

Ci80

Manual (4.1 EN)

Symbols on the equipment



Please refer to the information in the operating manual.



WARNING!
Dangerous voltage!

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General Information

Ci80 Manual

Version 4.1 EN, 02/2008, D2069.E.04

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

In the case of reselling this product handout 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.

Ci80

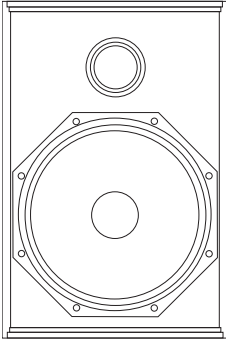


Fig. 1: Ci80 loudspeaker

The Ci80 loudspeaker is a full range, two-way bass-reflex enclosure, utilizing an 8"/1" coaxial driver combination with a passive crossover. Coaxially mounting the 1" HF compression driver and 8" LF driver creates a very compact single driver whilst retaining the benefits of separate magnetic assemblies. The drivers are positioned together to utilize the combined shape and geometry of the LF cone and HF horn to create a single waveguide with a controlled, symmetrical, 85° conical dispersion.

The Ci80 cabinet is constructed from marine plywood and has an impact resistant paint finish. The front of the cabinet is protected by a rigid metal grill fitted with an acoustically transparent foam. The 30° angled rear side panels of the cabinet allow Ci80s to be positioned side by side forming miniature arrays. Four M8 threaded inserts are provided for attaching installation hardware.

NOTICE: Only operate Ci80 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.

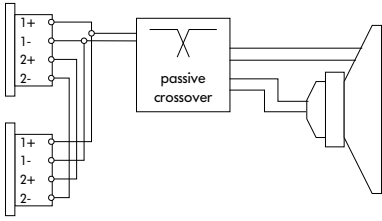


Fig. 2: Connector wiring

Connections

The Ci80 cabinet is fitted with two NL4 connectors. All four pins of both connectors are wired in parallel. The Ci80 uses the pin assignments 1+/1-. Pins 2+/2- are designated to the d&b active subwoofers.

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

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

Cable type: H-07-RN-F 2 x 2.5 mm²/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 (-)	n.a.	n.a.

Operation with D6 or D12

Select the controller setup Ci80.

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

Up to a total of four Ci80 loudspeakers can be driven by each D6 or D12 amplifier channel.

Controller settings

For acoustic adjustment the functions CUT, HFA and CPL can be selected.

CUT

Set to CUT, a high pass filter with a 130 Hz cut off frequency is inserted in the controller signal path. The Ci80 is now configured for use with the d&b active subwoofers.

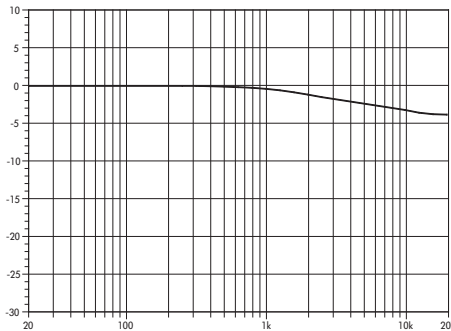


Fig. 3: Frequency response correction of HFA circuit

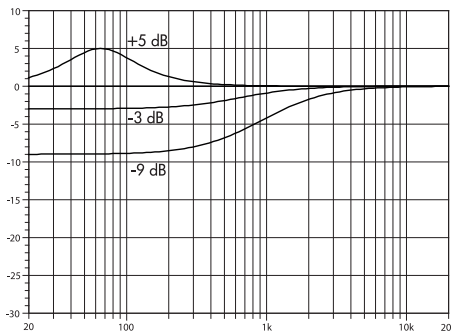


Fig. 4: Frequency response correction of CPL circuit

HFA circuit

In HFA mode (High Frequency Attenuation), the HF response of the system 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.

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 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, or a positive CPL value which creates an adjustable low frequency boost around 65 Hz (0 to +5 dB).

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

Selecting Ci80 (CI8) mode enables the E-PAC to drive up to two Ci80 loudspeakers. LO IMP mode configures the E-PAC to drive a maximum of four Ci80 cabinets with a 6 dB reduction of input level to the speakers.

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".

Dispersion characteristics

The diagram below shows the dispersion angle ν frequency plotted using lines of equal sound pressure (isobars) at -6 dB and -12 dB.

