

## Plena All-in-One Call Station



### Features

- ▶ Stylish, high-quality six-zone Call Station for the Plena All-in-One System
- ▶ Six-zone selection keys with LED indicators, and an 'all-call' key
- ▶ Momentary Press To Talk (PTT) key
- ▶ Configurable gain, speech filter, limiter, and output level for improved intelligibility
- ▶ Configurable attention chime

The Plena All-in-One Call Station is a stylish, high-quality call station that comprises a stable metal base, a flexible microphone stem, and a unidirectional condenser microphone. It has six zone keys and a separate all-call key for easy selection of zones in a Plena All-in-One public address system. A large 'Press To Talk' (PTT) key, with re-dial function, is used to control the call.

In addition to tabletop use, the special design allows the Call Station to be neatly flush-mounted in a desktop. Up to six Call Stations can be connected in a loop-through arrangement to the same All-in-One Unit, with configurable priority.

### Functions

The Call Station supports the selection of six zones and has selectable gain, a selectable speech filter, and a limiter for improved intelligibility. The Call Station has a balanced line-level output, which means it can be positioned up to 600 meters from the Plena All-in-One Unit, by using a Cat-5 cable.

Built-in programming modes are used to select the speech filter, the microphone gain settings, and the Call Station ID. A concealed rotary control at the base of the Call Station is used to set the output level attenuation. LEDs on the Call Station show which zones have been selected.

An additional LED gives visible feedback on the active state of the microphone and the system:

- Green flashing indicates that the system is in stand-by (a chime is sounded)
- Green indicates that the microphone is active
- Amber indicates that the system is occupied by another higher priority call

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### Controls and indicators

- Power on LED
- Press To Talk (PTT) key
- PTT status LED
- Six zone selection keys
- Six zone selection LEDs
- All-call key
- Concealed rotary volume control

### Interconnections

- RJ45 system connector
- RJ45 loop-through connector

### Certifications and approvals

Safety	IEC/EN 60065
EMC	EN 55103-1 EN 55103-2 EN 61000-3-2 EN 61000-3-3
Environment	EN 50581
US	UL 60065 FCC Part 15B
CA	CSA C22.2.60065
CN	CCC
AU/NZ	C-Tick

Region	Certification
Europe	CE

### Parts included

Quantity	Component
1	All-in-One Call Station
1 m	Cat-5 cable with RJ45 plugs
1	Terminator plug

### Technical specifications

#### Electrical

Power Supply	
Voltage	24 Vdc (24 Vdc supplied by PLN-6AIO240)
Current consumption	<50 mA
Performance	
Nominal acoustic sensitivity	85 dB SPL @ 1 kHz (gain preset 0 dB)

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Nominal output level	1 V
Input sound level (max.)	110 dB SPL
<b>Gain preset</b>	
Limiter threshold	1 V
Compression ratio limiter	1:20
Distortion	<2% (maximum input)
Input noise level (equiv.)	25 dBA SPL
Frequency response	100 Hz to 14 kHz +/-6 dB
Speech filter	-3dB @ 315 Hz, high-pass, 6 dB/oct
Output impedance	200 ohm
<b>Selections</b>	
Chimes	1-, 2- or 4-tone chime selected on Call Station

**Mechanical**

Base dimensions (H x W x D)	55 x 108 x 240 mm (1.57 x 3.97 x 9.25 in)
Weight	Approx. 0.5 kg (1.1 lb)
Mounting	Tabletop
Color	Charcoal with silver
Stem length with microphone	390 mm (15.35 in)
Connection	2 x RJ45, Cat-5, max. length 600 m

**Environmental**

Operating temperature	-10°C to +45°C (14°F to +113°F)
Storage temperature	-40°C to +70°C (-40°F to +158°F)
Relative humidity	<95% (non-condensing)

**Ordering information****Plena All-in-One Call Station**

Call station for six zones with unidirectional microphone and attention chimes.

Order number **PLN-6CS**

## Plena All-in-One Unit



### Features

- ▶ All-in-One solution for background music and paging
- ▶ Six-zone paging system
- ▶ Built-in AM/FM tuner with presets
- ▶ MP3 player for USB device and SD card
- ▶ Optional Call Station and Wall Panel with local audio source and remote control

The Plena All-in-One System is a six-zone 240 W background music and paging system, which consists of the Plena All-in-One Unit, an optional remote Wall Panel, and one or more Call Stations. It is a cost-effective public address system for small to medium-sized venues that require an easy-to-use out-of-the-box solution.

### System overview

The Plena All-in-One Unit can provide hours of uninterrupted music from USB or SD flash memory. The unit also has a built-in AM/FM tuner with presets. To ensure for optimum performance, the All-in-One Unit has no moving parts, such as hard drives that can fail or wear out. It is compatible with SD, SDHC and MMC cards, and USB memory sticks. The unit is supplied with an IR remote control for controlling the music source. To enhance the performance of the public address system, the following optional products can be connected to the All-in-One Unit:

- One or more Call Stations for six-zones and all-call, so that calls can be made to any combination of zones or all zones. A maximum of six Call Stations can be connected in a loop-through arrangement to the same All-in-One Unit.
- A Wall Panel for enabling control of the background music from a remote location; the Wall Panel even allows a microphone or portable music player to be connected to the system.
- An additional power amplifier, so that music can be heard in one set of zones while calls can be made to another set of zones.

The All-in-One Unit is a 3 U high 19" wide rack-mount unit. The unit is supplied with detachable rack-mount brackets so that it can be used on a tabletop or installed in a rack.

### Functions

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#### Microphone and line inputs

The All-in-One Unit has six inputs that can be switched between microphone and line level sensitivity. Input 1 also accepts an optional all-call Call Station (PLE-1CS or PLE-1SCS). The inputs are balanced but can also be used unbalanced.

Phantom power can be switched on to provide power to condenser microphones. The inputs can either be mixed or can be configured with different priority arrangements (serial/blocking/overriding), based on a signal detection at each input.

#### Call station input

A maximum of six optional Call Stations can be connected in a loop-through arrangement to the same All-in-One Unit. The PLN-6CS Call Station has a limiter and configurable sensitivity, a speech filter, and an attention chime.

#### Music inputs

The unit has three music inputs and an internal music source. The internal music source plays MP3 files from an SD/MMC card or USB device with a capacity of up to 32 GB. The player will automatically search and play all playable MP3 files and has repeat and random play modes. The following formats are supported: MP3 files with bit-rates from 32 kbit/s to 320 kbit/s, mono/stereo/joint-stereo, and continuous bit-rates (CBR) as well as variable bit-rate (VBR). If a microphone signal receives priority, the music is either muted or attenuated to an adjustable level (music ducking).

#### FM/AM Tuner

The digitally controlled tuner uses a frequency synthesizer and has presets to store favorite radio stations.

#### Output power

The built-in 240 W power amplifier of the All-in-One Unit makes this a complete single-channel audio system for music distribution and paging. To enable two-channel operation, an external power amplifier can be connected to the All-in-One Unit.

#### Zone outputs

The unit has six zone outputs for connection to different zones. The volume level of each zone can be adjusted separately.

#### Remote control Wall Panel input

An optional Wall Panel can be connected to the All-in-One Unit by use of a standard Cat-5 cable and RJ45 connectors. The Wall Panel provides remote control of the system, as well as an input for a remote music player or microphone. The Enable button on the remote Wall Panel can be pressed to gain control over the

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music selection and master volume. This makes it the perfect accessory for a small system that requires operation from a second location with local audio inputs.

### Controls and indicators

#### Front panel:

- Power on LED
- LED VU meter for master output
- Master volume control
- Six volume-level controls for microphone inputs
- Separate bass and treble control per input
- Music source controls

#### Rear side panel

- On/off mains switch
- Priority mode and chime selector switches
- Chime level control
- Ducking level control
- Telephone/100 V input volume control

### Certifications and approvals

Safety	IEC/EN 60065
EMC	EN 55103-1 EN 55103-2 EN 61000-3-2 EN 61000-3-3
Environment	EN 50581
US	UL 60065 FCC Part 15B
CA	CSA C22.2.60065
CN	CCC
AU/NZ	C-Tick

Region	Certification
Europe	CE

### Parts included

Quantity	Component
1	All-in-One Unit
1 m	Cat-5 cable with RJ45 termination for adaptor
1	Adaptor to connect a PLE-1CS or PLE-1SCS desktop microphone via shielded Cat-5 wiring
1	AC power cord (for European mains sockets)
1	Safety Instructions
1	AM indoor antenna
1	Coax connector for FM antenna
1	Pair of brackets for 19" rack installation
1	Remote control unit (without batteries)
1	Installation and Operating Manual

### Technical specifications

#### Electrical

<b>Mains power supply</b>	
Voltage	115/230 Vac +/- 15%, 50/60 Hz
Fuse rating	6.3 A (230 Vac) 10 A (115 Vac)
Power consumption	720 W max

#### Performance

Frequency response	Microphone inputs: 100 Hz – 15 kHz +1/-3dB Line inputs: 50 Hz – 20 kHz +1/-3dB (+1/-3 dB @ -10 dB ref. rated output)
Distortion	<1% @ rated output power, 1 kHz
Bass control	+/- 8 dB @ 100 Hz
Treble control	+/- 8 dB @ 10 kHz

#### Remote devices

Remote devices	2 x
Call station input	RJ45 for PLN-6CS
Wall panel input	RJ45 for PLN-4S6Z

