

CM208 CM212 CM216 CM224

8/12/16/24-Channel Professional Mixing Console



Description

The CM208, CM212, CM216, and CM224 are 8, 12, 16, and 24-channel professional mixing consoles respectively, engineered to meet the demands of audio professionals, music producers, and performers. Available with 4, 8, 12, or 20 XLR mono input channels (depending on model) plus 2 stereo input channels, the series features 48V phantom power, a 24-preset DSP effects processor, USB recording capability, and an LED status display. Each channel offers precise control with 3-band EQ, mute, and PFL switches, delivering exceptional sound quality and flexible operation.

Features

- Supports 4, 8, 12, or 20 XLR mono input channels plus 2 stereo input channels.
- Each channel features 3-band EQ adjustment, MUTE switch, and PFL switch.
- Built-in 48V phantom power for condenser microphones.
- Built-in 24-preset DSP digital effects processor.
- Built-in USB port for recording and music playback.
- LED screen for status display.
- Multiple input channels allow mixing to stereo and group outputs.
- High-quality built-in digital effects deliver a wide range of impact effects directly; a SEND socket also enables connection to external effect units.
- Monitoring section includes a convenient phones socket for monitoring main stereo output, PEL signal,

or group 1 – 2 signals.

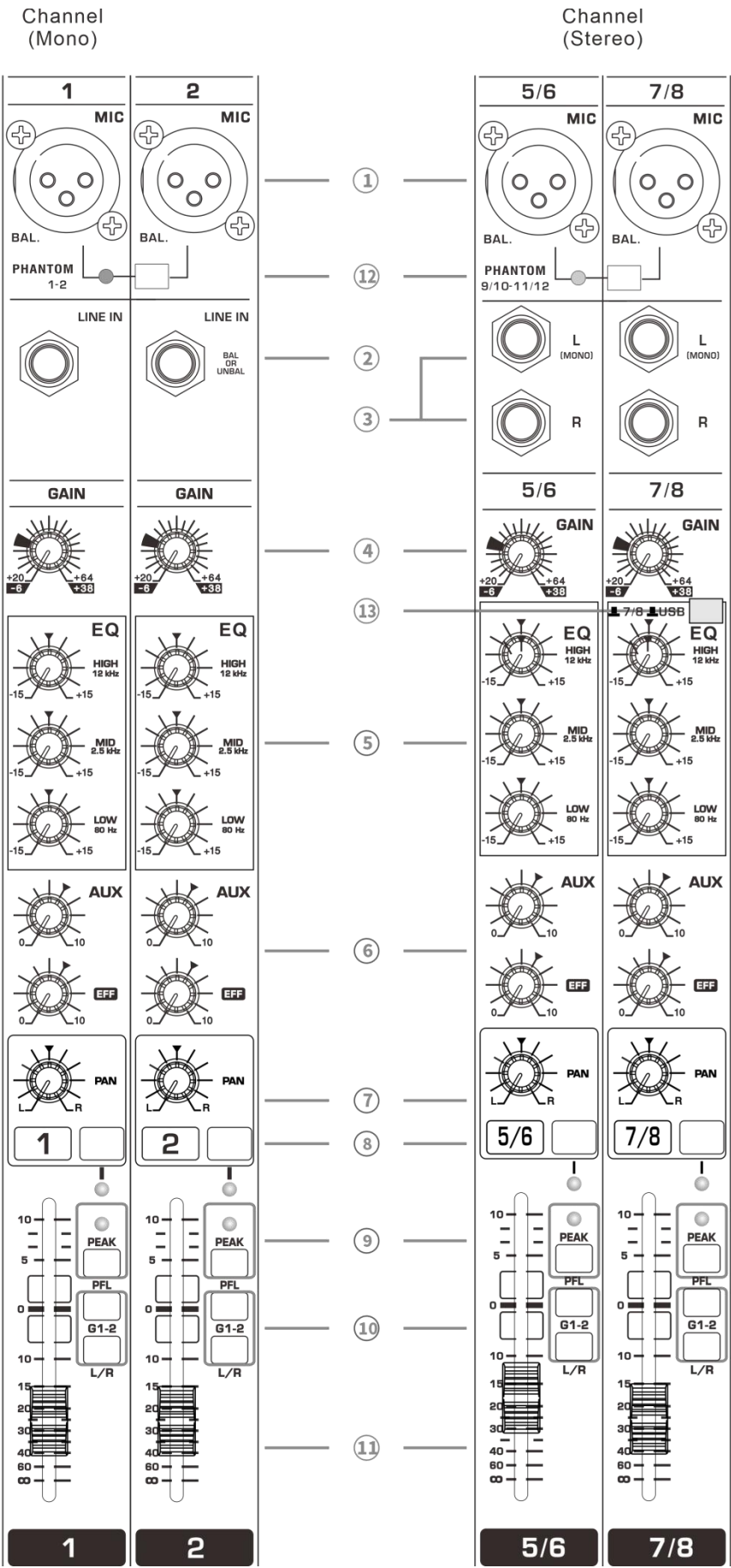
- AUX SEND and RETURN sockets enable signal routing to external effect processors and monitoring systems via the AUX bus.
- Built-in phantom power facilitates direct connection of condenser microphones requiring external power.
- Mono input channels feature XLR microphone inputs and TRS line inputs, while stereo input channels are equipped with TRS line inputs and RCA line inputs. This comprehensive connectivity allows the console to interface with a wide variety of source devices, including microphones, line-level equipment, stereo synthesizers, and more.

