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d&b audiotechnik

# d and b CCL8, CCL12 Loudspeaker

**Specifications:**

- Frequency response: 60 Hz to above 18 kHz

- Cabinet enclosure: Injection molded (ABS Polycarbonate)
- Finish: Impact and weather protected 2K finish
- Drivers: Forward and sideward LF drivers
- Amplifiers: D40|D80|D90

## Product Usage Instructions:

**Safety Precautions:**
When setting up the loudspeakers, ensure they are on a firm surface. Use straps if stacking multiple systems. Only use approved accessories and follow mounting instructions for safety.

**Intended Use:**

Operate d&b loudspeakers only with specified d&b amplifiers (D40|D80|D90) to prevent damage and achieve proper directional characteristics. The symmetrical arrangement of components ensures consistent horizontal dispersion.

The forward and sideward LF drivers, along with their processing functions, maintain directivity across the operating bandwidth. The cabinet enclosure is durable and weather-protected.

**Operating Instructions:**

1. Connect the loudspeakers to the specified d&b amplifiers.
2. Ensure proper ventilation around the speakers for optimal performance.
3. Avoid placing the speakers near magnetic data carriers to prevent interference.
4. Regularly inspect the speakers and accessories for wear and tear.
5. Follow all safety guidelines provided in the manual.

**Notes on document version**
All previous versions of this document are hereby no longer valid.

**Version 1.3:**

- HF driver exit dimensions added.

- Most current technical specifications.

**Refer to:**

- Chapter 2.5 “Technical specifications” on page 9.

**General information**

- CCL8/CCL12 Manual
- Version: 1.3 en, 04/2025, D2780.EN .01
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**Keep this document with the product or in a safe place so that it is available for future reference.**

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- If you supply d&b products, please draw the attention of your customers to this document. Enclose the relevant documents with the systems. If you require additional documents for this purpose, you can order them from d&b.
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**Safety precautions**

**Potential risk of personal injury**

- 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 deployment. Pay attention to the correct application and maximum load capacity of the accessories as detailed in our specific “Mounting instructions” or in our “Rigging manuals”.
- Ensure that all additional hardware, fixings and fasteners used for 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 mounting devices.

