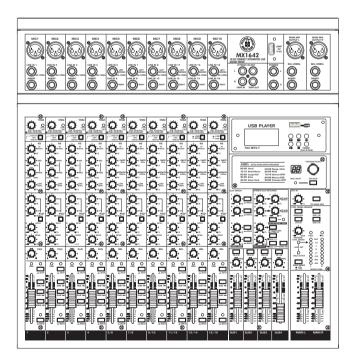TOPP PRO MUSIC GEAR

www.topppro.com

MIX SERIES

User's Manual

16CH COMPACT INTEGRATED LIVE SOUND MIXER
WITH USB INTERFACE

MX1642

Safety Related Symbols

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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 inssource 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 out let 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.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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.

GARANTIA

Topp Pro garantiza el normal funcionamiento del producto contra cualquier defecto de fabricación y/o vicio de material, por el término de (12) meses, contados a partir de la fecha de compra por parte del usuario, comprometiéndose a reparar o cambiar, a su elección, sin cargo alguno, cualquier pieza o componente que fallare en condiciones normales de uso dentro del período mencionado.

Para que ésta garantía sea válida, el comprador original deberá presentar este certificado debidamente sellado y firmado por la casa vendedora, acompañado por la correspondiente factura de compra donde constará el modelo y número de serie del equipo adquirido.

La garantía no cubre:

- Daños ocasionados por el uso indebido del producto, reparación y/o modificación efectuados por personas no autorizadas por **Topp Pro.**
- Daños ocasionados por la conexión del equipo a otros equipos distintos de los especificados en el manual de uso, o bien por mala conexión a estos últimos.
- Daños ocasionados por tormentas eléctricas, golpes y/o transporte incorrecto.
- Daños ocasionados por excesos o caídas de tensión en la red o por conexión a redes con una tensión distinta a la requerida por la unidad.
- Daños ocasionados por la presencia de arena, ácido de pilas, agua, o cualquier elemento extraño en el interior del equipo.
- Deterioros producidos por el transcurso del tiempo, uso y/o desgaste normal de la unidad.
- Alteración o ausencia del número de serie de fábrica del equipo.

Las reparaciones solamente podrán ser llevadas a cabo el servicio técnico autorizado por **Topp Pro**, que informará acerca del plazo y demás detalles de las reparaciones a efectuarse conforme a esta garantía.
Topp Pro, reparará esta unidad en un plazo no mayor a 30 días contados a partir de la fecha de entrada de la unidad al Servicio Técnico. En aquellos casos en que debido a la particularidad del repuesto, fuera necesaria su importación, el tiempo de reparación y la viabilidad de la misma estarán sujetos a las normas vigentes para la importación de partes, en cuyo caso se informará al usuario acerca del plazo y posibilidad de reparación.

A efectos de su correcto funcionamiento, y de la validez de ésta garantía, este producto deberá ser instalado y utilizado de acuerdo a las instrucciones que se encuentran detalladas en el manual adjunto o en el envase del producto.

Esta unidad podrá presentarse para su reparación, junto a la factura de compra (o cualquier otro comprobante donde conste la fecha de compra), a su distribuidor autorizado **Topp Pro** o a un centro de servicio técnico autorizado por **Topp Pro.**

Exclusión de daños:
LA RESPONSABILIDAD DE TOPP PRO POR CUALQUIER PRODUCTO DEFECTUOSO SE LIMITA A LA REPARACIÓN O AL REEMPLAZO DEL MISMO, A OPCIÓN DE TOPP PRO. SI ELEGIMOS SUSTITUIR EL PRODUCTO, EL REEMPLAZO PUEDE SER UNA UNIDAD REACONDICIONADA. TOPP PRO NO SERÁ RESPONSABLE POR LOS DAÑOS BASADOS EN LA INCONVENIENCIA, PÉRDIDA DE USO, BENEFICIOS PERDIDOS, AHORROS PERDIDOS, POR EL DAÑO A OTROS EQUIPO O A OTROS ARTÍCULOS EN EL SITIO DE USO, O POR NINGUN OTRO DAÑO SI ES FORTUITO, CONSECUENTE O DE OTRO TIPO, AUNQUE TOPP PRO HAYA SIDO ADVERTIDO DE LA POSIBILIDAD DE TALES DAÑOS.

Algunos países o estados no permiten la exclusión o la limitación a los daños fortuitos o consecuentes, así que la limitación antedicha puede no aplicarse a usted.
Esta garantía le da derechos legales específicos, usted puede también tener otros derechos que varían de estado a estado o de país a país.

