Berlingtone

6,8 Channels Professional Audio Mixer, 16 Effects

BR-76MXE - BR-78MXE

www.berlingtone.com

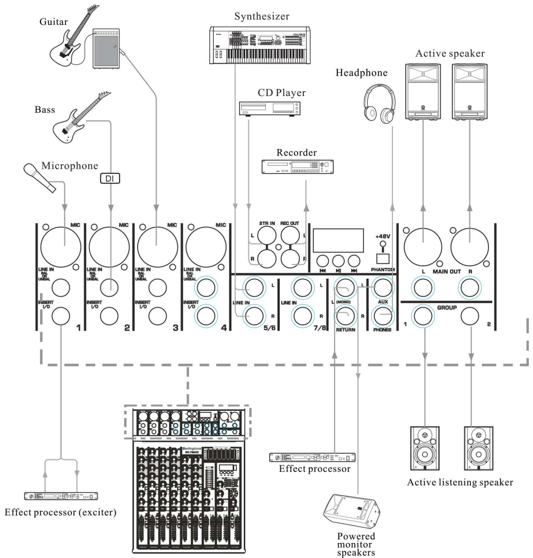
Berlingtone

PROFESSIONAL MIXER

Owner's Manual

BR-76MXE, BR-78MXE

Jack Wiring



PRECAUTIONS

- Safety Instructions-

⚠ WARNING

Installation

- Do not allow water to enter the device, or make it wet. Doing this may result in fires or electric shocks.
- Do not place containers filled with liquid or small metal objects on this device. Or the liquid or small metal objects may fall into the device and result in fires or electric shocks.
- Do not place heavy objects (including this device) on the power cord. Otherwise it may damage the cord, thus resulting in fires or electric shocks. Take special notice not to place heavy objects on the cord covered under the carpet.

Operations

- Do not cut, bend, twist, stretch or heat the power cord. Otherwise, it may damage the cord, thus causing fires or electric shocks.
- Do not open the cover shell of this device. Or, it may result in electric shocks. If you consider it necessary to detect, maintain or repair the internal parts, please contact the sales agent.
- When there are electrical storms, turn off the power switch of this device and remove the power plug.
- When there is lightening, do not touch the power plug in the condition of being connected. Otherwise, it may result in electric shocks.
- This device can only be used with the AC power adaptor (PA-30) supplied with the appliance. Using adaptors of other models may result in fires or electric shocks.

When there is any abnormality during operation

- If the AC adaptor falls down from hight or has its shell damaged, please turn off the power switch immediately, disconnect the power plug from the AC power outlet, and contact the sales agent. Continuing to use in ignorance of this notice may result in fires or electric shocks.
- If you find any abnormality such as smoking, smelling, noise, foreign matters or liquid entering the interior of this device, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device repaired by the sales agent. Continuing to use may result in fires or electric shocks.

⚠ CAUTION

Installation

- Avoid using this device in the following occasions:
  - Exposure to the splashing oil or steam in the places such as close to kitchen ovens, moisturizers, etc.
  - On unstable surfaces, such as shaking table surface or slanting surface.
  - Exposure to overheating places such as in a car with windows shut or under the direct sunlight.
  - Exposure to the places with high moisture or piling -up dirt.
- When removing the electric plug from an AC power outlet, do not pull the cord by itself. Pulling by the cord can damage it, and result in fires or electric shocks.
- Do not touch the power plug with wet hands. Or it may result in electric shocks.
- If you want to move this device, disconnect the power plug from the AC power outlet first, and remove all connecting cables. It may otherwise damage the cables and cause fires or electric shocks.

Operation

- Do not use cloth or carpet to cover or wrap the AC power adaptor. Otherwise the heat will accumulate in the cloth or carpet, melting the shell of the adaptor or causing fires. Use it under good ventilation.

correct operation instructions

The division of labor of each needle connected to the socket is

- The XLR connector shall be wired as shown below

Needle 1: ground wire; Needle 2: hotline (+); Needle 3: cold thread (-).