**Potential risk of material damage**

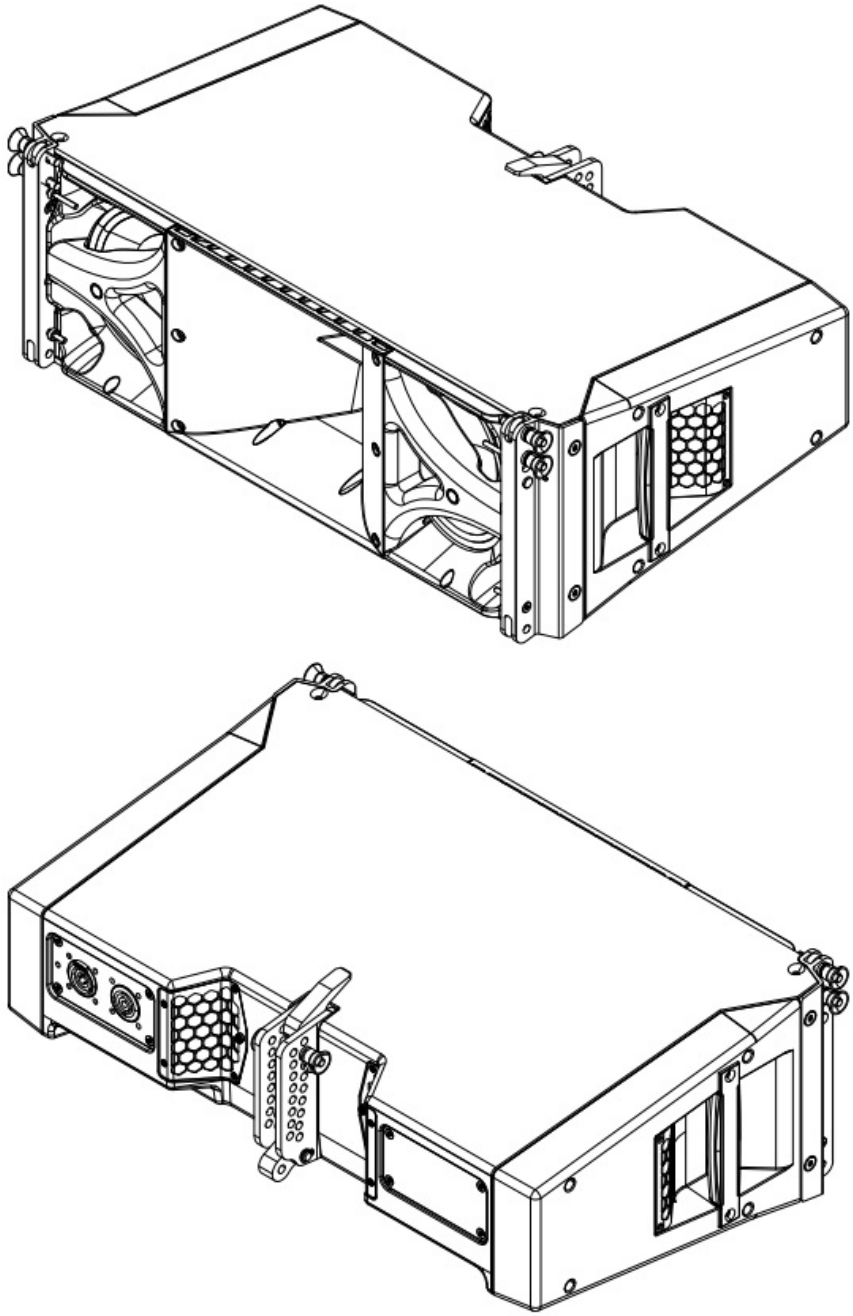
Loudspeakers produce a static magnetic field even if they are not connected or are not in use. Therefore make sure when erecting and transporting loudspeakers that they are nowhere near equipment and objects which may be impaired or damaged by an external magnetic field. Generally speaking, a distance of 0.5 m (1.5 ft) from magnetic data carriers (floppy disks, audio and video tapes, bank cards, etc.) is sufficient.

**Intended use**

**NOTICE!**

- Only operate d&b loudspeakers with the specified and correctly configured d&b amplifiers, otherwise there is a risk of damaging the loudspeaker components and the directional characteristics of the system cannot be achieved.
- Applicable d&b amplifiers:
  - D40|D80|D90

## Product description



- The CCL8 is a compact cardioid line array loudspeaker for small to medium-scale sound reinforcement. When the CCL Flying frame is used, up to 24 cabinets can be flown in vertical columns producing an 80° constant directivity dispersion pattern in the horizontal plane.
- The CCL12 line array module is acoustically and mechanically compatible with the CCL8 and provides a 120° horizontal dispersion.
- The cabinets are 2-way passive designs housing 2 x 7″ neodymium forward LF drivers, 2 x 5″ neodymium side firing LF drivers and two 1.75″ HF compression drivers mounted to a dedicated wave shaping device. The cylindrical wave segments of each cabinet couple without gaps and sum up coherently. Splay angles between adjacent cabinets can be set in the range from 0° to 14° in 1°increments.

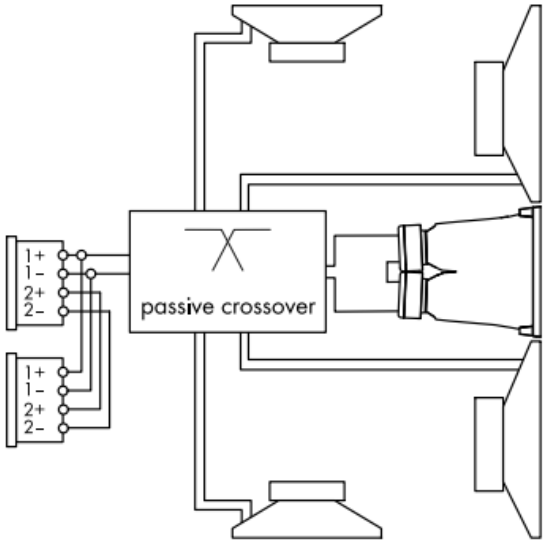
- All components are arranged symmetrically around the center axis of the cabinet to produce a perfect symmetrical dispersion pattern. This setup allows for a crossover design with a well defined overlap of adjacent frequency bands resulting in a very consistent and accurate horizontal dispersion.
- Due to the arrangement of the forward and sideward LF drivers in combination with their processing functions, the directivity is maintained across the entire operating bandwidth.
- The frequency response extends from 60 Hz to above 18 kHz.
- The cabinet enclosure is injection molded (ABS Polycarbonate) and has an impact and weather protected 2K finish. The front baffle as well as the side and rear ports of the cabinet incorporate a rigid metal grill backed by an acoustically transparent and water repellent fabric. Each side panel incorporates a handle while two additional support handles are provided at the rear.