9 TECHNICAL SPECIFICATION

Mono Input Channels	
Microphone Input	Electronically balanced, discrete input configuration
Frequency Response	10 Hz to 55 kHz, +/-3 dB
Distortion (THD & N)	0.005% at + 4 dBu, 1 kHz
Gain Range	0 dB to 50 dB (MIC)
SNR (Signal to Noise Ratio)	115 dB
Line Input	Electronically balanced
Frequency Response	10 Hz to 55 kHz, +/-3 dB
Distortion (THD & N)	0.005% at +4 dBu, 1 kHz
Sensitivity Range	+15 dBu to -35 dBu
Stereo Input Channels	
Line Input	Balanced/Unbalanced
Frequency Response	10 Hz to 55 kHz, +/-3 dB
Distortion (THD & N)	0.005% at +4 dBu, 1 kHz
Impedances	
Microphone Input	1.4 kOhm
Channel Insert Return	2.5 kOhm
All Other Inputs	10 kOhm or greater
Tape Out	1 kOhm
All Other Output	120 Ohm
Equalization	
Hi-shelving	+/-15 dB @12 kHz
Mid bell (Mono)	+/-15 dB -frequency range 100 Hz~8 kHz
Hi-Mid (Stereo)	+/-15 dB @ 3 kHz
Mid-Low (Stereo)	+/-15 dB @ 500 Hz
Low-shelving	+/-15 dB @ 80 Hz
Low Cut Filter	75 Hz, 18 dB/Oct.
Main Mix Section	
Noise (Bus Noise)	Fader 0 dB, Channels Muted: -100 dBr (ref.: +4 dBu)
	Fader 0 dB, all input channels assigned and set to
	UNITY Gain: − 90 dBr (ref.:+4 dBu)
Max Output	+22 dBu Balanced XLR
	+22 dBu Unbalanced, 1/4" jacks
AUX Returns Gain Range	-∞ to +15 dB
AUX Sends Max Out	+22 dBu
Power Supply	
Main Voltage	USA/Canada 100-120 VAC~60 Hz
	Europe 210-240 VAC~ 50 Hz
	U.K./Australia 240 VAC~ 50 Hz
Power Consumption	50 Watts
Fuse	T1.25 AL
Main Connection	Standard IEC Receptacle
Physical	
Dimension (W×D×H)	470.5 mm×400 mm×38/115 mm (18.52"×15.75"×1.49"/4.53")
Net Weight	6.45 Kg (14.2 lb)
DSP Section	
A/D & D/A Converters	24-Bit
DSP Resolution	24-Bit
Type of Effects	Echo, Echo+Verb, Tremolo, Plate, Leslie, Vocal, Rotary
	Small Room, Flanger+Verb,Large Hall
Presets	100
Controls	100-Position PRESET Selector
	DSP MUTE SWITCH with PEAK LED Indicator

IN THIS MANUAL

1 INTRODUCTION

Thank you for purchasing the TOPP PRO MX1642 compact integrated mixers, which available for 16 channels. Your MX1642 is a remarkable compact mixer that doesn't find many equals in the market today. With 10 MIC and 6 Stereo Line-level inputs for serious live performances. There is a 3-band EQ on mono input channels, 4-band EQ on stereo input channels. Use it for large GIGs, and for fixed PA installation.

Enjoy your MX1642 and make sure to read this Manual carefully before operation!

2 FEATURES

- 10 MIC inputs with gold plated XLR and balanced TRS jack
- 6 Stereo input channels with balanced TRS jacks
- Ultra-low noise discrete MIC preamps with +48 V Phantom Power
- SUB1-2, SUB3-4 & MAIN L-R signal assignment switches
- 4 AUX Sends per channel: 2 PRE/POST faders switchable for monitoring application effects & sound processor input; 2 POST faders as external send or for internal digital DFX
- 3-band EQ with sweepable MID on mono inputs; 4-band EQ on stereo inputs
- Channel Inserts and Direct Outputs on each mono channel plus Main Insert for flexible connection of outboard equipment
- 2-TRACK IN assignable to Main Mix, Control Room/Headphone outputs.
- With USB port
- Option 24-bit digital effect processor with up to 100 presets.
- Option true stereo 9-band graphic EQ.
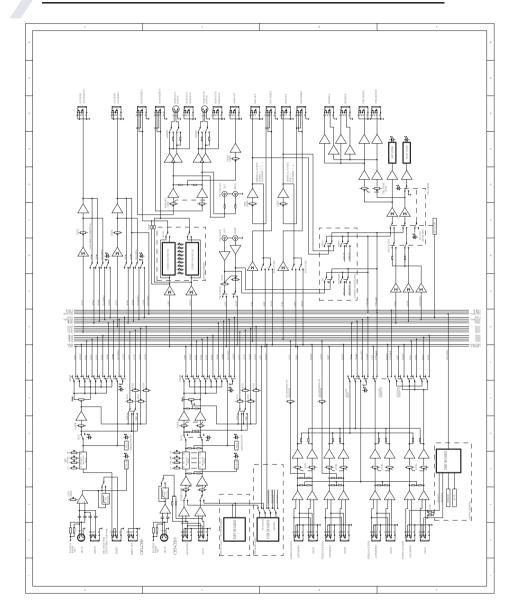- Option MP3 PLAYER.
- Included rack-mount accessory for 19U rack.

