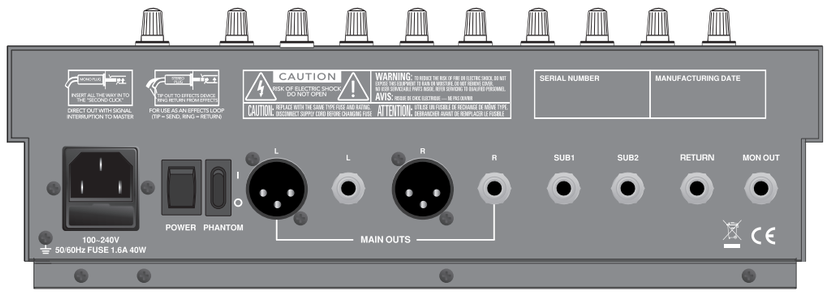
PROFESSIONAL

MIXING CONSOLE

8~16 CHANNEL MIC/LINE MIXER

2 Bus. OWNER'S MANUAL



OPERATING MANUEL

Ultra low noise 8/12/16 Channel Mic / Line Mixer

▲ Mono Input Channels with gold plated XLRs and balanced Line Inputs

▲ Ultra-low noise discrete Mic Preamps with +48 V Phantom Power

▲ Extremely high headroom -offering more dynamic range

▲ Balanced Inputs for highest signal integrity

▲ Ultra-musical 3-band EQ on all channels

▲ Peak LEDs all Mono Channels

▲ 1 Aux Send per channel for external effects and monitoring

▲ Build in digital multi (16 DSP)

▲ Master Mix Output and rec output

▲ Highly accurate 10 segment Bargraph Meters

▲Separate Master Mix Outputs

SAFETY INSTRUCTIONS

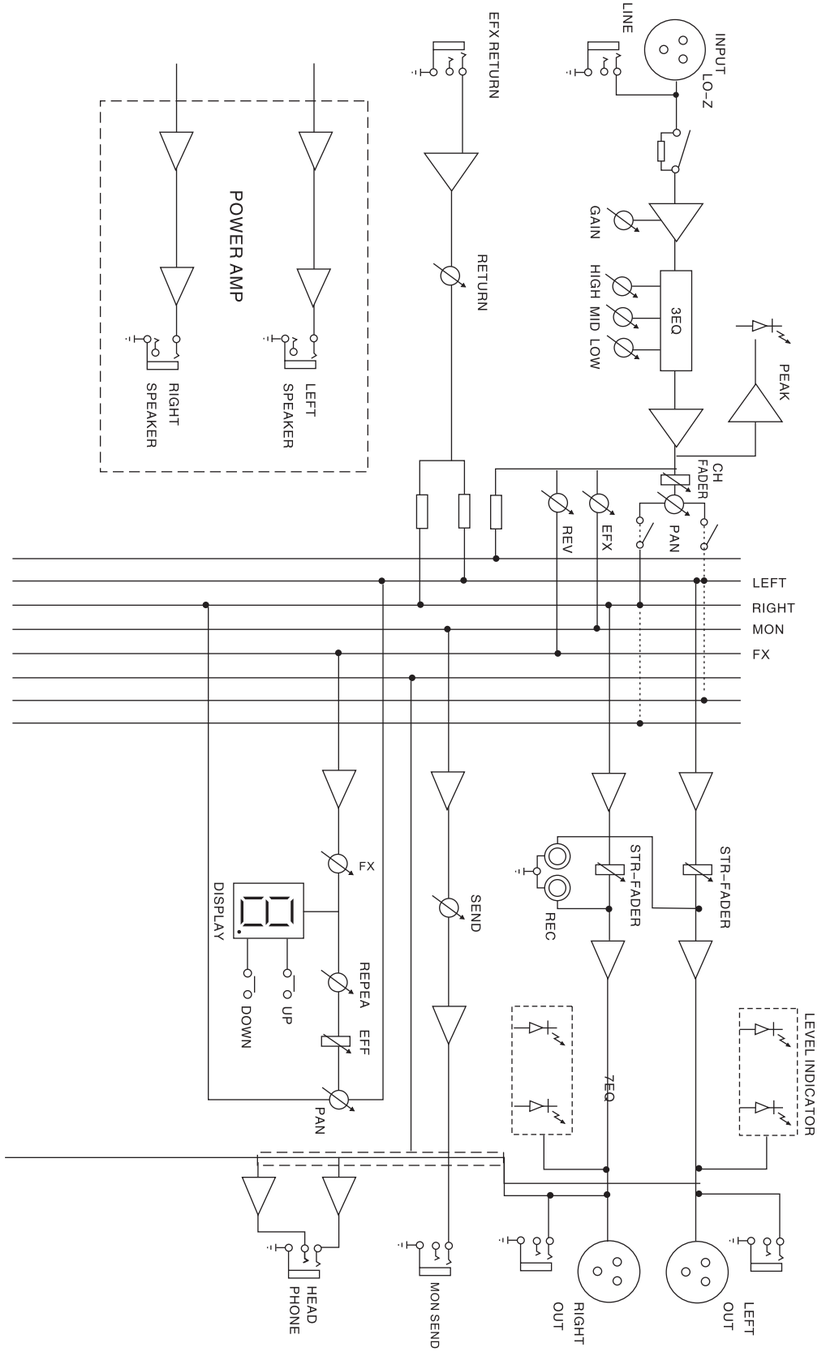
CAUTION: To reduce the risk of electrical shock, do not remove the cover (or back). No user serviceable parts inside; refer to servicing to qualified personnel.

