



Mixing Console



DMX 2040

USER MANUAL

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1 Features

- 7" color LCD touch screen, display status and setup information
- 20 line inputs
- 16 microphone preamplifiers with dedicated trim control inputs
- 4 AUX sends and 4 subgroups, or 8 AUX sends
- 2 internal FX
- 1 stereo main out
- 2 headphones output
- All channels Control Room outputs
- USB Stereo recording & playing
- 100mm precision motor fader
- 24bit/48kHz sampling rate
- Program, save, load & copy functions
- Digital noise gate
- Digital compressor/limiter
- Digital 4 band full parametric EQ
- PAN, Phase reverse, Time delay
- 6 DCA for Digital Control Audio or MUTE
- Lock and unlock function
- Change the password
- Remote Control: Ethernet or USB
- iPad App editor for wireless control
- Expand socket for option module: Multi-track USB audio recording module or CobraNet module or Dante module etc

2 Software Update

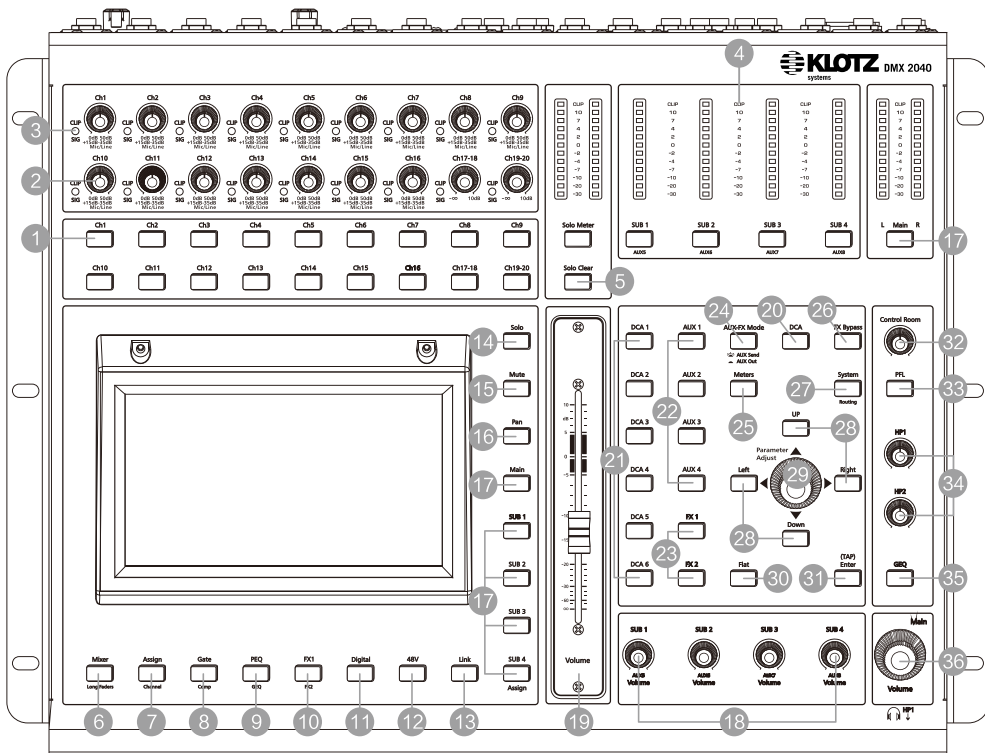
We will always update the DMX 2040 software, please download the latest version from our website.

Since function of DMX 2040 will also change when you update the software, this manual can help you familiar with the basic function, for the precision, please refer to the real DMX 2040 digital mixer.

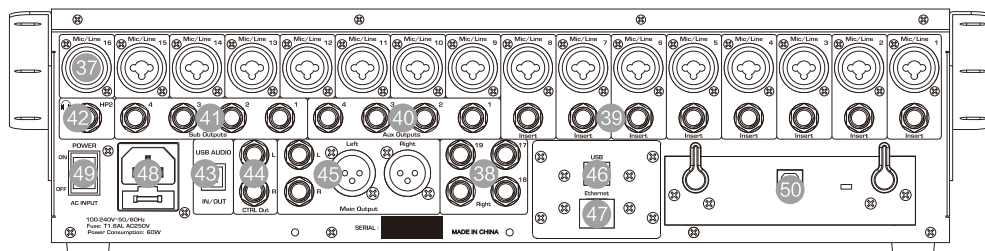
Note: When you update the firmware, all the parameters you had saved in the mixer may be destroyed.

3 Panel Overview

Front Panel

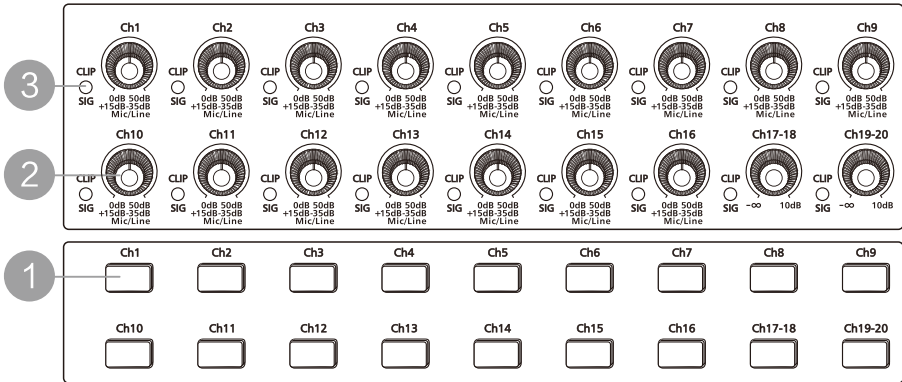


Rear Panel



4 Introduction

4.1 Front Panel Introduction



1. Main Input Channel Select Buttons

There are 18 select buttons Ch1~20 as you can see on the panel.

Press this button will route its channel to add DSP setting and assign its output. It will illuminate as has been pressed and enabled. In DCA window, you can select group channels by this button.

2. Main Input Channel Knobs

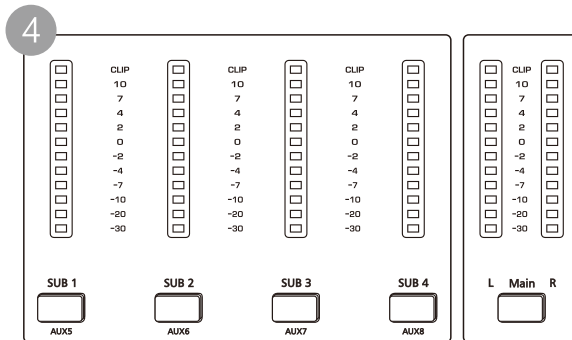
The knob Ch1~16 control the gain level of the channel's input.

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

The knob Ch17~20 control input level of the channels.

3. Main Input Signal Clip Indication

These LEDs beside input channel knobs indicate the input level of Channel 1~20.



4. LED meters

The LED meters show the signal status, including the output level.

SUB1~4 or AUX5~8 & Main

Indicate the output level of SUB1~4 or AUX5~8 & Main. Please be aware only SUB1~4 and Main button engaged can light the corresponding meters.

SUB1~4 or AUX5~8 Button

When the buttons are off, the meters above them won't light, while illuminated can light the meters.

Solo/Main Meters

Indicate the output level of Solo/Main.

Solo Meter Button

When the button is off, meters above it indicate output level of main, while illuminated indicate output level of Solo.

5. Solo Clear Button

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

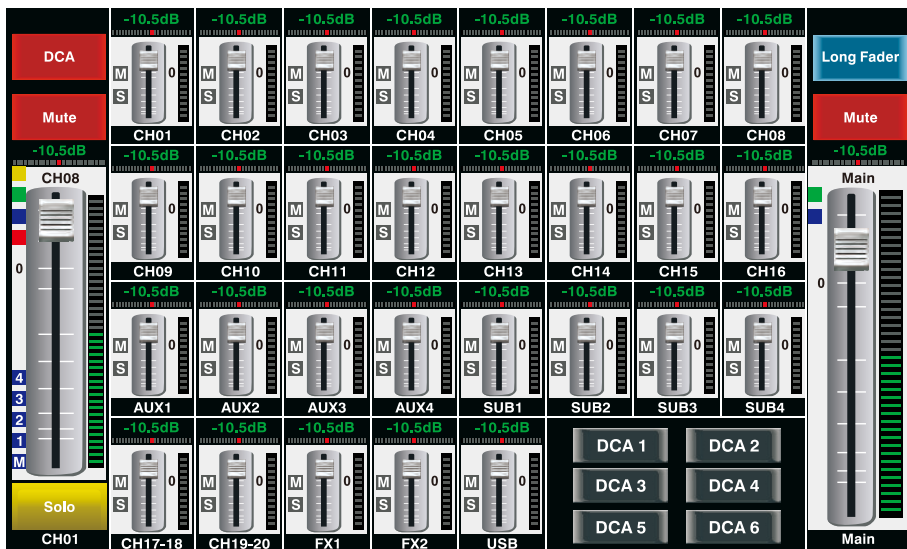
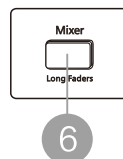
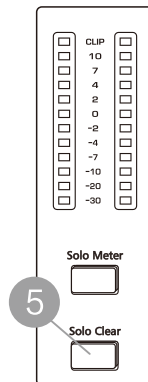
6. Mixer/Long Faders Button

Press this button twice, it will switch between Mixer and Long Faders function.

Mixer

Press this button, you will see mixer page on LCD screen, where you can control all the input and output channels' level, solo and mute, as well as DCA group level control, the window is as below.

For the detail operation, please refer to the introduction in section 5.

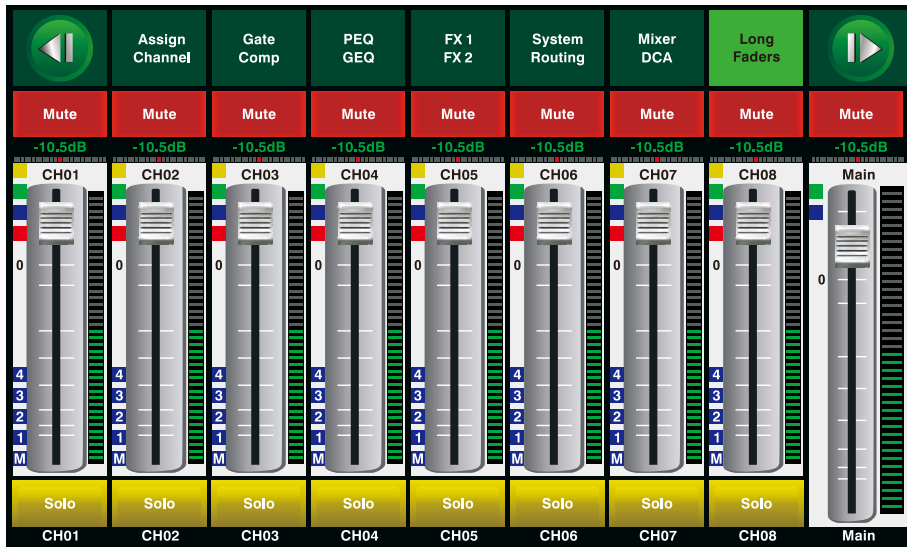


Long Faders

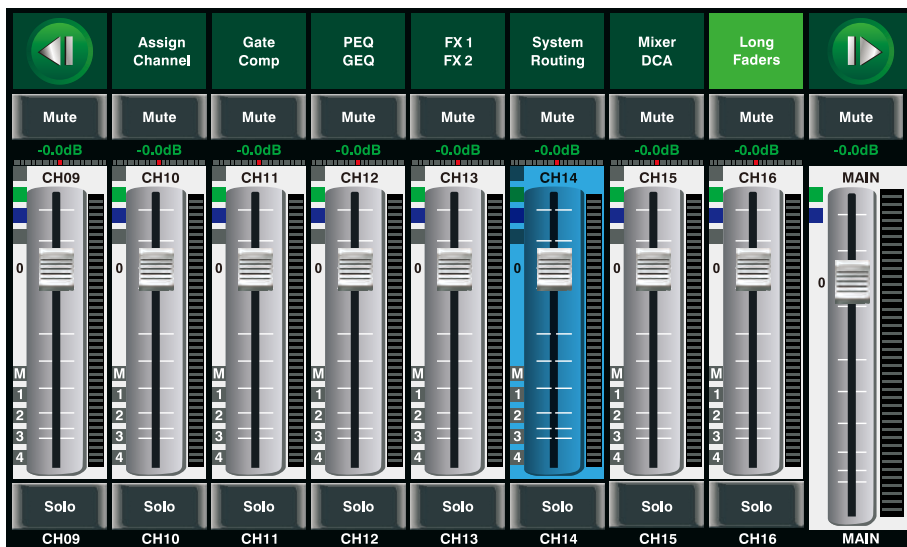
Press this button again, you will see Long Faders page on LCD screen, where you can control all the input and output channels' level, solo, mute, pan and rename the channel, as below pictures show.

For the detail operation, please refer to the introduction in section 5.

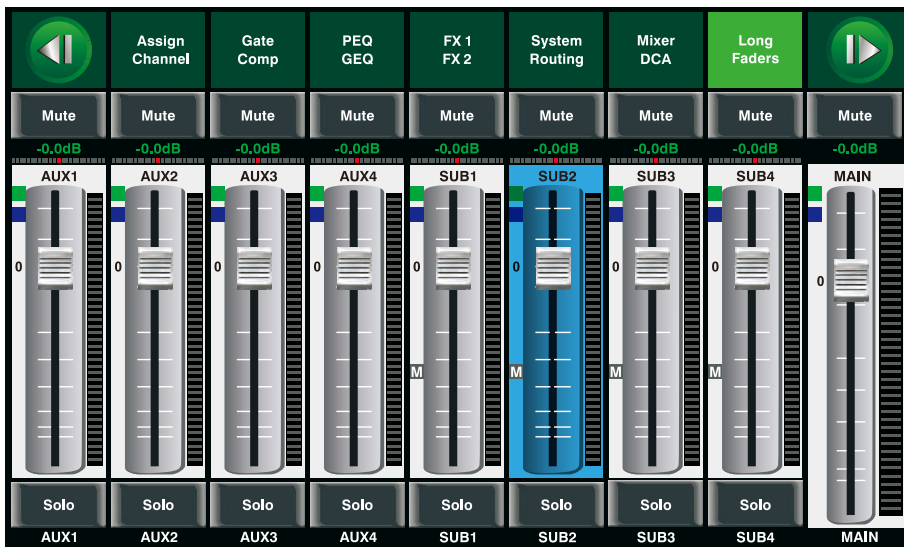
- Page of input channel 1~8



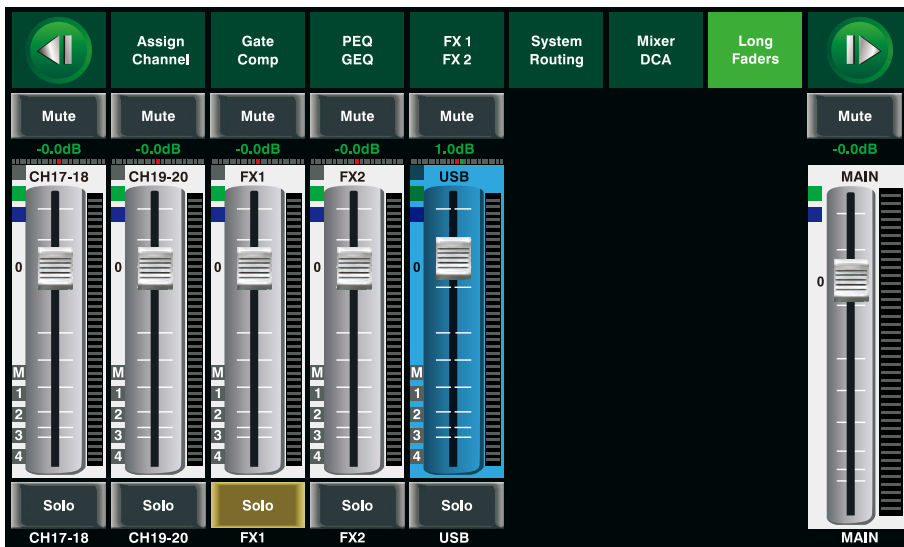
- Page of input channel 9~16



- Page of output channel AUX1~4/SUB1~4



- Page of input channel 17~20/FX1~2/USB

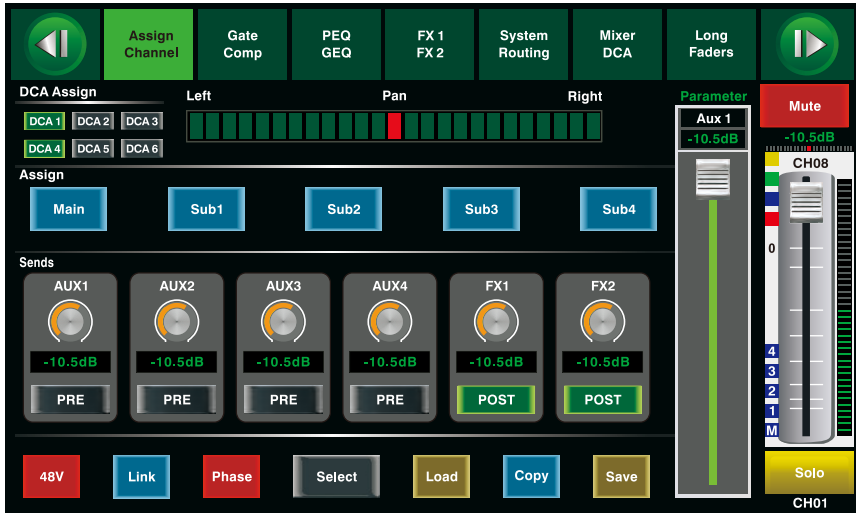
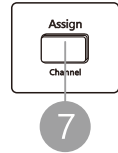


7. Assign/Channel Button

Press this button twice, it will switch between Assign and Channel function.

Assign

Press this button to enter assign page, signal from a selected input channel can be assigned to Main, AUX1~4, SUB1~4 or AUX5~8 and FX1~2. The window is as below. For the detail operation, please refer to introduction in section 5.

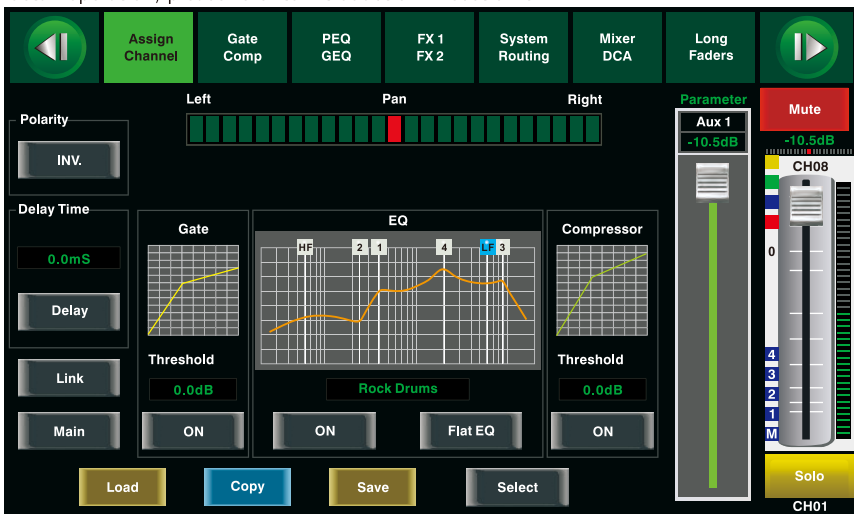


Channel

Press this button again, you will see Channel page on LCD screen. It gives you a preview of other function such as Polarity, Delay, Link, Assign, Gate, EQ, Compressor etc.

You can also adjust corresponding parameters that show on the screen. But for Gate here, you can only adjust threshold; For Compressor, you can only adjust threshold; For EQ, you can adjust nothing here.

For the detail operation, please refer to introduction in section 5.



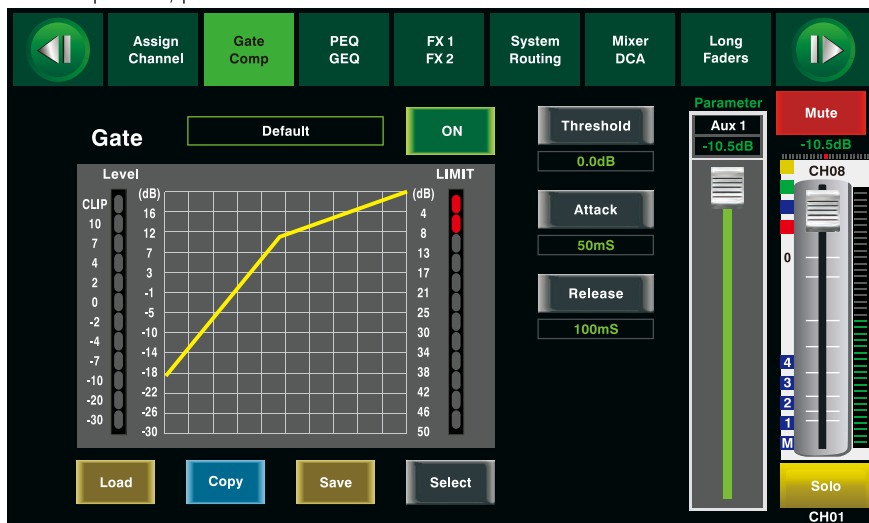
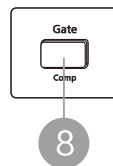
8. Gate/Comp Button

Press this button twice, it will switch between Gate and COMP function.

Gate

Noise gate attenuates signals that below the threshold and allows signals to pass through only when they are above a threshold setting. The window is as below.

For the detail operation, please refer to introduction in section 5.

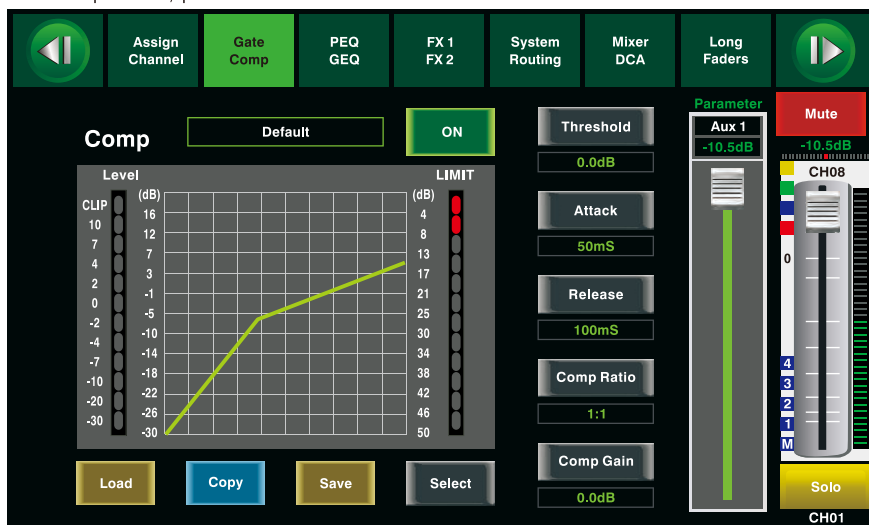


COMP

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

The window is as below.

For the detail operation, please refer to introduction in section 5.



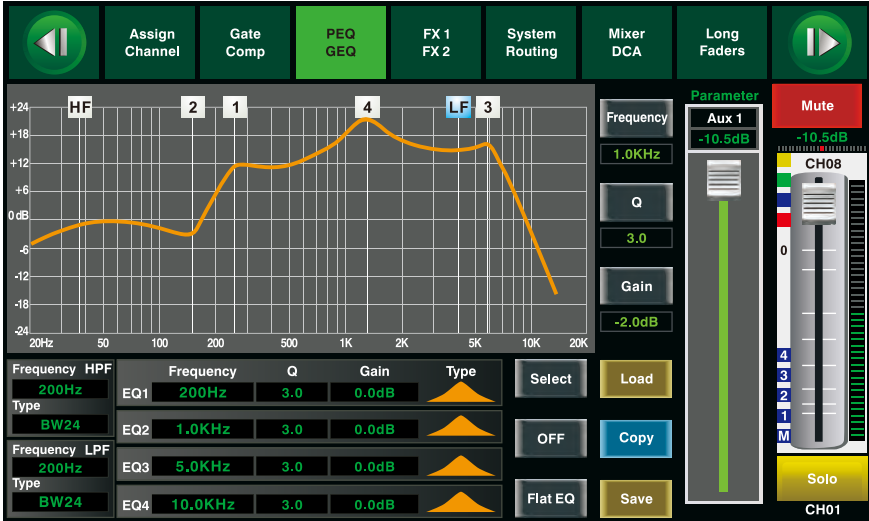
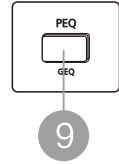
9. EQ Button

Press this button twice, it will switch between PEQ and GEQ function.

PEQ

An equalizer is a filter that allows you to adjust the level of frequency in the range of 20Hz~20kHz. The window is as below.

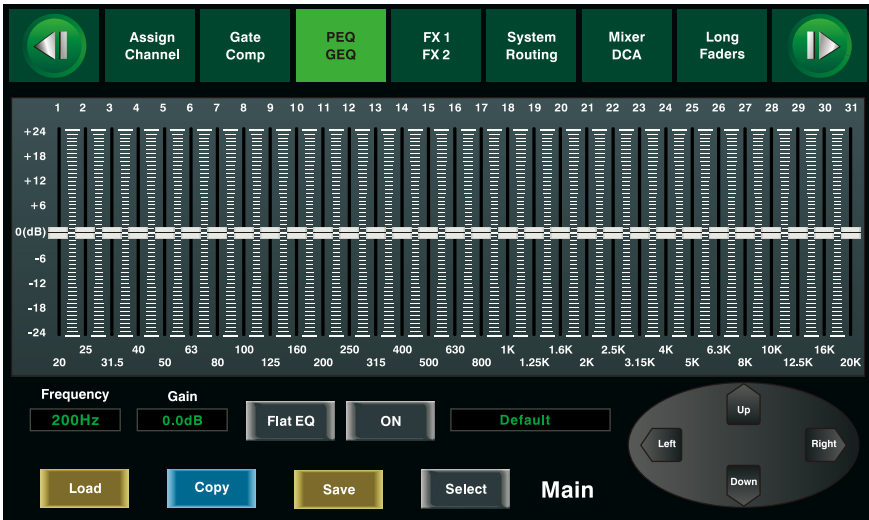
For the detail operation, please refer to introduction in section 5.



GEQ

In GEQ page you can set the 31 band EQ. The window is as below.

For the detail operation, please refer to introduction in section 5.

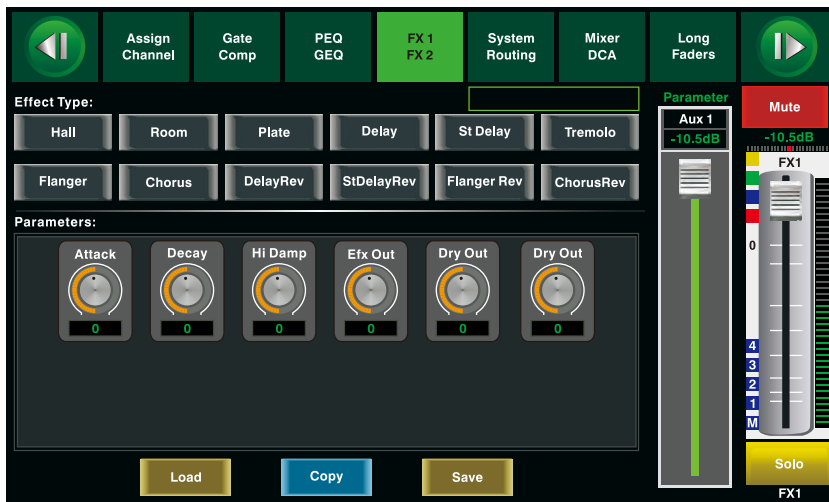
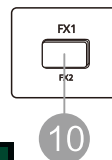


10. FX1~2 Button

Press this button twice, it will switch between FX1 and FX2 function.

This page can show and editor the setting of internal effects. Each of the FX owns 12 program effects. The window is as below.

For the detail operation, please refer to introduction in section 5.