- INSERT TRS headphone jack wiring is as follows

Sleeve: ground wire; Tip: signal transmission; Loop: return signal.

Material to replace

Interference from cellular phone calls

- Using the mobile phone near the device may cause noise. Use your mobile phone away from the device when making noise.

- Turn off the power when the mixer is not in use.
- Even if the power switch is placed in the (standby)position, there is still a small amount of current in the mixer. Be sure to remove the power plug from the AC socket when it is determined not to be

- The performance of components that are in constant dynamic contact, such as switches, rotary controls, attenuators, and connectors, declines over time. Although the wear rate varies greatly with the use conditions, a certain degree of wear is unavoidable. In case of parts failure, please contact the dealer for replacement.

used for a long time.

The illustrations in this manual are for illustration only and may differ from the appearance in actual use.Interference from cellular phone callsMaterial to replaceThe division of labor of each needle connected to the socket is correct operation instructionsThe instructions

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Preface

This mixer is easy to operate and can support various environments. It is an ideal equipment for setting up, installing systems and many other purposes.

In order to maximize the super function of this mixer and extend its normal service life, please read this user manual carefully before use.

Function

- Multiple input channels can be provided and these signals can be mixed into stereo sound and grouped output signals.
- Because of the high quality of the inherent digital effect, itself can directly provide a wide range of effects. It also comes with a SEND socket that can be connected to external effectors.
- PHONES jacks are available on the monitor. The socket can be used to monitor the main stereo output signal, PFL signal or 1-2 groups of signals.
- The mixer is also equipped with AUX SEND jack and a single RETURN jack.AUX communication buses transmit signals to external effectors and monitoring systems.
- The virtual power supply can provide convenient connection for capacitor microphones that need external power supply.
- Mono input channels are respectively equipped with XLR microphone input jack and TRS earphone linear jack. Stereo input channels are equipped with TRS linear input ports and RCA linear input ports. These various socket integrations enable the mixer to be connected to many different types of sound source devices such as microphones, linear level devices and even stereo output synthesizers.

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Specifications

Input Specifications

Input Connectors	Gain	Input Impedance	Appropriate Impedance	Sensitivity*	Nominal Level	Max. before Clipping	Connector Specifications
CH INPUT MIC	–60 dB	3kΩ	50–600Ω Mics	–80 dBu（0.078 mV）	–60 dBu（0.775 mV）	–40 dBu（7.75 mV）	XLR 3-31 type (balanced 1= GND, 2=HOT, 3=COLD
	–16 dB			–36 dBu（12.3 mV）	–16 dBu（123 mV）	+4 dBu（1.23 V）	
CH INPUT LINE	–34 dB	10kΩ	600Ω Lines	–54 dBu（1.55 mV）	–34 dBu（15.5 mV）	–14 dBu（155 mV）	TRS phone jack (balanced Tip = Hot, Ring = Cold, Sleeve = GND
	+10 dB			–10 dBu（245 mV）	+10 dBu（2.45 V）	+30 dBu（24.5 V）	
RETURN（L、R）	–	10kΩ	600Ω Lines	–12 dBu（195 mV）	+4 dBu（1.23 V）	+24 dBu（12.3 V）	Phone jack (unbalanced)
2TR IN (L、R)	–	10kΩ	600Ω Lines	–26 dBV（50.1 mV）	–10dBV（0.316V）	+10dBV（3.16 V）	RCA pin jack

Where 0 dB = 0.775 Vrms, 0 dBV = 1 Vrms

* Sensitivity: The lowest level that will produce an output of +4dB (1.23 V), or the nominal output level when the unit is set to the maximum level. (All faders and level controls are at their maximum position.)

