

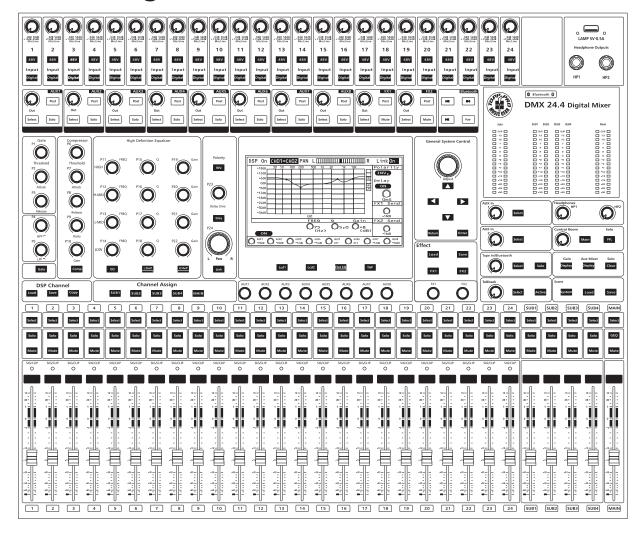
NF03977-1.1



User's Manual

DMX24.4

24-Channel Digital Mixer





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: OFF: Denotes the product is turned on.

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 the mains source 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.

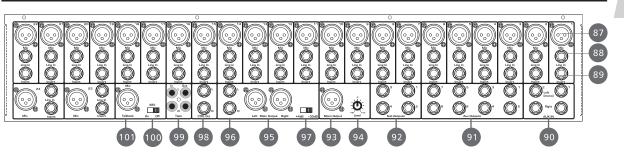
PORTABLE CART WARNING

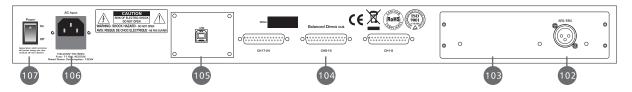


Carts and stands - The component should be used only with a cart or stand that is recommended by the manufacturer. A component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the component and cart combination to overturn.

MX

Index 2 rear panel parts





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- 88) Line-level Input
- 89) Insert
- 90) Aux Inputs

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- 92) Sub outputs
- 93) Mono Output
- 94) Mono Output Level
- 95) Main Output XLR 96) Main Output TRS
- 97) Main Output Level
- 98) CTRL Output
- 99) Tape In/Out
- 100) 48V Phantom Power switch
- 101) Talkback Mic Input

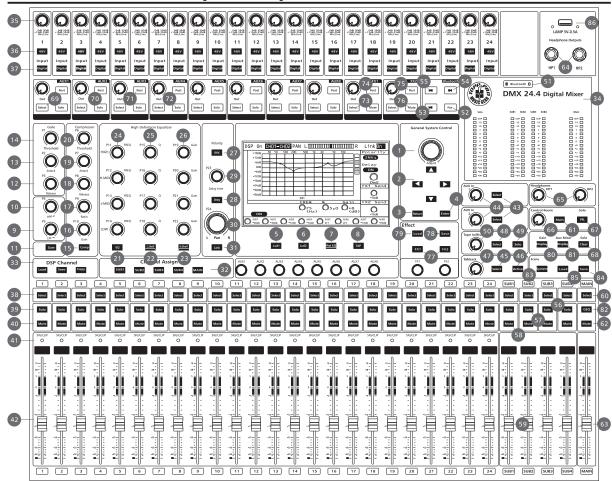
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- 102) AES/EBU port
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Don't forget to visit our website at **www.topppro.com** for more information about this and other **Topp Pro** products.





Introduction

Thank you for purchasing the TOPP PRO DMX24.4 digital mixer. With 24 high-headroom, microphone preamplifiers and playback engine; processing with 31-band EQ, compressor, gate, delay, polarity; DSP effects; aux buses; 4 subgroups; sensitive LED metering; load/save/copy mixer setting; remote control, talkback and more, the DMX24.4 helps you creating a wonderful show. It is easy to operate though it has powerful function.

We suggest that you use this manual to familiarize yourself with the features and applications for your DMX 24.4 before using.

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Summary of Features

- Two sampling rate for option: 24-bit/48 kHz and 24-bit/96kHz
- 24 microphone preamplifiers and line-level inputs
- 10 Aux sends (8 Analog aux sends and 2 Internal aux sends)
- 4 subgroups
- High-definition analog-to-digital converters (114 dB dynamic range)
- Unlimited-headroom, 32-bit floating-point, digital mixing and effects processing
- Master DSP effects (can Save and Load)
- Talkback communication system
- Low / High Pass Filter
- Gate
- Compressor
- High, high-mid, low-mid, low 4-band fully parametric EQ
- Phase reverse
- Time delay
- Pan
- Bluetooth
- Support adding optional module, such as DU3232 (32-channel recording-playback module)
- Remote control through USB port
- 100 mm long faders
- Quick-touch buttons
- Fast-acting LED meters
- 5V-0.5A USB lamp

3

Useful date

Serial	Number:

Data of Purchase:

Purchased at:



Guarantee

TOPP PRO guarantees the normal operation of the product against any defect of manufacture and /or vice of material, by the term of (12) months, counted as of the date of purchase on the part of the user, committing itself to repair or to change, to its election, without position some, any piece or component that will fail in normal conditions of use within the mentioned period.

This guarantee does not cover:

- Damages caused by the illegal use of the product, repair and/ or nonauthorized modification conducted by people by TOPP PRO.
- Damages caused by the connection of the equipment to other equipment different from the specified ones in the manual of use, or by bad connection to these last ones.
- Damages caused by electrical storms, blows and/or incorrect transport.
- Damages caused by excesses or falls of tension in the network or by connection to networks with a tension different from the required one by the unit.
- Damages caused by the presence of sand, acid of batteries, water, or any strange element inside the equipment.
- Deteriorations produced by the course of the time, use and/or normal wear of the unit.
- Alteration or absence of the serial number of factory of the equipment.

The repairs could only be carried out the authorized technical service by TOPP PRO, that will inform about the term and other details into the repairs to take place according to this guarantee.

TOPP PRO, will repair this unit in counted a term nongreater to 30 days as of the date of entrance of the unit to the Technical Service. In those cases in that due to the particularity of the spare part, outside necessary their import, the repair time and the viability of the same one will be subject to the effective norms for the import of parts, in which case one will inquire to the user about the term and possibility into repair.

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.

This unit will be able to appear for its repair, next to the invoice of purchase (or any other proof where the date of purchase consists), to its authorized distributor TOPP PRO or an authorized technical center on watch by TOPP PRO.

Exclusion of damages:

THE RESPONSIBILITY OF TOPP PRO BY ANY DEFECTIVE PRODUCT IS LIMITED THE REPAIR OR THE REPLACEMENT OF HE HIMSELF, TO TOPP PRO. IF WE CHOSE TO REPLACE THE PRODUCT, THE REPLACEMENT CAN BE A RECONDITIONATED UNIT. TOPP PRO WILL NOT BE RESPONSIBLE BY THE DAMAGES BASED ON THE LOST, INCONVENIENCE, LOSS OF USE, BENEFITS, LOST SAVINGS, BY THE DAMAGE TO OTHER EQUIPMENT OR OTHER ARTICLES IN THE USE SITE, OR BY ANY OTHER DAMAGE IF HE IS FORTUITOUS, CONSEQUENT OR OF ANOTHER TYPE, ALTHOUGH TOPP PRO HAS BEEN NOTICED OF THE POSSIBILITY OF SUCH DAMAGES.

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.