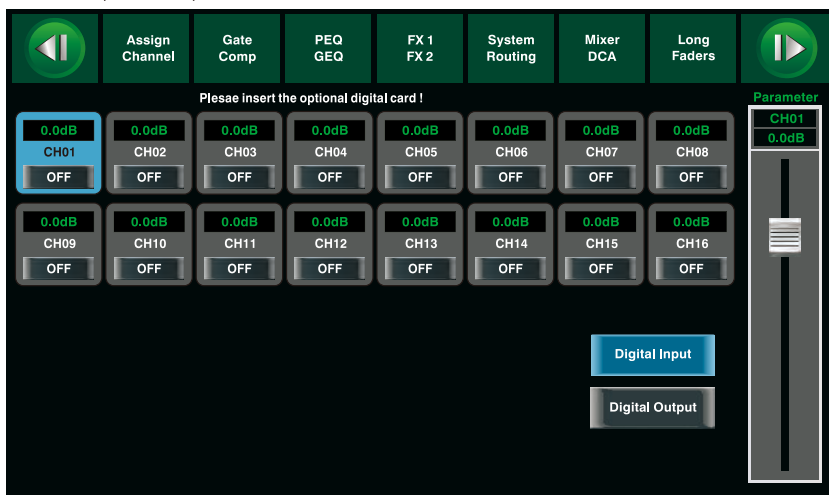
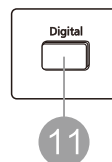
11. Digital In/Out Button

Press this button twice, it will switch between Digital In and Digital Out function. This button engages and disengages the digital channel when you have an optional input/output module inserted.

Digital In

The button will illuminate to indicate that current channel has been selected as digital input. The window is as below.

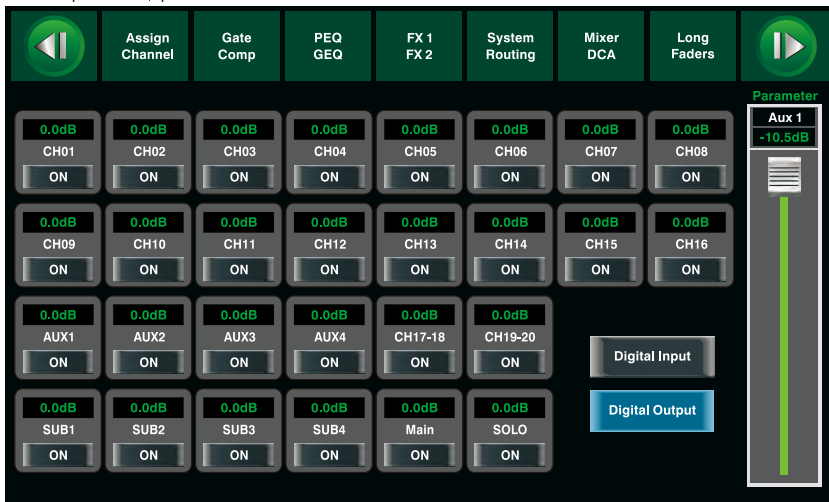
For the detail operation, please refer to introduction in section 5.



Digital Out

The button will illuminate to indicate that current channel has been selected as digital output. The window is as below.

For the detail operation, please refer to introduction in section 5.



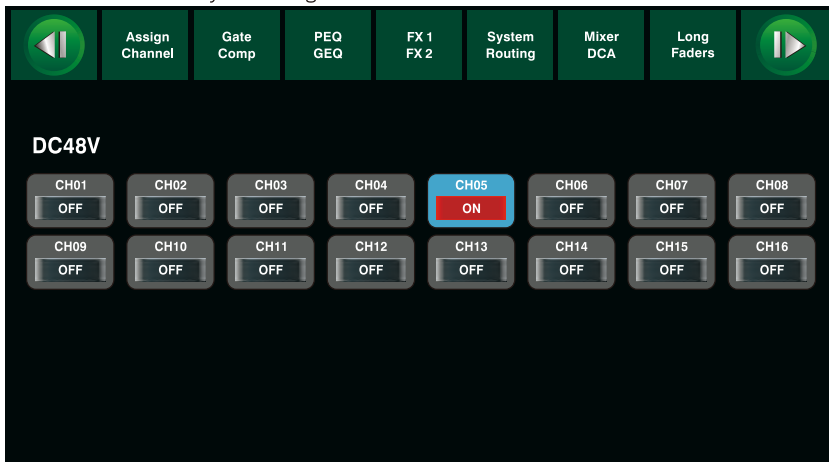
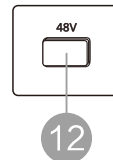
When the button illuminated, please pay attention to which channel is Digital Input and which channel is Digital Output during operation.

12. 48V Phantom Button

Every microphone input equips with an individual phantom power which is controlled by the 48V phantom power button. When you want to turn on phantom power of some channel, the screen will show warning to ask you and make sure. It will illuminate when phantom power is activated.

Please notice that only the condenser microphone needs phantom power.

Note: Please do not supply phantom power to any device which do not need phantom power otherwise the device and DMX 2040 may be damaged.



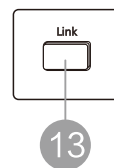
13. Link Button

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 13 and 14
Channels 3 and 4	Channels 15 and 16
Channels 5 and 6	AUX 1 and AUX 2
Channels 7 and 8	AUX 3 and AUX 4
Channels 9 and 10	Subgroups 1 and 2 or AUX 5 and AUX 6
Channels 11 and 12	Subgroups 3 and 4 or AUX 7 and AUX 8



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.

Link & DCA: After link, the channels can also be grouped to DCA as stereo channel, but not able to cancel the link in DCA. On the contrary, if the channel has been grouped to DCA, it can not link at all, but its paired channel can link.

For example, channel 5 is linked with channel 6, then both channel 5 and 6 can be grouped to DCA. But if channel 5 has been grouped to DCA first, it can not link to channel 6, but channel 6 can link to channel 5.

Link & Routing: The two linked channels can route as stereo channel, while routed channels can also link later.

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, when Channel 6 has been selected, then press Stereo Link button, 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.

14. Solo Button

Press this button will send its channels or buses to the control room outputs.

It will illuminate as has been pressed and enabled.

15. Mute Button

Press this button will mute selected channel and all of its assigned outputs.

It will illuminate when the button has been pressed and enabled.

16. Pan Button

Press this button to select the Pan function, then rotate Parameter Adjust encoder to control signal level from left to right for the selected input or output bus. If you have adjusted a channel pan, please just touch 2 times on the screen and make it back to the centre position.

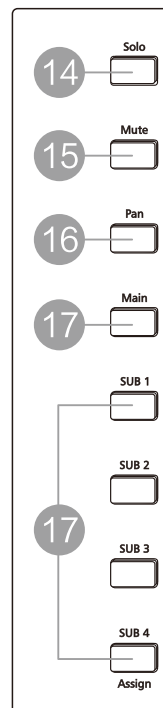
The LCD display shows the setting in real time. If two channels have been linked as stereo pair, the LCD display will automatically change to stereo pan.

17. Main & SUB1~4 Buttons

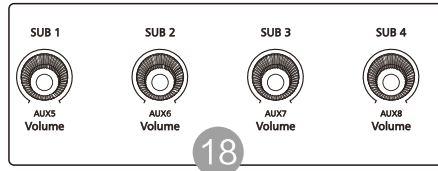
The selected channel can be assigned to SUB group outputs 1~4 and Main Outputs by pressing the corresponding button. But if SUB mode is switched to AUX mode, the SUB1~4 button can not active.

The main 20 inputs, USB In, and FX1~2 can be assigned to any or all of the output Subgroups, AUX Sends and the main outputs.

Subgroups can only be assigned to the main outs. The 4 AUX sends cannot be assigned to a subgroup or to the main outputs.



18. SUB1~4 Output Level Control Knobs

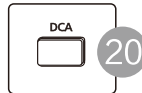


These knobs here control the output level for SUB1~4 or AUX5~8.

19. Motor Fader

There is only one motor fader to control all digital Channel's level, including 20 main input channels, 1 USB in, 4 AUX outputs, 4 SUB Group outputs, FX1~2 and 1 Main output channel.

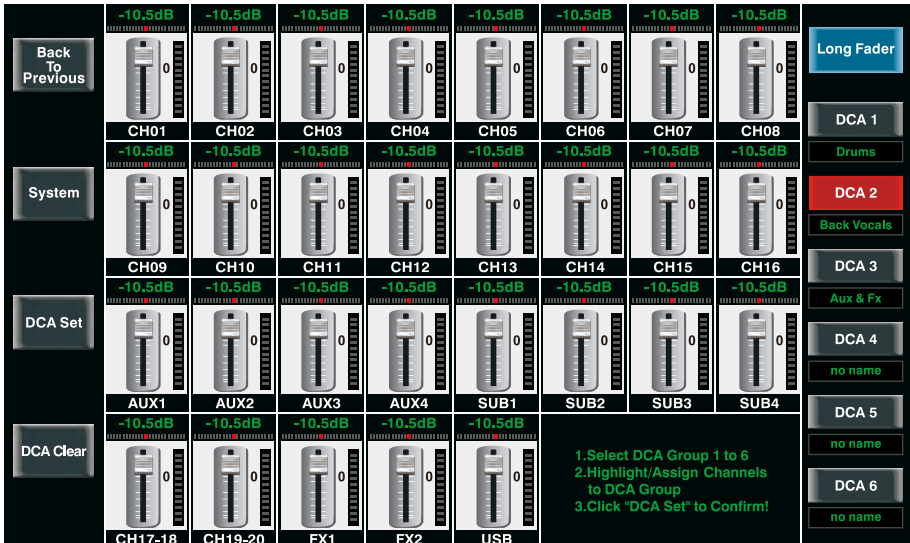
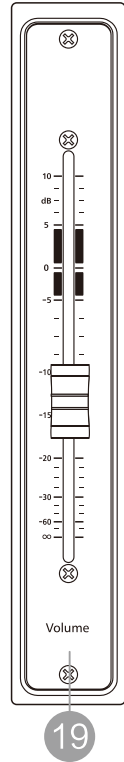
20. DCA Button



Digital Control Audio(DCA) can realize group assignment. DCA volume control will always leave the same ratio between the channel fader levels, independent of the volume control.

Press this button, it will flash until some channels have been selected, then press it again to save the settings and turn off the button. The corresponding window is as below picture show.

For the detail operation, please refer to introduction in section 5.



21. DCA1~6 Buttons

Press these buttons to select which channels you want to be assigned to the group.

22. AUX1~4 Select Buttons

This button function is similar to input channel select buttons.

Press this button will route its channel to add DSP setting and assign its output. It will illuminate as has been pressed and enabled. In DCA window, you can select group channels by this button.

23. FX1~2 Select Buttons

This button function is also similar to input channel select buttons and AUX1~4 Select Buttons.

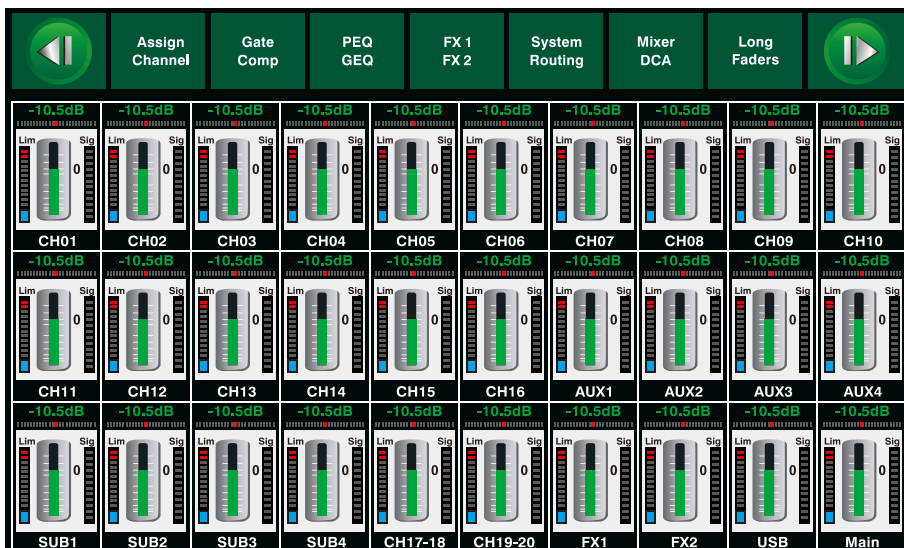
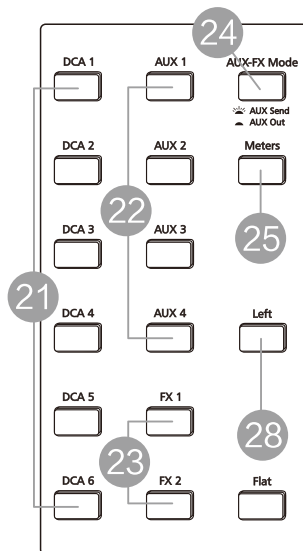
For the details, please refer to point 22 or 1.

24. AUX/FX Mode Button

Press this button, it will illuminate as has been enabled. Signal from 20 main input channels will be assigned to AUX1~4 or AUX5~8(SUB1~4) and FX1~2, you can rotate the Parameter Adjust knob to adjust signal's level. When the button is OFF, it is AUX/FX Out function, which means the AUX1~8 and FX1~2 will not enabled in Assign status.

25. Meters Button

Press this button to enter meters check page, as below picture show, for the details, please refer to corresponding introduction in section 5.



26. FX Bypass Button

This button is for FX function, when press it, effects of FX1~2 will be mute synchronously, which is similar to MUTE button.

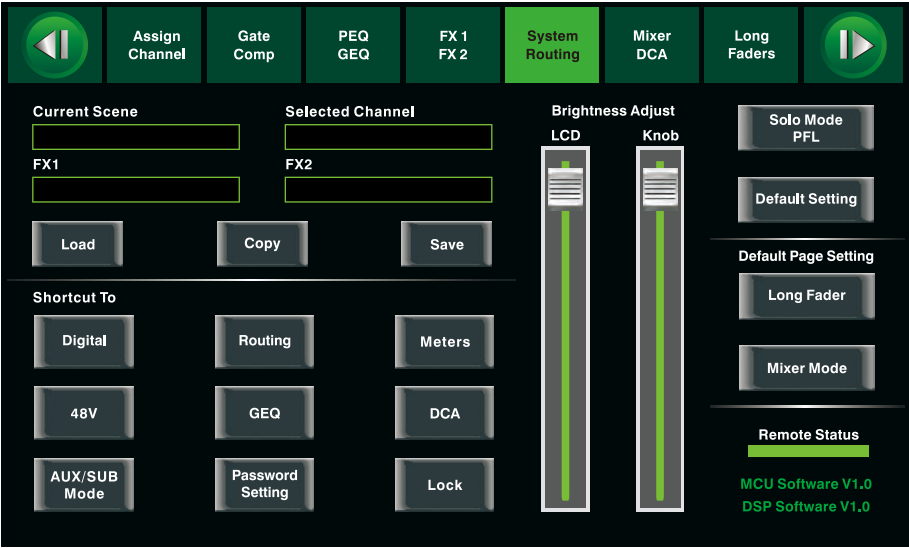
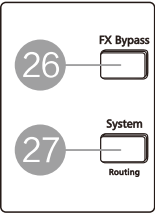
27. System/ Routing Button

Press this button twice, it will switch between System and Routing function.

System

Press this button to go to System page, as well as show and edit parameters of the system, as below picture show.

For the detail operation, please refer to the introduction in section 5.



Routing

Press this button again, user can select one or several channels in below windows to assign the signal to corresponding outputs.

For the detail operation, please refer to introduction in section 5.

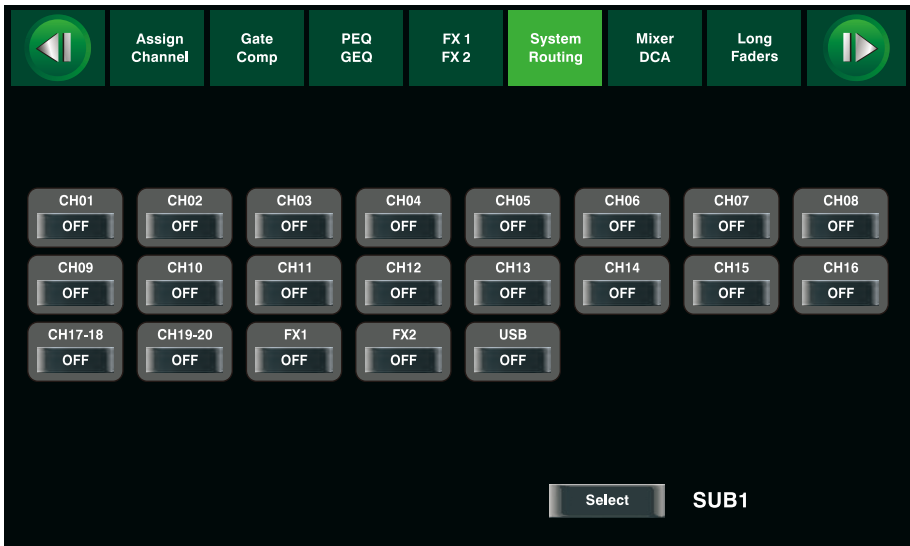
- Page of routing input channels to AUX1 (the same with AUX2~4)



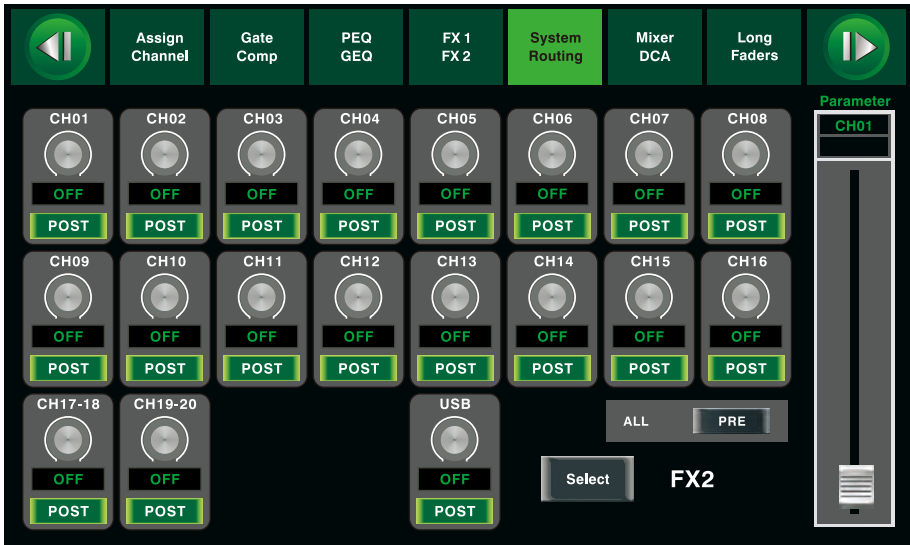
- Page of routing input channels to MAIN



- Page of routing input channels to SUB1(the same with SUB2~3)



- Page of routing input channels to FX1 (the same with FX2)



28. UP & Left & Down & Right Button

These buttons move the cursor around the display page, or select and delete parameters and options. Sometimes, Up button function is the same as Left button, while Down button function is the same as Right button. But in GEQ, Up and Down adjust gain level, while Left and Right adjust frequency.

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.

29. Parameter Adjust Knob

This Encoder adjusts the parameter values of selected control that are shown on the LCD display. Turning it clockwise increases the value and counterclockwise decreases the value.

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.

30. Flat Button

Press this button, you can see warning on the screen, select yes to return all the settings to default, only in the page that you can set some values can this button function, such as Gate, EQ, Comp and GEQ.

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.

31. Enter(TAP) Button

This button can activate as two types of function.

Enter: Confirm the edited parameter values.

When there is a confirmation message jump out on the screen, press Enter button to answer "yes".

TAP: In the FX1 and FX2 page, it will switch to TAP function, you can use this button to enter a delay time in tempo with the music being played.

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.

32. Control Room Knob

This knob controls the overall output level for control room.

33. PFL Button

The default setting for the Solo bus is After-Fader Listen (AFL); by pressing PFL, Pre-Fader Listening is enabled. In either mode, press Solo on any channel or bus to route that channel to the Solo bus and has no effect on the main or subgroup mixes.

34. HP1~2 Knob

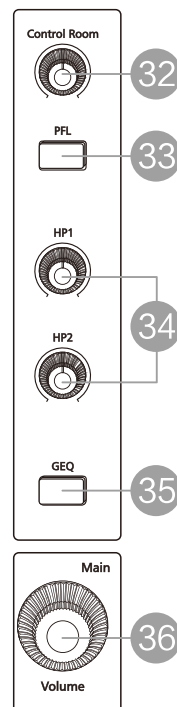
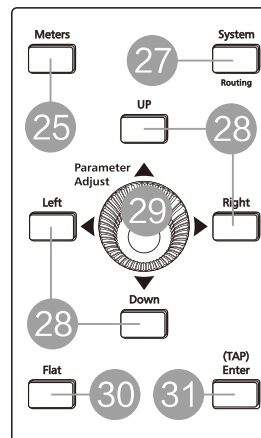
These knobs control the overall output level for headphones.

35. GEQ

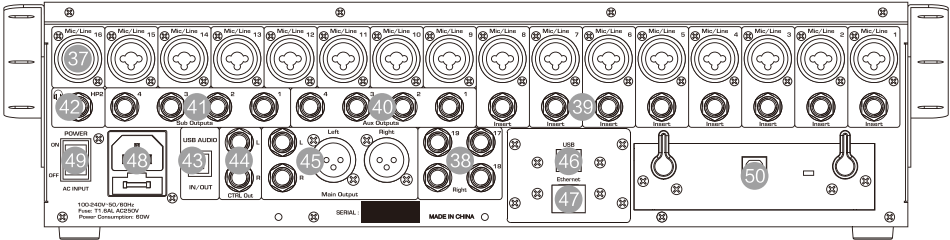
This button is the same as EQ when you press it twice, please refer to point 9 for basic introduction.

36. Main Control Knob

This knob here controls the overall output level for main channel.



4.2 Rear Panel Introduction



37. Combo Jack

The Combo Jack Inputs integrates Mic and Line in together, insert in the middle hole to get Line in function, while insert in the edge circle to achieve the Mic function.

The DMX 2040 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.

The line-level input is a 1/4 inch, balanced TRS connector. Each channel of the DMX 2040 has a line-level input. The microphone-preamp circuit will be bypassed if the Line-level Input has been engaged.

Note: 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 be better to mute or turn down the channel fader before changing connections or turning phantom power on or off.

38. Line Inputs 17~20

The 17~20 Line Inputs are normally used as effects returns. A line 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.

39. Insert

Only channel 1~8 are equipped with insert function, while others are not.

The direct-insert point is an unbalanced 1/4 inch connector which can be used to connect external processors. 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 2040's digital bus to add DSP setting and sent through AUX and FX buses...

40. AUX Outputs 1~4

These are balanced mono outputs for each auxiliary.

41. SUB Outputs 1~4

These are balanced mono outputs for each subgroup.

42. Headphones Out HP1 and HP2

They are the headphone's port for monitoring.

43. USB Audio In/Out

This port is for USB audio input and output.

44. CTRL Out

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

45. Main Output

The DMX 2040 features both XLR and TRS main outputs. These outputs are parallel to each other.

46. USB Connect Port

This port is for remote control or firmware update.

47. Ethernet Connect Port

This port is for Ethernet control or firmware update.

48. Power Inlet

The provided power cable can be plugged in.

49. Power Switch

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

50. Optional Module

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

5 Software Introduction

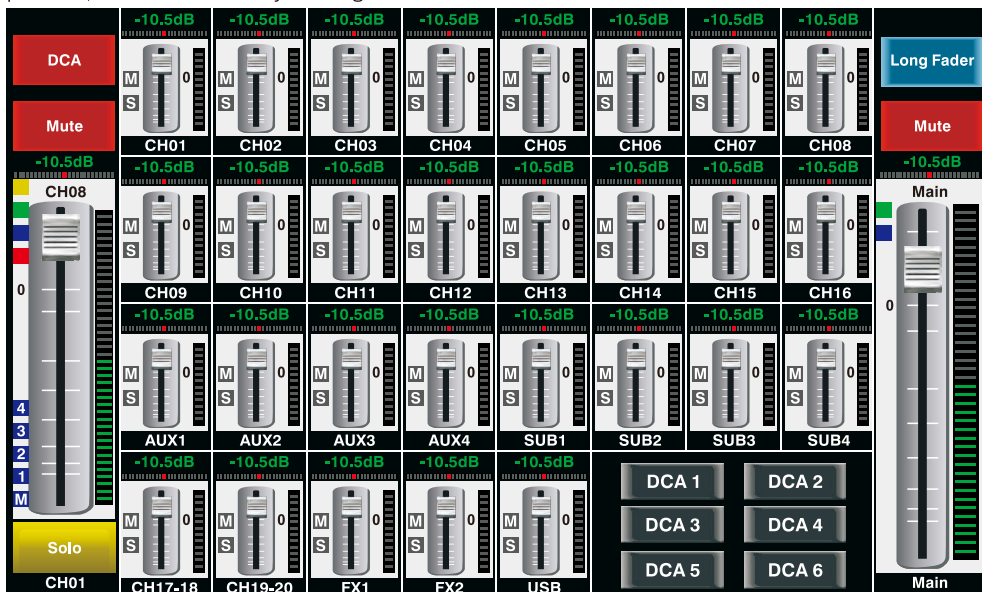
The DSP control part is the most important part of DMX 2040. In this part you can adjust Gate, Compressor, EQ, polarity, panning, delay, link, routing, etc. for the selected channel.

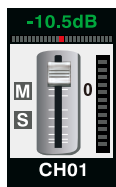
Here is the table lists each input/output channel that with DSP function.

BUS	Gate	Compressor	EQ	Polarity	Pan	Delay	Link	Output Assignment
Inputs (CH1~16)	✓	✓	✓	✓	✓	✓	✓	MAIN, SUB Groups 1~4, AUX Sends 1~4, FX 1~2
Inputs (CH17~20)	✓	✓	✓	✓	✓	✓	✗	MAIN, SUB Groups 1~4, AUX Sends 1~4, FX 1~2
AUX Sends 1~4	✓	✓	✓	✓	✗	✓	✓	
FX 1~2	✓	✓	✓	✓	✓	✓	✗	MAIN, SUB Groups 1~4, AUX Sends 1~4
SUB Groups 1~4	✗	✓	✓	✓	✓	✓	✓	MAIN
MAIN Out	✗	✓	✓	✓	✗	✓	✗	

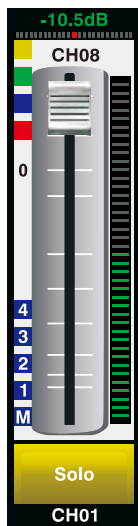
5.1 Mixer

Once you turn on the DMX 2040 switch, the Mixer interface will come to your eyes at first if you have presetted, now let's see what you can get in this interface.

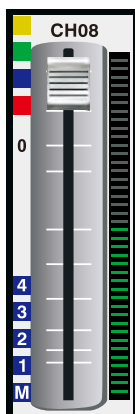




Touch a channel, for example, CH01, the background and corresponding CH1 button will illuminate synchronously, you can control the output signal level by Parameter Adjust knob. S will illuminate synchronized with Solo button on the panel. M will illuminate synchronized with Mute button on the panel. Meter beside the fader indicates the input signal level activity.



This long fader can control level of all input and output channels in this screen, but for one selected channel at one time, all its control will change synchronized with the selected channel.



Slide the fader, you can increase or decrease corresponding channel's level. Meter beside the fader indicates signal activity.



The number indicates current channel level.



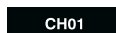
The pan icon shows real pan of selected channel audio signal, press Pan button on the panel and rotate Parameter Adjust knob to adjust it.



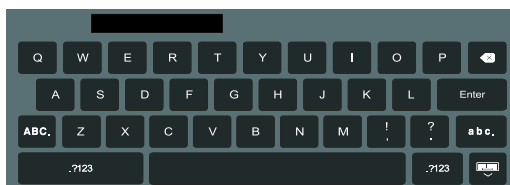
Touch the icon to monitor selected channel audio signal, it will illuminate synchronized with Solo button on the panel.



Touch the icon to silence selected channel audio signal, it will illuminate synchronized with Mute button on the panel.



This letter shows the real current channel. You can also rename the channel. Touch it and hold for a while, a virtual key will come into your vision, as below picture show. Now please tap the keyboard and give a new name to this channel as you like.





This shortcut give you a convenience to operation channels that grouped by DCA1~6. For example, when you touch DCA2, its background will illuminate synchronized with DCA2 button on the panel. All channels you have grouped to DCA2 will also illuminate, now you can adjust motor fader and Parameter Adjust knob on panel or long fader on the screen to adjust level.

