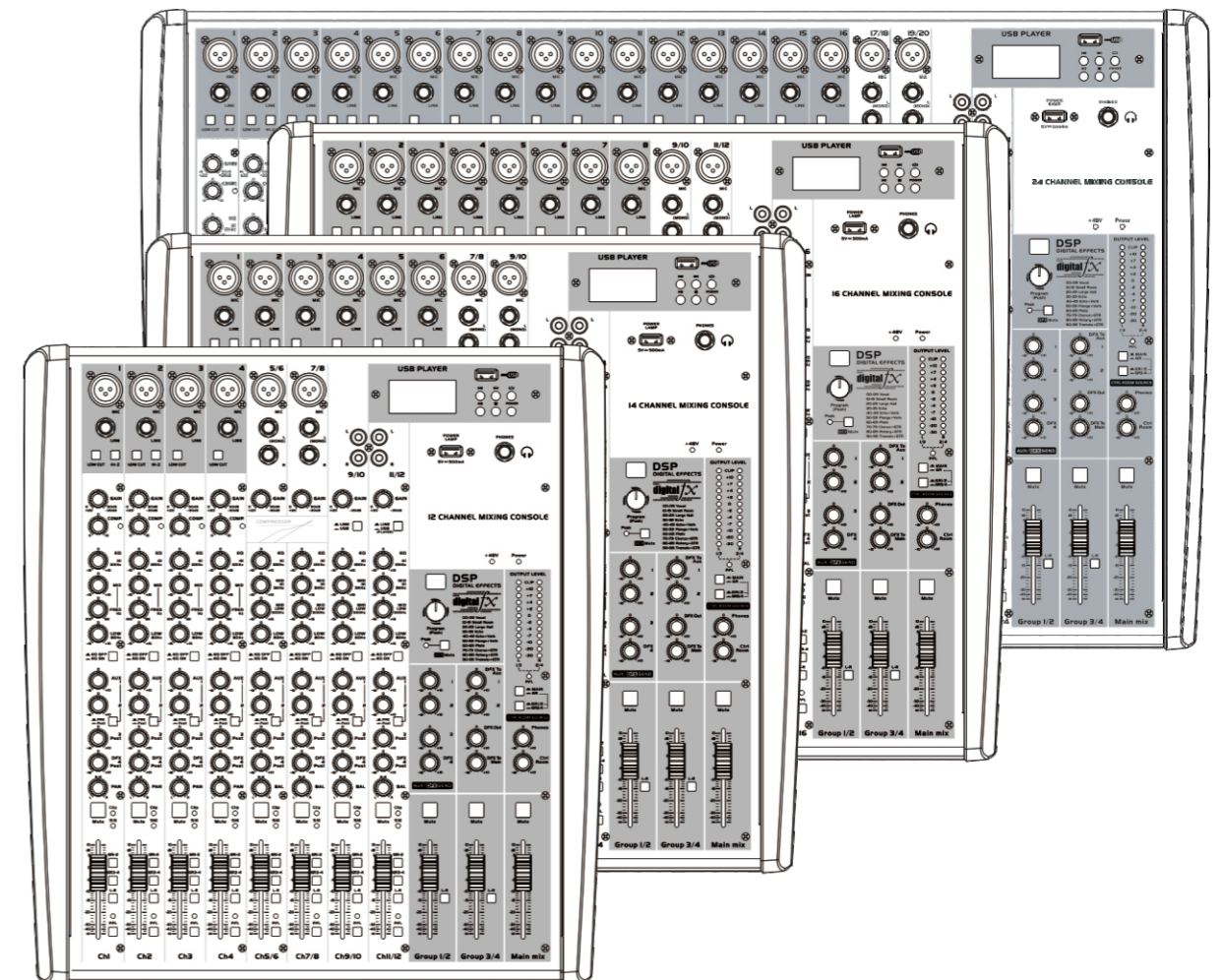


itC

User's Manual

HG14D: L!(/ HG16D: L!(
12 / 14 / 16 CHANNELS MIXING CONSOLE



Important Safety Instructions



- This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.
- This symbol, wherever used, alerts you to important operating and maintenance instructions.
- Please read.
- Protective Ground Terminal
- AC mains (Alternating Current)
- AC mains (Alternating Current)
- ON:** Denotes the product is turned on.
- OFF:** Denotes the product is turned off.

WARNING
Describes precautions that should be observed to prevent the possibility of death or injury to the user.

CAUTION
Describes precautions that should be observed to prevent damage to the product.
Disposing of this product should not be placed in municipal waste but rather in a separate collection.

WARNING
Power Supply
Ensure that them a insource voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user. Unplug the product before electrical storms occur and when unused for long periods of time to reduce the risk of electric shock or fire.

External Connection
Always use proper ready-made insulated mains cabling (power cord). Failure to do so could result in shock/death or fire. If in doubt, seek advice from a registered electrician.

Do Not Remove Any Covers
Within the product are areas where high voltages may present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed. Covers should be removed by qualified service personnel only.

No user serviceable parts inside.

Fuse
To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

Protective Ground
Before turning the unit ON, make sure that it is connected to Ground. This is to prevent the risk of electric shock.
Never cut internal or external Ground wires. Like wise, never remove Ground wiring from the Protective Ground Terminal.

Operating Conditions
Always install in accordance with the manufacturer's instructions.
To avoid the risk of electric shock and damage, do not subject this product to any liquid/rain or moisture. Do not use this product when in close proximity to water.
Do not install this product near any direct heat source. Do not block areas of ventilation. Failure to do so could result in fire.
Keep product away from naked flames.