8 PRESET LIST

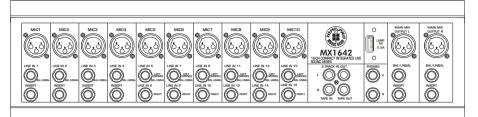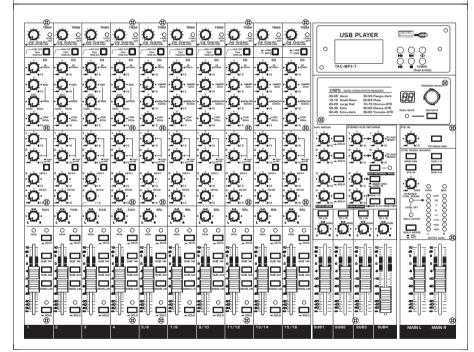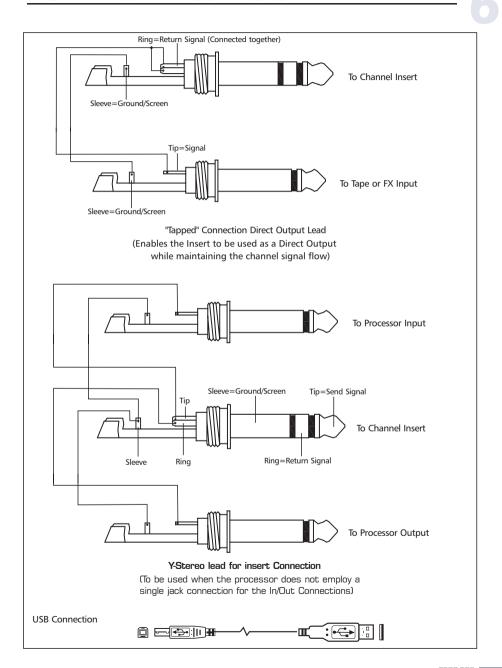| No.	Preset	Description	Parameter
00~09	Vocal	Simulate a small space with slight	Rev.delay time: 0.8~0.9s Pre-delay: 0~45ms
10~19	Small Room	Simulate a bright studio room	Decay time: 0.7~2.1s Pre-delay: 20~45ms
20~29	Large Hall	Simulate a large acoustic space of the sound	Decay time: 3.6~5.4s Pre-delay: 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: 1.7~2.1s
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

7 BLOCK DIAGRAM

MX1642

3 QUICK START

This is the fastest way to get something out from your MX1642, if you have a keyboard and a microphone.

a. Plug the microphone into Channel 1 MIC IN.

b. Turn down AUX and LEVEL controls on the input channel.

c. Put the EQ controls on center position.

d. Turn on your MX1642.

e. Sing or speak into the microphone with normal volume and adjust the channel LEVEL control to half.

f. If you like, you can adjust the EQ at this stage.

g. The LED on the Master LED meter should flash only occasionally, otherwise you will hear distortion. If this LED is not active and you still hear distortion, please turn down a little the input LEVEL control or reduce the output level of your source instrument.

h. Connect your stereo keyboard into one of the stereo line inputs channel of your MX1642

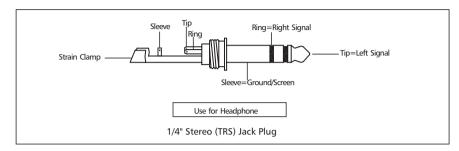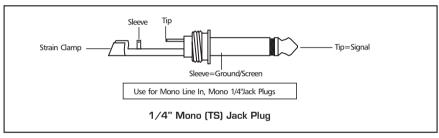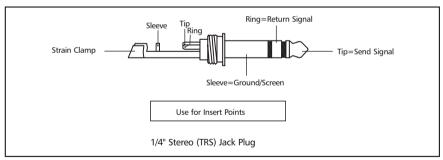Here you are. It is your first GIG with your MX1642.