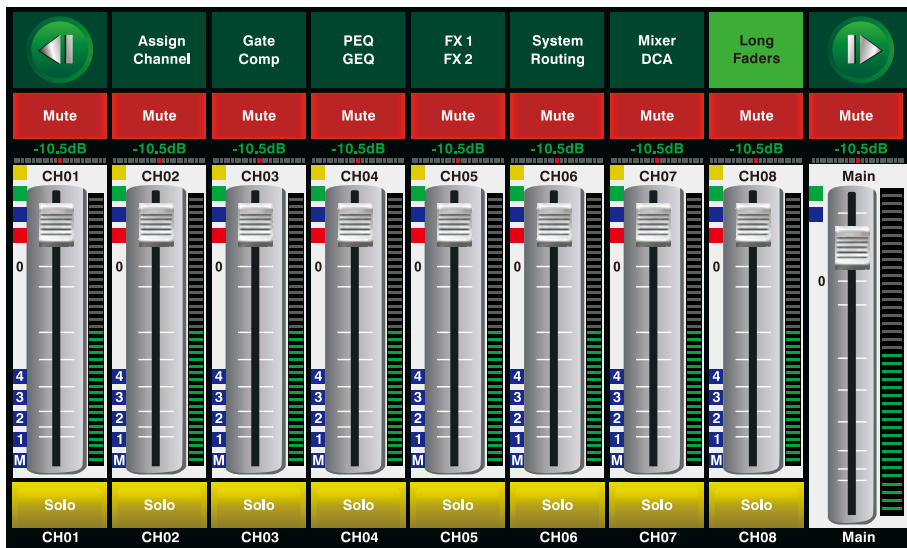
But if you didn't group DCA2 before, then you touch DCA2 icon here, a hint will prompt says " The DCA group is not defined! "

For their detail functions, please refer to the DCA introduce section 5.10.

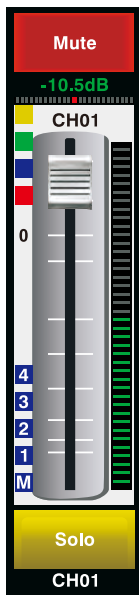


Touch them to enter the corresponding interface as you like. You can also select them by buttons on the panel, they appear here just to provide an extra entrance for you. For their detail functions, please refer to the corresponding introduce section.

5.2 Long Faders



Touch this icon to switch channels and enter corresponding Long Faders page, in which you can adjust channels' basic function like pan, solo, mute, level and rename the channel, etc.



Functions on this icon (like mute, level number, pan, long fader, solo and channel name) are the same with that in Mixer interface.



M and number 1~4 indicate the assign status.

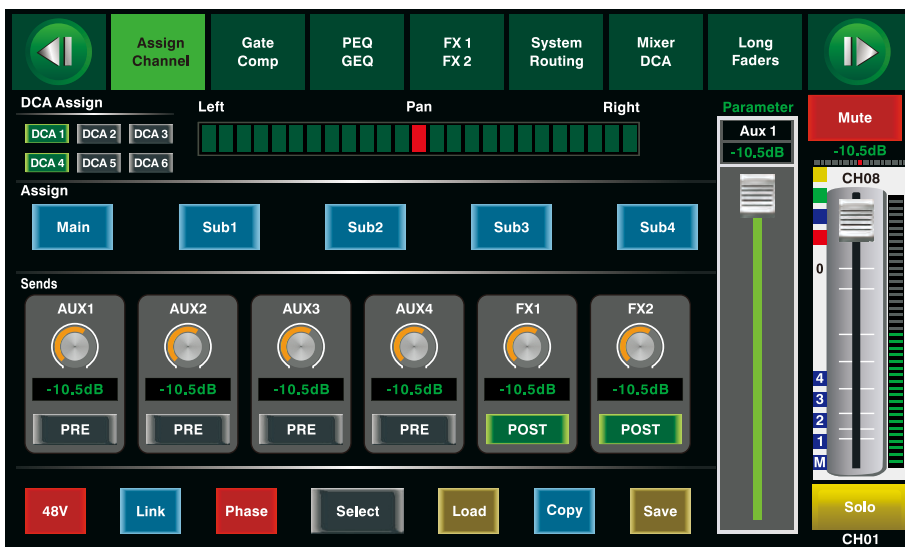
For example, if you assign current channel to SUB1, the background of number 1 will illuminate. Similarly, if you assign to main, M will illuminate.

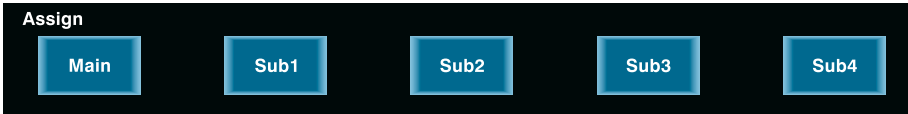
5.3 Assign

The 20 main inputs and internal FX returns can be assigned to any or all of the subgroup outputs, AUX sends and main outputs.

In this page, SUB1~4 and AUX5~8 can switch to each other by touching a switch icon in System page.

First, let's see the SUB1~4 mode as below picture show.





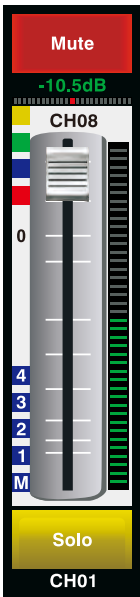
Touch Main & SUB1~4 on the LCD screen or corresponding button on the panel to assign input channel audio to these channels or buses. They will illuminate synchronizing with buttons in Assign area on the panel after pressed. To adjust output level of the channel audio, you can rotate Parameter Adjust knob or corresponding Main or SUB1~4 knobs on the right corner of the panel.



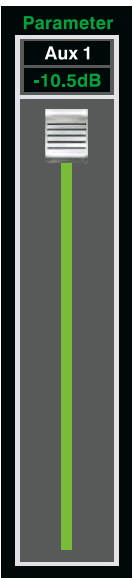
Touch AUX1~4 and FX1~2 on the LCD screen or press corresponding button on the panel to assign input channel audio to these channels or buses. To adjust output level of the channel audio, you can rotate Parameter Adjust knob on the panel.

Touch PRE on the screen, it will switch to POST, the AUX & FX send will derive its signals from all channels post-fader. If the icon has not been pressed and not illuminate, by default, the AUX & FX Send will derive its signal from all channels pre-fader and all unaffected by the sending channel's fader position.

In a word, touch PRE and switch it to POST, then you can adjust its level by sliding fader. Otherwise, the fader wouldn't function on level adjustment.



Slide the fader to change selected input channel audio. The fader function is the same with Fader on the panel, which can control input signal's level, they will change synchronously. Meter beside it indicates the signal level activity. Pan above fader indicates value of pan setting. Solo can monitor selected channel audio. Mute can silence selected channel audio. Long press CH01 can rename the selected channel.



Adjust this parameter to change selected output channel audio. This fader function is the same with Parameter Adjust knob, they will change synchronously.



Touch pan left or right to change signal's balance effect, it can be adjusted by Parameter Adjust knob on the panel when pan button is on.

If you have adjusted a channel pan, please just touch 2 times on the screen and make it back to the centre position.

For the details please refer to the Pan introduction in section 5.



These icons indicates which DCA group does current channel been grouped.

For example, if current channel has been grouped to DCA1 and DCA4, the background of DCA1 and DCA4 will illuminate.



Touch anyone of these controls to enter corresponding page.



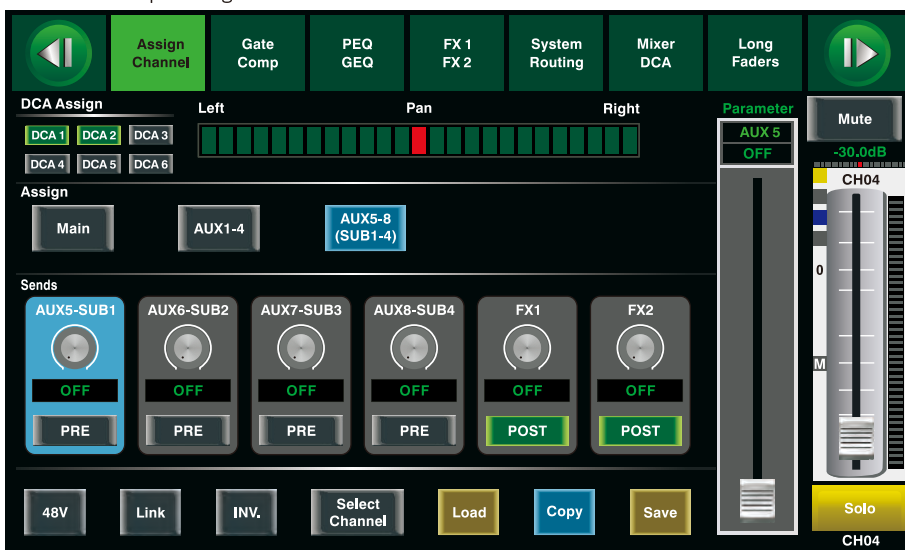
Touch it, the background and Link button will illuminate synchronously, and current channel will link to its pair channel, the button will illuminate then.



Touch Select icon here, all input channels will display to you. Please follow the indication on the LCD screen to operate.

For different input channels, the function and output assignments are different, please notice indication on the screen.

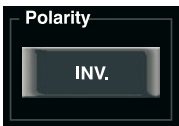
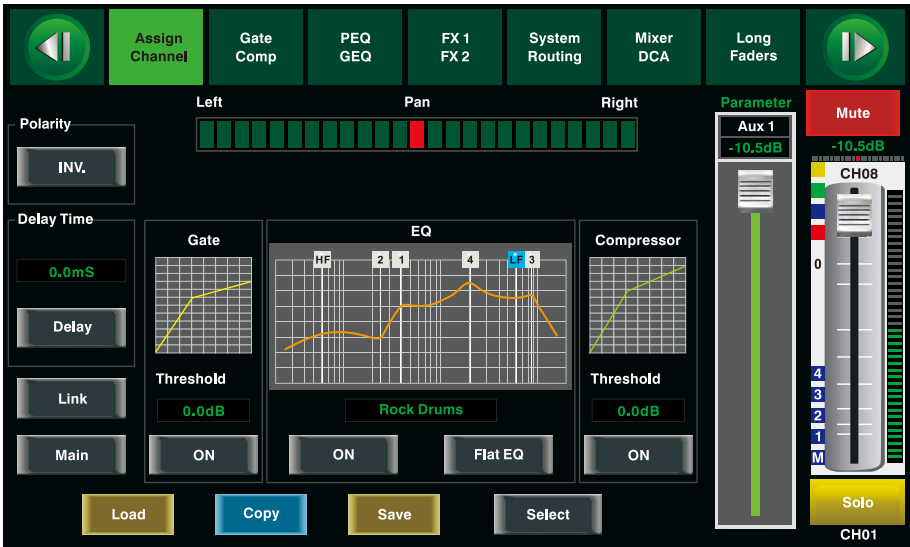
When switch SUB1~4 mode to AUX5~8 mode, the corresponding page is as below picture show, this function enable output assignments to be more.





Touch AUX5~8(SUB1~4) and FX1~2 on the LCD screen to assign input channel audio to these channels or buses. To adjust output level of the channel audio, you can rotate Parameter Adjust knob on the panel. For other icon functions in this page, they are the same with those in SUB1~4 mode.

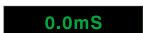
5.4 Channel



Touch it in Polarity 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 control can be used to correct audio signals which are out of phase as well as to cancel/reinforce each other.



Touch it in Delay Time can engage and disengage 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 300ms at 48kHz. Please notice that only if the Delay button has been enabled can its parameter be adjusted.



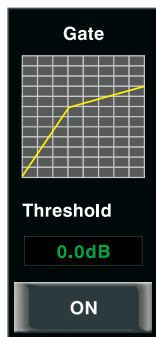
When Delay icon is engaged, touch it in Delay Time and rotate the Parameter Adjust knob can control the selected channel's delay time.



Touch it, the function is the same as Link button.

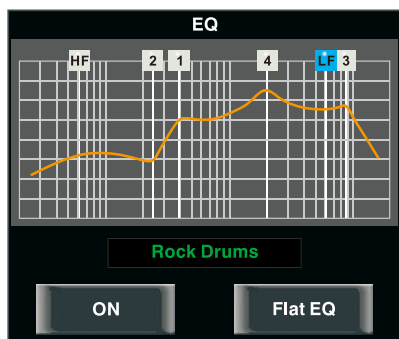


Touch this control, it will illuminate as well as the button, signal from a selected channel can be assigned to Main channel, for the details please refer to Assign introduction in section 5.3.



Touch the switch ON to enable Gate function, then rotate Parameter Adjust knob or slide long fader on the right LCD screen to adjust value of Threshold, which will show in the middle box. During adjustment, corresponding figure change will show in the Gate grid.

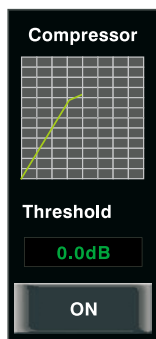
In this area, you can touch the grid area to enter Gate page, for the detail of Gate function, please refer to the Gate introduction in section 5.5.



Touch the switch ON to enable EQ function, it will illuminate and synchronize with ON/OFF control in EQ page. Please set values in EQ page because it is not adjustable here. This page can only show the values. You can also load a preset, please refer to load introduction section for the detail operation, the loaded state will show in the middle box.

Touch Flat EQ to eliminate EQ settings and restore it to default.

In this area, you can touch the grid area to enter EQ page, for the detail of EQ function, please refer to the EQ introduction in section 5.7.



Touch the switch to enable Compressor function, then rotate Parameter Adjust knob or slide long fader on the right LCD screen to adjust value of Threshold, which will show in the middle box. During adjustment, corresponding figure change will show in the Compressor grid.

In this area, you can touch the grid area to enter COMP page, for the detail of COMP function, please refer to the COMP introduction in section 5.6.



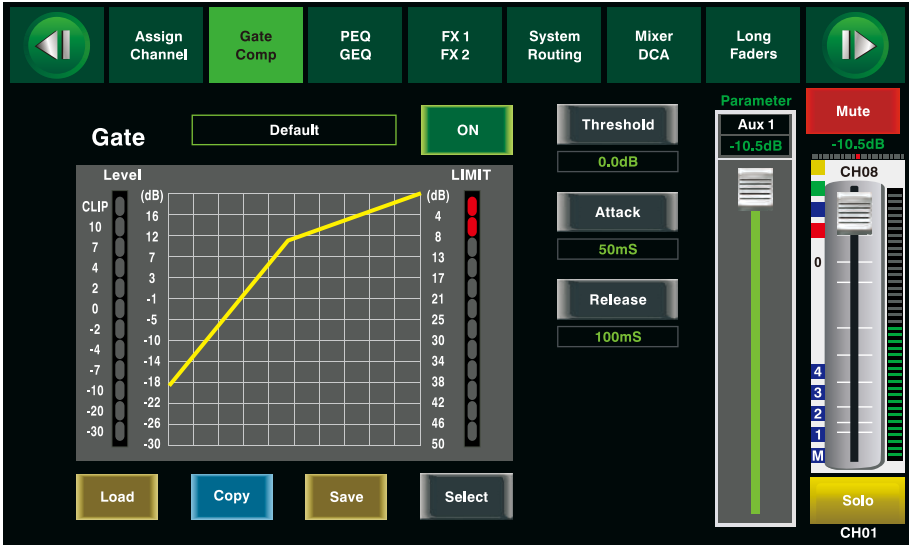
Touch anyone of these controls to enter corresponding page.



It is the same with that in Assign interface in section 5.3.

Note: you can also rename the selected channel by long pressing CHXX.

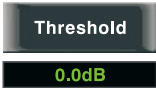
5.5 Gate



Touch the switch in this window, you can engage and disengage the Gate for the selected channel. It will illuminate to indicate that the Gate has been touched and enabled. The LCD display shows the Gate setting in real time. Its parameters can change by adjusting Threshold, Attack & Release control directly and use the Parameter Adjust knob to set the value. Please notice that only if the Gate control has been enabled can its parameters be adjusted.



- The bar has 3 colors here, which indicate 3 status.
- Grey- the switch is OFF.
- Green- the switch is ON, there is signal input and the value is below threshold level, which means it enables the gate function.
- Red- the switch is ON, but gate function not enable.



Touch it to set the level at which the gate will open. It can be set from 0 to -84 dB.

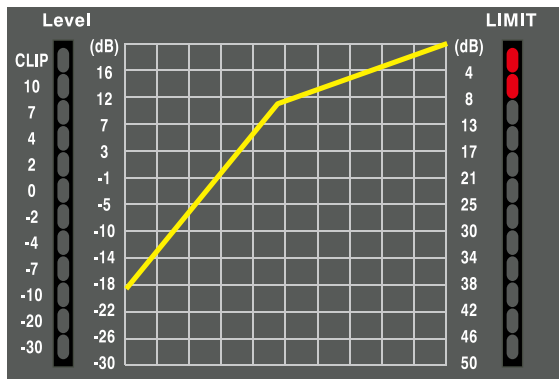


Touch it to set the time for the gate to change from closed to open, much like a fade-in. It can be set from 0.5 to 200 ms.



Touch it 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.

Note: 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.



The Gate grid shows level setting of threshold in real time. Meter on the left indicates the input signal's level activity.

Touch anyone of these controls to enter corresponding page.

Load

Copy

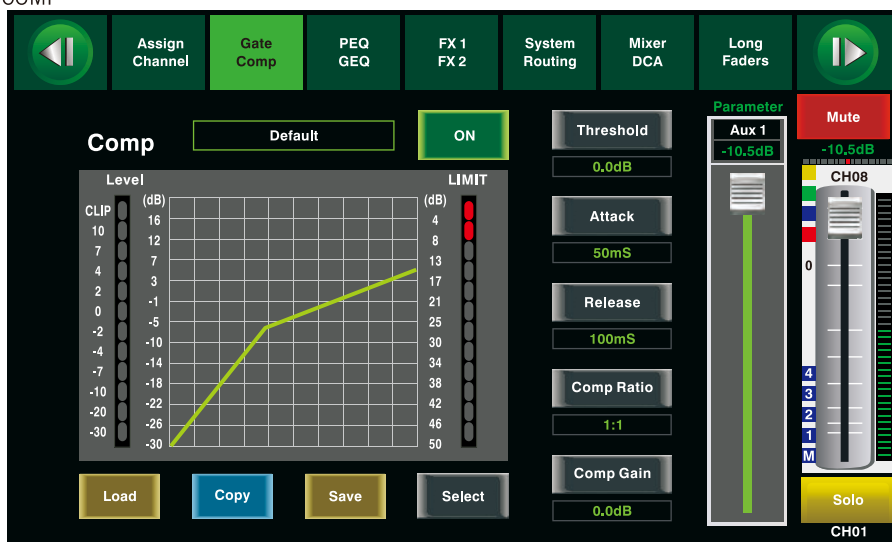
Save

Select

It is the same with that in Assign interface in section 5.3.

Note: you can also rename the selected channel by long pressing CHXX.

5.6 COMP



ON

Touch the switch in this window, you can engage and disengage 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 change by rotating the Parameter Adjust to set the value of Gain, Threshold, Attack, Release & Ratio control directly or using up & left & down & right key to choose the function that you want to modify. Please notice that only if the Compressor button has been enabled can its parameters be adjusted.

The bar has 3 colors here, which indicate 3 status.

- Grey- the switch is OFF.

- Green- the switch is ON, there is signal input and under compressing, which means it enables the compressor function.

- Red- the switch is ON, but compressor function not enable.

Comp Gain
0.0dB

Touch it to set the gain of the compressor for the selected channel or bus. Generally, when compressing signal, the decreasing of gain will cause whole level attenuation. This Gain control can recover the lost level and re-adjust volume that compressed before. The Gain can be set from 0dB (no gain adjusted) to +24dB.

Threshold
0.0dB

Touch it to set 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 20dB.

Attack
50mS

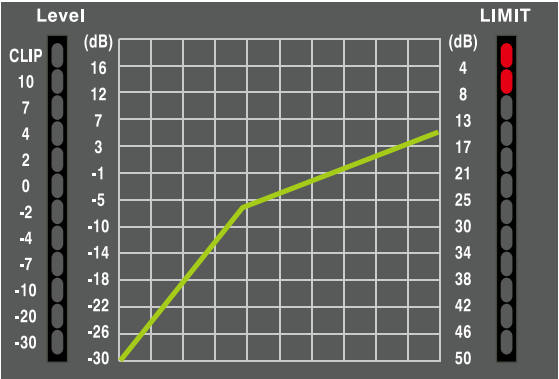
Touch it to set the compressor's attack setting for the selected channel. The attack setting is the period when the compressor is decreasing gain to reach the level that is determined by the ratio. You can set the attack from 10 to 150 milliseconds.

Release
100mS

Touch it to set 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.

Comp Ratio
1:1

Touch it to set 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 4dB over the threshold, the output signal level will be 1dB over the threshold. The ratio can be set from 10:1 to 1:1 until limit.



The compressor grid shows level setting of threshold in real time. Meter on the left indicates the input signal's level activity. Meter on the right indicates degree of compressor.

Load

Copy

Save

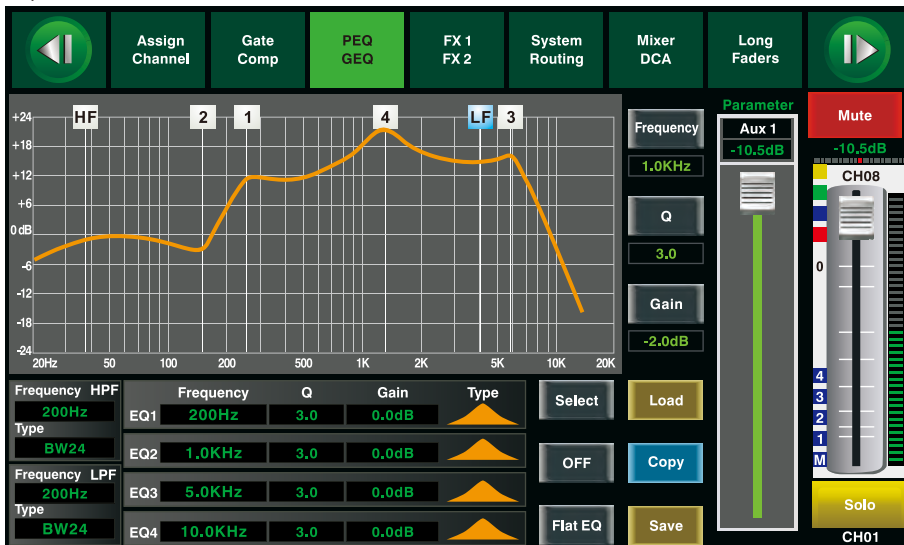
Touch anyone of these controls to enter corresponding page.

Select

It is the same with that in Assign interface in section 5.3.

Note: you can also rename the selected channel by long pressing CHXX.

5.7 EQ



OFF

Touch the switch to engage or disengage the equalizer for the selected channel. It will illuminate to indicate that the equalizer has been touched and enabled. The LCD display shows the EQ setting in real time. Its parameters can adjust by sliding the curve on the screen directly or using up & left & down & right key to choose the function that you want to modify and use the Parameter Adjust knob 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.

Flat EQ

Touch it, a dialog box saying "Are you sure to flat the EQ?" will prompt to check with you, if you click "yes", all the setting values in this page will restore to default, while choose "no" can keep your settings.

Frequency

1.0KHz

Touch it to 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 20Hz to 20kHz.

Q

3.0

Touch it to 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.

Gain

-2.0dB

Touch it to 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 +24dB.

Frequency HPF
200Hz
Type
BW24

This is a high-pass filter. It can pass higher frequencies. When set to its lowest position, the filter is off.

Type indicates the filter's type that you selected, different type means different shape and different filter frequency range.

Frequency LPF
200Hz
Type
BW24

This is a low-pass filter. It can pass lower frequencies. When set to its highest position, the filter is off.

Type indicates the filter's type that you selected, different type means different shape and different filter frequency range.

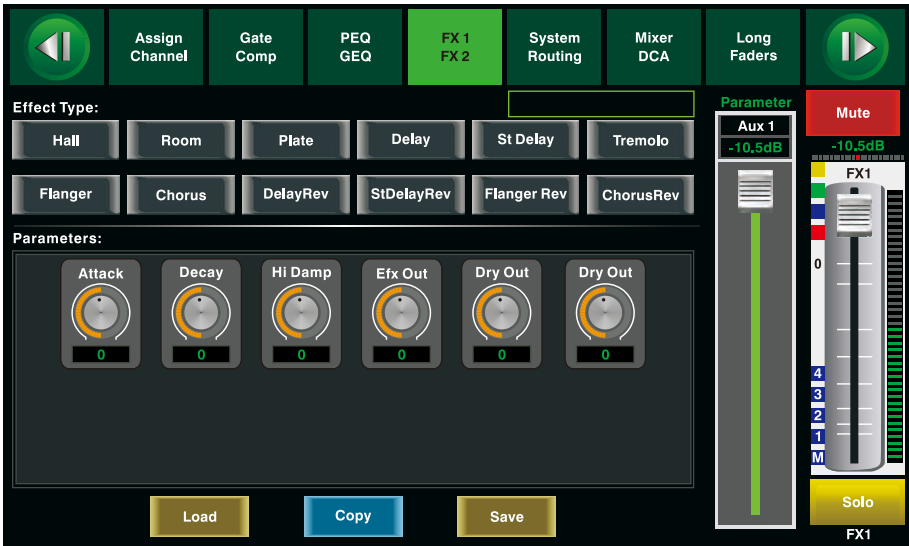
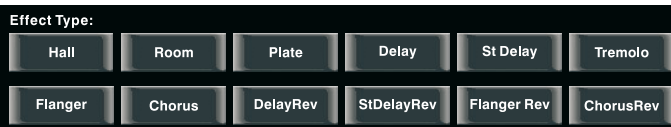
	Frequency	Q	Gain	Type
EQ1	200Hz	3.0	0.0dB	
EQ2	1.0KHz	3.0	0.0dB	
EQ3	5.0KHz	3.0	0.0dB	
EQ4	10.0KHz	3.0	0.0dB	

Touch EQ1 to set its Frequency, Q and Gain parameters separately, touch Type to change the filter to high-pass, low-pass or band-pass filter, the same as EQ2, EQ3 and EQ4. You can see the waveform on the screen.

Note: you can also rename the selected channel by long pressing CHXX.

5.8 FX1~2

The setting values of FX1~2 can be saved as preset for future use by simply touching the Save button and following the instruction that is shown on the LCD display.

Touch anyone of these controls to adjust parameter of the effects by rotating Parameter Adjust knob or slide fader on the right of LCD screen.

Mute

Touch this control to mute current FX effect.

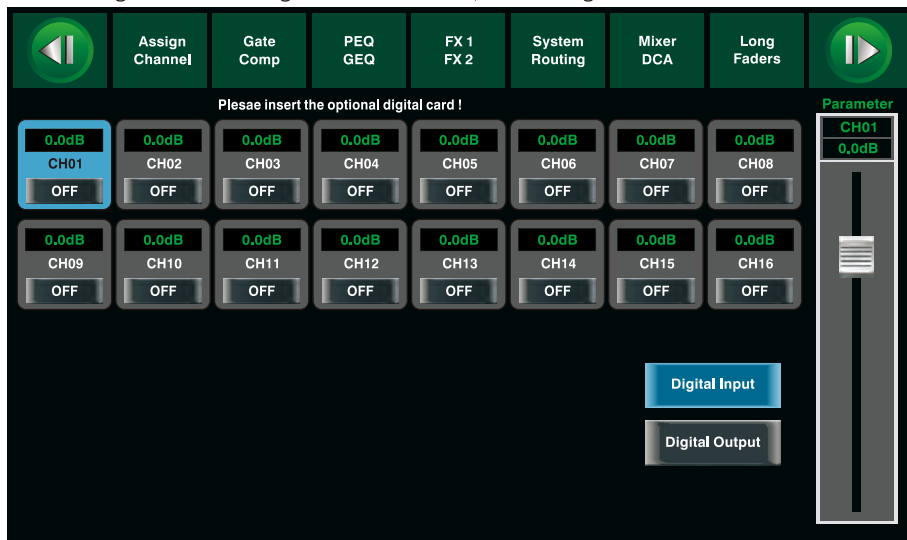
The DMX 2040 includes 12 kinds of adjustable effects which can help to realize the effect that you want to show your audience.

