

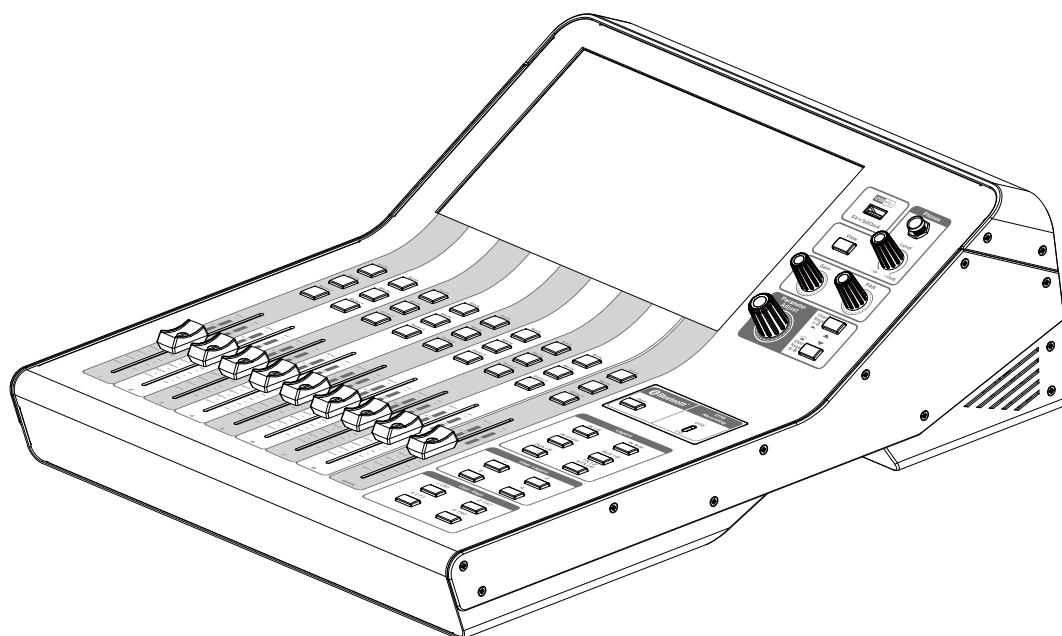


CLY-16.6

DIGITAL MIXING CONSOLE

USER'S MANUAL

16 CHANNELS



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.



Alternating current/voltage (for adapter).

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 the input 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 (for adapter).

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.

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.

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

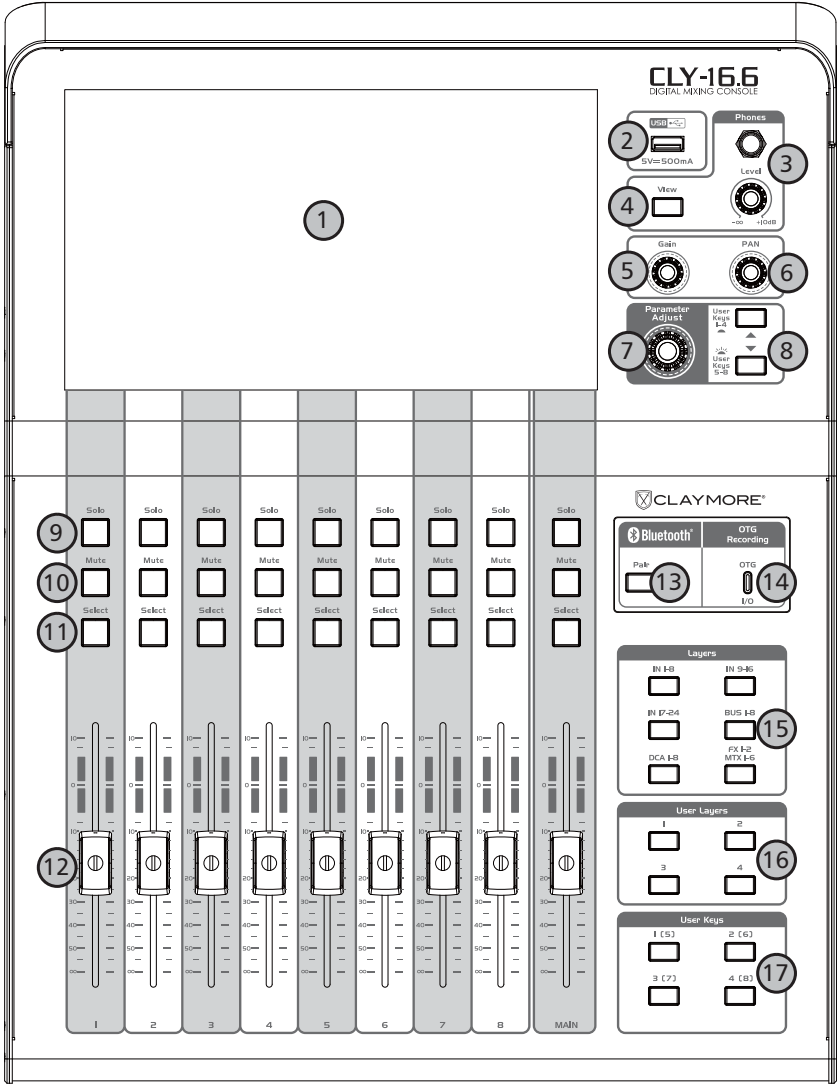


Carts and stands - The component should be used only with a cart or stand that is recommended by the manufacturer.

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.

Index

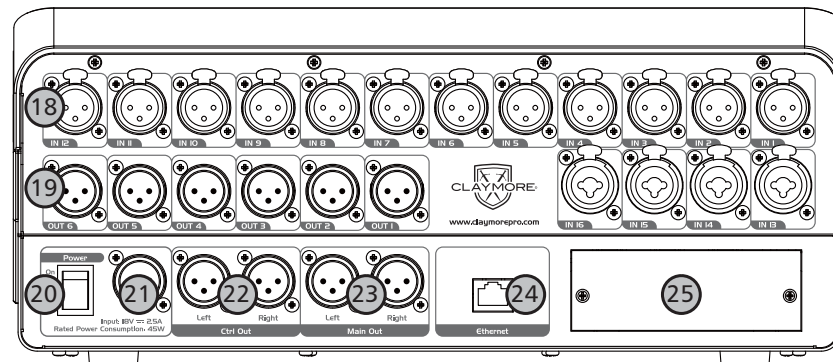
Front Panel



Page 8: 1. LCD Screen	11. Select Button
Page 9: 12. Level Faders	17. User Keys

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Rear Panel



Page 10: 18. MIC in ----- 25. Optional Module

under the EM disturbance, the ratio of signal-noise may be changed above 3dB.

* The mixer for professional use. They can be used in following electromagnetic environment: residential, commercial and light industrial, urban outdoors. They are the apparatus not intended for rack mounting.

* The peak inrush currents equal to 8.33 A.

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1)this device may not cause harmful interference, and (2)this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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1

Introduction

Thank you for purchasing the Digital Mixing Console. As one significant feature of your mixer means its function is multiple and powerful. With 16 microphone preamplifiers, Digital 4 band full parametric EQ, Compressor, Noise Gate, Delay, Remote control, 9 precision motor fader for level control, 10.1 inch LCD display operation in real-time, Program, Save, Load, Copy, Record, BT/OTG play functions and son.