#### Microphone/Line input

Microphone/Line input	6 x
Input 1 (Push-to-talk contact for priority/ducking)	RJ45 for PLE-1CS or PLE-1SCS 3-pin XLR, balanced, phantom
Input 2-6 (with signal detector for priority/ducking)	3-pin XLR, balanced, phantom
Sensitivity	1.5 mV (mic); 200 mV (line)
Impedance	>600 ohm (mic); >10 kohm (line)
S/N (flat at max volume)	>65 dBA (mic); >70 dBA (line)
CMRR (mic)	>40 dB (50 Hz to 20 kHz)
Headroom	>25 dB
Phantom power supply	18 V – No load
Level detector (VOX) on Inputs 1-6	Attack time 150 ms; release time 3 s

#### Battery power supply

Battery power supply	
Voltage	24 Vdc (22 Vdc – 28 Vdc)
Current	12 A

#### Music inputs

Music inputs	3x
Connector	Cinch, stereo converted to mono
Sensitivity	500 mV (inputs 1/2) and 300 mV (input 3)
Impedance	10 kohm

S/N (flat at max volume)	>65 dBA
S/N (flat at min volume/ muted)	>75 dBA
Headroom	>20 dB
<b>Emergency / telephone</b>	1 x
Connector	7-pin, Euro style pluggable screw terminal
Sensitivity line input	100 mV
Sensitivity 100V input	100 V
Impedance line input	600 ohm
S/N (flat at max volume)	>70 dBA
Level detector (VOX)	Threshold 50 mV; attack time 150 ms; release time 3 s
<b>Insert</b>	1 x
Connector	Cinch
Nominal level	1 V
Impedance	>10 kohm
<b>FM tuner</b>	
Distortion	<1 %
Total harmonic distortion (1 kHz)	< 0.8 %
FM range	87.5 - 108 MHz
Frequency response	60 Hz - 12 kHz
Intermediate rejection	≥ 70 dB
Image rejection	≥ 50 dB
S/N ratio	≥ 50 dB
Intermediate frequency	10.7 MHz
Input sensitivity	8 µV
Automatic tuning sensitivity	≤ 50 µV
Antenna input	75 ohms (coaxial)
<b>AM tuner</b>	
AM range	530 - 1602 kHz
Input sensitivity	30 µV
<b>Digital audio player</b>	1 x
Frequency response	20 Hz to 20 kHz
S/N ratio	>70 dBA
Total harmonic distortion (1 kHz)	<1 %
Supported formats	MP3, 32 - 320 kbps

<b>Master/music output</b>	1 x
Connector	3-pin XLR, balanced
Nominal level	1 V
Impedance	<600 ohm

<b>Loudspeaker outputs 100 V</b>	
Connector	Screw, floating
Total power	240 W
Direct outputs	100/70 V, 8 ohm
Zone outputs 1-6	100/70/50/35/25/17 V

<b>Mechanical</b>	
Dimensions (H x W x D)	133 x 430 x 365 mm with feet (19" wide, 3 U high)
Weight	Approx. 18 kg
Mounting	Standalone, 19" rack
Color	Charcoal

<b>Environmental</b>	
Operating temperature	-10 °C to +45 °C (14 °F to +113 °F)
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Relative humidity	<95% (non-condensing)

<b>Generic performance specifications</b>	
Acoustic noise	< 45 dB SPL, measured at 1 meter above the unit
MTBF	1200000 hours at 25°C

### Ordering information

**Plena All-in-One Unit**  
All-in-One solution for background music (BGM), announcements, and paging people.  
Order number **PLN-6AIO240**

**Accessories**  
**Plena All-in-One Call Station**  
Call station for six zones with unidirectional microphone and attention chimes.  
Order number **PLN-6CS**

**Plena All-in-One Wall Panel**  
Wired remote control for the Plena All-in-One Unit with local audio inputs.  
Order number **PLN-4S6Z**

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## Plena All-in-One Wall Panel



### Features

- ▶ Remote control for the Plena All-in-One Unit PLN-6AIO240
- ▶ BGM routing and volume control
- ▶ Remote selection of four music source inputs
- ▶ Remote microphone/line input
- ▶ Powered from the Plena All-in-One Unit

The Plena Wall Panel PLN-4S6Z is used to control the source selection, zone selection, and volume of the Plena All-in-One Unit PLN-6AIO240 from a remote location, and accepts a microphone or music source.

### System overview

The Wall Panel is connected to the Plena All-in-One Unit PLN-6AIO240 with a standard Cat-5 cable. The maximum cable length is 600 m. The buttons on the Wall Panel have the same function as the corresponding buttons on the front panel of the All-in-One Unit. The design and color of the Wall Panel are unobtrusive in any interior. Ease of installation, operation, and reliability are optimized in the design.

### Functions

#### Remote zone and music source control

Six zones and four music input sources can be selected from a remote location. The Enable button on the front of the Wall Panel can be pressed to gain instant remote control over the music selection and master volume.

#### Indicators

The ON status of each zone and selected music source is indicated by an LED.

#### Connections and settings

The Wall Panel can be easily and quickly connected to the Plena All-in-One Unit, by using a Cat-5 cable and RJ45 connectors. Configuration is not necessary.

#### Control and indicators

Front side:

- Selection buttons for six zones with All-call
- Music source selection button
- Master volume control
- Enable button
- Level control for local audio input

#### Interconnections

- XLR connector for microphone
- 3.5 mm stereo connector for music source
- RJ45 connector (inside Wall Panel)

### Certifications and approvals

Safety	IEC/EN 60065
EMC	EN 55103-1 EN 55103-2 EN 61000-3-2 EN 61000-3-3
Environment	EN 50581
US	UL 60065 FCC Part 15B
CA	CSA C22.2.60065
CN	CCC
AU/NZ	C-Tick

Region	Certification
Europe	CE

### Installation/configuration notes

#### Remote control

The Wall Panel can be attached to a wall or flat surface by use of the holes in the rear mounting bracket. It is powered from the Plena All-in-One Unit and uses a single Cat-5 cable for interconnection up to 600 m from the All-in-One Unit. No configuration is needed.

### Parts included

Quantity	Component
1	All-in-One Wall Panel
1 m	Cat-5 cable with RJ45 plugs

### Technical specifications

#### Electrical

Power supply	
Voltage range	24 Vdc, supplied by the connected amplifier
Current consumption (typical)	<50 mA
Connector	1 x RJ45 socket (inside Wall Panel)

**Mechanical**

Dimensions (H x W x D)	115 x 115 x 70 mm (4.5 x 4.5 x 2.8 in)
Weight	Approx. 0.6 kg (1.3 lb)

**Environmental**

Operating temperature	-10°C to +45°C (14°F to +113°F)
Storage temperature	-40°C to +70°C (-40°F to +158°F)
Relative humidity	<95% (non-condensing)

**Ordering information****Plena All-in-One Wall Panel**

Wired remote control for the Plena All-in-One Unit with local audio inputs.

Order number **PLN-4S6Z**

## LBB 1925/10 Plena System Pre-Amplifier



### Features

- ▶ Six-zone system pre-amplifier, with single or dual channel operation
- ▶ Two input channels for call stations
- ▶ Universal input for microphone/line, with speech optimized tone control
- ▶ Three inputs for BGM selection and music optimized tone control
- ▶ Front panel zone selection for BGM and call station zone selection for calls

The Plena system pre-amplifier is a versatile, high-performance unit with call and mono BGM (background music). It fulfills a wide variety of public address requirements at a surprisingly low cost. It can provide dual channel operation for simultaneous calls and BGM for up to six different zones, using two Plena amplifiers.

### Functions

The call channel provides two inputs for the Plena call stations, LBB 1941/00 (all-call) or LBB 1946/00 (six-zone), with loop-through capability, and universal, balanced input. One is a 3-pin XLR connector for microphone or line level (selectable), and the other is a 5-pin DIN-connector with all-call priority contact, which may also be used to start one of the available chime attention signals.

The microphone input has a selectable speech filter for improved intelligibility, a volume control, and bass and treble tone controls with shelving characteristics optimized for speech. The call channel is available on the balanced XLR master output.

The BGM channel provides three inputs on stereo cinch-connectors, converted to mono, with front panel selection, volume control and bass and treble tone controls with shelving characteristics optimized for music. The BGM channel has a direct output on balanced XLR for dual channel operation. It can also feed the master output, with the lowest priority, for single channel operation. Zone selector switches on the front panel control

the BGM routing. An overload protected 24 VDC output provides power for driving external relays, often making an external power supply unnecessary.

An emergency/telephone input with signal level detector (VOX) and volume preset has the highest priority to all zones. Two trigger inputs (contact closure) activate alarm or time signals to pre-selected zones. Many different chime tones are available. A PC audio input with RS-232 control provides software controlled zone configuration, or automatic messaging in combination with the LBB 1965/00 Plena Message Manager. There are six levels of priority available for BGM, microphone, call stations, trigger inputs and emergency input. A set of relays directs the amplifier output(s) to different loudspeaker groups (zone switching).

Each zone has a tri-state control on the front panel that can turn it off, switch it to the call channel, or to the BGM channel. The all-call microphone input and emergency activation override the call station selection on the call channel. Each zone has separate priority overrides with preset volume levels. This assures an appropriate message volume, independent of any local volume settings, such as for BGM. Both three-wire and four-wire override schemes are supported. An override also activates a voltage-free contact (call-active) available for external control and monitoring. The master output channel, or one of the input channels, can be monitored through the headphone connector and/or the LED VU-meter.