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	Room	Simulate a studio room with many early reflections	Pre Delay; Decay; Room Size; Hi Damp; Efx Out; Dry Out
3	Plate	Simulate the transducer's sound like classic bright vocal plate	Pre Delay; Decay; Room Size; Hi Damp; Efx Out; Dry out
4	Delay	Reproduce the sound input on the output after a lapse of time	Time; Decay; Hi Damp; Efx Out; Dry Out
5	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
6	Tremolo	Simulate the sound effect by repeating the same note or different notes alternately and quickly	Feed Back; Depth; ModFreq; Efx Out; Dry Out
7	Flanger	Simulate to play with another person carrying out the same notes on the same instrument	Feed Back; Depth; ModFreq; Efx Out; Dry Out
8	Chorus	Recreate the illusion of more than one instrument from a single instrument sound	Feed Back; Depth; ModFreq; Efx Out; Dry Out
9	DelayRev	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
10	StDelayRev	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
11	FlangerRev	Stereo chorus and large room reverb	Pre Delay; Rev Decay; Room Size; Rev Hi; Rev Out; ModF.B; ModDepth; ModFreq; Mod Out; Dry Out
12	ChorusRev	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

5.9 Digital Input

Only channel 1~16 are given digital input. You can select which channels input from option module, and which channels input from analog.

The screen will give clues if no digital card inserted in, and the Digital in function can not enable either.



Touch this icon to switch between Digital Input and Digital Output page.



This symbol enables you to choose digital input channels, touch the switch OFF, it will turn to ON and illuminate, which means this selected channel can input digital signal.

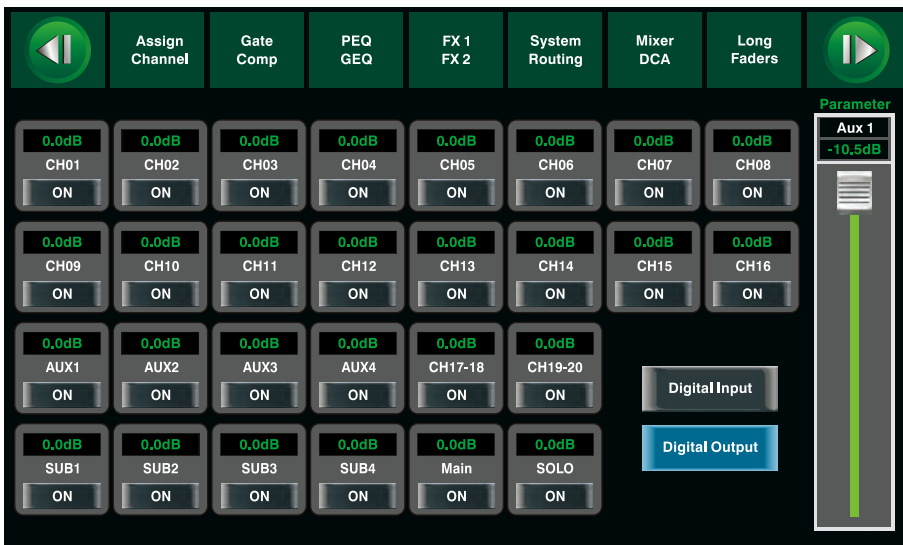


When you choose a digital assign channel, you can adjust its input level by sliding this long fader on the screen or by rotating Parameter Adjust knob on the panel.

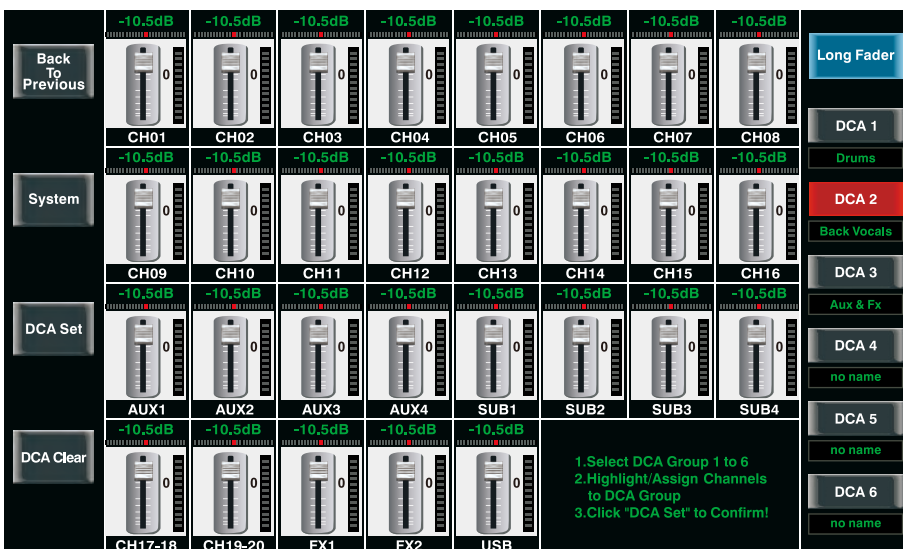
5.10 Digital Output

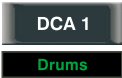
When you select a channel as digital output, OFF will switch to ON, the background of ON will illuminate.

The screen will give clues if no digital card inserted in, and the Digital Out function can not enable either.



5.11 DCA Set

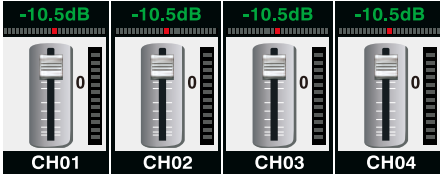




Press one of DCA1-6 on the panel or touch it on the screen, the button will illuminate, which means now you can select one or several channels to the group as above window.



Text under DCA1-6 controls show the preset of DCA settings, you can load a preset directly by pressing Load button, for the detail operation, please refer to the DSP Load section.



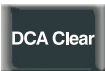
Touch channels that you want to assign to...DCA2, for example. The selected channels background will illuminate.



After you selected channels, the DCA Set control is flash, now press it on screen to save the group. Repeat the same way to assign other groups.

Each group can repeat selecting any channel. For example, channel 3 can be assigned to DCA1, DCA2, etc.

After selecting, the page will return to Mixer mode automatically, in which page you can operate selected group. You can slide fader on the left of screen to increase or decrease the channel fader levels (not volume) in proportion at the same time, or by rotating the corresponding knob to control the level.



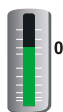
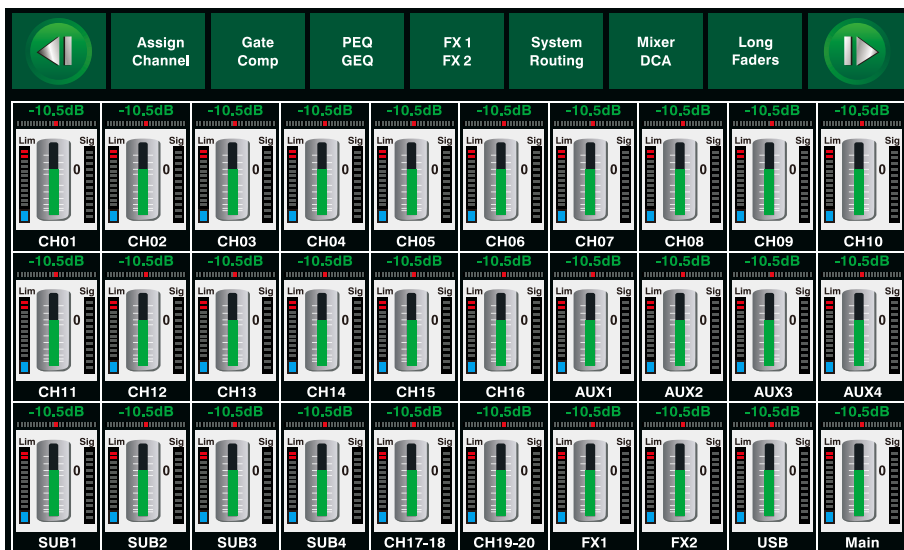
Press DCA clear, you can see indication on the screen, a warning will come up, then select "yes" to clear channels that assigned to current group.



Touch these icons to enter corresponding page.

5.12 Meters

This page gives you an overall review of all input and output channels and buses' meters status.



This icon indicates current channel's fader position, "0" is zero dB position.



The number above it shows level of current channel.



This icon is pan indication.



This icon on the left shows LIMITER/COMP meters.



The blue square below is Gate indicator, when the Gate activate, it lights yellow color.



This icon on the right shows the actual input signal level activity.

5.13 Routing

You can select input channels of Main 1~20, FX1~2 and USB in and route them to output channels of Main 1~20, SUB1~4, AUX1~4 and FX1~2. For example, below window shows AUX1 routing function. In this page, you can route input channels in LCD screen to AUX1 output.

In Main routing page, channel level can not be adjusted, but channel level in SUB, AUX and FX pages are adjustable.

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



Touch it to route input channel 1 to output AUX1 as an example. Please rotate Parameter Adjust knob or slide long fader on the screen to change selected channel's audio level.

Touch PRE on the screen, it will switch to POST, and the background will illuminate.

The selected channel will derive its signals from all channels post-fader.

If the button has not been pressed and not illuminate, by default, the selected channel will derive its signal from all channels pre-fader and all unaffected by the sending channel's fader position.



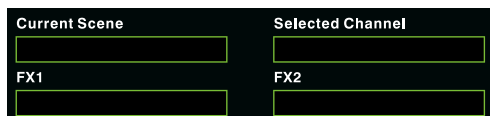
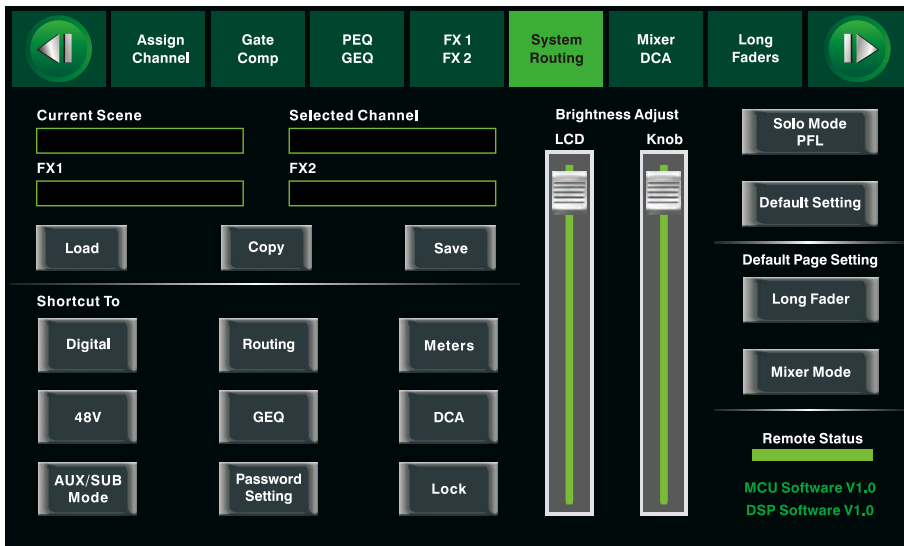
This icon is a switch to change all channels to be POST or PRE.

If the selected channel was linked, they will change synchronous in this page when you adjust them.



Slide the fader or rotate Parameter Adjust knob to adjust level of selected input channel.

5.14 System



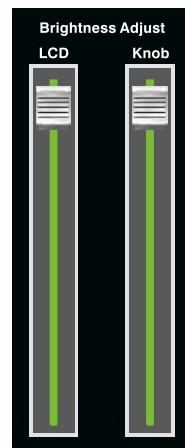
Text in these box show current corresponding preset you have saved.



Touch these icons to enter corresponding page.

User can touch screen of Brightness Adjust to adjust LCD and Knob bright.

The setting will be saved and updated automatically.

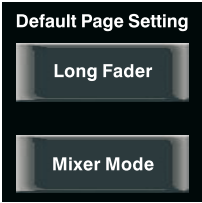




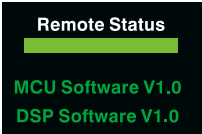
Touch this icon to select solo mode to be PFL or not, it will illuminate synchronously with PFL button once enabled. For the detail of PFL, please refer to corresponding introduction in section 5.



Default setting restores all the settings you have made to default.



This icon determines the page display to you when you turn on the mixer. Touch Long Fader, you will see Long Fader page first, while select Mixer Mode will show you Mixer page first.



At the lower right corner, you can see instruction of the DSP firmware.



Touch this icon to switch between SUB1~4 mode and AUX5~8 mode, please note messages on the screen when operation. For the detail function of this button, please refer to Assign introduction in section 5.3.

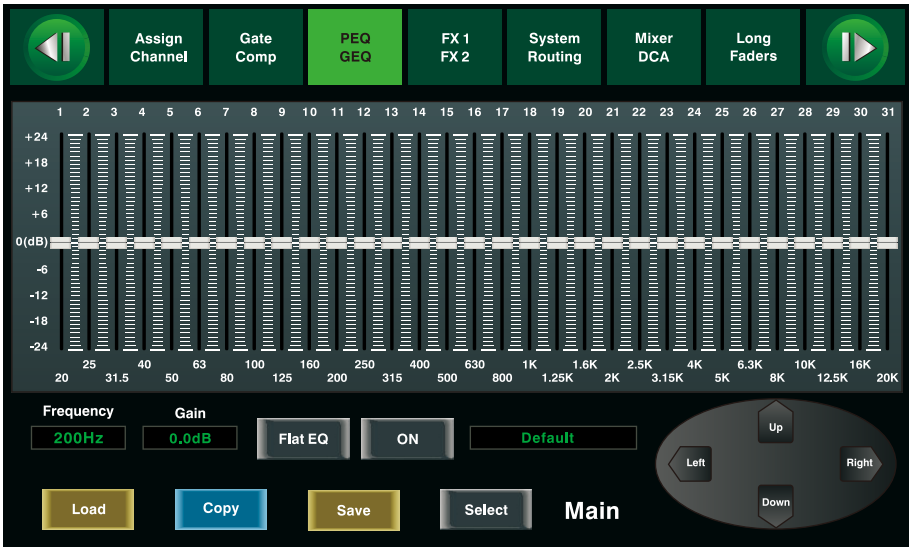


Touch this button to lock the system. Once locked, you must input your password to unlock it. Default password is "1111". Super password is "LIVE", which means you can tap it to unlock your DMX 2040 every time you forget your password. Please note messages on the screen when operation.

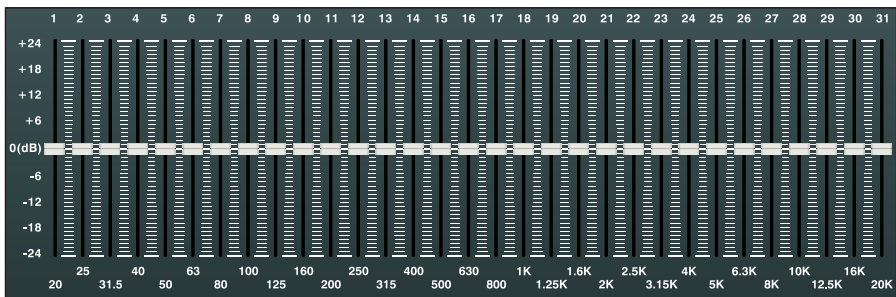


Touch this button to change password of the system. Input an old password and a new password. The system will save the new one as current password. Please note messages on the screen when operation.

5.15 GEQ



The DMX 2040 features MAIN Stereo, SUB Mono and AUX Mono, 31 band, 1/3 octave graphic EQs. The 31 bands range from 20Hz to 20kHz. There is 1 MAIN Stereo GEQ, 4 SUB Mono GEQs and 4 AUX Mono GEQs in 24-bit/48kHz sample rate.



In this screen, you can adjust gain at every specific frequency. 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.

Flat EQ The Flat EQ button can help you set the whole 31 bands to be default setting.



The box can show the frequency and gain that you are adjusting.

Touch Left or Right to select frequency, while touch Up or Down to fine adjust gain of selected frequency.



Load

Copy

Save

Touch Load, Copy or Save to realize corresponding function.

Select

Touch this control in this area to enter page of corresponding channel.

ON

Default

Touch ON/OFF switch, it will illuminate and enable the GEQ function.

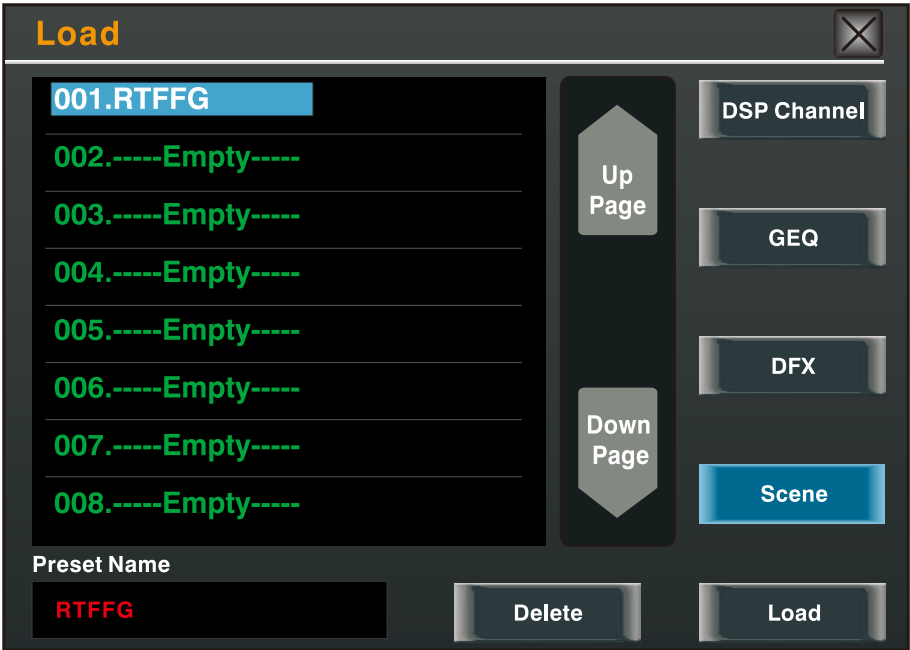
Compare with ON in other page, the different is that even you don't turn on it, the GEQ parameter is adjustable, but won't function.

Text Default in the box shows preset of GEQ. You can change it by loading another parameter setting.

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 of DSP Load, Save, Copy as reference.

5.16 Load

In this interface you can load Scene, Effect, GEQ or DSP channel setting too. The chosen preset can be deleted by pressing Delete. Please notice the instruction that is shown on the LCD display.





This items show names of preset, when you select a preset, its name will show on the bottom box, then touch Load control on the right corner of the screen to load the selected preset to corresponding controls.



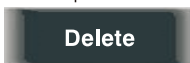
Touch UP Page to go to previous item page.
Touch Down Page to go to next item page.



Touch anyone of these controls, the corresponding background will illuminate, you can load preset of selected controls.



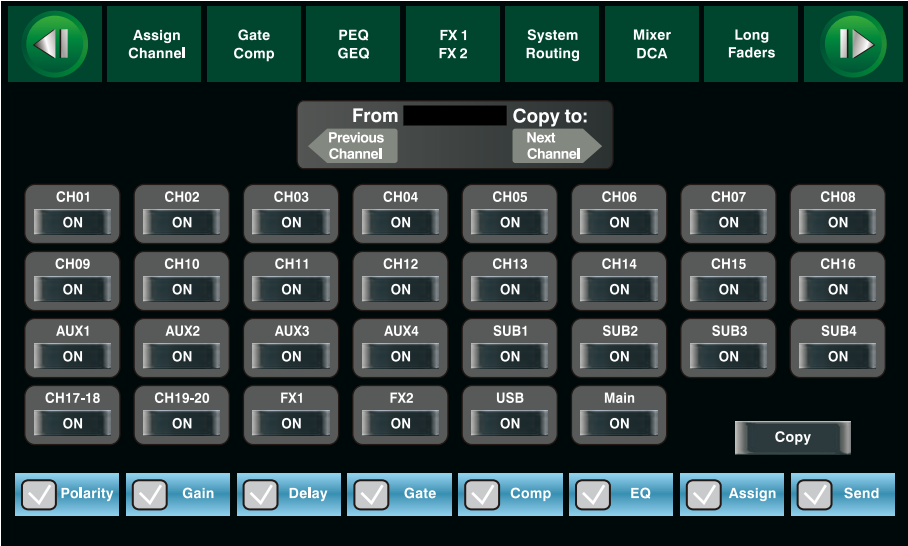
Touch Delete to delete current selected item's preset, touch Load to load current selected item's preset.



The 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.

5.17 Copy



Select a channel or bus that you want to copy its settings onto other channels, then press Copy button, you can see the selected channel or bus will flash. Touch OFF of other channel or bus, it will turn to ON and the background will illuminate red, which means you are ready to copy.



This will show current channel that will be copied to other channels or buses. Touch Previous Channel or Next Channel to select.



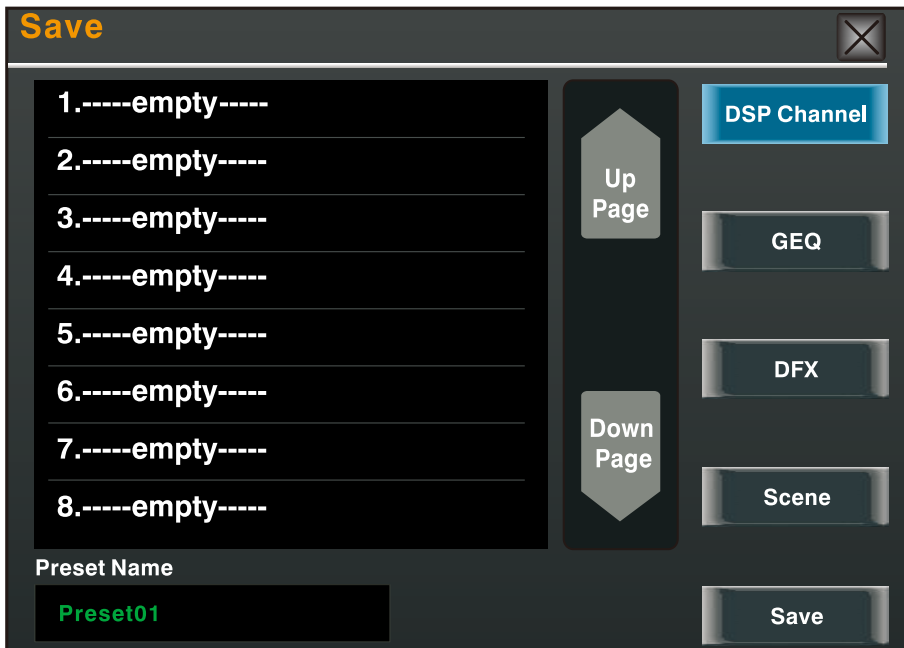
Touch above controls, the hook mark will come up, which means you have selected the controls and ready to copy their parameters to other channels or buses. The default setting is select all.



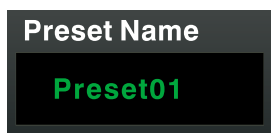
Then touch Copy control to complete your operation.

In the process of operation, please keep an eye to the LCD screen display.

5.18 Save

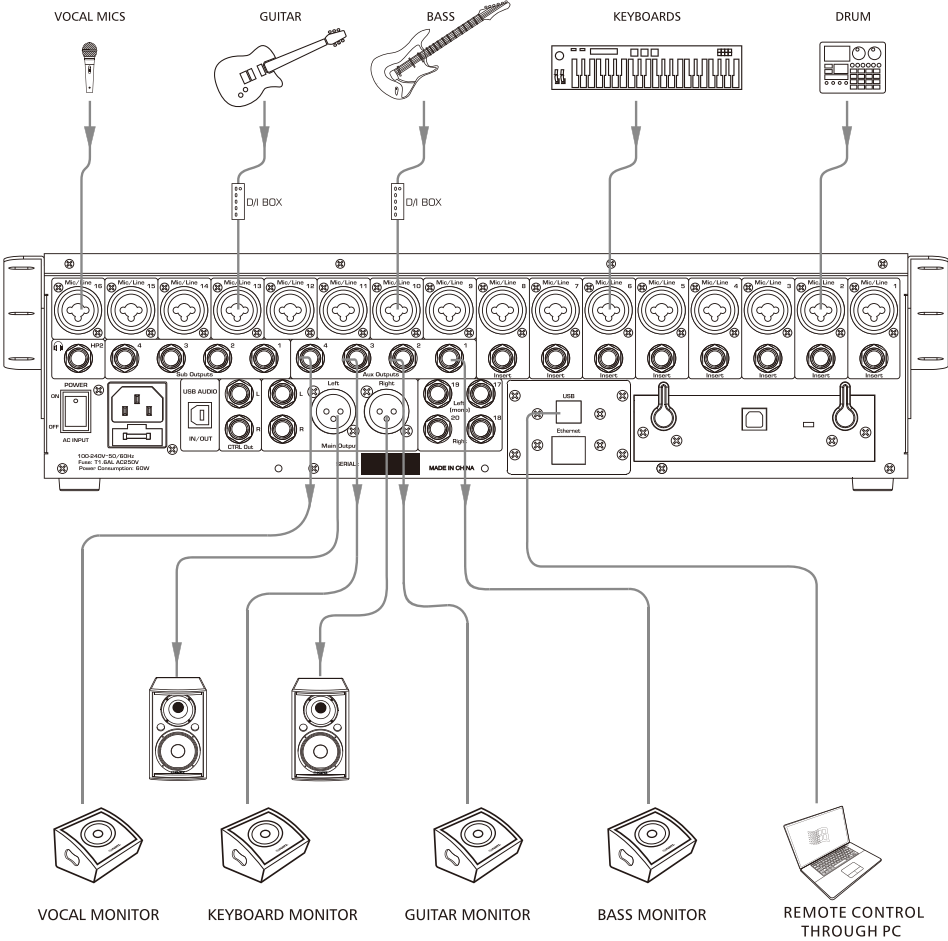


Press this button to save the selected channel 's and bus's DSP channel setting as DSP presetting for future use. On the screen you can touch to save preset of DSP Channel, GEQ, DFX, Scene. Please do as the instruction that is shown on the LCD display.

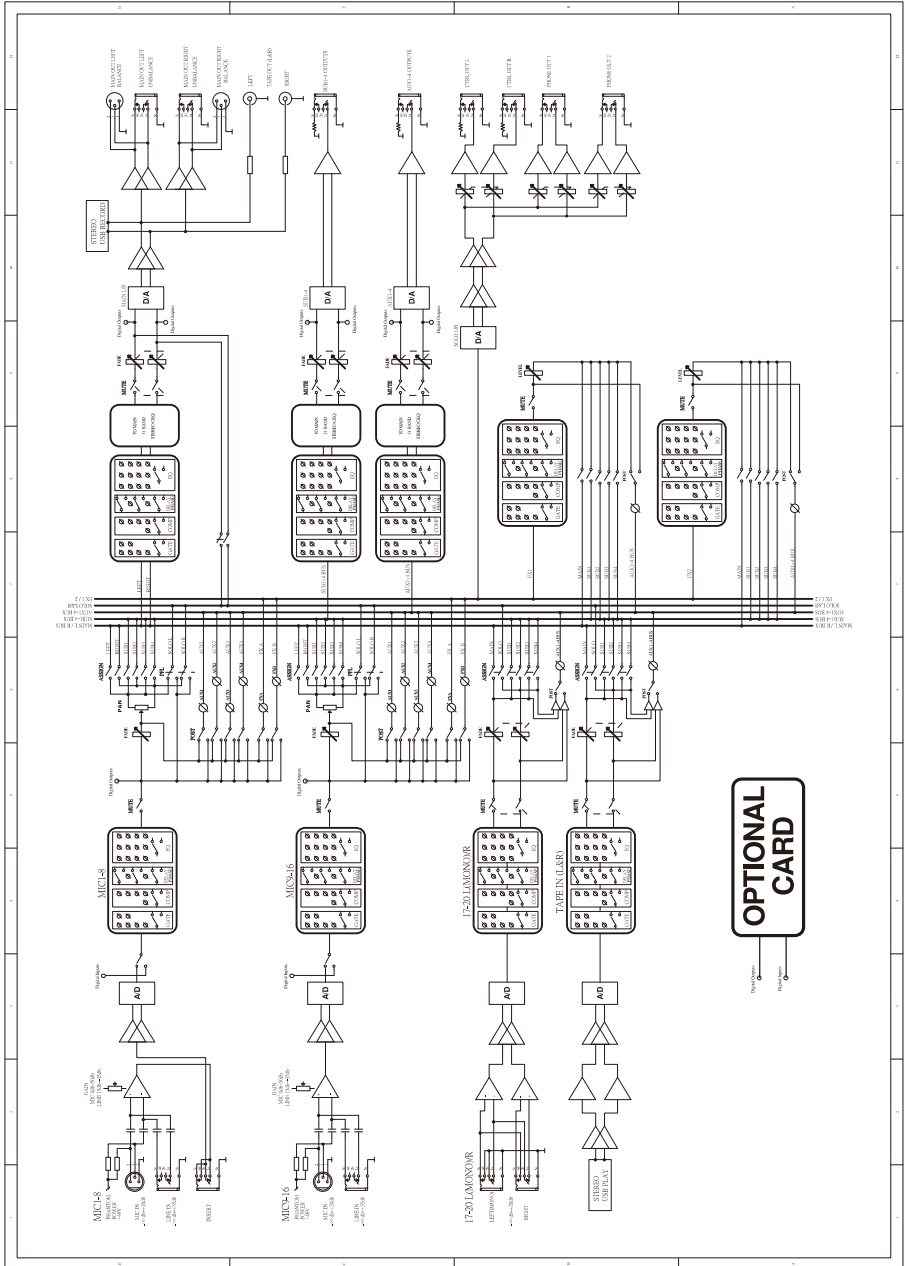


Preset name in the box is editable here. Touch the box, virtual keyboard will come up, then type the name you want to give to this preset, after finish, don't forget to touch Save control and save your settings.

