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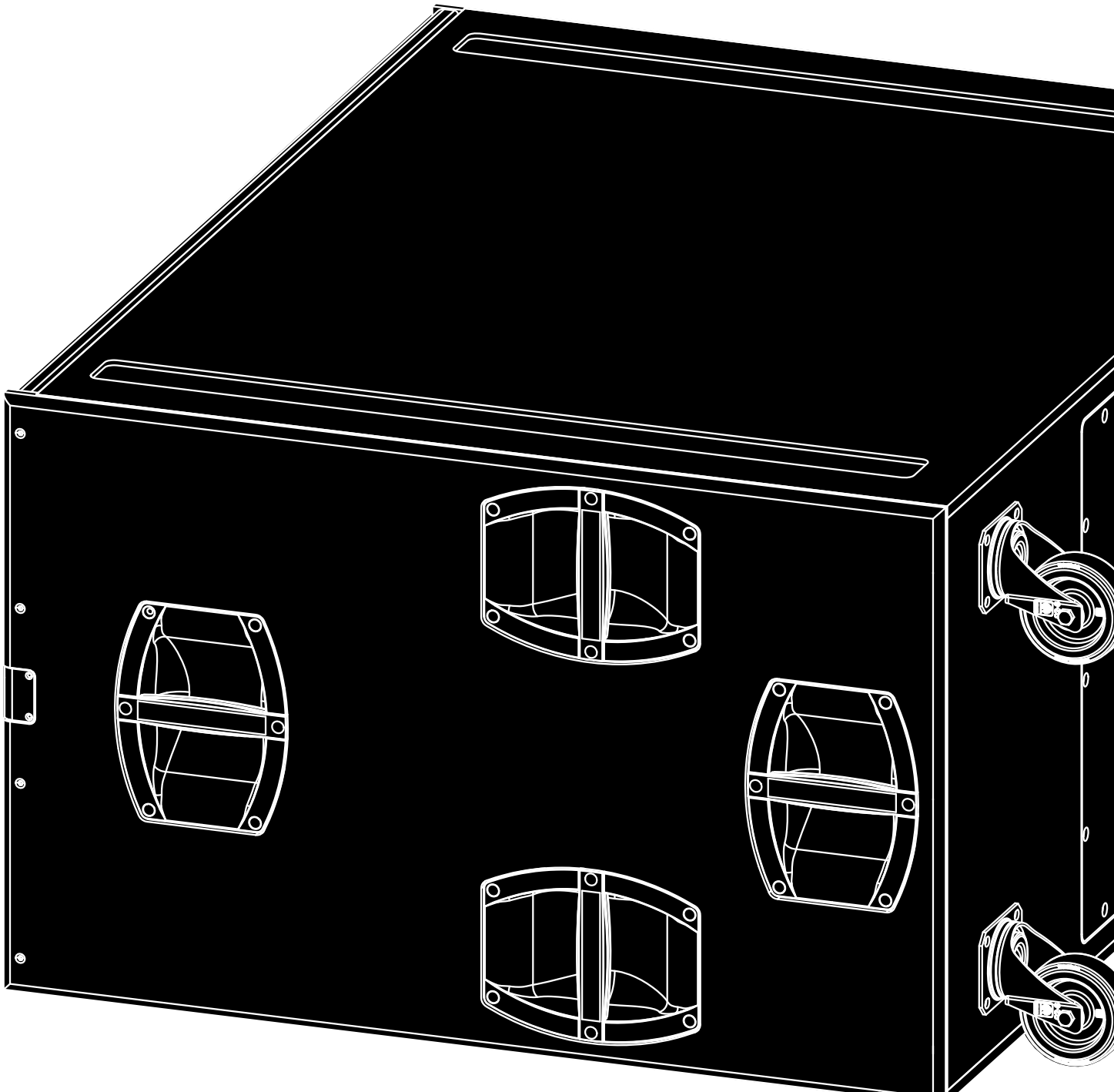
B22-SUB
Manual 1.2 en



General information

B22-SUB Manual

Version: 1.2 en, 11/2018, D2729.EN .01

Keep this document with the product or in a safe place so that it is available for future reference.

