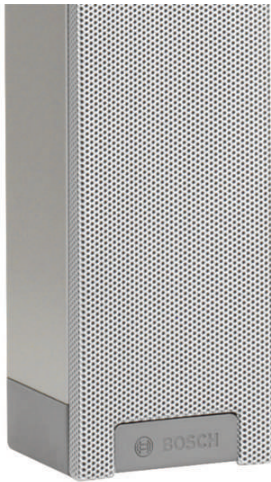


LBC3201/00 Line array loudspeaker, 60W



This loudspeaker, with its excellent directivity and high power output, can handle medium and large (reverberant) indoor environments, especially the more acoustically challenging ones. It is typically used in congress venues, meeting halls and places of worship. The full frequency range of the LBC 3201/00 makes it ideal for speech as well as music reproduction. Its exceptionally narrow housing (only 8 cm wide) makes it extremely unobtrusive.

System overview

A time and labor-saving mounting method has been developed for the LBC 3201/00. The loudspeaker comes with a chart, which shows the ideal installation height for the area that the loudspeaker has to cover. Once the appropriate height has been determined for a given area, the loudspeaker is mounted at an angle marked on the mounting bracket. This procedure is much simpler and more accurate than traditional trial and error installation methods. The LBC 3201/00 can be mounted on a wall or directly onto a floor stand LBC 1259/01 with an M10 threaded bolt without additional accessories.

- ▶ Extended listening area
- ▶ Excellent intelligibility of speech and music
- ▶ Uniform distribution of natural sound throughout the room
- ▶ Excellent directivity for use in acoustically difficult, reverberant applications
- ▶ EN 54-24 certified

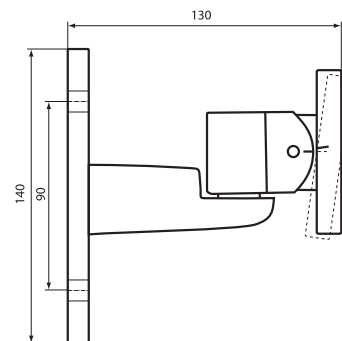


Fig. 1: Dimensions in mm of mounting bracket included (with marked angle)



Fig. 2: Detail mounting bracket

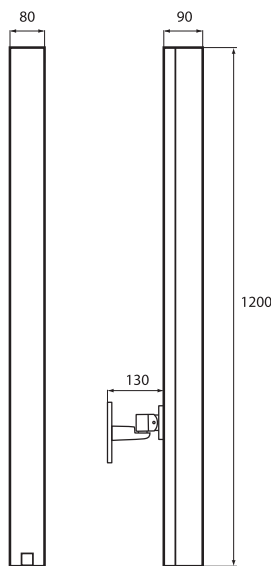


Fig. 3: Dimensions in mm



Fig. 4: Mounted on optional loudspeaker stand (LBC 1259/01)

Functions

Range of application

The LBC 3201/00 is part of the XLA 3200 (eXtended Listening Area) range of line array loudspeakers. Advanced filtering and positioning of the loudspeaker drivers has resulted in greatly improved audio directivity. Each speaker driver produces a dedicated frequency range. The specially developed high quality drivers enable reproduction of remarkably clear, natural sound, which gives excellent intelligibility of both speech and music.

The difference between a conventional column loudspeaker and this line array is noticeable in several ways. There is uniform sound distribution throughout the whole listening area: not too loud at the front, not too quiet at the back. All relevant frequencies are present everywhere in the listening area. Greater coverage is achieved, so more people can be reached with speech and music with a higher intelligibility level. All these important features give the experience of a very natural sound quality in the whole listening area.

Easy installation

The advanced filtering generates larger vertical opening angles for high frequencies, so there is less narrow 'beaming' of higher tones in the vertical plane. As an example, at 4 kHz the vertical opening angle is still 22°. Having more constant vertical opening angles makes installation easier, as the positioning of the loudspeakers is less critical because they cover a wider area. An extremely wide horizontal opening angle of 132° at 4 kHz means that a single loudspeaker can provide natural sound reproduction over an extensive listening area.