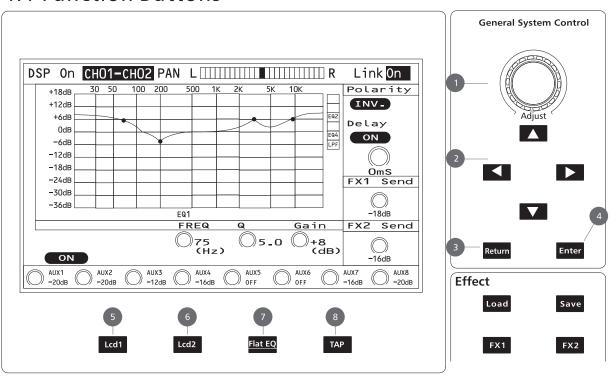


Troubleshooting

Problem	Possible Cause	Suggested Solution	
	Noise gate's release time is too short	Adjust the Release time to a suitable value	
Pops and clicks/distortion	The input's gain level is too high	Adjust the input gain to a suitable level	
	No signal input	Make sure there is signal in the input channel	
No output on a Channel	The input channel not assigned to the output bus in question	Make sure the input channel has been assigned to that output bus	
	The fader is malfunction	Change the parts ask the qualified personnel	
Fader movements not affect the audio	The input channel not assigned to the output bus which is listening	Maker sure the input channel has been assigned to the listening output bus	
	The volume of monitor bus is too low	Set a suitable volume for the monitor bus(headphone or Control Room)	
No output on the monitor bus	No channel has been soloed	Make sure the Solo button of the bus which you want to monitor has been pressed and illuminated	

Control

4.1 Function Buttons



1) Adjust Encoder

This Encoder adjusts the parameter values that are shown on the display. Turning it clockwise increases the value and counterclockwise decreases the value. This encoder also enables you to scroll a displayed list and select a character for entry. As the function of this button will be a little bit different in different function please notice the notes that are shown on the screen when operating.

2) Left, Right, Up, Down Buttons

These buttons move the cursor around the display page, or select and delete parameters and options. Holding down a button moves the cursor continuously in the corresponding direction. As the function of this button will be a little bit different in different function please notice the notes that are shown on the screen when operating.

3) Return Button

Press this button will back to the previous page or exit.

4) Enter Button

- Activate a selected function.
- Confirm the edited parameter values.

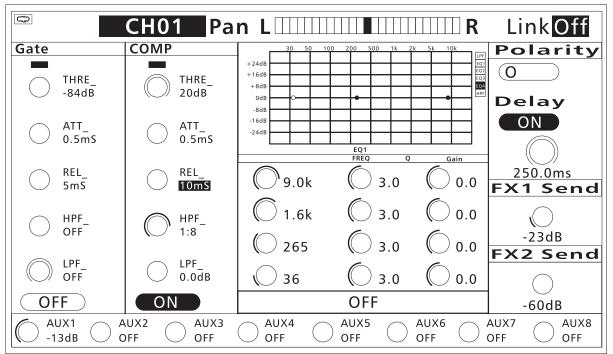
As the function of this button will be a little bit different in different function please notice the notes that are shown on the screen when operating.





Control

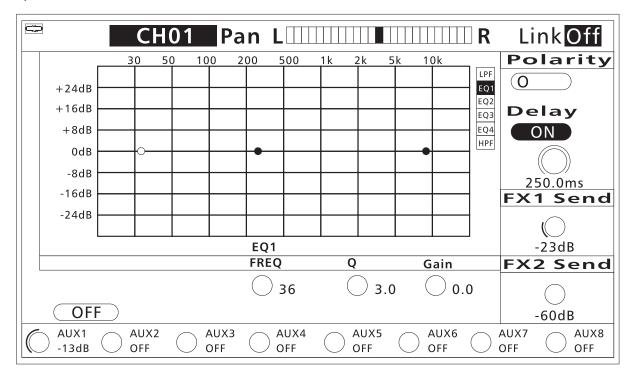
5) LCD 1 Button



- This button engages the LCD display displays in the mode 1 (default display mode) which shows all of the DSP parameters that the selected channel or bus features with a smaller curve. It will illuminate to indicate that the LCD1 has been pressed and enabled.
- It also can be used as a selecting button.

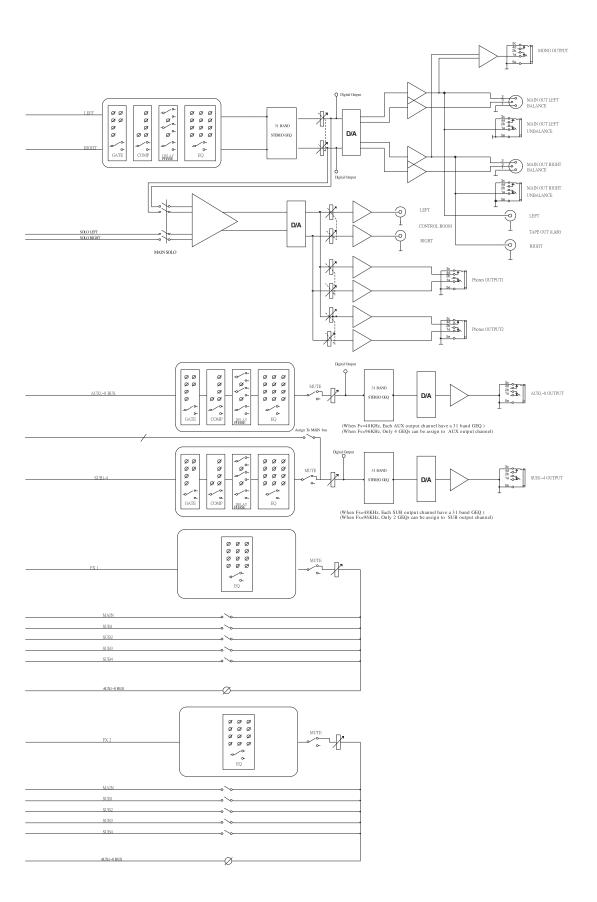
As the function of this button will be a little bit different in different function please notice the notes that are shown on the screen when operating.

6) LCD 2 Button



Technical information

6

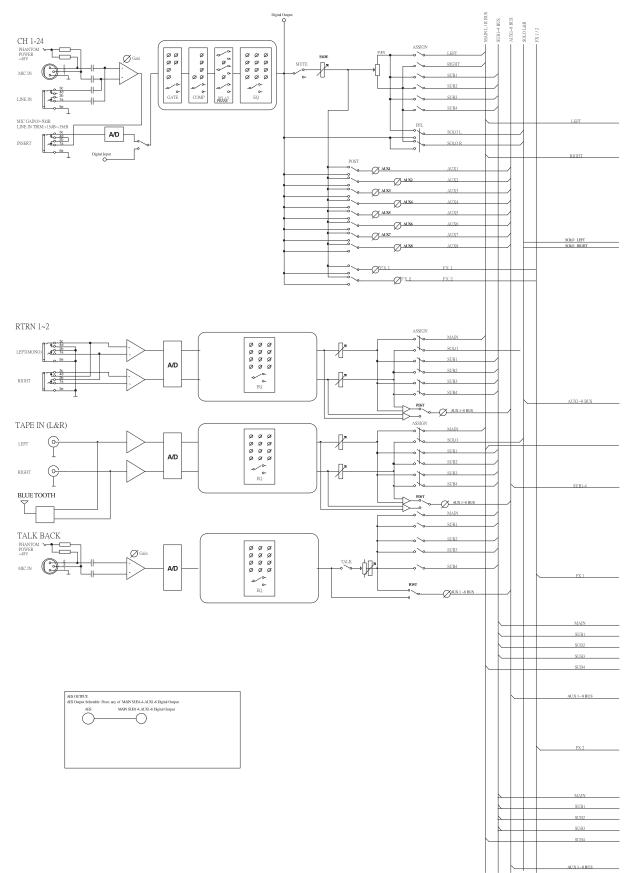






Technical information

6.2 Block Diagram



Control

- This button engages the LCD display displays in the mode 2 which shows the DSP parameter except the gate and compressor that the selected channel or bus features with a bigger curve. It will illuminate to indicate that the LCD2 button has been pressed and enabled.

- It also can be used as a selecting button.

As the function of this button will be a little bit different in different function please notice the notes that are shown on the screen when operating.

7) Flat EQ - multifunction button

- Set the selected channel's EQ to be default setting when the EQ function is enabled.

