



# USER MANUAL

Professional audio mixer

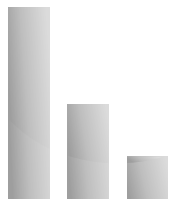


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## Important safety instructions



### Caution !

To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel

### Caution !

To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

### Caution !

- [1]. Keep these instructions.
- [2]. Heed all warnings.
- [3]. Follow all instructions.
- [4]. Follow all instructions.
- [5]. Do not use this apparatus near water
- [6]. Clean only with dry cloth.
- [7]. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- [8]. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- [9]. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

- [10]. Place the power cord so that it is protected from being walked on and sharp edges. Be sure that the power cord is protected particularly at plugs, convenience receptacles and the point where it exits from the apparatus
- [11]. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
- [12]. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



- [13]. Only use attachments/accessories specified by the manufacturer.
- [14]. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over.
- [15]. Unplug this apparatus during lightning storms or when unused for long periods of time.
- [16]. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## Specifications

### MICROPHONE INPUTS (XENYX MIC PREAMP)

Type	XLR, electronically balanced, discrete input circuit
Mic E.I.N. (20 Hz - 20 kHz)	
@ 0 $\Omega$ source resistance	-134 dB / 135.7 dB A-weighted
@ 50 $\Omega$ source resistance	-131 dB / 133.3 dB A-weighted
@ 150 $\Omega$ source resistance	-129 dB / 130.5 dB A-weighted
Frequency response	<10 Hz - 150 kHz (-1 dB), <10 Hz - 200 kHz (-3 dB)
Gain range	+10 to +60 dB
Max. input level	+12 dBu @ +10 dB Gain
Impedance	approx. 2.6 k $\Omega$ balanced
Signal-to-noise ratio	110 dB / 112 dB A-weighted (0 dBu In @ +22 dB gain)
Distortion (THD+N)	0.005% / 0.004% A-weighted
Line input	
Type	1/4" TRS connector electronically balanced
Impedance	approx. 20 k $\Omega$ balanced 10 k $\Omega$ unbalanced
Gain range	-10 to +40 dB
Max. input level	30 dBu

### FREQUENCY RESPONSE

Microphone input to main out	
<10 Hz - 90 kHz	+0 dB / -1 dB
<10 Hz - 160 kHz	+0 dB / -3 dB
Stereo inputs	
Type	1/4" TRS connector, electronically balanced
Impedance	approx. 20 k $\Omega$
Max. input level	+22 dBu
EQ mono channels	
Low	80 Hz / $\pm 15$ dB
Mid	100 Hz - 8 kHz / $\pm 15$ dB
High	12 kHz / $\pm 15$ dB
EQ stereo channels	
Low	80 Hz / $\pm 15$ dB
Low Mid	500 Hz / $\pm 15$ dB
High Mid	3 kHz / $\pm 15$ dB
High	12 kHz / $\pm 15$ dB
Aux sends	
Type	1/4" TS connector, unbalanced
Impedance	approx. 120 $\Omega$
Max. output level	+22 dBu

### Stereo aux returns

Type	1/4" TRS connector, electronically balanced
Impedance	approx. 20 k $\Omega$ bal. / 10 k $\Omega$ unbal.
Max. input level	+22 dBu
Main outputs	
Type	XLR, electronically balanced and 1/4" TRS balanced
1622FX only:	1/4" TS connector unbalanced
Impedance	approx. 240 $\Omega$ symm. / 120 $\Omega$ unbalance
Max. output level	+28 dBu +22 dBu

### Control room outputs

Type	1/4" TS connector unbalanced
Impedance	approx. 120 $\Omega$
Max. output level	+22 dBu

### Headphones outputs

Type	1/4" TRS connector, unbalanced
Max. output level	+19 dBu / 150 $\Omega$ (+25 dBm)