6 Hookup Diagram



7 Block Diagram



8 Specifications

Model		DMX 2040
MIC Input	Channel	16CH
	Phantom Power	48V
	Frequency Response	20Hz~20kHz @ 0dBu ± 1.5dB
	SNR	104dB
	THD+N	<0.01% @ 0dBu 1kHz
	Max. Input Live	+22dBu
Line Input	Input Type	Balanced
	Frequency Response	20Hz~20kHz @ 0dBu ± 1.5dB
	THD+N	<0.01% @ 0dBu 1kHz
	Gain	+15dBu~+35dBu
	Max. Input Live	+20dBu
Stereo Input	Input Type	Unbalanced
	Channel	4CH
	Frequency Response	20Hz~20kHz @ +4dBu ± 1.5dB
	THD+N	<0.01% @ 0dBu 1kHz
	Gain	-∞~+10dB
	Max. Input Live	+22dBu
USB/Tape Input	Input Type	Balanced
	Frequency Response	20Hz~20kHz @ +4dBu ± 1.5dB
	THD+N	<0.01% @ 0dBu 1kHz
	Gain	-∞~+10dB
Max. Output Live	Max. Input Live	+22dBu
	Main Output	+20dBu
	AUX Output	+20dBu
	SUB Output	+20dBu
	Tape Output	+14dBu
	Control Output	+20dBu
Intersystem Crosstalk	Input to Output	-83dBu @ +4dBu 1kHz
	Adjacent Channel	-82dBu @ +4dBu 1kHz
	Noise	-84dBu
Noise Gate	Threshold Range	-84dBu ~ 0dB
	Starting Time	0.5mS ~ 200mS
	Release Time	5mS ~ 2S
Compress	Threshold Range	-30dBu ~ +20dB
	Starting Time	10mS ~ 150mS
	Release Time	10mS ~ 1S
	Ratio	1:1 ~ 24:1
	Gain	0dBu ~ +24dB
Impedances	MIC Input	1.4kΩ
	Insert	2.5kΩ
	Other Input	10kΩ or bigger
	Tape Output	1kΩ
	Other Input	120Ω
Equalization	High	21Hz~19.2kHz ± 24dB
	Mid-High	21Hz~19.2kHz ± 24dB
	Mid-Low	21Hz~19.2kHz ± 24dB
	Low	21Hz~19.2kHz ± 24dB
DSP Section	A/D, D/A Converters	24Bit
	DSP Resolution	32Bit
	Dynamic Range	114dB
Power Supply	Voltage	210~240VAC, 50Hz
	Fuse	T1.25AL
Physical Features	Working Temperature	0°C~40°C
	Storage Temperature	-20°C~40°C
	Dimension(D*W*H)	350 * 440 * 120mm
	Net Weight	7.2kg

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1 特性

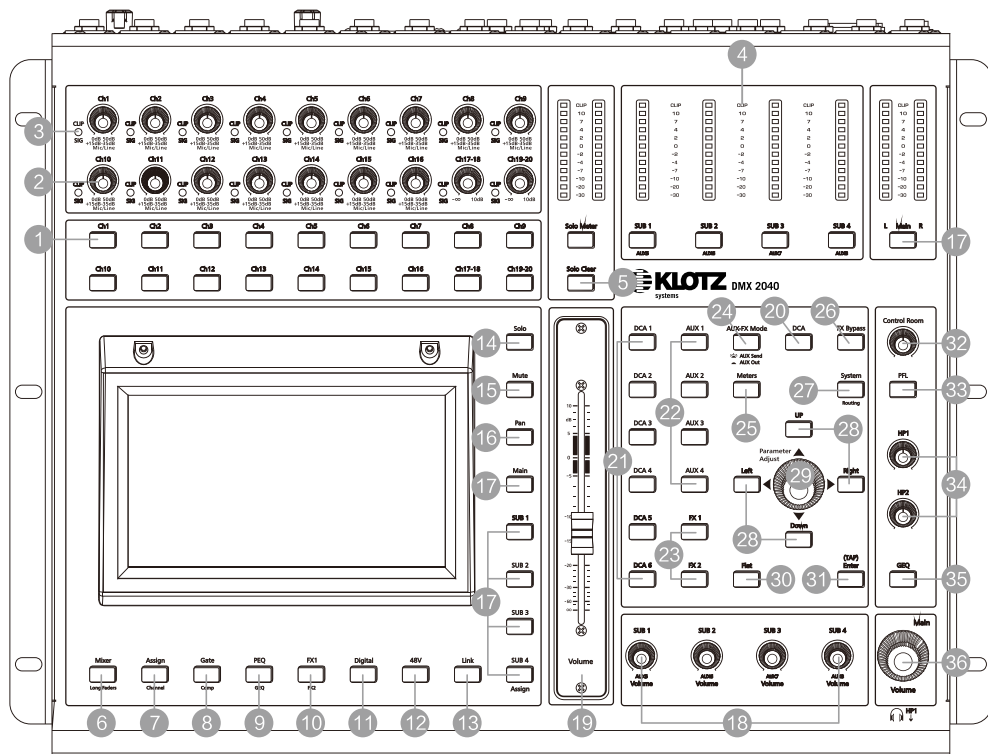
- 7"彩色液晶触摸屏，显示状态和设置信息
- 20路线路输入接口
- 16路带有专业电平控制的麦克风前置放大器
- 4路AUX输出和4路副组，可切换为8路AUX输出
- 2个内部效果
- 1路立体声主输出
- 2路耳机输出
- 所有通道控制室输出
- USB立体声录制和播放
- 100mm精密电动推子
- 24bit/48kHz采样率
- 程序、保存、加载、复制功能
- 数字噪声门
- 数字压缩器/限幅器
- 数字4段全参数EQ
- PAN，反向，延时
- 6个DCA数字控制音频或静音
- 锁定和解锁功能
- 更改密码
- 远程控制：以太网或USB
- 用于无线控制的iPad应用编辑器
- 可选的扩展模块：多轨USB音频录制模块，CobraNet模块，Dante模块等

2 软件升级

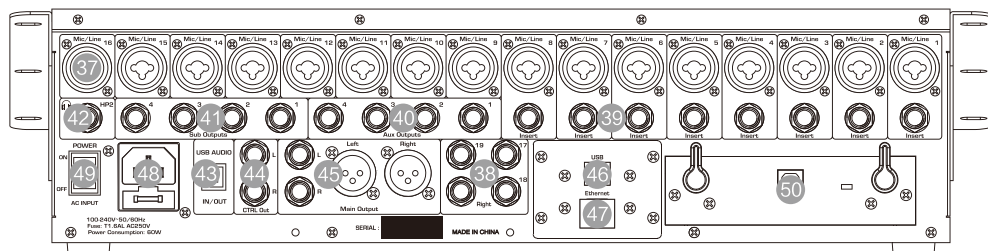
我们会经常更新DMX 2040调音台的软件，请从我们的网站下载最新版本软件。由于DMX 2040的功能会随着软件更新发生变化，因此，本手册仅供参考基本功能的操作，具体内容，请以实际DMX 2040为准。

3 面板概览

前面板

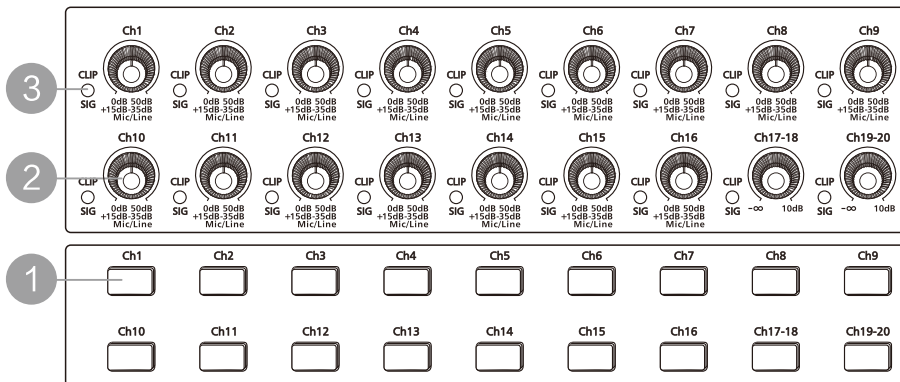


后面板



4 面板介绍

4.1 前面板介绍



1. 输入通道选择按键

面板上共有18个选择按键。

按下此键，此键背景灯亮，可给相应通道设置DSP设定并分配其输出。在DCA页面中，可通过此按键选择通道。

2. 输入通道增益控制旋钮

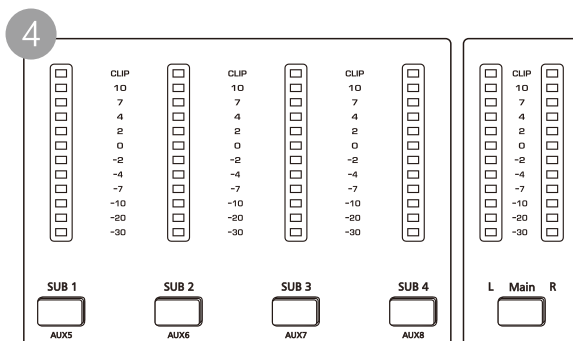
1~16路的旋钮控制通道的输入信号增益。

注意：恰当的调整此旋钮对于降低噪音和避免超载失真是非常重要的。

17~20路旋钮控制通道的输入电平。

3. 输入信号削波指示

这18个旋钮旁的LED信号灯指示通道的输入电平。



4. LED电平表

LED电平表显示信号状态，包括输出电平。

SUB1~4 (AUX5~8) & Main

指示SUB1~4(AUX5~8)和主输出的电平。请注意只有当SUB1~4(AUX5~8)和主通道按键起作用时，相应的Meter灯才会亮。

SUB1~4(AUX5~8)按键

按键未按下时，其背景灯不亮，位于按键上方的meter灯则不亮；当按下此键，其背景灯亮，位于按键上方的meter灯才会点亮。

监听/主输出-Solo/Main

指示监听信号的输出电平。

Solo Meter按键

按键未按下时，其背景灯不亮，位于按键上方的meter灯指示主通道的输出电平；当按下此键，其背景灯亮，位于按键上方的meter灯指示Solo的输出电平。

5. Solo Clear按键

按下此键，清除所有被监听的母线或通道的监听功能。

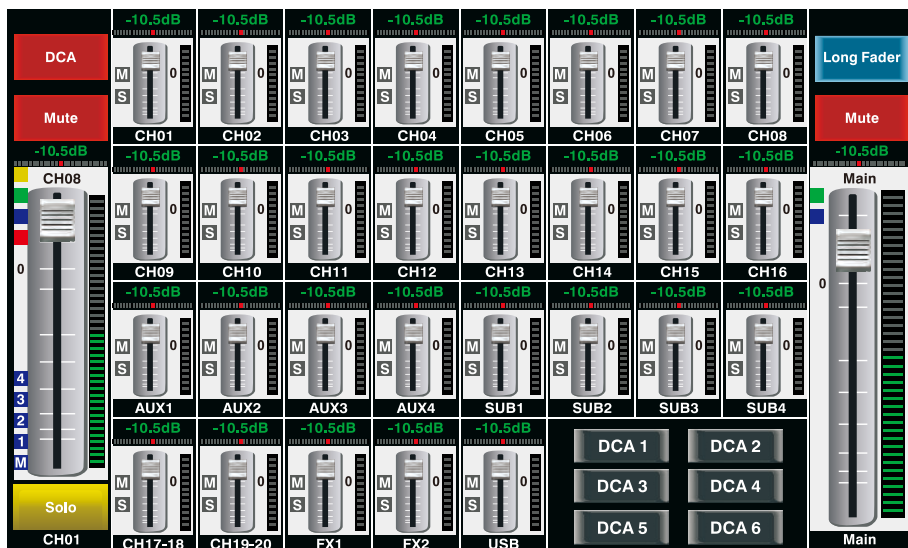
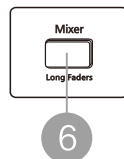
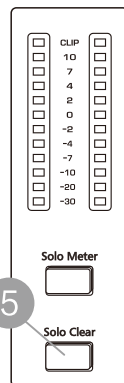
6. Mixer/Long Faders按键

此键按两次，屏幕上将会在Mixe和Long Faders之间切。

Mixer

按下此键，可在LCD屏上看到相应的页面显示，在此页面可调节输入、输出通道的电平、监听、静音，也可以调节DCA分组电平，页面如下。

具体的操作方法，请参考本说明书第5部分。

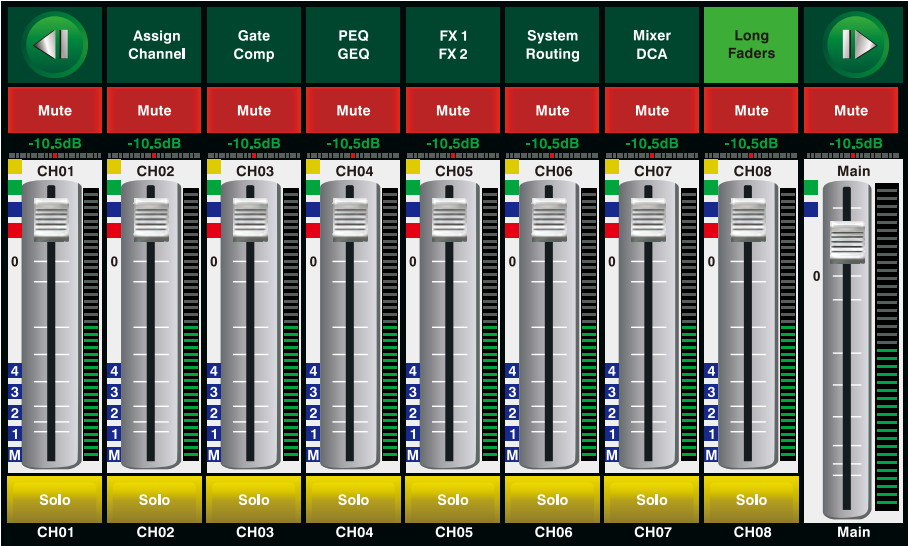


Long Faders

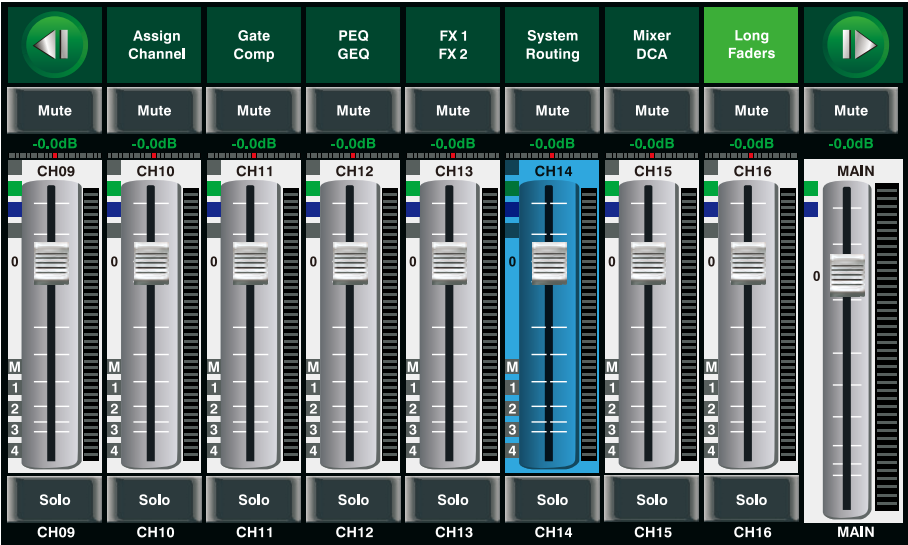
按下此键，可在LCD屏上看到相应的页面显示，在此页面可调节所有输入、输出通道的电平、监听、静音、声像定位及通道重命名，显示如下。

具体的操作方法，请参考本说明书第5部分。

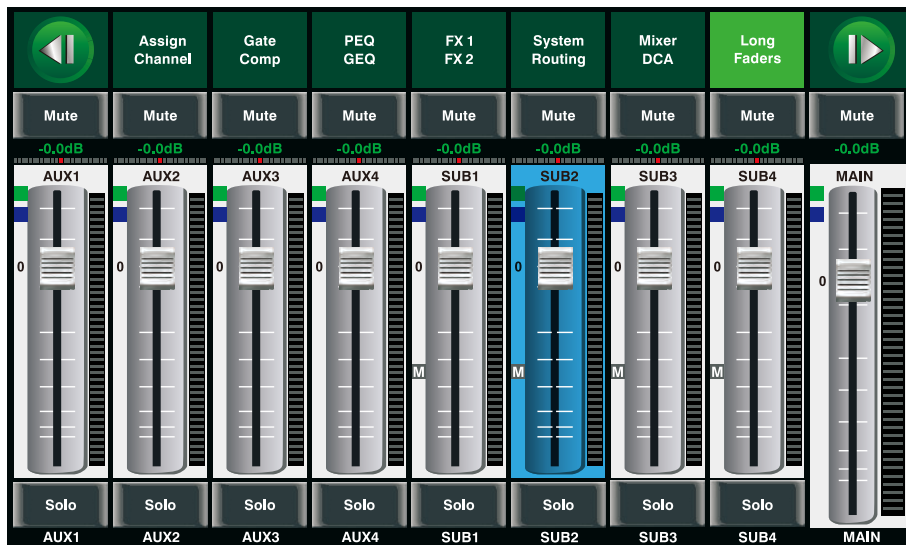
- 输入通道CH1~8



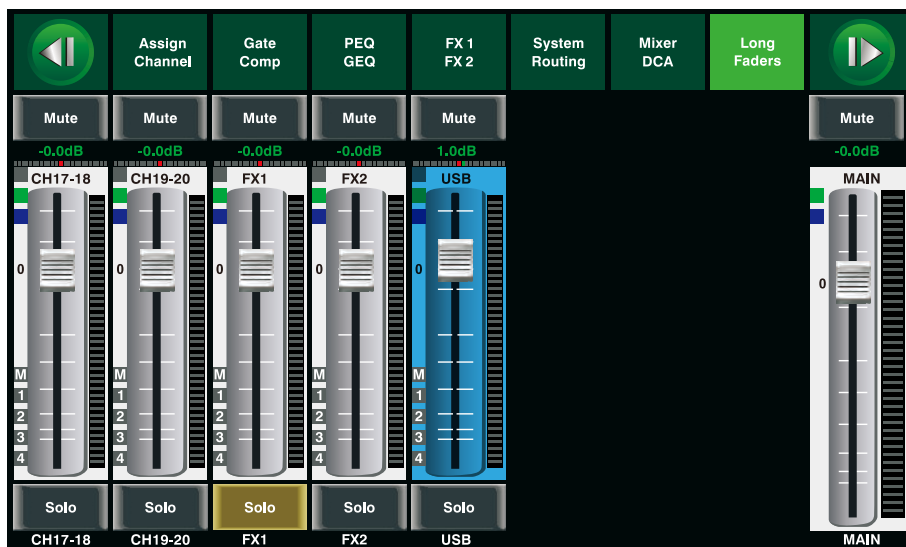
- 输入通道CH9~16



- 输出通道AUX1~4/SUB1~4



- 输入通道CH17~20/FX1~2/USB



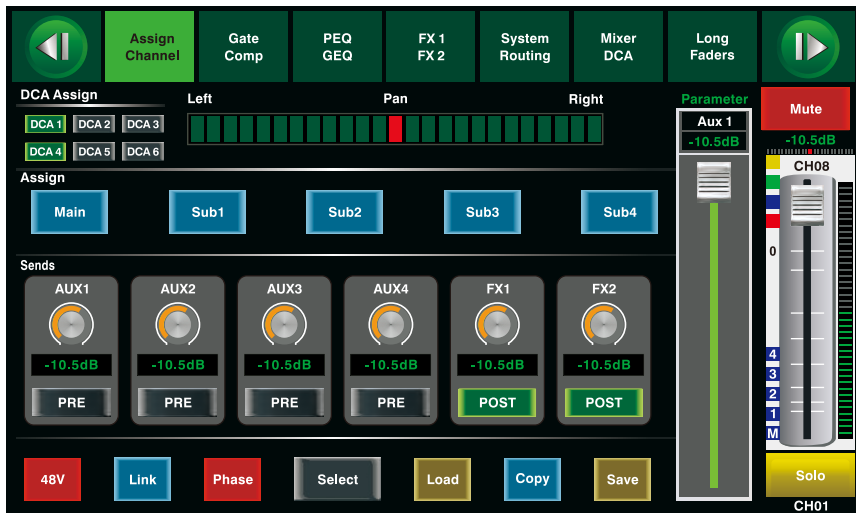
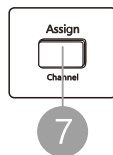
7. Assign/Channel 按键

此键按两次，将会在Assign和Channel功能之间切换。

Assign

按下此键，进入Assign页面，选中的输入通道信号会被派送到Main，AUX1~4，Sub1~4或AUX5~8以及FX1~2。显示如下。

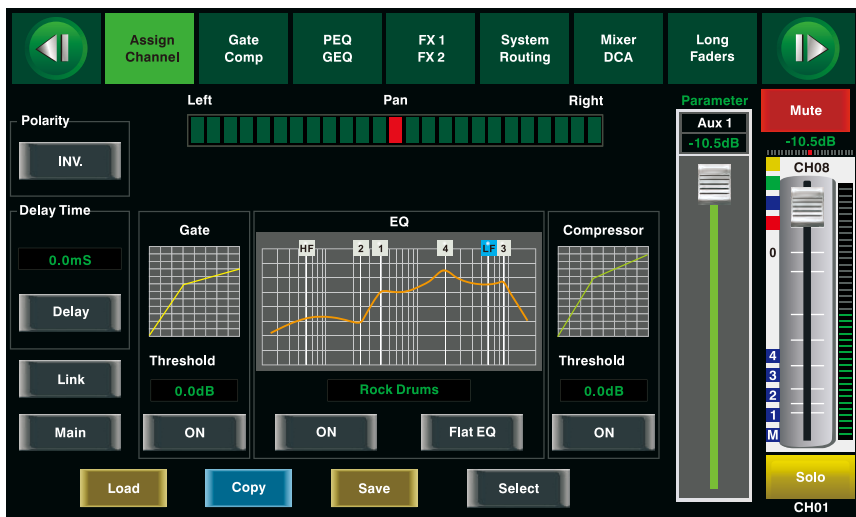
具体的操作方法，请参考本说明书第5部分介绍。



Channel

按下此键，可见如下页面。此页面可查看并设定其他功能参数，如Polarity, Delay, Link, Assign, Gate, EQ, Compressor等。但对于Gate和Compressor，只可调节阈值。对于EQ，此页面不可调，只能显示。

具体的操作方法，请参考本说明书第5部分介绍。



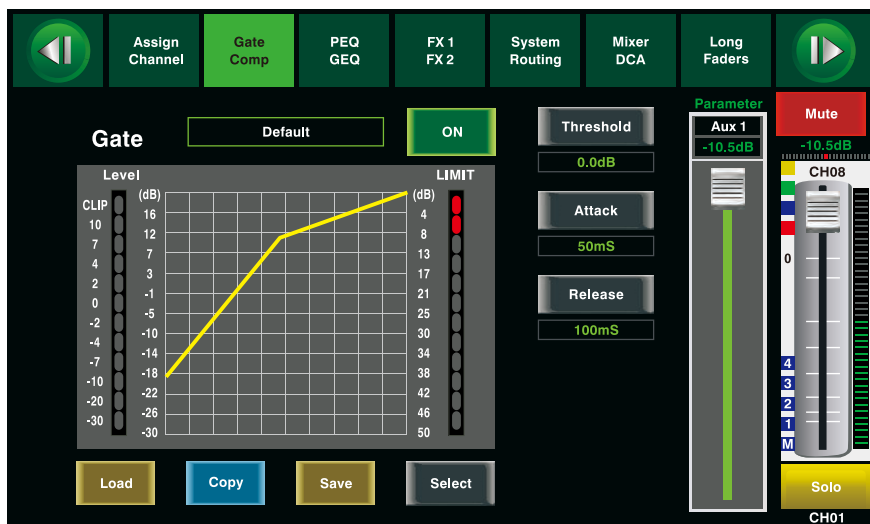
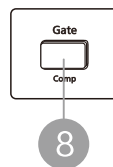
8. Gate/Comp 按键

此键按两次，会在Gate和COMP功能之间切换。

Gate

噪声门会衰减低于门限值的信号，而允许高于门限值的信号通过，显示如下。

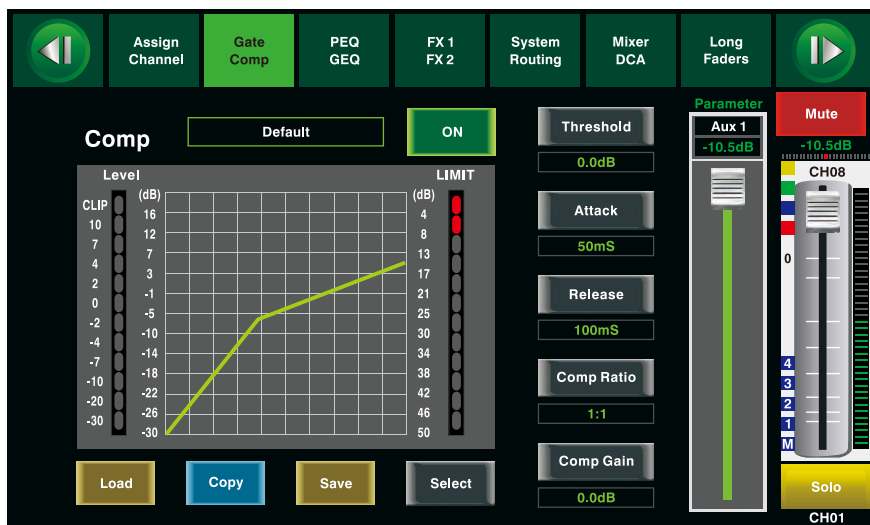
具体的操作方法，请参考本说明书第5部分介绍。



COMP

压缩器按照指定的比率将高于触发电平的信号削弱，显示如下。

具体的操作方法，请参考本说明书第5部分介绍。

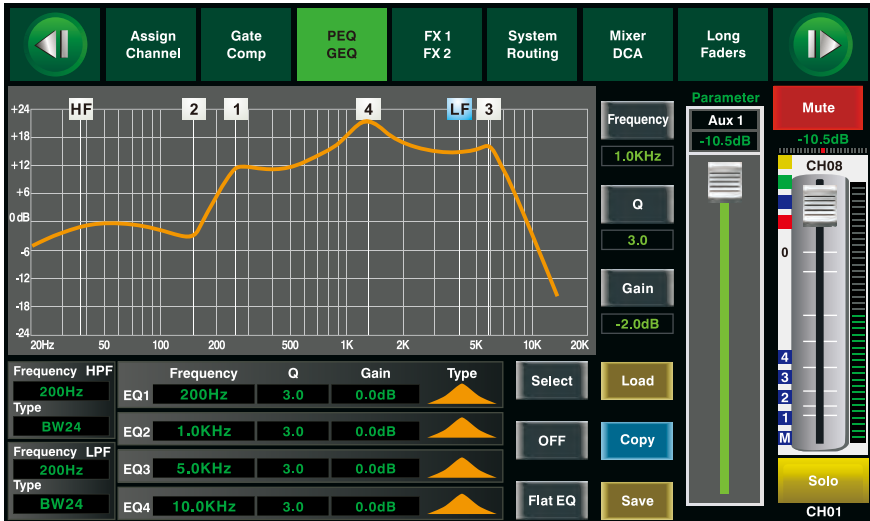
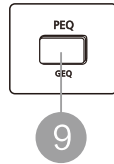


