

Ci3

Manual (2.1 EN)



Symbols on the equipment

Please refer to the information in the operating manual.

WARNING!
Dangerous voltage!

Contents

Safety precautions	3
Information regarding use of loudspeakers.....	3
Ci3	4
Connections.....	5
Operation with D12.....	5
Operation with P1200A.....	6
Dispersion characteristics.....	6
Technical specifications.....	7
Manufacturer's declarations	8
EU conformity of loudspeakers (CE symbol).....	8
WEEE Declaration (Disposal).....	8

General Information

Ci3 Manual

Version 2.1 EN, 03/2008, D2050.E.02

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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



WARNING!

Information regarding use of loudspeakers

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.

Ci3

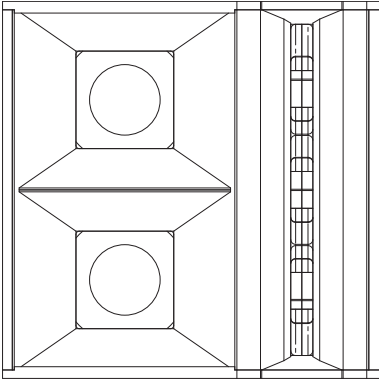


Fig. 1: Ci3 loudspeaker

The Ci3 is the installation version of the C3 loudspeaker. It is acoustically compatible with the standard road version differing only in cabinet construction and mounting hardware.

The 2-way active Ci3 loudspeaker is an entirely hornloaded design. The cabinet houses 2 x 10" mid-range drivers and 3 x 1.3" HF compression drivers.

Utilizing a horizontal dispersion of 35° (above 900 Hz) and with a 5° vertical HF dispersion per cabinet, the Ci3 is used to build vertical columns producing a curved coherent wave front using a minimum of two cabinets.

The Ci3 cabinet is constructed from marine plywood with an impact resistant paint finish. The front of the mid-range section of the loudspeaker cabinet is protected by a rigid metal grill fitted with an acoustically transparent foam, and the HF section is fitted with a foam block in the horn throat. Four M12 and four M16 threaded inserts are provided for attaching installation hardware.

NOTICE: Only operate Ci3 loudspeakers with a correctly configured d&b amplifier, otherwise there is a risk of damaging the loudspeaker components.

Weather resistant (WR) option

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.

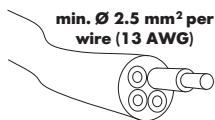
Cabinet design

Component	Description
Cabinet	Plywood to DIN 68705 Part III. Equivalent to flame spread class 3. Temperature range from -200° C to +100° C.
Wood joints	Bonded waterproof to stress class D4.
Cabinet paint	Two component PU paint (seaworthy, chemical resistant and temperature resistant to 110° C).
Screws	Stainless steel (VA).
Driver cones	Impregnated with silicone spray or coated.
Driver components/ Crossover network	The coil and pole plate are also treated with silicone. The crossovers are sprayed with silicone on both the solder and component sides.

Connections

The Ci3 cabinet is fitted with one NL4 connector. The pin assignment is listed in the table below.

	MF+	MF-	HF+	HF-	n.a.
NL4	1+	1-	2+	2-	



NOTICE: To avoid HF loss with long cable runs, each cabinet must be connected to one of the amplifier outputs using separate cables with a minimum conductor size of $4 \times 2.5 \text{ mm}^2$ (13 AWG).

Operation with D12

Select "2-way active mode" and the C3 setup.

The Ci3 cabinet is a 2-way active design employing both channels of the D12 power amplifier. Up to two Ci3 loudspeakers can be driven with one D12 amplifier.

Controller settings

For acoustic adjustment the functions HFC, LFC and CPL can be selected.

HFC circuit

Selecting the HFC mode (High Frequency Compensation) compensates for loss of high frequency energy due to absorption in air. The HFC switch should be used exclusively for those cabinets covering the very far field. This guarantees the correct sound balance between close and remote audience areas, whilst all amplifiers driving the array can be fed with the same signal.