### DSP

Converter	24-bit Sigma-Delta, 64/128-times oversampling
Sampling rate	40 kHz

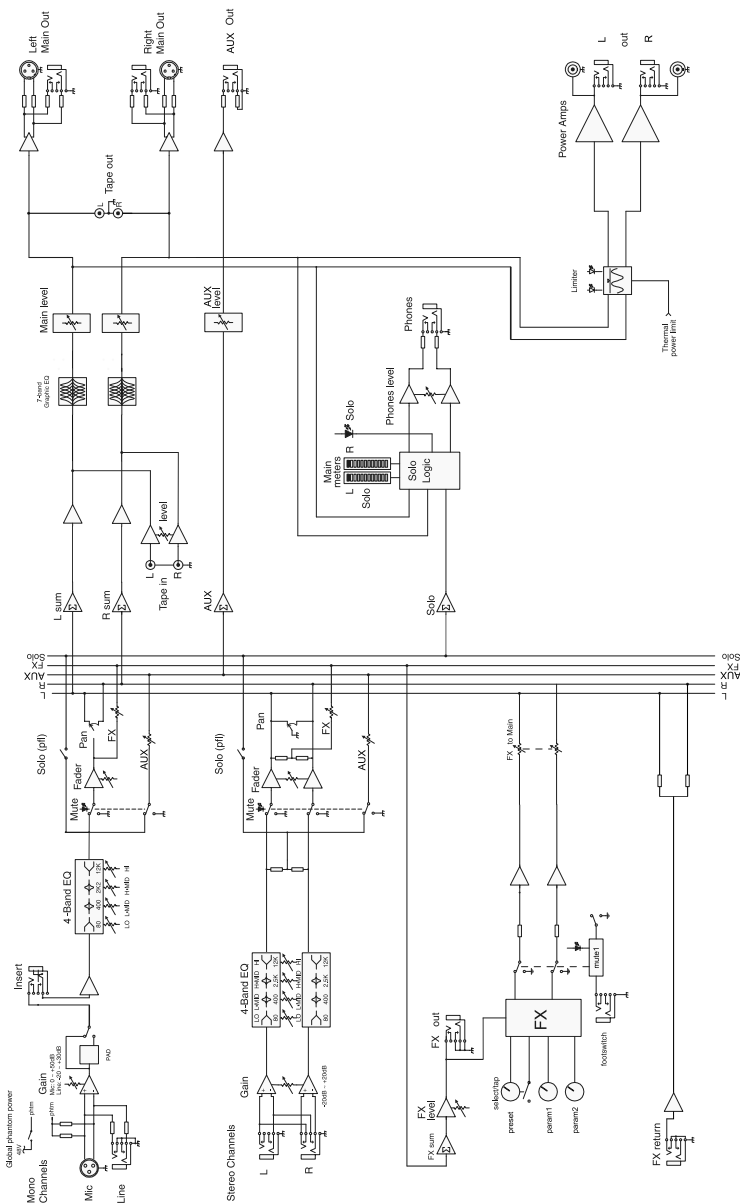
### MAIN MIX SYSTEM DATA\*

#### Noise

Main mix @ - $\infty$ Channel fader @ - $\infty$	-101 dB -100 dB
Main mix @ 0 dB, Channel fader @ - $\infty$	-93 dB -96 dB -87 dB
Main mix @ 0 dB, Channel fader @ 0 dB	-81 dB -83 dB -80 dB

#### Power supply

Mains voltage	230 V~, 50/60 Hz
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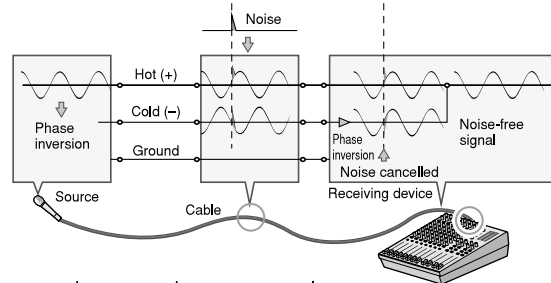
BLOCK DIAGRAM

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 problems, 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

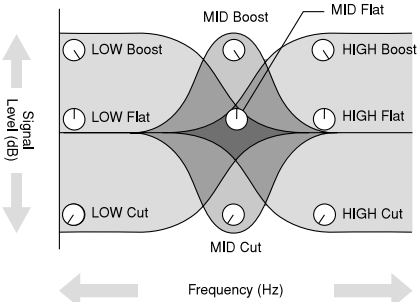
Microphones	Use balanced lines.
Short line-level runs	Unbalanced lines are fine if you're in a relatively noise-free environment.
Long line-level runs	The ambient electromagnetic noise level will be the ultimate deciding factor, but balanced is best.