Output Specifications

Output Connectors	Output Impedance	Appropriate Impedance	Nominal Level	Max. before clipping	Connector Specifications
MAIN OUT（L、R）	75Ω	600Ω Lines	+4dBu（1.23 V）	+24 dBu（12.3 V）	XLR-3-32 type (balanced 1=GND, 2=HOT, 3=COLD) phone jack (balanced Tip = HOT, Ring = COLD, Sleeve = GND
EFFECT/AUX（AUX1、2*）SEND	150Ω	10kΩ Lines	+4dBu（1.23 V）	+20 dBu（7.75 V）	phone jack (impedance balanced Tip = Hot, Ring = Cold, Sleeve = GND
REC OUT（L、R）	600Ω	10kΩ Lines	–10 dBV（0.316 V）	+10 dBV（3.16 V）	RCA pin jack
PHONES OUT	100Ω	40Ω Phones	3 mW	75 mW	STEREO phone jack

Where 0 dBu = 0.775 Vrms and 0 dBV = 1 Vrms.

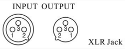
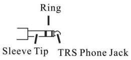
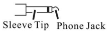
Digital effects Program List

Mixer Basics

No.	Program	Parameter	Explanation
1	REVERB HALL 1	REVERB TIME	Reverb simulation large space such as a concert hall
2	REVERB HALL 2	REVERB TIME	
3	REVERB ROOM 1	REVERB TIME	Simulation of a small space (room) sound reverberation
4	REVERB ROOM 2	REVERB TIME	
5	REVERB STAGE 1	REVERB TIME	Reverb simulation stage
6	REVERB STAGE 2	REVERB TIME	
7	REVERB PLATE	REVERB TIME	Analog metal plate reverb unit, in order to produce a more powerful sound
8	DRUM AMBIENCE	REVERB TIME	Bass drum using the same short reverberation
9	KARAOKE ECHO	DELAY TIME	Echo for karaoke
10	VOCAL ECHO	DELAY TIME	Suitable for vocal echo
11	CHORUS 1	LFO FRQUENCY	It creates a thick sound by modulating the delay time. The PARAMETER control adjusts the frequency modulation LFO delay time
12	CHORUS 2	LFO FRQUENCY	
13	FLANGER	LFO FRQUENCY	A sweeping pitched effect. The PARAMETER control adjusts the frequency modulation LFO delay time
14	PHASER	LFO FRQUENCY	Phase modulation produces a cyclical phasing effect The PARAMETER control adjusts the frequency modulation LFO delay time
15	AUTO WAH	LFO FRQUENCY	With cyclical filter modulation wow sound effects. The PARAMETER control adjusts the frequency modulation LFO delay time
16	DISTORTION	DRIVE	Add sharp edges distortion in the sound

LFO stands for Low Frequency Oscillator. LFO is normally used to modulate another signal, determining the modulation speed of the waveform.

Jack List

Input and Output Jacks	Polarities	Configuration
MIC INPUT, STEREO OUT	Pin 1: Ground Pin 2: Hot (+) Pin 3: Cold (-)INPUT OUTPUT	
LINE INPUT (monaural channels) GROUP OUT, STEREO OUT, MONITOR OUT, AUX SEND, EFFECT SEND	Tip: Hot (+) Ring: Cold (-) Sleeve: Ground	
INSERT	Tip: Output Ring: Input Sleeve: Ground	
PHONES	Tip: L Ring: R Sleeve: Ground	
RETURN LINE INPUT (stereo channels)	Tip: Hot Sleeve: Ground	

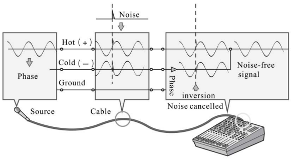
* These jacks will also accept connection to phone plugs. If you use monaural plugs, the connection will be unbalanced.

You've got yourself a mixer and now you're ready to use it.
Just plug everything in, twiddle the controls, and away you go…right?
Well, if you've done this before, you won't have any problem, but if this is the first time you've ever used a mixer you might want to read through this little tutorial and pick up a few basics that will help you get better performance and make better mixes.

Balanced, Unbalanced What's the Difference?