WARNING: To reduce the risk of fire or electrical shock, do not expose this appliance to rain or moisture.

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.

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

H. BLOCK DIAGRAM



G.APPENDIX: TECHNICAL INFORMATION

Specifications

Main Mix Noise

(20 Hz - 20 kHz bandwidth,1/4" Main out,channel gains @ unity gain, channel Eqs flat, all channels assigned to Main Miz odd channels panned left, even channels panned right.)

Main Mix fader unity, channel faders down:	-98 dBu
(87 dB Signal to Noise Ratio, ref +4 dBu)	
Main Mix fader unity, channel faders @ unity:	-91 dBu

Total Harminic Distortion(THD)

(1 kHz 35 dB gain, 20 Hz - 20 kHz bandwidth)

Mic in to insert out:	<0.005%

Attenuation(Crosstalk)

(1 kHz relative to 0 dBu,20 Hz - 20 kHz bandwidth, Line in 1/4" Main Out, Gain @ unity.)

Channel Mute switch engaged:	-82 dBu
Channel Gain knob down:	-82 dBu

Frequency Response

(Mic input to any output.)

20 Hz to 40 kHz:	+ 0 dB/ - 1 dB
20 Hz to 60 kHz:	+ 0 dB/ - 2 dB

Equivalent Input Noise(EIN)

(Mic in to Insert Send out, max gain.)

150 ohm termination:	-129 dBu 20 Hz - 20 kHz

Common Mode Rejection Ratio(CMRR)

(Mic in to Insert Send out, max gain.)

1 kHz:	better than - 70 dB

Maximum Levels

Mic in:	+22 dBu
All other inputs:	+22 dBu
Main Mix TRS out and XLR out:	+28 dBu
All other outputs:	+22 dBu

Impedances

Mic in:	2.5 kilohms
Channel Insert return:	2.5 kilohms
All other inputs:	10 kilohms or greater
Tape out:	1.1 kilohms
All other outputs:	120 ohms

3 Band EQ

High	±15dB @ 12kHz
Mid	±15dB @ 2.5kHz
Low	±15dB @ 80Hz
Low cut Filter	18dB/octave.- 30dB@ 75Hz

Power Consumption

90-240 VAC, 50/60 Hz, 50 watts

Fuse Ratings

90-240 VAC	3A Slo Blo, 5 x 20 mm

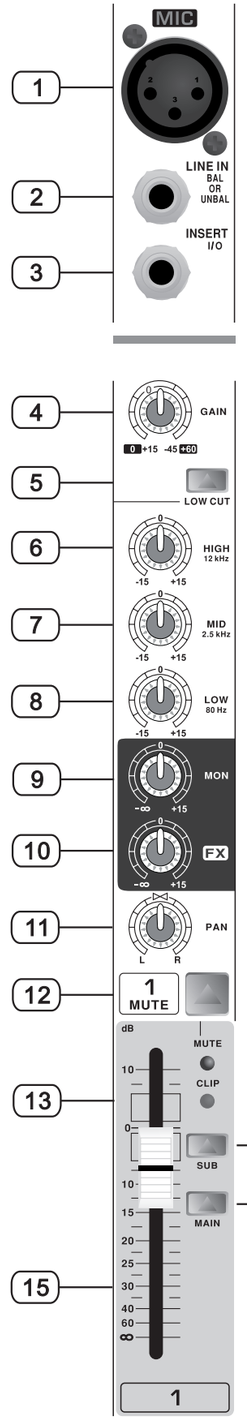
Dimensions(H x W x D)in Normal Pod Position

8CH	12CH	16CH
315*337*110	430*337*110	540*337*110

Weight

8CH	12CH	16CH
3.60kg	4.60kg	5.75kg

A.INPUT CHANNEL SECTION



1.BALANCE INPUT(MIC)

Electronially Balanced inputs acceptable atandard XL R male connector.

