

PLE-10M2-EU Plena Mixer



Features

- ▶ 6 microphone/line inputs, plus 3 music source inputs
- ▶ 100 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

The Plena mixer is a high performance, professional public address mixer with modern state of the art features. Combined with the PLE-1P120-EU or PLE-1P240-EU 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 fulfills 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 (reduction) of the cinch input 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 a detachable label 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 voice can be specifically optimized for excellent speech or singing
- The tone controls for music 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 / 100 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/100 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 pre-amplifier 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 monitors the master output. A headphone socket, below the VU meter, provides the mixer output 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 socket
- Two zone selector buttons
- Background music button

Back

- Dip switches
- Chime level
- Ducking level
- Tel/100 V volume control

Interconnections

See Technical Specifications.

Certifications and approvals

Safety	acc. to EN 60065
EMC emission	acc. to EN 55103-1
EMC immunity	acc. to EN 55103-2

Region	Certification
Europe	CE

Installation/configuration notes



Rear view

Parts included

Quantity	Components
1	PLE-10M2-EU Plena Mixer
1	Power cord
1	Manual
1	Set of 19" mounting brackets
1	Plena Easy Line CD

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Technical specifications

Electrical

Mains power supply	
Voltage	115 - 230 VAC \pm 10%, 50/60 Hz
Power consumption	24 VA

Battery power supply

Voltage	24 VDC, +10% / -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 (Push-to-talk contact with ducking functionality)	5-pin Euro style, balanced, phantom 3-pin XLR, balanced, phantom
Input 2-6 (VOX with ducking functionality on input 2)	3-pin XLR, balanced, phantom
Sensitivity	1 mV (mic); 1 V (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

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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	Cinch, stereo converted to mono
Sensitivity	300 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 V – 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	Cinch
Nominal level	1 V
Impedance	>10 kohm

Zone/Master/Music output	3 x
Connector	3-pin XLR, balanced
Nominal level	1 V
Impedance	<100 ohm

Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high)
Mounting	Stand-alone, 19" rack
Color	Charcoal
Weight	Approx. 4.5 kg

Environmental

Operating temperature	-10 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	<95%

Ordering information

PLE-10M2-EU Plena Mixer
Mixer, 10 inputs, 2-channels.
Order number **PLE-10M2-EU**

PLE-2MAxx0-EU Plena Mixer Amplifier



Features

- ▶ 6 microphone/line inputs plus 3 music source inputs
- ▶ 100 V, telephone and a call station input with priority & VOX
- ▶ 2 zones and announcement only output
- ▶ Voice activated emergency override
- ▶ High output power 120 and 240 Watts

These Plena mixer amplifiers are high performance, professional public address units with modern state of the art features. They are easy to use, taking the complexity away from the user and putting it where it belongs, inside the equipment. Providing a crisp call or clear music is as easy as turning on the radio.

The amplifier is also surprisingly affordable, without sacrificing features such as ducking, priority and flexibility.

Functions

Microphone and line inputs

All Mic/line inputs can be switched between microphone level and line level sensitivity. The inputs are balanced but can 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). A 2-tone chime can be configured to precede an announcement.
- Input 2 can be switched automatically if a signal is fed to the input i.e. if someone speaks into the microphone (VOX activation).

When one or both inputs are configured to have priority, the amount of attenuation (reduction) of the cinch inputs, can be set between -2 dB (little attenuation) or -∞ 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.

Music inputs

Separate music inputs are available with their own input selector and volume control. The user can choose a music source like a CD player or radio (like the PLN-DVDT), and set the level of music.

You can set the desired sound for the music source separate from the mic/line inputs. So if the music needs boosted low frequencies, this does not lead to muddy sounding voices from the microphones. A truly unique feature in its class.

Personalized settings

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 pre-set levels of all knobs. You can then instruct a user to set all the controls to the silver pins to configure the system for their particular use. A second user can set all controls to the red pins for their configuration.

Tone controls

The unique tone controls provide separate control for mic/line inputs and music inputs so that the voice on the microphones can be specifically optimized for excellent speech or singing. Correspondingly, the tone controls for background music provide the most appropriate music reproduction.

In addition, the tone controls are not standard bass and treble controls. Our experience has led us to develop a tone control that can be used as a traditional tone control with high and low control, but has a powerful contour that addresses the problems 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. In the high frequencies, the tone control boosts sparkle without adding sharpness, but when cutting is first, cuts harshness and sharpness without reducing clarity.

The tone control for the music inputs boosts deep bass first without making the sound boomy, and cuts rumble without losing warmth in the low frequencies. In the high frequencies the tone control is similar to the microphone inputs, with slightly different frequencies to suit music reproduction.