In a word: "noise." The whole point of balanced lines is noise rejection, and it's something they're very good at. Any length of wire will act as an antenna to pick up the random electromagnetic radiation we're constantly surrounded by: radio and TV signals as well as spurious electromagnetic noise generated by power lines, motors, electric appliances, computer monitors, and a variety of other sources. The longer the wire, the more noise it is likely to pick up. That's why balanced lines are the best choice for long cable runs. If your "studio" is basically confined to your desktop and all connections are no more than a meter or two in length, then unbalanced lines are fine unless you're surrounded by extremely high levels of electromagnetic noise. Another place balanced lines are almost always used is in microphone cables. The reason for this is that the output signal from most microphones is very small, so even a tiny amount of noise will be relatively large, and will be amplified to an alarming degree in the mixer's high-gain head amplifier.

Balanced noise cancellation

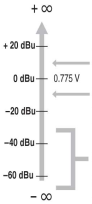


To summarize

Microphones:	Use balanced lines.
Short line-level runs:	Unbalanced lines are fine if you're in a relatively noise-free environment.
Long line-level runs:	The ambient electromagnetic noise level will be the ultimate deciding factor, but balanced is best.

Signal Levels and the Decibel

Let's take a look at one of the most commonly used units in audio: the decibel (dB). If the smallest sound that can be heard by the human ear is given an arbitrary value of 1, then the loudest sound that can be heard is approximately 1,000,000 (one million) times louder. That's too many digits to deal with for practical calculations, and so the more appropriate "decibel" (dB) unit was created for sound-related measurements. In this system the difference between the softest and loudest sounds that can be heard is 120 dB. This is a non-linear scale, and a difference of 3 dB actually results in a doubling or halving of the loudness.
You might encounter a number of different varieties of the dB: dBu, dBV, dBM and others, but the dBu is the basic decibel unit. In the case of dBu, "0 dBu" is specified as a signal level of 0.775 volts. For example, if a microphone's output level is -40dBu (0.00775 V), then to raise that level to 0 dBu (0.775 V) in the mixer's preamp stage requires that the signal be amplified by 100 times.
A mixer may be required to handle signals at a wide range of levels, and it is necessary match input and output levels as closely as possible. In most cases the "nominal" level for a mixer's inputs and outputs is marked on the panel or listed in the owner's manual.



Most professional mixers, power amplifiers, and other types of equipment have inputs and outputs with a nominal level of +4 dBu.

The inputs and outputs on home-use audio gear usually have a nominal level of -10 dBu.

Microphone signal levels vary over a wide range depending on the type of microphone and the source. Average speech is about -30 dBu, but the twittering of a bird might be lower than -50 dBu while a solid bass drum beat might produce a level as high as 0 dBu.

Quick Guide

1 **Be sure that your mixer is turned off and that all level controls* are turned all the way down.**

* STEREO OUT Master fader, Channel faders, GROUP 1-2 faders, GAIN controls, etc.

Note:
Set the equalizer and the PAN controls to their positions.

2 **Turn off any other external devices, then connect microphones, instruments and speakers.**

Note:
- * For information on connecting external devices see the Connection Example on page 11.
- * Connect electric guitars and basses through an intermediary device such as a direct box, preamp, or amp simulator. Connecting these instruments directly to the professional audio mixer may result in degraded sound and noise.

3 **To avoid damage to your speakers, power up the devices in the following order: Peripheral devices→professional audio mixer→power amps (or powered speakers). Reverse this order when turning power off.**

NOTE:
If you are using condenser microphones that require phantom power, turn the professional audio mixer's phantom power switch on before turning on the power to the power amp or powered speakers.

4 **Adjust the channel GAIN controls so that the corresponding PEAK indicators flash briefly on the highest peak levels.**

Note:
To use the level meter to get an accurate reading of the incoming signal level, turn the channel PFL switch on. Adjust the GAIN controls so that the level meter indication occasionally rises above the "→" (0) level.
Note that PHONES jacks output pre-fader signals from all channels with their PFL switches set to the ON position so that these signals can be monitored via the headphones.