INSTALLATION AND CONNECTION 6

Ring=Return Signal (Connected together)

To Channel Insert

Sleeve=Ground/Screen

Tip=Signal

To Tape or FX Input

Sleeve=Ground/Screen

"Tapped" Connection Direct Output Lead
(Enables the Insert to be used as a Direct Output
while maintaining the channel signal flow)

To Processor Input

Sleeve=Ground/Screen   Tip=Send Signal

Tip

To Channel Insert

Sleeve   Ring   Ring=Return Signal

To Processor Output

Y-Stereo lead for insert Connection
(To be used when the processor does not employ a
single jack connection for the In/Out Connections)
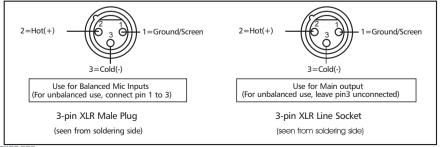
USB Connection

6 INSTALLATION AND CONNECTION

Audio Connections

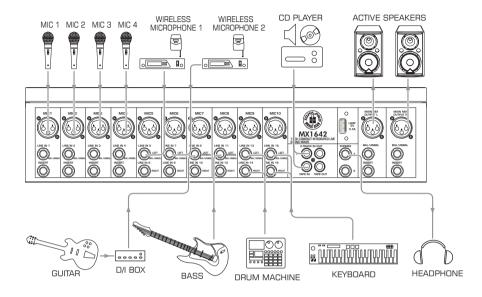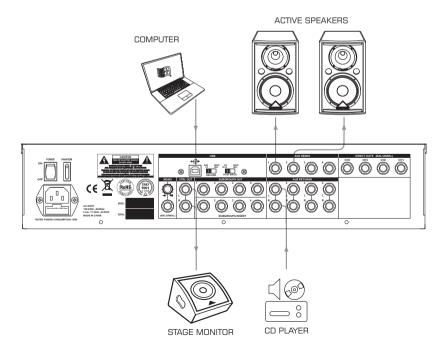You can connect unbalanced equipment to balanced inputs and outputs. Simply follow these schematics.

Sleeve
Tip
Ring
Ring=Right Signal
Strain Clamp
Tip=Left Signal
Sleeve=Ground/Screen

Use for Headphone

1/4" Stereo (TRS) Jack Plug

Sleeve
Tip
Strain Clamp
Tip=Signal
Sleeve=Ground/Screen

Use for Mono Line In, Mono 1/4"Jack Plugs

1/4" Mono (TS) Jack Plug

Sleeve
Tip
Ring
Ring=Return Signal
Strain Clamp
Tip=Send Signal
Sleeve=Ground/Screen

Use for Insert Points

1/4" Stereo (TRS) Jack Plug

2=Hot(+)   1=Ground/Screen
3=Cold(-)

Use for Balanced Mic Inputs
(For unbalanced use, connect pin 1 to 3)

3-pin XLR Male Plug
(seen from soldering side)

2=Hot(+)   1=Ground/Screen
3=Cold(-)

Use for Main output
(For unbalanced use, leave pin3 unconnected)

3-pin XLR Line Socket
(seen from soldering side)

LARGE GIG HOOKUP DIAGRAM

MIC 1 MIC 2 MIC 3 MIC 4   WIRELESS MICROPHONE 1   WIRELESS MICROPHONE 2   CD PLAYER   ACTIVE SPEAKERS

GUITAR   D/I BOX   BASS   DRUM MACHINE   KEYBOARD   HEADPHONE

ACTIVE SPEAKERS

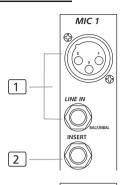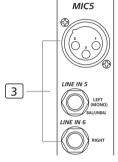COMPUTER

STAGE MONITOR   CD PLAYER

4 CONTROL ELEMENTS

1- MONO MIC/LINE Channels

Your MX1642 is equipped with 10 low-noise microphone preamplifier with optional phantom power, 50 dB of Gain and over 115 dB of S/N ratio. You can connect almost any type of microphone. Dynamic microphones do not need phantom power. Use phantom power only with condenser microphones but make sure that the phantom power button is disengaged before connecting the microphone. Phantom power will not damage your dynamic microphones, so make sure to read the MIC instructions manual before engaging phantom power. Use switch (48) to activate/deactivate phantom power. These channels are also equipped with 1/4" TRS balanced/unbala nced LINE-IN plugs to connect line-level instruments such as keyboards, drum machines and effect devices.

MIC 1

1

LINE IN

BAL/UNBAL
INSERT

2

MIC5

LINE IN 5

3

LEFT
(MONO)
BAL/UNBAL

LINE IN 6

RIGHT

2- MONO Channel INSERT

This is where you connect external sound processors such as compressor-limiter, equalizers, etc.. The insert point is available on the first 4 MIC channels only.