For easy integration with another PA system or a telephone paging system, a telephone / 100 V emergency input with VOX activation is provided. It has its own pre-set volume control and overrides all other inputs, including call station and inputs 1 and 2. The unit also has a line output to add amplifiers for larger systems, with more output power, this output can be switched to music only so that for instance music on hold can be provided for the telephone system. Insert (loop through) input and output connections enable external sound processing equipment, such as an equalizer or the Plena feedback suppressor, to be connected between the pre-amplifier and the power amplifier stages.

Power

These Plena mixer amplifiers come in 120 and 240 Watts output power. This power is directly available on 100 V constant voltage connections and on a low im-

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pedance connection for an 8 ohm load. Moreover, the amplifiers have a separate 100 V call-only output channel for addressing areas where only priority announcements are required. The call-only output can also be used for 3-wire remote, volume control override.

Zones

The mixer amplifier 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/100 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.

Output status

An LED VU meter monitors the master output. A headphone socket, below the VU meter, provides the mixer output before zone selection so that it is possible to listen to the output before the signal is sent to the zone. For total reliability and ease of use, a limiter is integrated into the output stage to restrict output if the user applies too much signal.

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 socket
- Two zone selector buttons
- Background music button

Back

- Dip switches
- Chime level
- Ducking level
- Tel/100 V volume control

Interconnections

See Technical Specifications.

Certifications and approvals

Safety	acc. to EN 60065
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-2MA120-EU / PLE-2MA240-EU Plena Mixer Amplifier
1	Power cord
1	Manual
1	Set of 19" mounting brackets
1	Plena Easy Line CD

Technical specifications

Electrical

Mains power supply	
Voltage	115 - 230 VAC ±10%, 50/60 Hz
Inrush Current PLE-2MA120-EU	8/16 A (230/115 VAC)
Inrush Current PLE-2MA240-EU	9/19 A (230/115 VAC)

Battery power supply	
Voltage	24 VDC, +10% / -15%
Current PLE-2MA120-EU	6 A
Current PLE-2MA240-EU	12 A
Charge current	0.5 ADC
Charge float voltage	27.3 VDC

Power consumption	
PLE-2MA120-EU (mains)	400 VA
PLE-2MA240-EU (mains)	800 VA

Performance	
Frequency response	50 Hz to 20 kHz (+1/-3 dB @ -10 dB ref. rated output)
Distortion	<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 (Push-to-talk contact with ducking functionality)	5-pin Euro style, balanced, phantom 3-pin XLR, balanced, phantom
Input 2-6 (VOX with ducking functionality on input 2)	3-pin XLR, balanced, phantom
Sensitivity	1 mV (mic); 1 V (line)
Impedance	>1 kohm (mic); >5 kohm (line)
S/N (flat at max volume)	63 dB
S/N (flat at min volume/muted)	>5 dB
Dynamic range	93 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)
Headroom	>17 dB
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	
	3x
Connector	Cinch, stereo converted to mono
Sensitivity	300 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 tel	1 V maximum
Sensitivity 100V	100 V maximum
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	Cinch
Nominal level	1 V
Impedance	>10 kohm

Master/music output	
	1 x
Connector	3-pin XLR, balanced
Nominal level	1 V
Impedance	<100 ohm

Loudspeaker outputs 100 V*	
Connector	Screw, floating
Max / rated PLE-2MA120-EU	180 W / 120 W
Max / rated PLE-2MA240-EU	360 W / 240 W

Loudspeaker output 8 ohm*	
Connector	Euro style pluggable screw terminal, floating
PLE-2MA120-EU	31 V (120 W)
PLE-2MA240-EU	44 V (240 W)

* Subtract 1 dB for 24 V battery operation.

Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high)
Mounting	Stand-alone, 19" rack
Color	Charcoal
Weight (PLE-2MA120-EU)	Approx. 10.5 kg
Weight (PLE-2MA240-EU)	Approx. 12.5 kg

Environmental

Operating temperature	-10 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	<95%
Acoustic noise level of fan	<33 dB SPL @ 1 m temperature controlled

Ordering information

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PLE-2MA120-EU Plena Mixer Amplifier

Mixer amplifier, 120 W, 10-inputs.

Order number **PLE-2MA120-EU**

PLE-2MA240-EU Plena Mixer Amplifier

Mixer amplifier, 240 W, 10-inputs.

Order number **PLE-2MA240-EU**

PLE-1MAxx0-EU Plena Mixer Amplifier



Features

- ▶ 4 microphone/line inputs, plus 3 music source inputs
- ▶ 100 V and telephone input with priority & VOX
- ▶ Announcement only output, 3-wire volume override
- ▶ Voice-activated emergency override
- ▶ Wide range of power (30, 60 and 120 Watts)

These Plena mixer amplifiers are high performance, professional public address units with modern state of the art features. They are easy to use, taking the complexity away from the user and putting it where it belongs, inside the equipment. Providing a crisp call or clear music is as easy as turning on the radio.

The amplifier is also surprisingly affordable, without sacrificing features such as ducking, priority and flexibility.