We recommend you to regularly check the d&b website for the latest version of this document.

When reselling this product, hand over this document to the new owner.

If you supply d&b products, please draw the attention of your customers to this document. Enclose the relevant documents with the systems. If you require additional documents for this purpose, you can order them from d&b.

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1.1 Information regarding the use of loudspeakers

Potential risk of personal injury

Never stand in the immediate vicinity of loudspeakers driven at a high level. Professional loudspeaker systems are capable of causing a sound pressure level detrimental to human health. Seemingly non-critical sound levels (from approx. 95 dB SPL) can cause hearing damage if people are exposed to it over a long period.

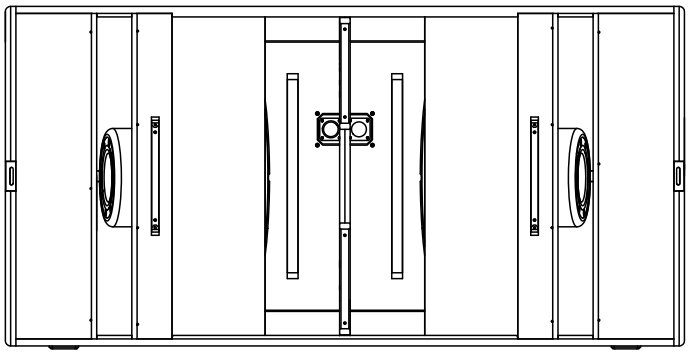
In order to prevent accidents when deploying loudspeakers on the ground or when flown, please take note of the following:

- When setting up the loudspeakers or loudspeaker stands, make sure they are standing on a firm surface. If you place several systems on top of one another, use straps to secure them against movement.
- Only use accessories which have been tested and approved by d&b for assembly and mobile deployment. Pay attention to the correct application and maximum load capacity of the accessories as detailed in our specific "Mounting instructions" or in our "Flying system and Rigging manuals".
- Ensure that all additional hardware, fixings and fasteners used for installation or mobile deployment are of an appropriate size and load safety factor. Pay attention to the manufacturers' instructions and to the relevant safety guidelines.
- Regularly check the loudspeaker housings and accessories for visible signs of wear and tear, and replace them when necessary.
- Regularly check all load bearing bolts in the mounting devices.

Potential risk of material damage

Loudspeakers produce a static magnetic field even if they are not connected or are not in use. Therefore make sure when erecting and transporting loudspeakers that they are nowhere near equipment and objects which may be impaired or damaged by an external magnetic field. Generally speaking, a distance of 0.5 m (1.5 ft) from magnetic data carriers (floppy disks, audio and video tapes, bank cards, etc.) is sufficient; a distance of more than 1 m (3 ft) may be necessary with computer and video monitors.

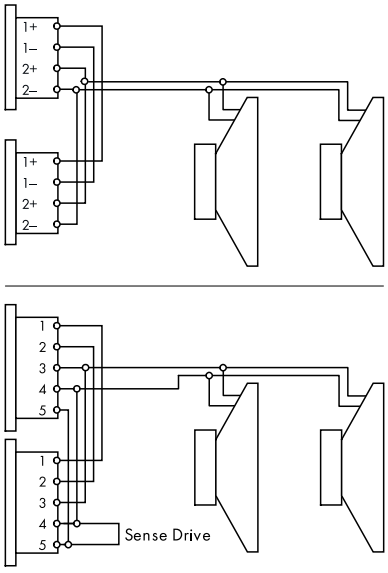
2 B22-SUB loudspeaker



2.1 Product description

The B22-SUB is an actively driven subwoofer housing a pair of 18" long excursion neodymium LF drivers built into a bandpass horn cabinet. Its frequency response extends from 32 Hz to 90 Hz.