- Delete the preset. Press the Load button to display the Effect, GEQ, Scene or DSP channel preset list and choose the preset which you want to delete then press the Flat EQ button and follow the instruction that is shown on the LCD display.

- Be the function same as Caps Lock key in the keyboard. It can be used as the Caps Lock key in saving Effect, GEQ, Scene or DSP channel settings.

8) TAP - multifunction button

- Adjust the delay time in tempo on Delay and StDelay functions in the FX1 and FX2 by pressing it. The value will be shown in the Times.

- Assign GEQ to output buses.

4.2 DSP Channel

The DSP channel part is the most important part of DMX24.4. In this part you can make Gate, Compressor, EQ, polarity, panning, delay, linking, routing for the selected channel

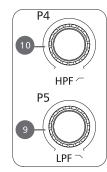
BUS	Gate	Compressor	EQ	Polarity	Pan	Delay	Link	Output Assignment
Inputs (CH1 -24)	V	V	V	V	V	V	V	MAIN, SUB Groups 1-4, Aux Sends 1-8, Internal Aux Sends 1-2
Aux Sends (1-8)	V	V	V	V		V	V	
Internal Aux Sends			V					MAIN, SUB Groups 1-4, Aux Sends 1-8
1&2								
SUB Groups 1-4	V	V	V	V	V	V	V	MAIN
MAIN Out	V	V	V	V		V		
Aux Ins1&2			V					MAIN, SUB Groups 1-4, Aux Sends 1-8
Tape In/Bluetooth			V					MAIN, SUB Groups 1-4, Aux Sends 1-8
Talk back			V					MAIN, SUB Groups 1-4, Aux Sends 1-8





Control

4.2.1 Low / High Pass Filter



9) Low Pass Filter

A low-pass filter passes low-frequency while attenuating higher frequencies.

The low-pass filter's threshold can be set from 21Hz to 19.2 KHz. When the meter is set to its highest position, the filter is off.

The slope of the Low Pass Filter is -12dB/octave.

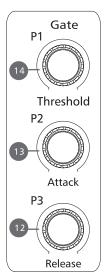
10) High Pass Filter

A high-pass filter is a filter that passes higher frequencies but attenuates lower frequencies. The high-pass filter's threshold can be set from 21Hz to 19.2 KHz. When the meter is set to its lowest position, the filter is off.

The slope of the High Pass Filter is -12dB/octave.

4.2.2 Noise Gate

Noise gate attenuates signals that below the threshold and allows signals to pass through only when they are above a set threshold.



11) Gate Button

This button engages and disengages the Gate for the selected channel. It will illuminate to indicate that the Gate has been pressed and enabled. The LCD display shows the Gate setting in real time. Its parameters can adjust by rotating P1~P3 knobs directly or using up & left & down & right key to choose the function that you want to modify and use the Adjust Encoder to set the value. Please notice that only if the Gate button has been enabled can its parameters be adjusted.

12) Gate Release

The Release sets the amount of time for the gate to go from open to fully closed. It can be set from 1 to 0.005 seconds. The value expresses as the duration required for the level to change by 6 dB.

A fast release abruptly cuts off the sound once it has fallen below the threshold, A slower release smoothly changes from open to closed, much like a slow fade out. If the release time is too short a click can be heard when the gate re-opens.

13) Gate Attack

Gate

The Attack control sets the time for the gate to change from closed to open, much like a fade-in. It can be set from 0.5 to 200 ms.

14) Gate Threshold

The threshold control to set the level at which the gate will open. It can be set from 0 to -84 dB.

Technical information

Mono Output	
Maximum Output Level	+22dBu
AUX1~8 Outputs	
Maximum Output Level	+18dBu
SUB1~4 Outputs	
Maximum Output Level	+18dBu
Tape Outputs	
Maximum Output Level	+14dBu
Control Room Outputs	
Maximum Output Level	+18dBu
System Crosstalk	
Input to Output (at +4dBu 1KHz)	-83dBu
Adjacent Channels (at +4dBu 1KHz)	-82dBu
Noise (Bus noise)	-85dBu
Noise Gate	
Threshold Range	-84dBu - 0dB
Attack time	0.5mS ~ 200mS
Relesae time	5mS~1S
Compressor	
Threshold Range	-30dBu -+20dB
Attack time	0.5mS ~ 200mS
Relesae time	10mS~1S
Ratio	1:1~1:10 until limit
Gain	0dBu - +24dB
EQ	
Low (LowPass or LowShelf)	21Hz~19.2KHz +/- 24dB
Low Mid	21Hz~19.2KHz +/- 24dB
High Mid	21Hz~19.2KHz +/- 24dB
High (HighPass or HighShelf)	21Hz~19.2KHz +/- 24dB
Digital Audio	
ADC Dynamic Range	114dB
DAC Dynamic Range	114dB
Internal Processor	32-bit , floating point
ADC,DAC bit depth	24bit
Impedances	
Microphone inputs	1.4K Ω
Channel Insert return	2.5K Ω
All other inputs	10K Ω or greater
Tape out	1K Ω
All other outputs	120 Ω
Operating free-air temperature range	0~40°C
Storage temperature range	-20~60°C

Storage temperature range -20~60°C

TOPP PRO





Technical information

6.1 Specification	
Microphone inputs	Electronically balanced
Frequency Response to direct Output	20Hz~100KHz at 0dBu±1.5dB
Frequency Response to Main Output (48K)	20Hz~20KHz at 0dBu±1.5dB
Frequency Response to Main Output (96K)	20Hz~20KHz at 0dBu±1.5dB
Distortion (THD&N) to direct Output	<0.005% at 0dBu 1KHz
Distortion (THD&N) to Main Output (48K)	<0.01% at 0dBu 1KHz
Distortion (THD&N) to Main Output (96K)	<0.01% at 0dBu 1KHz
SNR (Signal to Noise Ratio)	107dB
Maximum Input Level	+21dBu
Phantom Power (+/-3V)	+48VDC
Line inputs	Unbalanced
Frequency Response to direct Output	20Hz~100KHz at 0dBu±1.5dB
Frequency Response to Main Output (48K)	20Hz~20KHz at 0dBu ±1.5dB
Frequency Response to Main Output (96K)	20Hz~20KHz at 0dBu±1.5dB
Distortion (THD&N) to direct Output	<0.005% at 0dBu 1KHz
Distortion (THD&N) to Main Output (48K)	<0.01% at 0dBu 1KHz
Distortion (THD&N) to Main Output (96K)	<0.01% at 0dBu 1KHz
Gain	-15dBu~+35dBu
Maximum Input Level (Gain at 0dBu)	+20dBu
AUX1~2 inputs	Balanced (2 stereo pair)
Frequency Response to Main Output (48K)	20Hz~20KHz at +0dBu±1.5dB
Frequency Response to Main Output (96K)	20Hz~20KHz at +0dBu±1.5dB
Distortion (THD&N) to Main Output (48K)	<0.01% at 0dBu 1KHz
Distortion (THD&N) to Main Output (96K)	<0.01% at 0dBu 1KHz
Gain	- ∞ to +10dBu
Maximum Input Level	+22dBu
Tape L/R inputs	
Frequency Response to Main Output (48K)	20Hz~20KHz at +4dBu±1.5dB
Frequency Response to Main Output (96K)	20Hz~20KHz at +4dBu±1.5dB
Distortion (THD&N) to Main Output (48K)	<0.01% at 0dBu 1KHz
Distortion (THD&N) to Main Output (96K)	<0.01% at 0dBu 1KHz
Gain	- ∞ to +10dBu
Maximum Input Level	+21dBu
Talkback MIC	
Frequency Response to Main Output (48K)	20Hz~20KHz at +0dBu±1.5dB
Frequency Response to Main Output (96K)	20Hz~20KHz at +0dBu±1.5dB
Distortion (THD&N) to Main Output (48K)	<0.01% at 0dBu 1KHz
Distortion (THD&N) to Main Output (96K)	<0.01% at 0dBu 1KHz
Gain	- ∞ to +10dBu
Phantom Power (+/-3V)	+48VDC
Main Outputs	
Maximum Output Level	+20dBu

Control

4.2.3 Compressor

A compressor reduces the level of an audio signal if its amplitude exceeds a certain threshold.