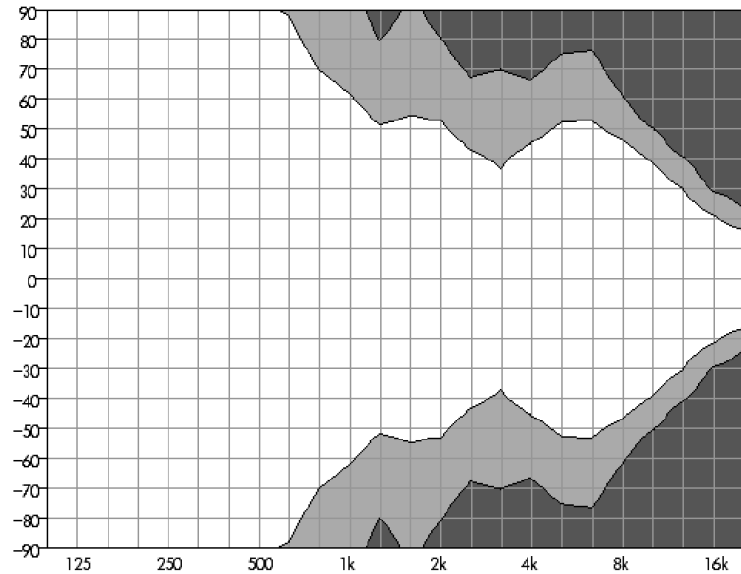


Fig. 5: Ci80 isobar diagram

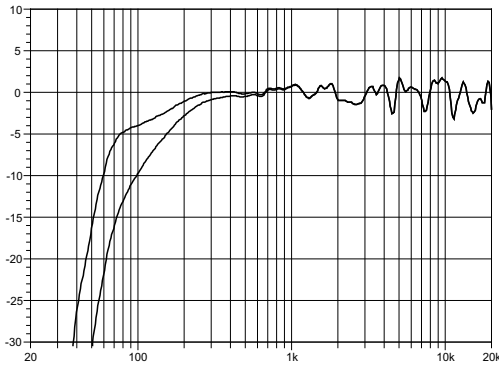


Fig. 6: Frequency response Ci80 standard and CUT settings

Technical specifications

Ci80 system data

Frequency response (-5 dB).....	70 Hz - 20 kHz
Max. sound pressure (1 m, free field) with D12.....	129 dB
Max. sound pressure (1 m, free field) with D6.....	126 dB
(SPLmax peak, pink noise test signal with crest factor of 4)	
Input level (100 dB SPL / 1 m).....	-10 dBu

Ci80 loudspeaker

Nominal impedance.....	16 ohms
Power handling capacity (RMS / peak 10 ms).....	120 / 480 W
Nominal dispersion angle (hor. x vert.).....	85° conical
Components.....	8" driver
.....	1" compression driver
.....	passive crossover network
Connections.....	2 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.....	7.8 kg (17.2 lb)

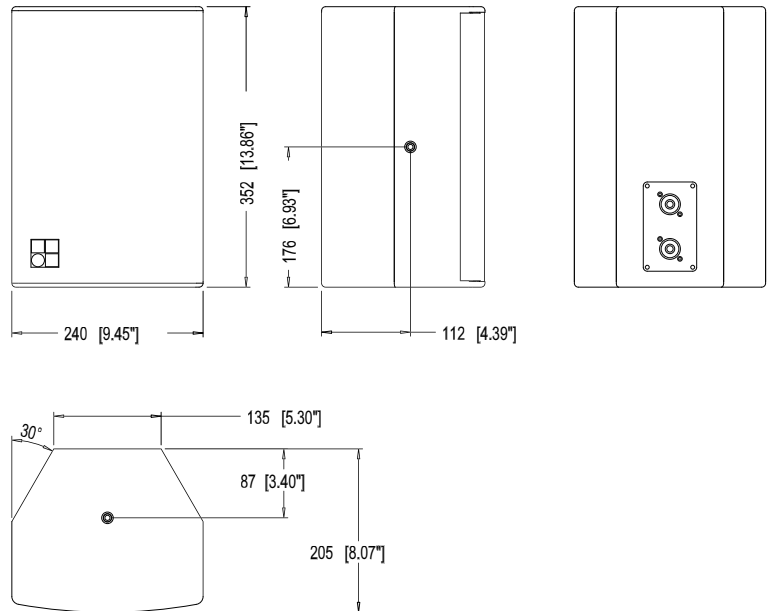


Fig. 7: Ci80 cabinet dimensions in mm [inch]

Manufacturer's declarations



EU conformity of loudspeakers (CE symbol)

This declaration applies to

- Ci80 Z1402

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.