

# **Ci4-TOP**

## **Manual (2.1 EN)**

## Symbols on the equipment



**Please refer to the information in the operating manual.**



**WARNING!**  
**Dangerous voltage!**

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## General Information

Ci4-TOP Manual

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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.

## Ci4-TOP

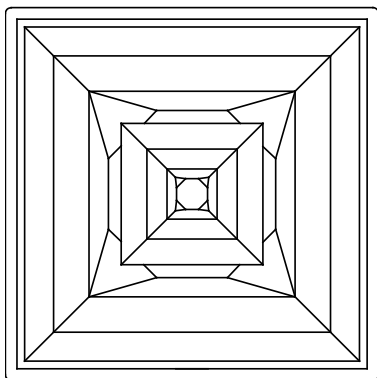


Fig. 1: Ci4-TOP loudspeaker

The Ci4-TOP is the installation version of the C4-TOP loudspeaker. It is acoustically compatible with the standard road version differing only in cabinet construction and mounting hardware.

The Ci4-TOP loudspeaker is a mid to high range loudspeaker which uses a coaxial array of two constant directivity horns. Two passively coupled drivers are used: a 12" low frequency driver with a 4" voice coil and a specially treated diaphragm and a 2" exit compression driver with a titanium diaphragm. The nominal 35° x 35° dispersion is maintained down to 700 Hz.

The Ci4-TOP cabinet is constructed from marine plywood with 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.

**NOTICE:** Only operate Ci4-TOP 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

Ci4-TOP cabinets are fitted with a single NL4 connector and are driven using pins 1+/1-.

Installation loudspeakers with the weather resistant option are supplied with a fixed cable (PG).

Cable type: H-07-RN-F 2 x 2.5 mm<sup>2</sup>/AWG 13  
Standard length: 5.5 m (18 ft)

Pin equivalents of NL4 connectors and fixed cable option (PG) are listed in the table below.

NL4	1+	1-	2+	2-
PG	Brown (+)	Blue (-)		

## Operation with D6 or D12

Select the controller setup C4-TOP.

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

Up to a total of two Ci4-TOP 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.

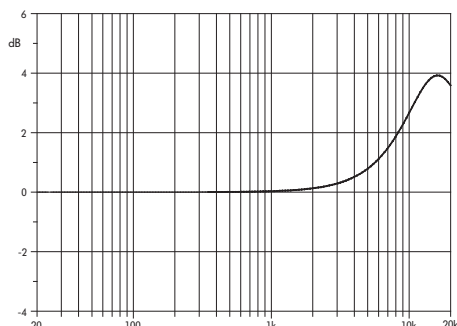
## Controller settings

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

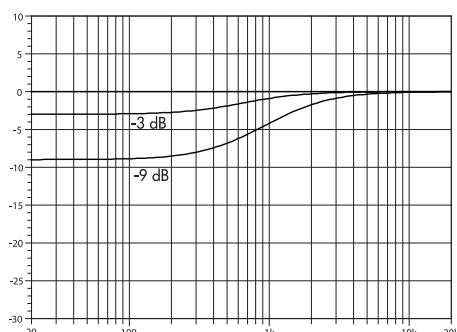
### HFC circuit

In HFC mode (High Frequency Compensation) the response of the system is tailored for remote listening positions. The characteristics of HFC mode are detailed in the graph opposite.

Selecting HFC compensates for loss of high frequency energy due to absorption in air when loudspeakers are used to cover far field listening positions. The HFC correction equates to the HF loss which occurs at a distance of 30 m (100 ft) at 20°C (68°F) in 50 % relative humidity.



**Fig. 2: Frequency response correction of HFC circuit**



**Fig. 3: Frequency response correction of CPL circuit**

### 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 250 Hz, providing a balanced frequency response when Ci4-TOP 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.

### Operation with E-PAC (version 3 with display only)

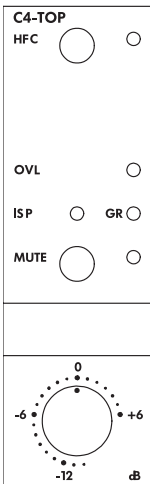
Selecting C4-TOP mode enables the E-PAC to drive one Ci4-TOP loudspeaker. LO IMP mode configures the E-PAC to drive a maximum of two Ci4-TOP loudspeakers with a 6 dB reduction in input level to the loudspeakers.

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

### Operation with P1200A

Up to two Ci4-TOP cabinets can be driven by each P1200A power amplifier channel fitted with a C4-TOP controller module. Fitting one C4-TOP and one subwoofer controller module allows a single mainframe to drive two Ci4-TOP and two active subwoofer cabinets.