IMPORTANT SAFETY INSTRUCTIONS
Read these instructions
Follow all instructions
Keep these instructions. Do not discard.
Heed all warnings.
Only use attachments / accessories specified by the manufacturer.

Power Cord and Plug
Do not tamper with the power cord or plug. These are designed for your safety.
Do not remove Ground connections!
If the plug does not fit your AC outlet seek advice from a qualified electrician.
Protect the power cord and plug from any physical stress to avoid risk of electric shock.
Do not place heavy objects on the power cord. This could cause electric shock or fire.

Cleaning
When required, either blow off dust from the product or use a dry cloth.
Do not use any solvents such as Benzol or Alcohol.
For safety, keep product clean and free from dust.

Servicing
Refer all servicing to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.

PORTABLE CART WARNING

Carts and stands - The component should be used only with a cart or stand that is recommended by the manufacturer. A component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the component and cart combination to overturn.

Notes

Guarantee

This guarantee is valid if the original buyer will have to present/display this certificate properly sealed and signed by the selling house, accompanied by the corresponding invoice of purchase where it consisted the model and serial number of the acquired equipment.

With the object of its correct operation, and of the validity of this one guarantee, this product will have to be installed and to be used according to the instructions that are detailed in the manual associate or the package of the product.

Some states do not allow to the exclusion or the limitation to the fortuitous or consequent damages, so the aforesaid limitation can not be applied to you.
This guarantee gives specific legal rights him, you you can also have other right that varies of state to state.

Control Elements

The following features will be applied to 12 channels, 14 channels and 16 channels. In case where different features need to be described for each other, the unit 12 channels and 14 channels will be described first, followed by the unit 16 channels feature in brackets.

1. MIC INPUT JACKS (CH 1 to 7/8 for 12 channels or CH 1 to 9/10 for 14 channels or CH 1 to 11/12 for 16 channels)

These are balanced XLR-type microphone input jacks

2. LINE INPUT JACKS (CH 1 to 4 for 12 channels or CH 1 to 6 for 14 channels or CH 1 to 8 for 16 channels)

These are balanced TRS phone-jack line inputs.

You can connect either balanced or unbalanced phone plugs to these jacks.

3. LINE INPUT JACKS (CH 5/6 to 7/8 for 12 channels or CH 7/8 to 9/10 for 14 channels or CH 9/10 to 11/12 for 16 channels)

They are organized in stereo pair and provided with 1/4" TRS sockets. It is used to connect the stereo device, plug both the left input and the right input. Using the left input if connect a mono input signal to the stereo channel, the output signal will appear on both sides.

4. LOW CUT

By pressing this button you will activate a 75Hz low frequency filter with a slope of 18dB per octave. You can use this facility to reduce the hum noise infected by the mains power supply, or the stage rumble while using a microphone.

5. RCA INPUT JACKS (CH 9/10 to 11/12 for 12 channels or 11/12 to 13/14 for 14 channels or CH 13/14 to 15/16 for 16 channels)

They are organized in stereo pair and provided with RCA sockets. It is used to connect the stereo device, plug both the left input and the right input.

6. HI-Z

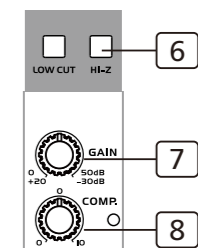
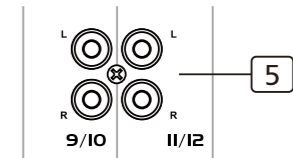
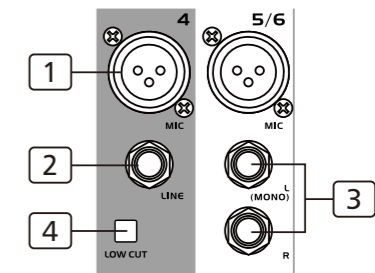
To change to a high impedance input, push the appropriate hi-z switch.

7. GAIN CONTROL

Adjusts the input signal level. To achieve the best balance between S / N and dynamic range, adjust the level so that the peak LED indicator lights occasionally only on the highest input transients. For each channel the MIC input adjustment range of the Gain is 0 to 50dB and the sensitivity of line input is +20 to -30dB.

8. COMP CONTROL

Adjust the amount of compression applied to the channel. Turn the knob to the right to increase the compression ration and the output gain will automatically adjusted. The result is smoother, more even dynamics because louder signals are attenuated which the overall level is boosted.



Control Elements

9. LINE/USB

By pressing this button, it will switch to the USB mode, then the USB signal can be sent to this channel; by releasing this button, the LINE IN inputs signal will send to the line input channels.

10. LINE/USB PLAYER

by pressing this button, it will switch to the USB PLAYER mode, then the signal of USB PLAYER module sent to this channel;

11. EQUALISER CONTROLS

There are 3-band EQ with sweepable MID on all mono input channel 1-4/1-6/1-8: HI, MID and LOW band. There are 4-band fixed frequency EQ on the stereo channel 5-12/7-14/9-16: HI, HI-MID, MID-LOW and LOW band. All bands provide up to 15 dB of boost or cut.

--HI

If you turn this control up, you will boost all the frequencies above 12 kHz (shelving filter). You will add transparency to vocals and guitar and also make cymbals crispier. Turn the control down to cut all frequencies above 12 kHz In such way, you can reduce sibilances of human voice or reduce the hiss of a Tape player.

--MID

This is a peaking filter and it will boost/cut frequencies from 100 Hz to 8 kHz depending on the position of the MID freq control. This control will affect especially upper male and lower female vocal ranges and also the harmonics of most musical instruments.

--HI-MID

This control gives you up to 15 dB boost or cut at 3 kHz. It is useful for controlling voice. It can accurately polish your performance via adjusting this knob.