2.LINE INPUT

The unbalanced Mic input is provided for the use of unbalance Mic and is designed toaccept an unvalabced high impedance input sugnal.
(This use for connection Deck, Tuentable Keyboard ate...)

3.INSERT

The INSERT allows the signal to be taken out from the mixer throught an external equipment such as a compressor and the back to continue the final mix output.

4.TRIM

This has a function which adjusts the input sensitivity of each channel in order to input the constant level of the signal.

5.LOW CUT

Slide down the slider-switch, insert the 18 dB per octave 100Hz low cut filter in the signal path, This low cut filter is useful on live vocals to reduce stage rumble or “popping” from microphones. It can also be used to cut off low frequency hum.

6.HIGH

Control the high frequency tone of each channel. Always set this control to the 12 o'clock position, but you can control the high frequebcy tone according to the speaker, the conditions of listening position and listener's Taste. Clockwise rotaion of the control increases level

7.MID

This has a function which controls the middle freqency tone of each channel. Always set this control to the 12 o'clock position ,but you can control the middle frequency tone according to the speaker, the conditions of listening position and listener`s taste, clockwise rotation of the control increase the level, and vice verse.

8.LOW

Control the low frequency tone of each channel. Always set this control to the 12 o'clock position, but you can contarol the low frequency tone according to the speaker, the conditions of listening position and listener's taste. Clockwise rotation of the control increases the level.

9.MON

This is normally derived after the EQ section and channel fader (PRE-FADER, POSE-EQ),and is therefore unaffected by the fader position and routing status. This makes the send particularly suitable for foldback or monitor feeds which need to be controlled separately from the main P.A.mix. All pre-fader sends may be selected internally to be PER-FADER, PRE-EQ.

10.FX

Use this control to set the effect level you want to achieve, The FX control adjusts the input signal to give you a desired effect. If an external source is not in use, the FX will function through the internal digital delay.

11.PAN

The pan control sends continuously variable amounts of the post fader signal to either the left or the right main busses. In the left and right busses.

12.MUTE

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

13.CLIP

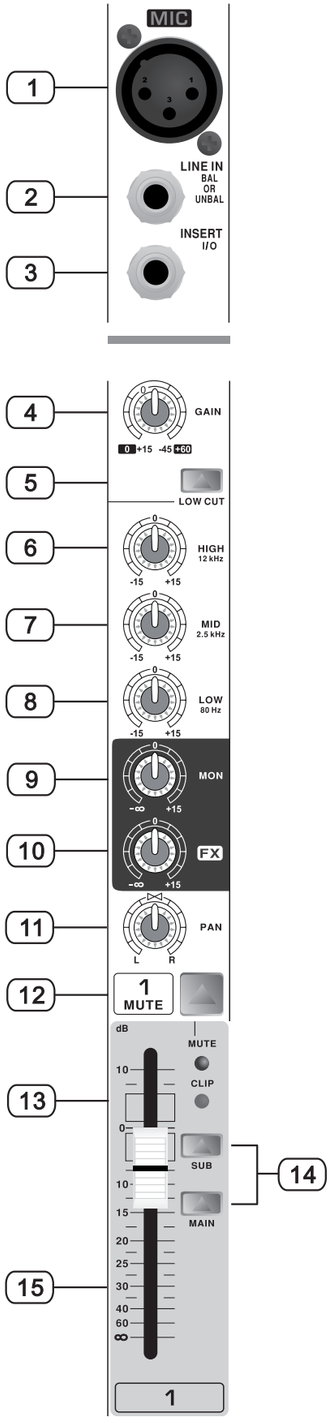
A red LED indicates a signal level at the insert return point, premaster fader, it illuminates at approximately 5dB below clipping.

14.ASSIGN

Alongside each channel fadev are two buttons.Labeled SUB and MAIN.The are collectively referred to as channel assignment switches.I and L are the left sides ofthese stereo pairs, and 2 and R are the right sides.