### Controls and indicators

#### Front

- LED power meter
- Power on LED
- Call active LED
- Three knobs for mic/line volume, treble, and bass levels
- Three knobs for BGM volume, treble, and bass levels
- BGM source selection knob
- Six zone-selections keys
- Six zone status LEDs
- On/off switch

#### Back

- EMG input volume control
- Mains voltage switch

### Interconnections

#### Front

- Headphone jack

#### Back

- One (DIN or XLR) Mic/line input
- Two (DIN/DIN) call station inputs
- PC audio (cinch) input
- Priority input
- Master (XLR) output
- BGM (XLR) output
- Emergency signal input
- Two trigger inputs
- RS-232 (DE-9)
- Three (cinch) CD, tape, aux inputs
- Six 100 V speaker outputs
- 24 VDC output
- 24 VDC input
- Three control inputs



- Ground screw
- IEC mains socket

### Certifications and approvals

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

Region	Certification
Europe	CE

### Installation/configuration notes



LBB 1925/10 rear view

### Parts included

Quantity	Component
1	LBB 1925/10 PLENA System Pre-amplifier
1	Power cord
1	Set of 19" mounting brackets
1	Plena CD
1	Installation and User Instructions

### Technical specifications

#### Electrical

Mains power supply	
Voltage	230/115VAC, ±15%, 50/60 Hz
Current inrush	230/115 VAC, 1.5/3 A
Max power consumption	25 VA
Battery power supply	
Voltage	24 VDC, +10% / -15%
Current max	1 A
Performance	
Frequency response	50 Hz to 20 kHz (+1 / -3 dB)
Distortion	<0.5%
Bass control	±10 dB @ 100 Hz
Treble control	±10 dB @ 10 kHz
Channel separation	>70 dB @ 1 kHz
Priority mute	>40 dB

Dynamic range	100 dB
<b>Mic/line input</b>	1 x
Connectors	5-pin DIN, 3-pin XLR, balanced, with phantom power
Sensitivity	1 mV (mic), 200 mV (line)
Impedance	>1 kohm (mic); >5 kohm (line)
S/N (flat at max volume)	>63 dB (mic); >70 dB (line)
S/N (flat at min volume/ muted)	>75 dB
CMRR	>40 dB (50 Hz - 20 kHz)
Headroom	>25 dB
Speech filter	-3 dB @ 315 Hz, high-pass, 6 dB/oct
Phantom power supply	16 V via 1.2 kohm, (mic mode only)
<b>Line input</b>	3 x
Connector	Cinch, stereo converted to mono, unbalanced
Sensitivity	200 mV
Impedance	22 kohm
S/N (flat at max volume)	>70 dB
S/N (flat at min volume/ muted)	>75 dB
Headroom	>25 dB
<b>Master output</b>	1 x
Connector	3-pin XLR, balanced
Nominal level	1 V
Impedance	<100 ohm
<b>Tape output</b>	1 x
Connector	Cinch, 2 x mono
Nominal level	350 mV
Impedance	<1 kohm
<b>Headphone output</b>	1 x
Connector	6.3 mm jack stereo, signal mono
Nominal level	3 V
Impedance	<100 ohm
Zone relays	5 A
<b>Contacts voltage</b>	250 V
<b>Contacts current</b>	8 A
<b>Interconnection input / emergency</b>	1 x
Connector	3-pin XLR, balanced

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Sensitivity	200 mV (interconnection), 100 mV to 1 V adjustable (emergency)
Impedance	>10 kohm
VOX threshold	45 mV (emergency)
<b>Interconnection output</b>	1 x
Connector	3-pin XLR, balanced
Nominal level	200 mV
Impedance	<100 ohm
Relay contacts	30 V, 1 A
DC supply output voltage	24 V, 250 mA max

### Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high)
Weight	Approx. 5 kg
Mounting	Standalone, 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 1925/10 Plena System Pre-Amplifier

Pre-amplifier, 6-zone, 2-channel distribution system unit with call and BGM (background music).

Order number **LBB1925/10**

## LBB 1941/00 Plena Call Station



### Features

- ▶ Stylish all-call call station, intended for LBB 1925/10 system pre-amplifier
- ▶ Unidirectional condenser microphone on flexible stem
- ▶ Momentary PTT-key for calls
- ▶ Selectable gain, speech filter, and limiter for improved intelligibility
- ▶ Stable metal base design

The Plena Call Station is a stylish, high-quality call station with a stable metal base design, a flexible microphone stem, and a unidirectional condenser microphone. Its purpose is to make calls to all zones (all-call) in a public address system built around the LBB 1925/10 system pre-amplifier. In addition to tabletop use, the special design enables the unit to be neatly flush-mounted in desktops.

### Functions

A green LED on the call station gives visible feedback on the active state of the microphone.

This call station features selectable gain, a selectable speech filter, and a limiter for improved intelligibility, even when the speaker moves in front of the microphone.

The call station provides a balanced line-level output, and can be up to 500 m away from the amplifier using extension cables. The LBB 1925/10 can assign different priority levels, and pre and post-call chimes to this call station.

### Controls and indicators

- PTT-key
- PTT status LED

### Interconnections

- Cable with DIN connector

### Certifications and approvals

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

Region	Certification
Europe	CE

### Parts included

Quantity	Component
1	LBB 1941/00 Plena Call Station
1	5 m cable terminated with a lockable 8-pin DIN connector
1	Loop through 8-pin DIN socket to add an additional call station LBB 1941/00 or LBB 1946/00

### Technical specifications

#### Electrical

Power Supply	
Voltage range	18 to 24 V (24 V supplied by LBB 1925/10)
Current consumption	<30 mA
Performance	
Nominal sensitivity	85 dB SPL (gain preset 0 dB)
Nominal output level	700 mV
Input sound level (max)	110 dB SPL
Gain preset	+6 / 0 / -15 dB
Limiter threshold	2 V
Compression ratio limiter	1:20
Distortion	<0.6% (maximum input)
Input noise level (equiv.)	25 dB SPLA
Frequency response	100 Hz to 16 kHz
Speech filter	-3dB @ 315 Hz, high-pass, 6 dB/oct
Output impedance	200 ohm

#### Mechanical

Base dimensions	40 x 100 x 235 mm (1.57 x 3.97 x 9.25 in)
Weight	Approx. 1 kg
Color	Charcoal with silver
Stem length with mic	390 mm (15.35 in)
Cable length	5 m (16.4 ft)

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**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 1941/00 Plena Call Station**

Call station, all-call call station for LBB1925/10, flexible microphone, flexible microphone stem, and unidirectional condenser microphone.

Order number **LBB1941/00**

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## LBB 1946/00 Plena Six-zone Call Station



### Features

- ▶ Stylish six-zone call station, intended for LBB 1925/10 system pre-amplifier
- ▶ Unidirectional condenser microphone on flexible stem
- ▶ Six zone selection keys, all-call key, and momentary PTT-key for calls
- ▶ Selectable gain, speech filter, and limiter for improved intelligibility
- ▶ Selectable priority levels and different pre and post-call chimes

The Plena Six-zone Call Station is a stylish, high-quality call station with a stable metal base design, a flexible microphone stem, and a unidirectional condenser microphone. It can make calls to selected zones (one to six and all-call) in a public address system built around the LBB 1925/10 system pre-amplifier. In addition to tabletop use, the special design enables the unit to be neatly flush-mounted in desktops.

### Functions

This call station features selectable gain, a selectable speech filter, and a limiter for improved intelligibility. The call station has a balanced line level output, making it possible to position it up to 100 m away from the LBB 1925/10, using extension cables.

Dipswitches on the bottom of the call station configure different pre and post-call chimes, as well as the priority level. LEDs on the call station indicate selected zones, and an additional, two-color LED gives visible feedback on the active state of the microphone and the system. Green indicates microphone on or chime active (flashing LED); amber indicates that the system is occupied by a source with a higher priority or operation error (flashing LED).

### Controls and indicators

- PTT-key
- PTT status LED
- Six zone selection keys
- Six zone selection LEDs
- All-call key
- All-call status LED
- Eight DIP switches

### Interconnections

- Cable with DIN connector

### Certifications and approvals

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

Region	Certification
Europe	CE

### Parts included

Quantity	Component
1	LBB 1946/00 Plena Six-zone Call Station
1	5 m cable terminated with a lockable 8-pin DIN connector
1	Loop through 8-pin DIN socket to add an additional call station LBB 1941/00 or LBB 1946/00

### Technical specifications

#### Electrical

Power Supply	
Voltage Range	18 to 24 V (24 V supplied by LBB 1925/10)
Current consumption	<30 mA
Performance	
Nominal sensitivity	85 dB SPL (gain preset 0 dB)
Nominal output level	700 mV
Maximum input sound level	110 dB SPL
Gain preset	+6 / 0 / -15 dB
Limiter threshold	2 V
Compression ratio limiter	1:20
Distortion	<0.6% (maximum input)
Input noise level (equiv.)	25 dB SPLA
Frequency response	100 Hz to 16 kHz
Speech filter	-3dB @ 315 Hz, high-pass, 6 dB/oct
Output impedance	200 ohm
Selections	

1

Chimes	18 different combinations
Priorities	2 different priorities

### Mechanical

Base dimensions (H x W x D)	40 x 100 x 235 mm (1.57 x 3.97 x 9.25 in)
Weight	Approx. 1 kg (2.2 lb)
Color	Charcoal with silver
Stem length with mic	390 mm (15.35 in)
Cable length	5 m (16.4 ft)

### 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 1946/00 Plena Six-zone Call Station

Six-zone call station for making calls to selected zones (one to six and all-call), stable metal-base design, flexible microphone stem, unidirectional condenser microphone.