15) Compressor Button

This button engages or disengages the Compressor for the selected channel. It will illuminate to indicate that the compressor has been pressed and enabled. The LCD display shows the compressor setting in real time. Its parameters can adjust by rotating P6~P10 knobs directly or using up & left & down & right key to choose the function that you want to modify and use the Adjust Encoder to set the value. Please notice that only if the Compressor button has been enabled can its parameters be adjusted.

16) Compressor Gain

This encoder sets the make-up gain of the compressor for the selected channel or bus. The Gain can be set from 0 dB (no gain adjusted) to +24 dB.

17) Compressor Ratio

This encoder sets the compression ratio for the selected channel. The ratio determines the amount of gain reduction. For example, a ratio of 4:1 means that if input level is 4 dB over the threshold, the output signal level will be 1 dB over the threshold. The ratio can be set from 10:1 to 1:1 until limit.

18) Compressor Release

This encoder sets the release setting of the compressor for the selected channel. Release sets the length of time the compressor takes to return to its normal gain once the signal level drops below the threshold. Release can be set from 10 to 1,000 milliseconds. The value expressed as the duration required for the level to change by 6 dB.

Compressor

19) Compressor Attack

This encoder sets the compressor's attack setting for the selected channel. The attack setting is the period when the compressor is decreasing gain to reach the level that is determined by the ratio. You can set the attack from 0.5 to 200 milliseconds. The value expressed as the duration required for the level to change by 6 dB.

20) Compressor Threshold

This encoder sets the compressor threshold for the selected channel. If the amplitude of an audio signal exceeds a certain threshold, the compressor will reduce the level of this signal. The threshold can be set from -30 to 20 dB.

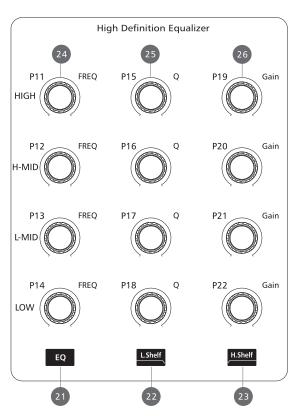




Control

4.2.4 EQ

An equalizer is a filter that allows you to adjust the level of a frequency, or range of frequencies of an audio signal.



21) EQ button

This button engages or disengages the equalizer for the selected channel. It will illuminate to indicate that the equalizer has been pressed and enabled. The LCD display shows the EQ setting in real time. Its parameters can adjust by rotating P11~P22 knobs directly or using up & left & down & right key to choose the function that you want to modify and use the Adjust Encoder to set the value. Please notice that only if the EQ button has been enabled can its parameters be adjusted. The equalizer is available for all input and output buses.

22) Low Shelf EQ Button

A Low Shelving EQ is like a bass-control knob on the stereo. The Low band will be parametric if this button not be pressed. Press this button can turn the Low band into a Low-shelving EQ which means a band of low frequencies at and below a user set shelving frequency. The shelving frequency can be set by rotating the Center Frequency knob.

23) High Shelf EQ Button

A High Shelving EQ is like a treble-control knob on the stereo. The High band will be parametric if this button not be pressed. Press this button can turn the High band into a High-shelving EQ which means a band of frequencies at and above a user set shelving frequency. The shelving frequency can be set by rotating the Center Frequency knob.

24) EQ Frequency Control

These encoders set the center frequency of the equalizer's Low/Low-mid/High-mid/High band separately. The center frequency is the middle of the pass-band between the lower and upper cutoff frequencies which define the limits of the band. The center frequency can be set from 21Hz to 19.2K Hz.

25) EQ Q Control

These encoders set the Q for the Low/Low-mid/High-mid/High band separately. The Q is the ratio of the center frequency to the bandwidth. If the center frequency is constant, the bandwidth is inversely proportional to the Q, which means that if you raise the Q, the bandwidth will be narrowed. It can be adjusted from 0.4 to 24.

26) EQ Gain Control

These encoders set the gain cut or boost at the center frequency for the Low/Low-mid/High-mid/High band separately. It can be set from -24 to +24 dB.

Connecting to a Computer

The DMX24.4 is not only a mixer but also a very powerful computer interface which allows being controlled from a separate computer.

5.1 System Requirements

The minimum computer system requirements for your DMX24.4 are:

- Operating Systems:

Windows XP (SP2 or greater) 32-bit and 64-bit Windows Vista 32-bit and 64-bit (not recommended)

Windows 7 32-bit and 64-bit

Windows 8 64-bit

- Hardware:

Minimum: Intel Celeron (R) CPU 2.20G Hz, 1 GB RAM, graphics card video memory 764MB.

5.2 Installation the Driver

Please download the PL2303_Prolific_DriverInstaller driver and Digital Mixer software to your computer from TOPP PRO website: www.topppro.com.

Then open the PL2303_Prolific_DriverInstaller driver and complete the installation follow the onscreen instruction.

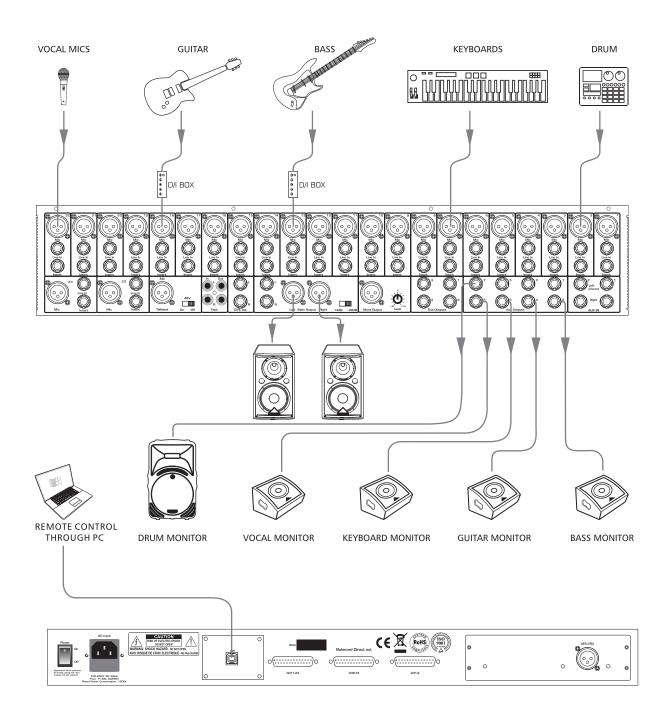
TOPP PRO MUSIC GEAR





Control

4.10 Hookup



Control

4.2.5 Polarity & Delay & Pan & Link

27) Polarity Reverse Button

Press this button to invert the phase of the selected channel's signal (to alter the phase by 180°). If the phase reverse is active the button will illuminate. The LCD display shows the phase reverse setting in real time. The Polarity button can be used to correct audio signals which are out of phase as well as to cancel/reinforce each other.

28) Delay Button

This button engages and disengages the delay for the selected channel. It will illuminate to indicate that the delay has been pressed and enabled. The LCD display shows the delay time in real time. It can be set from 0.0ms to 250ms at 96K Hz and 500ms at 48K Hz. Please notice that only if the Delay button has been enabled can its parameter be adjusted.

29) Delay Time Control

The control adjusts the delay time of the selected channel.

30) Pan Control

The encoder controls panning for the selected input or output bus. The LCD display shows the setting in real time. If two channels have been linked as stereo pair, the LCD display will automatically change to stereo pan.