Suppressed side lobes

All conventional column loudspeakers produce a main lobe of sound, which is directed at listeners, as well as a number of unwanted side lobes. The LBC 3201/00 has highly suppressed side lobes in the vertical plane, typically at least 10 dB suppression of the 250 Hz octave band at 90°, resulting in a much clearer, less 'colored' sound, even when close to the loudspeakers. This gives the line array superb speech intelligibility.

Sound reproduction

The positioning and very high quality of the 2-inch drivers contribute significantly towards making the LBC 3201/00 a very efficient line array. With a sound pressure level of 110 dB at 1 m, and at 60 W, loud and clear sound reproduction is possible even at considerable distances from the loudspeaker.

The high-quality loudspeaker drivers used in the LBC 3201/00 give excellent, natural sound reproduction of frequencies ranging from 190 Hz to 18 kHz. Together with the constant directivity, this ensures that all important frequencies are heard in the listening area.

Emergency compliant

The loudspeaker has a ceramic terminal block, a thermal fuse, and heat-resistant, high-temperature wiring. These ensure that, in the event of a fire, damage to the loudspeaker does not result in failure of the circuit to which it is connected. Thus, system integrity is maintained, and loudspeakers within the same loudspeaker zone in other areas can still be used to inform people of the situation. The three-way ceramic terminal block with screw connections is suitable for loop-through wiring, and is located in a compartment at the base of the loudspeaker column. There is also a switch, which allows the selection of nominal full power (60 W), half power (30 W) or quarter power (15 W). The compartment has knockout slots for accommodating cables.

Regulatory information

Quality assurance

All Bosch loudspeakers are designed to withstand operating at their rated power for 100 hours in accordance with IEC 60268-5 Power Handling Capacity (PHC) standards. Bosch has also developed the Simulated Acoustical Feedback Exposure (SAFE) test to demonstrate that they can withstand two times their rated power for short durations. This ensures improved reliability under extreme conditions, leading to higher customer satisfaction, longer operating life, and lessens the chance of failure or performance deterioration.

Safety	according to IEC/EN 62368-1
Emergency	according to EN 54-24

according to BS 5839-8

Impact according to EN 50102, IK 07

Water and dust protection according to IEC/EN 60529, IP21C

Installation/configuration notes

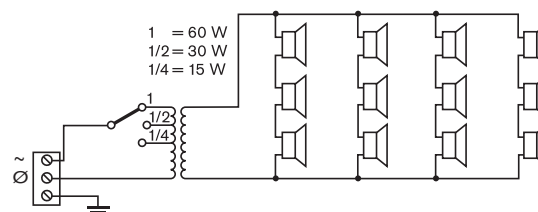


Fig. 5: Circuit diagram

Parts included

Quantity	Component
1	LBC 3201/00 Line array loudspeaker
1	Wall mounting bracket
1	Attachment piece
1	Installation chart

Technical specifications

Electrical*

Maximum power (W)	90 W
Rated power (W)	60 W
Transformer taps (W)	15 W; 30 W; 60 W
Sensitivity (1 W, 1 m, 1 kHz octave) (dB)	91 dB
Sensitivity (1 W, 4 m, 100 Hz - 10 kHz) (dB), acc. EN54-24	76 dB
Sound pressure level (rated power, 1 m, 1 kHz octave) (dB)	108 dB
Sound pressure level (rated power, 4 m, 100 Hz - 10 kHz) (dB), acc. EN54-24	92 dB
Frequency range (-10 dB) (Hz)	190 Hz – 18,000 Hz
Coverage angle HxV (-6 dB, 500 Hz) (°)	360 x 67°
Coverage angle HxV (-6 dB, 1 kHz) (°)	210° x 50°
Coverage angle HxV (-6 dB, 2 kHz) (°)	192 x 33°

Coverage angle HxV (-6 dB, 4 kHz) (°)	132° x 22°
Rated impedance 100 V line (Ω)	167 Ω @60 W
	333 Ω @30 W
	667 Ω @15 W

*Technical performance data acc. to IEC 60268-5

Note:

- The specification data was measured in an anechoic chamber, free-field.
- The reference plane is on the grille surface and perpendicular to the reference axis.
- The reference axis is perpendicular to the acoustic center point of the front grille surface.
- The horizontal plane contains the reference axis and is perpendicular to the reference plane.