Order number **LBB1946/00**

## LBB 1950/10 Plena Tabletop Unidirectional Condenser Microphone



### Features

- ▶ Stylish tabletop unidirectional condenser microphone on a flexible stem
- ▶ Phantom powered by amplifier
- ▶ Momentary or toggle PTT-key for calls with priority contact
- ▶ Green LED, indicating microphone active
- ▶ Stable metal base design with fixed 2 m cable and lockable DIN connector

The Plena tabletop microphone is a stylish, high-quality tabletop unidirectional condenser microphone, mainly intended for making calls in a public address system. Its heavy metal base and rubber feet ensure stability on any flat surface. The special design also allows the unit to be neatly flush-mounted in desktops.

### Functions

The PTT-key (press-to-talk), not only switches on the microphone, but also provides priority contacts, that are compatible with the Plena range of amplifiers. The switching characteristic of the PTT-key can be configured internally for PTT-mode (on as long as pressed) or toggle-mode (press to switch on, press again to switch off).

It is equipped with a fixed, flexible 2 m cable and a 5-pin DIN connector for the balanced signal and the priority contacts. If the priority contacts are not required, the microphone can be connected to amplifiers with 3-pin XLR-inputs, using the DIN to XLR adapter.

A green LED indicates when the microphone is active.

### Controls and indicators

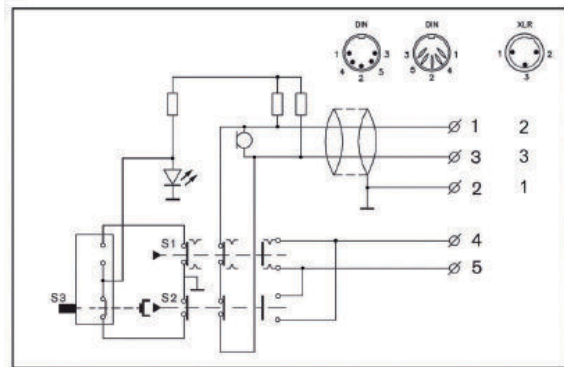
- PTT-key
- PTT status LED

### Certifications and approvals

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

Region	Certification
Europe	CE

### Installation/configuration notes



Circuit diagram

### Parts included

Quantity	Component
1	LBB 1950/10 PLENA Tabletop Unidirectional Condenser Microphone
1	DIN to XLR adapter

### Technical specifications

#### Electrical

Phantom power supply	
Voltage range	12 to 48 V
Current consumption	<8 mA
Performance	
Sensitivity	0.7 mV @ 85 dB SPL (2 mV/Pa)
Maximum input sound level	110 dB SPL
Distortion	<0.6% (maximum input)
Input noise level (equiv.)	28 dB SPLA (S/N 66 dBA ref. 1 Pa)
Frequency response	100 Hz to 16 kHz
Output impedance	200 ohm

1

**Mechanical**

Base dimensions (H x W x D)	40 x 100 x 235 mm (1.57 x 3.97 x 9.25 in)
Weight	Approx. 1 kg (2.2 lb)
Color	Charcoal with silver
Stem length with mic	390 mm (15.35 in)
Cable length	2 m (6.56 ft)

**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 1950/10 Plena Tabletop Unidirectional Condenser Microphone**

Tabletop unidirectional condenser microphone on a flexible stem.

Order number **LBB1950/10**

**Accessories****LBC 1102/02 Cable Transformer**

for galvanic separation

Order number **LBC1102/02**

**LBC 1081/00 Microphone Cable**

Microphone cable for permanent installations, black, 2 + 2 core screened cables (4 x 0.14 mm<sup>2</sup>), suitable for microphone connections with remote control or priority functions, length 100 m.

Order number **LBC1081/00**



## PLN-1SCS Plena Heavy Duty Call Station



### Features

- ▶ Sturdy microphone for demanding applications
- ▶ PTT-key for calls for activation
- ▶ Momentary or toggle
- ▶ Green LED, indicating microphone active
- ▶ Stable metal base design with fixed 2 m (6.56 ft) cable and lockable DIN5 style connector

The Plena tabletop microphone is a heavy-duty, high-quality tabletop unidirectional dynamic microphone, intended for making calls in a public address system. Its heavy metal base and rubber feet ensure stability on any flat surface. The special design also allows the unit to be neatly flush-mounted in desktops.

### Functions

The PTT-key (press-to-talk), not only switches on the microphone, but also provides priority contacts, that are compatible with the Plena range of amplifiers. The switching characteristic of the PTT-key can be configured internally for PTT-mode (on as long as pressed) or toggle-mode (press to switch on, press again to switch off).

It is equipped with a fixed, flexible 2 m (6.56 ft) cable and a 5-pin DIN style connector for the balanced signal and the priority contact. If the priority contact is not required, the microphone can be connected to amplifiers with 3-pin DIN style connector.

A green LED indicates when the microphone is active.

### Controls and indicators

- PTT-key
- PTT status LED

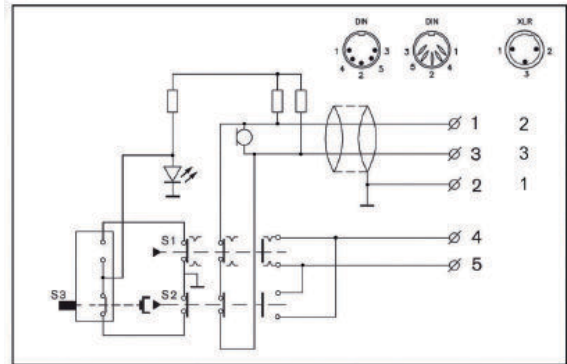
### Certifications and approvals

Safety	according to EN 60065
Immunity	according to EN 55103-2
Emission	according to EN 55103-1

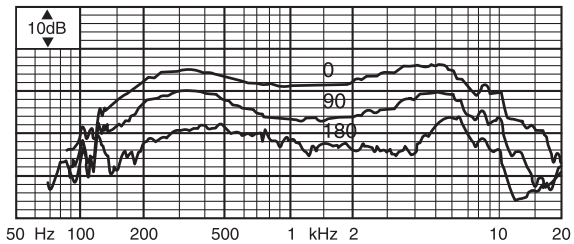
### Region Certification

Europe	CE
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### Installation/configuration notes



Circuit diagram



Frequency response

### Parts included

Quantity	Component
1	PLN-1SCS Plena Heavy-Duty Call Station

### Technical specifications

#### Electrical

Phantom power supply	
Voltage range	12 to 48 V
Current consumption	<8 mA

#### Performance

Polar pattern	Uni-directional
Frequency response	100 Hz to 15 kHz
Sensitivity	1.2 mV/pa +/- 4 dB
Rated output impedance	500 ohm

1

Maximum input sound level	110 dB SPL
Distortion	<0.6% (maximum input)
Input noise level (equiv.)	25 dB SPLA (S/N 69 dBA ref. 1 Pa)

#### Mechanical

Base dimensions (H x W x D)	40 x 100 x 235 mm (1.57 x 3.97 x 9.25 in)
Weight	Approx. 1 kg (2.2 lb)
Color	Charcoal with silver
Stem length with mic.	390 mm (15.35 in)
Cable length	2 m (6.56 ft)
Base	Metal, with fixed cable

#### 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

##### PLN-1SCS Plena Heavy Duty Call Station

Heavy duty call station, metal base design with fixed 2 m cable and lockable DIN5 style connector.  
Order number **PLN-1SCS**

## LBB 1930/20 Plena Power Amplifier



### Features

- ▶ 120 W power amplifier in a compact housing
- ▶ 70 V / 100 V and 8 ohm outputs
- ▶ Dual inputs with priority switching
- ▶ 100 V input for slave operation on 100 V speaker line
- ▶ Temperature controlled forced front to back ventilation, directly stackable.

The LBB 1930/20 is a powerful 120 W power amplifier in a 2U high 19" case for rack mounting or tabletop use. LEDs on the front panel show the status of the amplifier: power, audio output level, and supervised functions. This high-performance unit fulfills a wide range of public address requirements at a surprisingly low cost.

### Functions

#### Dependability

The amplifier is protected against overload and short circuits. A temperature-controlled fan ensures high reliability at high output levels and low acoustic noise at lower output levels. An overheat protection circuit switches off the power stage and activates an LED on the front panel, if the internal temperature reaches a critical limit due to poor ventilation or overload.

The unit operates both on mains power and on a 24 V battery power supply for emergency back up, with automatic switchover.

For emergency and evacuation use, the following functions are monitored: mains presence, battery present, pilot tone presence, amplifier operation. Front panel LEDs indicate the status of supervised functions. The LEDs of pilot tone supervision and battery status can be switched off for general public address use. Failsafe (normally energized) relays are provided for each supervised function. These relays are always active regardless of the switches on the rear panel.

#### Input

The system has two balanced inputs with priority control, each with a loop-through facility. This makes it easy to connect remote systems that require priority control.

An additional 100 V line input is provided to connect the amplifier to a 100 V loudspeaker line to provide more power to remote locations.

Gain or level control is located on the rear of the unit to avoid accidental setting change. A meter with LED-bar shows the output level.

#### Output

The amplifier has 70 V and 100 V outputs for constant voltage loudspeaker systems, and a low impedance output for 8 ohm loudspeaker loads.

