



## RL 110-Series

Directional Speakers  
Sound on Site

►rlseries



pure listening 

# The Principle

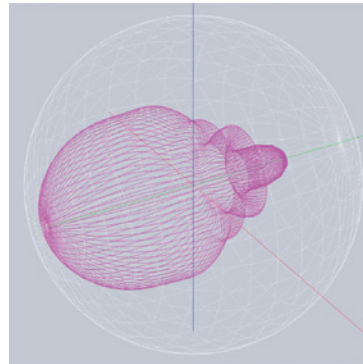
The **RL 110 series** of directional speakers from LB are sharply focused, compact cylinder speakers designed for use in exhibitions and presentation spaces. Thanks to their special design with sound outlets arranged in a ring in the back box, these speakers offer a supercardioid pattern over the entire frequency range. The lateral sound outlets emit sound at an inverted phase to the main beam, which means that the two sources of sound cancel each other out at the right angle.



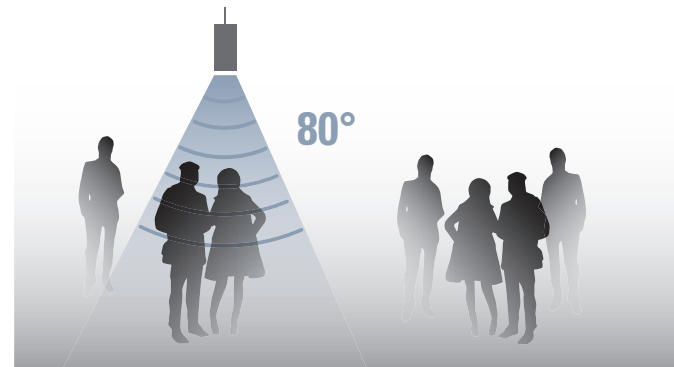
Exhibition:  
Stiftung Haus der Geschichte der  
Bundesrepublik Deutschland



This design ensures a high level of directivity with minimum sound propagation to the side and rear.



**Supercardioid pattern:**  
The lowest level of sound radiation is on the side at the rear, at approximately 120° to the main directional axis.



**Directivity:** The narrow dispersion angle and short distance allow the targeted acoustic irradiation of visitors

The RL 110 series of speakers can be used to create targeted listening zones where speech is reproduced to outstanding quality levels. At the same time, any diffuse residual sound is kept to non-disruptive levels in the surrounding areas.

# Models

The **RL 110 series** comprises six different models, which can be used to create a wide range of exhibition and presentation concepts.

Alongside our passive and active standard models, we also offer versions with an integrated media player, in-built motion sensor and automatic volume control.

## RL 110 / RL 110 T

The speaker system offers a supercardioid pattern over the entire frequency range.



## RL 110 A

Active speaker with 20 watts power, switch auto ON and supercardioid pattern over the entire frequency range.



## RL 110 A-MP3

Additionally to the RL 110 A this version has an integrated MP3 player.



## RL 110 AX

Active speaker features an integrated motion sensor. Switches itself on automatically as soon as anyone approaches it from the front.



## RL 110 AX-MP3

Additionally to the RL 110 AX this version has an integrated MP3 player.



## RL 110 Perzonic®

Patented speaker system with automatic volume control that adjusts the level of the signal to the ambient noise.





# Motion Sensor and MP3 Player

The **RL 110 AX** and **RL 110 AX-MP3** models feature an integrated motion sensor. They switch on automatically as soon as a person approaches them from the front, playing a sound file either from an external source or an internal MP3 player. An isolated contact is available for connecting an external media player. Four operating modes are available and playback time can be set between one and 1024 seconds.

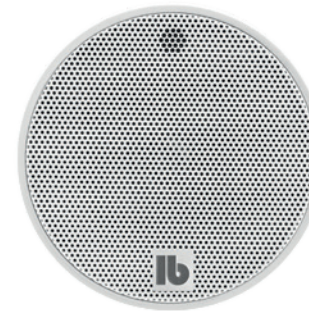
## Operating modes

- **PLAY ONCE:** The entire audio file is played and can only be restarted once it is finished.
- **EXTEND:** The playback time of the audio file is extended every time movement is detected.
- **ONLY SPEAKER SWITCHED:** Speaker operating time is controlled by the sensor; the isolated contact is permanently closed.
- **CONTINUOUS:** The audio file is played continuously.