15.CHANNEL FADER

This is function to adjust the volume of signal connection into each channel and adjust the volume of output togther with with master fadet. usually .operating position is at the “O” mark,providing 4dB of gain adove than point, it required.



F.HOW TO OPERATE

1. A bove all, it is necessary to confirm power voltage.
2. Make sure this appliance power switch is off when connecting the plug of power cord with outlet.
3. Set every controls to the positions stated belows to avoid loud blasts. Loud blasts may course damage to for your speaker system or yout rears when you are wearing headphone.
   The master faders L-R, Sub faders 1-2,Effect fader & Each channel faders.

Gain control	Turn to the left completely
Hi, Mid,Low	Turn to the center position
EFX & Effect control	Turn to the left completely
Pan control	Turn to the center position

Set other turn to the left completely

4. Push power switch marked(1),then the LED will be turned on when start working.
5. Set Master faders L-R to the position between min & mid,after working.
6. Set a certain Channel faders which you want to use to the position between min & mid. After that, connect input section with exeternal source.
7. To make sound through external sources, turn the Gain control to the right.
8. Adjust tone controls in accordance with your taste.
9. Adjust between effect fader control towards max from min & Effect control to the right, When you want to get echo effect a certain channel .After set a certain channel, adjust Delay control & Repeat control. Then, you can get various echo effect sound.

FIGURE 5

UNBALANCED 1/4” PLUG

FIGURE 5-1

FAMALE 3 PIN CONNECTOR

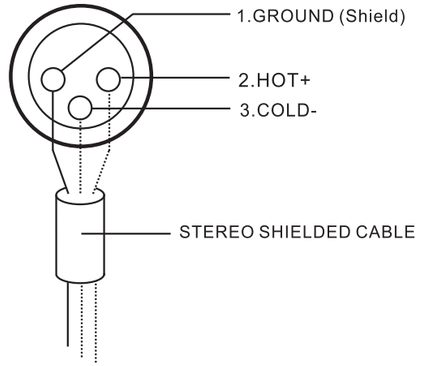
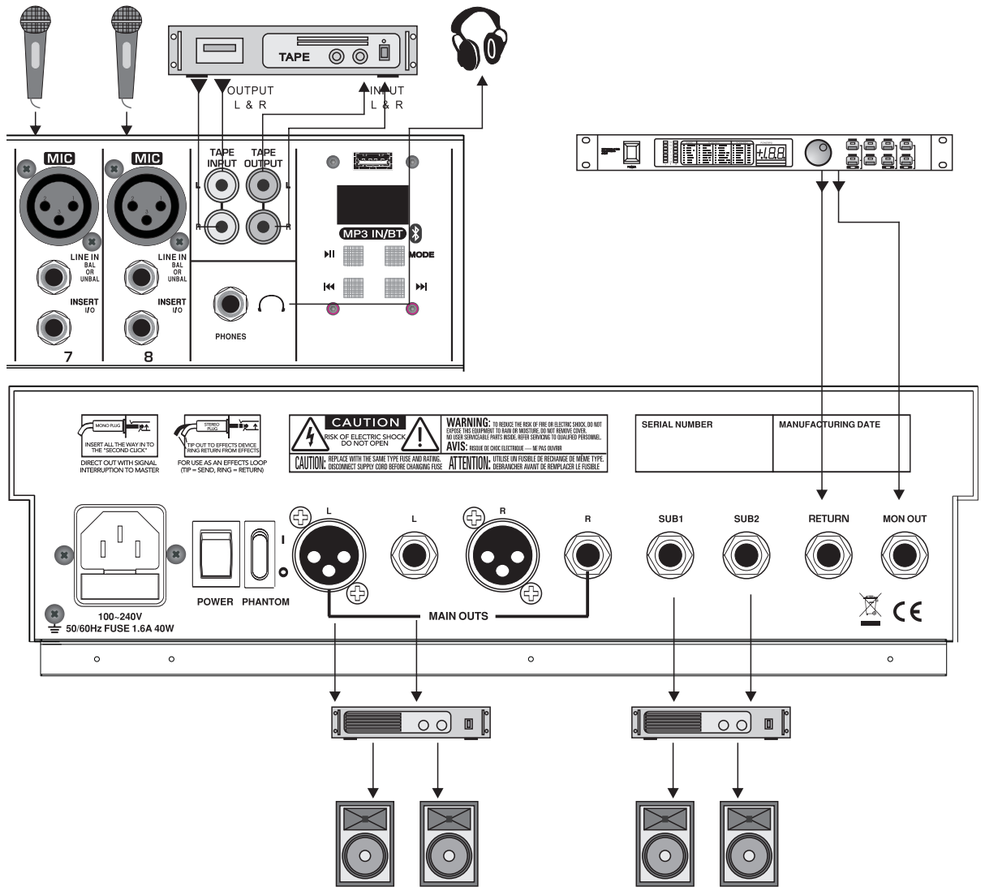