The LBB 1930/20 has two separate priority controlled 100 V outputs for zones that only need announcements made via the priority input, and for zones that will not receive announcements made via the priority input.

#### Controls and indicators

##### Front

- Meter (LED's for -20, -6, 0 dB and Power ON)
- Battery operation indicator
- Overheat indicator

##### Back

- Level control input 1
- Level control input 2
- Power button
- Mains switch

#### Interconnections

##### Back

- Priority line input 1 (XLR/balanced)
- Line loop-through 1 (XLR/balanced)
- Program line input 2 (XLR/balanced)
- Line loop-through 2 (XLR/balanced)
- Priority controlled loudspeaker output terminals
- 24 VDC power supply terminal
- Three loudspeaker direct output terminals
- Two 100 V slave input terminals
- Input 2 enable control terminal
- Input 1 priority control terminal
- Earth connection screw
- Mains socket

#### Certifications and approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 55103-2
Emission	acc. to EN 55103-1
Emergency	acc. to EN 60849

Region	Certification
Europe	CE
	CPD
Poland	CNBOP

#### Parts included

Quantity	Component
1	LBB 1930/20 Plena Power Amplifier
1	Power cord

1	Set of 19" mounting brackets
1	Safety Instructions
1	Cable with XLR connector

### Technical specifications

#### Electrical

<b>Mains power supply</b>	
Voltage	230 VAC ±10%, 50/60 Hz
Inrush current	8 A
Max power consumption	400 VA
<b>Battery power supply</b>	
Voltage	24 VDC +15% / -15%
Current max	6 A
<b>Performance</b>	
Output power (rms/maximum)	120 / 180 W
Power reduction on backup power	-1 dB
Frequency response	50 Hz to 20 kHz (+1 / -3 dB at -10 dB ref. rated output)
Distortion	<1% at rated output power, 1 kHz
S/N (flat at max volume)	>90 dB
<b>Line inputs</b>	
Connector	3-pin XLR, balanced
Sensitivity	1 V
Impedance	20 kohm
CMRR	>25 dB (50 Hz to 20 kHz)
Gain	40 dB
<b>100 V input</b>	
Connector	Screw, unbalanced
Sensitivity	100 V
Impedance	330 kohm
<b>Line loop-through output</b>	
Connector	3-pin XLR
Nominal level	1 V
Impedance	Direct connection to line input
<b>Loudspeaker outputs</b>	
Connector	Screw, floating
Direct output	100 V, 70 V, 8 ohm
Priority only (from input 1)	100 V or 70 V internally selectable
Music (non-priority) only	100 V or 70 V internally selectable

#### Power consumption

<b>Mains operation</b>	
Max power	274 W
-3dB	193 W
-6dB	143 W
Pilot tone*	41 W
Idle	18 W
<b>24 VDC operation</b>	
Max power	7.0 A (168 W)
-3 dB	6.0 A (144 W)
-6 dB	4.3 A (103 W)
Pilot tone*	0.9 A (22 W)
Idle	0.1 A (2.4 W)

\* 20 kHz -20dB with maximum loudspeaker load

#### Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high, with feet)
Weight	Approx. 10.5 kg
Mounting	Standalone, 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%
Acoustic noise level of fan	<48 dB SPL at 1 m (max output)

#### Ordering information

##### LBB 1930/20 Plena Power Amplifier

Power amplifier, 120 W power amplifier in a 2U-high, 19" case for rack mounting or tabletop use.

Order number **LBB1930/20**

## LBB 1935/20 Plena Power Amplifier



### Features

- ▶ 240 W power amplifier in a 2U high housing
- ▶ EN 54-16 certified
- ▶ 70 V / 100 V and 8 ohm outputs
- ▶ Dual inputs with priority switching
- ▶ 100 V input for slave operation on 100 V speaker line

The LBB 1935/20 is a powerful 240 W power amplifier in a 2U high 19" case for rack mounting or tabletop use. LEDs on the front panel show the status of the amplifier: power, audio output level, and supervised functions. This high-performance unit fulfils a wide range of public address requirements at a surprisingly low cost.

### Functions

#### Dependability

The amplifier is protected against overload and short circuits. A temperature-controlled fan ensures high reliability at high output levels and low acoustic noise at lower output levels. An overheat protection circuit switches off the power stage and activates an LED on the front panel, if the internal temperature reaches a critical limit due to poor ventilation or overload.

The unit operates both on mains power and on a 24 V battery power supply for emergency back up, with automatic switchover.

For emergency and evacuation use, the following functions are monitored: mains presence, battery present, pilot tone presence, amplifier operation. Front panel LEDs indicate the status of supervised functions. The LEDs of pilot-tone supervision and battery status can be switched off for general public address use. Failsafe (normally energized) relays are provided for each supervised function. These relays are always active regardless of the switches on the rear panel.

#### Input

The amplifier has two balanced inputs with priority control, each with a loop-through facility. This makes it easy to connect remote systems that require priority control.

An additional 100 V line input is provided to connect the amplifier to a 100 V loudspeaker line to provide more power to remote locations.

Gain or level control is located on the rear of the unit to avoid accidental setting change. A meter with LED-bar shows the output level.

#### Output

The amplifier has 70 V and 100 V outputs for constant voltage loudspeaker systems, and a low impedance output for 8 ohm loudspeaker loads.

The amplifier has two separate priority controlled 100 V outputs for zones that only need announcements made via the priority input, and for zones that will not receive announcements made via the priority input.

#### Controls and indicators

##### Front

- Meter (LED's for: -20, -6, 0 dB and Power ON)
- Battery operation indicator
- Overheat indicator

##### Back

- Level control input 1
- Level control input 2
- Power button
- Mains switch

#### Interconnections

##### Back

- Priority line input 1 (XLR/balanced)
- Line loop-through 1 (XLR/balanced)
- Program line input 2 (XLR/balanced)
- Line loop-through 2 (XLR/balanced)
- Priority controlled loudspeaker output terminals
- 24 VDC power supply terminal
- Three loudspeaker direct output terminals
- Two 100 V slave input terminals
- Input 2 enable control terminal
- Input 1 priority control terminal
- Earth connection screw
- Mains socket

#### Certifications and approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 50130-4
Emission	acc. to EN 55103-1
Emergency	acc. to EN 54-16

Region	Certification
Europe	CE
	CPD
Poland	CPD
	CNBOP

#### Parts included

Quantity	Component
1	LBB 1935/20 Power Amplifier

1

1	Power cord
1	Set of 19" mounting brackets
1	Safety Instructions
1	Cable with XLR connector

## Technical specifications

### Electrical

<b>Mains power supply</b>	
Voltage	230 VAC, $\pm 10\%$ , 50/60 Hz
Inrush current	9 A
Max power consumption	760 VA
<b>Battery power supply</b>	
Voltage	24 VDC +15% / -15%
Current max	11 A
<b>Performance</b>	
Output power (rms/maximum)	240 / 360 W
Power reduction on backup power	-1 dB
Frequency response	50 Hz to 20 kHz (+1 / -3 dB at -10 dB ref. rated output)
Distortion	<1% at rated output power, 1 kHz
S/N (flat at max volume)	>90 dB
<b>Line inputs</b>	
Connector	3-pin XLR, balanced
Sensitivity	1 V
Impedance	20 kohm
CMRR	>25 dB (50 Hz to 20 kHz)
Gain	40 dB
<b>100 V input</b>	
Connector	Screw, unbalanced
Sensitivity	100 V
Impedance	330 kohm
<b>Line loop-through output</b>	
Connector	3-pin XLR
Nominal level	1 V
Impedance	Direct connection to line input
<b>Loudspeaker outputs</b>	
Connector	Screw, floating
Direct output	100 V, 70 V, 8 ohm

Priority only (from input 1)	100 V or 70 V internally selectable
Music (non-priority) only	100 V or 70 V internally selectable

### Power consumption

<b>Mains operation</b>	
Max power	451 W
-3dB	340 W
-6dB	244 W
Pilot tone*	55 W
Idle	16 W
<b>24 V operation</b>	
Max power	12.1 A (290 W)
-3 dB	11.4 A (274 W)
-6 dB	8.1 A (194 W)
Pilot tone*	1.7 A (41 W)
Idle	0.3 A (7 W)

\* 20 kHz -20dB with maximum loudspeaker load

### Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high, with feet)
Weight	Approx. 12.5 kg
Mounting	Standalone, 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%
Acoustic noise level of fan	<48 dB SPL at 1 m (max output)

### Ordering information

#### LBB 1935/20 Plena Power Amplifier

240 W power amplifier in a 2U high 19" case for rack mounting or tabletop use.

Order number **LBB1935/20**

## LBB 1938/20 Plena Power Amplifier



### Features

- ▶ 480 W power amplifier in a 3U high 19" housing
- ▶ EN 54-16 certified
- ▶ 70 V / 100 V and 8 ohm outputs
- ▶ Dual inputs with priority switching
- ▶ 100 V input for slave operation on 100 V speaker line

The LBB 1938/20 is a powerful 480 W power amplifier in a 3U high 19" case for rack mounting or tabletop use. LEDs on the front panel show the status of the amplifier: power, audio output level, and supervised functions. This high-performance unit fulfils a wide range of public address requirements at a surprisingly low cost.

### Functions

#### Dependability

The amplifier is protected against overload and short circuits. A temperature-controlled fan ensures high reliability at high output levels and low acoustic noise at lower output levels. An overheat protection circuit switches off the power stage and activates an LED on the front panel, if the internal temperature reaches a critical limit due to poor ventilation or overload.

