E9

Manual (3.1 EN)

d&b audiotechnik

Symbols on the equipment

Please refer to the information in the operating manual.

WARNING!
Dangerous voltage!

Contents

General Information

E9 Manual

Version 3.1 EN, 03/2008, D2071.E.03

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

When reselling this product, hand over this manual to the new customer.

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

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Safety precautions

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.

E9

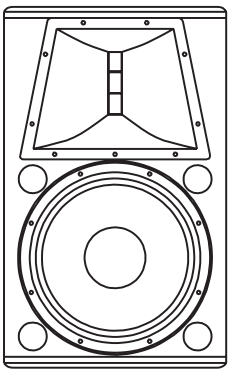

Fig. 1: E9 loudspeaker

The E9 loudspeaker is a full range, two way bass-reflex enclosure which is fitted with a single 12" LF driver passively connected to a 2" HF compression driver. This is coupled to a vertically asymmetrical 90° x 50° CD horn. The asymmetry of the HF horn means that the E9 has a vertical coverage pattern with a downward tilt. The actual vertical dispersion is 20° above and 30° below the cabinet axis.

The E9 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. The cabinet top plate has an integral handle and four M10 threaded inserts for mounting brackets and rigging. The L shaped metal plate at the bottom of the cabinet also incorporates a handle, four M10 threaded inserts and a socket to accept a loudspeaker stand.

NOTICE: Only operate E9 loudspeakers with a correctly configured d&b amplifier, otherwise there is a risk of damaging the loudspeaker components.

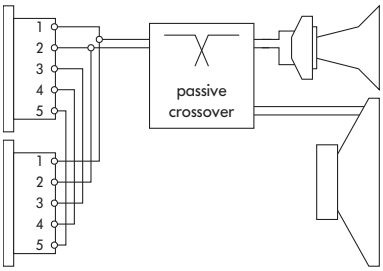

Fig. 2: Connector wiring

Connections

The E9 cabinet is fitted with a pair of EP5 connectors. All pins of both connectors are wired in parallel. The E9 uses the pin assignments 1/2. Pins 3/4 and 5 are designated to d&b active subwoofers.

Using one connector as the input, the second connector allows for direct connection to additional cabinets.

The E9 can be supplied with NL4 output connectors as an option using the pin assignment 1+/1–. Pins 2+/2– are designated to d&b active subwoofers.

Pin equivalents of EP5 and NL4 connectors are listed in the table below.

EP5	1	2	3	4	5 (SenseDrive SUB)
NL4	1+	1-	2+	2-	n.a.

Operation with D6 or D12

Select the controller setup E9.

Within the D12 amplifier this is available in "Dual Channel" and "Mix TOP/SUB" mode.

IMPORTANT!

Up to a total of two E9 loudspeakers can be driven by each D6 or D12 amplifier channel.

In applications with low continuous levels and low ambient temperatures up to three cabinets can be connected to a D12 channel.

When the D12 is operated in "Mix TOP/SUB" mode, the E9 cabinet and a respective active subwoofer can be linked together locally and fed by a single 4-wire cable from either amplifier output connector.

To apply SenseDrive for the subwoofer, EP5 connectors and 5-wire cables have to be used. When operated in "Mix TOP/SUB" mode, subwoofers have to be fed from the output B connector of the D12 amplifier.

Controller settings

For acoustic adjustment the settings CUT and HFA can be selected.

CUT circuit

Set to CUT, a high pass filter with a 110 Hz cut off frequency is inserted in the controller signal path. The E9 is now configured for use with d&b active subwoofers.

HFA circuit

In HFA mode (High Frequency Attenuation), the HF response of the E9 is rolled off. The HFA circuit provides a natural, balanced frequency response when a unit is placed close to listeners in near field or delay use.

High frequency attenuation begins gradually at 1 kHz, dropping by approximately 3 dB at 10 kHz. This roll off mimics the decline in frequency response experienced when listening to a system from a distance in a typically reverberant room or auditorium.