Polarity INV. —27 P23 Delay time Delay — 28 P24 Link — 31

31) Stereo Link

Input channels, aux buses, and subgroups can be linked as a stereo pair. It will illuminate if the stereo link button has been pressed and enabled. The stereo pairs are predefined and cannot be changed. They are as follows:

Channels 1 and 2	Channels 19 and 20
Channels 3 and 4	Channels 21 and 22
Channels 5 and 6	Channels 23 and 24
Channels 7 and 8	Aux 1 and Aux 2
Channels 9 and 10	Aux 3 and Aux 4
Channels 11 and 12	Aux 5 and Aux 6
Channels 13 and 14	Aux 7 and Aux 8
Channels 15 and 16	Subgroups 1 and 2
Channels 17 and 18	Subgroups 3 and 4

A stereo link can be enabled when either channel in the pair is selected by pressing the Link button. When the Link button is illuminated which indicates the Stereo Link function enabled, all DSP setting, subgroup assignments, solo status and main assignments are passed to the other channel in the pair.

Please note that this is a nondestructive passing, the other channel's previous setting will be restored after the Link button is disengaged. For example, if Channel 6 has been selected when the Stereo Link button is engaged, all of Channel 6's setting will be copied onto Channel 5. The Channel 5's own setting will restore after the Link button has been disengaged.







4.2.6 Output Assignment



32) Output Assignments

The selected channel can be assigned to SUB group outputs 1-4 and MAIN Outputs by pressing the corresponding button and also can be assigned to AUX sends 1-8 and Internal Aux sends FX1-2 by rotating the corresponding knob as well as adjusting the output level of the Aux send channels individually.

The 24 main inputs, the 2 auxiliary inputs, Tape In, Talkback, Bluetooth and internal effects returns can be assigned to any or all of the subgroup outputs, Aux Sends as well as to the main outputs.

Subgroups can only be assigned to the main outs. The 8 aux sends cannot be assigned to a subgroup or to the main outputs. Only the 24 main inputs can be assigned to the two internal aux sends.

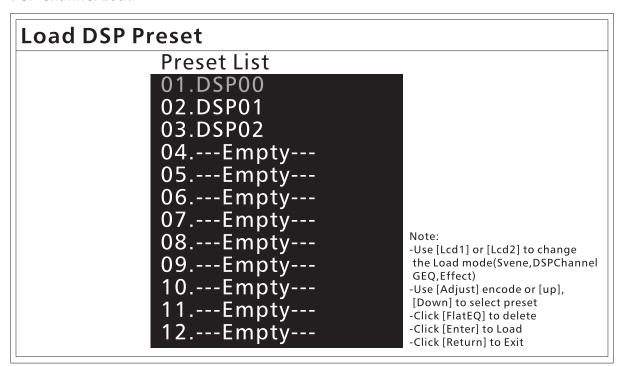
4.2.7 DSP Load, Save, Copy



33) DSP Load, Save, Copy

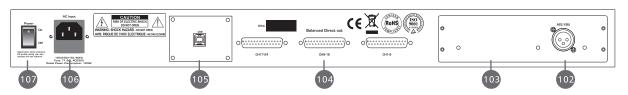
Using these buttons you can save your setting for future use by loading it or copy one channel setting to other channels conveniently.

DSP Channel Load



Press this button to load the DSP channel presetting. With the help of other selecting buttons you can load Scene, GEQ or Effect presetting too. The preset can be deleted by pressing the Flat EQ after it has been chosen. Please notice the instruction that is shown on the LCD display.

Control



102) AES/EBU port

Digital signal output port.

103) Option module

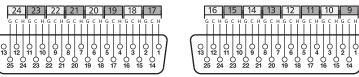
You can choose to add optional module that you want for special function. Please contact with our agency to get information about new modules.

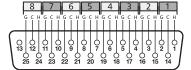
104) Balanced Direct Output

These are the 24 channels' balanced, direct analog outputs. The DB25 connectors divide the channels into three groups of eight. These outputs are post-gain, pre-insert, and pre-A/D converter. Only the microphone inputs and line-level inputs can be sent through direct output.

DB25 pin-outs

H = Hot C = Cold G = Ground





Balanced Direct Output

105) USB Connect Port

This port is for remote control.

106) Power Port

The provided power cable can be plugged in.

107) Power Switch

Push the top part of the switch to turn on and the bottom part to turn off.







91) Aux Outputs

Aux mixes are routed to these 8 outputs. The aux mixes can be created for monitoring and effects processing.

92) Sub outputs

These are balanced mono outputs for each subgroup.

93) Mono Output

This balanced output carries a mono, summed version of the stereo signal from the main bus.

94) Mono Output Level

This knob controls the level of the Mono Output signal. The signal can be attenuated to $-\infty$ and boosted up to + 10 dB.

95) Main Output XLR

They are XLR main outputs.

96) Main Output TRS

They are TRS main outputs.

97) Main Output Level

This switch controls the output level of the XLR and TRS main outputs. The signal can be attenuated to -30 dB and boosted up to 4 dB.

98) CTRL Output

These are the balanced control-room outputs. The level is controlled by the knob in the Control Room on the top panel.

99) Tape In/Out

These are the stereo RCA (coaxial) inputs and outputs which can be used to connect a CD player, tape deck and other device. The tape-input level is controlled by the Tape In knob on the top panel. The main bus is routed post-fader to the tape output.

100) 48V Phantom Power switch

With the help of this switch you can supply your capacitor microphone the 48V Phantom Power by on this button which enables you to choose capacitor microphone and dynamic microphone conveniently.

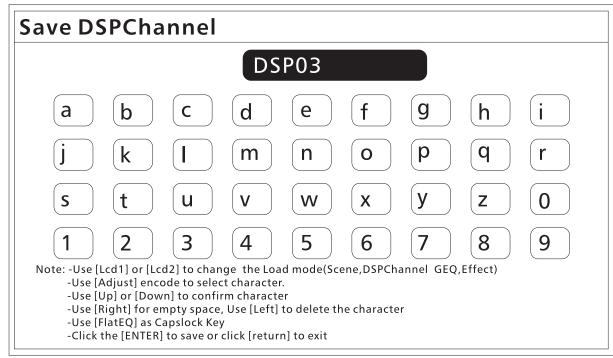
riangle Please do not supply phantom power to any device which do not need phantom power otherwise the device may be damaged.

101) Talkback Mic Input

The talkback Mic input can be used as an extra input.

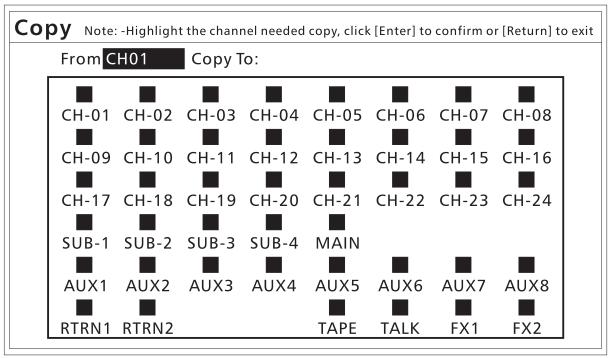
Control

DSP Channel Save



Press this button to save the selected channel's and bus's DSP channel setting as DSP presetting for future use. With the help of other selecting buttons you can save Scene, GEQ or Effect setting too. Please do as the instruction that is shown on the LCD display.

DSP Channel Copy



The selected channel's or bus's setting can copy onto other channels or buses by pressing the Copy button. The selected channel or bus will flashing after the Copy button pressed. Any channel or bus that you press the corresponding Select button to copy the setting of the selected channel or bus will be illuminated. You can press the Enter button to confirm or Return button to exit. Please do not ignore the notes that are shown on the LCD display.

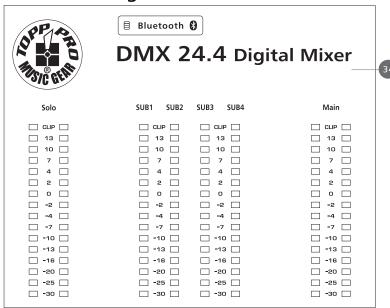
TOPP PRO





Control

4.3 Metering



34) LED Meters

The LED meters show the signal status.

- Solo meters

Indicate the input signal of Solo bus.

