

LBB 1968/00 Plena Feedback Suppressor



Security Systems



- 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
- Second microphone input with automatic mixer

The Plena feedback suppressor uses a powerful DSP with a revolutionary patented algorithm to suppress acoustic feedback. It eliminates feedback by actively filtering out the unwanted room reverb that leads to feedback 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 5 Hz, the Plena feedback suppressor is able to detect the reverb component of the signal and remove it before feedback occurs, leaving 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, like 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 to suppress the reverb components even more. 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, like on a rostrum, pulpit or conference table, two microphones are used to better capture the voice of a moving speaker, although this often increases the risk of acoustic feedback. To counter this, the automatic mixer in the Plena feedback suppressor automatically 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, and the maximum feedback margin is maintained by keeping the summed gain constant. Even when the feedback suppressor is switched to 'bypass', the automatic mixer function remains operational.

Parts Included

Qty	Components
1	LBB 1968/00 PLENA Feedback Suppressor
1	19" mounting brackets

Certifications and Approvals

EMC emission	acc. to EN 55103-1
EMC immunity	acc. to EN 55103-2

Technical Specifications

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ELECTRICAL

Mains voltage	230 Vac/115 Vac, $\pm 10\%$, 50/60Hz
Max power consumption	50 VA
Max mains inrush current	1.5A @ 230 Vac / 3A @ 115 Vac

Performance

Sample rate (fs)	32 kHz
Frequency response	125 Hz – 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

Inputs

Line / Mic input 1 (3-pin XLR, 5-pin DIN, balanced)

Max input 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-20 kHz)
Phantom power	16 V (Mic only, switchable)
Priority control	Loophrough of pin 4 and 5 of DIN

Mic input 2, Mic (3-pin XLR, 5-pin DIN, balanced)

Max input level	-18 / -30 / -42 dBV
Impedance	2 kohm
Phantom power	16 V (switchable)
Priority control	Loophrough of pin 4 and 5 of DIN

Line input 3, Line (Cinch, unbalanced)

Max input level	18 / 6 / -6 dBV
Impedance	20 kohm

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Outputs

Line output 1 (3-pin XLR, balanced)

Max output level	18 / 6 / -6 dBV (Line in) 6 dBV (Mic in)
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Impedance	<100 ohm
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Line output 2 (Cinch, unbalanced)

Max output level	18 / 6 / -6 dBV (Line in) 6 dBV (Mic in)
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Impedance	<100 ohm
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Mic output 3 (5-pin DIN, balanced)

Max output level	-22 / -34 / -46 dBV (Line in) -34 dBV (Mic in)
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Impedance	<100 ohm
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Priority control	Loophrough of pin 4 and 5 of DIN from inputs
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Controls and indicators

Power switch	
Bypass / Active switch	with yellow / green LED
Calibrate button	To start fast calibration cycle
Signal indicators	Overload @ 0 dBFS, red Present @ -40 dBFS, green Auto Mix enabled, green Calibrate, yellow

ENVIRONMENTAL

Operating temperature range	-10°C to +55°C
Storage temperature range	-40°C to +70°C
Relative humidity	<95%

General

Dimensions	56 x 430 x 270 mm with feet, without mounting brackets 19" 1U with mounting brackets, without feet
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Weight	approx. 3 kg
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Ordering Information

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For more information please visit
www.boschsecuritysystems.com

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