Functions

Microphone and line inputs

All Mic/line inputs can be switched between microphone level and line level sensitivity. The inputs are balanced but can 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). A 2-tone chime can be configured to precede an announcement.
- Input 2 can be switched automatically if a signal is fed to the input i.e. if someone speaks into the microphone (VOX activation).

When one or both inputs are configured to have priority, the amount of attenuation (reduction) of the cinch inputs, can be set between -2 dB (little attenuation) or -∞ 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.

Music inputs

Separate music inputs are available with their own input selector and volume control. The user can choose a music source like a CD player or radio (like the PLN-DVDT), and set the level of music.

Personalized settings

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 pre-set levels of all knobs. You can then instruct a user to set all the controls to the silver pins to configure the system for their particular use. A second user can set all controls to the red pins for their configuration.

Integration

A telephone / 100 V emergency input with VOX activation is provided for easy integration with another PA system or a telephone paging system. It has its own pre-set volume control and overrides all other inputs, including call station and inputs 1 and 2.

The unit also has a line output to add amplifiers for larger systems with more output power. This output can be switched to music only, for example, so that music on hold can be provided for the telephone system.

Power

The mixer amplifiers come in 30, 60 and 120 Watt output power. This power is directly available on 100 V constant voltage connections and on a low impedance connection for a 4 ohm load. Moreover, the amplifiers have a separate 100 V call-only output channel for addressing areas where only priority announcements are required. The call-only output can also be used for 3-wire remote, volume control override.

Output status

An LED VU meter monitors the master output. A headphone socket, below the VU meter, provides the mixer output. For total reliability and ease of use, a limiter is integrated into the output stage to restrict output if the user applies too much signal.

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
- Four volume knobs for microphone inputs
- Knob for treble level
- Knob for bass level
- Headphone socket
- Background music button

Back

- Dip switches
- Ducking level
- Tel/100 V volume control

Interconnections

See Technical Specifications.

Certifications and approvals

Safety	acc. to EN 60065
EMC emission	acc. to EN 55103-1
EMC immunity	acc. to EN 55103-2

Installation/configuration notes

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Rear view

Parts included

Quantity	Components
1	PLE-1MAxx0-EU Plena Mixer Amplifier
1	Power cord
1	Manual
1	Set of 19" mounting brackets
1	Plena Easy Line CD

Technical specifications

Electrical

Mains power supply	
Voltage	230 VAC \pm 10%, 50/60 Hz (reduced power at lower mains or battery voltage)
Inrush current PLE-1MA030-EU	4.5 A
Inrush current PLE-1MA060-EU	5 A
Inrush current PLE-1MA120-EU	10 A
Power consumption	
PLE-1MA030-EU	100 VA
PLE-1MA060-EU	200 VA
PLE-1MA120-EU	400 VA
Performance	
Frequency response	50 Hz to 20 kHz (+1/-3 dB @ -10 dB ref. rated output)
Distortion	<1% @ rated output power, 1 kHz
Bass Control	Max -12/+12 dB (frequency is setting dependent)
Treble Control	Max -12/+12 dB (frequency is setting dependent)
RJ-45 input	
Wall panel input	For PLE-WP3S2Z

Mic/Line input	4 x
Input 1 (Push-to-talk contact with ducking functionality)	5-pin Euro style, balanced, phantom 3-pin XLR, balanced, phantom
Input 2-4 (VOX with ducking functionality on input 2)	3-pin XLR, balanced, phantom
Sensitivity	1 mV (mic); 1 V (line)
Impedance	>1 kohm (mic); >5 kohm (line)
Dynamic range	93 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)
Headroom	>17 dB
Speech filter	-3 dB @ 315 Hz, high-pass, 6 dB/oct
Phantom power supply	16 V via 1.2 kohm (mic)
Music input	3 x
Connector	Cinch, stereo converted to mono
Sensitivity	300 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 connector
Sensitivity Tel	1 V maximum
Sensitivity 100V	100 V maximum
Impedance	>10 kohm
S/N (flat at max volume)	>65 dB
VOX	Threshold 50 mV; attack time 150 ms; release time 2 s
Master/music output	1 x
Connector	3-pin XLR, balanced
Nominal level	1 V
Impedance	<100 ohm
Loudspeaker output 100 V	
Connector	Euro style pluggable screw terminal, floating
Max / rated PLE-1MA030	45 W / 30 W

Max / rated PLE-1MA060	90 W / 60 W
Max / rated PLE-1MA120	180 W / 120 W
Loudspeaker output 4 ohm	
Connector	Euro style pluggable screw terminal, floating
PLE-1MA030-EU	11 V (30 W)
PLE-1MA060-EU	16 V (60 W)
PLE-1MA120-EU	22 V (120 W)

Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high)
Mounting	Stand-alone, 19" rack
Color	Charcoal
Weight	
PLE-1MA030-EU	Approx. 5 kg
PLE-1MA060-EU	Approx. 8.5 kg
PLE-1MA120-EU	Approx. 10.5 kg

Environmental

Operating temperature	-10 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	<95%
Acoustic noise level of fan (PLE-1MA120-EU)	<33 dB SPL @ 1 m

Ordering information**PLE-1MA030-EU Plena Mixer Amplifier**

Mixer amplifier, 30 W, 4 microphones and 3 background music (BGM) inputs.