--MID-LOW

This control gives you up to 15 dB boost or cut at 500 Hz.

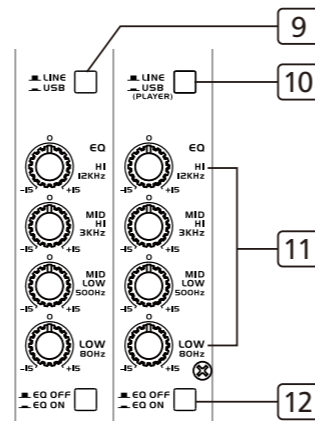
--LOW

If you turn this control up, you will boost all frequencies below 80 Hz. You will give more punch to bass drum and bass guitar and make the vocalist more "macho". Turn it down, you will cut all the frequencies below 80 Hz. In this way, you can avoid low frequency vibrations and resonance thus preserving the life of your woofers.

12. EQ SWITCH

This switch allows the user to use the EQ Section in signal path. Of course it can be used to make A/B comparisons between equalized signal and not equalized signal.

It also can be used to apply equalization at a certain point of the show, excluding it when it's not necessary.



Technical Specifications

Main mix section			
Max. MAIN MIX output	+26dBu XLR balanced (+20dBu un-balanced)		
AUX range	OFF to +10dB		
Fader range	OFF to +10dB		
PHONES/CONTROL-ROOM range	OFF to +10dB		
Hum & Noise	<-80dB @ 20Hz~22KHz A-weighted, 1 channel & MAIN level:0dB, the other: Minimum		
Crosstalk	<-80dB @0dB 20Hz~22KHz A-weighted MAIN level:0dB, the other: Minimum		
Power supply			
	12 channels	14 channels	16 channels
Main voltage	100-240V~ 50/60Hz	100-240V~ 50/60Hz	100-240V~ 50/60Hz
Fuse	T1.25A AC250V	T1.25A AC250V	T1.25A AC250V
Rated power consumption	30W	30W	30W

MODEL :	12 / 14 / 16 channel mixing console	
Mono channels		
Microphone input	XLR with balanced	
Frequency response	10Hz to 55KHz, +/-3dB	
Distortion(THD+N)	<0.03% at +0dB ,22Hz~22KHz A-weighted	
Gain range	0dB to 50dB	
Max. Input	+21 dB	
LOW CUT	75Hz	
SNR	<-100dBr A-weighted	
Phantom power	+48V with switch control	
Line input	1/4" TRS with balanced	
Frequency response	10Hz to 55KHz, +/-3dB	
Distortion(THD+N)	<0.03% at +0dB ,22Hz~22KHz A-weighted	
Sensitivity range	+20dB~ -30dB	
COMPRESSOR	GAIN:0~9dB	
	THRESHOLD:20dB--->5dB	
Stereo input channels		
Mic input	XLR with balanced	
Line input	1/4" TRS with balanced	
Frequency response	10Hz to 55KHz, +/-3dB	
Distortion(THD+N)	<0.03% at +0dB ,22Hz~22KHz A-weighted	
Sensitivity range	+20dBu~ -30dBu	
SNR	<-100dBr A-weighted	
RCA input channels		
RCA input	RCA with un-balanced	
Frequency response	10Hz to 55KHz, +/-3dB	
Distortion(THD+N)	<0.03% at +0dB ,22Hz~22KHz A-weighted	
Sensitivity range	+20dBu~ -30dBu	
SNR	<-100dBr A-weighted	
Channels EQ		
	Mono Channel	Stereo Channel
High	+/-15dB @12KHz	+/-15dB @12KHz
Mid	+/-15dB @100KHz -8KHz	+/-15dB @3KHz or +/-15dB @500Hz
Low	+/-15dB @80Hz	+/-15dB @80Hz
Impedances		
Microphone input	1.8K Ω	
All other input	10KΩ or greater	
Tape out	1KΩ	
All other out	120Ω	
DSP section (options)		
A/D and D/A converters	24bit	
Type of effects	Vocal, Small Room, Large Hall, Echo, Echo+Verb, Flange+Verb, Plate, Chorus+GTR, Rotary+GTR, Tremolo+GTR	
Controls	100 position preset selector(10 preseter * 10 variation)	
	Mute switch & Foot-switching with LED indicator	
FOOT-SW	TIP:FX	SLEEV: GND

13. AUX SEND CONTROLS

These four controls are used to adjust the level of the respective signal sent to AUX bus and their adjustable range is from $-\infty$ to +10 dB .

14. PRE/POST

AUX1 and AUX2 can be switched to PRE/POST-FADER via the PRE/POST button, so, generally, they can be used for monitor application and effects & sound processors input. AUX3 and AUX4 are configured as POST-Faders.

15. PAN / BAL CONTROL.

The PAN control determines the stereo positioning of the channel signal on the stereo L and R buses.The BAL control knob sets the balance between left and right channels. Signal input through the stereo L/R bus.

16. MUTE

Each channel is equipped with the MUTE button, pressing this button is equal to turning the fader down, which can mute the corresponding channel output except for the PRE AUX sends, channel INSERT send and PFL, and the MUTE LED will illuminate.

17. SIG/CLIP

Indicate that the channel's incoming audio signal is with in an optimal range.

18. CHANNEL LEVEL

This fader will adjust the overall level of this channel and set the amount of signal sent to the main output.