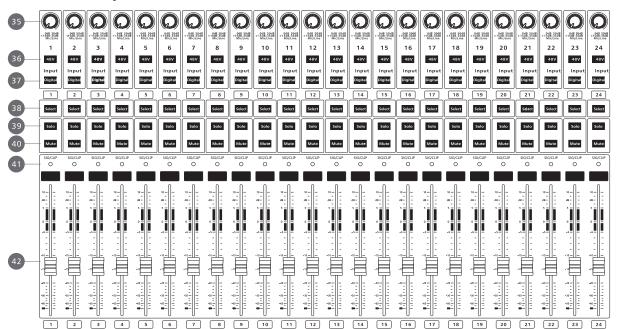
- SUB1~4 & Main meters

Indicate the output signal of SUB1~4 & Main bus.

4.4 Input Channels

There are five kinds input channels for DMX24.4: 24-input channels; 2-Aux inputs; Talkback system; Tape input and Bluetooth.

4.4.1 24-input Channels



Control

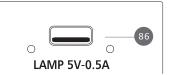
85) Scene Load

Press this button to load the Scene presetting. With the help of other selecting buttons you can load Effect, GEQ or DSP channel setting too. The chosen preset can be deleted by pressing the Flat EQ. Please notice the instruction that is shown on the LCD display. Please take DSP Load in section 4.2.6 DSP Load, Save, Copy as reference.

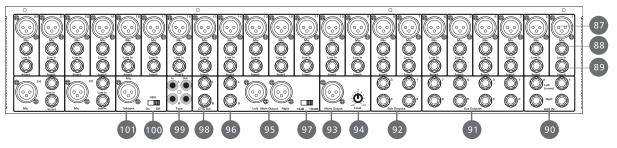
4.8 Lamp

86) Lamp USB Connector

This connector can connect with a 5V-0.5A lamp which can help you use the DMX24.4 whether in dark situation or not conveniently.



4.9 Rear panel



87) Microphone Inputs

The DMX24.4 equips 24 microphone preamplifiers for use with all types of microphones. The preamplifier has a Class A input buffer which followed by a dual-servo gain stage. This arrangement will bring ultra-low noise and wide gain control which help to boost signals without increasing unwanted background noise.

88) Line-level Input

The line-level input is a 1/4-inch, balanced TRS connector. Each channel of the DMX24.4 has a line-level input. The microphone-preamp circuit will be bypassed if the Line-level Input has been engaged.

Please notice that there will be a momentary spike in the output when plugging in a microphone or a line-level input device, or turning phantom power on or off. So it should better to mute or turn down the channel fader before changing connections or turning phantom power on or off.

89) Insert

The direct-insert point is an unbalanced 1/4-inch connector which can be used to connect external processors. Each channel of the DMX24.4 has a direct-insert point. The insert's sending is after the channel's gain control and before the digital bus. But the return goes to the digital bus directly. So if a de-esser has been inserted on the vocalist's channel, the de-esser will get an unprocessed, amplified signal. The processed signal will return to the DMX24.4's digital bus to add DSP setting and sent through Aux and FX buses...

90) Aux Inputs

The two Aux inputs are normally used as effects returns. An aux bus can be used to send several channels to an external effects processor and also can be used to return the processed signal to the mixer. The input is balanced stereo. If a mono signal has to be returned to the mix, connect it to the left input, then the right as well as the left side will get the signal.

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Control

4.7.4 Scene System

83) Scene System

System SetUp	
Sample Rate: 96k Enable Reset: Default Settings	
LCD Backlight: 13 AES Output Source: MAIN L/R	
	Software Version 1.0

Press this button to show and edit parameters of the system. Use the up & left & down & right key to choose the effect that you want to modify. The LCD Backlight and AES Output Source can use the Adjust Encoder to modify directly after it has been chosen and the setting will be saved and updated automatically. The Sample rate and Reset need to press the Enter button first, then, follow the instruction that is shown on the LCD display to modify, and also can exit by pressing the Return button to back to be chosen the LCD Backlight setting.

Please notice that there are two kinds Sample Rate: 48K Hz/24 bit and 96K Hz/24 bit. If the sample rate is 48K Hz/24 bit at present and you choose to press the enter button, warnings like "Are you sure to change the SampleRate? [Enter] ==yes, [Return] ==no"will appear. If you choose to press the Enter button, the Sample Rate will update to 96K Hz/24 bit and the LCD display will in the display mode 1 with the channel 1 which same as the latest setting has been selected. If you choose to press the Return button the LCD BACKLIGHT will be chosen automatically. So does the 96K Hz/24 bit.

4.7.5 Scene Load & Save

84) Scene Save

Press this button to save Scene setting as presetting for future use. With the help of other selecting buttons you can save Effect, GEQ or DSP channel setting too. Please do as the instruction that is shown on the LCD display. Please take DSP Save in section 4.2.6 DSP Load, Save, Copy as reference.

The scene preset can be recalled to the same channel with exactly the same DSP setting and other setting like Solo, Mute, Post..., but with the channel's own DSP setting if recall to other channels. For example, if you select Channel 6 and save the setting as scene preset 6. If you select the Channel 6 and press the Load button to load the scene preset 6, then, the Channel 6 will be exactly same as the scene preset 6. But if you choose other channel like Channel 7, the DSP setting will be same as the Channel 7 and other settings will be same as preset 6.

Control

35) Input Gain Level Control

The knob controls the gain level of the channel's input.

It is very important to properly set the level of the input gain to minimize noise and avoid overload distortion.

36) Phantom Power Button

Every microphone input equips with individual phantom power which is controlled by the 48V phantom power button. The 48V button will illuminate when phantom power is activated. Please notice that only the condenser microphone needs phantom power.

A Please do not supply phantom power to any device which do not need phantom power otherwise the device may be damaged.

37) Digital button

This button engages and disengages the channel get digital input signal from option module which can input digital signal. It will illuminate to indicate that the digital has been enabled.

38) Select Button

The Select button routes its channel to add DSP setting and assign its output. It will illuminate as has been pressed and enabled.

39) Solo Button

Press this button will assign its channel to the monitor outputs as well as to the output bus. It will illuminate as has been pressed and enabled. The channel which has been soloed will be selected automatically.

40) Mute Button

Press this button mutes its channel and all of its assigned outputs. It will illuminate red when the channel is pressed and muted.

41) Sig/Clip LED

The Sig/Clip LED will be red when the level is bigger than +15 dB and green when the level is bigger than -30 dB.

42) Channel Fader

Each channel features a 100 mm long fader for accurate level adjustment.

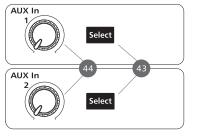
4.4.2 Aux Inputs

43) Aux Input Select button

Press the select button to add EQ and assign its output to any or all of the MAIN output, Aux Sends 1-8 and Sub group outputs 1-4.

44) Aux Input Level Controls

These knobs control the overall volume of the two Aux Input signal.

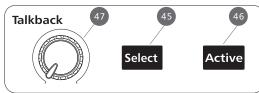








4.4.3 Talkback System



The DMX24.4 features a Talkback microphone input with a 48V phantom power switch on the back panel.

45) Talkback Select button

Press this button to add EQ and assign its output to any or all of Main output, Aux sends 1-8 and Sub groups 1-4.

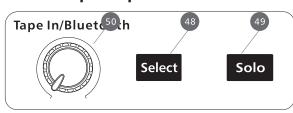
46) Talkback Active button

Press this button to turn the talkback mic on and off. It will illuminate to indicate that the talkback mic is active.

47) Talkback Level Control

This knob controls the overall volume of the external Talkback MIC input.

4.4.4 Tape Input



The Tape input can help to input an analog signal or a playback stream which enables to compare audio sources during mixing or input intermission music in break time without using any of the 24 Input channels. Both the external tape input and Bluetooth input can be engaged at the same time.

48) Tape Input Select button

Press this button will enable you to add EQ and assign its output to any or all of the Main output, Sub groups 1-4 and Aux sends 1-8.

49) Tape Input Solo button

Press this button will assign the tape input / bluetooth to the monitor outputs as well as to the outputs. It will illuminate as has been enabled. When enabling the solo button its channel will be selected automatically.