Order number **PLE-1MA030-EU**

PLE-1MA060-EU Plena Mixer Amplifier

Mixer amplifier, 60 W, 4 microphones and 3 background music (BGM) inputs.

Order number **PLE-1MA060-EU**

PLE-1MA120-EU Plena Mixer Amplifier

Mixer amplifier, 120 W, 4 microphones and 3 background music (BGM) inputs.

Order number **PLE-1MA120-EU**

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PLE-1Pxx0-EU Plena Amplifier



Features

- ▶ 120 and 240 W power amplifier in a compact housing
- ▶ 1 V line level balanced input
- ▶ 70 V, 100 V and 8 ohm outputs
- ▶ 100 V input for slave operation on 100 V speaker line
- ▶ Temperature-controlled forced front to back ventilation (directly stackable)

The PLE-1P120-EU and PLE-1P240-EU are two high-power plug-and-play cost effective power amplifiers that deliver 120 and 240 Watts to constant voltage or 8 ohm loads. Built with premium quality and protections, they offer basic functionality at a budget price. The amplifiers offer straight 1 V and 100 V line in, and 70 V, 100 V and 8 ohms out. They can extend the power of the PLE-series mixer amplifiers or be combined with the PLE-10M2-EU mixer, or work anywhere where more power on an existing 100 V line is needed or when a line level signal is provided.

Functions

Protection

The amplifier is protected against overload and short circuits. A limiter protects the amplifier and loudspeaker against accidental overdriving. A temperature-controlled fan ensures proper cooling without producing acoustic noise at lower output levels.

Power input and output

The unit operates both on mains power and on a 24 V battery power supply for emergency back up, with automatic switchover. The amplifier also has a built-in charger to charge the connected battery. The system has a balanced input and loop-through facility. This makes it easy to connect multiple amplifiers. The secondary input is a 100 V line input to connect the amplifier to a 100 V loudspeaker line to provide more power in 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.

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

Controls and indicators

Front

- Power on LED
- LED VU meter for master output (LEDs for -18, -12, -6, -3, 0 dB)
- On/off button

Back

- Level control

Interconnections

See Technical Specifications.

Certifications and approvals

Safety	acc. to EN 60065
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-1P120-EU or PLE-1P240-EU Plena Mixer Amplifier
1	Power cord
1	Manual
1	Set of 19" mounting brackets

Technical specifications

Electrical

Mains power supply	
Voltage	115 - 230 VAC $\pm 10\%$, 50/60 Hz
Inrush Current PLE-1P120-EU	4.5/9 A (230/115 VAC)
Inrush Current PLE-1P240-EU	9/18 A (230/115 VAC)
Power consumption PLE-1P120-EU	380 VA
Power consumption PLE-1P240-EU	760 VA
Battery power supply	
Voltage	24 VDC, +10% / -15%
Current PLE-1P120-EU	5.5 A
Current PLE-1P240-EU	11 A

Charge current	0.5 ADC
Charge float voltage	27.3 VDC
Power consumption (PLE-1P120-EU)	
Max power (mains)	227 W
-6dB (mains)	130 W
Idle (mains)	12 W
Max power (24 V)	7 A (150 W)
-6 dB (24 V)	4.4 A (194 W)
Idle (24 V)	0.3 A (7 W)
Power consumption (PLE-1P240-EU)	
Max power (mains)	451 W
-6dB (mains)	244 W
Idle (mains)	16 W
Max power (24 V)	12 A (290 W)
-6 dB (24 V)	8.1 A (194 W)
Idle (24 V)	0.3 A (7 W)
Performance	
Max / rated power PLE-1P120-EU	180 W / 120 W
Max / rated power PLE-1P240-EU	360 W / 240 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
Inputs	
Connector 1	3-pin XLR, balanced
Sensitivity	1 V
Impedance	20 kohm
Connector 2	3-pin Euro style, balanced
Sensitivity	100 V
Impedance	300 kohm
Dynamic range	100 dB
CMRR (mic)	>40 dB (50 Hz to 20 kHz)
Loudspeaker outputs 70 V / 100 V	
Connector	Euro style pluggable screw terminals

Loudspeaker output 8 ohm	
Connector	Euro style pluggable screw terminals
PLE-1P120-EU	31 V (120 W)
PLE-1P240-EU	44 V (240 W)

Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high)
Mounting	Stand-alone, 19" rack
Color	Charcoal
Weight (PLE-1P120-EU)	Approx. 10.5 kg
Weight (PLE-1P240-EU)	Approx. 12.5 kg

Environmental

Operating temperature	-10 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	<95%
Acoustic noise level of fan	<40 dB SPL @ 1 m temperature controlled

Ordering information**PLE-1P120-EU Plena Amplifier**

Power amplifier, 120 W, 100 VAC / 70 VAC.
Order number **PLE-1P120-EU**

PLE-1P240-EU Plena Amplifier

Power amplifier, 240 W, 100 VAC / 70 VAC.
Order number **PLE-1P240-EU**

PLE-2CS Plena Two-zone Call Station



Features

- ▶ Modern two-zone call station for the PLE series
- ▶ Selectable gain
- ▶ Speech filter and limiter
- ▶ Output level control
- ▶ Loop-through option for up to 8 call stations

The Plena two-zone call station is a modern, 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 in a public address system built with the PLE series two-zone mixer and mixer amplifiers. In addition to tabletop use, the Plena design allows neat flush-mounting in desktops.

Functions

Gain, speech filter and intelligibility

This call station features selectable gain, a selectable speech filter, and a limiter for improved intelligibility.

Range

The call station has a balanced line level output, giving it a maximum range of 200 meters from the mixer, when using CAT-5 extension cables.

Loop-through

With the loop-through RJ-45 connector, it is possible to daisy chain multiple call stations.

Priority

The priority is automatic i.e. the call station nearest the mixer has priority and can override a call station further from the mixer. When a call is being made by a higher priority call station, a yellow light will display on the lower priority call stations.

Dip switches and status

DIP switches at the base of the call station select different microphone gain levels, chimes, and the speech filter. A service accessible rotary control provides micro-

phone level attenuation. LEDs on the call station show which zones have been selected. An additional LED give visible feedback on the active state of the microphone and the system:

- Green flashing means standby (chime is sounding)
- Green indicates microphone active
- Amber indicates a higher priority call

Controls and indicators

- 2 x status LEDs
- PTT key
- 2 x zone selection keys
- 2 x zone selection LEDs
- DIP switches
- Rotary volume control

Interconnections

- 2 x RJ45 jacks

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	Components
1	PLE-2CS Plena two-zone call station
1	Cable terminated with a lockable CAT-5 connector

Technical specifications

Electrical

Voltage range	24 VDC supplied by PLE mixer amplifier or mixer
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	-15 / 0 / +6 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	-3 dB at 315 Hz, high-pass, 6 dB/oct
Output impedance	200 ohm

Selections	
Chimes	6

Mechanical

Base dimensions (H x W x D) without microphone	40 x 100 x 235 mm (1.57 x 3.97 x 9.25 in)
Stem length with microphone	390 mm (15.35 in)
Cable length	5 m (16.4 ft)
Weight	Approx. 1 kg (2.2 lb)
Mounting	Standalone
Color	Charcoal with silver

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%

Ordering information**PLE-2CS Plena Two-zone Call Station**

Two zone call station with metal-base design, flexible microphone stem with unidirectional condenser microphone, two-zone selection.

Order number **PLE-2CS**

PLE-1CS Plena All-Call Call Station



Features

- ▶ PTT-key for calls for activation
- ▶ Momentary or toggle
- ▶ Green LED, indicating microphone active
- ▶ Stable metal base design with fixed 2 m cable and lockable Euro style connector
- ▶ Phantom powered by amplifier

The Plena tabletop microphone is a stylish, high-quality tabletop unidirectional condenser 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 cable and a 5-pin Euro 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 Euro style connector.

A green LED indicates when the microphone is active.

Controls and indicators

- PTT-key
- PTT status LED

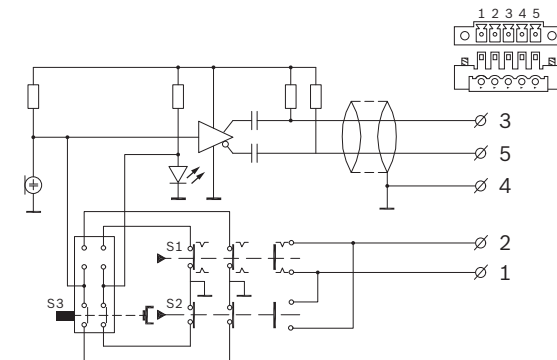
Certifications and approvals

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

Region Certification

Europe	CE
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Installation/configuration notes



Circuit diagram

Parts included

Quantity	Component
1	PLE-1CS PLENA All Call Call Station

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

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

Ordering information**PLE-1CS Plena All-Call Call Station**

All-zone call station with 2 m cable and lockable Euro style connector.

Order number **PLE-1CS**

1

PLE-1SCS Plena Easy Line 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 Euro style connector

The Plena tabletop microphone is a heavy-duty, high-quality 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 Euro 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 Euro style connector.