3- STEREO INPUTS

These are channels 5 through 16. They are organised in stereo pair and provided with XLR sockets and 1/4" TRS phone jacks.If you connect only the left jack, the input will operate in mono mode, that is the mono signal will appear on both input channels. You can use these inputs with a stereo keyboard, drum machine, etc.

4- TRIM

The TRIM control is applied in the mono MIC and stereo input channels. It provides with 2 different indications: One is for the MIC and the other for LINE levels. When you use a microphone, you shall read the MIC ring (0~50 for mono MIC input, 0~40 for stereo channels); when you use a line level instrument, you shall read the LINE ring (+15~-35 dB for mono MIC input, +20~-20 dB for stereo channels). For optimum operation, you shall set this control in a way that the PEAK LED(16) blinks only occasionally in order to avoid distortion on the input channel.
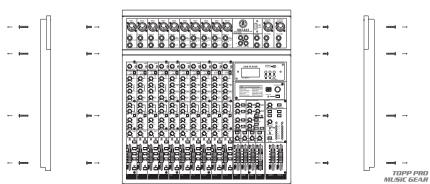

INSTALLATION AND CONNECTION 6

Ok, you have got to this point and you are now in the position to successfully operate your MX1642. However, we advise you to read the following section carefully to be the real master of your own mixer. Not paying enough attention to the input signal level, 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 this procedure for every single channel:

1. Turn down all input and output gain controls.

2. Connect phantom powered microphones before switching on the +48 Volt phantom power switch.

3. Set the output level of your MX1642 or the connected power amplifier at no more than 75%.

4. Now, set the CONTROL ROOM/PHONES level at no more than 50%. In this way, you will be able to hear later what you are doing connecting a pair of headphones or a pair of powered studio monitor speakers.

5. Position EQ controls on middle position.

6. Position panoramic (PAN/BAL) control on center position.

7. With a pair of headphone or studio monitor speakers are connected, apply a Line Level input signal so that the PEAK LED does not light up.

8. Increase the input gain properly for maintaining the good headroom and ideal dynamic range.

9. Depending on the actual application, turn slowly the input and output level controls for obtaining the maximum gain before distortion.

10. Now repeat the same sequence for all input channels. The main LED meter could move up into the red section. In this case you can adjust the overall output level through the main mix control.

RACK mounting

In one side of the package, you will find a pair of RACK-mount. If you want to assemble your MX1642 on a 19U RACK-box, remove the rubber handle, and fix the RACK-mount with the attached screws

5 OPTION MODULES

66- PLAY/PAUSE

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

67- STOP

In play state, press STOP button to stop playing and the whole quantity of Mp3 songs in the USB memory will display on the screen. In STOP state, press the PRE/NEXT button or press the STOP button again to go to the first songs and the player will keep in pause state, then press down the PLAY/PAUSE button to play it.

68- POWER

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

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 Mp3 songs, the interface is as follows:

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

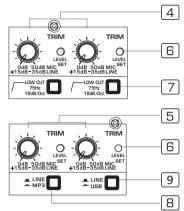When the player is in use, the interface is as follows:

CONTROL ELEMENTS 4

5- LINE GAIN

When you use a line level instrument, you shall read the ring (-20~+20 dB). For optimum operation, you shall set this control in a way that the PEAK LED (16) blinks only occasionally in order to avoid distortion on the input channel.

6- LEVEL SET LED

This LED will help you to detect the input level immediately. In this case, the research of the fault will become much faster!

7- LOW-CUT Button

By pressing this button, you will activate a 75 Hz low frequency filter with a slope of 18 dB 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.

8- LINE/MP3 Button

By pressing this button, it will switch to the MP3 mode, the MP3 signal can be sent to this channel. by releasing this button,the LINE IN inputs signal will send to the line input channels(You have to install the MP3 MOUDLE first).

9- LINE/USB Button

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

EQUALISER

There are 3-band EQ with sweepable MID on all mono input channel1-4: HI, MID and LOW band. There are 4-band fixed frequency EQ on the stereo channel 5-16:HI, HI- MID, MID-LOW and LOW band. All bands provide up to 15 dB of boost or cut.

10- 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.

4 CONTROL ELEMENTS

11- 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.

12- 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 perfo-rmance via adjusting this knob.
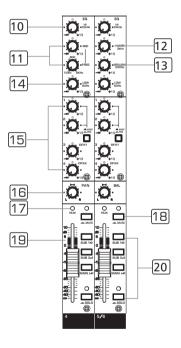
13- MID-LOW

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

14- 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.