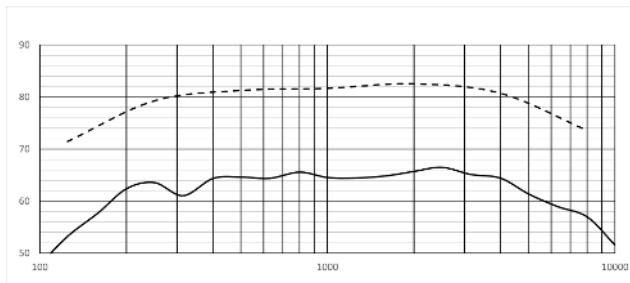


Fig. 6: Frequency response graph (— (1/3)rd octave dB SPL @1 W (100 Hz — 10 kHz), 4 m; -- (1/1)th octave dB SPL @1 W (100 Hz — 10 kHz), 1 m)

(1/3) rd octave band	dB SPL at 4 m
100	47.8
125	53.3
160	57.8
200	62.4
250	63.6
315	61.1
400	64.4
500	64.6
630	64.4
800	65.6
1000	64.5
1250	64.4

(1/3) rd octave band	dB SPL at 4 m
1600	64.9
2000	65.7
2500	66.5
3150	65.1
4000	64.4
5000	61.4
6300	59
8000	57
10000	51.6

(1/1) th octave band	dB SPL at 1 m
125	71.5
250	79.3
500	81.3
1000	81.7
2000	82.5
4000	80.7
8000	73.6

