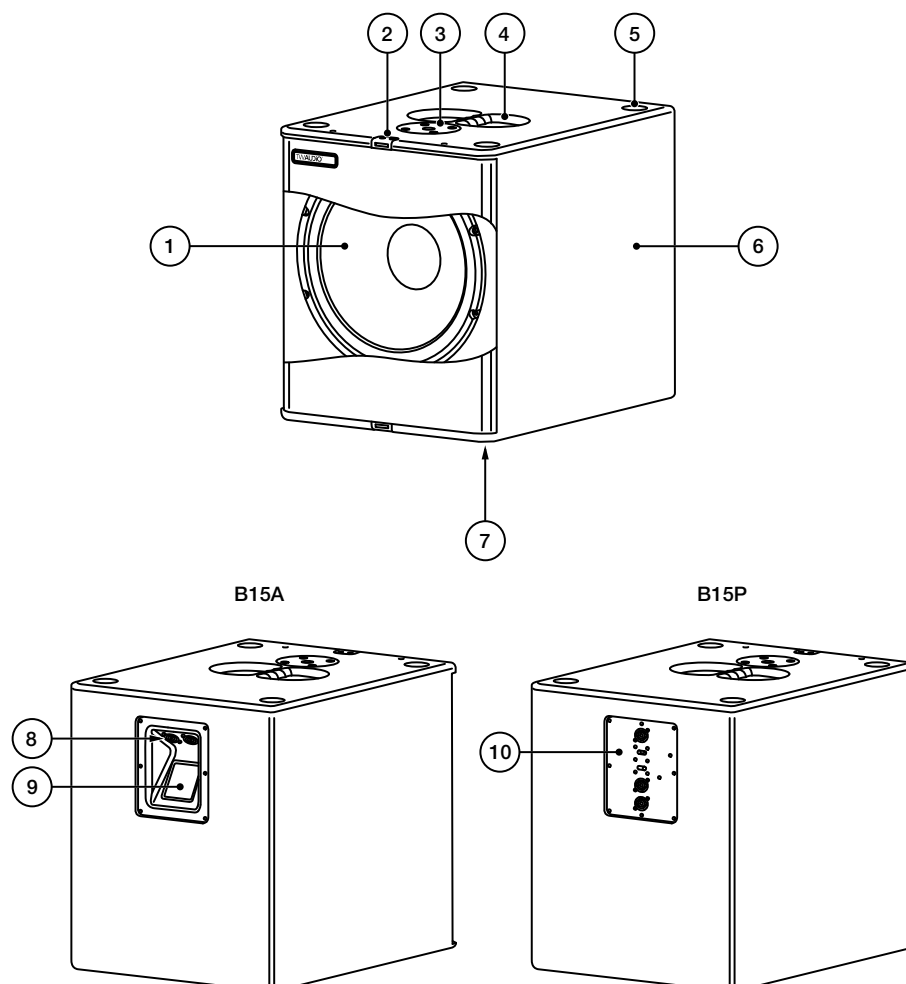


Figure 2.1 - Overview

1. 15" cone driver
2. Dolly latch base to attach the TWAUDIÖ B15 front dolly
3. M20 pole mount flange for attaching a distance rod
4. Ergonomic carrying handle (top and bottom)
5. Milled recess for rubber feet for safely stacking loudspeakers
6. 15 mm multiplex housing – Warnex texture paint surface finish
7. Rubber feet (4 units)
8. Standard connection panel
9. Type label
10. Passive crossover PWB15

2.2 Variants

The B15 loudspeaker comes in two different variants. These variants are the B15A (ACTIVE model) and B15P (PASSIVE model).

2.2.1 B15A/B15P models

The standard model of the B15 loudspeaker is the B15A variant, which can only be operated in the „ACTIVE“ operating mode. It is supplied with a standard connection panel. The separation occurs in the DSP of the amplifier.