The cabinet is constructed from marine plywood and has an impact resistant paint finish. The front of the loudspeaker cabinet is protected by a rigid metal grill backed by an acoustically transparent foam. Each side panel incorporates four handles and mounted on the rear panel are four heavy duty wheels. The enclosure features two runners recessed in the bottom panel to protect the bottom panel from scratching. Two correspondingly shaped recesses are incorporated into the top panel of each B22-SUB cabinet to accept these runners, preventing cabinet movement when stacked.



NLT4 F/M and EP5 connector wiring

2.2 Connections

The cabinet is fitted with NLT4 F/M connectors. All four pins of both connectors are wired in parallel. The B22-SUB uses the pin assignments 2+/2–. Pins 1+/1– are designated to TOP cabinets. In Mix TOP/SUB mode, when one connector is used as the input, the second connector allows for direct connection (link) to a TOP cabinet.

> **Note:** Only one B22-SUB may be connected. The second connector socket must not be used to link another B22-SUB cabinet.

The cabinet can be supplied with EP5 connectors as an option.

Pin equivalents of the connector options are listed in the table below.

NLT4 F/M	1+	1–	2+	2–	n.a.
EP5	1	2	3	4	5 (SenseDrive)

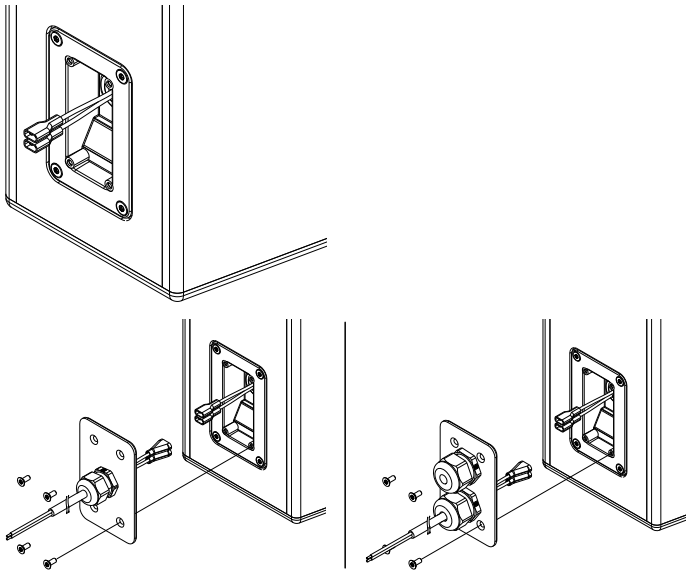
d&b SenseDrive

The SenseDrive feature within D12 amplifiers enables electrical compensation for the properties of the loudspeaker cable used. SenseDrive requires an additional sense wire. SenseDrive is therefore only available with EP5 connectors and 5-wire cabling for applicable loudspeakers.

> **Note:** When the D12 is operated in "Mix TOP/SUB mode", the SenseDrive function is only available at the output B connector.

d&b LoadMatch

Starting with the D80 amplifier platform, the LoadMatch function enables the amplifier to electrically compensate for the properties of the loudspeaker cable used without the need for an additional sense wire. For applicable loudspeakers, LoadMatch is therefore independent of the connector type used.



Faston type connector, male single PG (standard), dual PG (optional)

WR option (Weather Resistance)
A number of d&b loudspeakers are available in special options suitable for different types of installed applications and environmental conditions. The following options are available for the B22-SUB loudspeaker:

- Sea water resistant (SWR): This option is suitable for outdoor use, especially in wet and acid or salty environments.

WR cabinets are equipped with a recessed connector panel including a Faston type connector (2 x 6.3 mm, female). A cover plate which accepts single or dual PG cable glands (Type PG13.5 for cable diameters from 6 - 12 mm) is enclosed, as shown in the graphic opposite.