Specifications

Model	CM208	CM212	CM216	CM224
Frequency Characteristics (MAIN OUT)	20Hz-20kHz+1dB, -3dB@+4dBu, 600Ω (With gain control at the minimum level)			
Total Harmonic Distortion (MAIN OUT)	0.1%(THD+N)@+4dBu, 20Hz-20kHz, 600Ω (With gain control at the maximum level)			
Hum & Noise	-128dBu Equivalent input noise (Channel 1-8)			
	-100dBu Residual output noise (ST OUT)			
	-88dBu (92dB S/N) ST & GROUP main attenuator at nominal level; set all channel sending switches to OFF.			
	-81dBu (85dB S/N) AUX & EFFECT main control at nominal level; all channel mixer controls at the minimum level.			
Crosstalk (1kHz)	-64dBu (68dB S/N) ST & GROUP main attenuator and a channel attenuator at nominal level. (Channel 1-8)			
	-70dB, among each input channel			
Channel Input Equalization: ±15dB	-70dB, among input / output channel (CH INPUT)			
Maximum Amplitude of Variation of Graphical Equalizer ±12dB	HIGH 10kHz slope; MID 2.5kHz slope; LOW 100Hz slope			
Internal Digital Effect	Seven bands (125, 250, 500, 1k, 2k, 4k, 8k)			
Mono / Stereo Input Peak Indicator	16 types of programs, parameter control			
Virtual DC+48V Power (Balanced Input)	In each channel: When the post EQ signal (In ST sound channel, when the post EQ signal or post microphone amplifier signal) enters the range of the cutoff level value of 3dB, the indicator will be red.			
Power Consumption	When the virtual +48V switch is turned on, the virtual power will be provided.			
Package Dimensions (mm)	405×175×490	520×175×490	640×175×490	895×205×510
Product Dimensions (mm)	340×400×135	460×400×135	570×400×135	800×400×135
Gross Weight	5.3kg	6.5kg	7.5kg	11.6kg
Net Weight	4.2kg	5.4kg	6.3kg	8.7kg

Channel Control Part

CH8: 1-4
CH12: 1-8
CH16: 1-12
CH24: 1-20



CH8: 5/6 + 7/8
CH12: 9/10 + 11/12
CH16: 13/14 + 15/16
CH24: 21/22 + 23/24

Mono Channel Input Port

- ① **MIC Jack**
These are balanced XLR input jacks.
- ② **LINE Port**
These are balanced headphone input jacks. Balanced or unbalanced headphone plugs can be inserted to these jacks.

Stereo Channel Input Port

- ③ These are unbalanced input jacks. Use these jacks to input stereo signals.



When an input channel can provide both MIC jack and LINE port, you can use one of the jacks, but not both. Only one jack of each channel can be connected at a time.

- ④ **GAIN Control**
Adjust the input signal level. In order to obtain the optimum balance between SNR and dynamic range, adjust the input signal level to make the peak indicator (P) light only at the maximum input level.
- ⑤ **Equalizer**
This three-band equalizer can adjust the channel in three frequency bands: high, mid and low. Set the knob to the 0 position to produce a flat frequency response. Turn the knob to the right to enhance the corresponding frequency band, while to the left to attenuate it. The following table shows the EQ type, base frequency and maximum attenuation / enhancement for the three frequency bands.

Frequency Band	Type	Base Frequency	MAX. Attenuation / Enhancement
HIGH	Ramp	12 kHz	± 15 dB
MID	Ramp	2.5 kHz	
LOW	Ramp	80 Hz	

- ⑥ **AUX & FX Control**
The AUX knob controls the signal level sent by this channel to the AUX1 bus; the FX knob controls the signal level sent by this channel to the FX bus. Please note that the signal level varies with the channel attenuator settings. Normally, these knobs should be set near the 0 position.
- ⑦ **PAN Control**
PAN control determines the positioning of the channel signal on the SUB1-2 bus or stereo L and R bus.