The B15P model can also be operated in the „PASSIVE 1“ and „PASSIVE 2“ modes. This permits the connection of an additional loudspeaker on the high-pass output or the link output when operating with only one amplifier channel. The installed passive cross-over (pos.10 “Figure 2.1 - Overview” on page 7) has two selector switches, which are described in the following section.

2.3 Operation modes

The top selector switch is used to activate the high-pass output. The bottom selector switch is used to activate the passive crossover and changes the pin assignment of the connection sockets.

2.3.1 MODE 1 - ACTIVE (BI-AMPED)

two amplifier channels / 4-wire speaker cable required

Pin 1+/- TOP speaker

Pin 2+/- B15 subwoofer

In operation mode 1 „ACTIVE“, the internal passive crossover is switched out of the signal path, and the separation of the loudspeakers must take place in the DSP of the amplifier. The pin connection of the B15 loudspeaker is switched to pin 2+/-.



1. Set the upper switch to "OFF"! This must never be set to "ON" when no loudspeaker is connected to the high-pass output!
2. Switch the bottom switch to ACTIVE mode.
3. Connect the amplifier to the "input" connector. Do not inadvertently connect it to the high pass output!

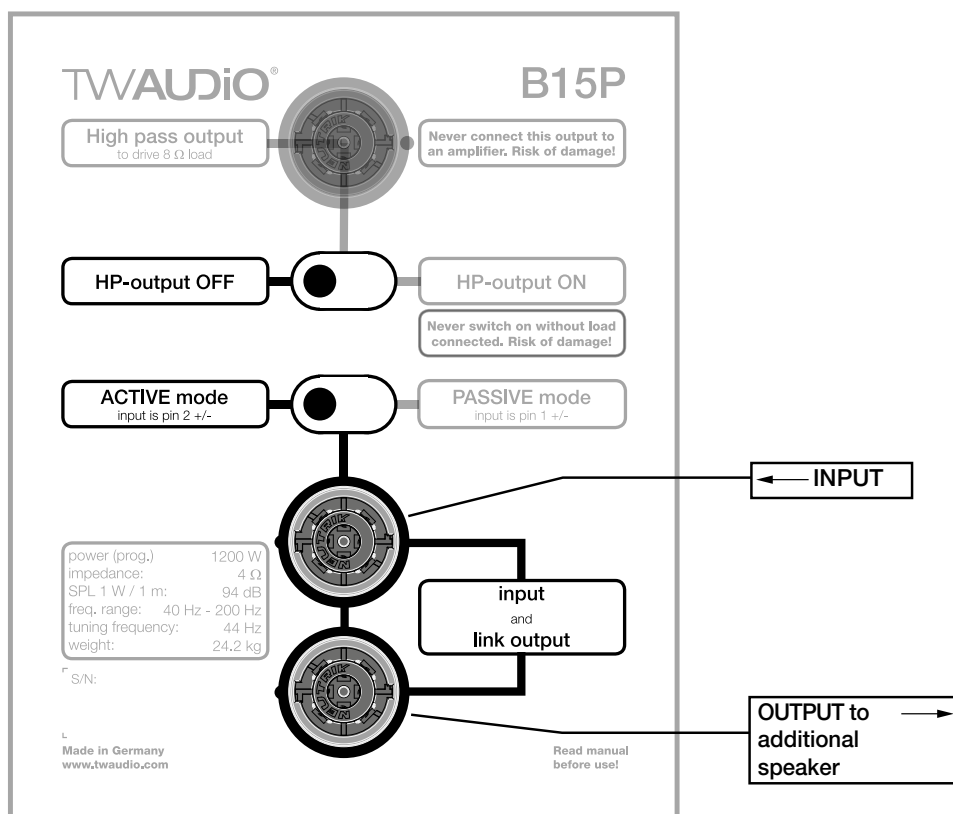


Figure 2.3.1 - Connection diagram B15P

2.3.2 MODE 2 - PASSIVE 1 (M-SYS-ONE)

one amplifier channel is required

Pin 1+/- B15+M15

Pin 2+/- free

In operation mode 2 „PASSIVE 1“, the B15 loudspeaker and other loudspeakers are operated on the „link output“ output on pin 1+/-.