NOTICE!

The WR option enables operation of loudspeakers in changing ambient conditions, however it is not intended to enable permanent, unprotected operation of loudspeakers outdoors.

- Provide an additional cover over the loudspeakers.
- Aim the cabinets either horizontally or with a downward tilt.

To install the fixed connection cable, please proceed as follows:

Tools required: Screw driver (#T20).

> **Note:** Observe the correct polarity of the cable Brown (+) / Blue (–).

1. Insert the connection cable through the PG screwing and connect the male connector to the female connector.
2. Push the cover plate towards the connector panel until it fits into place.
3. Fix the cover plate to the connector panel using the four countersunk screws.

2.3 Operation

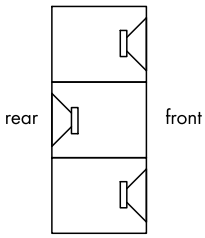
NOTICE!

Only operate d&b loudspeakers with a correctly configured d&b amplifier, otherwise there is a risk of damaging the loudspeaker components.

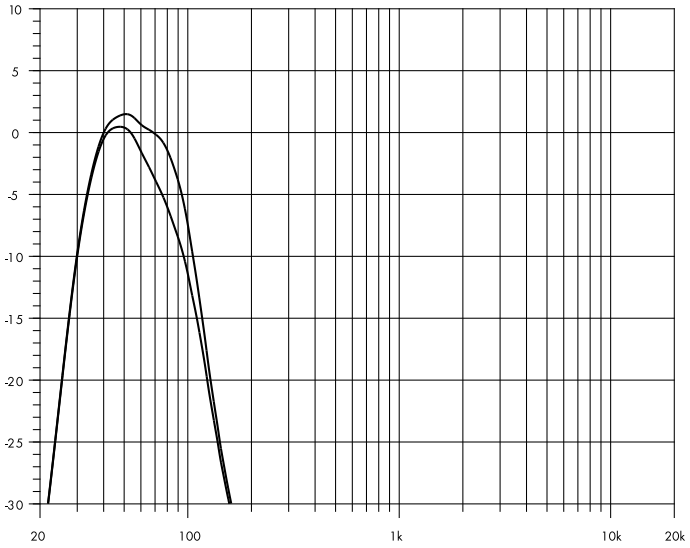
Applicable d&b amplifiers:
D80/D20/D12/30D.

Application	Setup	Cabinets per channel
B22-SUB	B22-SUB	1

Within applicable d&b amplifiers, the controller setup is available in Dual Channel or Mix TOP/SUB mode.



CSA Stack (example)



B22-SUB frequency response, standard and INFRA modes

2.3.1 Controller settings

For acoustic adjustment the INFRA and CSA function can be selected.

INFRA circuit

Selecting the INFRA circuit restricts the frequency response to a narrow 32 Hz – 68 Hz range (–5 dB). This transforms the B22-SUB into an infrabass system.

CSA mode

The CSA (**C**ardioid **S**ubwoofer **A**rray) mode enables the combination of three or multiples of three subwoofer cabinets into an array which produces exceptional low frequency directivity control.

The amplifier channel for the center subwoofer of the array, which is physically pointed to the rear, has CSA selected. The forward facing cabinets are driven with an amplifier channel set to standard mode. The resulting cardioid behavior of the array will significantly reduce the energy radiated to the rear.

For further information, please refer to the d&b TI 330 Cardioid Subwoofer Array, which is available for download at www.dbaudio.com.