9. EQ按键

此键按两次，会在PEQ和GEQ功能之间切换。

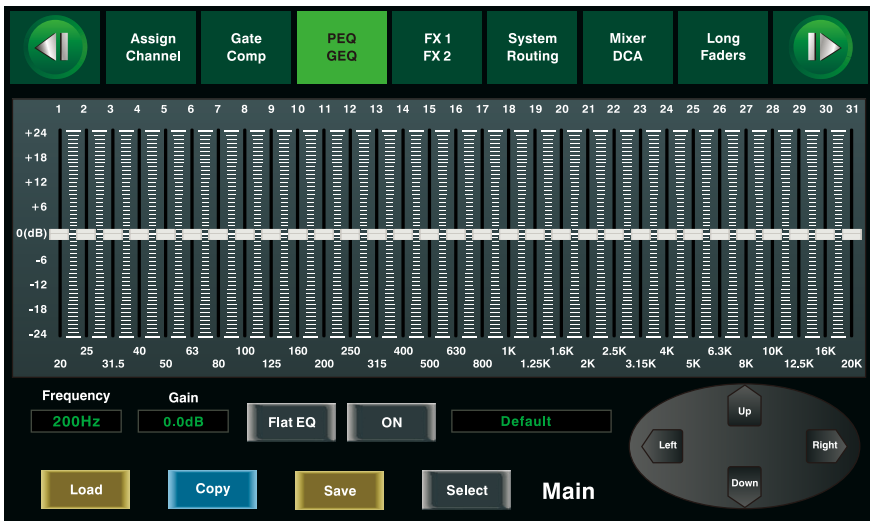
PEQ

均衡器是一种滤波器，它可以在频率为20Hz~20kHz的范围内，调整音频信号的频率。具体的操作方法，请参考本说明书第5部分介绍。



GEQ

按下此键，其背景灯亮，可设置31段EQ。页面如下。具体的操作方法，请参考本说明书第5部分介绍。

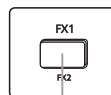
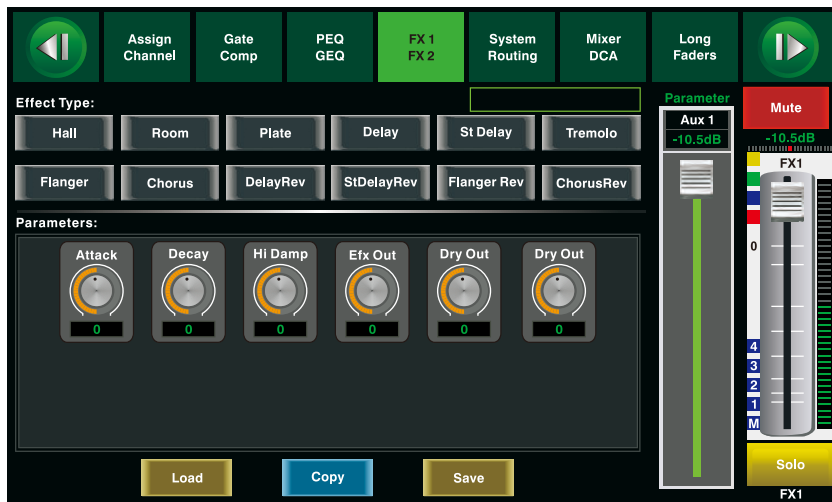


10. FX1~2 按键

此键按两次，会在FX1和FX2功能之间切换。

按下此键可显示和修改内部效果。FX1和FX2分别包含12种效果，显示如下。

具体操作方法，请参考本说明书第5部分介绍。



10

11. Digital In/Out 按键

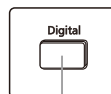
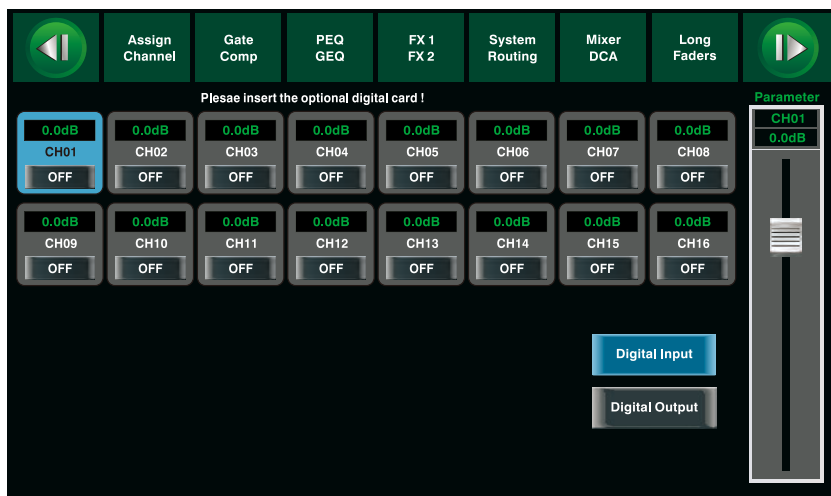
此键按两次，会在Digital In和Digital Out功能之间切换。

当有插入选配输入/输出模块时，此按键可接通和断开数字通道。

Digital In

按下此键，其背景灯亮，表示当前通道可作为数字输入。显示如下。

具体的操作方法，请参考本说明书第5部分介绍。

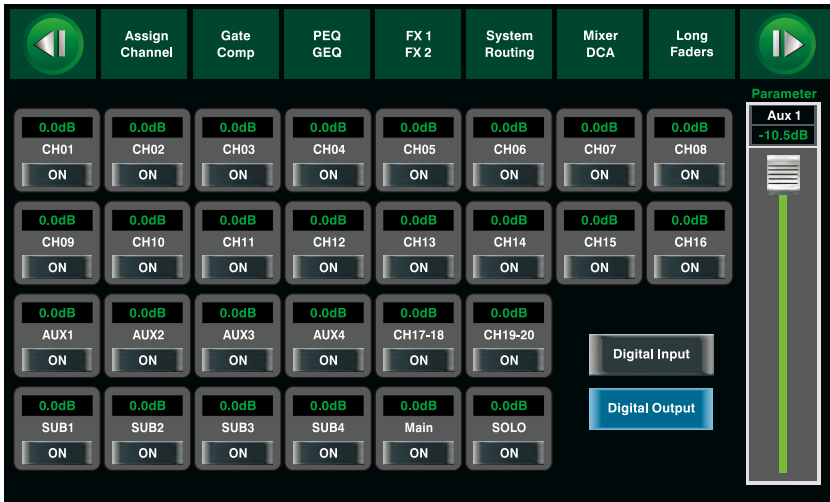


11

Digital Out

按下此键，其背景灯亮，表示当前通道可作为数字输出。显示如下。

具体的操作方法，请参考本说明书第5部分介绍。



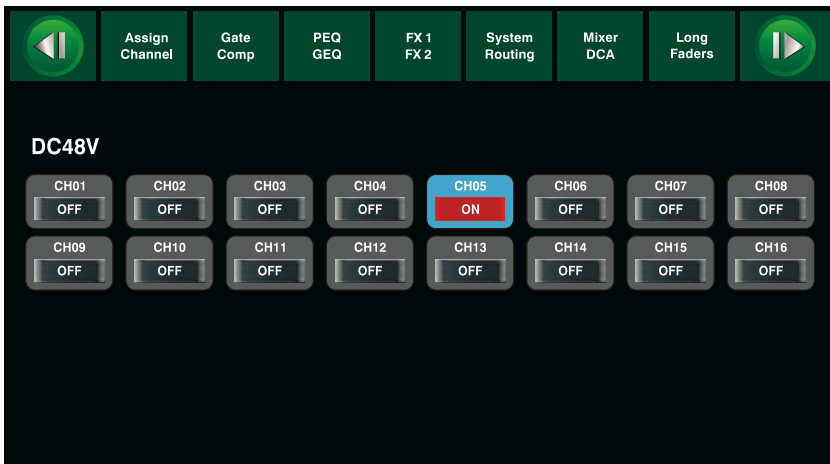
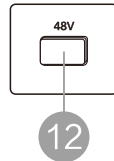
当此按键点亮后，请留意页面上哪些通道是数字输入，哪些通道是数字输出。

12. 48V幻象电源按键

每个麦克风输入均配备1个独立的幻象电源，按下48V按键，屏幕上会跳出提示信息与您确认，选择yes后，此键背景灯亮，提供48V幻象电源。

请注意只有电容式麦克风才需要幻象电源。

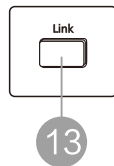
注意：请不要将幻象电源用于不需要它的设备上，否则此设备和DMX 2040都会损坏。



13. Link 按键

输入通道，辅助母线和子群组都可以组合为成对立体声。按下此键，其背景灯亮，立体声对是预先设定好的，不可以更改。组合对如下：

Channels 1和2	Channels 13和14
Channels 3和4	Channels 15和16
Channels 5和6	Aux 1和Aux 2
Channels 7和8	Aux 3和Aux 4
Channels 9和10	Subgroups 1和2或Aux5和6
Channels 11和12	Subgroups 3和4或Aux7和8



立体声对中的任意通道被选中，立体声组合都可以启用。按下link键，其背景灯亮，表示组合功能启用，所有的DSP设定、子群组分配，监听状态和主分配都将传送到此立体声对的其他通道中。

Link & DCA: Link后的通道仍可以分组给DCA，并组合成立体声通道，但是不可在DCA中取消Link。相反，如果某通道已分组给DCA，则此通道不可Link，但是其配对通道可Link。

例如，CH5和CH6已组合成立体声对，那么CH5和CH6都可以分组给DCA。但是若CH5先分组给了DCA，那么CH5不可再Link给CH6，但CH6可以Link给CH5。

Link & Routing: Link后的通道可以Route为立体声通道，Route后的通道也可以再Link。

请注意：这是一个非破坏性的传送，组合按键弹起则关闭立体声组合功能，另一通道恢复之前的设定。例如，若通道6选中后按下立体声组合键，所有通道6的设定都将复制到通道5中。通道5原本的设定会在Link弹起后恢复。

14. Solo 按键

按下此键，其背景灯亮，可将相应通道分配到控制室输出。

15. Mute 按键

按下此键，其背景灯亮，相应的通道静音，若对某一通道按下静音键，则此通道的所有分配输出都将静音。

16. Pan 按键

此旋钮控制所选输入和输出通道信号电平的左右声道。调节声像定位后，可双击幕上的Pan区域，可以使声像回到中心位置。

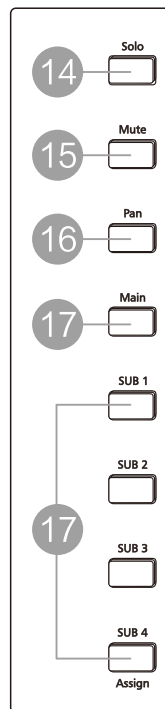
LCD实时显示声像设定，如果两个通道组合为立体声对，LCD屏显示也将自动变成立体声声像。

17. Main & SUB1~4 按键

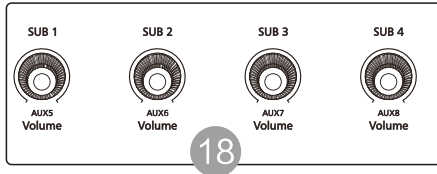
按下对应的按键，则所选通道可以被分配到子群组输出1~4和主输出。但是如果将SUB模式切换到AUX模式，按键SUB1~4将不会再起作用。

包括20个主输入，USB输入和内部FX在内的所有输入通道都可以分配到任意或所有的子群组输出，辅助输出和主输出。

子群组输出只能分配到主输出通道，4个辅助输出既不能分配到子群组输出，也不能分配到主输出通道。



18. SUB1~4输出电平控制旋钮

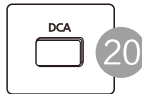


这些旋钮控制SUB1~4 (AUX5~8)的输出电平。

19. 电动推子

DMX 2040仅有1个电动推子来控制所有数字通道的电平，包括20个主输入通道，1个USB输入，4个辅助输出，4个子群组输出，2个效果器和1个主输出通道。

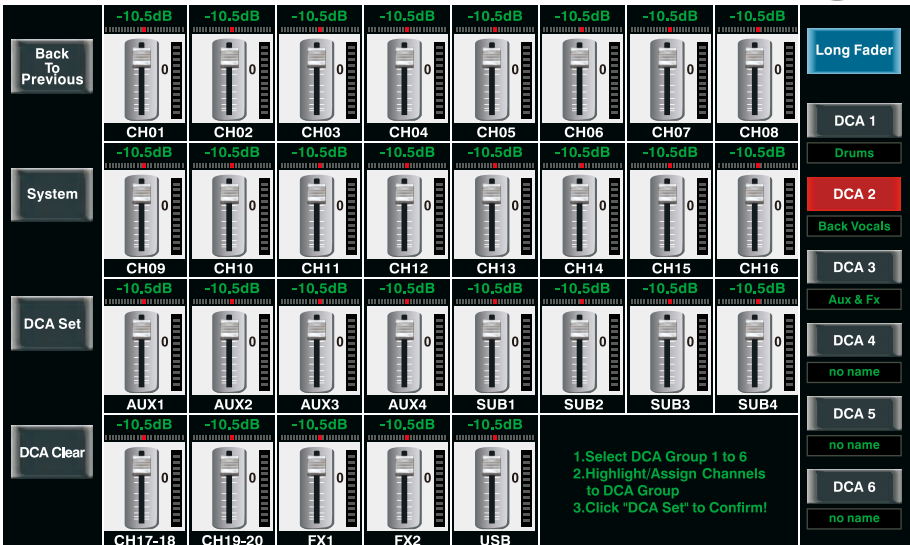
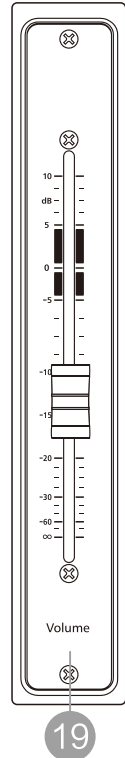
20. DCA按键



DCA可以实现分组控制功能。DCA音量控制使得通道推子电平之间保持相同的比例变化，而与音量控制无关。

按下此键，其背景灯闪烁，启用分组功能。当选定分给这组的通道后，再按此键来保存该组，其背景灯灭。显示如下。

具体的操作方法，请参考本说明书第5部分介绍。



21. DCA1~6 按键

这些按键用来选定您所希望分配给该组的通道。

22. AUX1~4 选择按键

这些按键的功能与输入通道选择按键功能相似。

按下此键，其背景灯亮。可给相应通道进行DSP配置并分配其输出。

在DCA页面中，可通过此按键选择通道。

23. FX1~2 选择按键

这两个按键功能类似于输入通道选择按键和AUX1~4选择按键。

具体操作方法，请参考第1或22条。

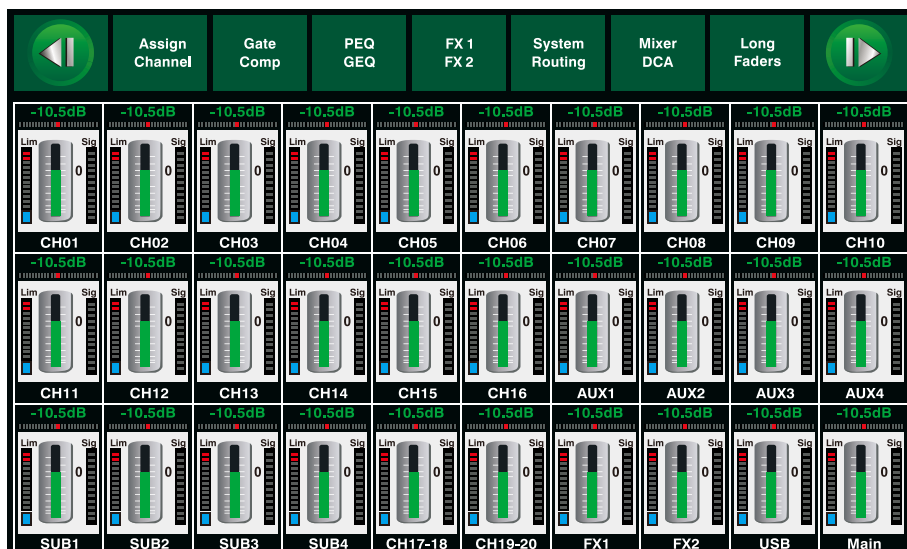
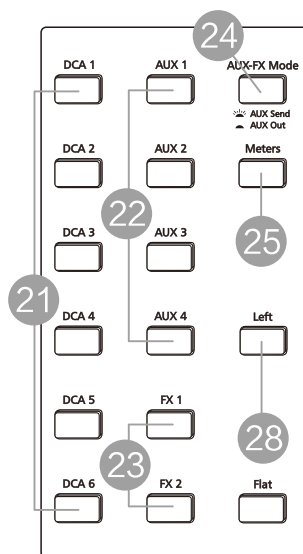
24. AUX/FX Mode 按键

按下此键，其背景灯亮，从20个主输入通道出来的信号会分配到AUX1~4或AUX5~8(SUB1~4)和FX1~2，调节相应的旋钮来设置信号电平。当不按此键时，实现的是辅助输出功能，即AUX1~4或AUX5~8(SUB1~4)和FX1~2在Assign状态不起作用。

25. Meters 按键

按下此键进入meters检测页面，如下图示。

具体的操作方法，请参考本说明书第5部分介绍。

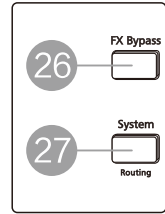


26. FX Bypass 按键

此按键的功能只针对FX，按下后，来自于FX1~2的信号会同时静音，该功能类似静音按键。

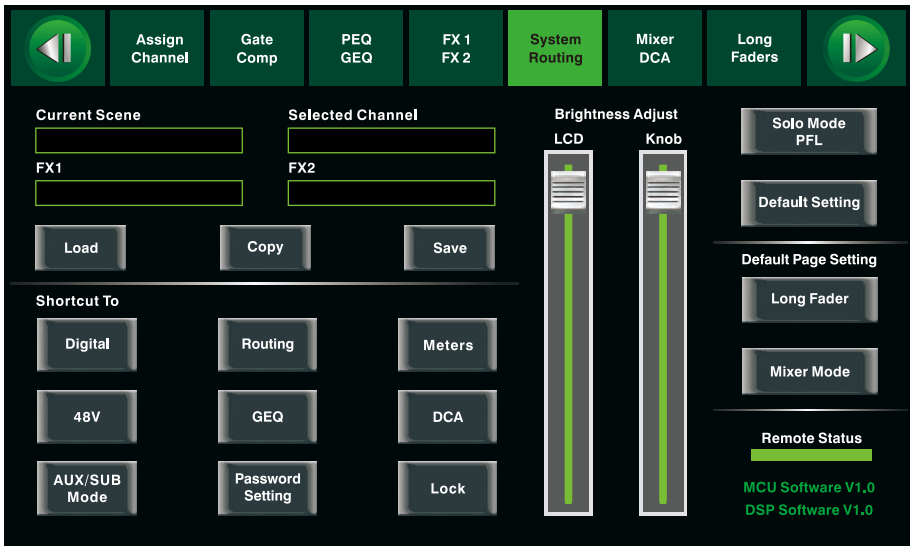
27. System/Routing 按键

此键按两次，会在System和Routing功能之间切换。



System

按下此键，进入系统页面，此页面可以显示和调节部分参数，如下图所示。具体的操作方法，请参考本说明书第5部分介绍。



Routing

按下此键，路由功能开启，用户可以选择将某个或多个通道的信号分配到相应的输出。具体的操作方法，请参考本说明书第5部分介绍。

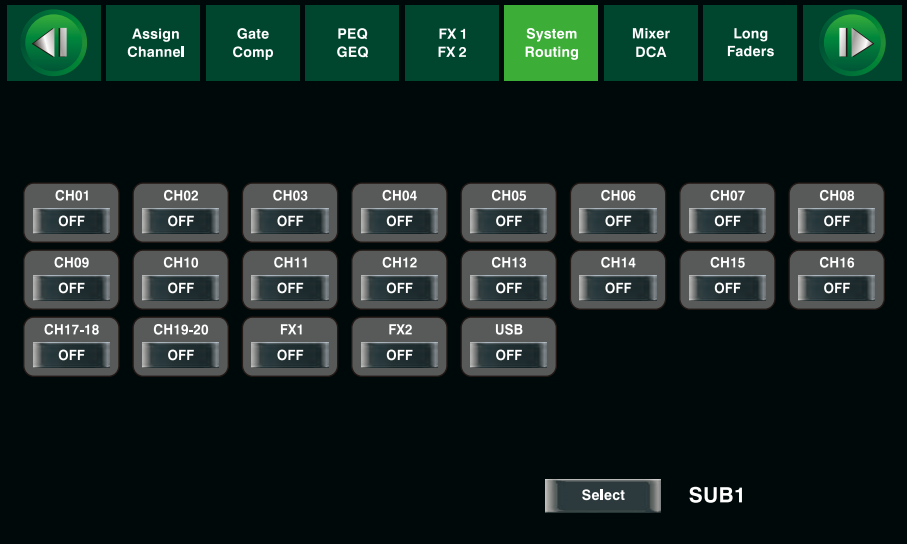
-以下页面为将输入通道路由到AUX1(AUX2~4与其相同)



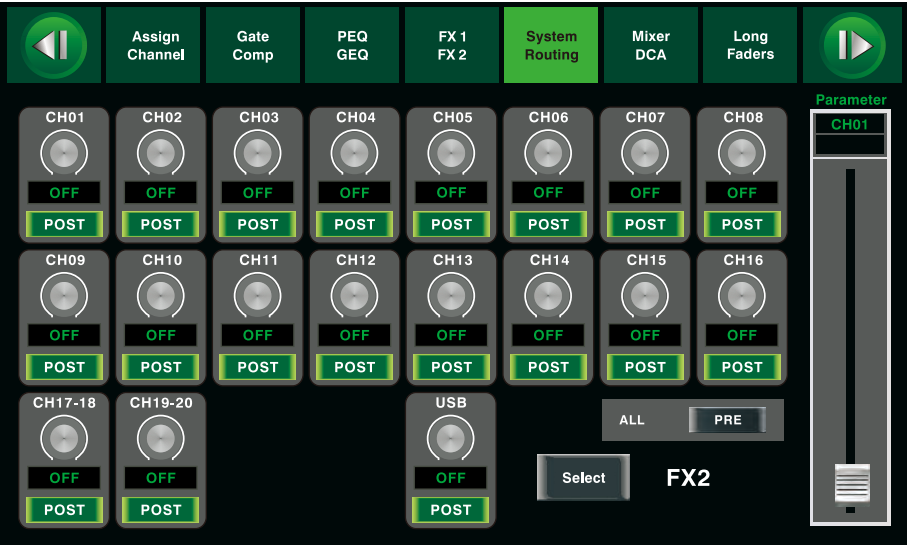
-以下页面为将输入通道路由到MAIN



-以下页面为将输入通路由到SUB1(SUB2~4与其相同)



-以下页面为将输入通路由到FX1(FX2与其相同)



28. 上&左&下&右按键

这些按键可以移动光标、选择、删除参数或选项。通常，上和左功能相同，右和下功能相同。而在GEQ中则不同，此时，上和下调整增益，左和右调整频率。

由于这些按键在不同页面功能不尽相同，操作过程中请留意屏幕上的指示。

29. 参数调节旋钮

此旋钮调节所选择的控制参数值，可在屏幕上看到。顺时针方向旋转增大，逆时针旋转减小。由于此旋钮在不同页面功能不尽相同，操作过程中请留意屏幕上的指示。

30. 消除按键

按下此键，在屏幕上可看到警告提示，选择“yes”恢复所有的设置为默认值。此按键只在可以设定参数值的页面起作用，如Gate, EQ, Comp和GEQ。

由于此旋钮在不同页面功能不尽相同，操作过程中请留意屏幕上的指示。

31. 确认(TAP)按键

此按键有两种功能：

Enter: 确认已编辑的参数。

当页面有需确认的消息时，按Enter按键可替代“yes”。

TAP: 在FX1和FX2页面，此按键会自动切换成TAP功能，在播放音乐的进程中，可运用此键可输入延时时间。

由于此按键在不同页面功能不尽相同，操作过程中请留意屏幕上的指示。

32. 控制室旋钮

此旋钮(Control Room)调节整个控制室的输出音量。

33. PFL触发键

系统默认的预设监听通道为推子后监听(AFL)，通过按下PFL键进行推子前监听。在这两种情下，按下Solo键将任意通道的信号送到监听信号，而不影响主输出或子群组输出混音。

34. 耳机音量控制旋钮

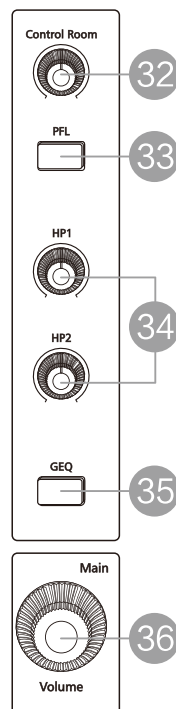
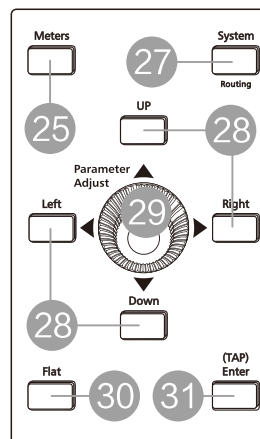
这两个旋钮(HP1~2)用于控制耳机输出的整个音量。

35. GEQ

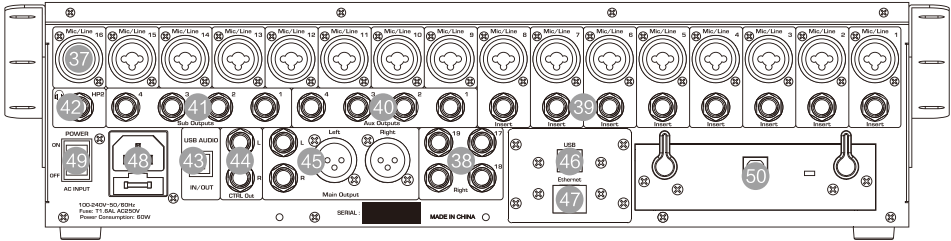
此键按两次，其功能与EQ类似，具体请参考本章第9点。

36. 主输出电平控制旋钮

此旋钮控制主通道的整体电平输出。



4.2 后面板



37. Combo Jack

组合输入插座，将Mic和Line输入整合在了一起，中心为Line输入，周边的一圈为Mic输入。

DMX 2040配备有16路麦克风前级放大器，可支持所有类型的麦克风，这种前级放大器有一个A类输入缓冲器，其后为双伺服增益层。此设计实现了极低噪音和较宽增益控制范围，可以突然增大信号而不引起任何背景噪音。

DMX 2040各通道均配备有一个1/4"平衡式TRS接口用于线性输入，当有线性电平输入时，麦克风前级放大电路被跳过。

请注意：任何调音台，连接麦克风或线性输入设备，或者开启或关闭幻象电源将导致短暂的输出峰值。因此强烈建议在更换连接或开启关闭幻象电源前将对应输出通道静音或音量调小，这一简单的步骤可延长设备几年的使用时间。

38. 线路输入17~20

17~20线性输入通常用于效果回送。一条线性总线可以将几个通道的信号发送到一个外部效果器，同时也可以将处理过的信号回送到调音台中。这种输入为平衡式立体声。若回送单声道信号，则将其连接至左输入通道，左右两个通道都将收到这个信号。

39. 插入

只有1~8通道配置有插入功能，其他通道则没有。

这些非平衡式1/4"接头可用于连接外部处理器。这种插入信号位于数字总线之前，通道增益控制之后。回送直接到达数字总线。因此，如果在歌手通道插入一个嘶声消除器，则输送到嘶声消除器的信号为未经压缩的、放大的信号。经过处理后的信号将回送到数字总线，在此可进行DSP设置，通过AUX和FX等总线发送。