**CL-Series rigging components and arrays**

- The cabinets are mechanically connected using the rigging strands on both sides of the cabinet front and a central strand at the rear of the cabinet. All necessary rigging components are mounted on the cabinet and fold out or slide out when needed.
- A detailed description of the rigging components is given in the respective rigging manuals.

**Connections**

The cabinets are fitted with NLT4 F/M connectors. All four pins of both connectors are wired in parallel. The cabinets use the pin assignments 1+/1–. Pins 2+/2– are designated to subwoofers. Using the male connector as the input, the female connector allows for direct connection to a second cabinet.




**NLT4 F/M Connector wiring**

### d&b LoadMatch

With the d&b four channel amplifier platform, the LoadMatch function enables the amplifier to electrically compensate for the properties of the loudspeaker cable used without the need for an additional sense wire. For applicable loudspeakers, LoadMatch is therefore independent of the connector type used.

## Operation

| **Amplifier output mode(s):** Dual Channel or Mix TOP/SUB | | |
|---|---|---|
| **Application** | **Setup** | **Cabinets per channel** |
| **CCL8** | CCL8 Line CCL8 Arc CCL 8 AP | 2<br>2<br>1 |
| **CCL12** | CCL12 Line CCL12 Arc C CL12 AP | 2<br>2<br>1 |

### Line and Arc setups

- The selection of “Line” or “Arc” depends on the curvature of the array. Both setups may be used within one array.
- The “Line” setup is used for long throw array sections with three or more consecutive splay settings of 0°, 1° or 2°. Compared to the “Arc” setup, the mid/high range is reduced to compensate for the extended nearfield.
- The Arc setup is intended for line array loudspeakers when used in curved array sections.

**AP setup**

- In connection with d&b ArrayProcessing (AP), the AP setup contains the AP data that is generated by the d&b ArrayCalc simulation software and transferred to the applicable amplifiers via the d&b Remote network (OCA/AES70) using R1.
- As soon as the data has been sent to the amplifiers, the AP setup is automatically activated.

**Controller settings**

For acoustic adjustment the functions CUT, HFC and Coupling can be selected.

**CUT mode**

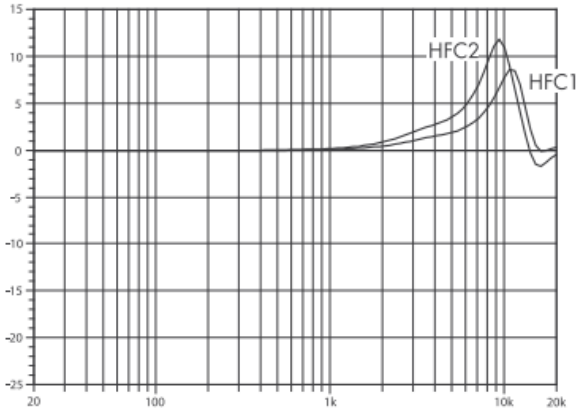
Set to CUT, the low frequency level of the cabinets is reduced. The CCL8/CCL12 cabinets are now configured for use with applicable d&b subwoofers such as the CCL-SUB.

