



LBB 442x/xx Power Amplifiers



- ▶ **1, 2, 4, or 8 audio outputs (selection from 100 / 70 / 50 V outputs)**
- ▶ **Audio processing and delay for each amplifier channel**
- ▶ **Amplifier supervision and spare amplifier switching**
- ▶ **Loudspeaker line and loudspeaker supervision (LBB 4428/00 only line supervision)**
- ▶ **Eight control inputs and 1, 2, 4 or 8 control outputs**
- ▶ **Supervision of line attached to control inputs**
- ▶ **Automatic volume control**
- ▶ **Two audio inputs (4 audio inputs for LBB 4428/00)**
- ▶ **Redundant network connection**

There are four types of power amplifier units in the Praesideo product range. These differ in the number of amplifier channels per frame: one, two, four, or eight. The overall power rating is 500 watts for all of the amplifiers.

The power amplifiers can be set to 100 V, 70 V and 50 V output tapplings. They have short-to-ground and short-circuit detection functions, and can generate their own pilot tone for supervision purposes.

Functions

The power amplifiers receive input signals over the network. They also have two auxiliary audio inputs (four for LBB 4428/00) for local audio. Their eight control inputs are freely programmable for system actions, and priorities can be assigned to these inputs. Each control input has the ability to monitor the attached line for open and short-circuits. Control outputs are freely programmable for faults and call related actions.

The 2 x 16-character display and the rotary control enable local status enquiries. The display shows the VU-meter reading, when the audio monitoring mode is active. Audio can be monitored by headphone.

The units are self-monitoring and continually report their status to the network controller. They support both single branch and redundant loop cabling. The amplifiers have a changeover facility for spare power amplifier switching. Changeover relays are included with the units. The amplifiers have a 48 V DC back-up supply input.

The digital audio processing can handle three parametric equalization sections and two shelving equalization sections per channel with configurable audio delay.

Controls and indicators

- 2 x 16-character LCD for status display
- Rotary/push control button
- Mains switch

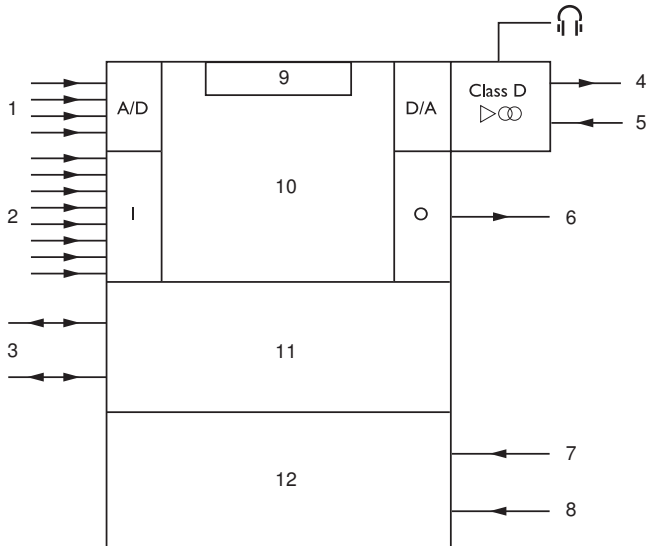
Interconnections

- Mains input
- Battery backup input
- Two system network connections
- Two mic/line inputs (four for LBB 4428/00)
- 100 V, 70 V or 50 V outputs (for each amplifier channel)
- 50 V output
- Eight programmable control inputs
- Control output (for each amplifier channel)
- Headphone output
- Spare amplifier connection (for each amplifier channel)

Certifications and Approvals

Region	Certification	
Europe	CE	CE
		Traction
	TUEV-SUED	TUV Certificate IEC60849
	GL	GL-SOLAS
Safety	acc. to IEC 60065-98	
Immunity	acc. to EN 55103-2 / EN 50130-4	
Emissions	acc. to EN 55103-1 / FCC-47part 15B	
EVAC (TÜV certified)	acc. to IEC 60849	

Installation/Configuration Notes



- 1 Audio inputs, 2 x or 4 x
- 2 Control inputs
- 3 Plastic optical fiber network
- 4 Loudspeaker outputs, 1 x, 2 x, 4 x, 8 x
- 5 Spare amplifier input
- 6 Control outputs, 1 x, 2 x, 4 x, 8 x
- 7 Mains input
- 8 48 V backup supply
- 9 Display and control
- 10 Network processor and DSP
- 11 Network redundancy switching
- 12 Power supply



Rear view of LBB 4421/10 Power Amplifier 1 x 500 W



Rear view of LBB 4422/10 Power Amplifier 2 x 250 W



Rear view of LBB 4424/10 Power Amplifier 4 x 125 W



Rear view of LBB 4428/00 Power Amplifier 8 x 60 W

Parts Included

Quantity	Component
1	LBB 442x/xx Power Amplifier
1	Power cord
1	Set of mounting brackets (large) for 19" rack
1	Set of feet
1	Set of connectors

Technical Specifications

Electrical

Mains power supply

Voltage	100 to 240 VAC \pm 10%, 50/60 Hz
Power consumption	P _{max} -3 dB* / idle** / standby
LBB 4421/10	404 / 56 / 28 W
LBB 4422/10	402 / 60 / 28 W
LBB 4424/10	426 / 83 / 37 W
LBB 4428/00	433 / 90 / 32 W
	* Alarm tone level
	** With pilot tone 15 V

