

# LBB 1968/00 Plena Feedback Suppressor

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Invented for life



- ▶ Patented feedback suppression algorithm
- ▶ Suppresses feedback before it occurs
- ▶ Automatically adapts to the acoustical situation
- ▶ Up to 12 dB additional gain before feedback occurs
- ▶ Balanced line or microphone input with phantom supply

The Plena feedback suppressor uses a powerful DSP with a patented algorithm to suppress acoustic feedback. It actively filters out unwanted room reverberations using an echo-cancellation and de-reverberation algorithm. By adding masked (inaudible) noise to the output signal or by shifting the frequency of the output signal by five hertz, the Plena feedback suppressor is able to detect the reverb component of the signal and remove it before feedback occurs. This leaves the original signal intact.

## Functions

The adaptive filter can be switched between fast mode and accurate mode. The fast mode is for situations where the microphone position changes over time, such as in a discussion system with multiple switching microphones. The accurate mode is for situations with a fixed microphone position, such as on a pulpit where the acoustical environment is more stable. The adaptive filter is allowed to converge more slowly, suppressing reverberation components even more effectively. Depending on the acoustical environment and the chosen mode of operation, up to 12dB of additional gain is possible before acoustic feedback occurs.

The Plena feedback suppressor also features a built-in automatic mixer for the two microphone inputs. In many situations, such as on a rostrum, a pulpit or a conference table, two microphones are used to capture the voice of a moving speaker better, even though this increases the risk of acoustic feedback. To counter this, the automatic mixer in the Plena feedback suppressor reduces the gain of the microphone with the lowest signal input and increases the gain of the microphone with the highest signal input. This way, it tracks the moving speaker for optimum speech intelligibility, while maintaining a maximum feedback margin by keeping the combined gain constant. The automatic mixer function remains operational even when the feedback suppressor is deactivated.

## Certifications and approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 55103-2
Emission	acc. to EN 55103-1

Region	Certification	
Europe	CE	Declaration of Conformity

## Installation/configuration notes



LBB 1968/00 back view

## Parts included

Quantity	Components
1	LBB 1968/00 Plena Feedback Suppressor
1	Power cord
1	Set of 19" mounting brackets
1	0.5 m XLR cable
1	Installation and User Instructions
1	Plena CD

## Technical specifications

### Electrical

<b>Mains power supply</b>	
Voltage	230/115 VAC, ±10%, 50/60 Hz
Inrush current	1.5 A @ 230 VAC / 3 A @ 115 VAC
Max power consumption	50 VA
<b>Performance</b>	
Sample rate (fs)	32 kHz
Frequency response	125 Hz to 15 kHz
Distortion	<0.1 % @ 1 kHz
Gain (bypass mode)	0 dB line in, 24 / 36 / 48 dB mic in
Gain (active mode)	0 dB line in, 24 / 36 / 48 dB mic in
S/N	> 90 dB
Signal delay	<11 ms
Decorrelator	Frequency shift, 5 Hz up Masked noise
<b>Mic / line input</b>	
Connectors	3-pin XLR, 5-pin DIN, balanced
Max level	18 / 6 / -6 dBV line in, -18 / -30 / -42 dBV mic in
Impedance	10 kohm / 2 kohm (line / mic)
CMRR	> 25 dB (50 Hz to 20 kHz)
Phantom power	16 V (mic only, switchable)

Priority control	Loop through of pin 4 and 5 of DIN
<b>Mic input</b>	
Connectors	3-pin XLR, 5-pin DIN, balanced
Max level	-18 / -30 / -42 dBV
Impedance	2 kohm
Phantom power	16 V (switchable)
Priority control	Loop-through of pin 4 and 5 of DIN
<b>Line input</b>	
Connector	Cinch, unbalanced
Max input level	18 / 6 / -6 dBV
Impedance	20 kohm
<b>Line output</b>	
Connector	3-pin XLR, balanced
Max level	18 / 6 / -6 dBV (line in), 6 dBV (mic in)
Impedance	<100 ohm
<b>Line output</b>	
Connector	Cinch, unbalanced
Max level	18 / 6 / -6 dBV (line in), 6 dBV (mic in)
Impedance	<100 ohm
<b>Mic output</b>	
Connector	5-pin DIN, balanced
Max level	22 / -34 / -46 dBV (line in), 34 dBV (mic in)
Impedance	<100 ohm
Priority control	Loop-through of pins 4 and 5 of DIN from inputs

### Mechanical

Dimensions (H x W x D)	56 x 430 x 270 mm (19" wide 1U high)
Weight	3 kg (6.6 lb)
Mounting	Stand-alone, 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%

## Ordering information

### LBB 1968/00 Plena Feedback Suppressor

Powerful digital sound processor with a patented algorithm for suppressing acoustic feedback.

Order number **LBB1968/00**

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#### Represented by:

##### Americas:

Bosch Security Systems, Inc.  
12000 Portland Avenue South  
Burnsville MN 55337, USA  
Phone: +1-800-392-3497  
Fax: +1-800-955-6831  
audiosupport@us.bosch.com  
www.boschsecurity.com

##### Europe, Middle East, Africa:

Bosch Security Systems B.V.  
P.O. Box 80002  
5617 BA Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
Fax: +31 40 2577 330  
emea.securitysystems@bosch.com  
www.boschsecurity.com

##### Asia-Pacific:

Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
apr.securitysystems@bosch.com  
www.boschsecurity.asia

##### China:

Bosch (Shanghai) Security Systems Ltd.  
201 Building, No. 333 Fuquan Road  
North IBP  
Changning District, Shanghai  
200335 China  
Phone +86 21 22181111  
Fax: +86 21 22182398  
www.boschsecurity.com.cn

##### America Latina:

Robert Bosch Ltda Security Systems Division  
Via Anhanguera, Km 98  
CEP 13065-900  
Campinas, Sao Paulo, Brazil  
Phone: +55 19 2103 2860  
Fax: +55 19 2103 2862  
latam.boschsecurity@bosch.com  
www.boschsecurity.com