15- AUX SENDS Level Control

These four controls are used to adjust the level of the respective signal sent to AUX bus, 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. In this typical compact unit, excluding sending out the signal directly to the external effect or processor equipment, AUX SEND4 can also be assigned to the internal onboard effect module.
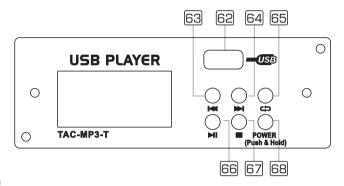
16- PAN/BAL Control

Abbreviation of PANORAMA control for mono channels, or the stereo channels, always says, BALANCE control. Keep this control in center position, then the signal will be positioned in the middle of stage.

5 OPTION MODULES

MP3 player module install

Put the MP3 player module connection wire into MP3MOD CONNECTOR. Fix the MP3 player module at one of the two module places with the two attached screws.

function

The file system of USB memory for USB-MP3 player is FAT16 and FAT32. The player can only decode MP3. It can have 7 rank subordinate folders at most, and the maximum quantity of folders within MP3 files is 24. In the whole USB memory, the total folders can not beyond 256(incluing those folders without MP3 songs).

62- USB PORT

For connecting with USB memory.

63- PREVIOUS

In pause state, press this button it will go to the previous song and keep in pause state. In play state, press this button it will go to the previous song and start playing.

64- NEXT

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

65- REPEAT

Press this button the player will change between the following four modes. REP ALL means to repeat all songs in the memory, the mark on the screen is all . REP1 means to repeat one song, the mark on the screen is 1 .Play in order means to play the songs according to the order, the mark on the screen is blank. Random play means to play the songs at random, the mark on the screen is A.

5 OPTION MODULES

**DSP module
install**

Take out the short circuit wire which connects DSP module interface. Plug in the DSP module connection wire into DSPMOD CONNECTOR. Fix the DSP module panel at one of the two module places with the two attached screws (Safekeeping the short circuit wire. Put the short circuit wire back into the DSPMOD CONNECTOR when you take out the DSP module, or it will make distortion)
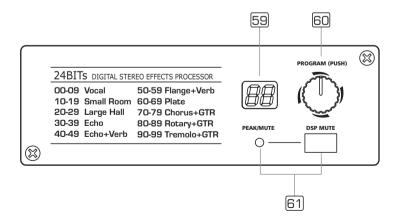
function

59- DISPLAY

It displays the selected preset.

60- PRESETS SELECTOR

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.

61- DSP MUTE Switch & PEAK LED

This switch is used to activate/deactivate the effect facility. This LED lights up when the input signal is too strong. In case of the digital effect module being muted, this LED also lights up.

```
        59          60
┌──────────────────────────────────────┐
│                        PROGRAM (PUSH)  ⊗│
│  24BITs DIGITAL STEREO EFFECTS PROCESSOR │
│  00-09  Vocal       50-59 Flange+Verb  │
│  10-19  Small Room  60-69 Plate    ┌──┐│
│  20-29  Large Hall  70-79 Chorus+GTR│88││
│  30-39  Echo        80-89 Rotary+GTR└──┘│
│  40-49  Echo+Verb   90-99 Tremolo+GTR   │
│                  PEAK/MUTE   DSP MUTE  │
│ ⊗                   ○      ┌──┐        │
└────────────────────────────┴──┘────────┘
                    61
```

CONTROL ELEMENTS 4

17- PEAK LED

Inside your MX1642, the audio signal is monitored in several different stages and then sent to the PEAK LED. When the LED is red illuminated, it warns you that you are reaching signal saturation and possible distortion, then you should reduce the input level for avoiding distortion.

18- MUTE Button & LED

Each channel is equipped with a MUTE button. Pressing this button is equal to turning the fader down, which can mute the corresponding channel output except for the channel INSERT send and SOLO (in PFL mode). And the MUTE LED will illuminate.

19- FADER

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

20- ASSIGNMENT Controls

Each channel provides four push-buttons: SUB1-2, SUB3-4, MAIN L-R and SOLO. Pressing the SOLO button, the corresponding SOLO LED will illuminate and the SOLO signal will replace other signals send to the Headphone/Control Room and Meters. Usually use the SOLO function in live work to preview channels before they are let into the mix. It is useful to set an instrument's input level and EQ, and you can also solo any channel that you want to. The SOLO switch never affects any mix other than the Control Room. The other three buttons can be considered as signal assignment switches. Pressing the SUB1-2 will assign the channel signal to Subgroup1/2, you can depend on the PAN switch to adjust the amount of channel signal sent to the SUB1versus SUB2, when turns the PAN to completely left, then the signal can be only controlled by Subgroup1 and viceversa. In the same way, pressing the SUB3-4 or MAIN L/R will assign the channel signal to Subgroup3/4 or MAIN MIX L/R, and will also be affected by PAN.

21- Master AUX SENDS Controls

These four controls are used to dete-rmine the master AUX SEND levels, which can be varied from -∞to +15 dB. When the external effect units which have no input gain control were connected to mixer, you can get a further +15 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.

