



**BOSCH**  
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# LBB 190x/10 and LBB 191x/10 Plena Mixer Amplifiers



- ▶ Range of single and dual zone mixer amplifiers from 30 W to 120 W
- ▶ Four low-noise balanced inputs for microphone or line
- ▶ Selectable priority & VOX switching on microphone input 1
- ▶ Optional 2-tone chime to precede announcements
- ▶ VOX activated emergency override
- ▶ Outputs for normal, call-only and mix-only zones
- ▶ Choice of CD, tuner or auxiliary music inputs

The Plena mixer amplifier is a versatile, high-performance unit with four mono microphone inputs and a music input. It fulfills a wide variety of public address requirements at a surprisingly low cost.

## Functions

All input channels have a phantom power supply to provide power to condenser microphones and selectable speech filters for improved intelligibility. Input channels 3 and 4 can also be switched to line sensitivity. Separate music inputs are available with their own input selector and volume control.

Input channel 1 can take priority over all other microphone and music inputs. Contact closure on the 5-pin DIN connector, or if the signal level on channel 1 exceeds a predefined value (VOX) will activate priority. A 2-tone chime can be configured to precede a priority announcement. A telephone or emergency input with VOX activation and its own preset volume control overrides all other input.

Loop through input and output connections enable external sound processing equipment, such as an equalizer or the Plena feedback suppressor, to be connected between the preamplifier and the power amplifier stages. An LED VU-

meter monitors the master output. The unit also has a tape output channel.

The Plena mixer amplifiers come in a range of maximum output power. This power is directly available on 70 V and 100 V constant voltage connections and on a low impedance connection for an 8 ohm load. Moreover, the amplifiers have a separate 70 V / 100 V call-only output channel for addressing areas where only priority announcements are required, and a 70 V / 100 V mix-only output channel for areas where no priority announcements should be heard. The call-only output can also be used for 3-wire remote, volume control override. For more output power than the built-in power stage can deliver, additional Plena power amplifiers can be connected to the balanced line output in a loop-through arrangement.

The LBB 1914/10 offers the same functionality as the LBB 1912/10 but also has two front-panel switches to direct the amplifier output to two separate zones. This is useful when certain announcements or background music should not be heard in part of a building. Priority calls, however, are always routed to both zones.

## Controls and indicators

### Front

- LED power meter
- Power on LED

- Master volume control knob
- Four volume control knobs for mic inputs
- Three knobs for BGM volume, treble, and bass levels
- BGM source selection knob
- On/off switch
- Two zone selection buttons (LBB1914/10 only)

#### Back

- EMG input volume control
- Two mic/line switches
- Chime on/off switch
- Mains voltage switch

#### Interconnections

##### Front

- Headphone jack

##### Back

- Priority mic input (DIN/6.3 mm jack)
- Mic input (XLR/6.3 mm jack)
- Two mic/line inputs (XLR/6.3 mm jack)
- Three audio inputs (2 x cinch)
- EMG input (screw)
- Line output (XLR)
- Tape output (2 x cinch)
- Insertion input/output (2 x cinch)
- 24 VDC input
- Three (five for the LBB 1914/10) loudspeaker outputs (screw)

#### Parts Included

Quantity	Components
1	LBB 190x/10 Plena Mixer Amplifier or LBB 191x/10 Plena Mixer Amplifier
1	Power cord
1	Set of 19" mounting brackets
1	Installation and User Instructions

#### Certifications and Approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 55103-2
Emission	acc. to EN 55103-1

#### Installation/Configuration Notes



LBB 190x/10 and LBB 191x/10 rear view

## Technical Specifications

### Electrical

#### Mains power supply

Voltage 230/115 VAC,  $\pm 10\%$ , 50/60 Hz

#### Inrush current

LBB 1903/10 4.5 / 9 A (230 / 115 VAC)  
 LBB 1906/10 5 A / 10 A (230 / 115 VAC)  
 LBB 1912/10, LBB 1914/10 8 / 16 A (230 / 115 VAC)

#### Battery power supply

Voltage 24 VDC, +20% / -10%

#### Inrush current

BB 1903/10 1.6 A  
 LBB 1906/10 3 A  
 LBB 1912/10, LBB 1914/10 6 A

#### Performance

Frequency response 50 Hz to 20 kHz (+1 / -3 dB at -10 dB ref. rated output)

