



**BOSCH**  
Invented for life

# LBB 1935/20 Plena Power Amplifier



- ▶ 240 W power amplifier in a 2U high housing
- ▶ 70 V / 100 V and 8 ohm outputs
- ▶ Dual inputs with priority switching
- ▶ 100 V input for slave operation on 100 V speaker line
- ▶ Temperature controlled forced front to back ventilation, directly stackable
- ▶ Mains, battery back-up, and pilot tone supervision
- ▶ EN 54-16 and EN 60849 compliant

The LBB 1935/20 is a powerful 240 W power amplifier in a 2U high 19" case for rack mounting or tabletop use. LEDs on the front panel show the status of the amplifier: power, audio output level, and supervised functions. This high-performance unit fulfills a wide range of public address requirements at a surprisingly low cost.

## Functions

### Dependability

The amplifier is protected against overload and short circuits. A temperature-controlled fan ensures high reliability at high output levels and low acoustic noise at lower output levels. An overheat protection circuit switches off the power stage and activates an LED on the front panel, if the internal temperature reaches a critical limit due to poor ventilation or overload.

The unit operates both on mains power and on a 24 V battery power supply for emergency back up, with automatic switchover.

For emergency and evacuation use, the following functions are monitored: mains presence, battery present, pilot tone presence, amplifier operation. Front panel LEDs indicate the status of supervised functions. The LEDs of pilot tone supervision and battery status can be switched off for general public address use. Failsafe (normally

energized) relays are provided for each supervised function. These relays are always active regardless of the switches on the rear panel.

### Input

The system has two balanced inputs with priority control, each with a loop-through facility. This makes it easy to connect remote systems that require priority control. An additional 100 V line input is provided to connect the amplifier to a 100 V loudspeaker line to provide more power to remote locations.

Gain or level control is located on the rear of the unit to avoid accidental setting change. A meter with LED-bar shows the output level.

### Output

The amplifier has 70 V and 100 V outputs for constant voltage loudspeaker systems, and a low impedance output for 8 ohm loudspeaker loads.

The LBB 1935/20 has two separate priority controlled 100 V outputs for zones that only need announcements made via the priority input, and for zones that will not receive announcements made via the priority input.

### Controls and indicators

#### Front

- Meter (LED's for -20, -6, 0 dB and Power ON)
- Battery operation indicator
- Overheat indicator

**Back**

- Level control input 1
- Level control input 2
- Power button
- Mains switch

**Interconnections****Back**

- Priority line input 1 (XLR/balanced)
- Line loop-through 1 (XLR/balanced)
- Program line input 2 (XLR/balanced)
- Line loop-through 2 (XLR/balanced)
- Priority controlled loudspeaker output terminals
- 24 VDC power supply terminal
- Three loudspeaker direct output terminals
- Two 100 V slave input terminals
- Input 2 enable control terminal
- Input 1 priority control terminal
- Earth connection screw
- Mains socket

**Certifications and Approvals**

Region	Certification	
Europe	CE	TUV certificate IEC60849
Poland	CNBOP	
Safety	acc. to EN 60065	
Immunity	acc. to EN 55103-2	
Emission	acc. to EN 55103-1	
Emergency	acc. to EN 54-16 / EN 60849	

**Parts Included**

Quantity	Component
1	LBB 1935/20 Plena Power Amplifier
1	Power cord
1	Set of 19" mounting brackets
1	Installation and User Instructions
1	Cable with XLR connector

**Technical Specifications****Electrical****Mains power supply**

Voltage	230 VAC, $\pm 10\%$ , 50/60 Hz
Inrush current	9 A
Max power consumption	760 VA

**Battery power supply**

Voltage	24 VDC $+15\%$ / $-15\%$
---------	--------------------------

**Mains power supply**

Current max	11 A
-------------	------

**Performance**

Output power (rms/maximum)	240 / 360 W
Power reduction on backup power	-1 dB
Frequency response	50 Hz to 20 kHz (+1 / -3 dB at -10 dB ref. rated output)
Distortion	<1% at rated output power, 1 kHz
S/N (flat at max volume)	>90 dB

<b>Line inputs</b>	2 x
Connector	3-pin XLR, balanced
Sensitivity	1 V
Impedance	20 kohm
CMRR	>25 dB (50 Hz to 20 kHz)
Gain	40 dB

**100 V input**

Connector	Screw, unbalanced
Sensitivity	100 V
Impedance	330 kohm

<b>Line loop-through output</b>	2 x
Connector	3-pin XLR
Nominal level	1 V
Impedance	Direct connection to line input

<b>Loudspeaker outputs</b>	3 x
Connector	Screw, floating
Direct output	100 V, 70 V, 8 ohm
Priority only (from input 1)	100 V or 70 V internally selectable
Music (non-priority) only	100 V or 70 V internally selectable

**Power consumption****Mains operation**

Max power	451 W
-3dB	340 W
-6dB	244 W
Pilot tone*	55 W
Idle	16 W

**24 V operation**

Max power	12.1 A (290 W)
-3 dB	11.4 A (274 W)
-6 dB	8.1 A (194 W)
Pilot tone*	1.7 A (41 W)
Idle	0.3 A (7 W)

\* 20 kHz -20dB with maximum loudspeaker load

**Mechanical**

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high, with feet)
Weight	Approx. 12.5 kg
Mounting	Standalone, 19" rack
Color	Charcoal

**Environmental**

Operating temperature	-10 °C to +55 °C (14 °F to +131 °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 1935/20 Plena Power Amplifier**      **LBB1935/20**  
 240 W power amplifier in a 2U high 19" case  
 for rack mounting or tabletop use.

**Americas:**  
Bosch Communications Systems  
12000 Portland Avenue South  
Burnsville, Minnesota 55337, USA  
Phone: +1-800-392-3497  
Fax: +1-800-955-6831  
audiosupport@us.bosch.com  
www.boschsecurity.com

**Europe, Middle East, Africa:**  
Bosch Security Systems B.V.  
P.O. Box 80002  
5600 JB Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
Fax: +31 40 2577 330  
emea.securitysystems@bosch.com  
www.boschsecurity.com

**Asia-Pacific:**  
Robert Bosch (SEA) Pte Ltd  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2600  
Fax: +65 6571 2698  
apr.securitysystems@bosch.com  
www.boschsecurity.com

**Represented by**