50) Tape Input Level Control

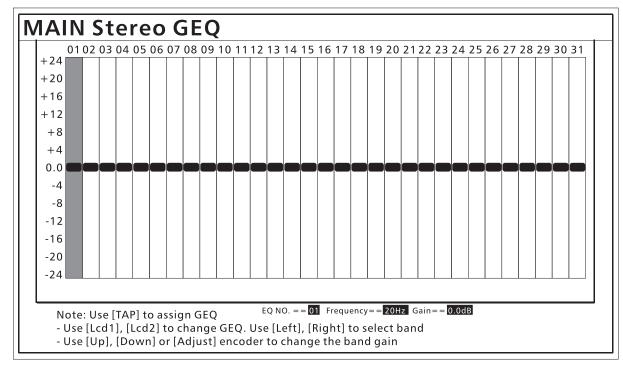
This knob controls the level for both the Tap In and Bluetooth.

Control

Press this button to display and adjust channels 'level for each Aux sends. Please do as the instruction that is shown on the LCD display.

4.7.3 GEQ

82) GEQ



Press this button to set the 31-band EQ. It will illuminate when the button is pressed and engaged. The DMX24.4 features MAIN Stereo, SUB Mono and AUX Mono, 31-band, 1/3 octave graphic EQs. The 31 bands range from 20Hz to 20 KHz. There is 1 MAIN Stereo GEQ, 4 SUB Mono GEQs and 8 AUX Mono GEQs when in 24-bit/48 kHz sample rate but only 1 MAIN Stereo GEQ, 2 SUB Mono GEQs and 4 AUX Mono GEQs when in 24-bit/96kHz sample rate.

The EQ number, Frequency and Gain value which you are adjusting will be shown on the LCD below the graphic curve. Please follow the instruction that is shown on the LCD display to adjust the value. The Flat EQ can help you set the whole 31 bands be default setting.

The MAIN Stereo does not need to assign no matter the sample rate is 24-bit/48 kHz or 24-bit/96 kHz.

The SUB Mono and AUX Mono GEQs do not need to assign when in 24-bit/48 kHz sample rate.

The SUB Mono and AUX Mono GEQs need to assign when in 24-bit/96 kHz sample rate. Take the AUX mono GEQ as an example. The AUX Mono GEQs can assign to any of the AUX sends but can only be assigned once, for example, if AUX Mono GEQ1 has been assigned to Aux2, other AUX Mono GEQs can't be assigned to Aux2 and also the Aux2 will not in the assign option menu of them. So does the SUB Mono GEQ.

The GEQ settings can be saved as preset for future use by pressing the Save button and flowing instruction that is shown on the LCD display. Please notice that the assign state will not be saved when one GEQ setting is saved as preset. The preset can be recalled by pressing the Load button and deleted by pressing the Flat EQ button after it has been chosen. Please notice the instruction that is shown on the LCD display. Please take section 4.2.6 DSP Load, Save, Copy as reference.

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- The fader volume for 24 input channels. There are three bars for every channel: The left one means the present volume; the middle one means the original volume when you open the DMX24.4; the right one means the signal level of this channel.

Please do not ignore the notes that are shown on the LCD display.

4.7.2 Aux Mixer Display

81) Aux Mixer Display

AUX1 Bus Mixer
-13dB CH01 OFF CH02 OFF CH04 OFF CH05 OFF CH06
OFF CH07 OFF CH09 OFF CH10 OFF CH11 OFF CH12
OFF CH13 OFF CH15 OFF CH16 OFF CH17 OFF CH18
OFF CH20 OFF CH21 OFF CH22 OFF CH23 OFF CH24
OFF RTRN1 OFF TALK OFF FX 1 OFF FX 2
Note: -Use [Left], [Right], [Up], [Down] to select parameter Use [Adjust] encoder or P1-P24/AUX1-8 to adjust the value -Use [Lcd1] or [Lcd2] to change the bus mixer page

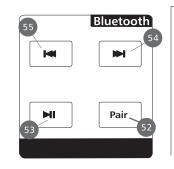
AUX Sends 1-8

-23dB CH01 0.0dB CH02	OFF CH03 OFF CH06 OFF CH06
OFF CH07 CH08	OFF CH09 OFF CH10 CH11 CH12
OFF CH13 OFF CH14	OFF CH15 OFF CH16 OFF CH17 OFF
OFF CH19 CH20	OFF CH21 OFF CH22 OFF CH23 OFF

Internal AUX Sends 1-2

Control

4.4.5 Bluetooth







DMX 24.4 Digital Mixer

The Bluetooth input signal will be routed to the Tape Input, so it can be set in the Tape in section.

51) Bluetooth LEDs

The two LEDs use to display different working state:

- The Bluetooth will open automatically and in the standby state after the DMX24.4 powered on. The right LED flashes twice about 2 seconds a time.
- The two LEDs flash quickly and alternately in the matching state.
- The right LED lighted constantly after connected with a device.

52) Bluetooth Pair

Press this button and hold for 2-3 seconds, the player will change to matching state. In this state, the two LEDs flash alternately and quickly, and you can use your mobile phone, tablet or PC Bluetooth adapter to find the BT-2.1B. Only if your device's Bluetooth version is lower than 2.0, should you enter the password "0000", otherwise no password needed.

53) Bluetooth Play/Pause

Press the Play/Pause button to pause in play state and play in pause state.

54) Bluetooth Next button

Press this button to go to the next musical.

55) Bluetooth Pre button

Press this button to go to previous musical.

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MUSIC GEAR



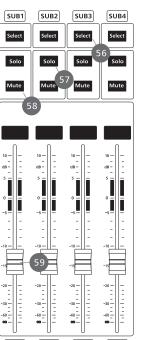


Control

4.5 Output Channels

There are four kinds output channels for the DMX24.4: SUB group outputs 1-4; Main output; Monitor output and Aux sends.

4.5.1 SUB group outputs 1-4



56) Select Button

Press the Select button to add DSP setting and assign the output to MAIN output and more. It will illuminate as has been pressed and enabled.

57) Solo Button

Press this button will send its bus to the monitor outputs as well as to its output bus. It will illuminate as has been enabled. The bus which has been soloed will be selected automatically.

58) Mute Button

Press this button will mute its bus and also all of its assigned outputs. It will illuminate red when the button has been pressed and enabled.

59) Fader

The 100 mm long fader is for accurate level adjustment.

The SUB outputs equip with GEQ function, please get details in section [SUB2] [SUB3] [SUB4] 4.7.3 GEQ.

4.5.2 Main Output



Press this button to set Main output's Compressor, Gate, EQ, Polarity, Delay.

61) Main Solo Button

It will illuminate to show the main output signal sends to the Monitor bus too after the Main button has been pressed. This signal is always pre-fader. The Main output will be chosen automatically after the Main Solo button has been pressed.

62) Mute Button

Press this button will mute its bus and also all of its assigned outputs. It will illuminate red when the button has been pressed and enabled.

63) Channel Fader

The 100 mm long fader is for accurate level adjustment.

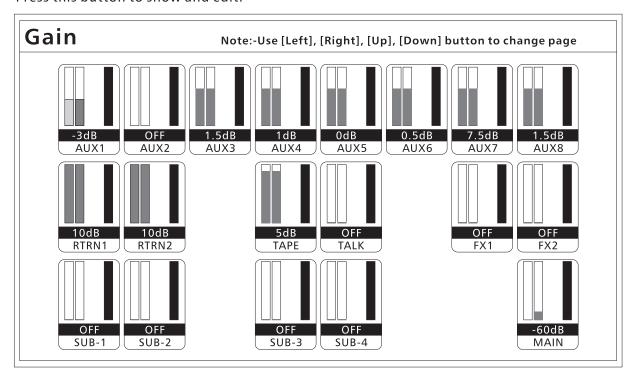
The MAIN output equips with GEQ function, please get details in section 4.7.3 GEQ.