Distortion <1% at rated output power, 1 kHz

Bass control -8 / +8 dB at 100 Hz

Treble control -8 / +8 dB at 10 kHz

Dynamic range 100 dB

#### Mic input 2 x

Connector 1 5-pin DIN, 6.3 mm phone jack, balanced, with phantom power

Connector 2 3-pin XLR, 6.3 mm phone jack, balanced, with phantom power

Sensitivity 1 mV

Impedance >1 kohm

S/N (flat at max volume) 63 dB

S/N (flat at min volume/muted) >75 dB

CMRR >40 dB (50Hz-20kHz)

Headroom >25 dB

Speech filter -3 dB at 315 Hz, high-pass, 6 dB/oct

Phantom power supply 16 V via 1.2 kohm

VOX (input 1 only) attack time 150 ms; release time 2 s

#### Mic/line input 2 x

Connector 3, 4 3-pin XLR, 6.3 mm phone jack, balanced, with phantom power

Sensitivity 1 mV (mic); 200 mV (line)

Impedance >1 kohm (mic); >5 kohm (line)

S/N (flat at max volume) >63 dB (mic); >70 dB (line)

S/N (flat at min volume/muted) >75 dB

CMRR >40 dB (50 Hz to 20 kHz)

Headroom >25 dB

Speech filter -3 dB at 315 Hz, high-pass, 6 dB/oct

Phantom power supply 16 V via 1.2 kohm (mic)

#### Music input 1 x

Connector Cinch, stereo converted to mono

#### Mains power supply

Sensitivity 200 mV

Impedance 22 kohm

S/N (flat at max volume) >70 dB

S/N (flat at min volume/muted) >75 dB

Headroom >25 dB

#### Emergency / telephone 1 x

Connector Screw terminals

Sensitivity 100 mV to 1 V, adjustable

Impedance >10 kohm

S/N (flat at max volume) >65 dB

VOX 50 mV threshold ; 150 ms attack time; 2 s release time

#### Loop through input 1 x

Connector Cinch

Nominal level 1 V

Impedance >10 kohm

#### Master line output 1 x

Connector 3-pin XLR, balanced

Nominal level 1 V

Impedance <100 ohm

#### Tape output 1 x

Connector Cinch, 2 x mono

Nominal level 350 mV

Impedance 1.5 kohm

#### Loop through output 1 x

Connector Cinch

Nominal level 1 V

Impedance <100 ohm

#### Loudspeaker output 70/100 W

Connector Screw, floating

Power Max / rated

LBB 1903/10 45 / 30 W

LBB 1906/10 90 / 60 W

LBB 1912/10, LBB 1914/10 180 / 120 W

#### Loudspeaker output 8 ohm

Connector Screw, floating

#### Power

LBB 1903/10 16 V (30 W)

LBB 1906/10 22 V (60 W)

LBB 1912/10, LBB 1914/10 31 V (120 W)

Power reduction on 24 V 1 dB

### Power consumption

#### Mains operation max

LBB 1903/10 100 VA

LBB 1906/10 200 VA

LBB 1912/10, LBB 1914/10 400 VA

**Mains operation max****24 V operation max**

LBB 1903/10	1.6 A
LBB 1906/10	3 A
LBB 1912/10, LBB 1914/10	6 A

**Mechanical**

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high)
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**Weight**

LBB 1903/10	Approx. 5 kg
LBB 1906/10	Approx. 8.5 kg
LBB 1912/10, LBB 1914/10	Approx. 10.5 kg

Mounting	Standalone, 19" rack
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Color	Charcoal
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**Environmental**

Operating temperature	-10 °C to +45 °C (+14 °F to +113 °F)
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Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
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Relative humidity	<95%
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Acoustic noise level of fan	<48 dB SPL at 1 m (max output)
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**Ordering Information**

LBB 1903/10 Plena Mixer Amplifier 45W/30 W, 100 VA, 4.5 A / 9 A (230 Vac/ 150 Vac)	LBB1903/10
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LBB 1906/10 Plena Mixer Amplifier 90 W / 60 W, 200 VA, 5 A / 10 A (230 Vac/ 150 Vac)	LBB1906/10
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LBB 1912/10 Plena Mixer Amplifier 180 W/120 W, 100 VA, 8 A / 16 A (230 Vac/ 150 Vac)	LBB1912/10
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LBB 1914/10 Plena Mixer Amplifier 180W/120W, 100VA, 8A / 16A (230 Vac/ 150 Vac); 2 zone	LBB1914/10
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