The unit operates both on mains power and on a 24 V battery power supply for emergency back up, with automatic switchover.

For emergency and evacuation use, the following functions are monitored: mains presence, battery present, pilot tone presence, amplifier operation. Front panel LEDs indicate the status of supervised functions. The LEDs of pilot-tone supervision and battery status can be switched off for general public address use. Failsafe (normally energized) relays are provided for each supervised function. These relays are always active regardless of the switches on the rear panel.

#### Input

The amplifier has two balanced inputs with priority control, each with a loop-through facility. This makes it easy to connect remote systems that require priority control.

An additional 100 V line input is provided to connect the amplifier to a 100 V loudspeaker line, to provide more power to remote locations.

Gain or level control is located on the rear of the unit to avoid accidental setting change. A meter with LED-bar shows the output level.

#### Output

The amplifier has 70 V and 100 V outputs for constant voltage loudspeaker systems and a low impedance output for 8 ohm loudspeaker loads.

The amplifier has two separate priority controlled 100 V outputs for zones that only need announcements made via the priority input, and for zones that will not get any announcements made via the priority input.

#### Controls and indicators

##### Front

- Meter (LED's for -20, -6, 0 dB and Power ON)
- Battery operation indicator
- Overheat indicator
- Air inlet for forced air cooling

##### Back

- Level control input 1
- Level control input 2
- Power button
- Mains switch

#### Interconnections

##### Back

- Priority line input 1 (XLR/balanced)
- Line loop-through 1 (XLR/balanced)
- Program line input 2 (XLR/balanced)
- Line loop-through 2 (XLR/balanced)
- Priority controlled loudspeaker output terminals
- 24 VDC power supply terminal
- Three loudspeaker direct output terminals
- Two 100 V slave input terminals
- Input 2 enable control terminal
- Input 1 priority control terminal
- Earth connection screw
- Mains socket

#### Certifications and approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 50130-4
Emission	acc. to EN 55103-1
Emergency	acc. to EN 54-16

Region	Certification
Europe	CE
	CPD
Poland	CNBOP

#### Parts included

Quantity	Component
1	LBB 1938/20 Power Amplifier
1	Power cord

- 1 Set of 19" mounting brackets
- 1 Safety Instructions

## Technical specifications

### Electrical

<b>Mains power supply</b>	
Voltage	230 VAC, $\pm 10\%$ , 50/60 Hz
Inrush current	19 A
Max power consumption	2200 VA
<b>Battery power supply</b>	
Voltage	24 VDC $+15\%$ / $-15\%$
Current max	30 A
<b>Performance</b>	
Output power (rms/maximum)	480 W / 720 W
Power reduction on backup power	-1 dB
Frequency response	50 Hz to 20 kHz ( $+1/-3$ dB @ -10 dB ref. rated output)
Distortion	<1% @ rated output power, 1 kHz
S/N (flat at max volume)	>90 dB
<b>Line inputs</b>	
Connector	2 x 3-pin XLR, balanced
Sensitivity	1 V
Impedance	20 kohm
CMRR	>25 dB (50 Hz to 20 kHz)
Gain	40 dB
<b>100 V input</b>	
Connector	Screw, unbalanced
Sensitivity	100 V
Impedance	330 kohm
<b>Line loop-through output</b>	
Connector	2 x 3-pin XLR
Nominal level	1 V
Impedance	Direct connection to line input
<b>Loudspeaker outputs</b>	
Connector	3 x Screw, floating
Direct output	100 V, 70 V, 8 ohm
Priority only (from input 1)	100 V or 70 V internally selectable
Music (non-priority) only	100 V or 70 V internally selectable

### Power consumption

<b>Mains operation</b>	
Max power	990 W
-3dB	715 W
-6dB	510 W
Pilot tone*	110 W
Idle	25 W
<b>24 VDC operation</b>	
Max power	32 A (770 W)
-3 dB	26 A (625 W)
-6 dB	18 A (430 W)
Pilot tone*	3.8 A (91 W)
Idle	0.7 A (17 W)

\* 20 kHz -20 dB with maximum loudspeaker load

### Mechanical

Dimensions (H x W x D)	145 x 430 x 370 mm (19" wide, 3U high, with feet)
Weight	Approx. 25 kg
Mounting	Standalone, 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%
Acoustic noise level of fan	<48 dB SPL @ 1 m (max output)

### Ordering information

#### LBB 1938/20 Plena Power Amplifier

480 W power amplifier in a 3U high 19" case for rack mounting or tabletop use.

Order number **LBB1938/20**



## PLN-1P1000 Plena Power Amplifier



### Features

- ▶ 1000 W power amplifier in a 3U high housing
- ▶ EN 54-16 certified and EN 60849 compliant
- ▶ 70 V / 100 V and 8 ohm outputs
- ▶ Dual inputs with priority switching
- ▶ 100 V input for slave operation on 100 V speaker line

The PLN-1P1000 is a powerful 1000 W power amplifier in a 3U high 19" case for rack mounting or tabletop use. LEDs on the front panel show the status of the amplifier: power, audio output level, and supervised functions. This high-performance unit fulfills a wide range of public address requirements at a surprisingly low cost.

### Functions

#### Dependability

The amplifier is protected against overload and short circuits. A temperature-controlled fan ensures high reliability at high output levels, and low acoustic noise at lower output levels. An overheat protection circuit switches off the power stage and activates an LED on the front panel, if the internal temperature reaches a critical limit due to poor ventilation or overload. The unit operates both on mains power and on a 24 V battery power supply for emergency back up, with automatic switchover.

For emergency and evacuation use, the following functions are monitored: mains presence, battery present, pilot tone presence, amplifier operation. Front panel LEDs indicate the status of supervised functions. The pilot tone supervision and battery status LEDs can be switched off for general public address use. Failsafe (normally energized) relays are provided for each supervised function. These relays are always active regardless of the switches on the rear panel.

#### Input

The system has two balanced inputs with priority control, each with a loop-through facility. This makes it easy to connect remote systems that require priority control. An additional 100 V line input can connect the amplifier to a 100 V loudspeaker line, to provide more power to remote locations.

#### Output

The amplifier has 70 V and 100 V outputs for constant voltage loudspeaker systems, and a low impedance output for 8 ohm loudspeaker loads. A meter with LED-bar shows the output level.

The PLN-1P1000 has two separate priority controlled 100 V outputs for zones that only need announcements made via the priority input, and for zones that will not get any announcements made via the priority input.

#### Controls and indicators

##### Front

- LED level meter
- Battery operation LED
- Overheat LED

##### Back

- Power button
- Mains switch

#### Interconnections

##### Back

- Priority line input 1 (XLR/balanced)
- Line loop-through 1 (XLR/balanced)
- Program line input 2 (XLR/balanced)
- Line loop-through 2 (XLR/balanced)
- Priority controlled loudspeaker outputs
- 24 VDC power supply terminal
- Three loudspeaker direct outputs
- Two 100 V slave inputs
- Input 1 enable control terminal
- Input 2 priority control terminal
- Earth connection screw
- Mains socket

### Certifications and approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 50130-4
Emission	acc. to EN 55103-1
Emergency	acc. to EN 54-16 / EN 60849

Region	Certification
Europe	CE
	CPD
Poland	CPD
	CNBOP

### Parts included

Quantity	Component
1	PLN-1P1000 Plena Power Amplifier
1	Power cord
1	Set of 19" mounting brackets
1	Safety Instructions

1

**Technical specifications****Electrical****Mains power supply**Voltage 230 VAC,  $\pm 10\%$ , 50/60 Hz

Inrush current 16 A

Max power consumption 2200 VA

**Battery power supply**

Voltage 24 VDC +15% / -15%

Current max 48 A

**Performance**

Output power (rms/maximum) 1000 W / 1500 W

Power reduction on backup power -1 dB

Frequency response 50 Hz to 20 kHz (+1/-3 dB at -10 dB ref. rated output)

Distortion &lt;1% at rated output power, 1 kHz

S/N (flat at max volume) &gt;90 dB

**Line inputs**

Connector 3-pin XLR, balanced

Sensitivity 1 V

Impedance 20 kohm

CMRR &gt;25 dB (50 Hz to 20 kHz)

Gain 40 dB

**100 V input**

Connector Screw, unbalanced

Sensitivity 100 V

Impedance 330 kohm

**Line loop-through output**

Connector 3-pin XLR

Nominal level 1 V

Impedance Direct connection to line input

**Loudspeaker outputs**

Connector Screw, floating

Direct output 100 V, 70 V, 8 ohm

Priority only (from input 1) 100 V or 70 V internally selectable

Music (non-priority) only 100 V or 70 V internally selectable

**Power consumption****Mains operation**

Max power 2200 W

-3dB 1472 W

-6dB 1058 W

Pilot tone\* 345 W

Idle 115 W

**24 VDC operation**

Max power 62 A (1500 W)

-3 dB 34 A (823 W)

-6 dB 25 A (597 W)

Pilot tone\* 7.6 A (182 W)

Idle 1.5 A (36 W)

\* 20 kHz -20dB with maximum loudspeaker load

**Mechanical**

Dimensions (H x W x D) 145 x 430 x 430 mm (19" wide, 3U high, with feet)

Weight Approx. 32 kg

Mounting Standalone, 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 &lt;95%

Acoustic noise level of fan &lt;48 dB SPL at 1 m (max output)

**Ordering information****PLN-1P1000 Plena Power Amplifier**

Power amplifier, powerful 1000 W power amplifier in a 3U-high, 19" case for rack mounting or tabletop use.