19. GR1-2/GR 3-4/L-R

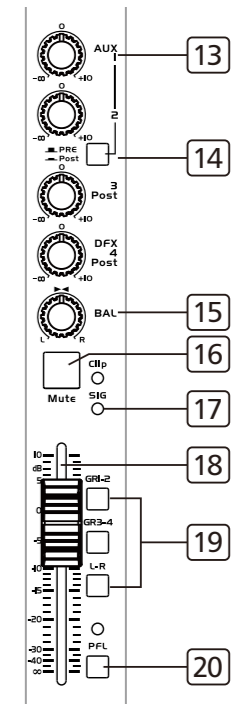
Each channel provides three push-buttons: GR1-2, GR3-4, L-R . The three buttons can be considered as signal assignment switches. Pressing the GR1-2 will assign the channel signal to GROUP1-2, you can depend on the PAN switch to adjust the amount of channel signal sent to the GR1 versus GR2, when turns the PAN to completely left, then the signal can be only controlled by GROUP1 and viceversa. In the same way, pressing the GR3-4 or L-R will assign the channel signal to GROUP3-4 or MAIN MIX L-R, and will also be affected by PAN.

20. PFL

Each channel is equipped with the PFL button, pressing this button which the corresponding signal send will be routed to CTRL ROOM/PHONES outputs and METER display.

21. GROUPS LEVEL

These faders are used to control the levels of the signal send to the GROUPS OUT, the adjustable range goes from $-\infty$ to +10 dB. Any channel that is assigned to the groups, not muted and not turned down will be assigned to the GROUPS OUT.



Control Elements

22. MAIN MIX LEVEL

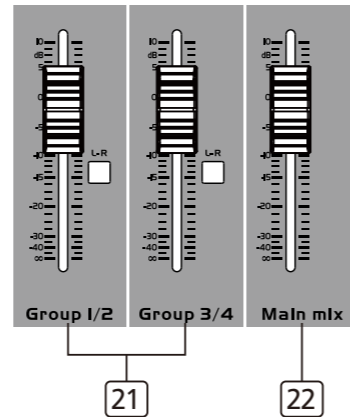
This fader is used to set the amount of signal sent to the main mix output.

23. DIGITAL EFFECTS

It displays the selected preset.

24. PROGRAM(PUSH)

Adjust this knob to select the right effect you wish to perform. There are totally 100 options for you: Echo, Vocal, Plate and versatile two-effect combination. When you are satisfied the right preset, please push this knob to store this preset you want.



25. DFX/MUTE

Disables the internal effects processor; in this case the red "PEAK" LED will be lit permanently.

26. DFX TO AUX SEND1/2

The both rotary knobs assign the DFX signals to their respective AUX SEND outputs.

27. AUX SEND CONTROLS

These four controls are used to determine the master AUX SEND levels, which can be varied from $-\infty$ to +10 dB. When the external effect units which have no input gain control were connected to mixer, you can get a further +10 dB gain available from these Aux Send outputs. As to the AUX4, it can also provide the lovable level adjustment for the internal effect signal.

28. DFX OUT

These control is used to determine the internal DSP module levels and DFX sends output, which can be varied from $-\infty$ to +10dB

29. DFX TO MAIN

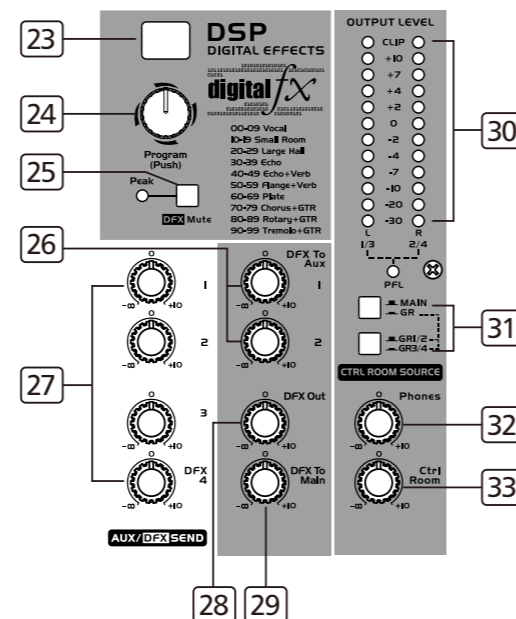
This control is used to assign the signal from FX to MAIN MIX output.