This digital mixer can help you to create a wonderful shows will make you more determined in your choice. Also the unit will bring you an unparalleled sense of superiority since it is powerful and easy to operate. As a professional audio product built by our team which has more than 20 years of experience in the industry. With the tireless efforts of our development team, Our products have been endowed with many advantages such as excellent performance, reliable quality and full of innovation so that our products can sell well in different market and always well received by consumers in application of different places and bring customers inexperienced value experience.

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

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Summary of features

- 16 XLR analog inputs (including 4 XLR/TRS combo socket) with digital gain control applied.
- 8 XLR socket mixing bus outputs.
- Main and CTRL L/R Outputs
- +48V phantom power
- All input channels can be assigned to headphone output / monitor.
- CTRL Room Outputs for all channels
- USB port used for preset save/load and firmware updates.
- Equipped with Bluetooth play function.
- Equipped with OTG audio play/record function.
- Used to form one LAN for APP to connect and control the network port.
- 9 precision motorized 100mm faders
- 32 bit floating point digital signal processing
- 10.1 inch colorful LCD touch screen for graphical view and setup.
- 24-bit / 48 / 96KHz sampling rate.
- Up to 24 DSP processing channels
- Program, save, load & copy functions
- Digital noise gate
- Digital compressor/limiter
- Digital 4-band full parametric EQ
- L/R Channel Control
- Latency Adjustment
- 8 DCA Group/8 Mute Group
- Authority management

Summary of features

- Automatic Mixing
- RTA Real-time Spectrum Analysis.
- FBC Feedback Howl Suppressor
- User Defined Keys
- Talkback / Mic input
- Ducker
- Safe (Recall Safe function)
- Optional Function (DANTEcard audio module, USB record card)

Useful Data

Please write your serial number here for future reference.

Serial Number:

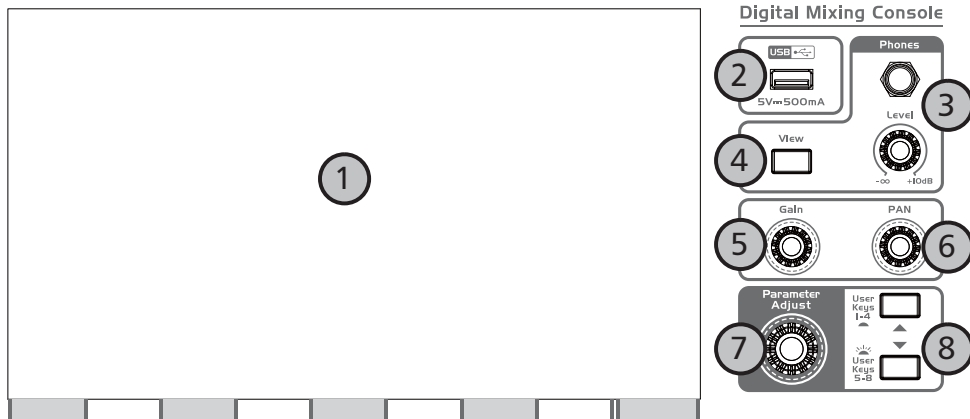
Date of Purchase:

Purchased at:

4

Function Details

About Front Panel



1. LCD Screen

Used to display related information on current interface such as channel, channel name, level value and so on.



2. USB Port

It is used to update software, update GUI image, save or load the preset data in device and so on. Please refer to DSP control interface for more details.

3. Phone /Level Port or Volume Knob

Used to plug in headphone here and adjust the headphone volume. Press the "Solo" button during headphone operate, the headphone volume will be controlled by the input level of SOLO on LCD screen simultaneously.

4. View Button

Press it to switch current interface to Ctrl-Room interface.

5. Gain Control

Touch it to set the input signal gain (0-50dB) for any channel among CH1-16 and can read the gain value from LCD screen.

Note: That adjusting the knob appropriately is very important to reduce the noise or avoid overload distortion issue.

LED Sig & Clip LED:

- The Clip LED will light red when input signal is more than +16dB. It means signal overloads.
- It means the input signal reach the peak when the clip LED light yellow.
- The Sig LED will light green if the input signal exceeds -48dB. It means related channel stays signal-input status.

6. Pan Knob

The encoder controls signal level from left to right for the selected input channel. 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.

Function Details

7. Parameter Adjust

Rotate the knob to adjust the parameter to change selected output channel audio. Detailed parameter can be read on LCD screen. Rotate clockwise to increase and counterclockwise to decrease. Based on different modules the operation of knob may be different. Anyway please note related parameters shown on LCD screen during your operation.

8. Parameter Next / Prev button

The two buttons are used to select all kinds of parameter-adjust box displayed on the current LCD screen quickly.

(Note: Hold and press the two buttons "▲/▼" simultaneously for 3 seconds to light up them. Then the four physical buttons will work as the short-hot keys of items# 5~8 set on "User keys" interface)

9. Solo

Select the monitored channel and then press the button to illuminate it. The signal of selected channels will be assigned into C-room and headphone output port.

10. Mute

Press the button to illuminate it and mute all assigned output of channels.

11. Select

Press the button to illuminate it and selected channels will be displayed on LCD screen. Then user can take DSP adjustment or other settings.

12. Motor Faders

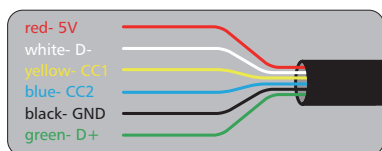
Total 9 motor faders built here and can be used to adjust the level of corresponding channel. 8 of them work as level fader of CH01-24 and the other one work as the fader of main channel.

13. Bluetooth Pair

Click the OTG/BT icon on LCD screen to enter Bluetooth interface, Press the "pair" button to open the Bluetooth and then connected to user's cell-phone or iPad or other audio device via searching the Bluetooth name which is same as your device's. And then slide the fader icon of "assign to main" to increase the signal level, The signal can be assigned to the Main or BUS 1~8 channel according to your selection.

14. OTG

Using a Type C cable to connect with user's cell-phone or PC or other devices through "OTG I/O" port on the front panel. And then to play or record the audio. (Note: The cell phone will be recharged once connected to OTG, recharging voltage: 5V = 2.5A)



(Pin-wiring diagram of Type C)

15. Layer

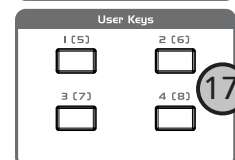
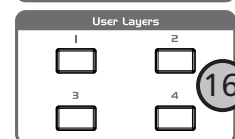
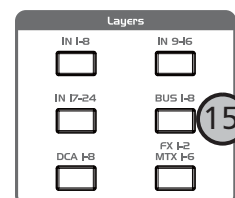
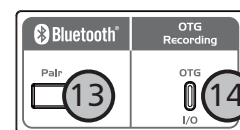
Press different key in the layer area to enter different channel page.

16. User Layer

Press the button to enter the user layer interface. Please refer to DSP control interface for more detailed operation.

17. User Keys

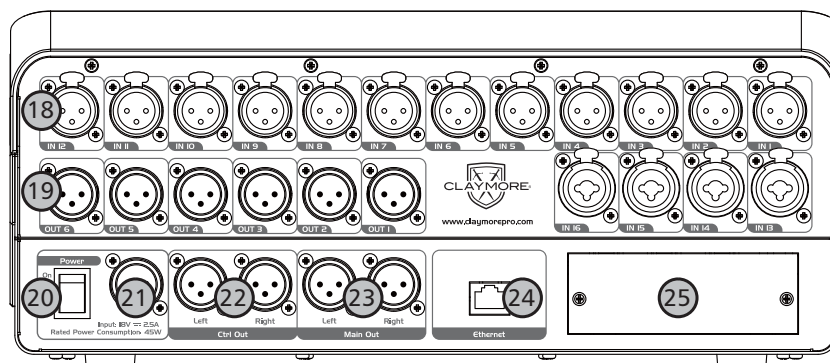
Physical button (User Keys 1-4) works as shortcut keys for custom function. Refer to DSP control interface for more details.



