BOSCH

Invented for life

PLE-10M2-US Plena Mixer

- ▸ **6 microphone/line inputs, plus 3 music source inputs**
- ▸ **70 V, telephone and a call station input with priority & VOX**
- ▸ **2 zones and 2-channel operation**
- ▸ **Voice-activated emergency override**
- ▸ **2-tone chime built in, 7 more chimes optional with call station**
- ▸ **Outputs for line out, music only out, and insert point**
- ▸ **24 V backup power with built-in 24 V charger**
- ▸ **Separate tone controls for microphones and music sources**

The Plena mixer is a high performance, professional public address mixer with modern state-of-the-art features. Combined with the PLE-1P120-US or PLE-1P240-US amplifiers, you can build an easy-to-operate yet powerful and flexible public address system. All this without sacrificing features such as ducking, priority, and flexibility. The mixer fills a wide variety of public address requirements yet is surprisingly affordable.

Functions

Inputs

All mic/line inputs can be switched between microphone level and line level sensitivity. The inputs are balanced and can also be used unbalanced. Phantom power can be switched on to provide power to condenser microphones.

Input channels 1 and 2 can take priority over all other microphone and music inputs:

- Input 1 can be activated by contact closure on the PTT (push to talk) input, or the input can be switched automatically if a signal is fed to the input, i.e., if someone speaks into the microphone (VOX activation). A 2-tone chime can be configured to precede an announcement.

- Input 2 also has a VOX possibility. When one or both inputs are configured for priority, the attenuation of the RCA input signal can be set between -2 dB (little attenuation) and -∞ dB (mute). This provides a talk-over or voice-over function.

Input channels 1 and 2 also feature selectable speech filters to enhance the clarity of announcements.

Labels and colored pins

More unique features are available such as detachable labels where the user can write the names for inputs, music sources and zones. These labels can then be mounted on the front, protected by the clear window.

Another useful feature is to indicate preferred settings on the front panel by inserting colored pins at the preset levels of all knobs. You can then instruct a user to set all the controls to the green pins to configure the system for their particular use. A second user can set all controls to the red pins for their configuration.

Unique features

Separate music inputs are available with their own input selector, volume control and tone control. The user can choose a music source such as a CD player or radio (like the PLN-DVDT), and set the music level. A desired sound for the music source can be set separate from the mic/line inputs. So if the music requires boosted low frequencies, the microphone voices will still be clear – a truly unique feature in its class.

The tone controls also have the following unique features:

- The mixer features separate tone controls for mic/line inputs and music inputs so the microphone signals can be specifically adjusted for excellent voice reproduction
- The tone controls for music sources enable the most suitable music reproduction

In addition, the tone controls are not standard bass and treble controls; our experience has enabled us to develop a tone control that can be used as a traditional tone control with high and low control, but with a powerful contour that addresses the problems that are found in real situations.

The tone control for the microphone and line inputs:

- boosts warmth in voices without boosting rumble, and cuts rumble without losing warmth in the low frequencies
- boosts sparkle without adding sharpness in the high frequencies when boosting, and reduces harshness and sharpness without reducing clarity when cutting

The tone control for the music inputs:

- boosts deep bass first without making the sound hollow or boomy, and cuts rumble without losing warmth in the low frequencies
- boosts sparkle without adding sharpness in the high frequencies, with slightly different frequencies to suit music reproduction

Integration

A telephone / 70 V emergency input with VOX activation is provided for easy integration with another PA system or a telephone paging system. It has its own preset volume control and overrides all other inputs, including call station and inputs 1 and 2.

Zones

The mixer has two zone outputs. The music can be switched on and off in the zones via the front panel and optional wall panel. Announcements from the PLE-2CS two-zone call station can be routed to zone 1 or zone 2, or both. Announcements from the tel/70 V input or inputs 1 & 2 are routed to both zones. Input 1 can be used for a PLE-1CS all-call call station or any other microphone or call station with a PTT contact. The unit also has a line output to connect the preamplifier output before zone selection, making it possible to create a third zone. This output can be switched to music only, for example, so that music on hold can be provided for the telephone system. Loop-through input and output connections enable external sound processing equipment (e.g., an equalizer or Plena feedback suppressor) while maintaining a balanced connection to the amplifiers.

Output status

An LED VU meter displays the master output level. A headphone jack, below the VU meter, provides the mixer output signal before zone selection so you can listen to the output before the signal is sent to the zone.

Controls and indicators

Front

- On/off switch
- Power on LED
- LED VU meter for master output (LEDs for -18, -12 -6, -3, 0 dB)
- Master volume knob
- Six volume knobs for microphone inputs
- Knob for treble level
- Knob for bass level
- Headphone jack
- Two zone selector buttons
- Background music button

Back

- Dip switches
- Chime level
- Ducking level
- Tel/70 V volume control

Interconnections

See Technical Specifications.

Certifications and Approvals

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

Installation/Configuration Notes

Rear view

Parts Included

Quantity	Components
1	PLE-10M2-US Plena Mixer
1	Power cord
1	Manual
1	Set of 19"mounting brackets

Technical Specifications

Electrical

Mains power supply

Voltage	115 - 230 VAC ±10%, 50/60 Hz
Power consumption	24 VA

Battery power supply

Voltage	24 VDC ±15%
Current	1 A
Power consumption (maximum)	1 A

Performance

Frequency response	50 Hz to 20 kHz (+0/-3 dB)
Distortion	<0.1% @ rated output power, 1 kHz
Low Control	Max -12/+12 dB (frequency is setting dependent)
Hi Control	Max -12/+12 dB (frequency is setting dependent)

RJ-45 input — **2 x**

Call station input	For PLE-2CS(MM)
Wall panel input	For PLE-WP3S2Z

Mic/Line input — **6 x**

Input 1	5-pin Euro style, balanced, phantom
Input 2-6	3-pin Euro style, balanced, phantom
Sensitivity	1 mV (mic); 200 mV (line)
Impedance	>1 kohm (mic) >5 kohm (line)
Dynamic range	100 dB
S/N (flat at max volume)	>63 dB (mic); >70 dB (line)
S/N (flat at min volume/muted)	>75 dB
CMRR (mic)	>40 dB (50 Hz to 20 kHz)
Speech filter	-3 dB @ 315 Hz, high-pass, 6 dB/oct
Phantom power supply	16 V via 1.2 kohm (mic)
Speech filter	-3 dB @ 315 Hz, high-pass, 6 dB/oct
VOX (input 1 & 2)	attack time 150 ms; release time 2 s

Music inputs — **3 x**

Connector	RCA, stereo converted to mono
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

Emergency / telephone — **1 x**

Connector	7-pin Euro style pluggable screw terminal
Sensitivity telephone input	1 to 10 V adjustable
Sensitivity emergency input	100 V adjustable
Impedance	>10 kohm
S/N (flat at max volume)	>65 dB
VOX	Threshold 50 mV; attack time 150 ms; release time 2 s

Insert — **1 x**

Connector	RCA
Nominal level	1 V
Impedance	>10 kohm

Zone/Master/Music output — **3 x**

Connector	3-pin Euro style, balanced
Nominal level	1 V
Impedance	<100 ohm

Mechanical

Dimensions (HxWxD)	100 x 430 x 270 mm (19" wide, 2U high)
Mounting	Stand-alone, 19" rack
Color	Charcoal
Weight	Approx. 9.9 lb

Environmental

Operating temperature	+14 ºF to +131 ºF
Storage temperature	-40 ºF to +158 ºF
Relative humidity	<95%

Ordering Information

PLE-10M2-US Plena Mixer	**PLE-10M2-US**