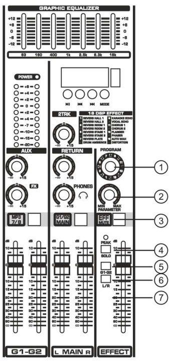
5 **Set the STEREO OUT Master fader to the "0" position.**

6 **Set the Channel faders to create the desired initial balance, then adjust the overall volume using the STEREO OUT Master fader.**

NOTE:
- * To use the level meter to view the level being applied to the STEREO L/R buses, set the PFL switch off (▀).
- * If the PEAK indicator lights frequently, lower the Channel faders a little to avoid distortion.

Digital effects section and a rear panel

Digital effects section and back panel input/output section



❶ PROGRAM Dial
Choose one of the 16 internal effects. For more information about the internal effects, see page 11.

❷ PARAMETER Jack
Adjust the selected effect parameter (depth, speed, etc.). Parameter values for each effect type last used will be saved.
PS: When you change to a different effect type, the newly selected effect, the mixer automatically restores the value that was previously used (whether PARAMETER controls the current position). When the power is turned off, these parameters will be reset.

❸ EFF MUTE Switch
Turn on or off the internal effect. Only turn on this switch, to apply internal effects. Yellow light off (press) switch.

❹ PFL Switch
Turn this switch sends a digital effect signal to the PFL bus. Press the switch (▬) so that it lights up. When the switch is turned on, the channel pre-fader signal is output to the PHONES jack for monitoring.

❺ 1-2 Switch
This switch signal is output to digital effects GROUP 1 and 2 buses.

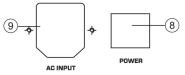
❻ ST Switch
This switch digital effect signal to MAIN and R buses.

❼ EFFECT Attenuator
Digital effect adjustment signal sending large STEREO bus level.

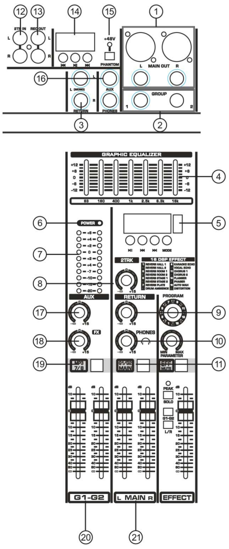
❽ POWER Switch
Power switch

❾ AC INPUT Jack
AC17V input, the supplied AC power adapter to this jack.

⚠ Cautious
Use only the power adapter supplied with the unit, use a different power adapter may result in fire or electric shock.



Main control section



⓬ 2 TRK IN

These RCA pin jacks can be used to input a stereo sound source. Would like a CD player directly to the mixer, you can use these jacks.

PS: Available Master Control section 2TRK IN Control Adjusts the signal level.

⓭ REC OUT

These RCA pin jacks can be connected to the MD recorder then loaded on the recorder in order to record the STEREO OUT jacks output signals of the same signal.

PS: Mixer's STEREO OUT Master fader has no effect on the output signal of these jacks. Make sure the recording device appropriate level adjustment.

⓮ Bluetooth devices

By (❿) of [M O D E] to switch to Bluetooth mode, you can control bluetooth music player to play high quality music.

⓯ PHANTOM +48 Power Switch

This switch toggles phantom power. When this switch is open,Mixer will have XLR mic input jacks provide + 48V channel Phantom power. Using one or more phantom-powered electric power When Yung microphone, turn on the switch.

PS: When this switch is on, the mixer all XLR-type MIC INPUT jack pins 2 and 3 provide DC + 48V power supply.

⓰ SEND Jack

- AUX This is an impedance balanced phone-jack type output. This jack outputs the signal from A U X bus, you can use this jack to connect the effect unit, video, or other monitoring systems.
- EFFECT This is an impedance balanced phone-jack type output, the output from the E F F E C T bus signals, use this jack to connect an external effect unit.