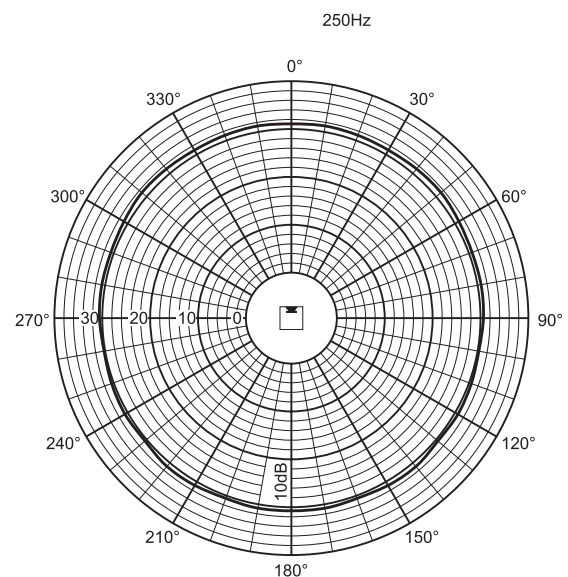


Fig. 7: Polar diagram horizontal 250 Hz

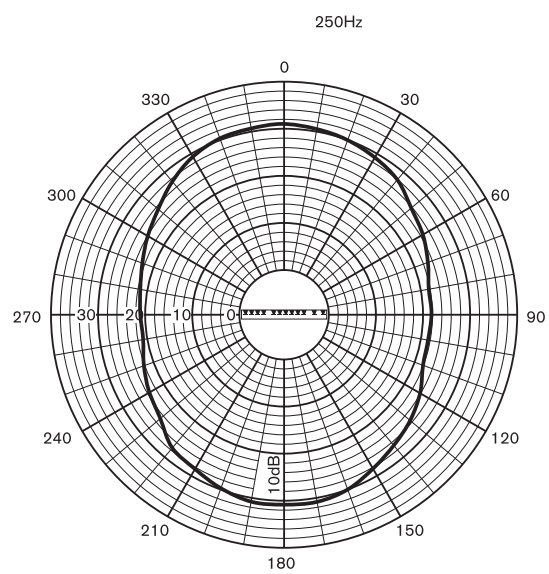


Fig. 8: Polar diagram vertical 250 Hz

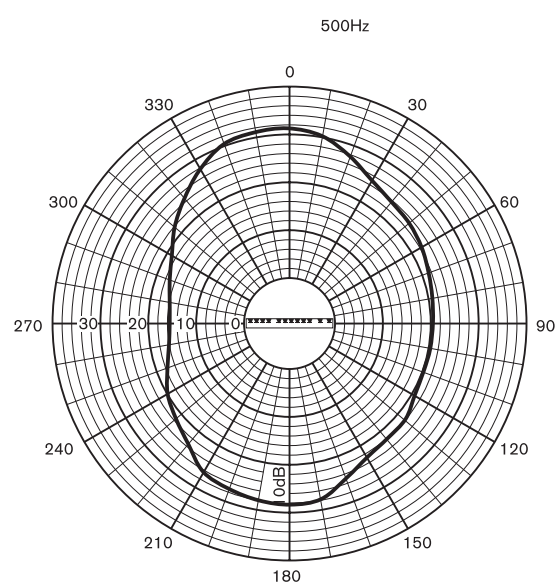


Fig. 10: Polar diagram vertical 500 Hz

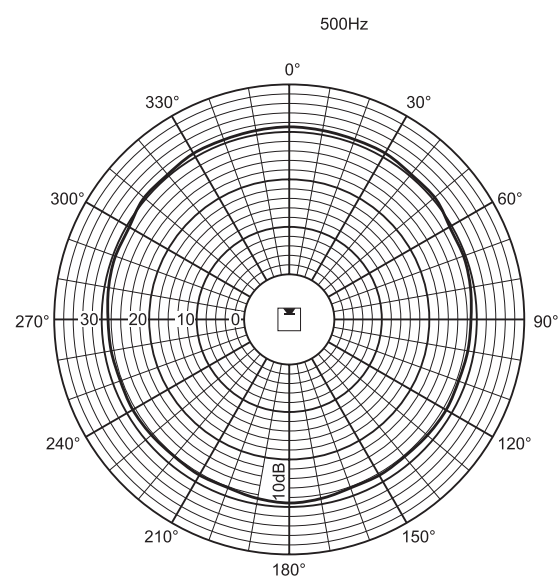


Fig. 9: Polar diagram horizontal 500 Hz

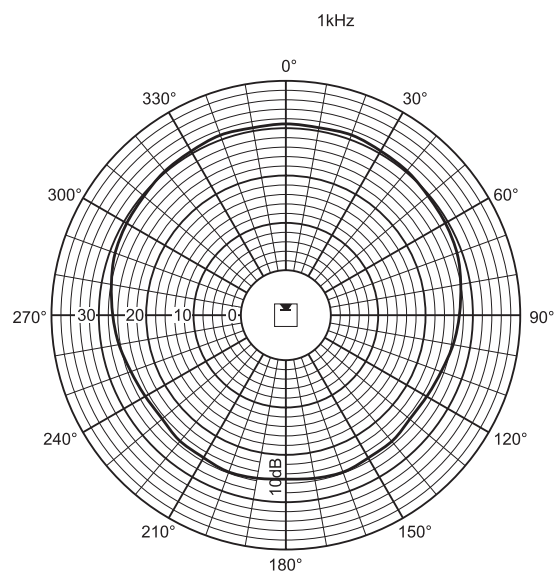


Fig. 11: Polar diagram horizontal 1 kHz

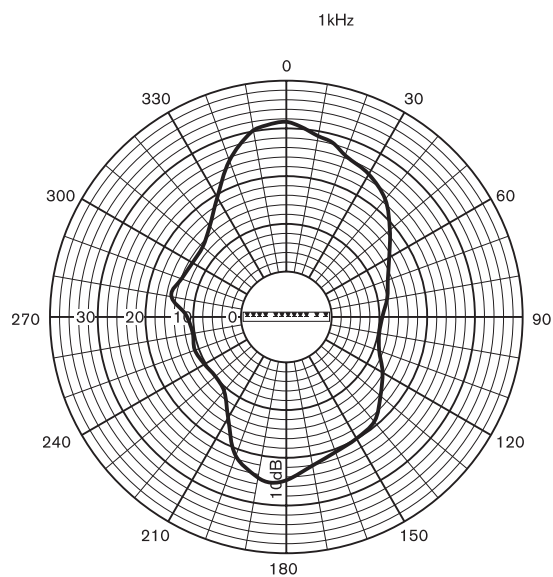


Fig. 12: Polar diagram vertical 1 kHz

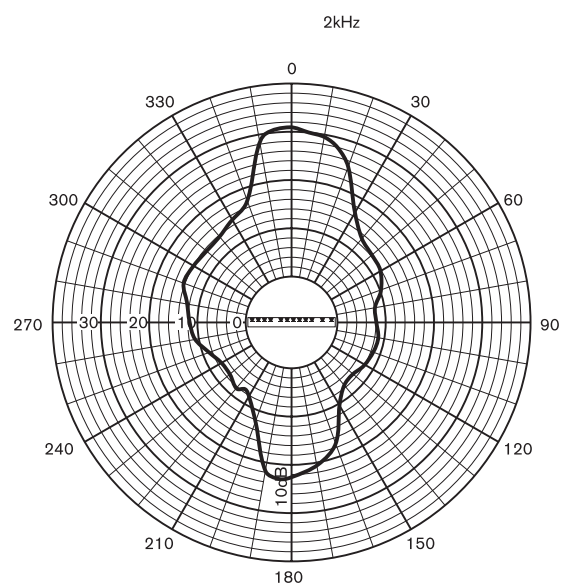


Fig. 14: Polar diagram vertical 2 kHz

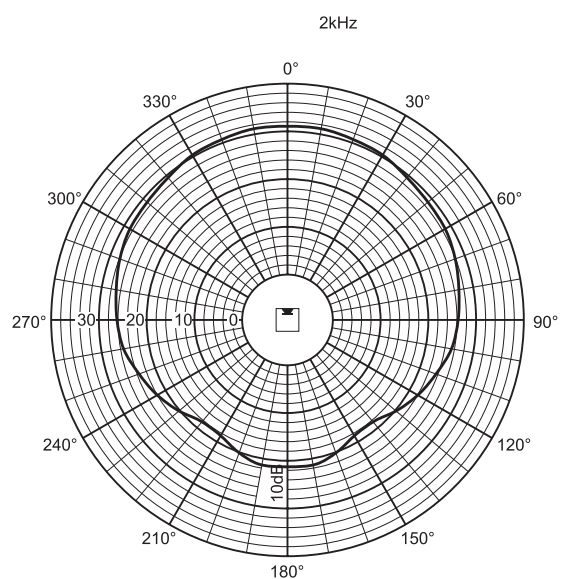


Fig. 13: Polar diagram horizontal 2 kHz

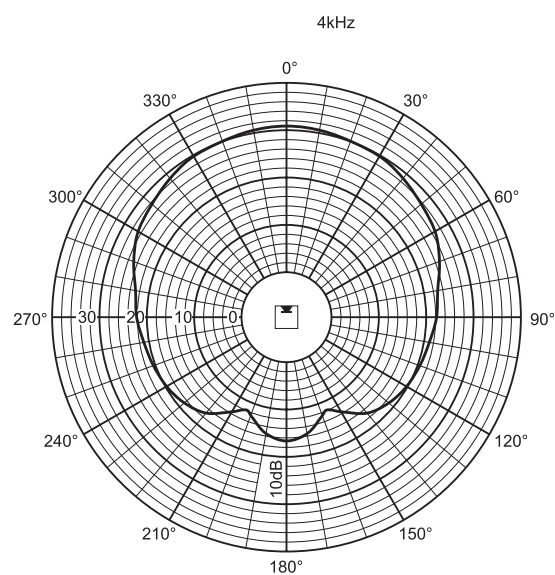


Fig. 15: Polar diagram horizontal 4 kHz

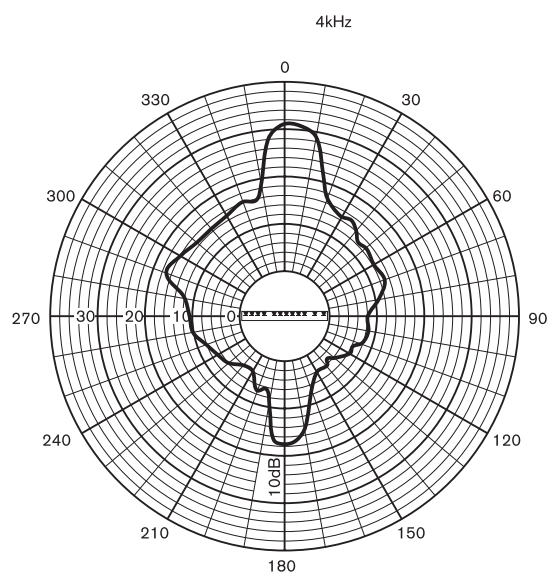


Fig. 16: Polar diagram vertical 4 kHz