Control

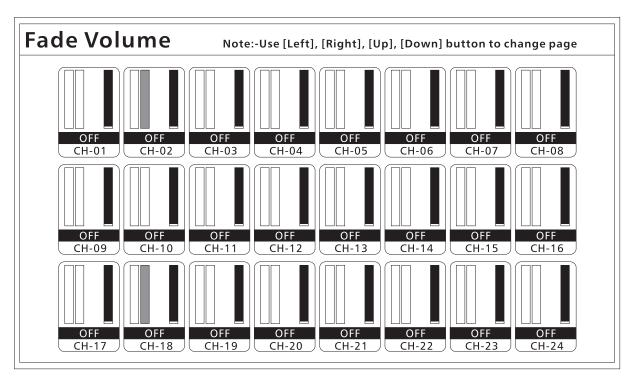
4.7.1 Gain Display

80) Gain Display

Press this button to show and edit:



- The gain of Aux send 1~8, Aux in 1~2, Tape in, Talkback, FX1~2, SUB 1~4 and Main output. There are three bars for every channel: The left one means the present gain; the middle one means the original gain when you open the DMX24.4; the right one means the signal level of this channel.



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Control

FX1 Editor					
Effect Type					
(Hall Room	Plate	Delay StDelay	Tremolo		
Flanger Chorus	Delay+Rev	StDelay+Rev Flanger+Rev	Chorus + Rev		
Parameter					
PreDelay 32mS	RevDecay 32%	RoomSize 32	Rev Hi 32		
Rev Out 32%	ModF. B 32%	ModDepth 32	ModFreq 32%		
Mod Out 32%	Dry Out 32%				
Note: -Use [Lcd1] or [Lcd2] to select Effect type and click [ENTER] to confirm -Use the [Left], [Right], [Up], [Down] to select parameter and use the [Adjust] encoder to change the value					

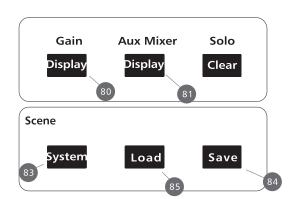
78) Effect Save

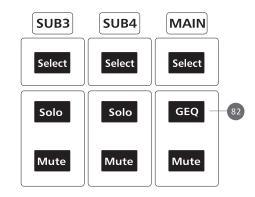
Press this button to save the effect setting as Effect presetting for future use. With the help of other selecting buttons you can save Scene, GEQ or DSP channel setting too. Please do as the instruction that is shown on the LCD display. Please take DSP Save in section 4.2.6 DSP Load, Save, Copy as reference.

79) Effect Load

Press this button to load the Effect presetting. With the help of other selecting buttons you can load Scene, GEQ or DSP channel presetting too. The presetting can be deleted by pressing the Flat EQ button after it has been chosen. Please notice the instruction that is shown on the LCD display. Please take DSP Load in section 4.2.6 DSP Load, Save, Copy as reference.

4.7 System Section





Control

4.5.3 Monitor Output

64) Headphone Connectors

These are headphones' ports for monitoring.

65) Headphones level control

These knobs control the overall level of the two headphones separately

66) Control Room level control

This knob adjusts the overall level of the Control Room output.

67) PFL Toggle Button

Press the PFL button to change the After-Fader Listen (AFL) which is the default setting for the monitor Solo bus to be Pre-Fader Listen. The Subgroups have no PFL soloing function. The Aux bus soloing is always PFL no matter the PFL button has been pressed or not.

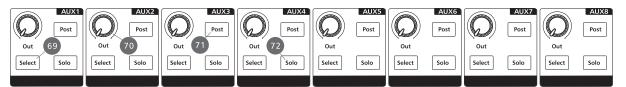
68) Solo Clear

Press this button to clear the solo function for all of the soloed bus or channels.

4.5.4 Aux Sends Output

The DMX24.4 features with 8 analog aux sends and 2 internal aux send buses. The aux buses are mono, however two aux buses can be linked as a stereo bus.

4.5.4.1 Analog Aux Sends



69) Select Button

Press this button to add DSP setting to the relative Aux send bus.

70) Aux Sends Overall Output Level Control

This knob controls the overall output level of the Aux send bus.

71) Aux sends Post-Fader Send Button

Press this button to make the signal sends to the relative Aux bus be post-fader and affected by fader setting. If the button has not been pressed, by default, all channels that send to the Aux bus will be pre-fader and not affected by the fader setting.

72) Aux sends Solo Button

Press this button will send its output to the monitor outputs too. It will illuminate as has been pressed and enabled. The bus which has been soloed will be selected automatically.

The AUX sends outputs equip with GEQ function, please get details in section 4.7.3 GEQ.

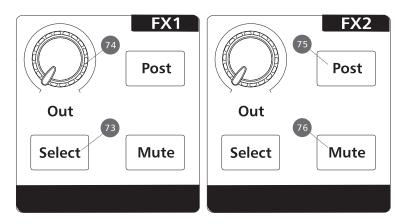
4





Control

4.5.4.2 Internal Aux Sends



73) Select Button

Press this button to add EQ to the relative internal aux send bus and assign its signal to any or all of the MAIN output, SUB groups 1-4 and Aux sends 1-8.

74) Overall Output Level Control

This knob controls the overall output level of the aux bus.

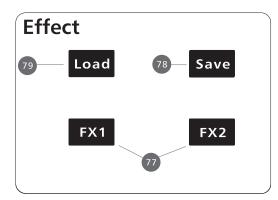
75) Post-Fader Send Button

Press this button to make the signal sends to the relative Aux bus be post-fader and affected by fader setting. If the button has not been pressed, by default, all channels that send to the Aux bus will be pre-fader and not affected by the fader setting.

76) Mute Button

Press this button will mute the relative Aux bus and all of its assigned output buses. It will illuminate red to show the bus is pressed and muted.

4.6 Digital Effect



The DMX24.4 includes 12 kinds of adjustable effects which can help to realize the effect that you want to show your audience.

Control

No.	Preset	Description	Parameter
1	Hall	Simulate an acoustic space of the sound	Pre Delay; Decay; Room Size; Hi Damp; Efx Out; Dry out
2	Plate	Simulate the transducer's sound like classic bright vocal plate	Pre Delay; Decay; Room Size; Hi Damp; Efx Out; Dry out
3	Stdelay	Recreate the input sound on the stereo output with different time	L Time; R time;L Decay; R Decay; Hi Damp;Efx Out;Dry Out
4	Flanger	Simulate to play with another person carrying out the same notes on the same instrument	Feed Back; Depth;ModFreq; Efx Out;Dry Out
5	Delay+Rev	Delay with room effect	Pre Delay; Rev Decay; Room Size; Rev Hi; Rev Out; Echo Time; Echo Hi; Echo F.B; Echo out; Dry Out
6	Flanger+Rev	Stereo chorus and large room reverb	Pre Delay; Rev Decay; Room Size; Rev Hi; Rev Out; ModF.B; ModDepth; ModFreq; Mod Out; Dry Out
7	Room	Simulate a studio room with many early reflections	Pre Delay; Decay; Room Size; Hi Damp; Efx Out; Dry Out
8	Delay	Reproduce the sound inputon the output after a lapse of time	Time; Decay; Hi Damp; Efx Out; Dry Out
9	Tremolo	Simulate the sound effect by repeating the same note or different notes alternatly and quickly	Feed Back; Depth; ModFreq; Efx Out; Dry Out
10	Chorus	Recreate the illusion of more than one instrument from a single instrument sound	Feed Back; Depth;ModFreq; Efx Out;Dry Out
11	StDelay+Rev	Stereo Delay with room effect	Pre Delay; Rev Decay; Room Size; Rev Hi; Rev Out; L Time; R Time; L Decay; R Decay; Echo Hi; Echo Out; Dry Out
12	Chorus+Rev	Simulate the sound effect achieved by rotating horn speakers and a bass cylinder	Pre Delay; Rev Decay; Room Size; Rev Hi; Rev Out; ModF.B; ModDepth; ModFreq; ModOut; Dry Out

77) Effect 1&2

Press this button to show and editor the setting of internal effects. The setting can be saved as preset for future use by simply pressing the Save button and following the instruction that is shown on the LCD display.