30. OUTPUT LEVEL

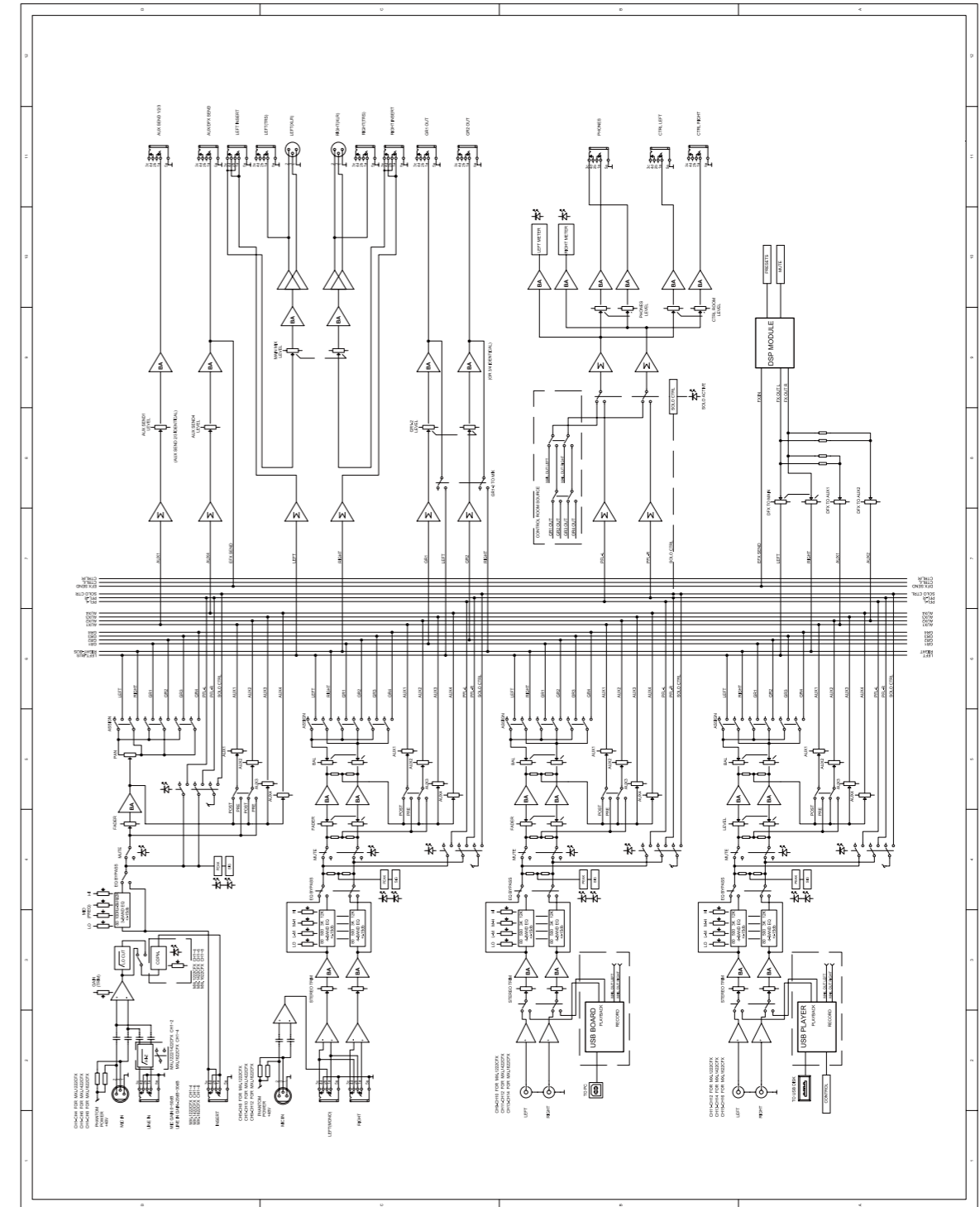
This stereo 12 segments LED meter will be indicate the level of overall output signal.

31. MAIN/GR

If you release the MAIN/GR button, the signal will be cone from the MAIN MIX output, it will not be affected by pressing both GR1/2 and GR3/4 button. When you push down the MAIN GR button and press both GR1/2 and GR3/4 at the same time, the signal will be come from the GR3/4 output. When you release the GR1/2 and GR3/4, the signal will be come from the GR1/2 output.



Block Diagram



No.	Preset	Description	Parameter
00~09	Vocal	Simulate a small space with slight	Rev.delay time: 0.8~0.9s Pre-delay: 10~45ms
10~19	Small Room	Simulate a bright studio room	Decay time: 0.7~2.1s Pre-delay: 20~45ms
20~29	Large Hall	Simulate a large acoustic space	Decay time: 3.6~5.4s Pre-delay: 23~55ms
30~39	Echo	Echo/Delay effect	Delay time: 145~205ms
40~49	Echo+Verb	Echo & Reverb combination	Delay time: 208~650ms Decay time: 1.7~2.7s
50~59	Flanger+Verb	Flanger effect & Reverb combination	Decay time: 1.5~2.9ms Rate: 0.8Hz~2.52Hz
60~69	Plate	Simulate classic bright vocal plate	Decay time: 0.9s~3.6s
70~79	Chorus+GTR	Guitar Effect: Chorus	Rate:0.92Hz~1.72Hz
80~89	Rotary+GTR	Guitar Effect: Rotary	Modulation depth: 20%~80%
90~99	Tremolo+GTR	Guitar Effect: Tremolo	Rate : 0.6Hz~5Hz

32. PHONES CONTROL

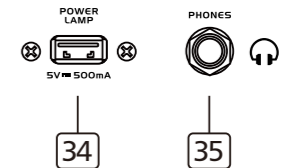
This control is used to adjust the signal present at the Phones output, which can be varied from $-\infty$ to +10 dB.

33. CONTROL ROOM CONTROL

This control is used to adjust the signal present at the control room output, which can be varied from $-\infty$ to +10 dB.

34. POWER LAMP socket

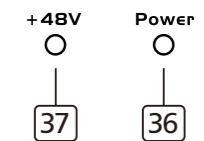
This lovable LAMP is very convenient for your operation, it is located in the top right corner of the front panel, and provides the 5V socket that can drive standard USB-type lamp.

**35. PHONES**

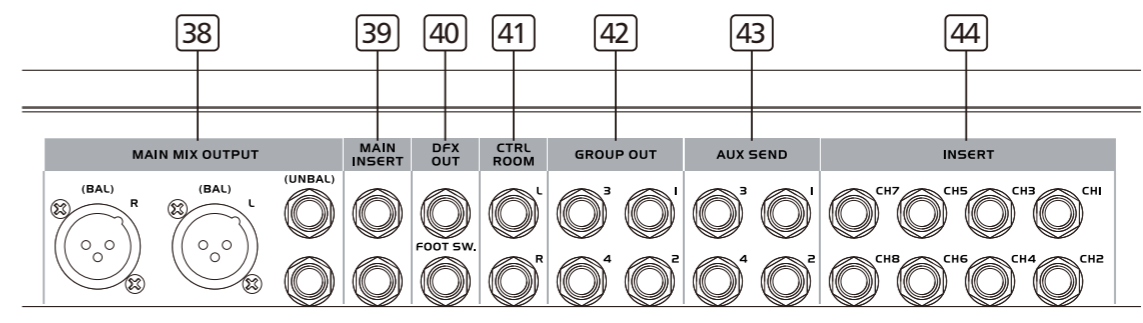
This socket will be used to send out the mix signal to a pair of headphones.

