Ci-SUB

Manual (2.0E)

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 damage to the equipment.**

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

Ci-SUB Manual

Version 2.0E, 10/2003, D2054.E.02

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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.

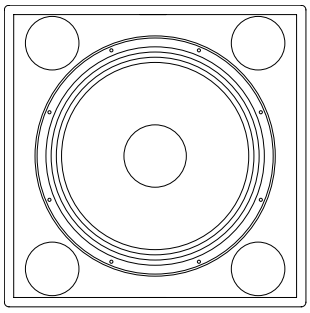
Regularly check the loudspeaker housings and accessories for visible signs of wear and tear, and replace them when necessary.

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.

Ci-SUB



The Ci-SUB is the dedicated subwoofer for the Ci-Series loudspeakers for flown array situations. The Ci-SUB employs a single 18 " driver. The compact bass-reflex design extends the low frequency response down to 44 Hz.

The Ci-SUB 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, covered with an acoustically transparent foam. Four M12 and four M16 threaded inserts are provided for attaching installation hardware.

CAUTION!

Only operate Ci-SUB subwoofers with a d&b D12 or E-PAC amplifier in C7-SUB configuration or a P1200A mainframe fitted with a C7-SUB controller module, otherwise there is a risk of damaging the loudspeaker components.

Connections

Ci-SUB cabinets are fitted with a single NL4 connector and are driven using pins 2+/2–.

The Ci-SUB can be supplied with a single EP5 connector as an option using the pin assignment 3/4 and 5 (Pin 5: SenseDrive - D12 only and in conjunction with 5-wire cables).

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.c.

EP5 and NL4 pin assignments

Operation with D12

Selecting C7-SUB mode in the D12 enables up to two Ci-SUB cabinets to be driven by each channel. In applications with low continuous levels and low ambient temperatures up to three cabinets per channel may be connected.

IMPORTANT!

To apply SenseDrive for the subwoofer EP5 connectors and 5-wire cables have to be used.

When the D12 is operated in "Mix TOP/SUB mode" the SenseDrive function is available on the output B connector only.

Controller settings

For acoustic adjustment the 100 Hz function can be selected.

100 Hz

If the 100 Hz function is selected, the upper operating frequency of the system is reduced from 140 Hz to 100 Hz. This setting allows the Ci-SUB to supplement TOP cabinets in full range mode (i.e. CUT not selected).

The 100 Hz mode may also be used with TOP cabinets in CUT mode to compensate for room resonances often found in the 125 Hz band.

Operation with E-PAC (Version 3 with display only)

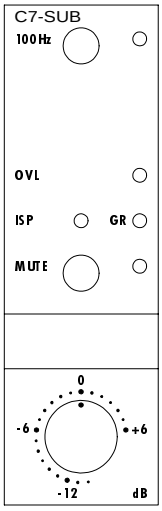
Selecting C7-SUB mode in the E-PAC enables one Ci-SUB cabinet to be driven at an output power of 300 Watts. We do not recommend that two Ci-SUB cabinets are driven in LO IMP mode as the 6 dB reduction in input level to the loudspeakers results in no gain in acoustical output.

The 100 Hz setting is available. The characteristics of the 100 Hz setting is explained under the previous section "Operation with D12 - Controller settings".

Operation with P1200A

Up to two Ci-SUB cabinets can be driven by each P1200A power amplifier channel fitted with a C7-SUB controller module. Fitting one C7-SUB and one TOP controller module allows a single mainframe to drive two Ci-SUB and two mid/high cabinets.

The 100 Hz setting is available. The characteristics of the 100 Hz setting is explained under the previous section "Operation with D12 - Controller settings".