**HFC function (Line/Arc setups only)**

- Selecting the HFC (High Frequency Compensation) function compensates for the loss of high frequency energy due to air absorption when loudspeakers are used to cover far field listening positions.
- The HFC function has two settings (HFC1 and HFC2) for different distances the cabinets need to cover. The settings should be used selectively; HFC1 compensates for 40 m (131 ft) and HFC2 for 80 m (262.5 ft) of additional distance from a reference position.
- The compensation is adjusted for a typical relative humidity of 50 % at 22 °C. With

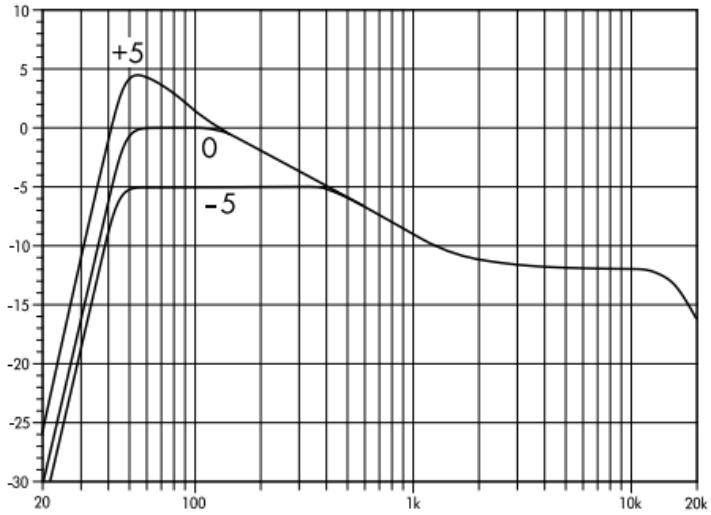
lower humidity the absorption by air increases, therefore the distances where the respective HFC setting provides a correct equalization are shorter than indicated above.

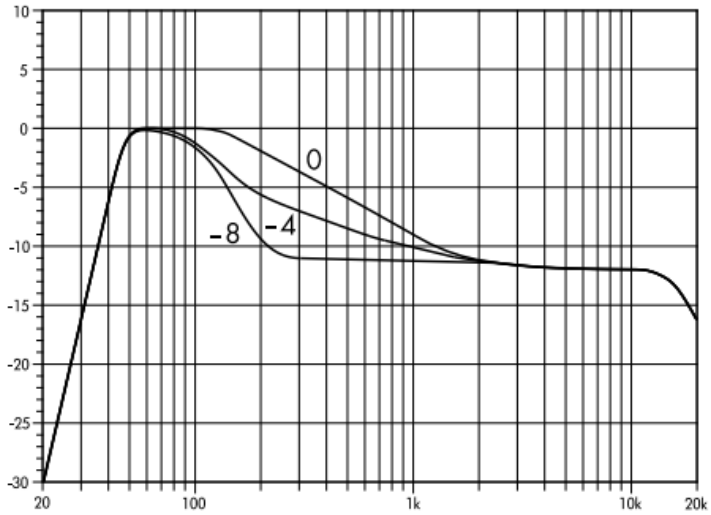
- Using the HFC function provides the correct sound balance between close and remote audience areas, whilst all amplifiers driving the array can be fed with the same signal.




**Frequency response correction of the HFC function***

*schematic diagram




- Frequency response correction of the Coupling function for low and low-mid frequency level
- schematic diagram

## Coupling function

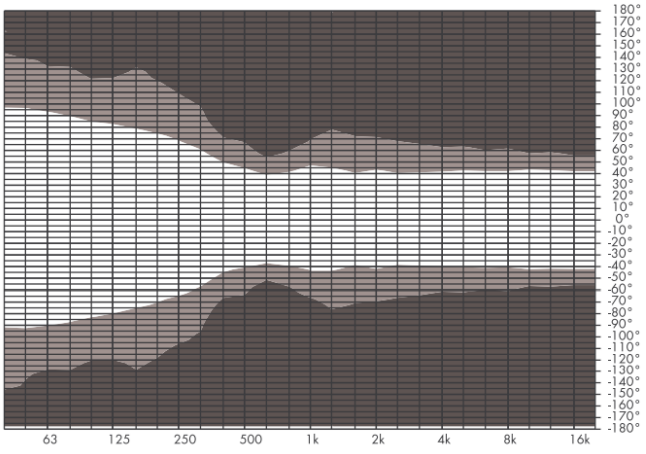
- The Coupling function compensates for coupling effects between the cabinets by reducing the low and low-mid frequency level.
- The function provides a two-stage filter (Low/Mid), which allows the independent shaping of the low and low-mid responses.
- The characteristics of the Coupling function are shown in the diagram opposite. The standard setting (0) maintains the default array response. Coupling values can be set in the range from +5 to –5 (Low) and from 0 to –8 (Mid) in increments of 0.5.