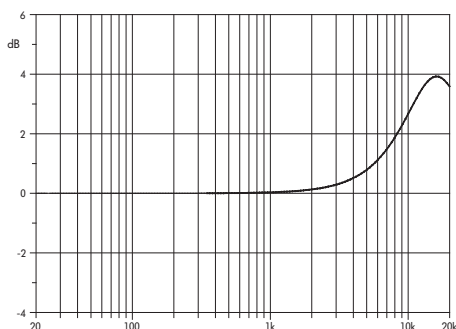


Fig. 2: Frequency response correction of HFC circuit

LFC circuit

In LFC mode (Low Frequency Compensation), the low frequency response is extended down to 80 Hz for speech reinforcement without subwoofers.

CPL circuit

The CPL (Coupling) circuit compensates for coupling effects between the cabinets when building closely coupled arrays. CPL begins gradually at 1 kHz, with maximum attenuation below 400 Hz, providing a balanced frequency response when Ci3 cabinets are used in arrays of two or more. The function of the CPL circuit is shown in the diagram opposite and can be set in dB attenuation values between -9 and 0.

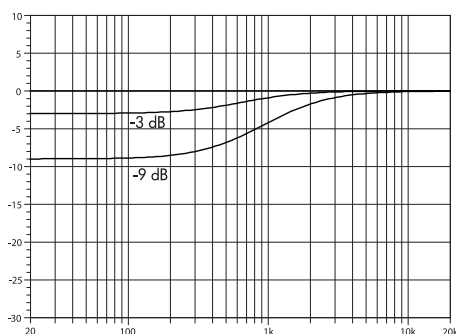


Fig. 3: Frequency response correction of CPL circuit

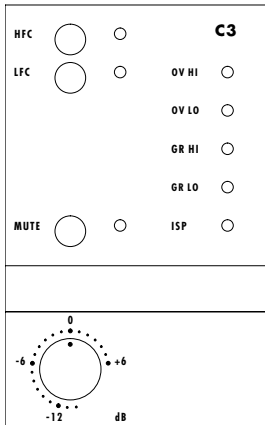


Fig. 4: Controls on C3 controller module

Operation with P1200A

The Ci3 cabinet is a 2-way active design employing both channels of the P1200A power amplifier, fitted with the C3 controller module. Up to two Ci3 loudspeakers can be driven with one mainframe.

The HFC and LFC settings are available. The characteristics of the HFC and LFC settings are explained in the previous section "Operation with D12 - Controller settings".

Dispersion characteristics

The diagram below shows dispersion angle vs frequency, plotted using lines of equal sound pressure (isobars) at -6 dB and -12 dB. The nominal horizontal dispersion of 35° is maintained above 900 Hz.