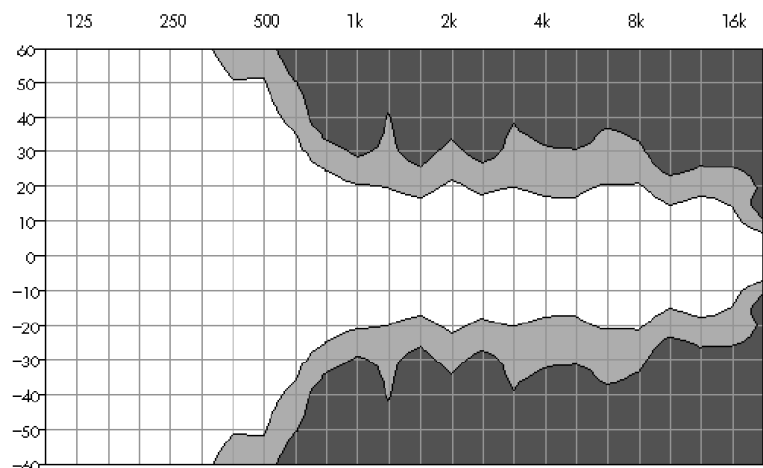
The HFC setting is available. The characteristics of the HFC setting are explained in the previous section "Operation with D6 or D12 - Controller settings".



**Fig. 4: Controls on C4-TOP controller module**

### 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 35° dispersion is maintained from 16 kHz down to 700 Hz. Horizontal and vertical characteristics are identical.



**Fig. 5: Ci4-TOP isobar diagram**

## Technical specifications

### Ci4-TOP system data

Frequency response (-5 dB).....	150 Hz - 18 kHz
Max. sound pressure (1 m, free field) with D12.....	140 dB
Max. sound pressure (1 m, free field) with D6.....	136 dB
Max. sound pressure (1 m, free field) with P1 200A.....	138 dB
(SPLmax peak, pink noise test signal with crest factor of 4)	
Input level (100 dB SPL / 1 m).....	-21 dBu

### Ci4-TOP loudspeaker

Nominal impedance.....	8 ohms
Power handling capacity (RMS / peak 10 ms).....	200 / 800 W
Nominal dispersion angle (hor. x vert.).....	35° x 35°
Connections.....	1 x NL4
.....optional fixed cable (H-07-RN-F 2 x 2.5 qmm/AWG 13)	
Pin assignments.....	NL4: 1+/1-
.....Fixed cable: Brown + / Blue -	
Weight.....	55 kg (121 lb)

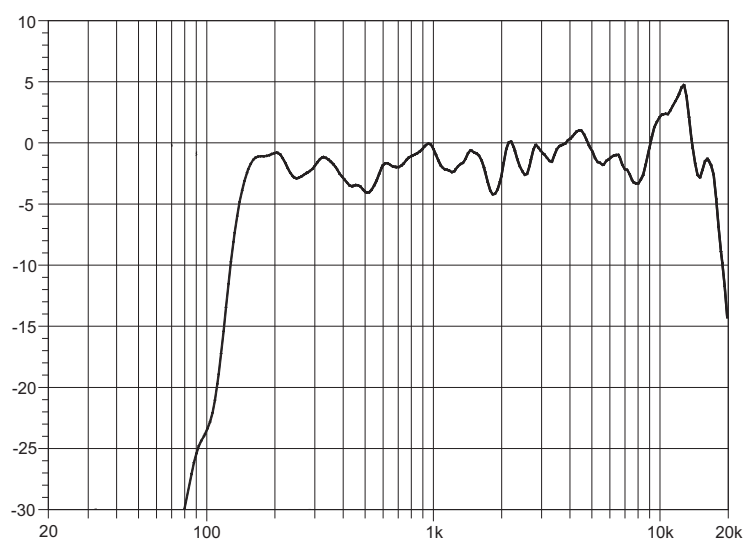


Fig. 6: Ci4-TOP frequency response

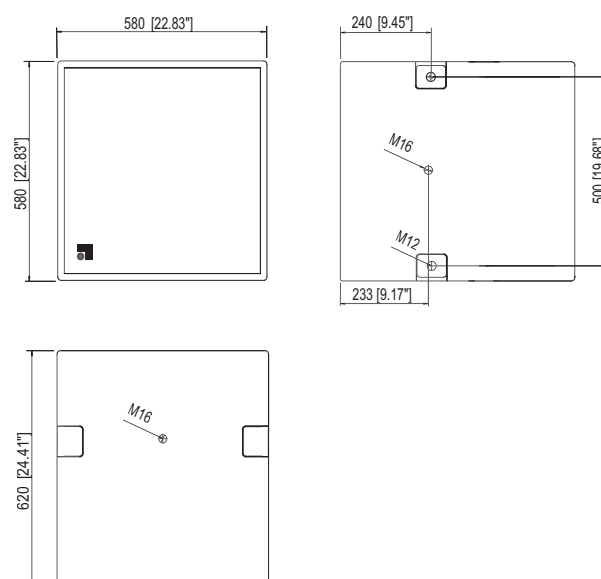


Fig. 7: Ci4-TOP cabinet dimensions in mm [inch]

## Manufacturer's declarations



### EU conformity of loudspeakers (CE symbol)

This declaration applies to

**- Ci4-TOP Z2269**

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](http://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.