1. Set the upper switch to “OFF”! This must never be set to “ON” when no loudspeaker is connected to the high-pass output!
2. Switch the bottom switch to „PASSIVE mode“.
3. Connect the amplifier to the “input” connector. Do not inadvertently connect it to the high-pass output!

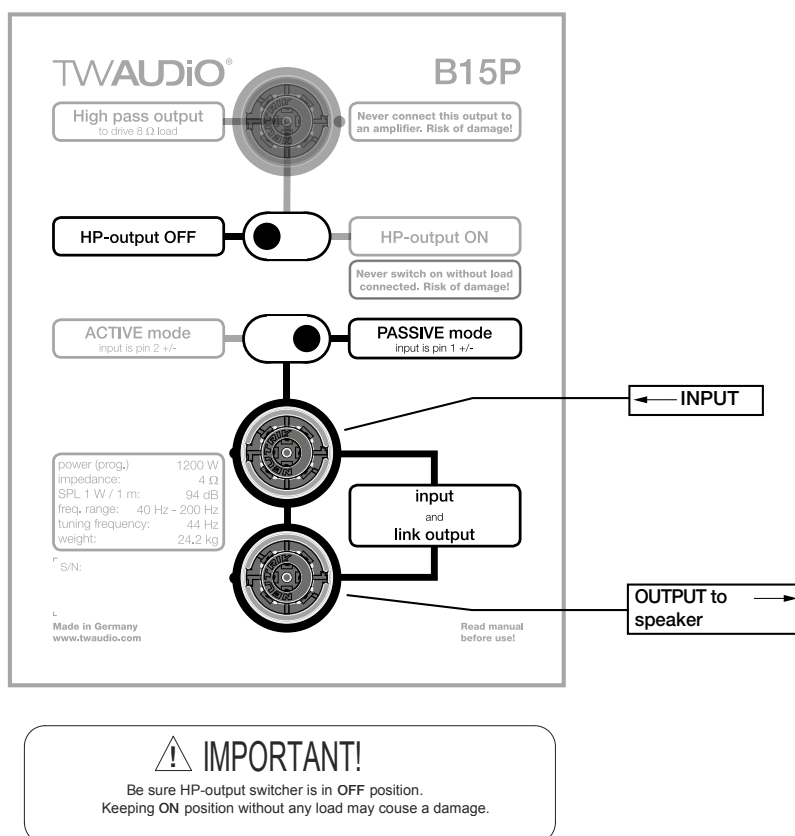


Figure 2.3.2 - Connection diagram B15P



Note that the total impedance may vary depending on the connected loudspeaker. See “Connecting the cable” on page 18.



Never change the operation mode while the loudspeaker is in operation. This may damage the connected loudspeakers.

Operation mode 1 „ACTIVE“ additionally requires the correct preset at the amplifier.

2.3.3 MODE 3 - PASSIVE 2 (M-SYS-TWO)

one amplifier channel is required

Pin 1+/- B15+M8

Pin 2+/- free

In operation mode 3 „PASSIVE 2“, the B15 loudspeaker is operated with an M8 loudspeaker on the „high-pass output“. The separation of the two loudspeakers is performed via the internal passive crossover. The pin connection of the B15 loudspeaker is switched to pin 1+/-.



1. Connect the M8 loudspeaker to the high pass output! Never connect an amplifier to this connector!
2. Switch the top switch to „ON“.
3. Switch the bottom switch to „PASSIVE mode“.
4. Connect the amplifier at the „Input“-pin.