A green LED indicates when the microphone is active.

Controls and indicators

- PTT-key
- PTT status LED

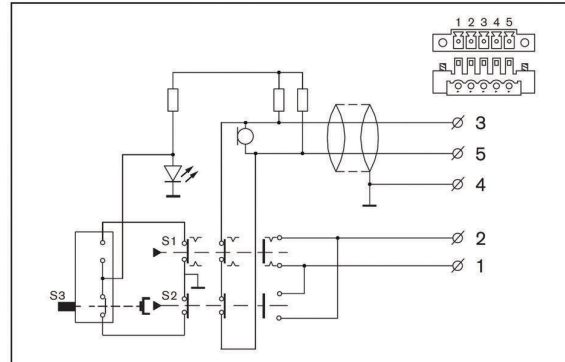
Certifications and approvals

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

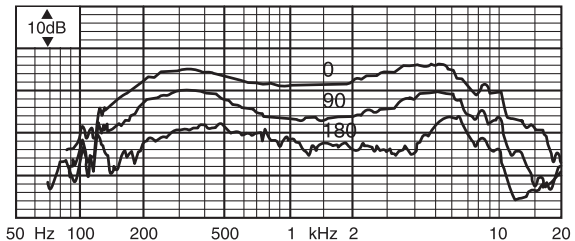
Region Certification

Europe	CE
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Installation/configuration notes



Circuit diagram



Frequency response

Parts included

Quantity	Component
1	PLE-1SCS Plena Easy Line 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

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)

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

PLE-1SCS Plena Easy Line Heavy Duty Call Station

Heavy-duty all-zone call station with 2 m cable and lockable Euro style connector.

Order number **PLE-1SCS**

1

PLE-WP3S2Z-EU Wall Panel



Features

- ▶ Can be used for all Plena Easyline (PLE) mixer-amplifiers
- ▶ Remote selection of three music source inputs
- ▶ Remote zone selection
- ▶ Perfect companion to Bosch volume controls
- ▶ Daisy-chain of multiple wall panels

The Plena PLE-WP3S2Z-EU Wall Panel is used to remotely select a music source and activate or deactivate zones of a Plena PLE audio mixer or mixer amplifier.

Functions

Remote zone and Input source control

Two zones and three music input sources can be controlled from a remote location by selecting the individual switches.

Indicators

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

Connections and settings

With the use of CAT-5 cable and RJ-45 connector the PLE-WP3S2Z-EU Wall Panel can be easily and quickly connected to the PLE series mixer or mixer amplifier. Settings are not required.

Daisy chain / Remote locations

Maximum four PLE-WP3S2Z-EU Wall Panels can be daisy chained to remotely control a PLE series mixer or mixer amplifier.

Certifications and approvals

Safety	acc. to EN 60065
EMC emission	acc. to EN 55103-1
EMC immunity	acc. to EN 55103-2

Region	Certification
Europe	CE

Installation/configuration notes

The Wall Panel is installed to the mixer or mixer-amplifier via standard CAT-5 cable with RJ-45 connector. The maximum cable distance is 200 m. The design and color are unobtrusive in any interior. Ease of installation, operation and reliability is optimized in the design. The appearance is matched to the Bosch Loudspeaker Volume Controls.

The wall panel buttons have the same function as the corresponding buttons of the Plena mixer front panel

Parts included

1	PLE-WP3S2Z-EU Wall Panel
1	Quick Reference Card

Technical specifications

Electrical

Power supply	
Voltage range	5 VDC, supplied by the connected amplifier
Current consumption (typical)	<50 mA
Connectors	
to (mixer) amplifier	1 x RJ-45
Loop through	1 x RJ-45

Mechanical

Dimensions (H x W x D)	87 x 87 x 21 mm (3.43 x 3.43 x 0.83 in)
Weight	Approx. 0.35 kg (0.77 lb)
Color	White
Label text color	Silver

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%

Ordering information

PLE-WP3S2Z-EU Wall Panel

Wall panel for remotely selecting a music source and activating or deactivating zones of an audio mixer or mixer amplifier.

Order number **PLE-WP3S2Z-EU**

PLE-1MExx0-xx Plena Mixer Amplifier



Features

- ▶ 4 microphone / line inputs, plus music source input
- ▶ Announcement only output, 3-wire volume override
- ▶ Wide range of output power (60, 120 and 240 Watts)
- ▶ 2-tone chime

These Plena Economy mixer amplifiers are professional public address units with modern state-of-the-art features. They are easy to use, taking the complexity away from the user and putting it where it belongs, inside the equipment. Providing a crisp call or clear music is as easy as turning on the radio. Offering the essentials of public address in an affordable package.

Functions



Microphone and line inputs

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

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

- Input 1 can be activated by contact closure on the PTT (push to talk). A 2-tone chime can be configured to precede an announcement.