Controls on C7-SUB controller module

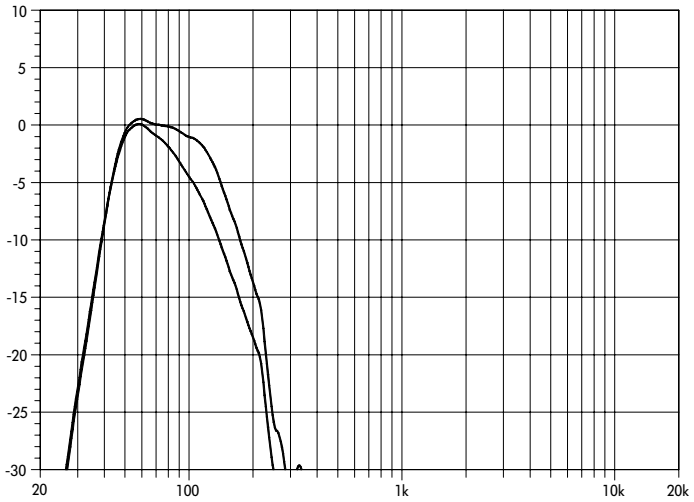
Technical specifications

Ci-SUB system data

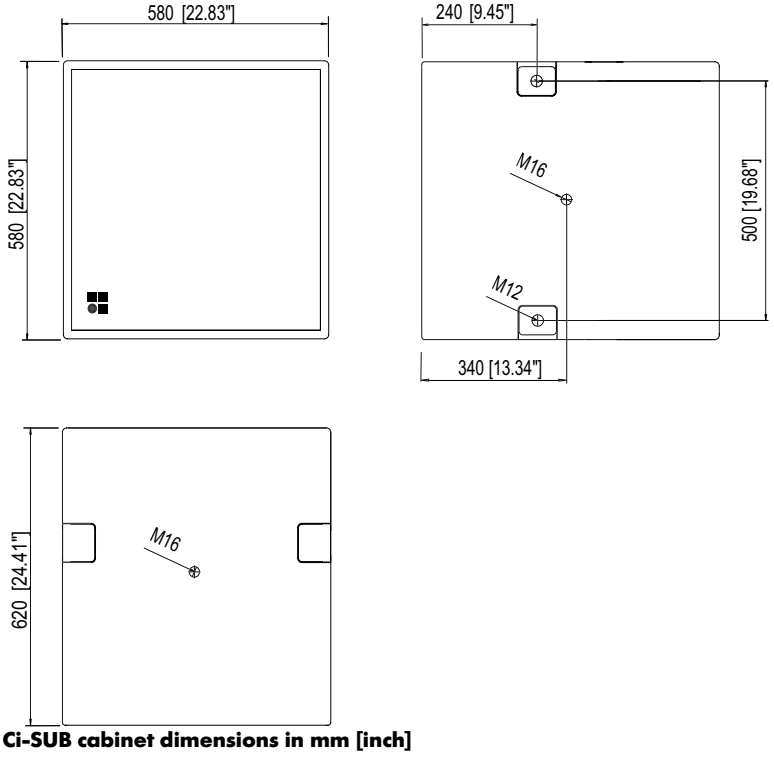
Frequency response (–5 dB) ..... 44 Hz - 140 / 100 Hz
Max. sound pressure (1 m, free field) with D12 ..... 133 dB
Max. sound pressure (1 m, free field) with E-PAC ..... 129 dB
Max. sound pressure (1 m, free field) with P1200A ..... 131 dB
(SPLmax peak, pink noise test signal with crest factor of 4)
Input level (100 dB SPL / 1m) ..... –13 dBu
Polarity to controller INPUT (XLR pin 2: + / 3: –) ..... LF: +

Ci-SUB subwoofer

Nominal impedance ..... 8 ohms
Power handling capacity (RMS / peak 10 ms) ..... 400 / 1200 W
Connections ..... 1 x NL4
Pin assignments ..... 2+ / 2–
optional ..... 1 x EP5
Pin assignments ..... 3/4 and 5 (Pin 5: SenseDrive - D12)
Weight ..... 39 kg (86 lb)



Ci-SUB frequency response, standard and 100 Hz settings



Ci-SUB cabinet dimensions in mm [inch]

Rigging accessories

The table below lists the rigging accessories that are available for the Ci-SUB subwoofer:

Code	Description
Z5091.000	Ci Flying bracket
Z5148.000	Ci Mounting bracket
Z5145.000	Ci Mounting frame
Z5146.015	Ci Mounting brackets 0° to 15°
Z5146.030	Ci Mounting brackets 12° to 30°
Z5146.045	Ci Mounting brackets 28° to 45°
Z5147.000	MAN Rota clamp (SWL 250 kg/551 lb)
Z5018.000	TV spigot M12
Q9032.000	M10 Safety eye bolt
Q9034.000	M16 Safety eye bolt

For further information please refer to the specific mounting instructions for each accessory.

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:

– **Ci-SUB Z1404**

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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