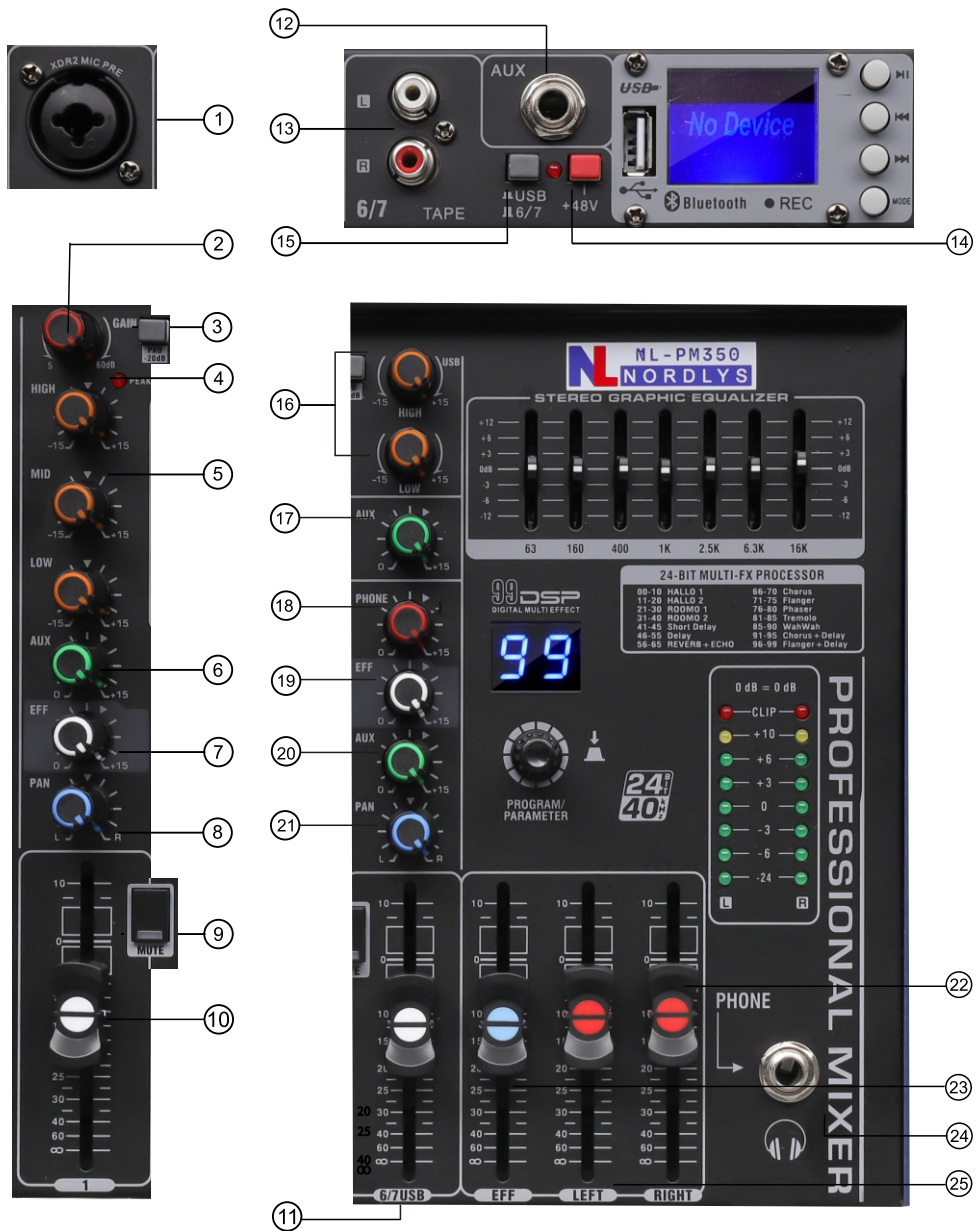
Some Frequency Facts

The lowest and highest frequencies than can be heard by the human ear are generally considered to be around 20 Hz and 20,000 Hz, respectively. Average conversation occurs in the range from about 300 Hz to about 3,000 Hz. The frequency of a standard pitchfork used to tune guitars and other instruments is 440 Hz (this corresponds to the "A3" key on a piano tuned to concert pitch). Double this frequency to 880 Hz and you have a pitch one octave higher (i.e. "A4" on the piano keyboard). In the same way you can halve the frequency to 220 Hz to produce "A2" an octave lower.