Battery power supply

Voltage	48 VDC -10% to +20%
Power consumption	P _{max} -3 dB* / idle** / standby
LBB 4421/10	380 / 46 / 20 W
LBB 4422/10	378 / 50 / 21 W
LBB 4424/10	399 / 76 / 28 W
LBB 4428/00	397 / 63 / 22 W
	* Alarm tone level
	** With pilot tone 15 V

Mic/line inputs **2 x (4 x for LBB 4428/00)**

Connector	6-pole header for removable screw connector (mono, balanced)
Line	
Frequency response	-3 dB @ 50 Hz and 20 kHz (\pm 1 dB)
S/N	>87 dBA
CMRR	>40 dB @ 1 kHz
Input range	-6 dBV to 6 dBV
Input impedance	22 kohm
Mic	
Frequency response	-3 dB @ 100 Hz and 16 kHz
Nominal input level	-57 dBV
S/N	>62 dBA with 25 dB headroom
CMRR	40 dB at 1 kHz
Input impedance	1360 ohm

Mic/line inputs **2 x (4 x for LBB 4428/00)**

Phantom supply	12 V \pm 1 V @ 15 mA
Input range	-7 dBV to +8 dBV ref nominal input value

Control inputs **8 x**

Connectors	Removable screw terminals
Operation	Closing contact (with supervision)
Control outputs	1 x per amplifier channel
Connectors	Removable screw terminals

Loudspeaker outputs **LBB 4421/10**

Rated load resistance	20 ohm (100 V); 10 ohm (70 V)
Rated load capacitance	250 nF (100 V); 500 nF (70 V)
Rated output power (per channel)	500 W (1 min. at 55 °C) 250 W (30 min. at 55 °C, cont. at 30 °C) 125 W (cont. at 55 °C)

Loudspeaker outputs **LBB 4422/10**

Rated load resistance	40 ohm (100 V); 20 ohm (70 V)
Rated load capacitance	125 nF (100 V); 250 nF (70 V)
Rated output power (per channel)	250 W (1 min. at 55 °C) 125 W (30 min. at 55 °C, cont. at 30 °C) 60 W (cont. at 55 °C)

Loudspeaker outputs **LBB 4424/10**

Rated load resistance	80 ohm (100 V); 40 ohm (70 V)
Rated load capacitance	60 nF (100 V); 125 nF (70 V)
Rated output power (per channel)	125 W (1 min. at 55 °C) 60 W (30 min. at 55 °C, cont. at 30 °C) 30 W (cont. at 55 °C)

Loudspeaker outputs **LBB 4428/00**

Rated load resistance	160 ohm (100 V); 80 ohm (70 V)
Rated load capacitance	30 nF (100 V); 60 nF (70 V)
Rated output power (per channel)	60 W (1 min. at 55 °C) 30 W (30 min. at 55 °C, cont. at 30 °C) 15 W (cont. at 55 °C)

Connectors	9-pole header for removable screw connector
Frequency response	60 Hz (80 Hz for LBB 4428/00) to 19 kHz (-3 dB)
S/N	>85 dB (no pilot tone)
Crosstalk	<80 dB at nominal load for 1 kHz
Distortion	<0.3% (@ 1 kHz) @ 50% of rated output power

Mechanical

Dimensions (H x W x D)

for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)

Weight

LBB 4421/10	13 kg (28.7 lb)
LBB 4422/10	14 kg (30.9 lb)
LBB 4424/10	16.5 kg (36.4 lb)
LBB 4428/00	14.5 kg (32 lb)

Mounting	Standalone; 19"-rack
Color	Charcoal with silver

Environmental

Operating temperature	-5 °C to +55 °C (+23 °F to +131 °F)
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Relative humidity	15% to 90%
Air pressure	600 to 1100 h Pa

Ordering Information

LBB 4421/10 Power Amplifier 1 x 500 W **LBB4421/10**
1 x 500W

LBB 4422/10 Power Amplifier 2 x 250 W **LBB4422/10**
2 x 250 W

LBB 4424/10 Power Amplifier 4 x 125 W **LBB4424/10**
4 x 125 W

LBB 4428/00 Power Amplifier 8 x 60 W **LBB4428/00**
8 x 60 W

LBB 4421/10-US Power Amplifier 1 x 500 W **LBB4421/10-US**
US version, 1 x 500 W

LBB 4422/10-US Power Amplifier 2 x 250 W **LBB4422/10-US**
US version, 2 x 250 W

LBB 4424/10-US Power Amplifier 4 x 125 W **LBB4424/10-US**
US version, 4 x 125 W

LBB 4428/00-US Power Amplifier 8 x 60 W **LBB4428/00-US**
US version, 8 x 60 Watt

LBB 4428/00-CN Power Amplifier **LBB4428/00-CN**
8 x 60 W
China version, 8 x 60 W

Ordering Information**Accessories**

LBB 4440/00-CN Supervision Control Board **LBB4440/00-CN**

China version, for use in the power amplifier on each amplifier channel

LBB 4441/00-CN Loudspeaker Supervision Board **LBB4441/00-CN**

China version, monitors the integrity of a loudspeaker

LBB 4442/00-CN Line Supervision Set **LBB4442/00-CN**

China version, contains the master and slave device for supervision of a single loudspeaker line

LBB 4443/00-CN End of Line (EOL) Supervision Board **LBB4443/00-CN**

China version, monitors the integrity of a loudspeaker line

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