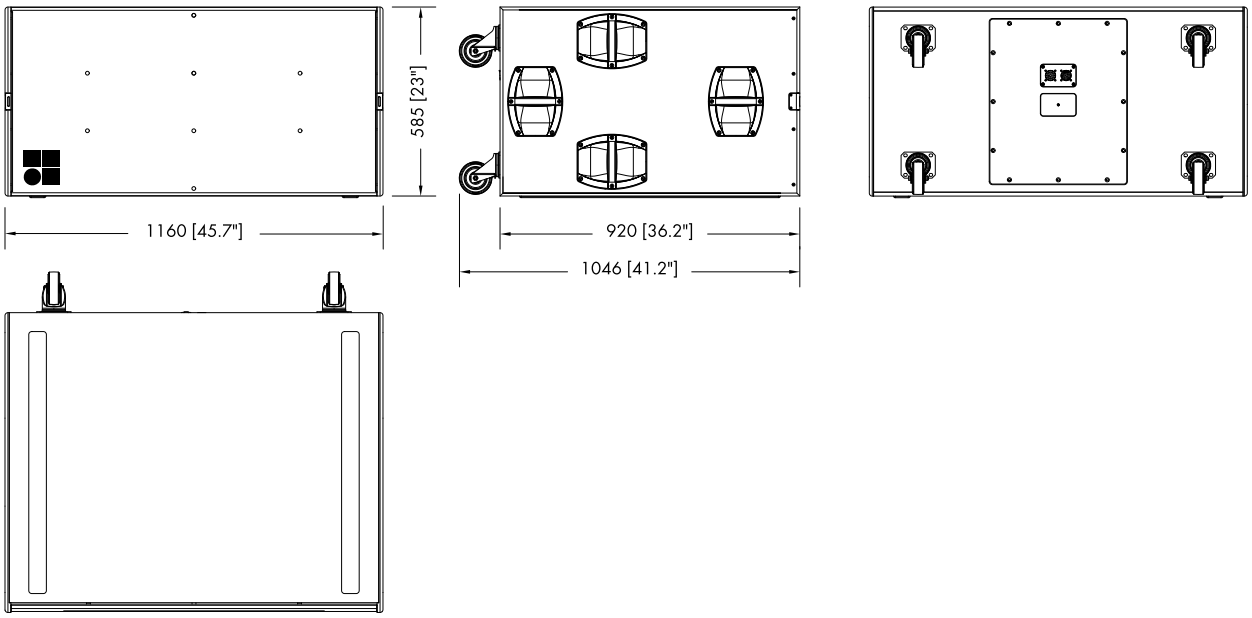
2.4 Technical specifications

System data

Frequency response (–5 dB standard) ..... 37 Hz - 90 Hz
Frequency response (–5 dB INFRA mode) ..... 32 Hz - 68 Hz
Max. sound pressure (1 m, free field) .....
with D12/D20/30D ..... 140 dB
with D80 ..... 143 dB
..... (SPLmax peak, pink noise test signal with crest factor of 4)

Loudspeaker data

Nominal impedance ..... 4 ohms
Power handling capacity (RMS/peak 10 ms) ..... 1000/4000 W
Components ..... 2 x 18" driver with neodymium magnet
Connections ..... 2 x NLT4 F/M
..... optional 2 x EP5
..... WR option: Faston type connector (2 x 6.3 mm), female
Pin assignment ..... NLT4 F/M: 2+/2–
..... EP5: 3:+ / 4:–
..... WR option: Brown: (+) / Blue: (–)
Weight ..... 106 kg (234 lb)



B22-SUB cabinet dimensions in mm [inch]

3.1 EU conformity of loudspeakers (CE symbol)

This declaration applies to:

d&b B22-SUB loudspeaker, Z0057

manufactured by d&b audiotechnik GmbH.

All production versions of these types are included, provided they correspond to the original technical version and have not been subject to any later design or electromechanical modifications.

We herewith declare that said products are in conformity with the provisions of the respective EC directives including all applicable amendments.

A detailed declaration is available on request and can be ordered from d&b or downloaded from the d&b website at www.dbaudio.com.

3.1.1 WEEE Declaration (Disposal)

Electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime.

Please dispose of this product according to the respective national regulations or contractual agreements. If there are any further questions concerning the disposal of this product, please contact d&b audiotechnik.

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