Order number **PLN-1P1000**

## PLN-1LA10 Plena Loop Amplifier



### Features

- ▶ High power, current driven amplifier
- ▶ Two microphone/line inputs, one priority input (100 V)
- ▶ Selectable frequency range and tone controls
- ▶ Limiter and automatic gain control (AGC)
- ▶ Integrates in an EN 54-16 and EN 60849 compliant system

The PLN-1LA10 Loop Amplifier is a cost-effective amplifier designed to drive a wire loop installed in the floor or ceiling, covering an area of up to 600 m<sup>2</sup> per amplifier. This solution enables hearing-aid users in the area enclosed by the wire loop to hear all announcements, or music. Hearing-aid users can set their devices to the T-mode setting to receive the signal coming from the loop. They receive announcements in excellent audio-quality, without the background noise or reverberations that normally impair intelligibility for people with hearing disabilities.

### Functions

The loop amplifier can be connected to a mixing amplifier's line level output, or it can accept up to two microphone/line signals directly. A 100 V priority input is available for uplink to a Plena Voice Alarm System. This input can be monitored for the presence of a pilot-tone. The built-in supervision monitors all key functions of the loop amplifier, and the fault state is available on a fail-safe relay. This makes it possible to use the loop amplifier in an IEC 60849 compliant system, and to include the induction loop in the supervised transmission paths.

For added ease, the loop amplifier is equipped with a limiter that keeps the output field strength below the prescribed 100 mA/m. This circuitry can also be set to an automatic gain control (AGC) that amplifies weak signals for enhanced intelligibility, while attenuating loud signals. This ensures that all information is presented at a comfortable listening level.

The unit has tone controls and a metal loss compensation circuit to adjust the sound to the program material and the environment. The controls have locks to prevent unwanted access after they have been adjusted.

1

The loop amplifier is stackable (master/slave configuration) to cover very large areas, and supports low spill-over schemes. Its unique quadrate configuration provides uniform field strengths even over multiple loops.

### Controls and indicators

#### Front

- LED power meter
- Current meter
- Four LEDs for fault, limiter, AGC, loop integrity
- Headphones socket
- Two tone controls
- Three input volume controls (master and two channels)
- On/off switch

#### Back

- Metal loss compensation control
- Supervision switch
- Voltage selector
- Frequency range switch
- AGC/Limiter switch
- AGC range control
- VOX/mix switch
- Pre/post amp switch
- Two phantom power switches
- Two Mic/line switches

### Interconnections

#### Back

- Master input
- Two slave outputs
- Audio inputs
- Priority input
- Induction loop output
- Line output
- Fault output
- Ground screw
- Mains socket

### Certifications and approvals

Safety	acc. to EN 60065
Immunity	acc. to EN 55103-2
Emission	acc. to EN 55103-1
Induction loop systems	acc. to EN 60118-4
EVAC	acc. to EN 60849 acc. to EN 54-16
Region	Certification
Europe	CE

1

## Installation/configuration notes



PLN-1LA10 rear view

## Parts included

Quantity	Component
1	PLN-1LA10 Loop Amplifier
1	Power cord
1	Set of 19" mounting brackets
1	Plena CD
	Safety Instructions

## Technical specifications

## Electrical

<b>Mains power supply</b>	
Voltage	230/115 VAC, $\pm 10\%$ , 50/60 Hz
Inrush current	7 A at 230 VAC / 14 A at 115 VAC
Max power consumption	500 VA
<b>Performance</b>	
<b>Output current</b>	10 A
Frequency response	50 Hz to 10 kHz (+1/-3 dB at -10 dB ref. rated output)
Distortion	<1% at rated output power, 1 kHz
Bass control	-8/+8 dB at 100 Hz
Treble control	-8/+8 dB at 10 kHz
<b>Mic/line input</b>	
Connector	3-pin XLR, balanced mic/line level (switchable)
Sensitivity	1 mV / 1 V (mic/line)
Impedance	>1 kohm
Dynamic Range	100 dB
S/N (flat at max volume)	75 dB
Headroom	25 dB
Phantom power supply	16 V (switchable)
VOX functionality	Input 1 (switchable) mutes input 2
VOX sensitivity	-10 dB ref nominal input

<b>Priority input</b>	
Connector	Screw
Sensitivity	100 V, transformer balanced
Impedance	>100 kohm
S/N (flat at max volume)	63 dB
Headroom	25 dB
Pilot tone detection	-20 dB, ref 100 V (10 V)
Pilot tone threshold	-26 dB, ref 100 V (5 V)
<b>Master input*</b>	
Connector	1/4" TS jack
<b>Line output</b>	
Connector	3-pin XLR, balanced
Nominal level	1 V
Impedance	200 ohm
<b>Loop output</b>	
Connector	Screw
<b>Slave output</b>	
	(for master input of other PLN-1LA10)
Connector	1/4" TS jack 0° to 90°
<b>Fault Relay</b>	
Connector	Screw
Contacts	100 V, 2 A (voltage free, SPDT)

\* Only intended for slave output of another PLN-1LA10. Plugging a jack into this input disables all other inputs and the limiter. The unit becomes a slave to the connected master. Only the master control on the front panel will function. To monitor the level, switch the VU meter switch to POST Amp.

## Mechanical

Dimensions (H x W x D)	94 x 430 x 320 mm (19" wide, 2U high)
Weight	Approx. 11.6 kg
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%
Acoustic noise level of fan	<35 dB SPL at 1m, temperature controlled

### Ordering information

#### **PLN-1LA10 Plena Loop Amplifier**

Drives a wire loop installed in the floor or ceiling, covering an area of up to 600 m<sup>2</sup> per amplifier.

Order number **PLN-1LA10**

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## PLN-ILR Plena Inductive Loop Receiver



### Features

- ▶ Monitoring of an inductive loop system
- ▶ Quick check of field strength
- ▶ Neck cord included for use by assistive hearing device users without “T” setting.
- ▶ Earphones included
- ▶ For two AAA rechargeable or alkaline batteries

The Plena inductive loop receiver is a compact, portable device intended to receive the field from an inductive loop for assistive listening device users. It can be used to monitor the field strength and quality of the inductive loop system such as from the Bosch Plena PLN-1LA10.

### Functions

For non assistive listening device users it is difficult to verify the correct working of the inductive loop system. The field strength has to be in well defined limits, not too high or too low. Also if a user indicates an incorrect functioning it may be caused by the hearing aid itself or perhaps hum injected by other sources.

By using the PLN-ILR the audio quality can be monitored and the field strength can be set easily by observing the two LEDs. To promote the use at the correct level, the display showing field strength is on the side of the unit. When a user holds the receiver up to eye level, the coil is automatically placed in the same plane as the assistive listening device. When used with a neck cord (included), the orientation is also vertical so the lightweight unit can be used for extended periods of time.

The PLN-ILR is priced attractively so it can also be used in larger numbers to help users who do not have a T-setting on their hearing aid.

### Certifications and approvals

Safety	acc. to EN 60065
EMC emission	acc. to EN 55103-1
EMC immunity	acc. to EN 55103-2
Induction Loop Systems	acc. to EN 60118-4 / IEC 118-4

Region	Certification
Europe	CE

### Parts included

1	PLN-ILR Plena Inductive Loop Receiver
1	Neck cord
1	Set of earphones
1	QRC

### Technical specifications

#### Electrical

Power supply	Two AAA batteries
Sensitivity	100 mA / 400mA
Dynamic range	80 dB
S/N	75 dB (100 mA input)
Headroom	10 dB
Impedance	200 Ohm
Headphone output connector	3.6 mm (0.14 in) TRS jack

#### Mechanical

Dimensions (H x W x D)	114 x 63 x 21 mm (4.49 x 2.48 x 0.83 in)
Weight	Approx. 130 g (0.29 lb)
Color	Charcoal

#### Environmental

Operating temperature	+5 °C to +45 °C (+41 °F to +113 °F)
Storage temperature	-25 °C to +55 °C (-13 °F to +131 °F)
Relative humidity	<95%

### Ordering information

#### PLN-ILR Plena Inductive Loop Receiver

Inductive loop receiver, portable device for receiving the field from an inductive loop for assistive listening device users.

Order number **PLN-ILR**

## LBB 1965/00 Plena Message Manager



### Features

- ▶ Highly flexible stand-alone digital message player
- ▶ Up to 12 messages and 12 trigger inputs
- ▶ Downloads messages from a PC in WAV format
- ▶ Compliant with standards for emergency sound systems
- ▶ Zone control for Plena system preamplifier LBB 1925/10

The Plena message manager is a high performance, highly versatile stand-alone digital message player. Applications range from spot announcements in supermarkets and theme parks to warning and evacuation messages in emergency situations.

### Functions

#### Messages

Up to 12 messages can be stored in the internal 64Mbit EEPROM, without the need for data retention battery backup. Each message can have any length within the total available capacity. A PC uploads messages and configurations via RS-232 to the unit, which can then operate without a PC. The standard WAV format is used for messages with sample rates of 8 kHz to 24 kHz with 16-bit word length (linear PCM). This gives up to 500 seconds of recording time with a CD-quality signal-to-noise ratio. The use of linear PCM instead of a compressed audio format, such as MP3, ADPCM and u-law/A-law, ensures high-quality playback of all types of audio signals, including sound effects and special tones, such as attention chimes.