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Function Details

About Rear Panel



18. MIC Input Jack

This Digital Mixer equips 16 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.

19. OUTPUT 1-6

Enter the interface of "signal assignment->analog output" interface and then select BUS01-08 or MTX01-06 or MAIN L/R As a mixing audio output port.

20. Power

It works as the power switch and the mixer can be powered once the switch turns on.

21. DC Input

The provided adaptor can be plugged into your device and then connected to the power supply.

22. Ctrl Out

These are the balanced control-room outputs. Rotate the "Parameter Adjust" knob to adjust the gain of Solo button on LCD screen to control the output level.

23. Main Output

This Digital Mixer features both XLR main outputs.

24. Ethernet

This port is for Ethernet control which can be proceeded via iPad or PC linkage after connected to the router. Then the device can be operated remotely.

25. Optional module

Select our optional module that you want for extra function.

Please contact with distributor to get more information about the optional modules.

- Ensure the same sampling ratio applied on all equipments before Digital Audio Expansion System is linkaged.
- After the Dante card inserted, please try to switch current sampling ratio in unit's system menu one time in order to ensure the same sampling ratio.
- It is recommended to use gigabit switches under 96K routing mode.

DSP Control

In addition to control directly on the machine, the Digital Mixer can also achieve remote operation via the app, which greatly facilitates the users.

5.1 Channel Interface

Once your unit switches on, Below channel interface will appear. Touch corresponding buttons on LCD screen to enter single channel or Multi channel interface, Multiple channels can be displayed or controlled simultaneously on the Multi channel interface.



- Single Channel -



- Multi Channel -

5.1.1 Sends

Click any box of BU01-08 on the left of current interface to enter below interface "send to bus". The signal can be assigned to BU01-08 or FX01-02.

- Touch the "ON" box to send to BUS channel.
- Once the "Pre-fader" switch turns on. The signal will be out of fader's control. Otherwise the signal will be under the fader's control.
- Slide the fader to adjust the gain value of selected BUS channel, Or it can be adjusted by rotating the front-panel parameter knob too.



5.1.2 Phase

Touch this button to reverse the signal of selected channel (reverse the phase by 180°). It can be used to fix the reversed audio signal after touching the button.

5.1.3 Stereo Link

CH01-24, BU01-08 or MTX01-06 can be linked as a stereo pair. The stereo pairs are predefined and cannot be changed. Related linkage as follows:

CH01-02

CH03-04

CH05-06

etc.....

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, sub-group send.solo status and main assignments are passed to the other channel in the pair.

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DSP Control

5.1.4 Assign To Main

Once the button pressed, the "Main Assign" icon on LCD screen will show on. Then signals from the selected channel will be assigned to the main channel.

5.1.5 Function Button

Touch it to enter the function interface. Following function buttons "Load, Save, Copy, Clear, Audio analysis on, Audio analysis hold" involved on this page.



Touch "Load" button to enter "Load" interface and. User can load previous parameters saved in your device for current operating. Or load setting parameters from your USB stick via USB port into your device for current operating.



Touch the (5) button to select files from USB stick or device and then touch (2) or (3) button to import selected files into device or USB stick.

Firstly touch the (6) button and then touch the (3) button and then a "naming" tip will pop up. One folder with "DAT16" suffix will be created after naming completed to save all device's data and then import the folder into USB stick. Or find the folder with "DAT16" suffix from USB stick and press the (2) button and then key in passwords (initial passwords) to import the folder into your device.

7) Under factory mode touch the "channel" button. The left list will appear 16 kinds of channel preset parameter for calling.

8) Under factory mode touch the "Safe Recall" button to enter below interface, User can reselect related parameters by tick or untick and then load them. Please refer to the description of h) point "Safe Recall Mode" of #5.18 system interface for more details.



DSP Control

Touch "save" button to enter save interface, It is available to save data files set ok into device, or export saved data files into USB stick via USB port.



- 1). Key in the customized name before saved.
- 2). Select saving scene.
- 3). Page up.
- 4). Page down.

Touch "copy" button to enter the copy interface.



- a). Select a channel or bus that you want to copy its settings onto other channels. The selected channel box will flash and then press "Copy" button to finish copy.
- b). Touch the tick in the box to select the parameter you want to copy.
- c). Press the "copy" button to finish channel copy after selection completed. Please notice the information displayed on LCD screen during your operation.

5.1.6 Gate on / Gate View

The function applied on the CH01-24 of the unit.

- a). Touch the small window area of dynamic compression curve to switch into the dynamic parameters interface.
- b). Gate-status indicator: The signal can't pass when the Gate value is less than threshold, Or the signal can pass when the Gate value is more than threshold. Refer to the description of 5.5 dynamic parameters interface for more operation details.

5.1.7 Compressor

Compression function applied on the CH01-24, BUS01-08, MTX 01-06 and Main channel for this unit.

- a). PRE-EQ / POST-EQ button
- b). "SIDE CHAIN" means to use another signal to compress or modulate the current audio signal. The scope of input channel CH01-24 / output channel BUS01-08 / MTX01-06 / MAIN channel can be selected.



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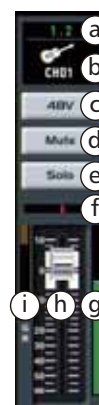
DSP Control

- c). Compressor-status indicator.
- d). Preamp gain module applied on CH01~16.
- e). Delay function is available for CH09-24, BUS01-08, MTX01-06, MAIN channel based on 48K sampling ratio, While available delay function applied on CH17-24 / BUS01-04 / MAIN channel based on 96K sampling ratio. Please refer to #5.5 Dynamic Parameters interface for other operation details.



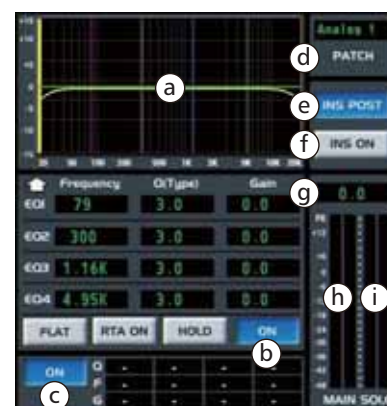
5.1.8 Faders Interface

- a). Gain value shows here.
- b). The icon shows the current channel, Click this box, a virtual keyboard will appear on the screen, and you can customize the name & color applied on the current channel at this time.
- c). 48V: Click it to provide the 48V phantom power as well as corresponding backlight illuminate. At the same time a prompt window will pop up "Are you sure to open +48V phantom power of the channel".
- Note:** Only condenser microphone needs phantom power. Don't connect the phantom power to any devices which don't need it. Otherwise the device will be damaged.
- d). Mute: Click the icon to mute the selected channel and its backlight will synchronize the Mute button on front panel to light on or off simultaneously.
- e). Solo: Click the icon to monitor the audio signal of selected channel and its backlight will synchronize the Solo button on front panel to light on or off simultaneously.
- f). Pan Icon: It indicates the left and right channel positions of the current audio. And user can adjust it by the Pan knob on the front panel.
- g). The input signal indicator.
- h). Fader: Slide it to adjust the audio signal and it synchronize the fader on front panel to control input level and catch the same effect. Also the gain applied on faders will automatically become "0" dB if both "solo" button and "select" button are pressed simultaneously.
- i). Compressor-status indicator.