Music input

A separate music input is available with its volume control.

Personalized settings

More unique features are available such as a detachable label where the user can write the names for inputs. This label 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 silver pins to configure the system for their particular use. A second user can set all controls to the red pins for their configuration.

Power

The mixer amplifiers come in 60, 120 and 240 Watt output power. This power is directly available on 100 V (70 V for US versions) constant voltage connections and on a low impedance connection for a 4 ohm load. Moreover, the amplifiers have a separate 100 V (70 V for US versions) call-only output channel for addressing areas where only priority announcements are required. The call-only output can also be used for 3-wire remote, volume control override.

Output status

An LED VU meter monitors the master output. A headphone socket, below the VU meter, provides the mixer output. For total reliability and ease of use, a limiter is integrated into the output stage to restrict output if the user applies too much signal.

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
- Four volume knobs for microphone inputs
- Volume knob for background music
- Knob for treble level
- Knob for bass level
- Headphone socket

Back

- Dip switches

Certifications and approvals

Safety	acc. to EN 60065
EMC emission	acc. to EN 55103-1
EMC immunity	acc. to EN 55103-2

Parts included

Quantity	Components
1	PLE-1MExx0-xx Plena Mixer Amplifier
1	Power cord
1	Manual
1	Plena Easy Line CD

1

Technical specifications**Electrical**

Mains power supply	
Voltage -EU versions	230 VAC ±10%, 50/60 Hz (reduced power at lower mains voltage)
Voltage -CN versions	220 VAC ±10%, 50/60 Hz (reduced power at lower mains voltage)
Voltage -US versions	120 VAC ±10%, 50/60 Hz (reduced power at lower mains voltage)
Inrush current PLE-1ME060-EU or -CN	5 A
Inrush current PLE-1ME120-EU or -CN	10 A
Inrush current PLE-1ME240-EU or -CN	12 A
Inrush current PLE-1ME060-US	10 A
Inrush current PLE-1ME120-US	20 A
Inrush current PLE-1ME240-US	24 A
Power consumption	
PLE-1ME060-xx	200 VA
PLE-1ME120-xx	400 VA
PLE-1ME240-xx	800 VA
Performance	
Frequency response (Line)	60 Hz to 20 kHz (+1/-3 dB @ -10 dB ref. rated output)
Frequency response (Mic.)	70 Hz to 20 kHz (+1/-3 dB @ -10 dB ref. rated output)
Distortion	<1% @ rated output power, 1 kHz
Bass Control	Max. ± 8 dB
Treble Control	Max. ± 8 dB
Mic./Line input	
Input 1 (push-to-talk contact with priority)	5-pin Euro style, balanced, phantom
Input 2	3-pin Euro style, balanced, phantom
Input 3 and 4	TRS Jack (1/4, 6.3mm) balanced
Sensitivity	1 mV (mic.); 300 mV (line)
Impedance	>1 kohm (mic.); >5 kohm (line)
Dynamic range	93 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)
Headroom	>25 dB
Speech filter	-3 dB @ 315 Hz, high-pass, 6 dB/oct
Phantom power supply	16 V via 1.2 kohm (mic.)

Music input

Connector	Cinch, stereo converted to mono
Sensitivity	200 mV
Impedance	22 kohm
S/N (flat at max volume)	>75 dB
S/N (flat at min volume/muted)	>80 dB
Headroom	>25 dB

Loudspeaker output

Connector	Screw terminal, floating
Max / rated PLE-1ME060-xx	90 W / 60 W
Max / rated PLE-1ME120-xx	180 W / 120 W
Max / rated PLE-1ME240-xx	360 W / 240 W

Loudspeaker output 4 ohm

Connector	Screw terminal, floating
PLE-1ME060-xx	15.5 V (60 W)
PLE-1ME120-xx	22 V (120 W)
PLE-1ME240-xx	31 V (240 W)

Mechanical

Dimensions (H x W x D)	100 x 430 x 270 mm (19" wide, 2U high)
Mounting	Stand-alone, 19" rack
Color	Charcoal
Weight	
PLE-1ME060-xx	Approx. 6.5 kg
PLE-1ME120-xx	Approx. 8.9 kg
PLE-1ME240-xx	Approx. 10.5 kg

Environmental

Operating temperature	-10 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	<95%
Acoustic noise level of fan (PLE-1ME240-xx)	<48 dB SPL @ 1 m

Ordering information**PLE-1ME060-EU Plena Mixer Amplifier**

Mixer amplifier, 60 W, 4 microphones and background music (BGM) input.

Order number **PLE-1ME060-EU**

PLE-1ME120-EU Plena Mixer Amplifier

Mixer amplifier, 120 W, 4 microphones and background music (BGM) input.

Order number **PLE-1ME120-EU**

PLE-1ME240-EU Plena Mixer Amplifier

Mixer amplifier, 240 W, 4 microphones and background music (BGM) input.