⚠ cauious

- If you do not need phantom power, be sure to turn off this switch(■).
- When turning the switch on (▬), be sure that only condenser cylinder connected to the XLR input jacks. In addition, if the capacitance words equipment connected to the outside of the cylinder phantom power, may damage bad equipment. However, please note that when connecting to balanced dynamic The microphone, the switch may be left on.
- To avoid damage to speakers, turn on or turn off this switch before, be sure to turn off amplifiers (or powered speakers). Recommended before operating the switch, all the output control knob (MAIN-L, MAIN- R master fader device) to their minimum settings to avoid excessive noise Cited from hearing loss or device damage.

⓱ AUX control knob

Adjust the send to A U X S E N D socket signal level.

⓲ EFFECT control knob

Adjust the send to E F F S E N D socket signal level.

⓳ LINES / USB switch

Audio source input signal this switch [L I N E] stereo input signal and the U S B music player switching signals to C H 7/8 U S B [C H 1 1/1 2 U S B] [C H 1 5/ 1 6 U S B] on.

⓴ GROUP attenuator

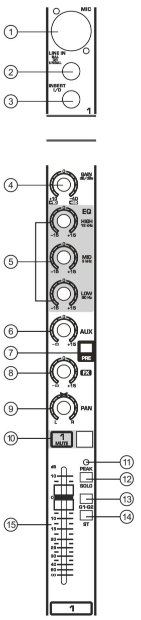
To adjust the send G R O U P O U T jack signal level.

㉑ MAIN attenuator

Adjust the send to M A I N O U T jack signal level.

Channel Control Section

通道控制部分



❶ MIC input jack

These are balanced XLR-type microphone input jacks. (1: Ground; 2: Hot; 3: Cold).

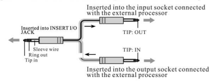
❷ LINE input jack

These are balanced TRS phone-jack line input jack. (T: Hotline; R: Cold; S: Ground). Balanced or unbalanced headphone plug can be inserted into these jacks.

❸ INSERT JACK

Each of these jacks provides an insert point between the respective input channel equalizer and attenuator. The INSERT jacks can be used independently as graphic equalizers, compressors, or noise filters and other devices to access the appropriate channel. These jacks are TRS (tip, ring, sleeve) phone jacks that carry both the send signal and return signal (tip = send / output; ring = return / input; sleeve = ground).

PS Patching external devices via an INSERT jack requires the use of special insert shown below cable (connector cable sold separately).


Inserted into the input socket connected with the external processor
Inserted into INSERT I/O JACK
TIP: OUT
Sleeve wire
Ring out
Tip in
TIP: IN
Inserted into the output socket connected with the external processor

⚠ Cauious

The input signal is inverted INSERT socket. This should not be a problem when connecting to an effect unit, but note that there may be a phase conflict when connecting to another type of device.

❹ GAIN controls

Adjust the input signal level. In order to get the best balance signal to noise ratio and dynamic range, adjust the gain so that the PEAK indicator (⓬) lights up only occasionally and briefly on the highest input transients.

❺ Equalizer (HIGH, MID and LOW)

This three-band equalizer adjusts the channel's high, mid, and low frequency bands. Setting the knob to the "▼" position in the corresponding band produces a flat response. Turning the knob to the right boosts the corresponding frequency band, while turning to the left attenuates the band. Monaural channels have MID frequency controls to adjust the midrange frequency band.

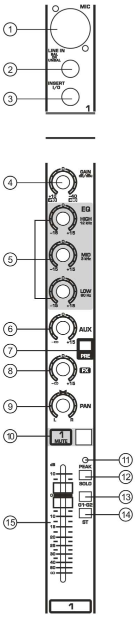
The following table shows the three bands of EQ type, frequency, and maximum cut / boost.

Fequency band	Stpy	Frequency	Maximum weakening / enhancement
HIGH	Slope shape	12kHz	±15 dB
MID	Peak shape	2.5 kHz	
LOW	Slope shape	80 Hz	

❻ AUX control knob

Adjustment sent from the channel to the AUX bus signal level. This knob should generally be set close to the "▼" position.On stereo channels, the signals L and R channels are mixed and sent to the AUX bus.

