Ci80

Manual (4.0E)

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

Ci80 Manual

Version 4.0E, 10/2003, D2069.E.04

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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.

d&b audiotechnik AG
Eugen-Adolff-Strasse 134, D-71522 Backnang, Germany
Telephone +49-7191-9669-0, Fax +49-7191-95 00 00
E-mail: docadmin@dbaudio.com, Internet: www.dbaudio.com

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.

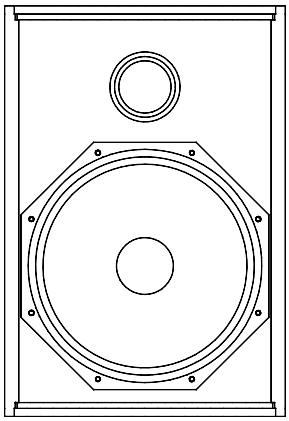
Regularly check the loudspeaker housings and accessories for visible signs of wear and tear, and replace them when necessary.

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.

Ci80



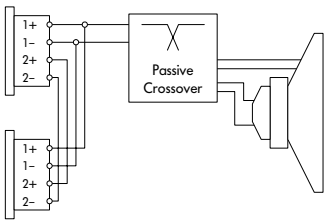
The Ci80 loudspeaker is a full range, two-way bass-reflex enclosure, utilising an 8"/1" coaxial driver combination with a passive crossover. Coaxially mounting the 1" HF compression driver and 8" LF driver creates a very compact single driver whilst retaining the benefits of separate magnetic assemblies. The drivers are positioned together to utilise 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.

CAUTION!

Only operate Ci80 cabinets with a d&b D12 or E-PAC amplifier in Ci80 configuration, otherwise there is a risk of damaging the loudspeaker components.

Connections



Connector wiring

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.

Operation with D12

Selecting Ci80 mode in the D12 enables up to four Ci80 cabinets to be driven by each channel.

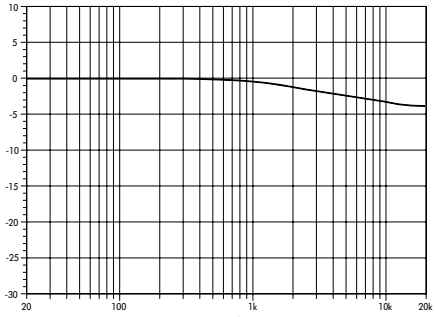
Controller settings

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

CUT circuit

Set to CUT, a high pass filter with a a 120 Hz cut off frequency is inserted in the controller signal path. The Ci80 is now configured for use with d&b active subwoofers.

HFA circuit

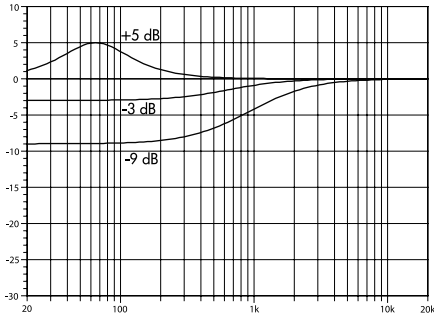


Frequency response of HFA circuit

In HFA mode (High Frequency Attenuation), the HF response of the Ci80 systems is rolled off. The HFA 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



Frequency response of 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 Ci80 cabinets are used in arrays of two or more. The function of the CPL circuit in the D12 amplifier 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).

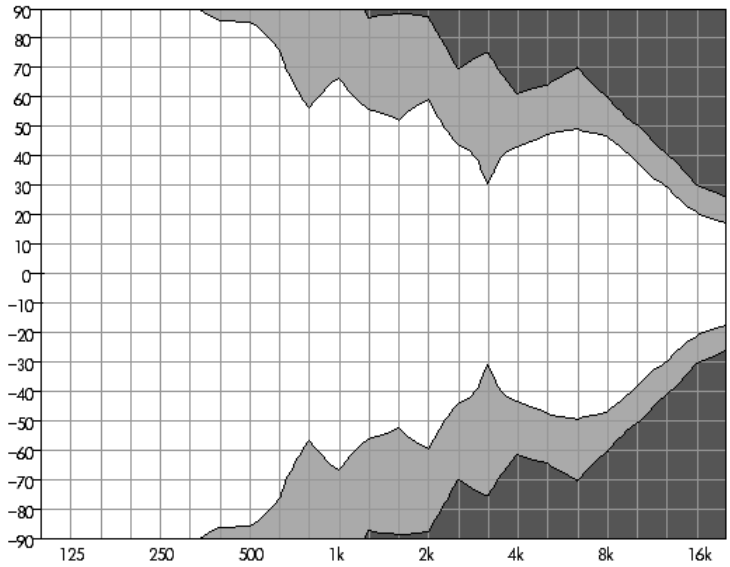
Operation with E-PAC (Version 3 with display only)

Selecting Ci80 (CI8) mode in the E-PAC enables up to two Ci80 loudspeaker to be driven at full output power. LO IMP mode allows the E-PAC can 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 under the previous section "Operation with D12 - Controller settings".