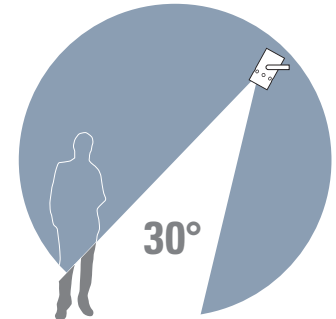
The RL 110 A-MP3 and RL 110 AX-MP3 models feature an integrated MP3 player and Bluetooth receiver. They can play audio files from micro SD cards, USB sticks or the stereo-cinch input.



Rear of RL 110 AX-MP3 with a USB port, a slot for a micro SD card and controls for the different operating modes.



In the RL 110 AX and RL 110 AX-MP3 models, the motion sensor is discreetly installed behind the front grille.



The motion sensor has a 30-degree beam width.



Exhibition in Hal 5 Leuven  
© Stad en Architectuur

# Patented Volume Control

The **RL 110 perZonic®** model is equipped with patented automatic volume control. This allows the RL 110 perZonic® to adjust the playback volume to ambient noise levels at exhibitions, thus ensuring that the required volume levels are always achieved in listening zones even with fluctuating audience numbers. At the same time, it also ensures that the volume level does not disrupt the surrounding areas. Ambient noise levels are continually monitored via a microphone at the rear of the speaker. These are then used as a baseline for controlling the speaker's signal. This means that people in the listening zone can clearly hear the sound without causing disruption to personnel and visitors nearby.

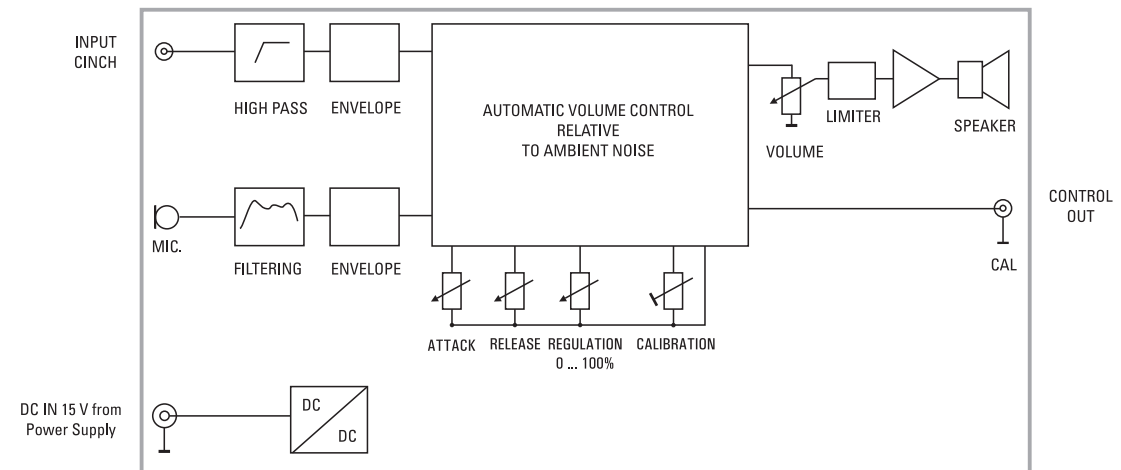


Grotta Gigante, Triest



Rear of **RL 110 perZonic®** showing the microphone for measuring ambient noise levels plus controls for adjusting regulation settings.

The **REGULATION** can be set anywhere between 0 and 100%, as can the **ATTACK** and **RELEASE** times.



Patented volume control: The speaker measures and assesses ambient noise levels, and automatically adjusts the volume accordingly.

# Assembly

The directional speakers are usually mounted at a short distance from visitors in the listening zone. The models in the RL 110 series can either be hung from ceilings using a steel wire (e. g. the SR 300) or attached to walls or ceilings using the WH 110 bracket.



## Attaching speakers to walls or ceilings

The WH 110 bracket can be used to mount and adjust the position of directional speakers on walls and ceilings. To do this, first attach the assembly plate and then screw in the L-shaped bracket. A safety wire is secured to the assembly plate and the speaker.



## Hanging speakers from ceilings

To focus the sound as intensely as possible on listening zones, directional speakers should be hung in such a way that the lower edge of the cylinder is approximately 2.5 m from the floor. The SR 300 stainless steel wire can be used for this.