5.1.9 PEQ Interface

- a). Touch window area which shows the curve of PEQ and then it switches to PEQ interface.
- b). Touch to light it to enable the equalizer of selected channel. Real-time display the EQ settings on LCD screen, The EQ value can be set by either sliding the curve on LCD screen or rotating the parameter-adjust knob after related parameters box selected by ticking.
- c). FBC switch, The FBC function is available for CH01-08 / BUS01-04 channel under 48K sampling ratio or for CH01-06 / BUS01-02 under 96K sampling ratio.
- d). Touch the icon to enter PATCH page. Here user can assign the routing to channels.
- e). "Pre-fader / Post-fader": Touch the button after the "insert return" set ok to decide whether the inserted signals output through fader control.
- f). "Insert On": Click it to control the input signal will output from the channel after the "insert return" set ok.
- g). The solo volume adjusted here.
- h). Signal indicator for the main channel.
- i). Signal indicator for the solo channel.



5.1.10 Channel module icon

The channel module icon will display the channel name and current gain value. Press any button built on front-panel Layer area and then press and hold the corresponding module icon, A virtual keyboard interface will pop up to allow user to rename channel name.



DSP Control

5.2 Group Layer Interface

Touch the "DAC LAYER" on below interface to enter the Group layer calling interface, User can set channel group according to actual needs or usage habits, related setting can be quickly accessed from this page. Please refer to description of 5.11 group setting interface for more details group methods.



5.3 USER LAYER

Press the any one of 1~4 buttons in the "User Layers" frame on front-panel and then click the "DCA layer / Mixer" icon on LCD screen, The original Mixer will change automatically to "User Layer" to enter the "User calling" interface. There are total 4 pages (U1~U4) which can be accessed as well as 8 channels can be set on each page.



Setup Method:

Click the "system->User layer setup" icon on LCD screen to enter setup page, Here user can customize the selected channels on each layer and arrange sequence.

5.4 Parametric EQ Interface

Press down the "PEQ" button to enter PEQ interface. Then the audio signal's frequency / gain / EQ value can be adjusted within 20Hz- 20KHz range.



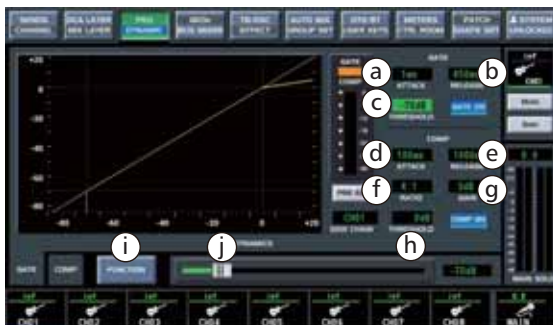
- Select the corresponding parameter-frame in the list and then the different parametric value can be adjusted by moving fader, The function is the same as the "Parameter Adjust" knob on the front panel and both change simultaneously.
- Used to switch the band of equalizer.
- Function button, Touch it to pop up menu which includes "Load, Save, Copy, Clear, Audio analysis on, Audio analysis hold" button, Then click corresponding button to operate related function.
- Used to turn on or off the equalizer.

5

DSP Control

5.5 Dynamic Parameters Interface

Click the "Dynamic Compressor" icon on LCD screen to enter the dynamic interface, Please follow below details to setup related parameters:



a). Attack Time: Touch it to set the time how long it takes the gate to open when the signal applied on the selected channel beyond the trigger level, It can be set from 0.5 to 200 ms. The noise issue can be avoided efficiently if ATTACK time set appropriately.
b). Release Time: Used to set the amount of time for the gate to go from open to fully close. It can be set from 0.01 to 1 second. The noise issue can be avoided efficiently if the Gate off- time set appropriately.

c). Threshold: Touch it to set the trigger level of noise Gate for the selected channel. It can be set from 20 to -84 dB. The trigger level will decide which level at the gate will open. An audio signal which exceeds the trigger level will go through smoothly.

d). Attack Time: Used to set the speed how fast the compressor applied on the selected channel will enable. The attack time is usually set from 10~250 milliseconds.

e). Release Time: Used to set the compression time applied on the selected channel. It means to set how long it takes the signal which is less than trigger level to reach the normal gain. The time is usually set from 10~1000 milliseconds.

f). Comp Ratio: Touch it to set the compression ratio for the selected channel. It means the ratio of the output level to the input level based on ratio scope 10:1~1:1. For example, a ratio of 4:1 means any signal which is higher than trigger level will be compressed by 4:1 ratio.

g). Gain: Touch it to set the compression gain of the selected channel. When it compresses the signal, that the gain goes down usually leads to the attenuation of the whole level. At this time the button can be used to recover the lost level and readjust the previous compression ratio. And the range of gain adjustment is usually 0dB to +12dB.

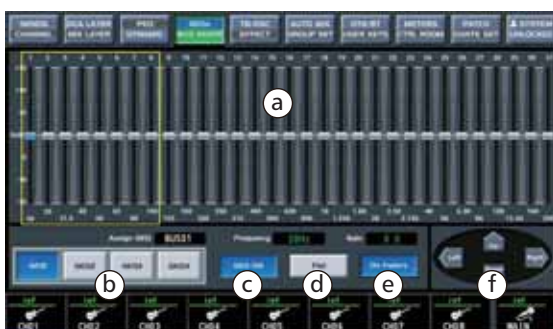
h). Threshold: Touch it to set the compression trigger level applied on the selected channel. The compressor will enable to compress the signal level once the signal amplitude beyond the trigger level. Usually -83 ~ +20dB will be set as the scope of trigger level usually.

i). Function Button: Touch it to pop up sub-menu including "Load, Save, Copy" button and then touch any button to take corresponding operation.

j). When some button is selected, user can change its input level or corresponding parameters by moving the fader icon or rotating the "Adjust Parameter" knob.

5.6 GEQ Interface

Touch the "GEQ" icon on LCD screen to enter the GEQ interface. The unit divides the frequency of 20Hz~20KHz into 31-band EQ points and can real-time display the spectrum during output. There are 4 groups of channels can be set to the main EQ or 8 BUS EQ under 48K sampling ratio. Only 2 groups of channels can be set to the main EQ or 8 BUS EQ based on 96K.



DSP Control

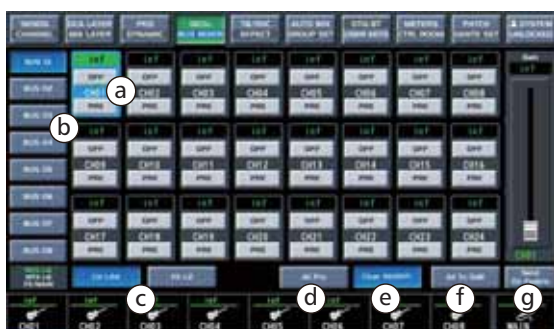
- Fader Icon, Used to adjust the gain value applied on each frequency band applied on the selected channel, The gain adjustment can operate with the Adjust Parameter knob on the front panel.
- Work as a channel-selection button.
- GEQ switch
- Touch it to restore to the default values.
- Touch it to enable all faders built on front panel to sync with the fader icon on LCD screen.
- Select different fader icon by clicking "up, down, left, right" button to adjust the frequency gain applied on them.

5.7 Bus Mixer Interface

Press the "Bus Mix" button on the panel to enter below bus mixer interface.

The signal inputs into CH01-24 / FX01-02 and then output from Bus01-08 / FX01-02 / MTX01-08 and Main channel through the bus mixer.

