



**BOSCH**

Invented for life

# 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)

**Certifications and Approvals**

Region	Certification
Europe	CE Declaration of Conformity
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

**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

**Technical Specifications**

**Electrical**

**Mains power supply**

Voltage	230/115 VAC, ±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, +15%/-15%
Current	
LBB 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**

Connector 1	2 x 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

**Mains power supply**

<b>Mic/line input</b>	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**

Connector	Cinch, stereo converted to mono
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**

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**

Connector	Cinch
Nominal level	1 V
Impedance	>10 kohm

**Master line output**

Connector	3-pin XLR, balanced
Nominal level	1 V
Impedance	<100 ohm

**Tape output**

Connector	Cinch, 2 x mono
Nominal level	350 mV
Impedance	1.5 kohm

**Loop through output**

Connector	Cinch
Nominal level	1 V
Impedance	<100 ohm

**Loudspeaker output 70/100 V**

Connector	Screw, floating
Power	Max / rated
LBB 1903/10	45 / 30 W

**Mains power supply**

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

**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
Color	Charcoal

**Environmental**

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

**Ordering Information**

**LBB 1903/10 Plena Mixer Amplifier**      **LBB1903/10**  
 45W/30 W, 100 VA, 4.5 A / 9 A (230 Vac/  
 150 Vac)

**LBB 1906/10 Plena Mixer Amplifier**      **LBB1906/10**  
 90 W / 60 W, 200 VA, 5 A / 10 A (230 Vac/  
 150 Vac)

**LBB 1912/10 Plena Mixer Amplifier**      **LBB1912/10**  
 180 W/120 W, 100 VA, 8 A / 16 A (230 Vac/  
 150 Vac)

**LBB 1914/10 Plena Mixer Amplifier**      **LBB1914/10**  
 180 W /120 W, 100 VA, 8 A / 16 A (230 Vac/  
 150 Vac);  
 2 zone

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