22- SOLO Button

The function of these SOLO buttons are the same as the channel SOLO button, they can also be affected by the SOLO MODE switch. Press the SOLO button, the corresponding AUX send will be routed to the Ctrl Room/ Phones outputs and Meters display.
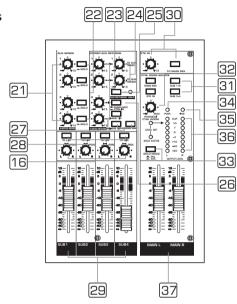
4 CONTROL ELEMENTS

23- Master STEREO AUX RETURNS Controls

These four controls set the level of effects that received from the stereo AUX RETURN connectors, which can be varied from -∞ to +15 dB. They are used to provide the further gain for low level effects.

24- TO AUX SEND1/2

The both rotary knobs assign the AUX RETURN signals to their respective AUX SEND outputs: The "TO AUX SEND1" assign the signal from AUX RETURN1 to AUX SEND1 bus, and "TO AUX SEND2" assign the signal from AUX RETURN2 to AUX SEND2 bus. The adjustable range goes from -∞ to +15 dB.

25- AUX RETURNS SOLO Button

The function of AUX RETURN SOLO is like the channel SOLO button. Engaging it sends the signal from AUX RETURN (1-4) to the CTRL OUT, PHONES outputs and Meters display. It can also be affected by SOLO mode button, and the LED next to the button will illuminate.

26- MAIN MIX & CTRL/R Button

AUX RETURN3 is equipped with the Main Mix & Ctrl/R button. Release the button to send the stereo signal from AUX RETURN3 to MAIN MIX buses; Engage the button, then the stereo signal will be sent to CTRL/R output.

27- SUB1-2/SUB3-4/MAIN MIX Buttons

These three buttons are configured for AUX RETURN4, they can be regarded as the signal assignment switches. When engaging the SUB1-2, the stereo signal from AUX RETURN4 will be assigned to Subgroup1/2; in the same way, SUB3-4 for Subgroup3/4, MAIN MIX for MAIN MIX buses.

28- SUBGROUPS ASSIGN TO MAIN MIX

Through these switches, you can operate the subgroup faders as a master control for assigning the subgroups to MAIN MIX. Engage the LEFT switch to send the corresponding subgroup signal to MAIN MIX L, and the RIGHT switch for MAIN MIX R. When engaging the both switches, the signal will be sent to L/R of MAIN MIX.

5 OPTION MODULES

OPTION MODULES SECTION

MX1642 offer two positions for modules assemblage, meanwhile there are three selected modules, of which you can select two or one or none. The two modules as factory setting are DSP module and 9-band EQ module.
On the right of the front panel there are two pieces module covers. Open the top module panel cover, you can see there are three interfaces. The left one is EQMOD module interface, the middle one is DSP module interface and the right one is MP3 player module interface. (DO NOT MISTAKE THE CONNECTOR INTERFACE, OR IT WILL DESTROY YOUR MODULES AND MIXER)

9-band EQ module
install

Take out the short circuit wire which connects 9-band EQ module interface. Plug in the 9-band EQ module connection wire to the EQMOD CONNECTOR. Fix the 9-band EQ module at one of the two module places with the two attached screws (Safekeeping the short circuit wire. Put the short circuit wire back into the EQMOD CONNECTOR when you take out the 9-band EQ module, or the output will be cut)
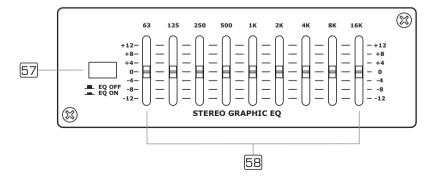**function**

57- EQ Switch

Engage this button to add the stereo graphic EQ to the main mix output circuit.It can be used to modify the frequency "contour" of a sound. If you release the button, the stereo graphic EQ will be bypassed.

58- STEREO GRAPHIC EQ

Each one of these faders will boost or attenuate (+/-12 dB) the selected frequency at a preset bandwidth. When all the faders are in the center position, the output of the equalizer is flat response.

CONTROL ELEMENTS

49- MONO Level Control

This knob sets the level of mono mix output signal, which can be varied from -∞ to +15 dB.

50- MONO OUTPUT Jack

This 1/4" phone jack is balanced/unbalanced mono mix output connector, it can be regarded as a sum output of the left and right of MAIN MIX.

51- CTRL OUT Jacks

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

52- SUBGROUPS INSERT

These 1/4" phone jacks are insert points. They are used to connect processors, such as compressor, limiter, EQ etc.. When insert external processor into these jacks, the subgroup stereo signal will be taken out, then returned to before subgroups fader. Of course, these used jacks must be stereo (Tip Send/Ring Return).