36. PWR LED

This LED indicates when the power is on in your mixer.

**37. +48V LED**

This LED indicates when the phantom power is switched on.

**38. MAIN MIX OUTPUT**

These stereo outputs are supplied with both the XLR and 1/4" phone jacks and it is controlled by the Main Mix Level.

39. MAIN INSERT

These two 1/4" phone jacks are stereo insert points and used to connect processors such as compressors, equalisers etc.. When insert a external processor into the jack, the Main stereo signal will be taken out after the main bus and returned into the MAIN MIX output before the MAIN MIX fader.

Control Elements

40. DFX OUT

This 1/4" sockets are used to send the signal from DFX mix buses to external devices.
FOOTSW.

This socket is used to connect external footswitch for your convenient operation, it has the same function as DFX MUTE button.

41. CTRL-ROOM

These 1/4" phone sockets will be used to send the signal to studio monitor speakers or to a second set of PA.

42. GROUP OUT

These 1/4" TRS jack are used to send out the signal from the GROUP 1/4 mix bus to external devices.

43. AUX SENDS

These 1/4" phone sockets are used to send out the signal from the AUX bus to external devices such as effects.

44. INSERT

This is where you connect external sound processors such as compressor-limiter, equalizers, etc..

45. AC Inlet with FUSE Holder

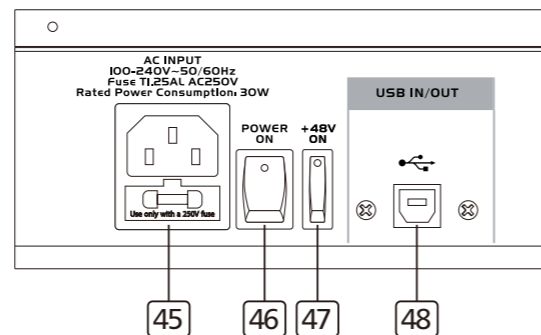
Use it to connect your mixer to the main AC with the supplied AC cord. Please check the voltage available in your country and how the voltage for your mixer is configured before attempting to connect your mixer to the main AC.

46. POWER Switch

This switch is used to turn the main power on and off.

47. +48 Volt Phantom Power Switch

It is available only to the XLR MIC sockets. Never plug in a microphone when phantom power is already on. Before turning phantom power on, make sure that all faders are totally down. In this way, you will protect your stage monitors and main loudspeakers.