Order number **PLE-1ME240-EU**

PLE-SDT Plena Easy Line SD Tuner BGM source



Features

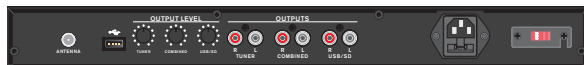
- ▶ MP3 playback from SD card and USB inputs
- ▶ FM tuner with RDS, presets and digital control
- ▶ Simultaneous operation of SD/USB-player and FM tuner
- ▶ Separate outputs for digital source and FM tuner

The PLE-SDT Plena Easy Line SD Tuner BGM source is the ideal high-quality source for background music (BGM) in public address systems. It provides hours of uninterrupted music for professional systems. Designed without moving parts, it can be used in systems that are on for long periods. It is designed to be used with non-volatile steady state flash memory.

System overview

The unit has a digital source side for MP3's stored on SD card and USB memory stick, and a side with an FM tuner. It is typically used in hotels, shops, supermarkets, restaurants, bars, canteens, gyms, showrooms, and other places where BGM creates the right atmosphere. It connects to any public address amplifier. The design follows the Plena Easy Line design and is part of the Advantage Line by Bosch.

Functions



With an SD/USB capacity of up to 32 GB (up to 2000 tracks) and the option to connect the USB either on the front or rear panel, the digital player provides hours of high-quality, uninterrupted music playback from a single source. It supports music organized on a disk in multiple folders. The player will automatically search and play all playable MP3's on a flash memory device, and has repeat and random play modes.

Digital Source

It can play MP3's with bit-rates from 32 kbps to 320 kbps, mono / stereo / joint-stereo, and both constant bit-rates (CBR) and variable bit-rate (VBR) are supported.

Tuner

The digitally controlled FM tuner uses a frequency synthesizer for accurate capture of radio stations and has presets for FM to store favorite radio stations.

Outputs

Both the player and the tuner can operate simultaneously on different outputs. The output level of the outputs can be set via the rear panel. Next to the stereo analog

outputs per side, there is a combined output that plays the digital content and automatically switches over to the FM tuner when the last track has been played.

Certifications and approvals

Safety	according to IEC/EN 60065
	CCC
	C-Tick
CE	EN 55013+A1+A2,
	EN 61000-3-2,
	EN 61000-3-3+A1
	2006/95/CE LVD Directive
	2004/108/CE EMC
	IEC EN 55020+A2+EC
	CE marking
Region	Certification
Europe	CE

Installation/configuration notes

The PLE-SDT is a 19" rack-mount unit with detachable rack mount brackets for tabletop use. The unit comes with an IR remote control to control all sources. It is compatible with High Capacity Secure Digital (SDHC), MMC memory cards, Flash USB sticks and bus powered (2.5") hard disk drives (HDD). System connection cables are included.

Parts included

Quantity	Components
1	PLE-SDT Plena Easy Line SD Tuner BGM source
1	AC Power cord
1	Safety instructions
1	Set of 19" mounting brackets
1	Remote control
2	2-pair audio RCA cable (2.5 m)
1	SD card including free music and the instructions for use

Technical specifications

Electrical

Mains power supply	
Voltage	115 - 230 VAC ±10%, 50/60 Hz
Power supply fuses	230 VAC 0.63 AT / 250 V
	120 VAC 1.25 AT / 250 V
Power consumption (typical)	10 W
Power consumption (Max.)	50 VA

FM tuner	
Distortion	< 1 %
Total harmonic distortion (1 kHz)	< 0.8 %
FM range	87.5 ÷ 108 MHz
Frequency response	50 Hz ÷ 12 kHz
Channel separation (1 kHz)	≥ 40 dB
Intermediate rejection	≥ 70 dB
Signal / noise ratio	≥ 50 dB
Intermediate frequency	10.7 MHz
Input sensitivity	6 µV e.m.f. (2 uV)
Automatic tuning sensitivity	≤ 50 µV
Antenna input	75 ohms (coaxial)
Audio output level	- 10 dBV

SD / USB audio player	
Maximum storage capacity	32 GB
Maximum number of tracks	2000
Frequency response	50 Hz ÷ 20 kHz
Signal / noise ratio	≥ 70 dB
Total harmonic distortion (1 kHz)	< 0.1 %
Stereo separation	≥ 60 dB
Audio output level	- 10 dBV

Mechanical

Dimensions (H x W x D)	44 x 444 x 250 mm (1.73 x 17.48 x 9.84 in)
Mounting	Stand-alone, 19" rack (19" wide, 1U high)
Color	Charcoal with silver printing
Weight	Approx. 3.6 kg

Environmental

Operating temperature	-25 °C to +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	< 90 % (non condensing)

Ordering information

PLE-SDT Plena Easy Line SD Tuner BGM source
 USB/SD MP3 player with FM tuner functions.
 Order number **PLE-SDT**