PM412 PM416 PM424

12/16/24-Channel 4-Group Bus Mixing Console

PM412 PM416 PM424

Description

This series of 4-Group Mixing Consoles are available in 12/16/24-channel models, featuring versatile mono and stereo inputs with balanced XLR and line connections. Built-in effects, 3-band EQ, and compressors provide precise control over each channel. With 4 Group Buses, AUX/FX sends, PFL monitoring, and intuitive main/group faders, this series delivers professional-quality mixing for live, studio, and small-to-medium venue applications.

Features

- 6/10/18 balanced XLR mono inputs and 4 stereo inputs.
- 6/10/18 independent input channels with 100Hz high-pass filters (HPF).
- 4/8/16 independent input channels with PAD attenuation switches.
- 4/8/16 independent input channels with adjustable COMP compressors.
- Independent +48V phantom power switch for each input channel.
- 3-band EQ adjustment for all input channels.
- 4 AUX SEND auxiliary outputs.
- Built-in DSP with 100 digital effects.
- 8 input channels with independent 1×10-segment LED level meters for channel level monitoring.
- Built-in USB audio playback function, supporting a variety of formats, including WAV, WMA, APE, FLAC, and MP3.
- Dual-channel headphone monitoring.
- 2×10-segment LED level meters.

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- 4 GROUP OUT outputs.
- Dual-channel MAIN OUT stereo outputs.
- MONO OUT output.
- High-reliability 60mm smooth-travel faders.

Specifications

Model	PM412	PM416	PM424
Maximum Output Level		13db	
Signal-to-Noise Ratio		≥85dB (1MV IN 1V OUT)	
Total Harmonic Distortion		≤0.02% @ 0dB 1KHz	
Frequency Response		20Hz~20KHz±0.5dB	
Channel Crosstalk		<-75dB @ 1KHz	
MIC Input Impedance		600Ω	
LINE Input Impedance		10KΩ	
Output Impedance		75Ω	
MIC IN		-60dB	
LINE IN		-40dB	
Stereo Input Impedance		10KΩ	
Channel Gain Adjustment		-30dB	
3-Band EQ Adjustment Range		±15dB	
HIGH Frequency		12KHz	
MID Frequency		120Hz–4KHz	
LOW Frequency		80Hz	
Power Output		45W	
Power Supply		100V-240V/50Hz	
Package Dimensions (1 pc)	510×240×530 (mm)	618×240×530 (mm)	820×240×530 (mm)
Product Dimensions	400×450×130 (mm)	500×450×130 (mm)	705×450×130 (mm)
Gross Weight (1 pc)	8kg	10kg	13kg
Net Weight	5.8kg	7.1kg	9.9kg

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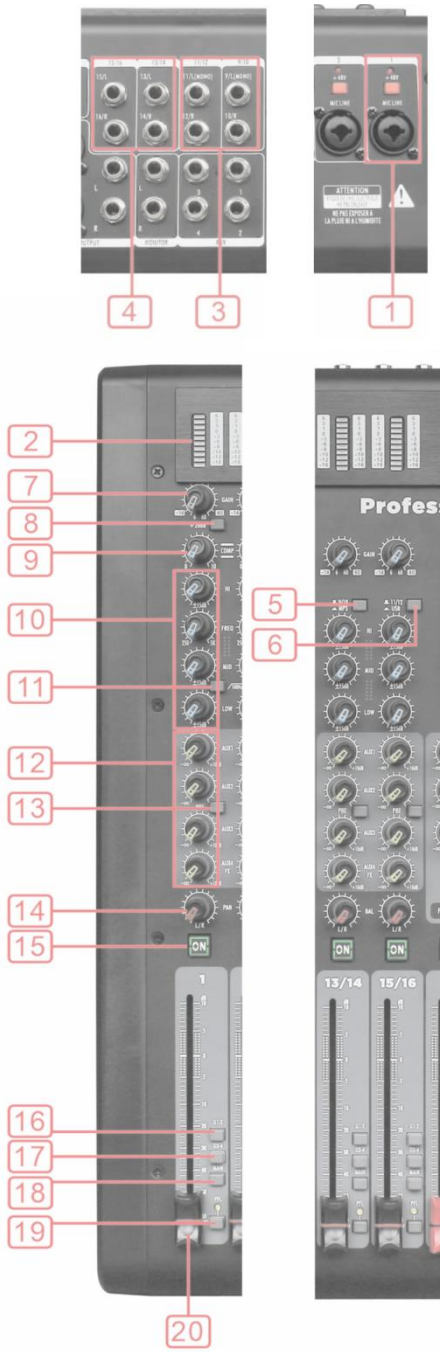
Input Channel Section