Boost with Caution

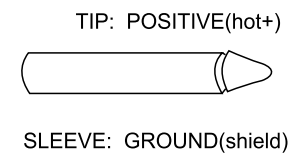
If you're trying to create special or unusual effects, go ahead and boost away as much as you like. But if you're just trying to achieve a good-sounding mix, boost only in very small increments. A tiny boost in the midrange can give vocals more presence, or a touch of high boost can give certain instruments more "air." Listen, and if things don't sound clear and clean try using cut to remove frequencies that are cluttering up the mix rather than trying to boost the mix into clarity. One of the biggest problems with too much boost is that it adds gain to the signal, increasing noise and potentially overloading the subsequent circuitry.





## INSTALLATIONS

FIGURE 1



UNBALANCED 1/4" PLUG

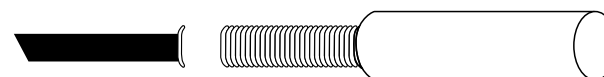
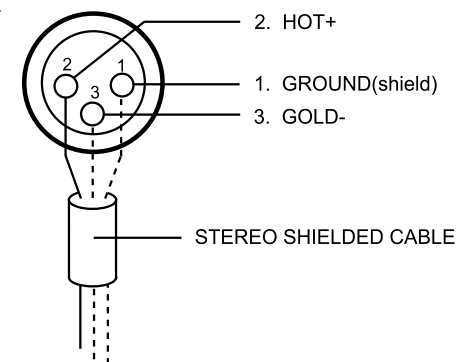


FIGURE 1-1

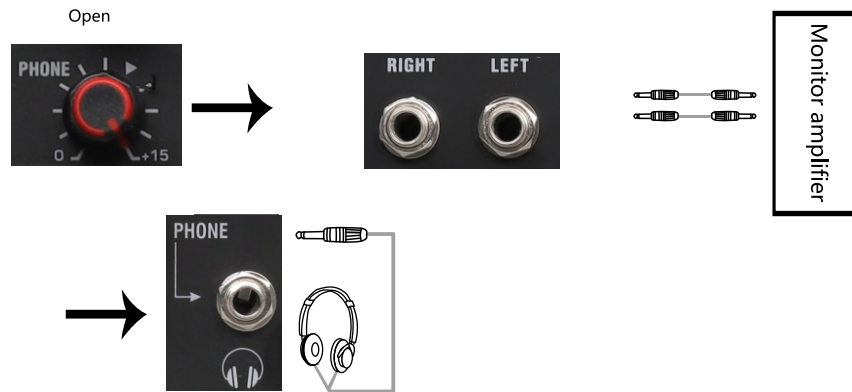
FEMALE 3 PIN CONNECTOR

FIGURE 1-2





## 6. Monitor use



Example: Monitoring means that when the entire mixer inputs more signal sources, MIX OUT is connected to the main amplifier, and when the output is a mix of multiple channels, the tuner can connect a monitor amplifier from the CTRL OUT port or from PHONES. Connect a headphone to monitor the sound of pressing the PRL channel.

## 7. REC use

REC is the micro-signal output port of the mixer, which can be connected to a professional recorder or a computer equipped with recording software.

8. Please note that the mains voltage is 220V--- 240V, If it is lower than 220V, please use a voltage regulator, otherwise the insufficient power supply will cause current noise.
9. To select a mixer equipped with a wireless microphone, please use the penultimate channel control. For example, the sixth channel of the 7-channel mixer controls the microphone, for example, the seventh channel of the 9-channel mixer.

Factory accessories: one host, one power supply, one manual.

### 1. MIC Input jacks

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

### LINE Input Jacks (monaural channels)

These are balanced TRS phone-jack line inputs. (T: Hot; R: Cold; S: Ground). You can connect either balanced or unbalanced phone plugs to these jacks.

### 2. GAIN Control

Adjusts the input signal level. To get the best balance between the S/N ratio and the dynamic range, adjust the gain so that the PEAK indicator lights only occasionally and briefly on the highest input transients. The -60 to +10 scale is the MIC input adjustment range. The -40 to +10 scale is the LINE input adjustment range.

### 3. PAD switch

Cut down the signal sensitivity of each channel 20dB.

### 4. Peak (PEAK LEVEL INDICATOR)

A red LED indicates a signal level at the insert return point, pre-master fader. It illuminates at approximately 5dB below clipping.

### 5. Equalizer (HIGH, MID and LOW) 3 Segments

This three-band equalizer adjusts the channel's high, mid and low frequency bands. Setting the knob to the "0" position produces a flat response in the corresponding band. Turning the knob to the right boosts the corresponding frequency band, while turning to the left attenuates the band.