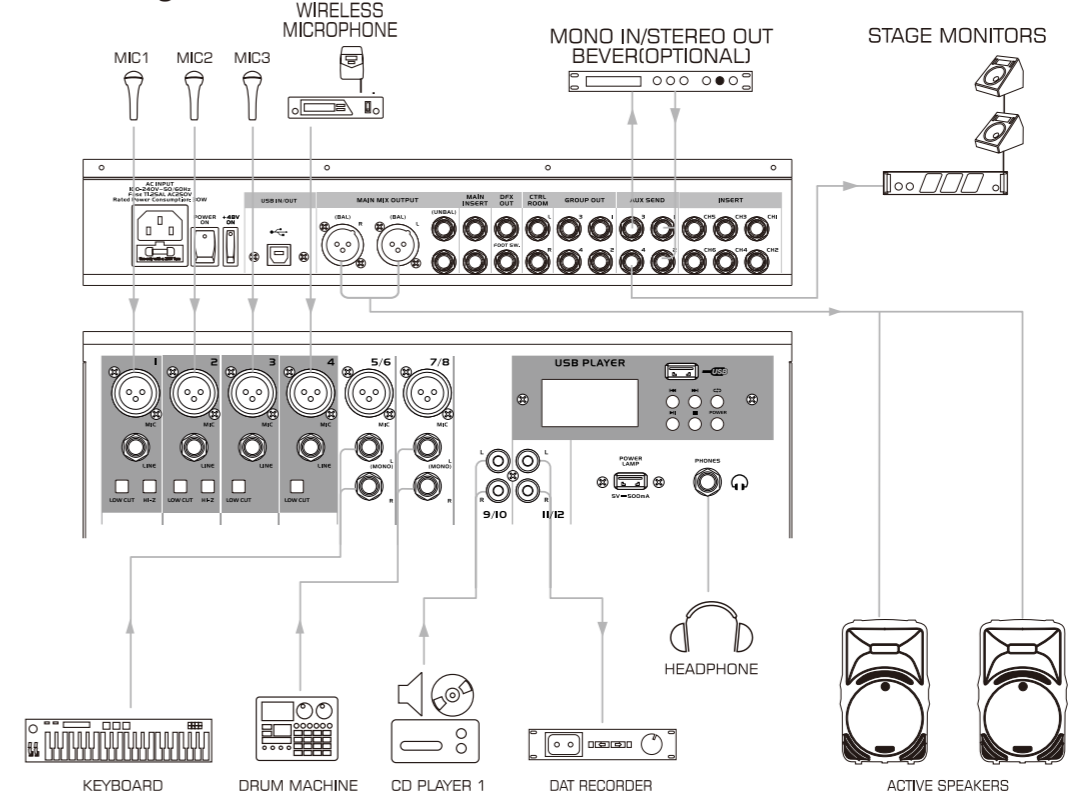


48. USB PORT

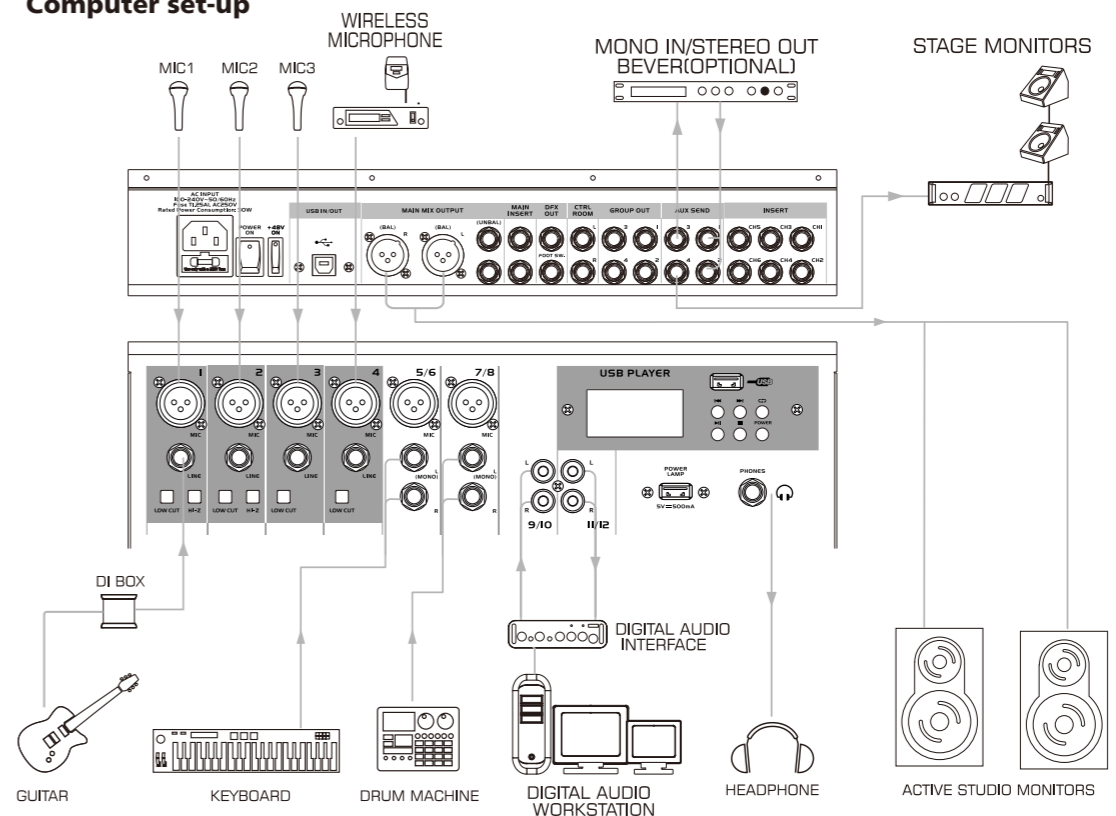
This USB port is used to connect the unit to PC with a transmission line. When it is in RECORD mode, it can connect with the MAIN MIX output; in the PLAYBACK mode, it can connect with the last stereo channel 9/10 or channel 11/12 or channel 13/14.