1. Mono Input Jack
MIC/LINE: XLR or phone jack for connecting your microphone and/or instrument.

2. SIG Indicator
Lights up when a signal is present at the channel. The LED indicates the output level.

3. Mono/Stereo Input Jacks
MIC: Balanced XLR microphone input (1: Ground, 2: Hot, 3: Cold).
LINE (L/MONO, R): Unbalanced phone-type line input jacks.

4. Stereo Input Jack
LINE L/R: Stereo input jacks (unbalanced) for line-level instruments such as keyboards and audio devices. Two connector types are provided: phone and RCA.

5. LINE/MP3 Switch
Switches the audio source input signal between the LINE stereo input and the MP3 Player. Supported formats: WAV, WMA, APE, FLAC, MP3.

6. LINE/USB2.0 Switch
Switches the audio source input signal between the LINE stereo input and the USB2.0.

7. GAIN Control Knob
Adjusts the input signal level. For optimal signal-to-noise ratio and dynamic range, set the gain so that the PEAK indicator lights briefly only at the highest input peaks.

8. PAD Switch
When activated, the input signal from the mono MIC/LINE jack is attenuated by 20dB. Leave this switch off when connecting microphones or other low-level sources; turn it on when connecting line-level devices.

9. COMP Knob
Adjusts the amount of compression applied to the channel. Turning the COMP knob clockwise simultaneously adjusts threshold, ratio, and output gain.
Threshold: +22dBu~-8dBu
Ratio: 1:1~4:1
Output Gain: 0dB~+7dB
Attack Time: approx. 25ms
Release Time: approx. 300ms

10. EQ (HIGH/MID/LOW)

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Three-band equalizer for adjusting the high, mid, and low frequencies of the channel.
Center position provides a flat response; turn clockwise to boost, counterclockwise
to cut. Mono channels include a MID-frequency control for adjusting the midrange.
* The MID frequency is adjustable from 250Hz to 5kHz. When the MID frequency
knob is centered, the MID frequency is 2.5kHz.

11. 100Hz Switch (High-Pass Filter)
Enables or disables the HPF. Press to activate the HPF. The HPF cuts frequencies
below 100Hz.

12. AUX/FX Control Knobs
Adjust the level of the signal sent from the channel to the AUX and FX buses.
These knobs can send either pre-fader or post-fader signals depending on
the bus configuration.

13. AUX PRE Switch
Selects whether the AUX send signal is pre-fader or post-fader. When the switch
is pressed, the mixer sends a pre-fader signal to the AUX bus, so the AUX output
is not affected by the channel fader. When the switch is released, the mixer sends
a post-fader signal to the AUX bus.

14. PAN/BAL Control Knob
PAN: Determines the stereo position of the channel signal in the GROUP1/2
or MAIN L/R buses.
BAL: Adjusts the balance between left and right channels. Signals input to the
L jack (odd channels) go to GROUP1 or MAIN L; signals input to the R jack (even
channels) go to GROUP2 or MAIN R.

15. ON Switch
Sends the channel signal to the bus. Lights green when on.

16. G1-2 Switch
Sends the channel signal to the GROUP 1/2 buses.

17. G3-4 Switch
Sends the channel signal to the GROUP 3/4 buses.

18. MAIN Switch
Sends the channel signal to the MAIN L/R buses.

19. PFL (Pre-Fader Listen) Switch
Monitors the pre-fader signal of the channel. Press to light the LED. When on,
the pre-fader signal is sent to the PHONES jack and MONITOR OUT for monitoring.