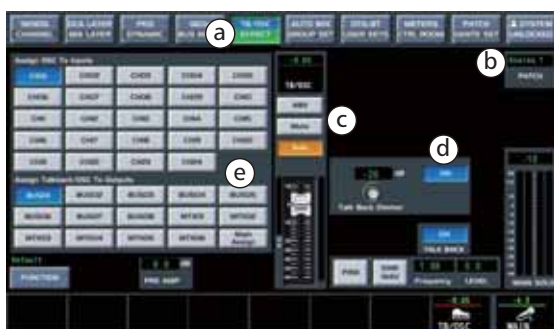
This is linked with the BUS channel page & assignment page on home page and related gain value changes synchronously. When each channel is enabled on this page, the corresponding BUS / MATRIX / Main Channel will turn on, At this time the gain value of selected channel can be adjusted by sliding the fader on the right.



- Click it to enter corresponding page.
- Click it to select routing to assign signal into the needed channels.
- Touch to light it and then enter corresponding channel page.
- Touch to light it and then the "Pre-fader" function applied, It means the signal out of fader's control.
- Click it to clear all.
- All will restore to the default value 0dB once clicking and lighting it.
- Touch to light it and then all channels' gain will be sent to corresponding front-panel fader.

5.8 TB/OSC Interface

5.8.1 Talkback

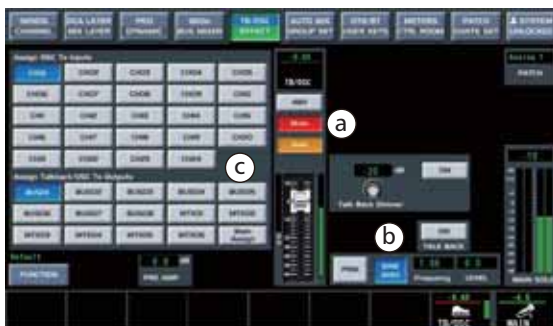


- Click the "TB/OSC" icon on LCD screen to enter above interface.
- Press the "PATCH" button on the front panel or touch "PATCH" icon on the right up corner of LCD display. Then touch the "TB/OSC" button from the window pop up to select related sound sources.
- Click the "mute" button to open selected channel and slide the fader to appropriate location.
- Touch to switch on it and then the output gain of background audio can be adjusted.
- Talkback channels can be assigned into BUS / MATRIX / MAIN channel outputs.

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DSP Control

5.8.2 Signal generator



- Signal generator and Talkback share the same one indicator, It is necessary to mute the talkback channel before operating the signal generator.
- The generator can produce automatically pink noise or 20Hz~20KHz sine signal. The sine frequency size or level can be adjusted by frequency-adjustment frame or Level-adjustment frame separately.
- The signal generated can either input from CH01-24 or output from BUS / MATRIX / MAIN channel. The dynamic spectrum can be viewed in PEQ or GEQ.

5.9 Effect Interface

The unit supports 12 effects setting. The corresponding effect parameters selected on the screen can be adjusted with parameter-adjust knob. Details of each effects described as below table.



No.	Preset	Description	Parameters
1	Hall	Simulate the sound effect of a large hall	Pre Delay(110ms), Decay(50%), Room Size(50%), Brightness(70%), Diffusion(70%), Efx Out(48%), Dry Out(32%)
2	Room	Simulate the effect of a studio with echo	Pre Delay(20ms), Decay(20%), Room Size(10%), Brightness(90%), Diffusion(40%), Efx Out(48%), Dry Out(32%)
3	Plate	Simulates the effect of a classic gramophone record	Pre Delay(0ms), Decay(40%), Room Size(50%), Brightness(80%), Diffusion(50%), Efx Out(48%), Dry Out(32%)
4	Delay	Make the sound output a little later than the input	Time(480ms), Decay(24%), Hi Damp(32%), Efx Out(72%), Dry Out(32%)
5	Stdelay	Add anothe input sound to the stereo output at a different time.	L Time(240ms), R Time(480ms), L Decay(24%), R Decay(24%), Hi Damp(32%), Efx Out(72%), Dry Out(12%)
6	Karaoke	Analogue karaoke sound effects	Rev Out(48%), Echo Out(48%), Dry Out(32%)
7	Flanger	Simulate the effects when different persons play the same instruments at the same time.	Feed Back(7%), Depth(41%), Mod Freq(0.03Hz), Efx Out(50%), Dry Out(32%)
8	Chorus	The illusion of playing multiple instruments can be created, when playing with a single instrument.	Feed Back(7%), Depth(41%), Mod Freq(0.03Hz), Efx Out(64%), Dry Out(32%)
9	DelayRev	The delay of Room effect.	Pre Delay(0ms), Rev Decay(30%), Room Size(50%), Brightness(50%), Diffusion(70%), Delay Time(600ms), Delay F.B(20%), DelayBright(50%), Efx Out(48%), Dry Out(32%)
10	StDelayRev	The stereo delay of Room effect.	Pre Delay(0ms), Rev Decay(30%), Room Size(50%), Brightness(50%), Diffusion(70%), L Time(440ms), R Time(880ms), L F.B(40%), R F.B(15%), DelayBright(50%), Efx Out(48%), Dry Out(32%)

DSP Control

11	FlangerRev	Stereo Chorus and Hall Reverb.	Pre Delay(0ms), Rev Decay(31%), Room Size(31%), Brightness(11%), Diffusion(48%), Mod F.B(31%), Mod Depth(41%), Mod Freq(0.03Hz), Efx Out(48%), Dry Out(32%)
12	ChorusRev	Simulates the sound effects when turning the horn and woofer.	Pre Delay(0ms), Rev Decay(19%), Room Size(9%), Brightness(50%), Diffusion(60%), Chorus F.B(7%), Mod Depth(41%), Mod Freq(0.03Hz), Efx Out(48%), Dry Out(32%)

5.10 AUTO MIX Interface

5.10.1 AUTO Mix



Once AUTO MIX activates, the level gain applied on all channels will go down automatically. It can effectively reduce howling, reverberation and other external noise produced when multiple microphones are used simultaneously.

- a). Touch it to switch into the AUTO MIX interface.
- b). Auto-mix switch: Touch the button to activate the selected channel.
- c). Active time: Means the response time.

5.10.2 Ducker



The ducker function usually used on the scene of voiceover, When the announcer speaks, the volume of background music will reduce automatically. Once the volume of signal beyond the specific threshold, the output volume will be attenuated into the specific limits.

- a). Duck / Priority channel selection, Click one time to setup priority channel; Click dual times to setup duck channel.
- b). Touch it to switch to ducker interface.
- c). Touch it to turn on/off the ducker.
- d). Touch it to clear all opened ducker channels.
- e). Used to setup the depth of ducker.
- f). Used to setup the holding time of ducker.
- g). Used to setup the release time of ducker.

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DSP Control

5.11 Group Set Interface

5.11.1 DCA Group Set

Touch the "Group set" icon or follow "System Unlocked->Group set->DAC 1-8" touching steps on LCD screen to enter "Group Set" interface as below image:

For example: If the DCA 01 group is selected, Then click "Setup" to choose multiple channels which will be grouped together such as CH01, CH02, CH03 and so on, Then click "Name" to custom the name & color mark of the group, Finally click "Setup" to confirm above settings, If the selected channels which output 0dB such as CH1, CH2 or CH3, They can be controlled by DCA1 Fader too.