The unit has 12 contact closure trigger inputs for announcements. Each can be configured for a sequence of up to four messages from those available. In this way messages can be used in combination with other messages, optimizing flexibility and storage space usage. When used together with the six-zone LBB 1925/10 Plena System Pre-Amplifier, a zone selection can be configured for each trigger input. The message manager communicates this selection to the LBB 1925/10 via an RS-232 connection. Continuous activation of a trigger input causes the corresponding message sequence to repeat.

#### Trigger Inputs

The trigger inputs have a serial priority, i.e., input 1 has priority over input 2, input 2 over input 3, etc. The high priority trigger inputs 1-6 are only accessible as contacts on the rear panel to prevent accidental use. The lower priority trigger inputs 7-12 are also available as trigger switches on the front panel.

#### Integrity and Dependability

The LBB 1965/00 can also play emergency/evacuation messages, as it fulfills the IEC 60849 standard. The microcontroller continually checks the data integrity of the system, and a watchdog circuit, in turn, checks the microcontroller. The unit monitors the D/A converter with a pilot tone, and the high priority trigger inputs (one to six) for cable short circuits and breaks. A 24 V battery backup connection with automatic fail-safe provides continued operation if the mains power should fail. A 20 kHz pilot tone can be mixed with the output signal to supervise the link to the next amplifier. This also works for loudspeaker supervision in combination with 20 kHz detectors. Any failure causes a red LED fault indication, and activates a fault output contact.

#### Loop-through Facility

The LBB 1965/00 provides a loop-through facility with balanced XLR and unbalanced cinch inputs and outputs. This allows the unit to be inserted into an existing audio link. As long as no announcements are playing, the signal input is routed to the output. If an announcement begins, the input signal is interrupted and the announcement is routed to the output.

#### Updating

Messages and configuration settings are uploaded from a PC. After uploading, the trigger inputs 7-12 can be configured by using the front panel switches, without the need for a new upload or even a PC. Message content can be monitored using the available headphone jack.

### Certifications and approvals

Safety	according to EN 60065
Immunity	according to EN 55103-2
Emission	according to EN 55103-1

Region	Certification
Europe	CE Declaration of Conformity

### Installation/configuration notes



LBB 1965/00 back view

## 1

## Parts included

Quantity	Component
1	LBB 1965 Plena Message Manager
1	Power cord
1	Set of 19" mounting brackets
1	Plena CD
1	Installation and User Instructions

## Technical specifications

## Electrical

Mains power supply	
Voltage	230/115 VAC, $\pm 10\%$ , 50/60 Hz
Inrush current	1.5 A at 230 VAC / 3 A at 115 VAC
Max power consumption	50 VA
Battery power supply	
Voltage	24 VDC, +15% / -15%
Current max	1 A
Performance	
Supported sample rates (fs)	24 / 22.05 / 16 / 12 / 11.025 / 8 kHz
Frequency response	
@ fs=24kHz	100 Hz to 11 kHz (+1 / -3 dB)
@ fs=22.05kHz	100 Hz to 10 kHz (+1 / -3 dB)
@ fs=16kHz	100 Hz to 7.3 kHz (+1 / -3 dB)
@ fs=12kHz	100 Hz to 5.5 kHz (+1 / -3 dB)
@ fs=11.025kHz	100 Hz to 5 kHz (+1 / -3 dB)
@ fs=8kHz	100 Hz to 3.6 kHz (+1 / -3 dB)
Distortion	<0.1% at 1 kHz
S/N (flat at max volume)	>80 dB
Supervision DAC	1 Hz pilot tone
Line input	
Line input	1 x
Connector	3-pin XLR, balanced
Sensitivity	1 V
Impedance	20 kohm
CMRR	>25 dB (50 Hz to 20 kHz)
Line input	
Line input	1 x
Connector	Cinch, unbalanced
Sensitivity	1 V
Impedance	20 kohm
Trigger input	
Trigger input	6 x

Connector	Screw
Activation	Contact closure
Supervision method	Cable loop resistance check
Line output	
Line output	1 x
Connector	3-pin XLR, balanced
Nominal level	1 V, adjustable
Impedance	<100 ohm
Line output	
Line output	1 x
Connector	Cinch, unbalanced
Nominal level	1 V, adjustable
Impedance	<100 ohm
Message active output	
Message active output	1 x
Connector	Screw
Relay	100 V, 2 A (voltage free, SPDT)
Fault output	
Fault output	1 x
Connector	Screw
Relay	100 V, 2 A (voltage free, SPDT)
Interconnection	
Interconnection	1 x
Connector	9-pin D-sub (RS-232)
PC protocol	115 kb/s, N, 8, 1, 0 (upload)
LBB 1925/10 protocol	19.2 kb/s, N, 8, 1, 0 (zone control)

## Messages

Data format	WAV-file, 16-bit PCM, mono
Memory capacity	64 Mb EEPROM
Recording/playback time	500 s @ fs=8 kHz 167 s @ fs=24 kHz
Number of messages	12 (maximum)
Data retention time	>10 years

## Mechanical

Dimensions (H x W x D)	56 x 430 x 270 mm 2.20 x 16.92 x 10.62 inch (19" wide, 1U high, with feet)
Weight	Approx. 3 kg
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 1965/00 Plena Message Manager**

A high-performance, highly versatile stand-alone digital message player.

Order number **LBB1965/00**

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## LBB 1968/00 Plena Feedback Suppressor



### Features

- ▶ 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

Mains power supply	
Voltage	230/115 VAC, ±10%, 50/60 Hz
Inrush current	1.5 A @ 230 VAC / 3 A @ 115 VAC
Max power consumption	50 VA
Performance	
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>	1 x
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>	1 x
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>	1 x
Connector	Cinch, unbalanced
Max input level	18 / 6 / -6 dBV
Impedance	20 kohm
<b>Line output</b>	1 x
Connector	3-pin XLR, balanced
Max level	18 / 6 / -6 dBV (line in), 6 dBV (mic in)
Impedance	<100 ohm
<b>Line output</b>	1 x
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**

## 1

## PLN-6TMW Plena Weekly Timer



### Features

- ▶ Two weekly programs
- ▶ 14 Chimes
- ▶ Six contact outputs
- ▶ Automatic daylight/standard time
- ▶ BGM level control

The Plena Weekly Timer is an accurate timer for use in public address systems. It is ideally suited for schools, shopping malls and all other venues that need regularly timed messages, signals or other controls. It is ideally suited for connection to the Plena Message Manager and Voice Alarm System.

### Functions

The unit has two weekly schedules as well as a pause mode, where all actions except the clock display are suspended. Events can be programmed with an accuracy of one minute. There is no limit to the number of events, every minute may have an event associated with it. Each day can have a separate event set, and two schedules can be programmed. The schedule can be selected via the front panel. Each event can trigger:

- A chime
- Any combination of output contacts
- BGM volume change

The timer can broadcast 14 different chimes via the audio throughput. It has six programmable output contacts with relays to connect to other equipment. Programmed contact events can open or close the contact or generate a pulse of a configurable duration. The contacts can also be controlled via buttons on the front panel.

The unit has an audio input and output to attenuate BGM signals. The volume can be controlled directly from the front panel, or programmed to change level at fixed times, for example, to automatically attenuate music in the morning or evening hours. It can automatically revert to the programmed level at the next event.

The timer has a clock sync input to synchronize the time with an external source but can also take the correct time from a PC. This way it can synchronize with a time server. The timer clock also keeps track of the date, ensuring correct weekday display and automatic daylight/

standard time setting. (According to European, North American, user defined dates or off). The timer has a 24 V backup power input with reverse-polarity protection as well as a back up battery that preserves the correct clock setting. Synchronization and programming is done via the USB port. Programming can also be performed via the front panel. An RS-232 connector is available to connect to a large separate display.

### Certifications and approvals

Safety	according to EN 60065
Immunity	according to EN 55103-2
Emission	according to EN 55103-1

Region	Certification
Europe	CE

### Installation/configuration notes



Rear view

### Parts included

Quantity	Component
1	PLN-6TMW Plena Weekly Timer
1	Power cord
1	Set of 19" mounting brackets
1	Plena CD
1	Instructions for use

### Technical specifications

#### Electrical

Mains power supply	
Voltage	230/115VAC, ±15%, 50/60 Hz
Max power consumption	30 W
Battery power supply	
Voltage	24 VDC, +15% / -15%
Current max	1 A
Performance	
Frequency response	20 Hz to 20 kHz (-3 dB)
Total harmonic distortion	< 0.01 % (1kHz)
S/N	<85 dB
Dynamic range	>100 dB
Line input	
Connector	XLR balanced

Sensitivity	1 V
Impedance	>5 kohm
Headroom	>25 dB
<b>Line output</b>	1 x
Connector	XLR balanced
Impedance	>100 ohm
<b>Clock</b>	
Accuracy (without sync)	25 °C: better than <2 s/month -10 °C to 55 °C: <3.5 s/month
Sync input	NO, contact closure synchronizes to the nearest hour
<b>Output contacts</b>	
Connector	MC 1,5/6-ST-3,5
Rating	100 V, 1 A, voltage free

**Mechanical**

Dimensions (H x W x D)	48 x 440 x 312 mm 1.88 x 17.32 x 12.28 inch (without brackets, with feet) 44 x 483 x 312 mm 1.73 x 19.01 x 12.28 inch (with brackets, without feet)
Weight	Approx. 3 kg
Mounting	Stand-alone, 19" rack
Color	Charcoal with silver

**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****PLN-6TMW Plena Weekly Timer**

Weekly timer for scheduling messages, signals or other controls, such as the timed locking and unlocking of doors.

Order number **PLN-6TMW**