40. AUX输出1~4

这些是辅助平衡单声道输出。

41. SUB输出1~4

这些是子群组平衡单声道输出。

42. 耳机输出1~2

这些是辅助平衡单声道输出。

43. USB音频输入/输出

这个是USB音频输入/输出端口。

44. 控制室输出

此为控制室的平衡式输出，电平由面板上的控制室旋钮控制。

45. 主输出

DMX 2040有XLR和1/4" TRS两种主输出。两种输出相互独立。

46. USB连接端口

此为远端控制或固件升级端口。

47. 以太网端口

此为以太网控制或固件升级端口。

48. 电源线入口

用于插入配备的电源线。

49. 电源开关

按开关的上半部分开机，下半部分关机。

50. 可选模块

可选模块用于实现特定功能，若需了解更多相关信息，请联系我们。

5 软件介绍

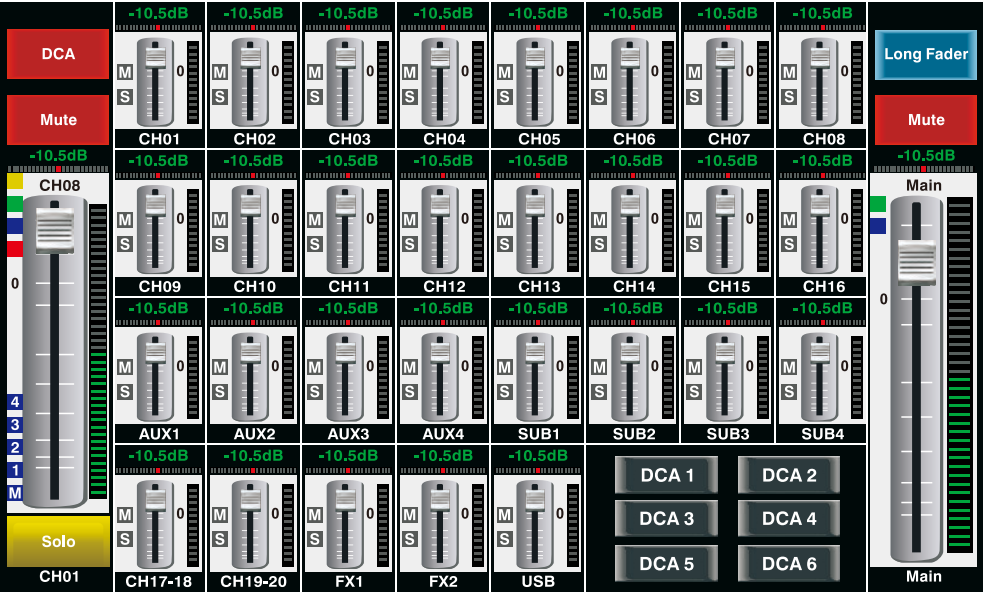
DSP控制部分是DMX 2040最重要的部分。在此部分， 您可以调整所选通道的噪声门， 压缩器， EQ， 相位， 声像定位， 延迟， 组合， 路由等。

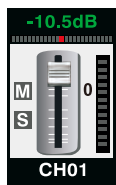
下表列出了具有DSP功能的每个输入/输出通道。

总线	噪声门	压缩器	均衡	相位	声像定位	延时	组合	输出派送
输入 (CH1~16)	✓	✓	✓	✓	✓	✓	✓	主输出， 子群组1~4， 辅助输出1~4， 效果器1~2
输入 (CH17~20)	✓	✓	✓	✓	✓	✓	✗	主输出， 子群组1~4， 辅助输出1~4， 效果器1~2
辅助输出1~4	✓	✓	✓	✓	✗	✓	✓	
FX 1~2	✓	✓	✓	✓	✓	✓	✗	主输出， 子群组1~4， 辅助输出1~4
子群组1~4	✗	✓	✓	✓	✓	✓	✓	主输出
主输出	✗	✓	✓	✓	✗	✓	✗	

5.1 Mixer

打开DMX 2040后， Mixer页面会首先呈现在您的眼前。下面， 我们就来介绍此页面的操作及功能。



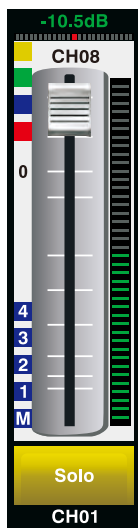


触摸某通道，例如CH01，其背景和相应的CH1按键会同时点亮，可以通过调节Parameter Adjust旋钮来控制其输出信号电平。

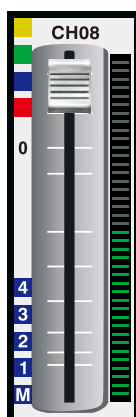
S会与面板上的Solo按键同时点亮。

M会与面板上的Mute按键同时点亮。

右边的电平表指示输入信号电平的变化。



此长推子控制屏幕上所有输入和输出通道的电平，但是一次只能控制一个通道，其相关参数随着所选通道的变化而变化。



在屏幕上滑动此推子，可以增加或减少相应通道电平。旁边的电平表指示输入信号电平的变化。



此数字表示当前通道的信号电平值。



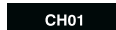
此标识即时显示所选通道音频信号的声像定位。按下面板上的Pan按键，并调节Parameter Adjust旋钮来调节其值。



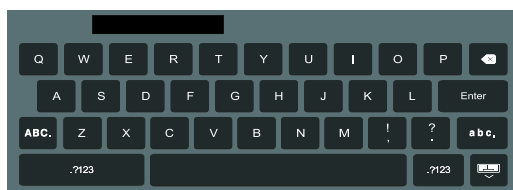
触摸此按键可监听所选通道的音频信号，此按键会和面板上的Solo按键同时点亮。

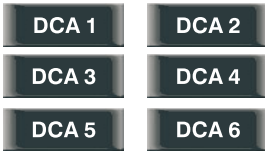


触摸此按键可静音所选通道的音频信号，此按键会和面板上的Mute按键同时点亮。



此标示CH01即时显示当前通道。还可以对其进行重命名。长按此方框，屏幕中会出现如下图所示的虚拟键盘，请在此键盘中输入您喜欢的名称。





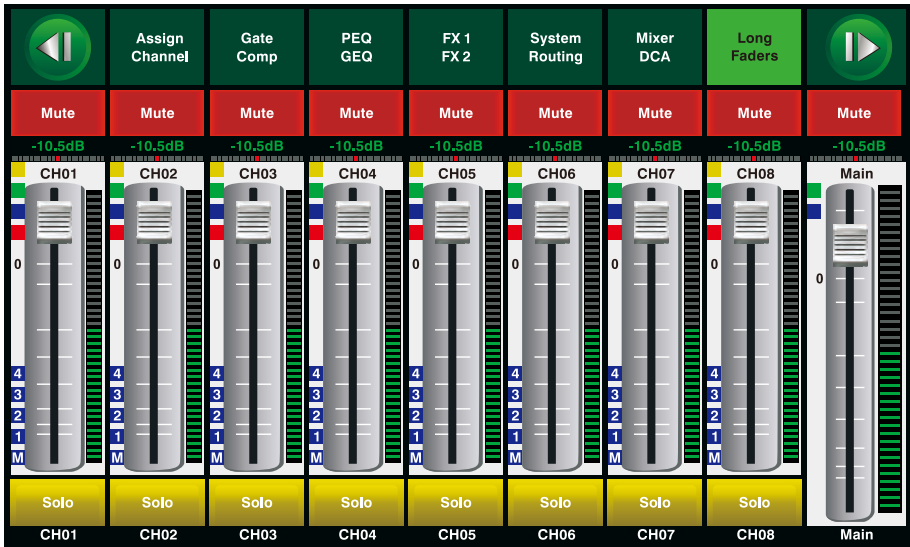
此快捷键可以方便您调节DCA1~6的参数。例如，选中DCA2其背景会和面板上的DCA2按键同时点亮。所有分组给DCA2的通道背景也会点亮，可以通过滑动电动推子及Parameter Adjust旋钮或面板上的长推子来调节相关电平。若您未给DCA2分组，而触摸了DCA2控制项，则屏幕会提示“The DCA group is not defined!”。

关于DCA的详细介绍，请参考本书5.10的DCA介绍。

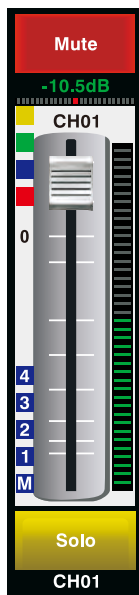


选中这些控制项来进入相应的页面，也可以通过面板上的相应按键来打开页面，关于每部分的详细介绍，请参考相应的介绍部分。

5.2 Long Faders



触摸此控制项可切换屏幕上Long Faders的页面，在这些页面上可调节通道的基础功能，如声像定位、监听、静音、电平或重命名等。



这些标识的功能及操作类似Mixer页面中相同的标识。



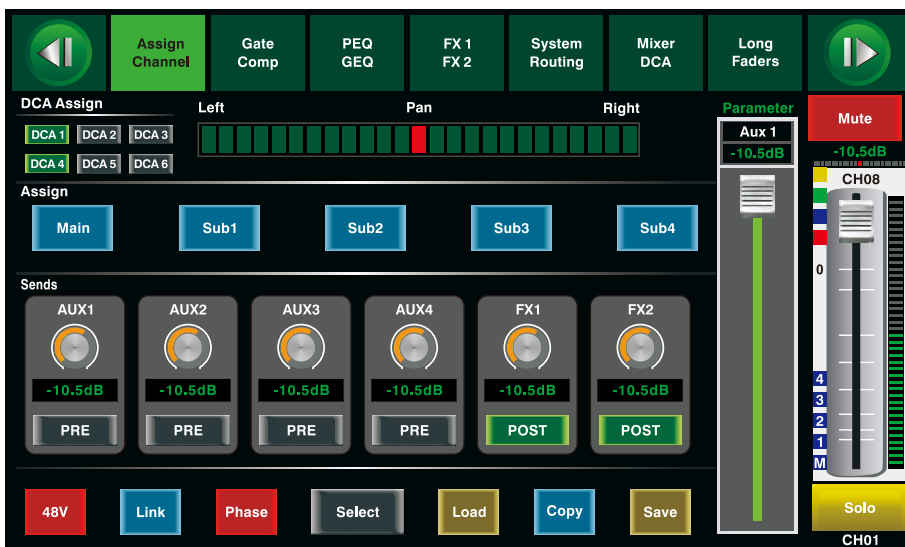
M和数位1~4表示分配状态。例如，若将当前通道分配给了SUB1，数字1的背景就会亮。类似的，如果将当前通道分配给了main，M就会亮。

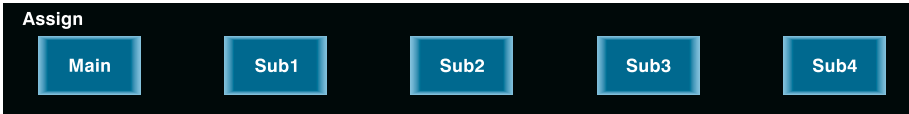
5.3 Assign

包括20个主输入和内部FX在内的所有输入通道都可以分配到任意或所有的子群组输出，辅助输出和主输出。

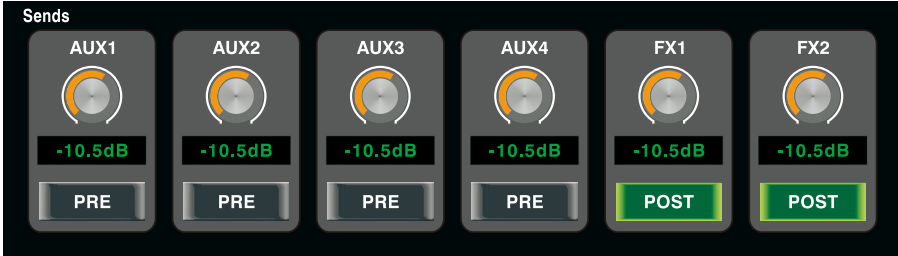
在此页面中，Sub1~4和AUX5~8可以通过System页面中切换控制项来相互转换模式。

首先，看看Sub1~4模式下的功能，如下如所示。





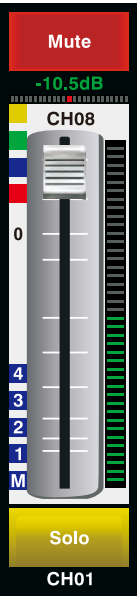
在屏幕上选中Main&Sub1~4，或通过面板上的相应按键选中，按键和屏幕上背景点亮，可将输入通道音频信号分配给这些通道。可以通过调节Parameter Adjust旋钮或Main&Sub1~4对应的旋钮来调节通道音频信号的输出电平。



选中屏幕上的AUX1~4和FX1~2或直接调节对应的旋钮来将输入音频信号分配给这些通道或总线。而调节通道音频信号的输出电平，则需要调节Parameter Adjust旋钮。

选中屏幕上的PRE，会切换成POST，AUX&FX派送功能会将从其他通道派送过来的信号置于推子后。相反，若此控制项没有选中，也没有切换，则是系统默认的，AUX&FX派送功能会将从其他通道派送过来的信号置于推子前，此时，信号派送将不受推子变化的影响。

简而言之，选中PRE会切换成POST，则通过调节推子可调节信号电平。否则，推子将不会作用于信号电平。



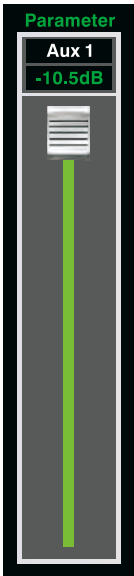
滑动推子来调节输出通道音频信号。

此处推子和面板上的电动推子的效果一样，可以控制输入信号电平，二者同步变化。右边的电平表指示输入信号电平的变化。推子上的声像定位指示其设定的值。

Solo监听所选通道的音频信号。

Mute静音所选通道的音频信号。

长按最下面的CH01可以重命名当前通道。



调节此标识来改变所选输出通道的音频信号。此推子的效果与Parameter Adjust旋钮相同，二者会同步变化。



向左或向右滑动声像定位设置可以调节通道信号的平衡效果，也可以通过面板上的Pan旋钮来调节。可以通过双击中心位置两次来使声像定位回到中心位置。

具体操作方法，请参考本说明书第5部分关于Pan的介绍。



这些控制项可以表明当前通道被分配到了哪些DCA组。例如，若当前通道分配给了DCA1和DCA4，则DCA1和DCA4的背景灯亮。



选中此图中任意控制项来进入相应的页面。



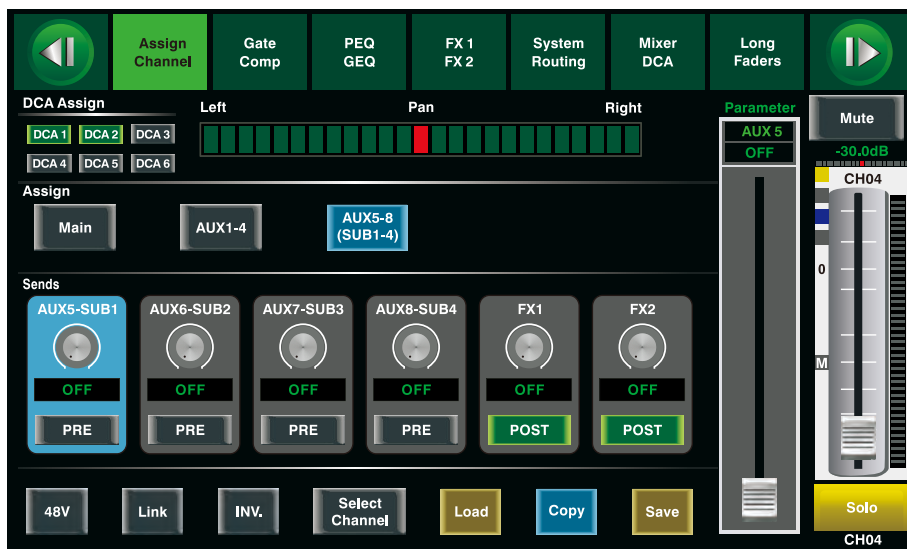
触摸此控制项，Link按键会和它同时点亮，二者功能相同，具体操作方法，请参考本说明书第5部分关于Link的介绍。



触摸Select控制项，将会看到所有的输入通道。请根据屏幕上的提示来操作。

对于不同的输入通道，功能和输入分配也不同，请注意屏幕上的提示。

若将Sub1~4模式切换到AUX5~8模式，则相应的页面如下图所示，此功能可以增加输出分配。

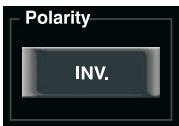
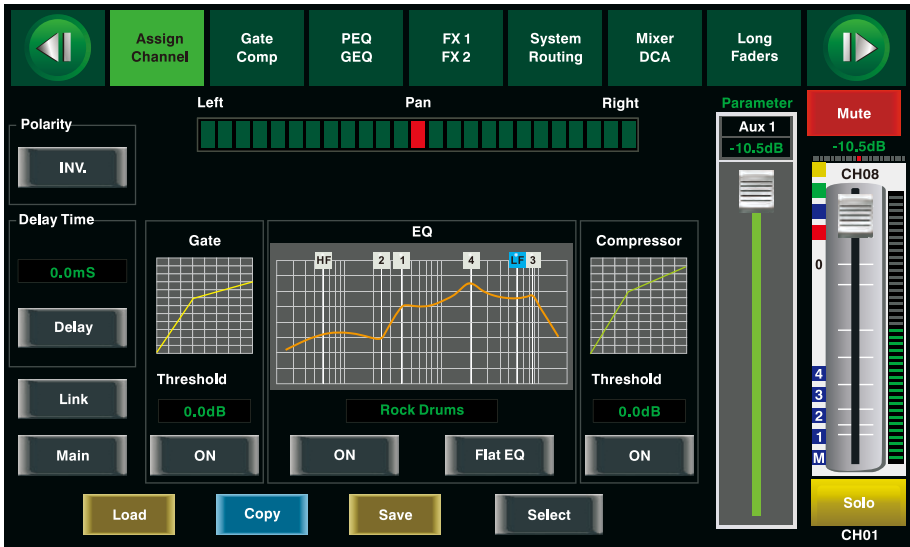




选中屏幕上的AUX5~8(SUB1~4)和FX1~2来将输入音频信号分配给这些通道。而调节通道音频信号的输出电平，则需要调节Parameter Adjust旋钮。

关于此页面中其他的控制项，其功能与在SUB1~4模式中相同。

5.4 Channel



触摸相位(Polarity)来对所选通道的信号进行反向(即相位反转180°)。触摸后，其背景灯亮，LCD即时显示相位反向设定。相位控制(Polarity)可用于修正反向了的音频信号，并互相抵消或增强。



触摸延时(Delay)来实现所选通道的延时功能。触摸后，此键背景灯亮，LCD即时显示延迟时间，最大可设置到300ms(采样率为48kHz)，只有延时功能启动的状态下才可设置延迟时间。



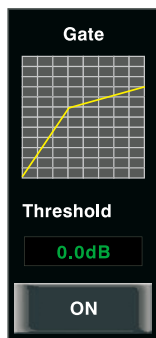
Delay功能起作用后，触摸此控制项，并转动调节旋钮Parameter Adjust来控制所选通道的延迟时间。



此控制项功能与面板上立体声组合Link功能一致。

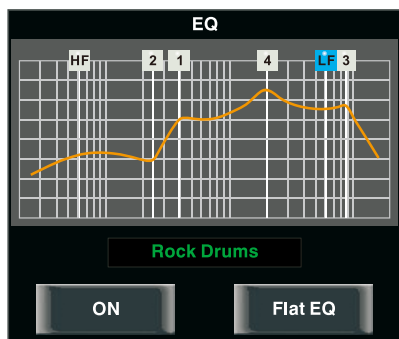


触摸此控制项，其背景和面板上的按键同时点亮，所选通道的信号将派送到主通道，关于其具体操作方法，请参考本说明书第5.3部分的介绍。



触摸ON控制项启用Gate功能，通过调节Parameter Adjust旋钮或LCD屏幕上的推子来调节Threshold值，其值显示在中间的方框内。在调节过程中，相应的曲线变化也会在格子中展现出来。

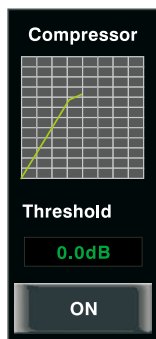
在此区域，触摸Gate下方的格子可以进入Gate页面，关于Gate的详细操作方法，请参考本说明书第5.5部分的介绍。



触摸ON开关启用EQ功能，此开关会和EQ页面的相应开关同步作用。此页面EQ值不可调，只能显示已在EQ页面调节好的相应曲线。中间的小方框显示的是在EQ页面加载的预设名。关于具体的加载方法，请参考本说明书第5.16部分关于Load页面介绍。

触摸Flat EQ控制项清除EQ设定并返回预设值。

在此页面中，可以通过触摸EQ区域内的方格来进入EQ介面，具体的EQ操作方法，请参考本说明第5.7部分。



触摸ON/OFF控制项启用Compressor功能，通过调节Parameter Adjust旋钮或LCD屏幕上的推子来调节Threshold值，其值显示在中间的方框内。在调节过程中，相应的曲线变化也会在格子中展现出来。

在此区域，触摸Compressor下方的格子可以进入Compressor页面，关于Compressor的详细操作方法，请参考本说明书第5.6部分的介绍。



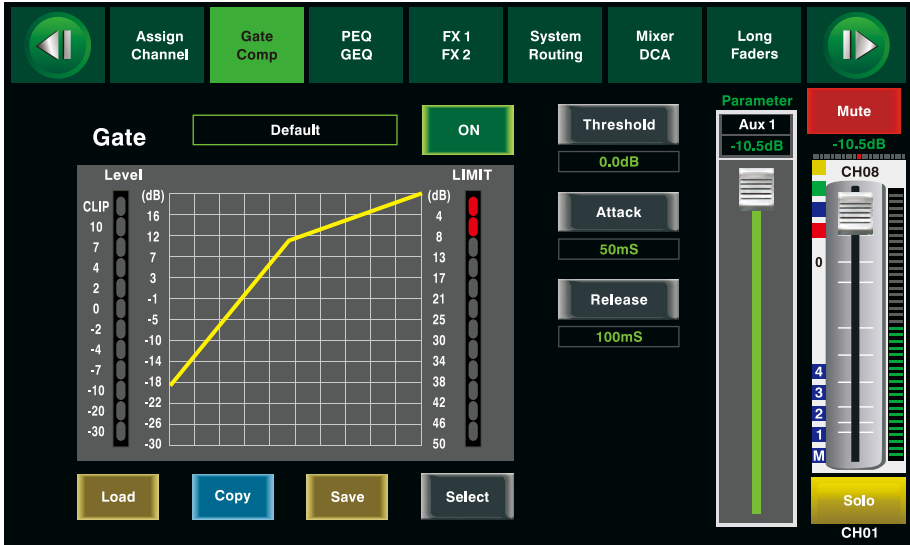
选中任意控制项进入相应的页面。



该控制项功能与5.3节的Assign页面相同。

注意：在此页面中，您也可以长按CHXX来重命名当前通道。

5.5 Gate



ON

触摸此开关控制项来控制所选通道是否具有噪声门限功能，此控制项会和面板上的Gate按键同时亮或灭，LCD上即时显示门限设置，通过调整LCD上的触发电平Threshold、直接控制Attack&Release来调整参数，或者可转动Parameter Adjust旋钮来设定。
请注意只有当噪声门控制启用后才可以调节其参数。

此控制条有3种颜色，指示3种状态。

-灰色—开关处于关闭状态。

-绿色—开关打开，表示有信号输入，且其值低于阈值，也即噪音门限功能启动。

-红色—开关打开，但是噪音门限功能禁用。

Threshold

0.0dB

触摸此控制项设定所选通道的噪声门触发电平。该触发电平决定了处于哪个电平时才开启，实质上所有高于触发电平的信号都将不受影响的通过，触发电平设置范围是0~-84dB。

Attack

50mS

触摸此控制项设定所选通道信号超出触发电平多久后噪声门功能启动，时间可设置为0.5~200ms。

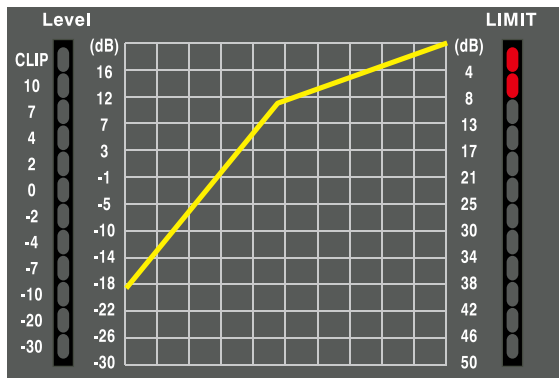
注意：较快的启动时间对打击乐器很重要，人声和低音吉他等上升较慢的信号需要一个较慢的启动时间：较快的启动时间会导致这些信号产生可听见的咔嗒声，操作时所有的噪声门都有可能产生咔嗒声，但是经过恰当设置的噪声门可避免这种咔嗒声。

Release

100mS

触摸此控制项设置所选通道关闭噪声门的速度，速度范围为0.01~1秒。

注意：门限释放时间应小心设置来避免影响了噪声门设备或声音的自然衰减，较短的释放时间有助于清除噪声，但是也可能引起打击乐器的咔嗒声，较长的释放时间通常可以清除咔嗒声，但是设定时要仔细聆听。



此区域的格线实时显示阈值电平设置，左边的电平表显示输入信号电平的动态。

选中任意控制项进入相应的页面。

Load

Copy

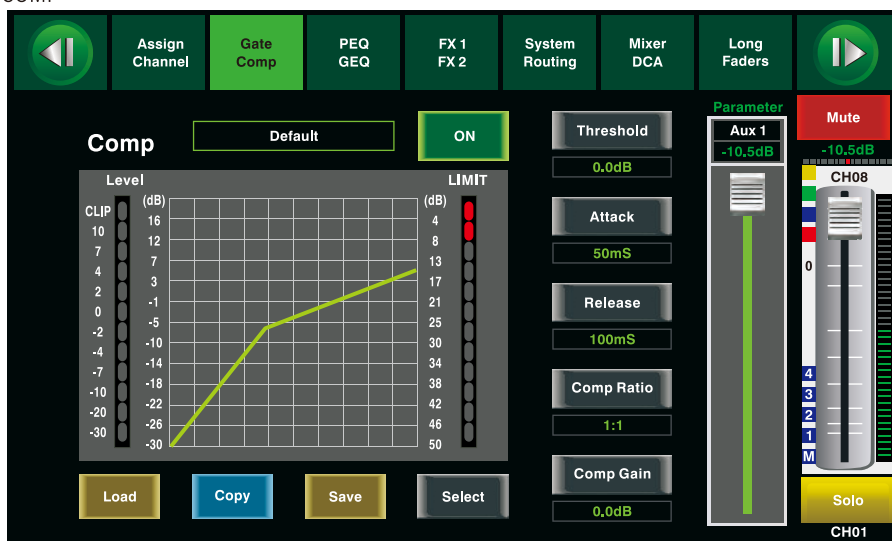
Save

Select

该控制项功能与5.3节的Assign页面相同。

注意：在此页面中，您也可以长按CHXX来重命名当前通道。

5.6 COMP



ON

触摸此控制项开启压缩器功能。触摸后，此控制项点亮，LCD即时显示压缩器的设定，压缩参数可以通过总的调节旋钮来设定噪声门、触发电平、触发启动、噪声门释放和压缩比率，或者是可以通过上、下、左、右键来选定想要更改的参数值。只有压缩器功能启用状态下，其参数才可调整。

此控制条有3种颜色，显示3种状态：

灰色—开关处于关闭状态。

绿色—开关打开，表示有信号输入，且处于压缩状态，也即压缩器功能启动。

红色—开关打开，但是噪声门限功能不起作用。

Comp Gain

0.0dB

触摸此控制项设定所选通道的压缩增益，压缩信号时，增益降低通常会引起整个电平衰减，此增益控制可恢复丢失了的电平对之前压缩的电平进行音量再调整，增益调节范围是0dB(无增益调整)~+24dB。

Threshold

0.0dB

触摸此控制项设定所选通道的压缩触发电平，若信号幅度超出触发电平，压缩器就会工作，减小信号电平，触发电平设置范围为-30dB~20dB。

Attack

50mS

触摸此控制项设定所选通道的压缩启动速度。启动设置压缩以何种速度对信号起作用。启动时间设置范围为10~150毫秒。

Release

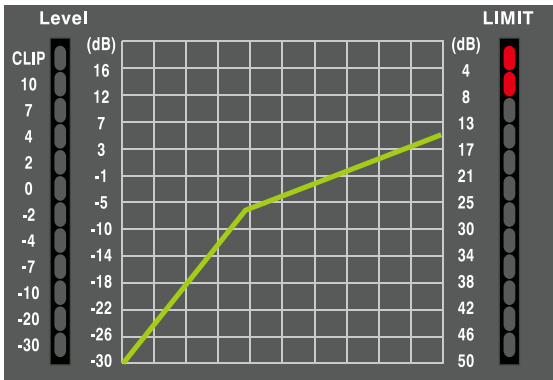
100mS

触摸此项控制设定所选通道的压缩释放时间，释放设定低于触发电平的信号需要多久恢复至其正常增益，释放时间设置为10~1000毫秒。

Comp Ratio

1:1

触摸此控制项调整所选通道的压缩比率。此比率设定压缩的斜率，即输出电平与输入电平之比，例如，若比率设定为4:1，则任何高于触发电平的信号都将以2:1的比率压缩。这意味着，高于触发电平的信号，每增加4dB，则压缩输出只增加1dB，比率范围从10:1到1:1直到受限。