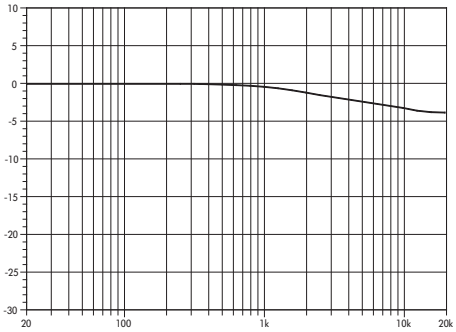

Fig. 3: Frequency response of HFA circuit

Operation with E-PAC

To drive E9 cabinets, the E-PAC has to be configured to E9 mode.

For an E-PAC version 2, the configuration is selected by setting the appropriate DIP switches on the rear panel.

For an E-PAC version 3, the configuration is set via the encoder in conjunction with an LCD.

Selecting E9 mode enables the E-PAC to drive one E9 cabinet. LO IMP mode allows the E-PAC to drive up to two E9 cabinets with a 6 dB reduction of input level to the loudspeakers.

The CUT and HFA settings are available. The characteristics of the CUT and HFA settings are explained in the previous section "Operation with D6 or D12 - Controller settings".

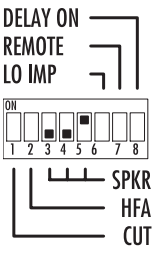

Fig. 4: E-PAC configuration for E9 (E-PAC version 2)

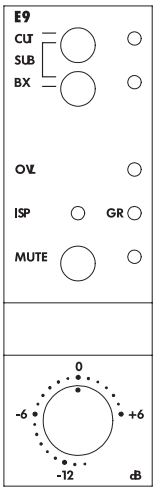

Fig. 5: Controls on E9 controller module

Operation with P1200A

Up to two E9 cabinets can be driven by each P1200A power amplifier channel fitted with an E9 controller module.

Fitting one E9 and one subwoofer controller module allows a single mainframe to drive two E9 cabinets and two active subwoofer cabinets. All cabinets can be linked together locally and fed by a single 4-wire cable from either mainframe output connector.

The CUT setting is available. The characteristics of the CUT setting are explained in the previous section "Operation with D6 or D12 - Controller settings".

Standard setting

If neither the CUT switch nor the BX switch is selected, the module is configured for use with E9 cabinets as stand alone system without any subwoofers.

BX switch and indicator

When the E9 is used with the passive E15-BX subwoofer, i.e. E9 and E15-BX are linked to the same amplifier output, the BX switch should be selected. The LF level - boosted by the bass extension cabinet - is then attenuated by 3 dB, thereby increasing headroom at bass frequencies.

SUB (CUT and BX both selected)

Selecting the CUT and BX switches activates a lowpass filter. The module now transmits frequencies from 50 to 110 Hz only, allowing the d&b E15-BX to be driven as an active subwoofer.

Important: The E9 controller module drives EP5 pins 1/2 (NL4: pins 1+/1–). Therefore the SUB setting is not suitable for driving d&b active subwoofer cabinets.

Dispersion characteristics

The diagrams below show dispersion angle vs frequency plotted using lines of equal sound pressure (isobars) at –6 dB and –12 dB. The nominal 90° horizontal dispersion is maintained from 20 kHz down to 900 Hz.