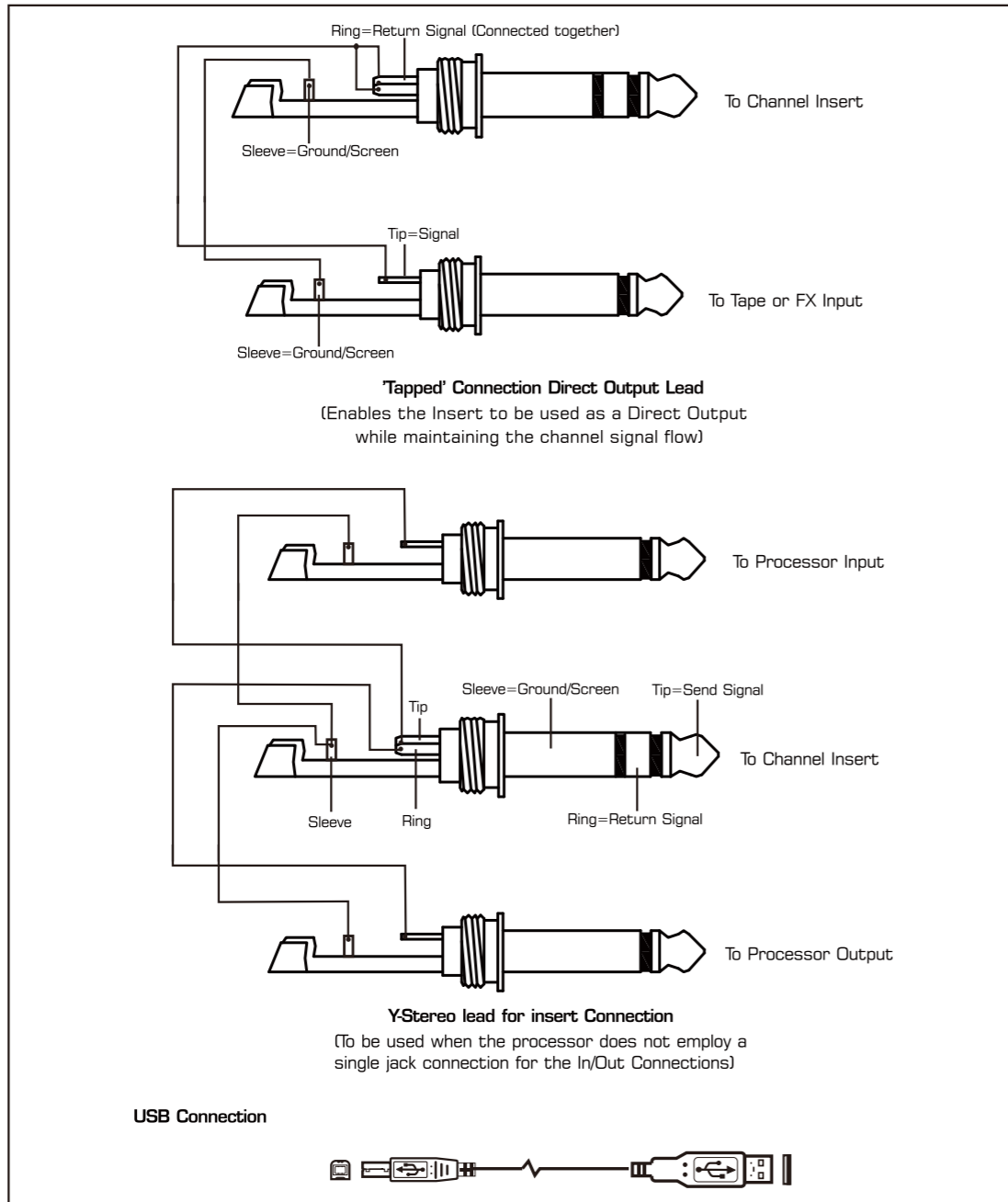
Hookup Diagram

Small Club Gig



Computer set-up





MP3 PLAYER

The file system of USB memory for USB players is FAT16 and FAT32, and these players can only decode Mp3. It has 7 rank subordinate folders at most.

1- USB PORT

For connecting with USB memory.

2- ⏮ PRE

In pause state, press this key, it will go to previous track and keep in pause state. In play state, press this key, it will go to the previous track & start playing.

3- ⏭ NEXT

In pause state, press this key, it will go to next track and keep in pause state. In play state, press this key, it will go to the next track and start playing.

4- ⏪ RPT

Press this key, the player will change between the following four modes:
 REP ALL means to repeat all tracks in the memory, mark on the screen is
 REP1 means to repeat one track, the mark on the screen is
 Play in order means to play the tracks according to the order, the mark on the screen is blank.
 Random play means to play the tracks at random, the mark on the screen is A.

5- ⏸ PLAY/PAUSE

In play state, press PLAY/PAUSE key to pause the player. In pause state, press PLAY/PAUSE key to start playing.

6- ■ STOP

In play state, press this key to stop playing and all the songs in USB memory will appear on the display; In stop state, press STOP/⏮ PRE/⏭ NEXT keys again to go to first song and the player will keep in pause state, then press PLAY/PAUSE key to play the song.

7- POWER(Push & Hold)

When the unit is off, press this key and hold for about 2 or 3 seconds to turn on the power supply of player. Repeat the above operation, you can turn off the power supply of the player.

8- DISPLAY:

All MP3 player information are monitored via this sexy & magic display.

NOTE: basic interface instruction

When the player isn't connected to a USB memory equipment, the interface is as follows:



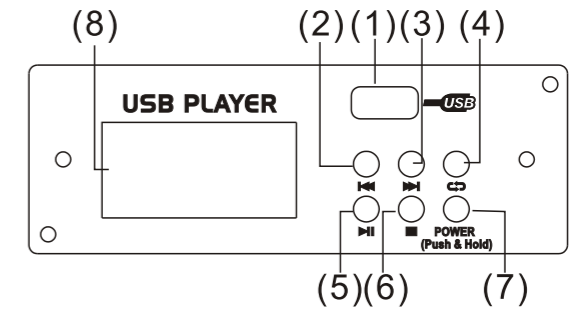
When the player is searching for USB tracks, the interface is as follows:



When the player is in pause state, the interface is as follows:



When the player is in use, the interface is as follows:



Installation And Connection

Ok, you have got to this point and you are now in the position to successfully operate your 12 / 14 / 16 Channel Mixing Console. However, we advise you to read carefully the following section to be the real master of your own mixer. Not paying enough attention to the input signal level, to the routing of the signal and the assignment of the signal will result in unwanted distortion, a corrupted signal or no sound at all. So you should follow these procedures for every single channel:

- Before connecting MICs or instruments, make sure that the power of all your systems components including the mixer is turned off. Also, make sure that all input and output controls of your mixer are turned down. This will avoid damage to your speakers and avoid excessive noise.
- Properly connect all external devices such as MICs, power amplifiers, speakers, effect processor etc.
- Now, turn on the power of any peripheral devices, then power up the mixer.

Note: the power amplifier or powered monitors shall be turned on after the mixer and turned off before the mixer.

- Set the output level of your mixer or the connected power amplifier at no more than 75%.
- Set the CONTROL ROOM/PHONE level at no more than 50%.
- Position HI, MID and LOW EQ controls on middle position.
- Position panoramic (PAN/BAL) control on center position.
- While speaking into the MIC (or playing the instrument), adjust the channel Level control so that the PEAK LED will blink occasionally, in this way you will maintain good headroom and idea dynamic range.
- You can shape the tone of each channel by adjusting the equalizer controls as desired.
- Now repeat the same sequence for all input channels. The main LED could move up into the red section, in this case yo can adjust the overall output level through the MAIN MIX control.

Some Final Tips on Wiring Configuration

You can connect unbalanced equipment to balanced inputs and outputs. Simply follow these schematics.

Installation And Connection

