



BOSCH
Invented for life

LBB 1938/20 Plena Power Amplifier



- ▶ 480 W power amplifier in a 3U high 19" 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 1938/20 is a powerful 480 W power amplifier in a 3U 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 1938/20 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 get any 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

- Air inlet for forced air cooling

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 1938/20 Plena Power Amplifier
1	Power cord
1	Set of 19" mounting brackets
1	Installation and User Instructions

Technical Specifications

Electrical

Mains power supply

Voltage	230 VAC, $\pm 10\%$, 50/60 Hz
Inrush current	19 A
Max power consumption	2200 VA

Battery power supply

Voltage	24 VDC $\pm 15\%$ / -15%
Current max	30 A

Mains power supply

Performance

Output power (rms/maximum)	480 W / 720 W
Power reduction on backup power	-1 dB
Frequency response	50 Hz to 20 kHz ($\pm 1/-3$ dB @ -10 dB ref. rated output)
Distortion	<1% @ rated output power, 1 kHz
S/N (flat at max volume)	>90 dB
Line inputs	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

Line loop-through output

Connector	3-pin XLR
Nominal level	1 V
Impedance	Direct connection to line input

Loudspeaker outputs

Connector	Screw, floating
Direct output	100 V, 70 V, 8 ohm
Priority only (from input 1)	100V or 70 V internally selectable
Music (non-priority) only	100V or 70 V internally selectable

Power consumption

Mains operation

Max power	990 W
-3dB	715 W
-6dB	510 W
Pilot tone*	110 W
Idle	25 W

24 VDC operation

Max power	32 A (770 W)
-3 dB	26 A (625 W)
-6 dB	18 A (430 W)
Pilot tone*	3.8 A (91 W)
Idle	0.7 A (17 W)

* 20 kHz -20dB with maximum loudspeaker load

Mechanical

Dimensions (H x W x D)	145 x 430 x 370 mm (19" wide, 3U high, with feet)
Weight	Approx. 25 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 @ 1 m (max output)

Ordering Information

LBB 1938/20 Plena Power Amplifier **LBB1938/20**
 480 W power amplifier in a 3U high 19" case
 for rack mounting or tabletop use.

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