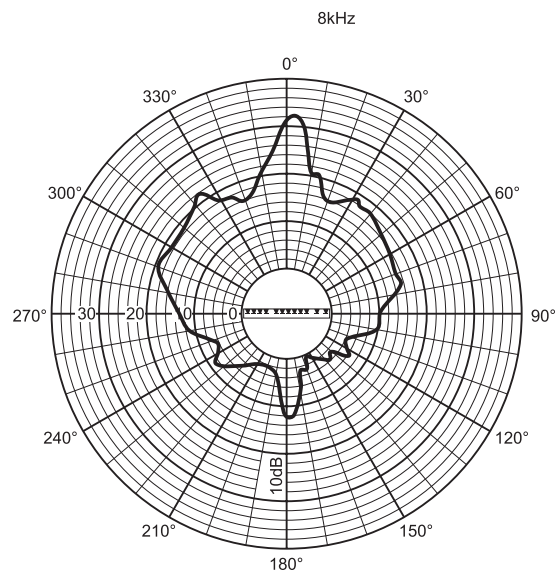


Fig. 18: Polar diagram vertical 8 kHz

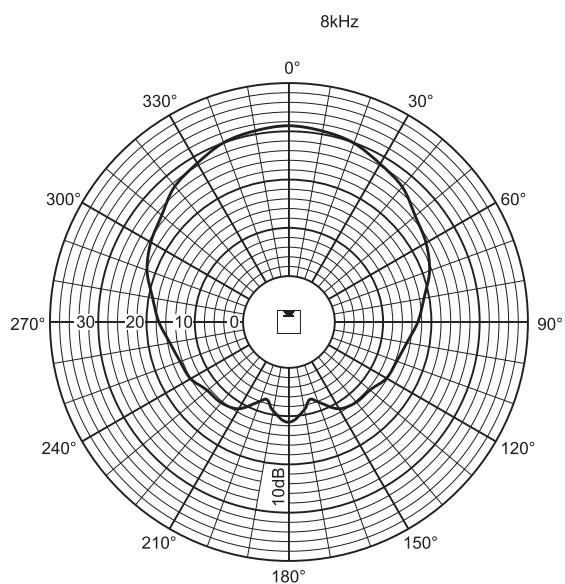


Fig. 17: Polar diagram horizontal 8 kHz

Mechanical

Dimensions (H x W x D) (mm)	1,200 mm x 80 mm x 90 mm
Dimensions (H x W x D) (in)	47.24 in x 3.15 in x 3.54 in
Weight (kg)	6.40 kg
Weight (lb)	14.10 lb
Color (RAL)	Housing: RAL 9022 Pearl light gray Grill: RAL 9006 White aluminum Top/bottom covers: RAL 7005 Mouse gray
Connector type	Screw terminal block

Environmental

Operating temperature (°C)	-25 °C – 55 °C
Operating temperature (°F)	-13 °F – 131 °F
Storage temperature (°C)	-40 °C – 70 °C
Storage temperature (°F)	-40 °F – 158 °F
Transportation temperature (°C)	-40 °C – 70 °C
Transportation temperature (°F)	-40 °F – 158 °F
Operating relative humidity, non-condensing (%)	<95%

 1438
Bosch Security Systems BV Torenallee 49, 5617 BA Eindhoven, the Netherlands 12 1438-CPR-0254
EN 54-24:2008 Loudspeaker for voice alarm systems for fire detection and fire alarm systems for buildings Line Array 60 W LBC3201/00 Type A DoP: LP052913

Ordering information

LBC3201/00 Line array loudspeaker, 60W

Line array loudspeaker for large (reverberant) indoor environments, 60 W, extended listening area, aluminum extruded enclosure, EN54-24 certified, light gray, swivel wall-mounting bracket included.

Order number **LBC3201/00 | F.01U.506.000**

Accessories

LBC1259/01 Universal floorstand

Universal floor stand lightweight aluminum construction, foldable, M10 x 12 reducer flange.

Order number **LBC1259/01 | F.01U.162.979**



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