B2-SUB

Manual (3.0E)

d&b audiotechnik

References in the manual



WARNING! — **This refers to a potentially dangerous situation which may lead to personal injury.**

CAUTION! — **This refers to a potentially dangerous situation which may lead to personal injury.**

IMPORTANT! — **This refers to a situation which may cause the equipment to malfunction.**

Symbols on the equipment



Please refer to the information in the operating manual.



WARNING!
Dangerous voltage!

General Information

B2-SUB Manual

Version 3.0E, 02/2004, D2091.E.03

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The information contained in this manual has been carefully checked for accuracy, at the time of going to press, however no guarantee is given with respect to the correctness.

d&b audiotechnik AG accepts no responsibility for any errors or inaccuracies that may appear in this manual or the products and software described in it.

Technical specifications, dimensions, weights and properties do not represent guaranteed qualities.

As manufacterers we reserve the right to make alterations and modifications within the framework of legal provisions, as well as changes aimed at improving quality.

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Safety precautions

Before you use our products, read the manual carefully and observe all the safety precautions. They will protect you and help to avoid equipment failures.

Keep this manual in a safe place so that it is available for future reference.

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

Information regarding use of loudspeakers



WARNING!

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.

CAUTION!

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.

B2-SUB

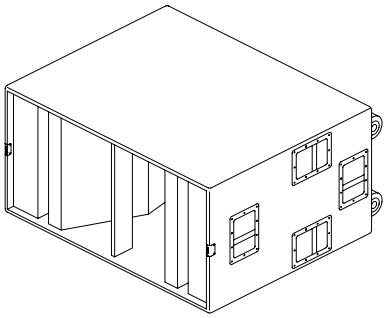


Fig. 1: B2-SUB

The B2-SUB is an actively driven subwoofer which uses a pair of 18" LF drivers mounted in a bandpass horn cabinet.

The B2-SUB cabinet is constructed from marine plywood and has an impact resistant paint finish. The front of the loudspeaker cabinet is fitted with a rigid metal grill covered with a replaceable acoustically transparent foam, and fitted with catches to the top and bottom for securing an optional transport lid E7911. The cabinet incorporates four steel handles and on the rear panel, four heavy duty wheels.

CAUTION!

Only operate B2-SUB cabinets with a d&b D12 amplifier in "Dual channel" and B2 mode or an A1 mainframe fitted with a B2-SUB controller module, otherwise there is a risk of damaging the loudspeaker components.

Connections

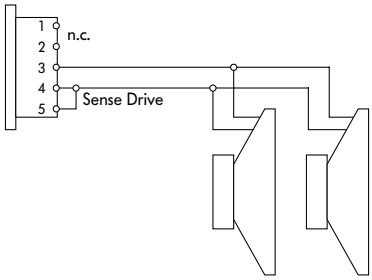


Fig. 2: Connector wiring

The B2-SUB cabinet is fitted with a single EP5 connector and uses the pin assignments 3/4 and 5 (Pin 5: SenseDrive - D12 in conjunction with 5-wire cables).

The B2-SUB can be supplied with a single CACOM connector as an option to drive the B2-SUB cabinet with the d&b A1 mainframe. SenseDrive is also available when the B2-SUB is driven by the A1 mainframe.

Operation with D12

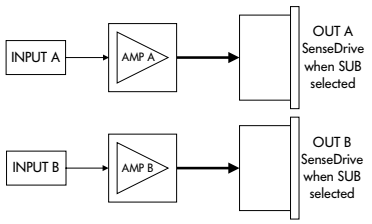


Fig. 3: D12 Input/Output routing Dual channel mode

Selecting "Dual channel" and B2 mode enables a single B2-SUB cabinet to be driven by each channel.

In standard mode the B2-SUB can be used as subwoofer for the d&b C- and Q-Series systems (CUT mode). The upper cut-off frequency of 100 Hz (like Q-SUB) is lower than the cut-off frequency of a A1 mainframe with B2 Controller, which had been tuned for the use with the d&b F2 system.

Controller settings

INFRA

Selecting the INFRA switch restricts the B2 frequency response to a narrow, 32 Hz - 68 Hz range (–5 dB). This transforms a B2 into an infrabass system for use with d&b C- and Q-Series loudspeakers.

CSA

CSA (Cardioid Subwoofer Array) is a method to combine three or a multiple of three subwoofer cabinets to an array with exceptional directivity at low frequencies. Please refer to d&b TI-330 (d&b code D5330.E) which describes the set up in detail. Do not use this mode with any other configuration of B2-SUB systems.