### 6. AUX SEND

Using this control to set level of signal from external stereo source and the main signal control is re-controlled by STEREO or MONO section.

### 7. FX Control

The aux send marked FX offers a direct route to the built-in effects processor and is therefore post-fader and post-mute.

### 8. PAN Control

The PAN control determines the position of the channel signal within the stereo image. When working with subgroups, you can use the PAN control to assign the signal to just one output, which gives you additional flexibility in recording function.

### 9. MUTE

All output from the channel are enabled when the MUTE switch released and muted when the switch is down.

## 10.CHANNEL FADER

Adjusting the volume of channel.

## 11.MP3 VOLUME CONTROL SEND FADER

Adjusting the volume of MP 3 channel & 6 / 7 channel.

## 12.AUX SEND

The AUX SEND jack should be used when hooking up a monitor power amp or active monitor speaker system. The relevant AUX path should be set pre-faer.

## 13.STEREO INPUT

Connecting with cassette deck.

## 14.PHATOM +48V SWITCH

The switch toggles phantom power ON and OFF. When the switch is on the mixer supplier +48V phantom power to all channels that have XLR MIC input jacks. Turn the switch ON.

## 15.USB TO MP3 SWITCH KEY

## 16.USB EQUALIZER HIGH LOW

This low band equalizer adjusts the channel's high and low frequency.

## 17.AUX SEND CONTROL

Use this knob could control the AUX output jack.

## 18.PHONE

Use the knob to adjust the output level of headphones volume.

## 19.EFF CONTROL

The AUX SEND (FX) jack carries the master aux mix ( from the channel's FX controls.) You could connect this to an external ef fects device to process the FX bus. The processed signal can be brought from the effects device back into the STEREO AUX RETURN JACK.

## 20.AUX CONTROL

Monitor and effects bussed (AUX sends) source their signals via a control from one or more channels and sum these signals to a so-called bus. This 8 bus signal is sent to an AUX send connector ( for monitoring applications: MONO OUT ) in the latter case, the effects return can then be brought back into console via the AUX return connectors.

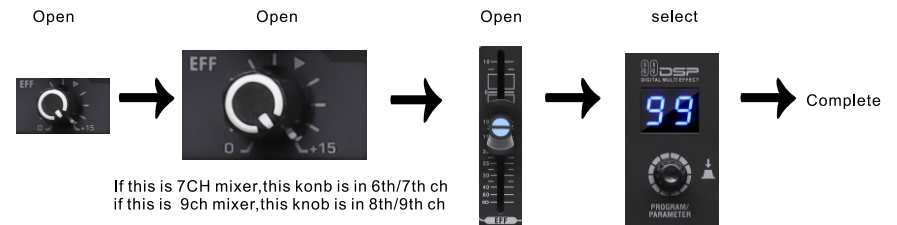
## 21.PAN CONTROL

The PAN control determines the position of the channel signal within the stereo image. When working with the subgroups, you can use the PAN control to assign the signal to just one output, which give you additional flexibility in recording situations.

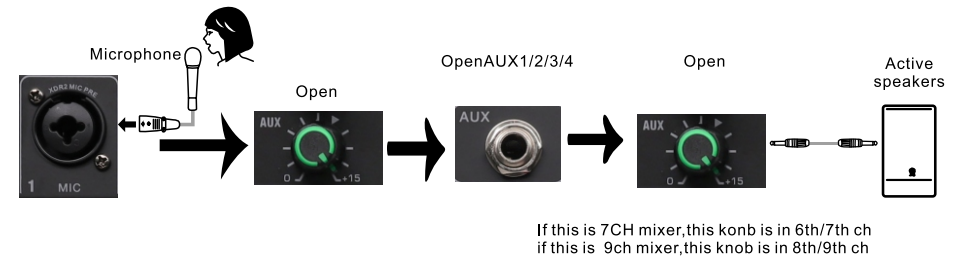
## 22.MAIN MIXER FADER

You use the high-precision quality faders to control the output level of the main channel.