- ⑧ **MUTE Switch**
If press this switch, this channel will stop sending signals to all buses (except for PFL monitoring), and all outputs have no signal output, only for this channel. At this time, the indicator is yellow. Do not press this switch for normal use.

- ⑨ **PEL Switch**
This switch is used to monitor the channel pre-attenuator signal. To set this switch to ON, please press this switch (P) to make the indicator on. When the switch is turned on, the mixing console will output the channel pre-attenuator signal to PHONES and C-R OUT jacks for monitoring.

PEAK Indicator

It detects the peak level of the post-equalizer signal, and lights up red when the level reaches 3dB below the cutoff level.
(Peak monitoring and PFL monitoring share this indicator.)

- ⑩ **SUB. GROUP / MAIN. MASTER Switch**
Use these switches to send the channel signal to the group SUB1-2 bus. Use these switches to send the channel signal to the main channel MAIN L R bus.
Set this switch to ON (P) to send the signal to the corresponding group bus.

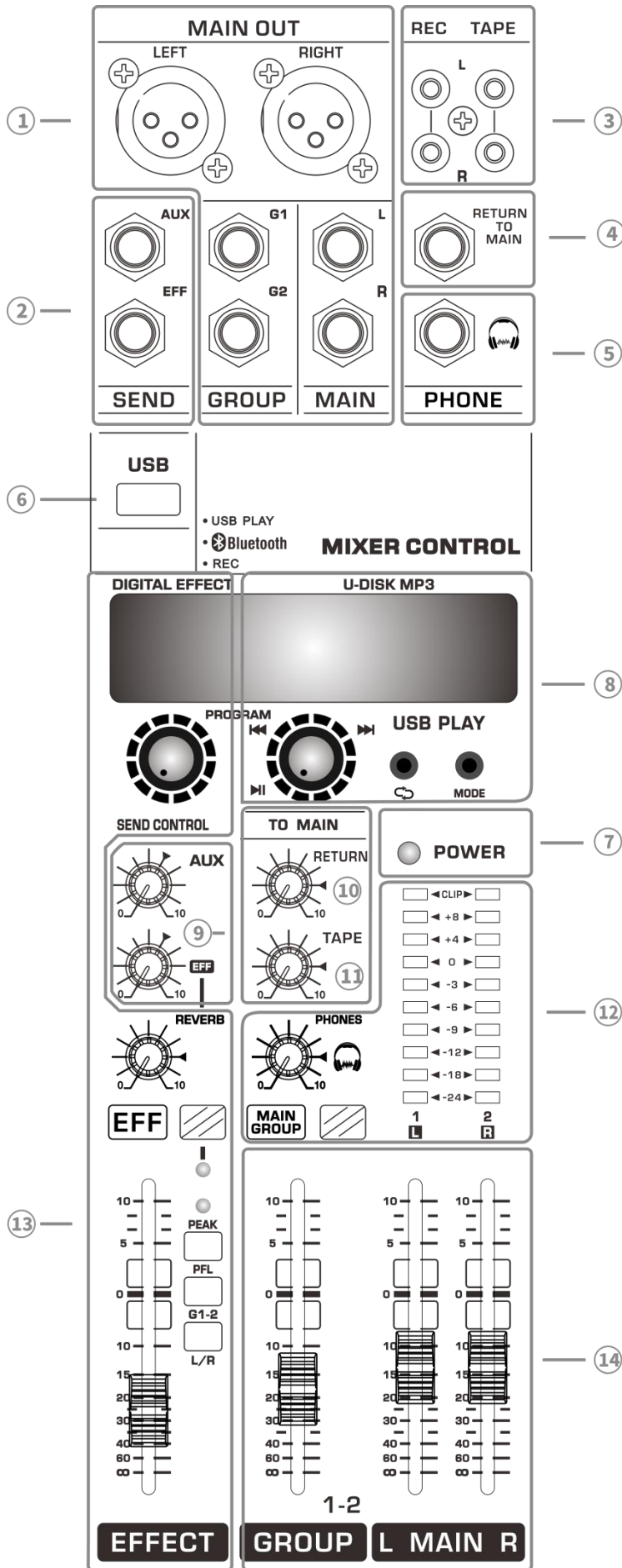
- ⑪ **Channel Attenuator**
Adjust the output level of the signal input to this channel. Use these attenuators to adjust the volume balance between channels.



Turn the attenuator knob of the unused channel to the lowest position, so as to reduce noise.