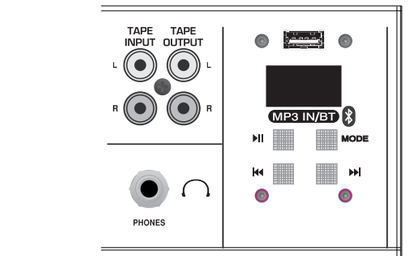
FIGURE 5-2

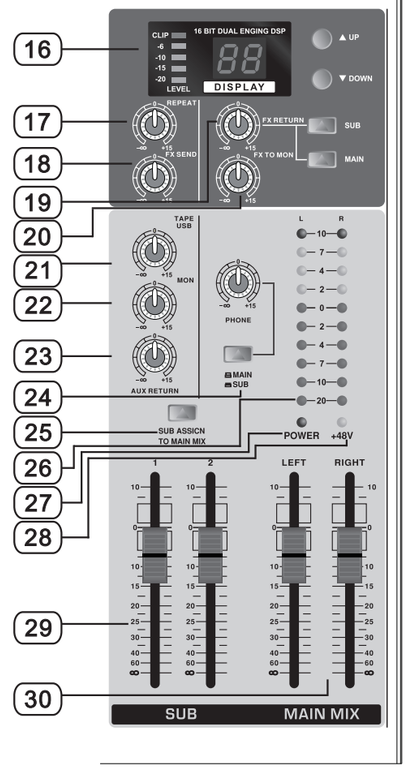
E.INSTALLATION

Experience tells us that the cables in a studio environment get tangled very quickly (inviting mistakes).



B.MASTER SECTION DESCRIPTION





16.DISPLAY

By pressing UP or DOWN under the display, you can elect one of sixteen (16) sound effects which will be output through the master channel.

17.REPEAT

This is used for adjusting frequency of echo repeat, since too echo repeat may cause a nowl, please adjust frequency properly.

18.FX SEND

The FX SEND fader determines the overall level of he effects bus Both external effects processors (Via the FX SEND connector) and the built-in processor only receive an input signal if this control is open.

19.FX RETURN(FX TO MAN)

Use the FX TO MAIN control to feed the effects signal into the main mix. If the control is turned all the way to the left, no effects signal can be heard.

20.FX TO MON

You can use this control to insert an effects signal from the built-in effects processor to your monitor mix. Of course, to do this, your effects processor must first receive a signal, i.e. The FX controls in the channel strips must be turned up, and the

21.TAPE

You can adjust the volume of TAPE in signal by this when connecting tape in.

22.MON SEND

Connect the input of your monitor power amp or an active monitor system here to make the monitor mix audible to the musicians on the stage. The signal mix is created using the channels Mon controls.

23.AUX RETUTN

This jack is to be connected with cassette deck when recording the mixed output.

24.HEADPHONE LEVEL

This is a single volume control sends the level to be the headphones and main monitors. If this switch is set to SUB, the sub bus signals are sent to the monitor out jacks, the PHONES jack, and the level meter. If it is set to MAIN, the MAIN L/R bus signals are sent to these jacks and the level meter.

25.SUB ASSICN TO MAIN MIX

Push in this switch to send the SUB signal to the left and right MAIN MIX.

26.OUTPUTS LEVEL INDICATOR

This is level meter which shows output levels of left & right channe and working condition on the way of operation. Therefore. You can see output condition thru this master level indicator. The LED shows power is turned “ON” or “OFF”

27.POWER LED

The power LED will be turned on when start working.