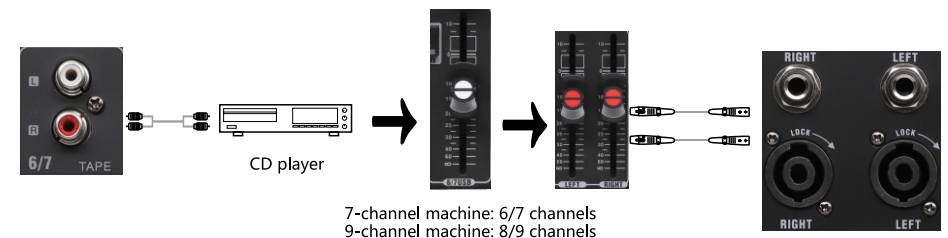
## 2、 Use of built-in effects



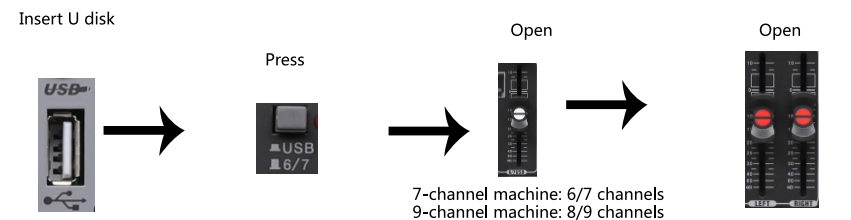
## 3、 AUX auxiliary channel use



## 4、 PLAY IN input



## 5、 USB use

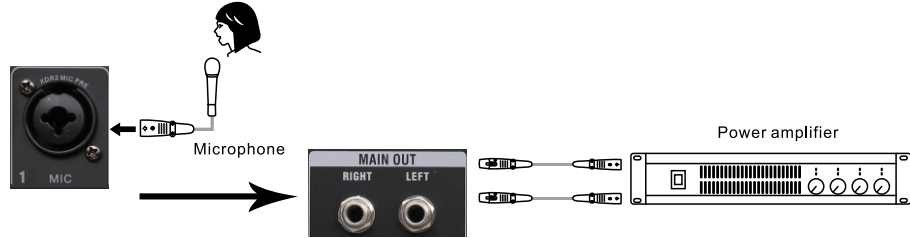


Total volume

## Examples of use

### 1. Use the amplifier

①Choice 1:4ch big power mixer or 2ch big power mixer



Gain open

Single channel on the amp connect with L or R: Press "MAIN" the amp connect with G1 or G2: Press "G1/G2"

Total volume on

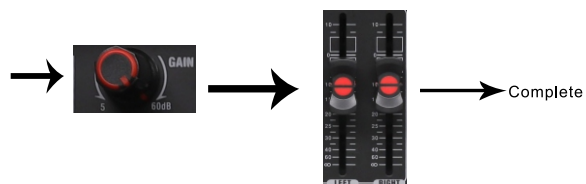


②Choice 2:2ch small power mixer



Gain open

Total volume on



Remark:  
There is no sound after pressing "MUTE" key



Please check the "MUTE" key whether press when the channel without any sound.

### 23.FX SEND FADER

### 24.PHONE JACK

Connect a pair of headphones to this TRS phone-type output jack.

### 25.MAIN MIX FADER



⏮ Last song

⏸ Pause

⏭ Next song

Choosing function after pressing the mode



### 26. 7-BAND STEREO GRAPHIC EQUALIZER

The graphic stereo equalizer allows you to tailor the sound to the room acoustics.

### 27. DSP Displayer

### 28.EFFECT CONTROL

This is a 24 BIT digital effects processor control.

**Remark:** There are two connecting way for this mixer.

1. There are 4 full frequency speakers (300W) work together.
2. Two full frequency speakers (300W) work with speaker (600W).

\*You need to press (36) if you choose option.2



#### 29. POWER SWITCH

Use the POWER switch to turn on the mixing console. The power switch should always be in the "OFF" position when you are about to connect your unit to the mains. To disconnect the unit from the mains, pull out the main cord plug. When installing the product, ensure that the plug is easily accessible.

#### 30. CABEL POWER AC

AC 110-220V ~ 50/60Hz . This is out of connected the power supply jack.

#### 31. FUSE HOLDERS

When occur a problem on this appliance, the fuse will be cut off power to prevent from problem.

#### 32. MAIN OUT(L,R) JACKS

This jacks deliver the mixer's stereo output. You use this jacks, for example, to connect to the power amplifier driving your main speakers.

#### 33. SPEAKER CONNECTOR

Connecting with speakers.

#### 34. COOLING FAN

Cooling the amplifiers to avoid the MIXER too hot to be broken.