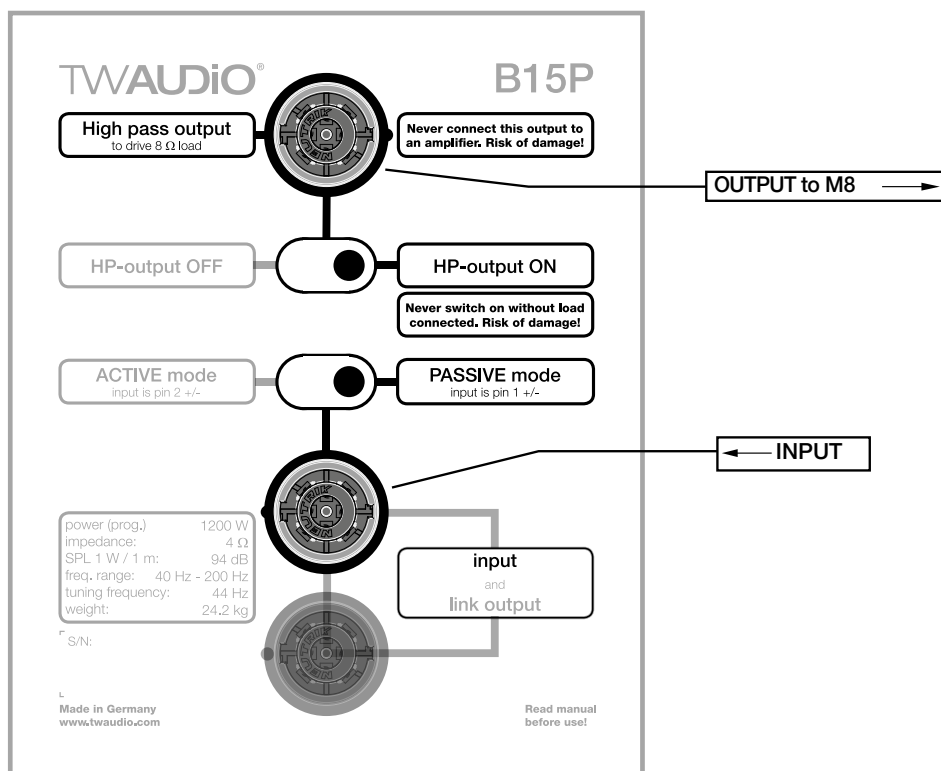


Figure 2.3.4 - Connection diagram B15P



Never change the operation mode while the loudspeaker is in operation. This may damage the connected loudspeakers.

3. Technical data

3.1 Data sheet

	Variant			
	B15A	B15P		
Drivers	1x 15“ LF			
Frequency response	40 - 1500Hz			
Power handling (program/Peak)	1200 / 2400W	ACTIVE 1200 / 2400W	PASSIVE 1 1200 / 2400W	PASSIVE 2 1200 / 2400W
Impedance	4 Ω	4 Ω	4 Ω	4 Ω
Max. SPL / 1 m	127 dB			
Dimensions (h x w x d)	506 x 440 x 560mm [19,92 x 17,32 x 22,05 in]			
Weight	22,1 kg [48,7 lbs]	24,2 kg [53,4 lbs]		
Surface	Warnex textured paint			