L-Shaped Bracket  
WH 110 Black



L-Shaped Bracket  
WH 110 White



Stainless Steel Rope  
SR 300



# Technical Data

Models	Principle	Components	Frequency Range	Power capacity / Power @ 100 V	Amplifier Output	Maximum SPL	Dispersion Angle	Connectors	Input Sensitivity	Operational Controls	Mains Connection	Power supply	Dimensions	Weight	Fastening Points	MP3 Player
<b>RL 110</b>	Full-range directional speaker	3"-full-range driver	190 Hz – 19 kHz	RMS/Prog. 20/40 watts 8 Ohms	—	83 dB (1W/1m) max. 96 dB	80°	Pluggable screwtype terminals	—	—			d = 110 mm l = 190 mm	1,0 kg	Suspension point at the rear, threaded insert M 6 on the side	—
<b>RL 110 T</b>	Full-range directional speaker	3"-full-range driver	190 Hz – 19 kHz	2,5/5/10 watts 100 V	—	max. 93 dB	80°	Pluggable screwtype terminals	—	—			d = 110 mm l = 190 mm	1,2 kg	Suspension point at the rear, threaded insert M 6 on the side	—
<b>RL 110 A</b>	Active full-range directional speaker	3"-full-range driver	190 Hz – 19 kHz	—	20 watts	max. 95 dB	80°	Input cinch-stereo	-6 dBu, input impedance: 10 kOhms	Volume control, switch auto ON/steady ON, switchable high-pass filter, LED power ON	15 V DC (included in delivery)	90 – 240 V AC	d = 110 mm l = 190 mm	1,4 kg	Suspension point at the rear, threaded insert M 6 on the side	—
<b>RL 110 A-MP3</b>	Active full-range speaker with integrated MP3 player	3"-full-range driver	190 Hz – 19 kHz	—	20 watts	max. 95 dB	80°	Input cinch-stereo, operation parallel to the internal player	-6 dBu, input impedance: 10 kOhms	Volume control, switch auto ON/steady ON, switchable high-pass filter, LED power ON	15 V DC (included in delivery)	90 – 240 V AC	d = 110 mm l = 190 mm	1,4 kg	Suspension point at the rear, threaded insert M 6 on the side	Micro SD, USB
<b>RL 110 AX</b>	Active full-range speaker with integrated motion sensor	3"-full-range driver	190 Hz – 19 kHz	—	20 watts	max. 95 dB	80°	Input cinch-stereo, switch for external player	-6 dBu, input impedance: 10 kOhms	Volume control, switch auto ON/steady ON, switchable high-pass filter, LED power ON, DIP-switch for operating modes: PLAY FILE ONCE, EXTEND PLAY, ONLY SPEAKER SWITCHED, CONTINUOUS; DIP-switch to adjust delay (1 – 1024 sec.)	15 V DC (included in delivery)	90 – 240 V AC	d = 110 mm l = 190 mm	1,4 kg	Suspension point at the rear, threaded inserts M 6 on the side	—
<b>RL 110 AX-MP3</b>	Active full-range speaker with integrated motion sensor and MP3 player	3"-full-range driver	190 Hz – 19 kHz	—	20 watts	max. 95 dB	80°	Input cinch-stereo, operation parallel to the internal player, switch for external player	-6 dBu, input impedance: 10 kOhms	Volume control, switch auto ON/steady ON, switchable high-pass filter, LED power ON, DIP-switch for operating modes: PLAY FILE ONCE, EXTEND PLAY, ONLY SPEAKER SWITCHED, CONTINUOUS; DIP-switch to adjust delay (1 – 1024 sec.)	15 V DC (included in delivery)	90 – 240 V AC	d = 110 mm l = 190 mm	1,4 kg	Suspension point at the rear, threaded inserts M 6 on the side	Micro SD, USB
<b>RL 110 PerZonic®</b>	110 PerZonic® Active full-range speaker with patented automatic volume control	3"-full-range driver	190 Hz – 19 kHz	—	20 watts	max. 95 dB	80°		-6 dBu, input impedance: 10 kOhms	Volume control, regulation 0 – 100 %, attack, release, LED power ON	15 V DC (included in delivery)	90 – 240 V AC	d = 110 mm l = 190 mm	1,4 kg	Suspension point at the rear, threaded inserts M 6 on the side	—