5.11.2 Mute Group Set:

Follow "Group set-> Mute group" or "System Unlocked->Group set->Mute group" touching steps on LCD screen to enter "Mute group setup" interface as below image. The set mute group will be under the control of "User keys->Mute group" page.

For example: If the "MUTE GROUP1" is selected, Then click "Setup" to select multiple channels which will be grouped together such as CH01, CH02, CH03 and so on. Then click "Name" to custom the name of the group, Finally click "Setup" to confirm above settings, Touch the switch of "MUTE GROUP1" to mute / unmute these channels linked.



5.12 OTG / Bluetooth Interface

Click the "OTG / BT" icon on LCD screen to enter OTG / BT interface, It is available to use cell phone or other audio device to connect with OTG or BT to play audio or record. The audio can be assigned into the main channel or BUS channel.

- Indicator bar to shows the status of OTG signal playing.
- Indicator bar to shows the status of input signal recording.
- Touch to light it and the signal will be assigned to the MAIN channel.
- The fader used to adjust the output level from the MAIN channel.
- Touch to light it and the signal will be assigned into BUS01 channel.
- "Pre-fader" button, Touch to light it and the signal will be out of control of the MAIN channel's fader.
- Bluetooth signal indicator.

Note: Other buttons on the BT interface will have the same function as the OTG interface's.



DSP Control

5.13 User Keys Interface

Touch "USER KEYS" box on the LCD screen and then touch "User Key Setup" icon or touch "User Keys" icon under "System" page to enter below interface, There are 8 buttons which can be used as shortcut keys for different functions. Relative functions mainly include USER LAYER, DANTE SETUP, MUTE GROUP, DCA SET UP, CH SELECT, Preset Recall, MAIN MUTE SOLO, BUS SEND and TAP KEY and so on. Select the function you want to set by rotating the "Parameter Adjust" knob. You can quickly call up the set function by clicking the set "User Key" button on the LCD or clicking the 4 physical "User Keys" on the panel. The NO1-NO.4 shown on below interface is corresponding to the button's No on the panel. The rest No.5-NO.8 only can be operated on LCD screen.



5.14 Meters Interface

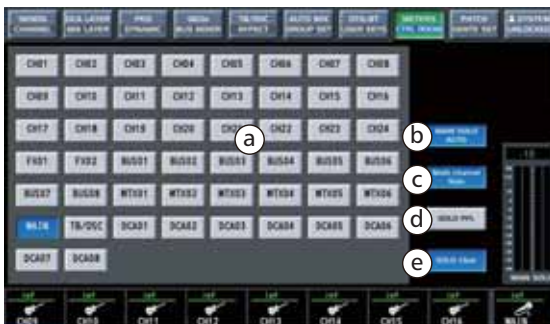
Touch "Meters" box to enter below interface:

User can review related audio signal before (PRE) or after (POST) of the input / output channel.



5.15 CTRL Room Interface

Touch the "Ctrl Room" icon on LCD screen to enter "CTRL-ROOM" interface , and then user can choose solo channels or DCA group needed.



a). C-Room setting list. In each group the CH01-24 / BUS1-8/ FX01-02 / MTX1-6 and Main channel can be selected or adjusted with the button on front panel.

b). Use it to solo the main channel automatically.

c). Used it to switch between single channel and Multi channels, Touch to light the button to solo

Multi channels simultaneously or solo the single channel when the button lights out by touching.

d). Touch to light the "Pre fader" button and then the solo outputs will be out of faders' control, if the "Pre fader" button lights out by touching, the solo outputs will be under the faders' control.

e). Touch it to clear all solo settings.

5

DSP Control

5.16 Patch Interface



a). Input Patch: Select CH1, click on the screen to select input signal source. Such as analog 1-16, digital 1-32.

b). Bus Mix Input: It is used to let input signal enter output bus directly without passing through the DSP processing of input signal. Audio can transmit once both input channel and BUS output selected.



Input Patch



Bus Mix Input

c). Analog output: it is used to select which channels output from analog such as Analog1, If Bus01 selected, the signal of Bus01 will input from out1 of analog.

d). Dante Output: It is used to select which channels output from Dante. E.g if Bus1 is selected for Dante out1, It means the signal output from Dante Out1 is Bus01.



Analog Output



Dante Output

e). Insert Send

Total 24 inserts (INS01-24 SEND) here and user can select any sound source among "analog 1-8" or "digital 1-32" as audio direct send and then output from corresponding ports by selecting "Analog output setting>>Analog Out01-10 "or" Dante output>>Dante Out01-32".

For example: selecting Analog 1 from "INS01 SEND", the CH01 signal will send and output from the port of "Analog output setting>>Analog Out01".

DSP Control

f). Insert Return

User can select "Analog 1-16" or "Digital 1-32" from "NIS01-24 Return" as sound sources to directly return. Select the INS channel under mono-channel page and click the "INS on" to enable it. E.g: Select "Analog 1" from "INS02 RETURN", Audio signal will input from CH01 and insert into CH02.

Then switched to mono-channel page by pressing the "channel" button on the panel or clicking "mono" icon on LCD screen. Select CH02 and turn on "INS On" button and then audio signal will input from CH02 and output from Bus/Main channel. That whether the signal level can be controlled by corresponding faders will be decided by operating the POST or PRE button.

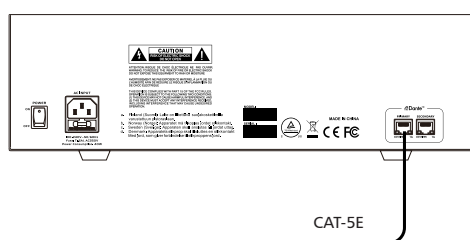
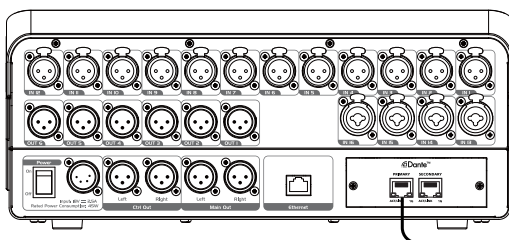


Insert Send



Insert Return

5.17 Dante Set Interface

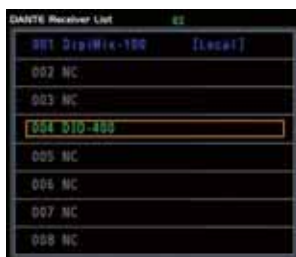


CAT-5E

Click the "Dante Set" icon on LCD screen to enter Dante setting page, firstly connect "digital audio extension system" to "mixer" with network cable according to above hooking diagram. Then click "Scan" to search, the name of linked devices will be listed.



Select the name of the digital signal receiving device:



In below box user can select the device and channel which will be sent.