3.2 Connection diagram

3.2.1 Variant: B15A

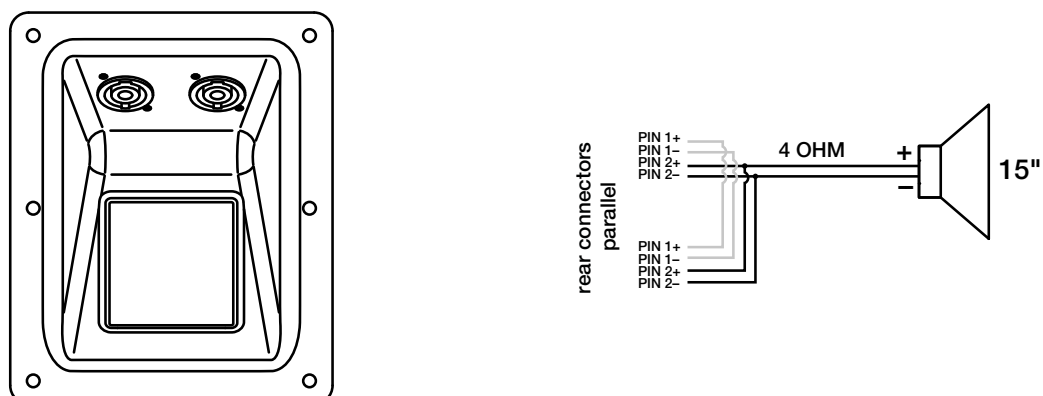


Figure 3.2.1 - Connection diagram B15A

3.2.2 Variant: B15P

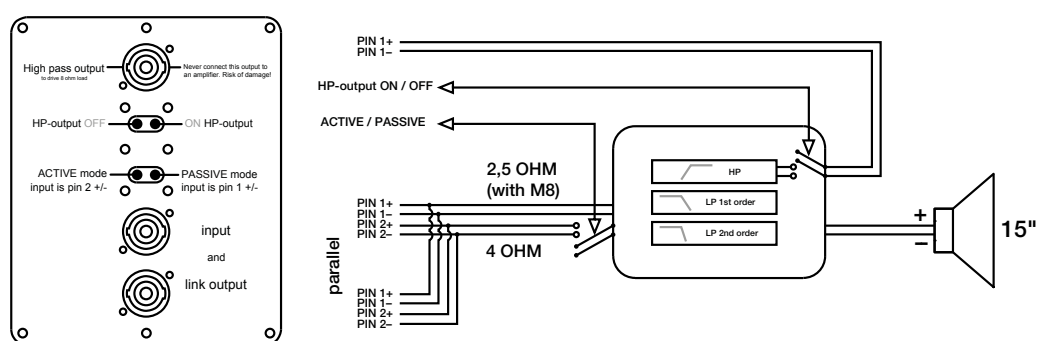


Figure 3.2.2 - Connection diagram B15P

4. Commissioning

4.1 Setup

The B15 loudspeaker is designed for standing operation.



Make sure that all system structures are located on a firm, level surface and that the surface can bear the total weight!



Make sure the speakers are securely fastened to prevent personal injury and property damage. Secure stacked loudspeakers properly so that they can be tipped by 10° in any direction without toppling.



TWAUDIÖ recommends using only the accessories specified by TWAUDIÖ for securing and mounting loudspeakers.

4.2 M20 pole mount flange

For all system components mounted on top of the M20 pole mount flange, observe the respective operating instructions!

Also be sure to observe all of the following warnings:



Make sure that the maximum load of 50kg / 110lbs for the M20 pole mount flange is not exceeded! Figure 2.1 – Item 2.



Make sure that no unauthorized persons can access the system structures!

Cordon off the area professionally!



The M20 pole mount flange (figure 2.1- item 2) is not designed for side forces once mounted – do not apply any pressure from the sides.

Make sure that no external forces are applied to the system structures. No objects or persons should lean against the structures, no objects should be thrown against them. If pressure is applied on the flange the loudspeaker may be damaged or falling over.



Before setting up the system outdoors, consider unexpected wind conditions at the operation site!

Disassemble your system immediately when wind speeds exceed 8 bft (34 to 40 kn / 62 to 74 kph / 38.5 to 46 mph) and secure the system components!

Make sure that there are no persons in the immediate vicinity of the system structure!



Make sure that the system structures are not operated over the audience at wind speeds in excess of 6 bft (22 to 27 kn / 39 to 49 kph / 24.2 to 30.45 mph) and that there are no persons in the immediate vicinity of the system structure!



Please note that only centered loads are allowed to be placed on the M20 pole mount flange – Figure 2.1 – Item 2.