20. Channel Fader
Adjusts the channel signal level. Use the fader to balance levels between channels.

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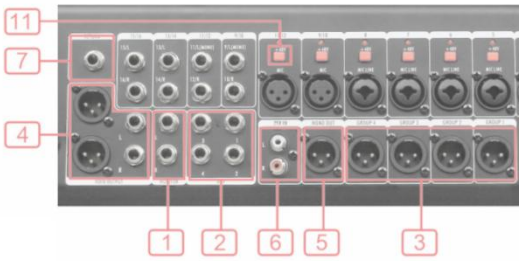
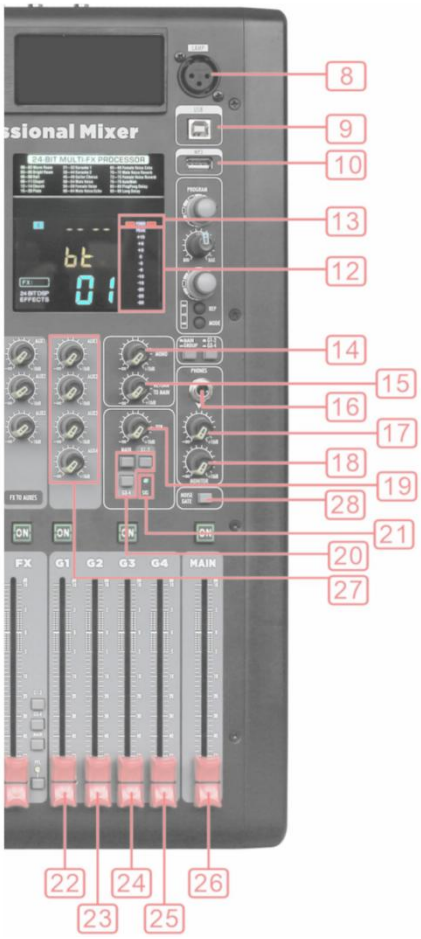
Master Section





1. MONITOR OUT Jacks
Connect these TRS phone-type jacks to a monitor system.

2. SEND Jacks (AUX/FX)
These TRS phone jacks output signals from the AUX/FX buses. Pre-fader send is recommended for monitoring systems, while post-fader send is best for connecting external processors (e.g., effects units).

3. GROUP OUT (1-4) Jacks
These TRS phone jacks output the GROUP 1-2 and 3-4 signals. They can be used to connect external effects units or stage/studio monitoring systems.

4. MAIN OUT (L/R) Jacks
These jacks provide the stereo output of the mixer. For example, they can be connected to power amplifiers driving the main speakers. When controlling levels with the MAIN OUT fader while recording the stereo output, these jacks can also be connected to recording devices.

5. MONO OUT Jack
Connect this balanced XLR jack to an active subwoofer.

6. 2TR IN Jacks
These RCA jacks accept a stereo audio source. Use them to connect devices such as CD players directly to the mixer.

7. RETURN L (MONO)/R Jacks
Signals received at these jacks are sent to the MAIN L/R buses.

8. LAMP Jack
This XLR-type connector supplies DC12V for a work lamp.

9. USB2.0 Type-B Port
Connect to a computer via a USB cable. The signal from the MAIN L/R bus is sent to the computer.

10. USB2.0 Type-A Port
Insert a USB drive or card reader to play songs via the lossless music player.

11. PHANTOM +48V Switch
Turns phantom power on or off for the corresponding channel. When on, +48V phantom power is supplied to the channel’s XLR microphone input.

12. Level Meters
The LED meters display signal levels for MAIN L/R, GROUP buses, or the signal selected via the PFL switch. The “0” mark corresponds to nominal output level.

13. POWER Indicator

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Lights when the mixer is powered on.

14. MONO Control Knob
Adjusts the level of the pre-MAIN L/R signal sent as a mono output to the MONO OUT jack.

15. RETURN Control Knob
Adjusts the signal level from the RETURN jacks / L (MONO) and R sent to the MAIN L/R buses.

16. PHONES Jack
Connect a pair of headphones to this TRS phone jack.

17. PHONES Control Knob
Adjusts the signal level sent to the PHONES jack.

18. MONITOR Control Knob
Adjusts the signal level output to the MONITOR OUT jacks.

19. 2TR Control Knob
Adjusts the signal level from the 2TR IN jacks.