**Note:** Please note that all cabinets within the array should be operated with the same Coupling setting.

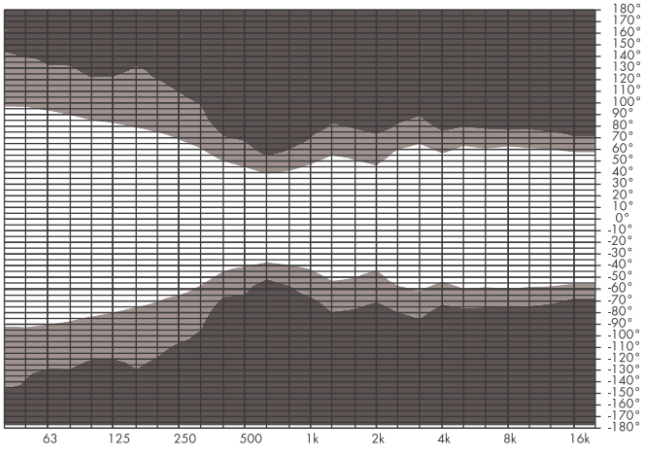
- When processed conventionally (Line/Arc), the larger the array the more attenuation by Coupling will be required to achieve a neutral response.
- When operated with ArrayProcessing (AP), an array will automatically be provided with the system target response, as shown in the graphic opposite. All coupling effects caused by the array length and shape are considered in the AP data. The Coupling function may still be used for additional corrections, for example of room properties or coupling effects between main hangs and outfills.

## Dispersion characteristics

The graphs below show the horizontal dispersion angle over frequency plotted using lines of equal sound pressure (isobars) at –6 dB and –12 dB. The nominal horizontal dispersion of 80°/ 120° is maintained over the entire operating bandwidth.