53- SUBGROUPS OUT Jacks

These 1/4" phone jacks are used to connect the inputs of deck or secondary in a complicated PA live sound system. You will find it is the best tool when you operate the SUBGROUPS OUT.

54- AUX SENDS Jacks

These 1/4" phone jacks are used to send out the signal from the AUX Bus to external devices such as effect units and/or stage monitors.

55 AUX RETURNS Jacks

Use these stereo 1/4" phone jacks to return the stereo signal of an effect unit to the Main Mix. Alternatively you can also use them as an extra auxiliary input via using the AUX RETURN level control as volume control. The signal will be sent directly to MAIN MIX control.

56- DIRECT OUTS

Each Mono MIC/LINE Channel is equipped with the 1/4" phone jack for directing output. These jacks are used to send the signal from the channel path to external device for recording function etc..

CONTROL ELEMENTS

29- SUBGROUPS Fader

These faders are used to control the levels of the signal send to the SUBGROUPS OUT, the adjustable range goes from -∞ to +10 dB. Any channel that is assigned to the subgroups, not muted and not turned down will be assigned to the SUB OUTS.

30- 2TK LEVEL & TO MIX Button

By rotate the knobs, you can adjust the stereo signals level of 2TK input and engaging the switch allows you to combine the 2-Track output with the Main Mix. In other words, feeds the 2-Track In signals into Main L/R output.

31- Control Room Source

You can choose to monitor any combination of MAIN MIX, SUB1-2, SUB 3-4 and 2TK IN via these Matrix switches. Engaging these switches, the stereo signals will be delivered to the Phones, Control Room and Meters display.

※NOTE: When any SOLO switch was engaged, the SOLO signal will replace other signals, and also be sent to the Control Room, Phones and Meters.

32- PHONES/CTRL ROOM Controls

Rotate these knobs to adjust the stereo level of CTRL ROOM and PHONES outputs separately, which can be varied from -∞ to MAX.

33- SOLO MODE Button

This button provides two modes: up for PFL (Pre-Fader-Listen) mode, down for AFL (After-Fader-Listen) mode. Engage the button, the soloed signal will output after the Level control, otherwise, release the button will output the soloed signal before the Level control.

※NOTE: The SOLO function can never affect the mix at main recording output, and also can't be affected by channel's MUTE switch.

34- POWER LED

The LED indicates when the power is ON.

35- PHANTOM LED

This LED indicates when the phantom power is switched on.

36- LED Meter

The stereo 8-segment LED Meter will indicate the signal level send to the Ctrl Room and Phones outputs.

4   CONTROL ELEMENTS

37- MAIN MIX LEVEL Fader

This fader sets the amount of signal send either to the Main Mix Output or to the Tape Output.
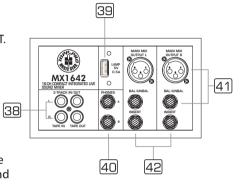
38- 2-TRACK IN/OUT

-TAPE IN
Use the Tape input if you wish to listen to your mix from a Tape Recorder or DAT.

- TAPE OUT

These RCA jacks will route the main mix into a tape recorder.

39- USB LAMP socket

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

40- PHONES Jacks

These jacks will be used to send the signal to a pair of headphone or to powered studio monitors.

41- MAIN MIX OUTPUT

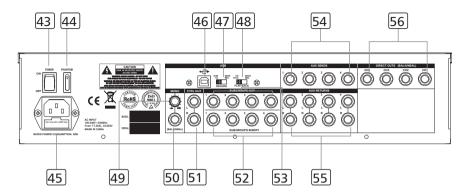These stereo outputs are supplied with both the XLR and 1/4" phone jacks and it is controlled by the Main Mix Level.

42- 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 EQ and returned into the MAIN MIX output before the MAIN MIX fader.

CONTROL ELEMENTS   4

REAR PANEL

43- POWER Switch

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

44- +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.

45- AC Inlet with FUSE Holder

Use it to connect your MX1642 to the main AC with the supplied AC cord. Please check the voltage available in your country and how the voltage for your MX1642 is configured before attempting to connect your MX1642 to the main AC.

46- USB PORT

This USB port is used to connect the unit to PC with a transmission line. When it is in output mode, it can connect with the SUB1-2 or MAIN MIX output; in the input mode, it can connect with the CH15/16 or MAIN MIX output.

47- USB RECORD Switch

You can select SUB1/2 or MAIN MIX track to input the record signal to PC.

48- USB PLAYBACK Switch

You can select CH15/16 or MAIN MIX track to output the audio signal from PC.