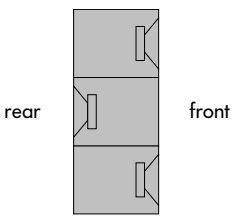


Fig. 4: CSA Stack (Example)

Driven in CSA mode a reversed cabinet will eliminate the energy radiated to the rear of two front radiating B2-SUB cabinets (CSA not selected). Please note that all other settings of the amplifiers driving a CSA have to be identical (input signal, level, INFRA, EQ, delay).

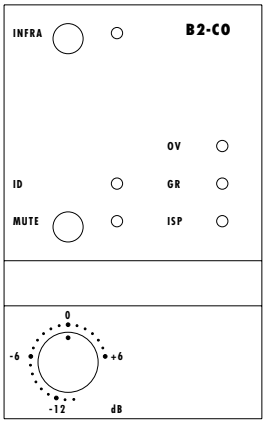


Fig. 5: Controls on B2-SUB controller module

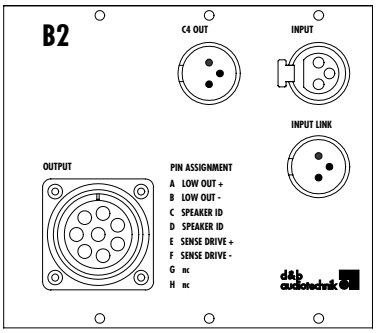


Fig. 6: B2-SUB controller rear panel

Operation with A1

One B2-SUB cabinet can be driven by a single A1 mainframe fitted with a B2-SUB controller module.

In standard mode the A1/B2 system is dedicated for the use with d&b F2 systems.

INFRA

The INFRA setting is available. The characteristics of the INFRA setting is explained under the previous section "Operation with D12 - Controller settings".

Controller module rear panel

A single 8 pin CACOM output socket is fitted to the module rear panel. An additional balanced XLR output marked C4-OUT is also provided on the module rear panel. The C4-OUT signal can be used to drive C4-SUB controller inputs when a B2 is used as an infrabass system for C4-SUBs. In the event of a power or mainframe failure, a bypass relay in the B2 controller module will connect the pins of the C4-OUT socket directly to those of the module INPUT socket allowing the continued operation of the C4-SUB and TOP cabinets.

Technical specifications

B2-SUB system data (standard/INFRA)

Frequency response (–5 dB) D12.....37 Hz - 100 Hz / 32 Hz - 68 Hz
Frequency response (–5 dB) A1.....37 Hz - 125 Hz / 32 Hz - 68 Hz
Max. sound pressure (1 m, full space) D12 or A1.....139 dB / 136 dB
(SPLmax peak, test signal pink noise with crest factor 4)

Input level for 100 dB SPL / 1 m.....–20 dBu / –19 dBu
Polarity to controller INPUT (XLR pin 2: + / 3: –).....LF: +

B2-SUB subwoofer

Nominal impedance.....4 ohms
Power handling capacity (RMS / peak 10 ms).....600 / 2400 W
Connections.....1 x EP5
Pin assignments.....3/4 and 5 (Pin 5: SenseDrive - D12)
optional.....1 x CACOM
Pin assignments printed on the controller module rear panel

Weight.....102 kg (225 lb)

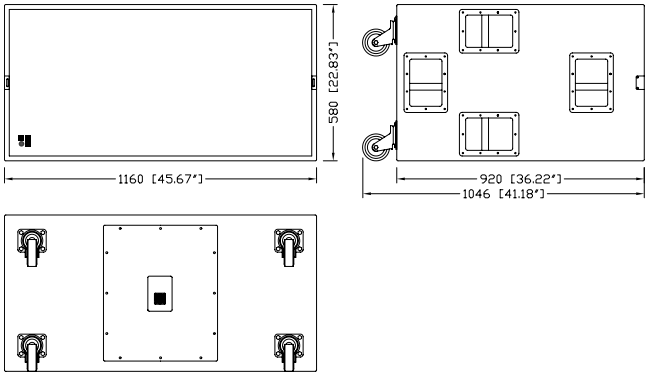


Fig. 7: B2-SUB cabinet dimensions in mm [inch]

EU declaration of conformity (CE symbol)

CE

EU conformity of loudspeakers

This declaration applies to loudspeakers manufactured by d&b audiotechnik AG and includes the types listed in the table below:

- B2-SUB Z0056

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 following EC directives including all applicable amendments:

- 89/336 Electromagnetic Compatibility

The following standards have been applied:

- DIN EN 55013:08-1991

- DIN EN 55020:05-1995

- DIN EN 50082-1:03-1993

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