20. 2TR Bus Assignment Switches (G1-2 /G3-4/MAIN)
These switches determine which bus the 2TR signal is routed to:
G1-2 Switch: Sends the signal to GROUP 1/2.
G3-4 Switch: Sends the signal to GROUP 3/4.
MAIN Switch: Sends the signal to MAIN L/R.

21. 2TR SIG Indicator
Lights when a signal is present at the 2TR IN jacks.

22. GROUP 1 Fader
Adjusts the signal level sent to the GROUP OUT 1 jack.

23. GROUP 2 Fader
Adjusts the signal level sent to the GROUP OUT 2 jack.

24. GROUP 3 Fader
Adjusts the signal level sent to the GROUP OUT 3 jack.

25. GROUP 4 Fader
Adjusts the signal level sent to the GROUP OUT 4 jack.

26. MAIN OUT Fader
Adjusts the signal level sent to the MAIN OUT jack.

27. AUX SEND Control Knobs (AUX1-4/FX)
Adjusts the signal level sent to the SEND (AUX/FX) jacks.

28. NOISE GATE Switch
Press to enable the noise gate function for the main channel.

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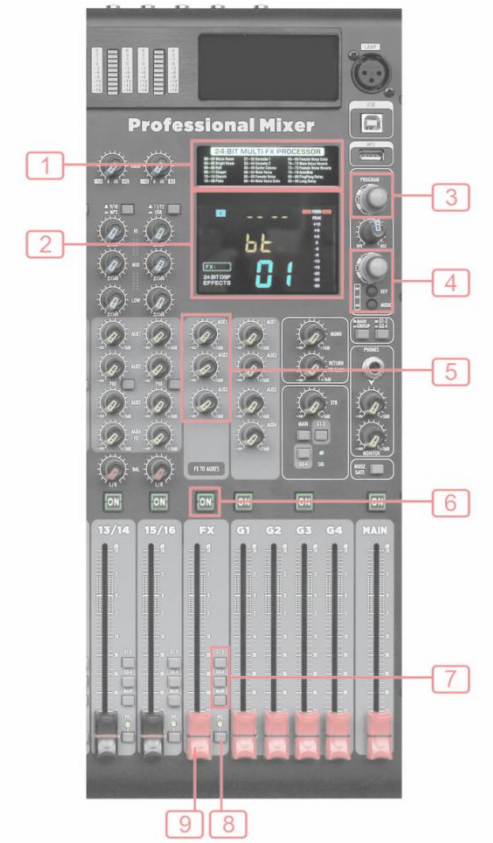
Built-in Effects / Player Section



1. Effects Program List
Lists the built-in effect programs.

2. Display
Shows the real-time status of the decoder/effects.

3. PROGRAM Knob
Select one of the 99 built-in effects. Turn the knob to choose the desired effect, then press the knob to confirm selection.

4. Lossless Music Player Functions
EQ: Adjusts the music equalization of the player.
MODE: Switches the playback mode of the player.
<■>: Controls track navigation (Previous, Next, Play/Pause).

5. AUX1-3 Knobs
Adjusts the signal level sent from the built-in effects unit to the AUX buses.

6. ON Switch
Turns the corresponding built-in effect on or off. The LED lights green when the effect is active.

7. Bus Assignment Switches
These switches determine which bus the built-in effect signal is sent to. When on, the signal is routed
to the corresponding bus.
G1-2 Switch: Assigns signal to GROUP 1-2 buses.
G3-4 Switch: Assigns signal to GROUP 3-4 buses.
MAIN Switch: Assigns signal to MAIN L/R buses.

8. PFL Switch
Sends the effect signal to the PFL bus when activated.

9. FX RTN Fader
Adjusts the signal level sent from the internal digital effects unit to the GROUP 1-2/3-4 and MAIN L/R buses.

Power Section

1. POWER Switch
Turns the device power on or off.

2. AC INPUT Jack
Connect the supplied power cord here. First, connect the cord to this device, then plug the other end into an AC outlet.

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