

# PRS-xPxxx and LBB 4428/00 Power Amplifiers

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- ▶ 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

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 tapings. They have short-to-ground and short-circuit detection functions, and can generate their own pilot tone for supervision purposes.



#### Notice

**Region specific versions of these amplifiers are indicated by a suffix to the typenumber (-EU, -CN, ...). The amplifiers are completely identical, but may differ in certifications, power cord and country of origin.**

#### 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
- Voltage selector for PRS-xPxxx

**Interconnections**

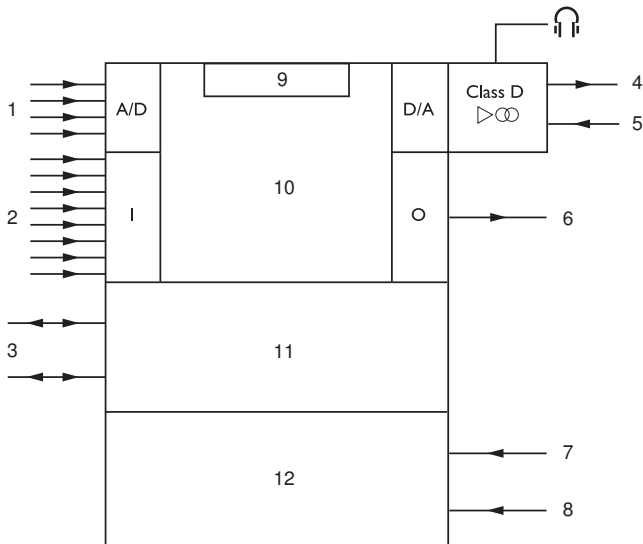
- Mains input
- Battery backup input
- Two system network connections
- Two mic/line inputs (four for LBB 4428/00)
- Selectable 100 V, 70 V or 50 V outputs (per channel)
- Fixed 50 V output
- Eight programmable control inputs
- Control output (for each amplifier channel)
- Headphone output
- Spare amplifier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

Region	Certification	
Europe	CPR	EU_CPR
	CE	DOP

**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 or LBB 4428/00 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	115 / 230 VAC ±10%, 50/60 Hz
LBB 4428/00	100 to 240 VAC ±10%, 50/60 Hz
Power consumption	Pmax -3 dB* / idle** / standby
PRS-1P500	350 / 50 / 20 W
PRS-2P250	350 / 53 / 21 W
PRS-4P125	350 / 66 / 23 W
LBB 4428/00	430 / 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	330 / 40 / 10 W
PRS-2P250	330 / 43 / 11 W
PRS-4P125	330 / 56 / 13 W

LBB 4428/00	400 / 65 / 22 W
	* Alarm tone level ** With pilot tone 15 V
<b>Mic/line inputs</b>	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
Phantom supply	12 V $\pm 1$ V @ 15 mA
Input range	-7 dBV to +8 dBV ref nominal input value
<b>Control inputs</b>	8 x
Connectors	Removable screw terminals
Operation	Closing contact (with supervision)
<b>Control outputs</b>	<b>1 x per amplifier channel</b>
Connectors	Removable screw terminals
<b>Performance</b>	
Frequency response	
PRS-xPxxx	60 Hz to 19 kHz (-3 dB)
LBB 4428/00	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
<b>Loudspeaker outputs</b>	PRS-1P500
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	500 W (1 min. at 55 °C)

(per channel)	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
<b>Loudspeaker outputs</b>	PRS-2P250
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
<b>Loudspeaker outputs</b>	PRS-4P125
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
<b>Loudspeaker outputs</b>	LBB 4428/00
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
<b>Mechanical</b>	
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)
<b>Weight</b>	
PRS-1P500	12.6 kg (27.78 lb)
PRS-2P250	13.6 kg (29.98 lb)
PRS-4P125	16.1 kg (35.49 lb)
LBB 4428/00	15.8 kg (34.83 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-channel power amplifier with Praesideo network connection, 1 x 500 W, rack unit 2 RU.  
Order number **PRS-1P500**

#### PRS-2P250 Power Amplifier 2 x 250 W

2-channel power amplifier with Praesideo network connection, 2 x 250 W, rack unit 2 RU.  
Order number **PRS-2P250**

#### PRS-4P125 Power Amplifier 4 x 125 W

4-channel power amplifier with Praesideo network connection, 4 x 125 W, rack unit 2 RU.  
Order number **PRS-4P125**