- ⑫ **PHANTOM +48V Switch**
This switch is used to turn on or off the phantom power. (P) The mixing console will supply power +48V to all channels equipped with a MIC input jack. When using one or more condenser microphones, please set this switch to the ON position (P).
- ⑬ **STEREO Channel and USB Player Input Switch**
(P) When the switch is off, it is set to stereo channel input. (P) When the switch is on, it is set to USB player input.

Main Control Part



Note: The master control for different channels is the same.

① MAIN. GROUP OUT Output Part

MAIN OUT (L/R) Jack

These jacks output the tuning signal whose level is controlled by the MAIN attenuator of the main control part. The output in the stereo (L and R) channel. For example, use these jacks to connect the power amplifier driving the main speaker.

GROUP OUT 1-2 Jack

These are impedance balanced headphone type output jacks, used to output Group 1-2/3-4 signals. Use these jacks to connect the input jacks of an MTR, external mixing console or other similar devices.

② SEND Jack

•AUX 1-2

These are impedance balanced headphone type output jacks, used to output the signals from the AUX.

•FX / EFF

This is an impedance balanced headphone type output jack and outputs the signal from the **FX** bus. For example, use this jack to connect an external effector.

③ REC OUT / TAPE IN (L/R) Jack

REC OUT

Connect an external recorder through these jacks to record the same signal output from the MAIN OUT jack.

TAPE IN

Use these jacks when connecting a stereo source signal (CD or DAT) directly to the mixing console for monitoring.

④ RETURN IN Jack

This jack is used as an auxiliary input. If connect the jack, the mixing console will send the same signal to the L and R jacks.

⑤ PHONES Jack

Headphone connection jack. This is a balanced headphone type output jack.

⑥ USB Port

Insert a USB flash drive into this port to play music from the USB flash drive. Insert the USB from your computer, and then it will switch to the sound card mode, allowing you to input the music from the computer into the mixing console.

⑦ POWER Indicator

When the mixing console is powered on, this indicator will be on.

⑧ USB Player

Insert a USB flash disk with music files in MP3 or WMA format into the player jack. The music player will send the signal to the main bus.

 This button is for loop play.  This button is a mode switch. MODE .BLUETOOTH.USB.USB RECORD.

PROGRAM



Turn the shuttle knob left or right to control playing the previous or next tracks. Press this shuttle knob to play/pause.

⑨ SEND Control

•AUX Control

Adjust the signal level output to the SEND AUX jack.

•FX Control

Adjust the signal level in the **FX** bus. This signal is output from the **FX** jack.

⑩ RETURN Control

Adjust the signal level sent from the RETURN jack to the stereo bus.

⑪ TAPE Control

Adjust the signal level sent from the TAPE jack to the stereo bus.

⑫ PHONES/C-R Control

Control the signal level output to the PHONES jack and the C-R L and R jacks.

Signal Switch

This switch, in conjunction with the channel PFL switch, selects the level signal sent to the PHONES jack and the C-R OUT jack through the PHONES/C-R control.

Level Meter

The LED display indicates the signal level (the signal level sent to the C-R OUT and PHONES jacks) selected by the selection switch described in . It corresponds to the "0" point of the standard output level. When the output level reaches the cutoff level, the indicator will be red.

⑬ Digital Effect Control

• PROGRAM



Turn the shuttle knob left or right to select the internal effect and press it down to confirm.

• REVERB DELAY Control

Adjust the parameters of the selected effect (depth, speed, etc.).

• Switch

Enable or disable the internal effector. (■) When this switch is turned on, the internal effector will be enabled. (■) When this switch is pressed, the internal effector will stop working, and the indicator will be yellow.

• PFL Switch

To output the internal effector signal to the PFL bus, please set this switch to ON (■).

• SUB. GROUP Switch

Set this switch to ON (■) to output the internal effector signal to the group 1-2 bus.

• MAIN. MASTER Switch

Set this switch to ON (■) to output the internal effector to the main channel L-R bus.

• FX PTN Attenuator

Adjust the signal level sent from the internal effector to the SUB and MAIN buses.

⑭ MAIN and SUB Attenuator

• MAIN Attenuator

Adjust the signal level sent to the MAIN OUT (L-R) jack.

• SUB Attenuator (1-2)

Adjust the signal level sent to the SUB OUT (1-2) jack.

Power Input Part



① AC IN Connection Port

Power input port, power consumption of about 30W.

② POWER ON Switch

Use this switch to set the power of the mixing console to ON or STANDBY.



Please note that when the power switch is set to STANDBY, there is still a small amount of electric current in the system. When the mixing console is not used for a long time, please make sure to pull out the power adapter from the power outlet.

System Diagram