5

DSP Control

5.18 System Interface

Touch "System Unlocked" icon to enter below interface:



a). "Enter"key: Touch it to reconfirm once some parameters are changed so that current settings can be saved.

b). "Device Setup" key: Touch it to enter below interface:

NO.	ITEM	DESCRIPTION	SPIC
01-01	AUDIO CLOCK	SAMPLING RATE	48kHz
01-02	SLOT	CARD TYPE	DANTE-32
01-03	METER	PEAK HOLD	2S
01-04	SOFTWARE	VERSION	v 1.00
01-05	DEVICE	DEVICE ID	0x100(PRIARY)

01-01	Sampling Rate	48KHz and 96KHz as optional modes
01-02	Card Type	DANTE and NO CARD as two status, It shows DANTE if DANTE card inserted. And shows NO CARD if none card inserted.
01-03	Meter Peak holding time	inf---permanent . 2s---Holding 2 seconds OFF---None. Above three options
01-04	VERSION	Display the version information of current firmware
01-05	Device ID	Display current ID information

c). "Panel Setup" key: Touch it to enter below interface:

NO.	ITEM	DESCRIPTION	SPIC
02-01	LCD PAGE	AUTO CHANNEL SELECT	DISABLE
02-02	LCD PAGE	AUTO RETURN	OFF
02-03	LCD PAGE	DEFAULT PAGE	Single Channel
02-04	LCD PAGE	DELAY UNIT	ms
02-05	ACC SWITCH	LINK MODE	STEREO LINK
02-06	CHANNEL	REMOTE SYNC	ENABLE
02-07	CHANNEL	LCD BACK LIGHT	3

02-01	AUTO CHANNEL SELECT	Selecting ENABLE to open it and DISABLE to close it. If it opens, click the Mute/Solo button on one channel to be switched to the corresponding channel.
02-02	Auto Return	Three options can be selected such as 3min, 5min and OFF. After relative function set, it will return to default interface upon time it up.
02-03	Default Page	Single Channel and Multi Channel as two options. It will return to the selected page by default after setting.
02-04	Delay Unit	Meter and Millisecond as two options.
02-05	Link Mode	Stereo Link and Fader Link as two options. Both modes can be linked by fader. Difference means stereo link also has the function of channel link.
02-06	REMOTE SYNC	ENABLE selected to turn on and DISABLE selected to turn off. It will synchronize with ipad if it turns on.
02-07	LCD brightness setting	The dimming can be adjusted based on the Lighting grade 1-8.

d). User setup: Click it to enter below interface, There are two options (ENABLE and DISABLE) for each item and user can setup according to actual needs.

NO.	ITEM	DESCRIPTION	SPIC
03-01	OPERATOR	DIGITAL IN/OUT LEVEL	ENABLE
03-02	OPERATOR	FADER GAIN	DISABLE
03-03	OPERATOR	CHANNEL MUTE&SOLO	ENABLE
03-04	OPERATOR	CHANNEL DSP FUNCTION	ENABLE
03-05	OPERATOR	CHANNEL FBC	ENABLE
03-06	OPERATOR	CHANNEL SEND	ENABLE
03-07	OPERATOR	CHANNEL COPY	ENABLE
03-08	OPERATOR	GEQ	ENABLE

03-01	Digital In/Out Level	ENABLE
03-02	Fader Gain	ENABLE
03-03	Channel Mute&Solo	ENABLE
03-04	Channel DSP Function	ENABLE
03-05	Channel FBC	ENABLE
03-06	Channel sends	ENABLE
03-07	Channel Copy	ENABLE
03-08	GEQ	ENABLE

DSP Control

e). Network setup: Click it to enter below interface:

NO.	ITEM	DESCRIPTION	SPEC.
04-01 NETWORK	REMOTE CONTROL	CONTROL	
04-02 NETWORK	MAC ADDRESS	0-A1-B0-F6-2-7C	
04-03 NETWORK	IP ADDRESS	192.168.1.101	
04-04 NETWORK	IP MODE	DHCP	

04-01	Remote control	CONTROL, MONITOR ONLY, DISABLE
04-02	MAC address	Display MAC address
04-03	IP Address	Display IP address
04-04	IP Mode	Two Optionals: Static / Dynamic

f). Audio setup, Click it to enter below interface:

NO.	ITEM	DESCRIPTION	SPEC.
05-01 FBC	RESPONSE	FAST	
05-02 FBC	SENSE	HIGH	
05-03 FBC	RELEASE TIME	60 Seconds	
05-04 REC	REC INPUT	BUS3-4	
05-05 REC	REC LEVEL	-10dB	
05-06 OUTPUT GEQ	OUTPUT GEQ1-2	BUS1-2	
05-07 OUTPUT GEQ	OUTPUT GEQ3-4	MAIN LR	

05-01	Release	FAST and SLOW as response speed can be selected here
05-02	FBC Speed	Three optional speed (LOW/MID/HIGH) for FBC sensing speed.
05-03	FBC Release Time	Time can set as 30s, 60s, 5m, 10m, 15m, 30m, 60m, 2h, 3h, 4h, 5h, 6h, 7h, 8h, 24h total 15 kinds of options.
05-04	Recording setting	Available to set as BUS1-2, BUS3-4, BUS5-6, BUS7-8, MAIN LR as recording inputs.
05-05	Recording level	Set the level from -15dB to 10dB and -10dB set by defaulted
05-06	GEQ Output 1-2	Available to set as BUS1-2, BUS3-4, BUS5-6, BUS7-8, MAIN LR channel, Click "GEQ select" icon on GEQ interface and then select GEQ01 or GEQ 02, User can call related settings applied on corresponding channels.
05-07	GEQ Output 3-4	Available to set as BUS1-2, BUS3-4, BUS5-6, BUS7-8, MAIN LR channel, Click "GEQ select" icon on GEQ interface and then select GEQ03 or GEQ 04, User can call related settings applied on corresponding channels.

g). User Key: Use it for shortcut settings, Details as 5.13 User Keys Interface.

h). Safe Recall Mode.

Under normal calling mode, all mixing parameters will be setup. In some cases, user can save existing settings applied on some channels by safe recall function. That either to setup parameters of safety-calling function applied on each scene or to setup overall parameters of safety-calling function applied on all scenes is available.

It will enter the interface of safety-calling through each of following two optional ways:

- 1). Press the "system" button on the front panel, then enter "system" interface, Then click "SAFE Setup" to enter the interface of safety calling.
- 2). Press the "Load" or "Save" button on the front panel to enter SAVE/LOAD interface, Then click "SAFE Setup" to enter the interface of safety-calling.



Operation instruction of safe recall function

1). SAFE SETUP FOR CHANNEL(Step#1)

Follows shows the directions for checkbox of channel parameters, Enter below interface to check the checkbox on the right, Then these parameters saved in the scene memory will be recall. These corresponding parameters will be neglected if no check the checkbox.

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DSP Control

- PRE AMP.....Enable to recall the gain parameters applied on PRE AMP of channel.
- MUTE.....Enable to recall the parameters applied on mute channels.
- DELAY.....Enable to recall the parameters applied on delay channels.
- Volume controller....Enable to recall the parameters applied on volume or level knob.
- GATEEnable to recall the parameters applied on channel gates.
- COMP.....Enable to recall the parameters applied on channel compressions.
- EQ.....Enable to recall the parameters applied on channel EQ.
- TO MAIN.....Enable to recall the parameters applied on the MAIN outputs.
- SEND.....Enable to recall the parameters applied on channel assignment.
- SEND ON.....Turn on the recall function to assign parameters applied on channels.
- NAME.....Enable to recall the channels' name.

2). RECALL SAFE MODE(Step#2)

"APPLY ALL" button: After completing the step#1, Click it to recall all parameters selected to apply on all channels.

"CLEAR ALL" button: After completing the step#1, The all selections of corresponding through step#1 will be cancelled if click the button.

"RESET ALL" button: After completing the step#1, it means to repeat the step#1 to recheck corresponding parameter-boxes if click the button.

3). SAFE MODE ON

Enable or disable the safe recall mode with this button

4). SAFE SETUP FOR OTHERS

Following shows the directions how to apply safe-setup for other parameter items.