**CCL8 isobar diagram horizontal**

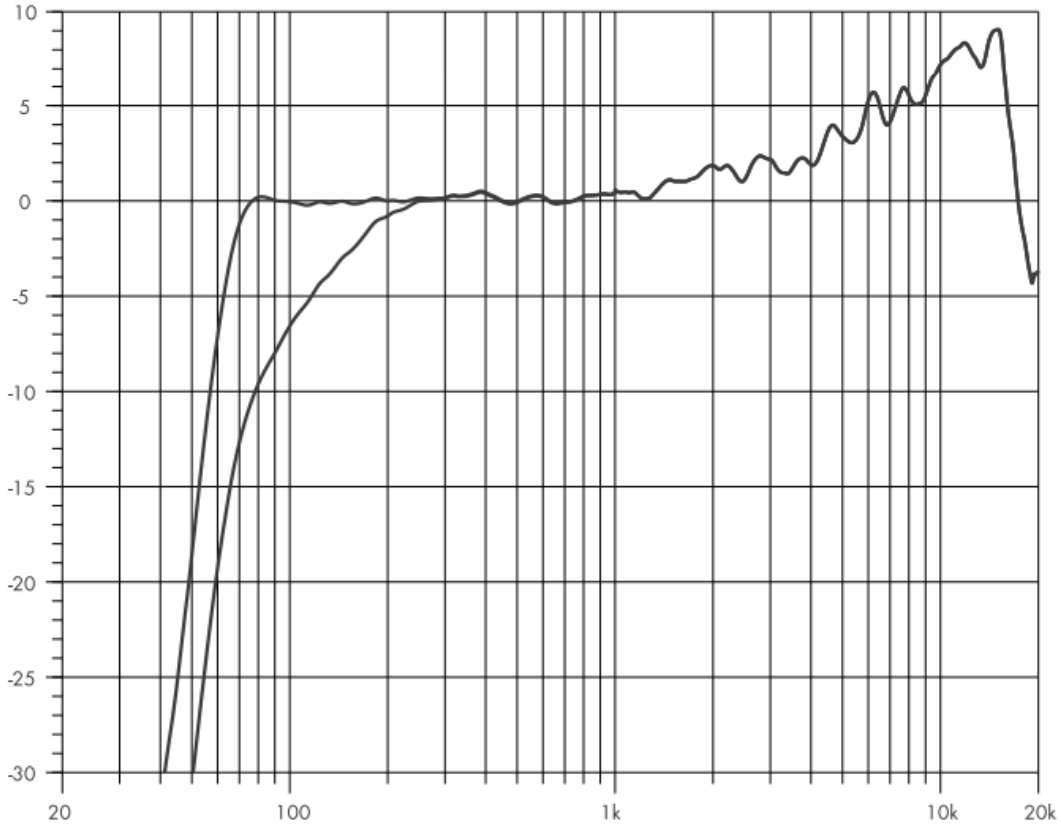



**CCL12 isobar diagram horizontal**

## Technical specifications

### Sytem data

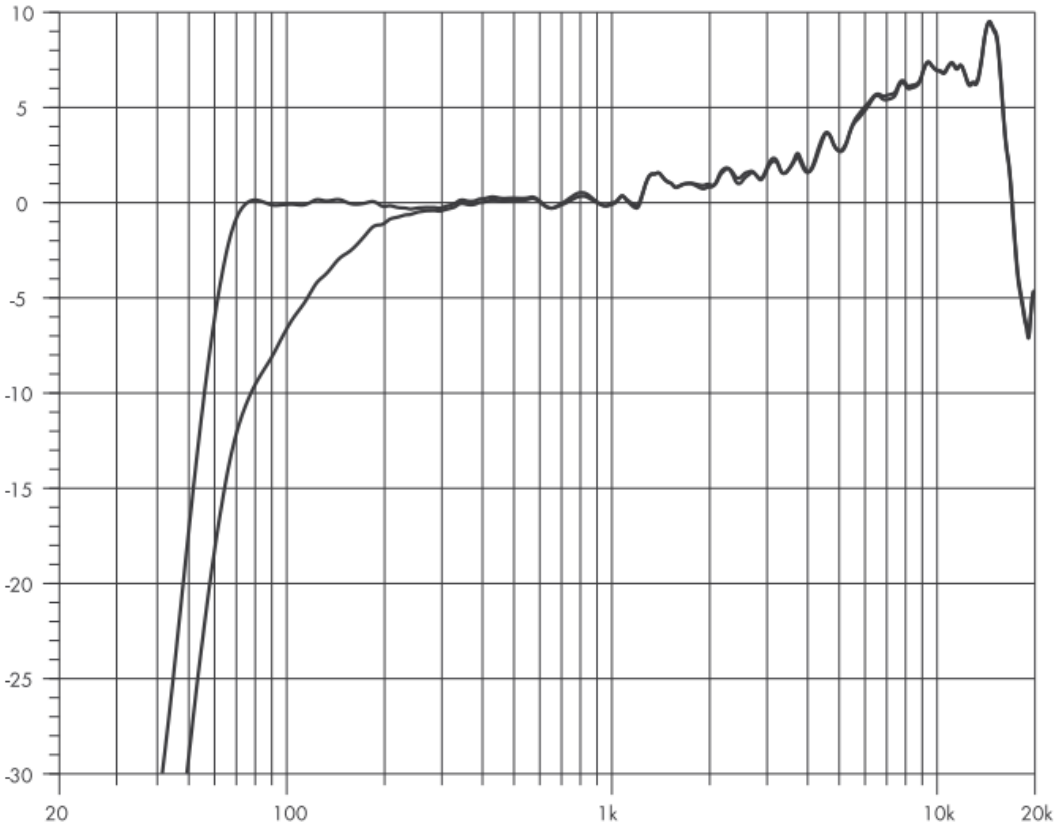
- Frequency response (–5 dB standard) 60 Hz – 18 kHz
- Frequency response (–5 dB CUT mode) 90 Hz – 18 kHz
- Frequency response (–10 dB standard, IEC60268) 55 Hz – 18 kHz
- Frequency response (–10 dB CUT mode, IEC60268) 80 Hz – 18 kHz
- Max. sound pressure (1 m, free field)
    - CCL8 with D20/D40/D80/D90/30D 137 dB
    - CCL12 with D20/D40/D80/D90/30D 136 dB
    - (SPLmax: Broadband signal IEC60268)