28.PHANTOM POWER SWITCH/LED

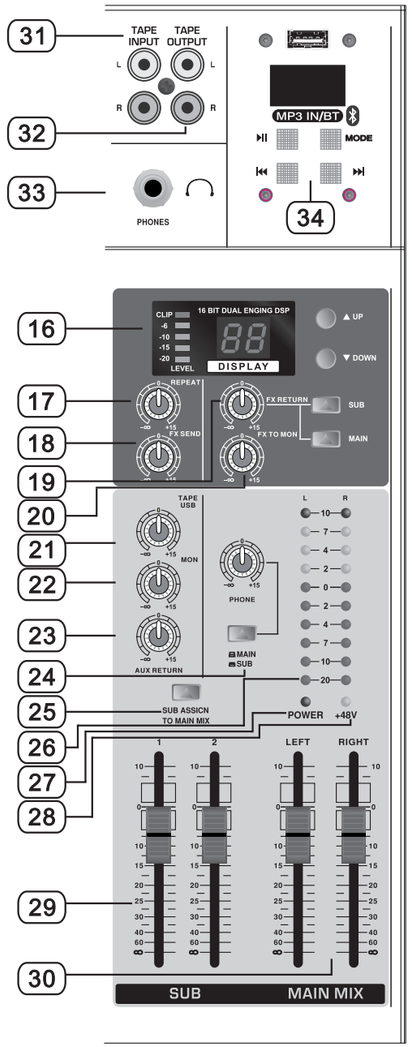
Depressing this switch applies 48v DC across all microphone input channels connectors for remote powering of condenser microphones. The LED will be turned on when start working.

29.SUB FADERS

As you might expect, these faders control the levels of signals sent to the SUB OUT jacks.

30.MAIN MIX FADER(LEFT/RIGHT)

This is a master fader for adjustment for volume of left right output. Unity gain is the top their travel.



C.MIXER OUTPUT SECTION

31.TAPE INPUT JACK

This jack is to be connected with cassette deck when playing back.

32.RECORD PIN JACK

This jack is to be connected with cassette deck when recording the mixed output.

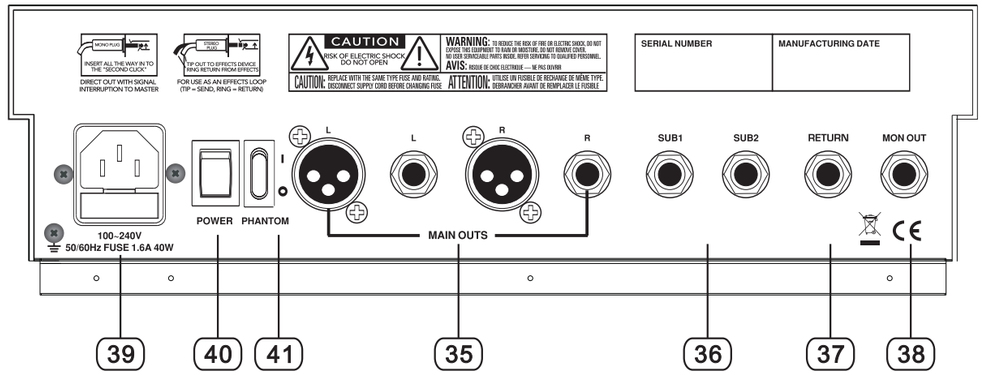
33.HEADPHONE JACK

You can monitor working condition by sound thru the headphone.

34.USB PLAYER

This procedure allows you to quickly play an mp3 song stored in the mass storage system(USB).

- ⏯ PLAY/PAUSE — The button is for play or pause the tracks in your USB.
- ⏭ ⏮ NEXT/PLUS — The button is for choosing the previous track and next track.
- REPEAT — The button is for repeat.
- MODE — Short press:USB、SD、Bluetooth transition



35.MAIN OUTS

Two sets of jacks are provided for the main outputs:1/4"TRS jacks and XLR jacks,These are usually patched to the inputs of your 2-trackmixdown deck,or to the house amplifier during lice sound sessions.

36.SUB OUTS

These 1/4"jacks are usually patched to the inputs of a multitrack deck, or to secondary amplifiers in a complex installation.

37.RETURNS

This jack is to be connected with cassette deck when recording the mixed output.

38.MON OUT

These 1/4" jacks usually patch to the inputs of your stage monior amps or your parallel effects devices.

D.POWER SECTION

39.POWER CONNECTION/FUSE

Jus in case you lose the cord provided with the, Its power jack accepts a standard 3-prong IEC cord like those found on most professional recorders, musical instruments, and computers. The MIX is fused for your(and its own) protection. If you suspect a blown fuse, disconnect the power cord, pull the fuse drawer out (located just below the cord receptacle) and replace the fuse with a 1 A.

40.POWER SWITCH

Push marked (1). When you want to operate. The LED (SEE Number 28) will be turned on when working

41.PHAMTOM SWITCH

Pressing this switch applies 48v DC across all microphone input channels connectors for remote powering of condenser microphones.