



BOSCH

Invented for life

PRS-xPxxx-xx and LBB 4428/00-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-xx 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 (four audio inputs for LBB 4428/00-xx)**
- ▶ **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-xx) 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
- Voltage selector for PRS-xPxxx

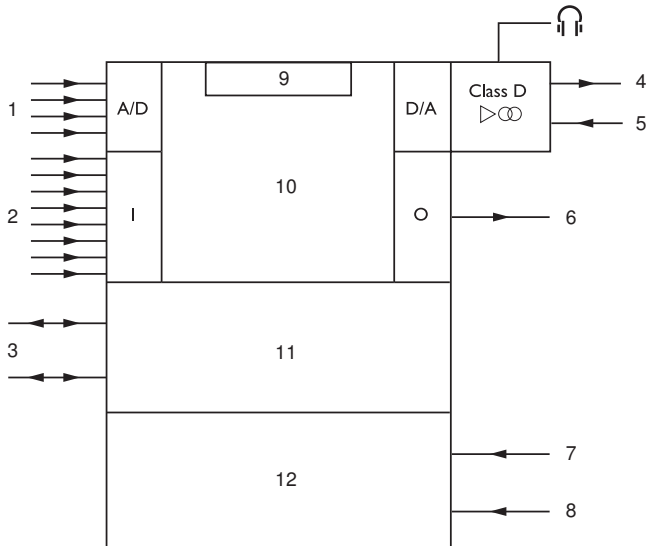
Interconnections

- Mains input
- Battery backup input
- Two system network connections
- Two mic/line inputs (four for LBB 4428/00-xx)
- Selectable 100 V, 70 V or 50 V outputs (per channel)
- Fixed 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

Safety	acc. to IEC 60065 / EN 60065
Immunity	acc. to EN 55103-2 / EN 50130-4 / EN 50121-4
Emissions	acc. to EN 55103-1 / FCC-47 part 15B
Emergency	acc. to EN 60849 / EN 54-16 / ISO 7240-16
Maritime	acc. to IEC 60945

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

Block diagram

Parts Included

Quantity	Component
1	PRS-xPxxx-xx or LBB 4428/00-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	
PRS-xPxxx-xx	115 / 230 VAC ±10%, 50/60 Hz
LBB 4428/00-xx	100 to 240 VAC ±10%, 50/60 Hz
Power consumption	
PRS-1P500-xx	Pmax -3 dB* / idle** / standby
PRS-2P250-xx	353 / 39 / 15 W
PRS-4P125-xx	354 / 43 / 16 W
LBB 4428/00-xx	350 / 54 / 20 W
LBB 4428/00-xx	433 / 90 / 32 W

* Alarm tone level
 ** With pilot tone 15 V

Battery power supply

Voltage	48 VDC -10% to +20%
Power consumption	Pmax -3 dB* / idle** / standby
PRS-1P500-xx	327 / 29 / 5 W
PRS-2P250-xx	327 / 30 / 5 W
PRS-4P125-xx	332 / 39 / 10 W
LBB 4428/00-xx	397 / 63 / 22 W

* Alarm tone level
 ** With pilot tone 15 V

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

Connector	6-pole header for removable screw connector (mono, balanced)
Line	
Frequency response	-3 dB @ 50 Hz and 20 kHz (±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

Mic/line inputs	2 x (4 x for LBB 4428/00-xx)
Input impedance	1360 ohm
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
Performance	
Frequency response	
PRS-xPxxx-xx	60 Hz to 19 kHz (-3 dB)
LBB 4428/00-xx	80 Hz 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
Loudspeaker outputs	PRS-1P500-xx
Rated load resistance	20 ohm (100 V); 10 ohm (70 V) 5 ohm (50 V)
Rated load capacitance	250 nF (100 V); 500 nF (70 V) 1000 nF (50 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)
Connector	9-pole header for removable screw connector
Loudspeaker outputs	PRS-2P250-xx
Rated load resistance	40 ohm (100 V); 20 ohm (70 V) 10 ohm (50 V)
Rated load capacitance	125 nF (100 V); 250 nF (70 V)) 500 nF (50 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)
Connector	9-pole header for removable screw connector
Loudspeaker outputs	PRS-4P125-xx
Rated load resistance	80 ohm (100 V); 40 ohm (70 V) 20 ohm (50 V)
Rated load capacitance	62 nF (100 V); 125 nF (70 V)) 250 nF (50 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)
Connector	9-pole header for removable screw connector

Loudspeaker outputs	LBB 4428/00-xx
Rated load resistance	166 ohm (100 V); 83 ohm (70 V) 42 ohm (50 V)
Rated load capacitance	30 nF (100 V); 60 nF (70 V)) 120 nF (50 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)
Connector	9-pole header for removable screw connector

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

PRS-1P500-xx	12.6 kg (27.78 lb)
PRS-2P250-xx	13.6 kg (29.98 lb)
PRS-4P125-xx	16.1 kg (35.49 lb)
LBB 4428/00-xx	14.5 kg (31.97 lb)
Mounting	Standalone; 19"-rack
Color	Charcoal with silver

Environmental

Operating temperature	-5 °C to +55 °C (+23 °F to +131 °F)
Storage temperature	-20 °C to +70 °C (-4 °F to +158 °F)
Relative humidity	15% to 90%
Air pressure	600 to 1100 h Pa

Ordering Information

PRS-1P500 Power Amplifier 1 x 500 W 1 x 500 W	PRS-1P500
PRS-2P250 Power Amplifier 2 x 250 W 2 x 250 W	PRS-2P250
PRS-4P125 Power Amplifier 4 x 125 W 4 x 125 W	PRS-4P125
LBB 4428/00 Power Amplifier 8 x 60 W 8 x 60 W	LBB4428/00
PRS-1P500-US Power Amplifier 1 x 500 W US version, 1x 500 Watt	PRS-1P500-US
PRS-2P250-US Power Amplifier 2 x 250 W US version, 2 x 250 Watt	PRS-2P250-US
PRS-4P125-US Power Amplifier 4 x 125 W US version, 4 x 125 Watt	PRS-4P125-US

Ordering Information

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

PRS-1P500-CN Power Amplifier 1 X 500 W **PRS-1P500-CN**
China version, 1 x 500 Watt

PRS-2P250-CN Power Amplifier 2 x 250 W **PRS-2P250-CN**
China version, 2 x 250 Watt

PRS-4P125-CN Power Amplifier 4 x 125 W **PRS-4P125-CN**
China version, 4 x 125 Watt

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

Accessories

LBB 4440/00 Supervision Control Board **LBB4440/00**
for use in the power amplifier on each amplifier channel

LBB 4441/00 Loudspeaker Supervision Board **LBB4441/00**
monitors the integrity of a loudspeaker

LBB 4442/00 Line Supervision Set **LBB4442/00**
contains the master and slave device for supervision of a single loudspeaker line

LBB 4443/00 End of Line (EOL) Supervision Board **LBB4443/00**
monitors the integrity of a loudspeaker line

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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