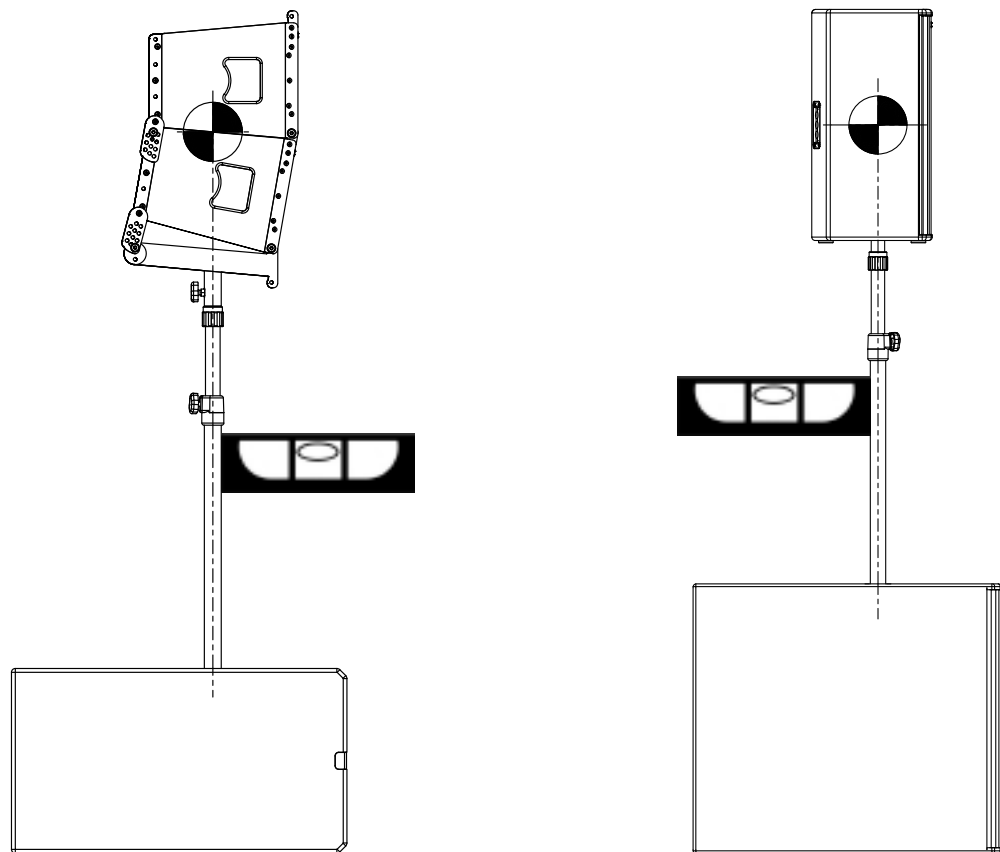


Figure 4.2.1 - system setup B15

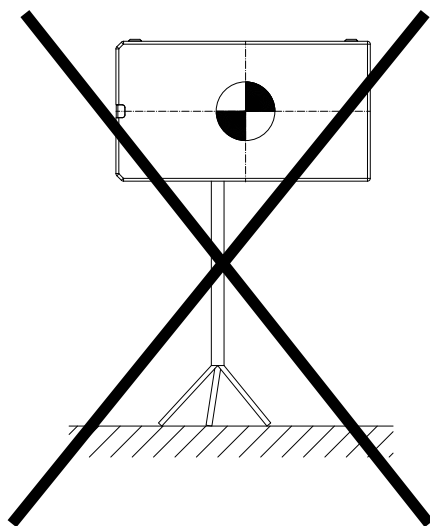


Figure 4.2.2 - B15 – improper installation

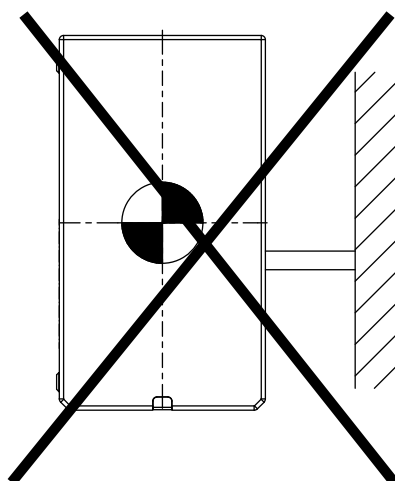


Figure 4.2.3 - B15 – improper wall mounting

4.3 Operation

Operation of the B15A speaker requires a DSP-Controller. TWAUDIÖ recommends operating the B15P loudspeaker on a DSP-Controller. For this purpose, only presets developed by TWAUDIÖ are recommended. The TWAUDIÖ system racks are ideally suited for this purpose.

