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# 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, ±10%, 50/60 Hz |
| Inrush current        | 19 A                    |
| Max power consumption | 2200 VA                 |

**Battery power supply**

|             |                    |
|-------------|--------------------|
| Voltage     | 24 VDC +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 (+1/-3 dB @ -10 dB ref. rated output) |
| Distortion                      | <1% @ 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          |

**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<br>(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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