Dispersion characteristics

The diagram below show the dispersion angle v frequency plotted using lines of equal sound pressure (isobars) at –6 dB and –12 dB.



Ci80 isobar diagram

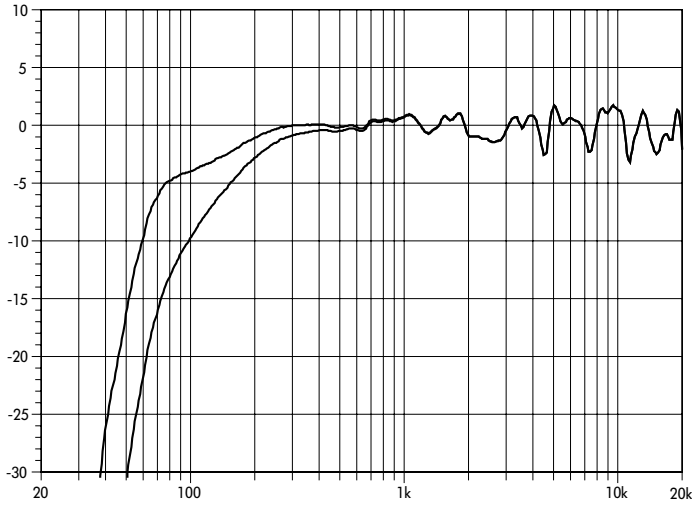
Technical specifications

Ci80 system data

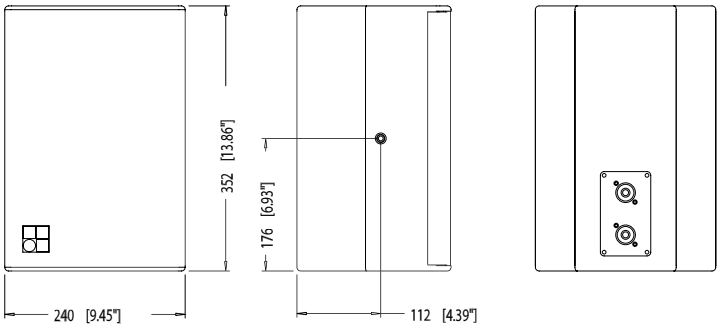
Frequency response (–5 dB) ..... 70 Hz – 20 kHz
Max. sound pressure (1 m, free field) with D12 ..... 129 dB
Max. sound pressure (1 m, free field) with E-PAC ..... 126 dB
(SPLmax peak, pink noise test signal with crest factor of 4)
Input level (100 dB SPL / 1 m) ..... –10 dBu
Polarity to controller INPUT (XLR pin 2: + / 3: –) ..... LF: + / HF: –

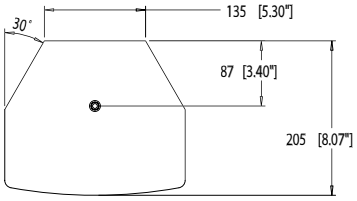
Ci80 loudspeaker

Nominal impedance ..... 16 ohms
Power handling capacity (RMS / peak 10 ms) ..... 120 / 480 W
Nominal dispersion angle (hor. x vert.) ..... 85° conical
Connections ..... 2 x NL4
Pin assignments ..... 1+ / 1–
Weight ..... 7.8 kg (17.2 lb)



Frequency response Ci80 standard and CUT settings





Ci80 cabinet dimensions in mm [inch]

Rigging accessories

The table below lists the rigging accessories that are available for the Ci80 loudspeaker:

Code	Description
Z5055.000	Ci80 Flying bracket
Z5028.000	E3/Ci80 Horizontal bracket
Z5029.000	TV spigot
Z5010.000	TV spigot with fixing plate
Z5012.000	Pipe clamp for TV spigot
Z5034.000	E3 Stand adapter
Z5024.000	Loudspeaker stand adapter
Q9031.000	M8 Safety eyebolt

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:

– **Ci80 Z1402**

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**

d&b audiotechnik

d&b audiotechnik AG, Eugen-Adolff-Str. 134, D-71522 Backnang, Germany, Phone +49-7191-9669-0, Fax +49-7191-95 00 00