**NOTE**

Before connecting the loudspeaker to the amplifier, ensure that the right preset has been loaded.

Using a wrong, out dated or a preset not provided by TWAUDIÖ can lead to destruction of the speaker.

**NOTE**

Make sure that the amplifier's specifications meet the requirements. Using an amplifier that doesn't meet the specifications can destroy the loudspeaker.

Please note the technical data in section 3.1 on page 12.

4.4 Connecting the cable

To create a cable connection with an amplifier rack from TWAUDIO, proceed as follows.



NOTE

Ensure that the cable cross sectional area is sufficient (at least 1.5 mm²) to avoid power losses. TWAUDIO recommends using the loudspeaker cables available from TWAUDIO.

When connecting the cables to the loudspeaker, ensure that polarity (+/-) and pin assignment (1/2) are correct. Incorrect connection can lead to a significant change in the loudspeaker's sound characteristics and may damage the driver.

The pin connections of the B15 loudspeaker can be found in section 3.2 ("Connection diagram") on page 13.

The internal wiring of the B15 loudspeaker allows for parallel connection of multiple loudspeaker units.

Please note that parallel connections will decrease the total impedance of your loudspeaker configuration.

The total impedance and the resulting power of the speaker configuration must match the output power of the amplifier.

5. Transport and storage

Due to the B15 loudspeaker weighing over 20kg [44.09lbs.], two persons are required to handle and transport the unit.



To transport the unit with a single person, TWAUDIÖ recommends using the FDB15 front dolly.

When transporting and storing the unit, it is important to ensure that the surface and front grill of the loudspeaker are not damaged. Moisture can penetrate through exposed wood surfaces and cause the wood to swell. A bent or broken front grill will no longer adequately protect the sensitive speaker membranes.

In addition, appreciable dust deposits may considerably impair the functionality of a loudspeaker membrane. For this reason, the loudspeakers should be transported and stored in a safe, careful, dry and largely dust-free manner.

The following accessory parts for transport and storage are available from TWAUDIÖ:

- FDB15 (front dolly)
- CoverB15 (protective cover)

The original packaging is unsuitable as permanent storage and transport packaging.

6. CE Conformity Declaration

Copy and translation of the original CE Conformity Declaration:



We hereby declare that the below-referenced components by virtue of their design and construction, and in the configuration placed on the market by us, satisfy the safety and health requirements of the applicable EC directives. This declaration becomes invalid in case of modifications that have not been approved by us.

This declaration applies to the following components

- B15A
- B15P

as well as all model variants based on these, provided that they correspond to the original factory models and have not been technically modified in any way.

Applicable directives:

- 2001/95/EG
- 2011/65/EU

Applicable national standards and technical specifications:

- DIN EN 18800
- DIN EN ISO 12100
- DGUV Vorschrift 17 und 18
- EN 50581: 2013-02

Berlin, Germany, January 1st, 2021

A handwritten signature in black ink, appearing to read 'Wüstner'.

Bernhard Wüstner

7. Disposal

It is prohibited to dispose of used electrical equipment with household refuse.



All TWAMBO GmbH products are so-called B2B-products. This means that they are sold by a commercial business to a commercial business. TWAMBO products that bear the trash can symbol shown here may only be disposed of by TWAMBO.

The loudspeaker owner is legally responsible for proper disposal of used devices that do not bear this symbol. This pertains to all products delivered prior to March 29, 2010. Nevertheless, TWAMBO will also be happy to assist you in this case.

If you have any question regarding the disposal of used devices, please contact us under the following telephone number:

+49 (0) 71 41 - 48 89 89 0

Thus, TWAMBO is in strict compliance with the Waste Electrical and Electronic Equipment Directive (2012/19/EU) for the protection of our environment.

TWAMBO is registered under the following WEEE-reg.-no. with the German National Register EAR as a B2B-manufacturer and distributor of electrical devices:

DE93295191

In countries outside of the European Union, comply with local regulations.

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