- DAC ASSIGN.....Enable to recall the DAC-ASSIGN parameters.
- MUTE ASSIGN.....Enable to recall the MUTE-ASSIGN parameters.
- IN/OUT PATCH.....Enable to assign the parameters applied on IN/OUT patch.
- GEQ SETUP.....Enable to recall the parameters of GEQ SETUP.
- FX SETUPEnable to recall the parameters of FX SETUP.
- AUTOMIX SETUP.....Enable to recall the parameters of AUTOMIX SETUP.
- DANTE SETUP.....Enable to recall the parameters of DANTE SETUP.
- USER LAYER SETUP.....Enable to recall the parameters of USER LAYER SETUP.
- SYSTEM SETUP.....Enable to recall the parameters of SYSTEM SETUP(spectrum analysis ON/OFF, Auto solo for the MAIN , Digital level control, Background audio attenuation, Audio setup)

i). Mute Group Setup: Please refer to 5.11 group setting interface for more details.

j). Patch, Please refer to 5.16 PATCH for more details.

k). Dante Setup: Please refer to 5.17 Dante setting interface for more details.

l). Auto MIX setup: Please refer to 5.10 Auto mix interface for more details.

m). Digital Level Control: Click it to enter below interface:



Digital Signal Input

0dB set for the opened channel by default, Select the digital box above the channel and then the gain value can be adjusted with the parameter-knob on the front panel.

DSP Control

Digital Signal Output

0dB set for the opened channel by defaulted, Select the digital box above the channel and then the gain value can be adjusted with the parameter-knob on the front panel.



n). Restore defaulted setting, Click it to pop up prompt information and then click "confirm" to restore defaulted setting, It means related DSP parameters user customized will restore to the defaulted value.

o). Update software Button, Key in the initial passwords in the interface of keyboard pop up or press the shortcut keys "View + Main Solo" to enter the software update interface. User can won the updated software from your supplier or log onto the official network to load down the updating package of software & images.

p). User keys setting, please refer to the 5.3 user layer interface for more details.

q). DCA setting , Please refer to the 5.11 group setting interface for more details.

r). Password setting button, Click it to enter the password setting interface.



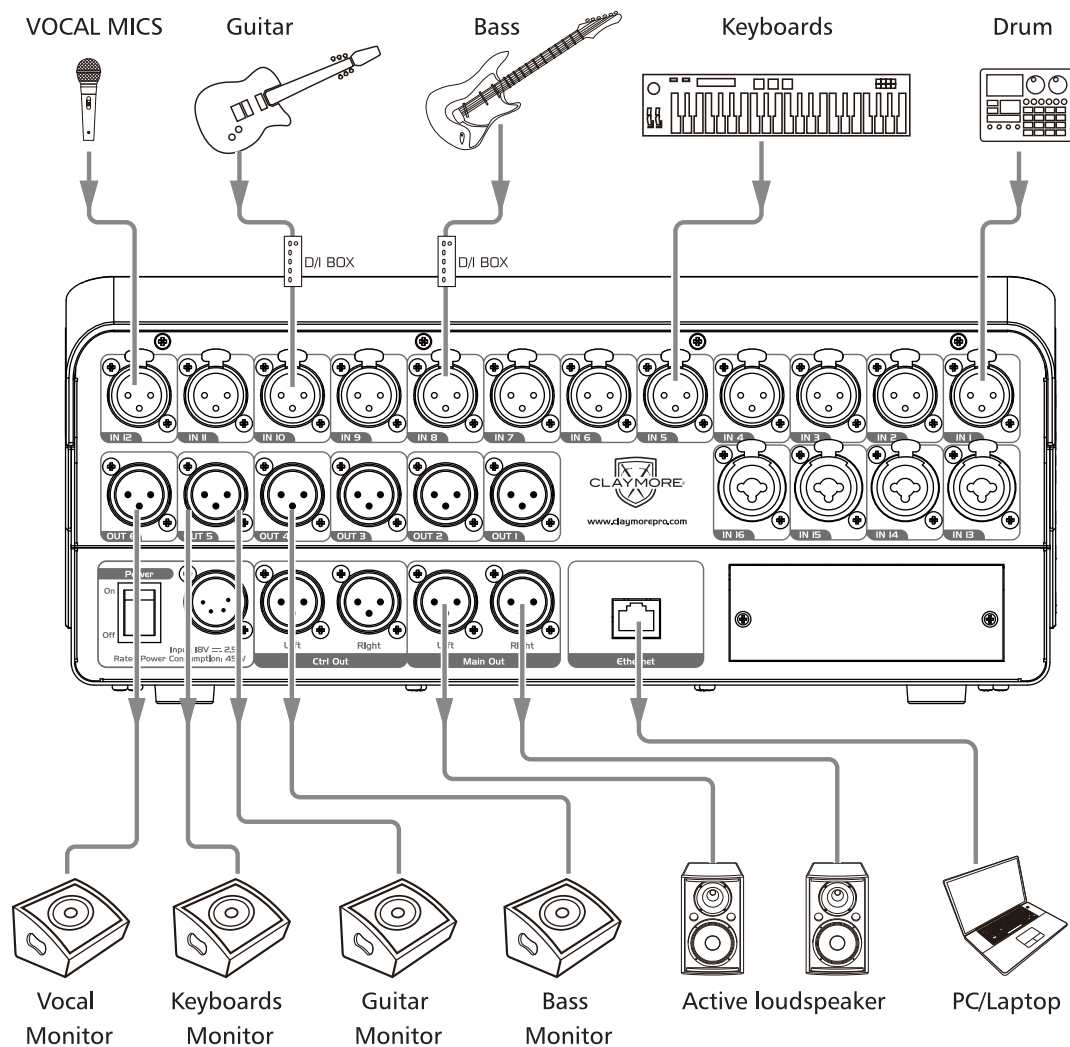
s). Lock / Unlock Mode

Touch to pop up a tips "Are you sure to lock the unit?", If user clicks "confirm", it will switch into lock mode from unlock mode. Under the lock mode, it is subject to the settings of "user setting" and disable function is invalid. A password dialogue frame will pop up once user clicks the locked function, Click it again to key in the passwords and then it will switch into system unlock mode from lock mode.



Hookup Diagram

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Technical Specification

Frequency Response	22Hz~20KHz at 0dBu +1/-2.5dB
Distortion(THD&N)	<0.03% at 0dBu 1KHz
SNR(Signal to Noise Ratio)	107dB
Maximum XLR Outputs Level	+20dBu ±0.5dB
Maximum HeadPhones Output Level	+20dBu ±0.5dB
Input to Output Crosstalk (at +0dBu 1KHz)	<-105dBu
Adjacent Channels Crosstalk (at +0dBu 1KHz)	<-105dBu
Bus Noise	<-89dBu
ADC Dynamic Range	113dB
DAC Dynamic Range	113dB
Internal Processor	32-bit , floating point
ADC bit depth	32bit
DAC bit depth	24bit
Input Impedances	6.8KΩ
Output Impedances	120Ω
Noise Gate	
Threshold Range	-84dBu ~ +19dBu
Attack time	0mS ~ 250mS
Release time	5mS~2S
Compressor	
Threshold Range	-83dBu - +20dBu
Attack time	0mS ~ 250mS
Release time	5mS ~ 2S
Ratio	1:1 to 40:1,inf:1
Gain	0dB - +12dB
EQ	
Low (LowPass or LowShelf)	20Hz~20KHz ±(15db±2db)
Low Mid	20Hz~20KHz ±(15db±2db)
High Mid	20Hz~20KHz ±(15db±2db)
High(HighPass or HighShelf)	20Hz~20KHz ±(15db±2db)
Dimensions	349*452*147mm
Weight	6.7 kg

Notes

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Notes

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