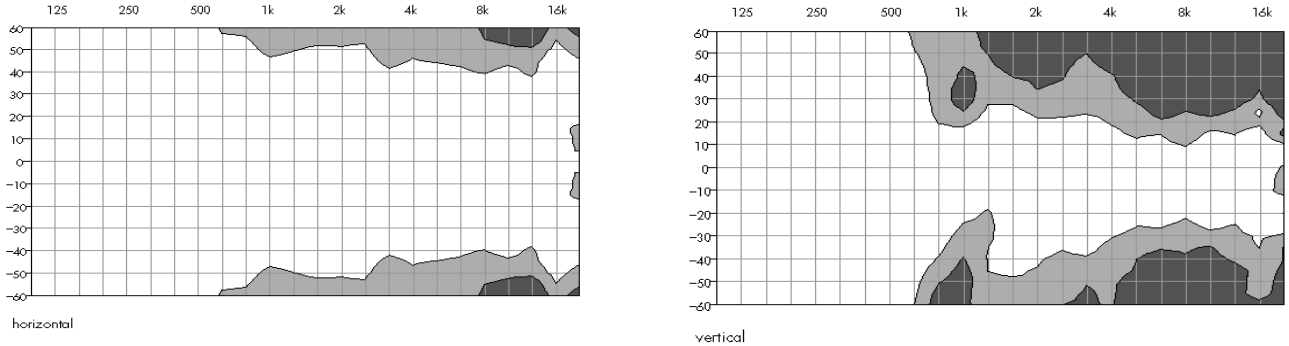

Fig. 6: E9 isobar diagrams

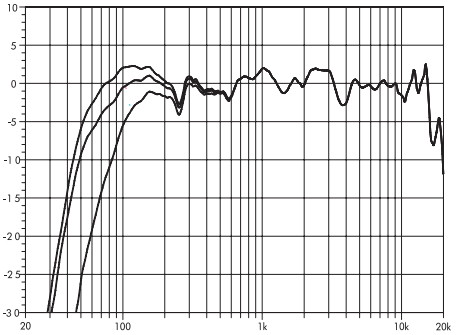

Fig. 7: E9 frequency response standard, BX and CUT switch settings

Technical specifications

E9 system data

Frequency response (–5 dB).....50 Hz - 17 kHz
Max. sound pressure (1 m, free field) with D12.....129 dB
Max. sound pressure (1 m, free field) with D6.....126 dB
Max. sound pressure (1 m, free field) with P1200A.....128 dB
(SPLmax peak, pink noise test signal with crest factor of 4)
Input level (100 dB SPL / 1 m).....–13 dBu

E9 loudspeaker

Nominal impedance.....8 ohms
Power handling capacity (RMS / peak 10 ms).....200/800 W
Nominal dispersion angle.....horizontal 90°, vertical +20° / –30°
Components.....12" driver
.....2" compression driver
Connections.....2 x EP5
Pin assignments.....1/2
optional.....2 x NL4
Pin assignments.....1+/1–
Weight.....26 kg (57 lb)

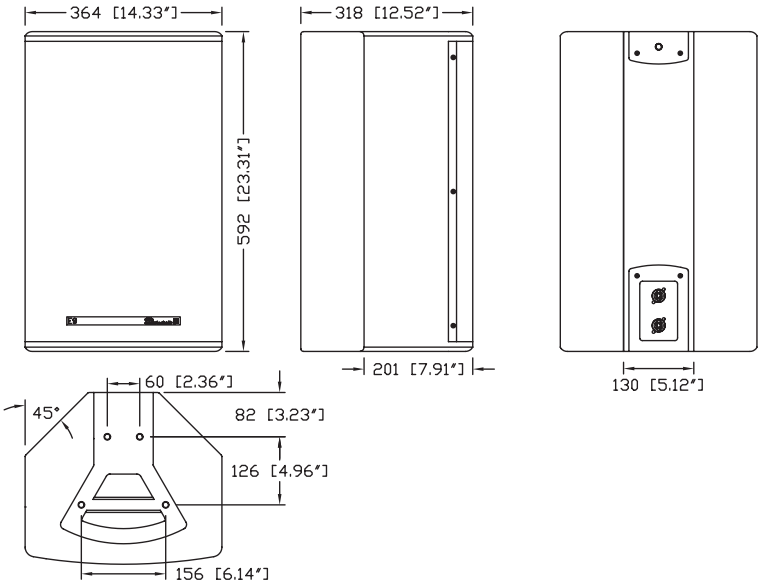

Fig. 8: E9 cabinet dimensions in mm [inch]

Manufacturer's declarations

EU conformity of loudspeakers (CE symbol)

This declaration applies to:

d&b E9 loudspeaker, Z2250

manufactured by d&b audiotechnik GmbH.

All production versions of this type 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.

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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