#### LBB 4428/00 Power Amplifier 8 x 60 W

Rack unit 2 HU, 8-channel power amplifier with Praesideo network connection, 8 x 60 W.  
Order number **LBB4428/00**

#### PRS-1P500-EU Power Amplifier 1 x 500 W

1-channel power amplifier with Praesideo network connection, 1 x 500 W, rack unit 2 RU.  
Order number **PRS-1P500-EU**

#### PRS-2P250-EU Power Amplifier 2 x 250 W

2-channel power amplifier with Praesideo network connection, 2 x 250 W, rack unit 2 RU.  
Order number **PRS-2P250-EU**

#### PRS-4P125-EU Power Amplifier 4 x 125 W

4-channel power amplifier with Praesideo network connection, 4 x 125 W, rack unit 2 RU.  
Order number **PRS-4P125-EU**

#### LBB 4428/00-EU Power Amplifier 8 x 60 W

Rack unit 2 HU, 8-channel power amplifier with Praesideo network connection, 8 x 60 W.  
Order number **LBB 4428/00-EU**

#### PRS-1P500-US Power Amplifier 1 x 500 W

1-channel power amplifier with Praesideo network connection, 1 x 500 W, rack unit 2 RU, USA version.  
Order number **PRS-1P500-US**

#### PRS-2P250-US Power Amplifier 2 x 250 W

2-channel power amplifier with Praesideo network connection, 2 x 250 W, rack unit 2 RU, USA version.  
Order number **PRS-2P250-US**

#### PRS-4P125-US Power Amplifier 4 x 125 W

4-channel power amplifier with Praesideo network connection, 4 x 125 W, rack unit 2 RU, USA version.  
Order number **PRS-4P125-US**

#### LBB 4428/00-US Power Amplifier 8 x 60 W

8-channel power amplifier with Praesideo network connection, 8 x 60 W, rack unit 2 RU, USA version.  
Order number **LBB4428/00-US**

#### PRS-1P500-CN Power Amplifier 1 X 500 W

1-channel power amplifier with Praesideo network connection, 1 x 500 W, rack unit 2 RU, Chinese version.  
Order number **PRS-1P500-CN**

#### PRS-2P250-CN Power Amplifier 2 x 250 W

2-channel power amplifier with Praesideo network connection, 2 x 250 W, rack unit 2 RU, Chinese version.  
Order number **PRS-2P250-CN**

#### PRS-4P125-CN Power Amplifier 4 x 125 W

4-channel power amplifier with Praesideo network connection, 4 x 125 W, rack unit 2 RU, Chinese version.  
Order number **PRS-4P125-CN**

#### LBB 4428/00-CN Power Amplifier 8 x 60 W

8-channel power amplifier with Praesideo network connection, 8 x 60 W, rack unit 2 RU, Chinese version.  
Order number **LBB4428/00-CN**

### Accessories

#### LBB 4440/00 Supervision Control Board

Line and loudspeaker supervision master PCB for mounting in a Praesideo network connected power amplifier, one board is needed per channel.  
Order number **LBB4440/00**

#### LBB 4441/00 Loudspeaker Supervision Board

Loudspeaker supervision slave PCB for mounting on a loudspeaker, operates with LBB4440/00 for monitoring the integrity of the loudspeaker.  
Order number **LBB4441/00**

**LBB 4442/00 Line Supervision Set**

Master and slave PCB for supervising a single loudspeaker line, the master is mounted in a Praesideo network connected power amplifier (one per channel), the slave is connected at the end of the loudspeaker line.

Order number **LBB4442/00**

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

Line supervision slave PCB for connecting to the end of a loudspeaker line or the end of a spur, operates with LBB4440/00 to monitor the integrity of the line.

Order number **LBB4443/00**

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

Line and loudspeaker supervision master PCB for mounting in a Praesideo network connected power amplifier, one board is needed per channel, Chinese version.

Order number **LBB4440/00-CN**

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

Loudspeaker supervision slave PCB for mounting on a loudspeaker, operates with LBB4440/00 for monitoring the integrity of the loudspeaker, Chinese version.

Order number **LBB4441/00-CN**

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

Master and slave PCB for supervising a single loudspeaker line, the master is mounted in a Praesideo network connected power amplifier (one per channel), the slave is connected at the end of the loudspeaker line, Chinese version.

Order number **LBB4442/00-CN**

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

Line supervision slave PCB for connecting to the end of a loudspeaker line or the end of a spur, operates with LBB4440/00 to monitor the integrity of the line, Chinese version.

Order number **LBB4443/00-CN**

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