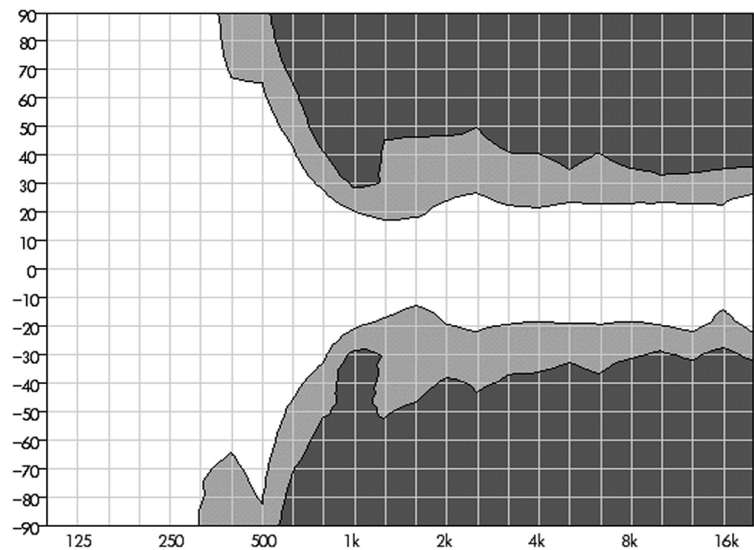


Fig. 5: Ci3 horizontal isobar diagram

Technical specifications

Ci3 system data

Frequency response (-5 dB standard, two cabinets).....	130 Hz – 16 kHz
Frequency response (-5 dB LFC Mode, two cabinets).....	80 Hz – 16 kHz
Max. sound pressure (1 m, free field) with D12.....	144 dB
Max. sound pressure (1 m, free field) with P1200A.....	143 dB
(SPLmax peak, pink noise test signal with crest factor of 4)	

Ci3 loudspeaker

Nominal impedance (LF/HF).....	4 ohms / 5.3 ohms
Power handling capacity LF (RMS / peak 10 ms).....	500 / 1000 W
Power handling capacity HF (RMS / peak 10 ms).....	150 / 600 W
Nominal dispersion angle (hor. x vert.).....	35° x 5°
Connections.....	1 x NL4
Pin assignment.....	1+/1- MF; 2+/2- HF
Weight.....	68 kg (150 lb)

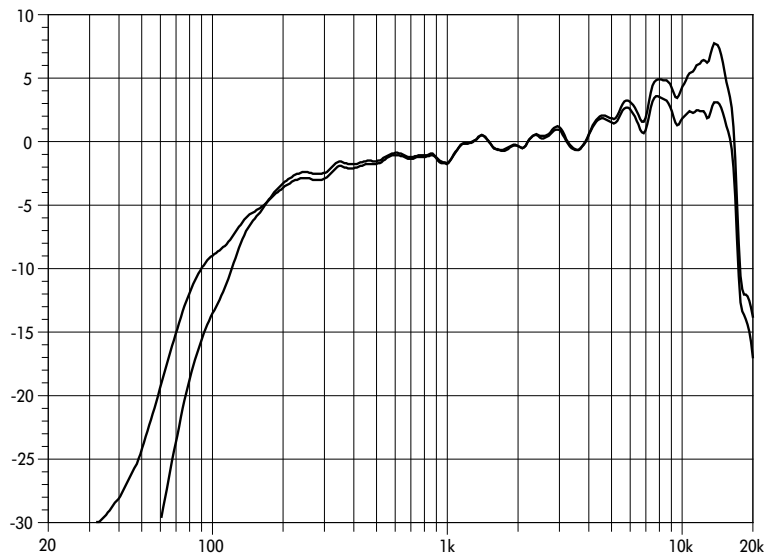


Fig. 6: Ci3 frequency response, standard, LFC and HFC mode (single cabinet)

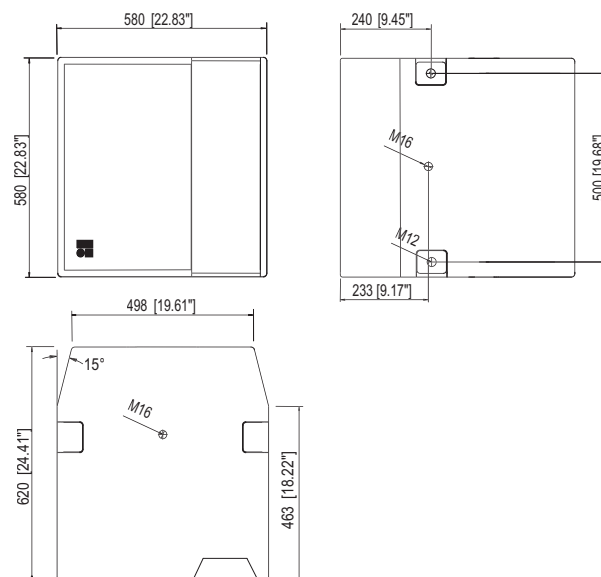


Fig. 7: Ci3 cabinet dimensions in mm [inch]

Manufacturer's declarations



EU conformity of loudspeakers (CE symbol)

This declaration applies to

- **Ci3** **Z1403**

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.