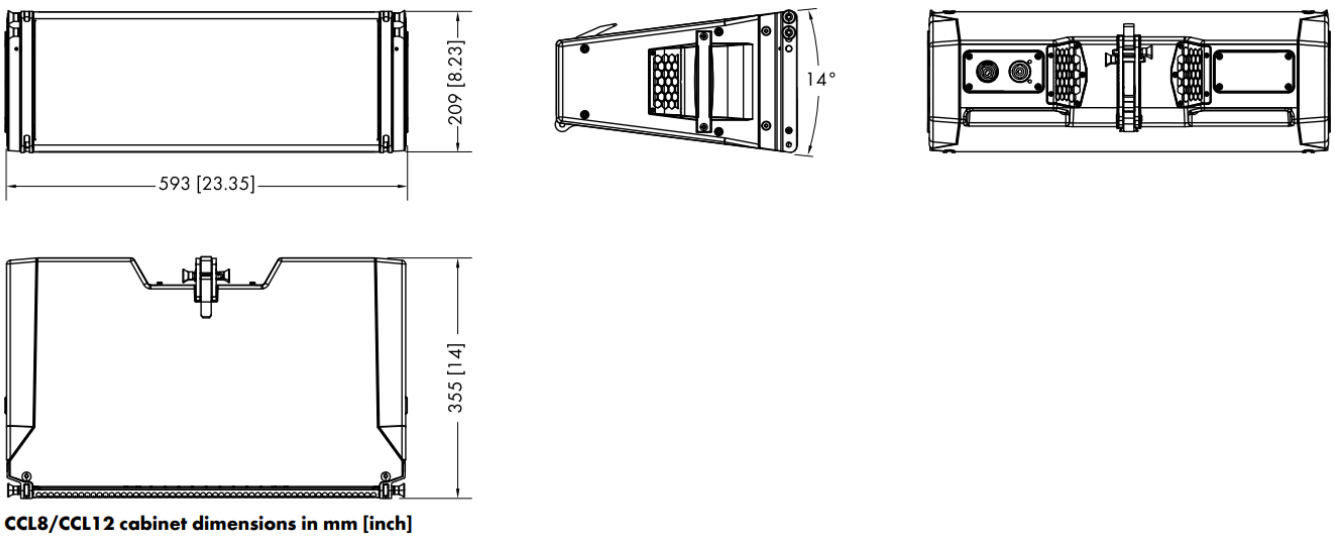



### Loudspeaker data

- Nominal impedance 10 ohms
- Power handling capacity(RMS/peak 10 ms)
    - 400/1200 W
    - CCL8 80°
    - CCL12 120°

- Splay angle setting 0 … 14° (1° increment)
- Components 2 x 7″ front LF driver
    - 2 x 5″ side LF driver
- Two 10.2 x 63 mm exit HF compression drivers with 1.75″ coil
- Passive crossover network
- Connections NLT4 F/M
- Pin assignment 1+/1–
- Weight 17.6 kg (38.8 lb)




**CCL8/CCL12 cabinet dimensions in mm [inch]**

## Manufacturer’s declarations

## Conformity of loudspeakers

**This declaration applies to:**

- d&b Z0880 CCL8 loudspeaker
- d&b Z0882 CCL12 loudspeaker by d&b audiotechnik GmbH & Co. KG.

All product variants 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 directives including all applicable amendments.
- Detailed and applicable declarations are 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.
- WEEE-Reg.-№ DE: 13421928

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## FAQs

**Q: Can I use any amplifier with the loudspeakers?**
A: No, only operate with the specified d&b amplifiers (D40|D80|D90) to avoid damaging the components.

**Q: How do I ensure proper ventilation for the speakers?**
A: Place the speakers in a well-ventilated area with sufficient airflow around them to

prevent overheating.

# Documents / Resources

| | |
|---|---|
|  | d and b CCL8, CCL12 Loudspeaker [pdf] User Manual<br>CCL8, CCL12, CCL8 CCL12 Loudspeaker, CCL8 CCL12, Loudspeaker |

## References

- Professional audio solutions from Germany | d&b audiotechnik
- User Manual

d and b | CCL12, CCL8, CCL8 CCL12, CCL8 CCL12 Loudspeaker, d and b, Loudspeaker

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