Channel Control Section



❼ AUX PRE SWITCH

Choose whether to send the pre-fader or post-fader signal to the AUX bus. If this switch is on (■), the mixer sends the pre-fader signal (before the channel fader I signal) is sent to the AUX bus, so that AUX output is not the impact attenuator. If the switch is off (▬), the mixer sends the post-fader signal to the AUX bus.

❽ EFFECT Control knob

Sent from the channel to adjust AFFECT bus signal level. Note that the channel fader will affect the signal sent to the bus level.

❾ PAN Control knob

The PAN control adjusts the channel signal on the STEREO L and R buses stereo position.

❿ MUTE Indicator

Press the MUTE switch (▬) MUTE indicator lights up red.

⓫ PEAK Indicator

After detecting the peak level of the signal EQ. When the level reaches below clipping 3dB, PEAK indicator lights yellow.

⓬ SOLO

This switch lets you monitor the channel's pre-fader signal. Press the switch (▬) so that it lights up. When the switch is turned on, the channel pre-fader signal is output to the PHONES jack for monitoring.

⓭ 1-2 Switch

This switch the channel's signal to the GROUP 1 and 2 buses.
15.ST switch

⓮ ST Switch

This switch assigns the channel signal to the STEREO L and R buses.

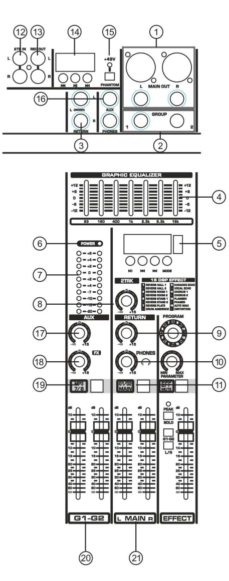
⓯ Channel faders

Adjust the level of the channel signal. Use these faders to adjust the balance between the various channels.

PS: Unused channel faders maximum to reduce noise.

Main section

Main control section



❶ MAIN OUT L R Jack

These jacks deliver the mixer's stereo output. CurrieUse these jacks to connect to the power amplifier driving your main speakers. Using MAIN OUT master fader level control while recording professional Stereo output audio mixer, you can also connect these jacks I received a recording device

❷ GROUP Jack

These impedance-balanced phone jacks output the GROUP signal. Can use these jacks to connect multitrack recorder, or other such input devices jack.

❸ RETURN L（MONO） R Jack

These are unbalanced phone-jack line input jack. Signal received by these jacks is sent to the STEREO L / R bus and AUX bus. Stereo signal is returned a mono mix signal is sent to the AUX1 and AUX2 buses. These jacks are typically used to receive a return from an external effect device (reverb, delay, etc.).

PS:

- These jacks can also be used as an auxiliary stereo input.
- If you connect to the L (MONO) jack, the mixer will recognize the signal as mono signal to both the L and R jacks to send the same signal.

❹ Graphic Equalizer

The seven-band graphic equalizer adjustment sent to the MAIN OUT jacks of an audio signal. EQ cut or boost each frequency band (125,250,500,1k, 2k, 4k and 8k Hz) within ± 12 dB range.

❺ Music player

High quality music player, there will MP3.WMA music files into the player's U disk socket, via USB knob to control the playback of high quality music. This player comes with a Bluetooth function and the recording function using the "MODE" button to switch.

❻ POWER indicator

After the mixer's power, this indicator lights.

❼ LED level indicator

This table shows the L E D M A I N and P H O N E signal level. "0" segment corresponds to the nominal output level. When the output level reaches the clipping level red.

❽ 2 TRK control knob

It is adjustable from 2 T R K I N jack to transmit the signal level S T E R E O L / R bus.

❾ RETURN control knob

Adjustment will send R E T U R N jack L (M O N O) and L / R signal received by the R A U X bus level.

❿ PHONES control

Regulation and control PHONES jack output level.

⓫ ST / G1-G2 switch

This switch can be output signal S T or G R O U P switched to P H O N E S for monitoring, L E D level meter display by.