此区域的格线即时显示压缩器触发电平。左边的电平表显示输入信号电平的活动，右边的电平表指示压缩程度。

Load

Copy

Save

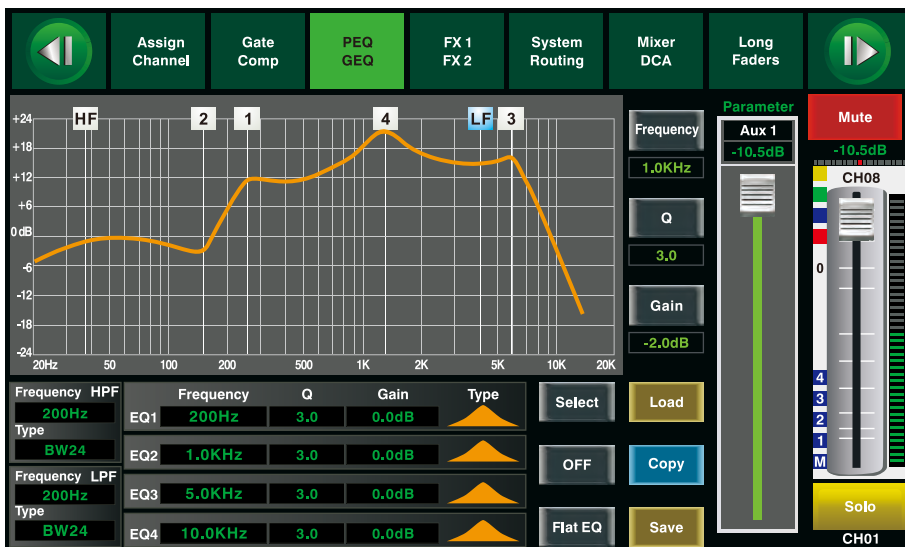
选中任意控制项进入相应的页面。

Select

该控制项功能与5.3节的Assign页面相同。

注意，在此页面中，您也可以长按CHXX来重命名当前通道。

5.7 EQ



OFF

触摸此控制项开启或关闭所选通道的EQ。触摸后，此键点亮，EQ功能开始起作用，LCD 即时显示EQ设定，其参数调节可以通过滑动屏幕上的曲线，也可以通过上、下、左、右键选择后，再调节Parameter Adjust旋钮来设定其值。

请注意只有在开启EQ功能的情下，其参数才可调整。所有输入和输出通道均配有EQ功能。

Flat EQ

触摸此控制项，会出现提示对话框，点击yes将所有的EQ设定值恢复为出厂设置，点击no保持当前设定值。

Frequency

1.0KHz

触摸此控制项设定EQ的低/中低/中高/高频段的中心频率，中心频率即为可通过频率的中点，是介于较低，较高切断频率（用于界定频率的界限）之间的。中心频率可设置范围为：20Hz~20kHz。

Q

3.0

触摸此控制项设定低/中低/中高/高频段的Q值，可设置范围为0.4~24。Q值是中心频率与带宽的比值，若中心频率不变，则带宽与Q成反比，即加大Q值，带宽变窄。

Gain

-2.0dB

触摸此控制项设置低/中低/中高/高频段的中心频率的增益衰减或增强，可设置范围为：-24~-24dB。

Frequency HPF
200Hz
Type
BW24

此处显示为高通滤波器，可以通过较高的频率。当设定其值为最小时，滤波器关闭。
Type表示所选的滤波器类型，不同的类型表明不同的波形和不同的滤波器频率范围。

Frequency LPF
200Hz
Type
BW24

此处显示为低通滤波器，可以通过较低的频率。当设定其值为最大时，滤波器关闭。
Type表示所选的滤波器类型，不同的类型表明不同的波形和不同的滤波器频率范围。

	Frequency	Q	Gain	Type
EQ1	200Hz	3.0	0.0dB	
EQ2	1.0KHz	3.0	0.0dB	
EQ3	5.0KHz	3.0	0.0dB	
EQ4	10.0KHz	3.0	0.0dB	

触摸EQ1设定其频率、Q值及增益参数，触摸Type改变滤波器类型，可选为高通、低通和带通，EQ2、Eq3和EQ4与其相同，在屏幕上可看到波形图的变化。

注意，在此页面中，您也可以长按CHXX来重命名当前通道。

5.8 FX1~2

按下此键可显示和修改内部效果。通过触摸屏幕上的Save控制项或面板上的按键来保存以便将来使用，然后根据LCD屏上的指示操作。



Assign Channel

Gate Comp

PEQ GEQ

**FX 1
FX 2**

System Routing

Mixer DCA

Long Faders



Effect Type:

Hall

Room

Plate

Delay

St Delay

Tremolo

Flanger

Chorus

DelayRev

StDelayRev

Flanger Rev

ChorusRev

Parameters:

Attack

Decay

Hi Damp

Efx Out

Dry Out

Dry Out

0

0

0

0

0

0

Load

Copy

Save

Parameter

Aux 1

-10.5dB



Mute



Solo

FX1

Effect Type:

Hall

Room

Plate

Delay

St Delay

Tremolo

Flanger

Chorus

DelayRev

StDelayRev

Flanger Rev

ChorusRev

触摸任意控制项，调节Parameter Adjust旋钮或屏幕右边的推子来设定相应效果的参数值。

Mute

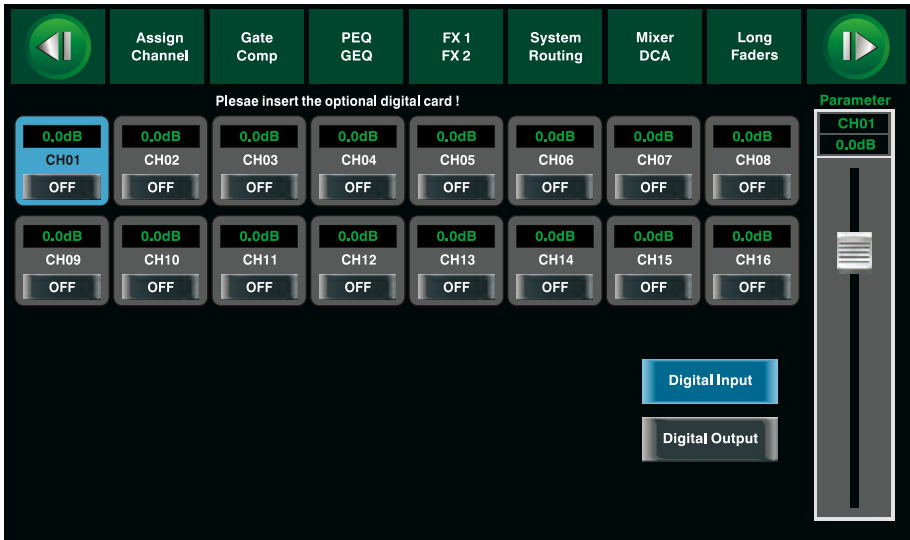
触摸此控制项静音当前FX效果。

DMX 2040包含12种可调节效果，可以帮助您实现想要的效果。

序号	预设	说明	参数
1	Hall	模拟大型厅堂的声音效果	分频点前的延时，衰减，房间尺寸，高频阻尼，效果器输出，原音输出
2	Room	模拟带有回声的工作室的效果	分频点前的延时，衰减，房间尺寸，高频阻尼，效果器输出，原音输出
3	Plate	模拟经典留声机唱片的效果	分频点前的延时，衰减，房间尺寸，高频阻尼，效果器输出，原音输出
4	Delay	使声音输出比输入稍晚一点	延迟时间，衰减，高频阻尼，效果器输出，原音输出
5	Stdelay	在不同时间对立体声输出上再加一个输入声音	左声道时间，右声道时间，左声道衰减，右声道衰减，高频阻尼，效果器输出，原音输出
6	Tremolo	交替快速的重复相同或不同音符来模拟声音效果	回馈，深度，调频，效果器输出，原音输出
7	Flanger	模拟与另一个人在相同乐器上演奏相同音符的效果	回馈，深度，调频，效果器输出，原音输出
8	Chorus	用单一乐器演奏时，创造出多个乐器演奏的效果	回馈，深度，调频，效果器输出，原音输出
9	DelayRev	Room效果的延时	分频点前的延时，加速衰减，房间尺寸，Rev Hi, Rev Out, 回声时间，Echo Hi, Echo F.B, 回声输出，原音输出
10	StDelayRev	Room效果的立体声延时	分频点前的延时，加速衰减，房间尺寸，Rev Hi, Rev Out, 左声道时间，右声道时间，左声道衰减，右声道衰减，Echo Hi, 回声输出，原音输出
11	FlangerRev	立体声合唱和大厅堂混响	分频点前的延时，加速衰减，房间尺寸，Rev Hi, Rev Out, 调制F.B, 调制深度，调制输出，原音输出
12	ChorusRev	模拟在转动号角喇叭和低音喇叭时的声音效果	分频点前的延时，加速衰减，房间尺寸，Rev Hi, Rev Out, 调制F.B, 调制深度，调制输出，原音输出

5.9 Digital Input

只有CH1~16有数字输入/输出，在此页面可选择相应通道作为数字输入或类比输入。若当前无可选数字模組插入，屏幕上会出现提示信息，此时数字输入不起作用。



触摸此控制项，页面在Digital Input和Digital Output之间切换。



触摸此控制项，可将当前通道选择为数位输入通道，触摸开关OFF改为ON，背景及按键亮红色，表示当前通道为数字输入通道。

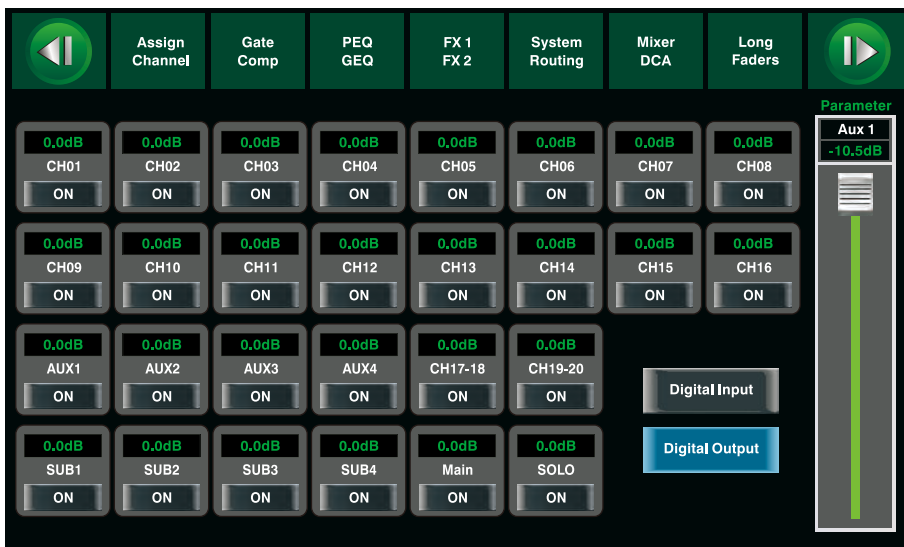


当选择某一数字通道时，可滑动屏幕上的此推子或调节Parameter Adjust旋钮来改变其输入电平。

5.10 Digital Output

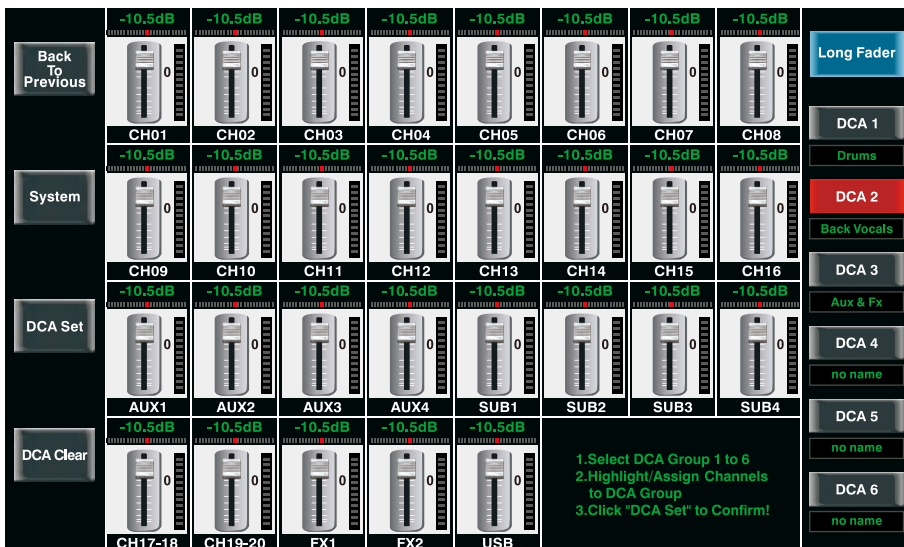
当选择某一通道为数字输出通道时，触摸开关OFF改为ON，背景及按键亮红色，表示当前通道为数字输出通道。

若当前无可选数字模組插入，屏幕上会出现提示信息，此时数字输出不起作用。



5.11 DCA Set

按下面板上的“DCASet”按键，进入DCA分组设定页面，此时该按键背景灯闪烁，进入编辑状态。您也可以通过其他屏幕上的此控制项来进入此页面（如Mixer, Assign, Channel或System页面），页面如下所示：



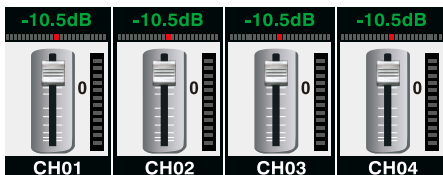
DCA 1

Drums

按下面板上的任意DCA1~6按键，或触摸屏幕上的相应控制项，相应按键会点亮，此时，您可以选择这组中需分配或删除的通道。

Group

所有的DCA分组都可以重命名。长按相应的方框，会出现虚拟键盘，可键入所需的重命名，此方法也可以在“Long Faders”和“Mixer”页面中使用。



触摸这些通道，将其分组给（例如）DCA2，相应通道背景亮。DCA2若需移除的某通道，则再次触摸该通道，其背景灯灭。

DCA Set

选定需分组的通道后，DCASet按键会闪烁，再次按下此键来保存当前分组值，重复此操作来给其他DCA通道分组。每个通道都可以重复分组给不同的DCA组。例如，CH3可以同时被分组给DCA1，DCA2等。

选定后，此页面会自动进入Mixer页面，在这个页面中，可以对所选的分组进行参数设定。可以滑动屏幕左边的推子来同时按比例增大或减小通道推子电平（注意，非音量），或者是通道相应的旋钮来控制电平。

DCA Clear

按下DCAclear按键，屏幕上出现提示信息，选择yes清除当前通道的分组设定。

System

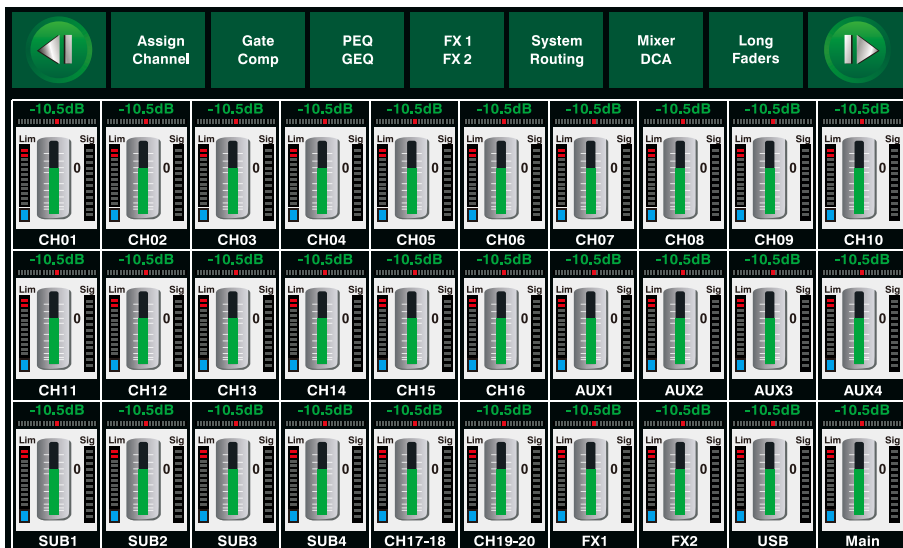
Long Fader

Back
To
Previous

触摸这些按键进入相应的页面。

5.12 Meters

此页面可以看到所有的输入通道、输出通道和汇流排的电平状况。



此图示指示当前通道的推子位置，数字“0”代表0dB处。

-10.5dB

上面的数字指示当前通道的电平值。



指示声像定位状况。



推子左边的此图示指示LIMITER/COMP的电平测量。



蓝色小方块指示Gate状态，当Gate开启时，此方块亮黄色。



推子右边的此图示指示实际输入信号电平的实时状况。

5.13 Routing

在此页面，可选择将主输入通道CH1~20、FX1~2和USB输入路由到输出通道CH1~20、Sub1~4、Aux1~4和FX1~2。例如，如下为Aux1路由页面，在该页面中，可将输入通道路由到Aux1输出通道。在主路由页面(Main)，通道电平不可调。但是在其他路由页面，如Sub、Aux和FX页面，通道电平则是可调的。

由于此按键功能在不同的控制中会有不同，操作过程中请留意LCD屏幕上的指示。



此页面中，以此控制项为例，触摸它可将CH01路由到AUX1通道，调节Parameter Adjust旋钮或滑动屏幕右边的长推子可以更改所选的通道音频电平。

触摸此屏幕上的PRE标志，切换到POST，其背景亮。来自于所有其他通道的，并传送到此通道的信号将置于推子后。若此控制项未被选中，则按默认设置，这些信号将会置于推子前，从而不受推子位置变化的影响。



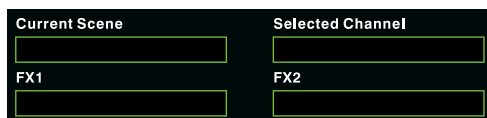
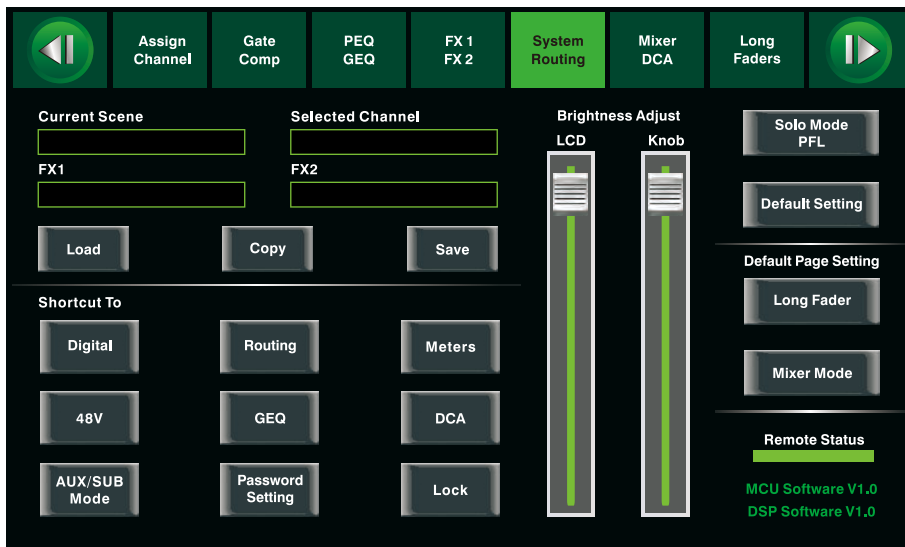
触摸此控制项，可快速将所有的通道置于POST或PRE。

若所选的通道有立体声组合，则立体声组合会同时变化。

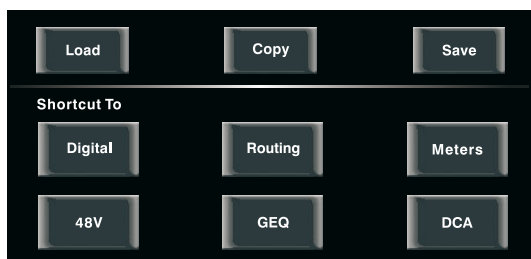
滑动此推子或调节Parameter Adjust旋钮来改变输入通道的电平值。



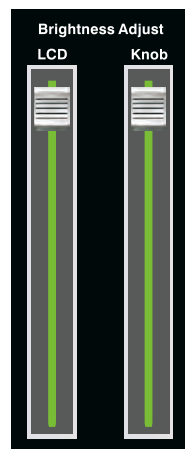
5.14 System



方框内的资料显示当前预设。



触摸这些控制项进入相应的页面。



用户可通过触摸LCD屏上的Brightness Adjust来调整各自的亮度，设置会自动保存和更新。

**Solo Mode
PFL**

触摸此控制项，其背景会和面板上的PFL按键同时点亮，意味着改Solo模式为PFL。具体的PFL介绍，请参考本说明书第5部分说明。

Default Setting

触摸此控制项，将所有设置还原为默认的出厂设置。

Default Page Setting

Long Fader

Mixer Mode

此控制项上可决定您的开机画面。选择Long Fader，开机时的画面是Long Fader页面；选择Mixer Mode，则开机时的画面是Mixer页面。

Remote Status

MCU Software V1.0
DSP Software V1.0

右下角，可见DSP firmware显示当前版本号。

**AUX/SUB
Mode**

触摸此控制项可切换SUB1~4模式和AUX5~8模式，操作过程中请注意屏幕上的提示。关于此控制项的具体功能，请参考5.3部分的Assign介绍。

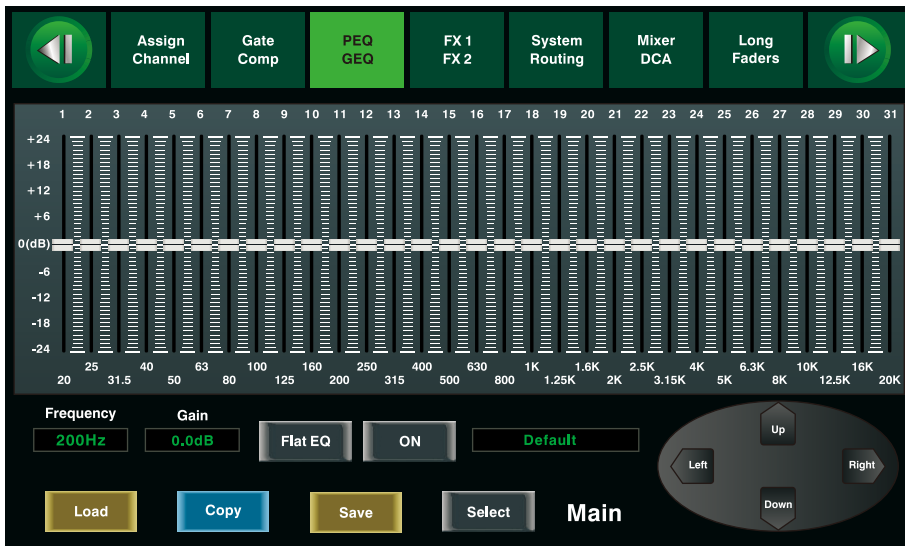
Lock

触摸此控制项可以锁定系统。被锁住后，需输入密码来解锁。默认密码是“1111”，超级密码是“LIVE”。输入超级密码可以随时解锁您的DMX 2040，操作过程中请留意屏幕上的提示。

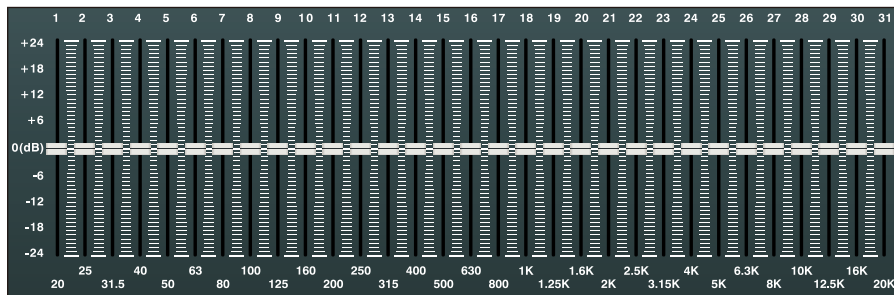
**Password
Setting**

触摸此控制项可更改密码。输入旧密码和新密码，系统会自动保存新密码，操作过程中请留意屏幕上的提示。

5.15 GEQ



DMX 2040有主输出立体声(MAIN Stereo)，子群组单声道(SUB Mono)和辅助单声道(AUX Mono)，31段EQ，1/3八音图示EQ。31段EQ范围为20Hz~20kHz。采样率为24-bit/48kHz，此时有1个主输出立体声GEQ，4个子群组单声道GEQ和4个辅助单声道GEQ。



在此区域内，可调节每一段的频率。所谓EQ的EQ段号，频率和增益值都将即时显示在图示曲线的下方，请按LCD屏中的指示调节EQ值。

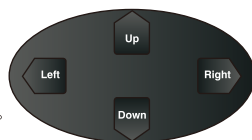


按下Flat EQ可将整个31段EQ值都设置为预设值(0dB)。



此区域显示所调节的频率和增益值。

触摸左右控制项选择频率，触摸上下控制项调节频率增益。



Load

Copy

Save

触摸这些控制项进入相应页面。

Select

触摸此控制项进入相应通道

ON

Default

触摸ON/OFF开关打开GEQ功能。

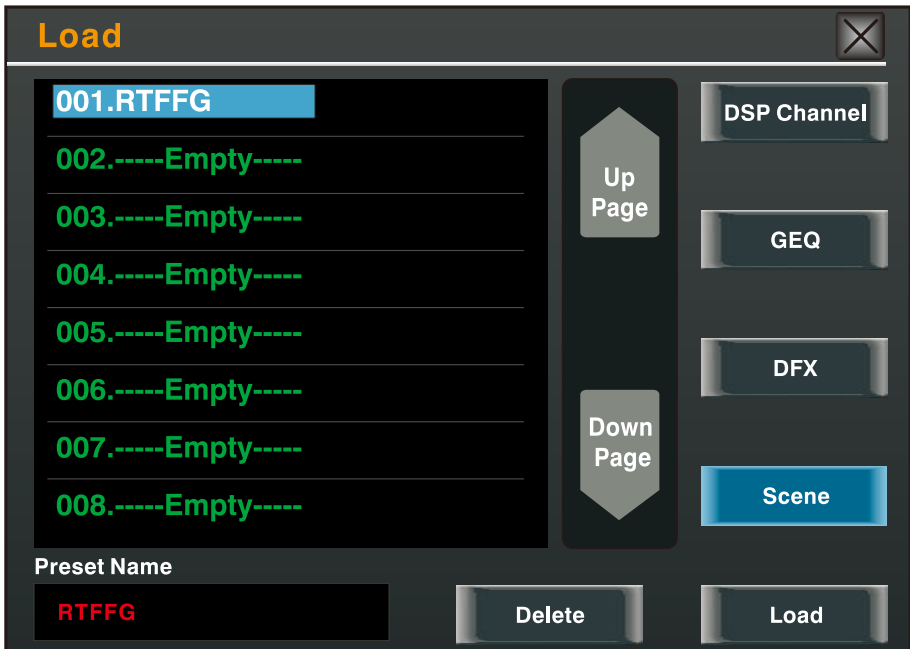
与其他页面的ON不同，此处即使不打开此开关，GEQ参数也可调，只是不会起作用。

开关旁边的词显示GEQ预设名称，可以通过载入其他参数设定来改变此预设。

GEQ设定可按保存键(save)保存为预设以便将来使用。请注意分配状况不会在预设中保存。预设可通过按载入键(load)来载入，也可选中后按HatEQ将其删除，请按照LCD显示屏中的指示操作。请参考DSP保存、载入和复制部分的介绍。

5.16 Load

在此界面可以载入场景(Scene)、效果(Effect)、GEQ或DSP通道设定。所选的预设可以通过按Delete按钮清除。请注意LCD屏幕上的提示来操作。





此处显示预设名称，选择某一预设后，底部的方框内会显示其名称，触摸屏幕右下角的Load控制项来载入所选预设给相应的控制。



触摸UP Page向上翻页，
触摸Down Page向下翻页。



触摸任意控制项，相应的背景会亮，
可以载入预设给所选的控制。

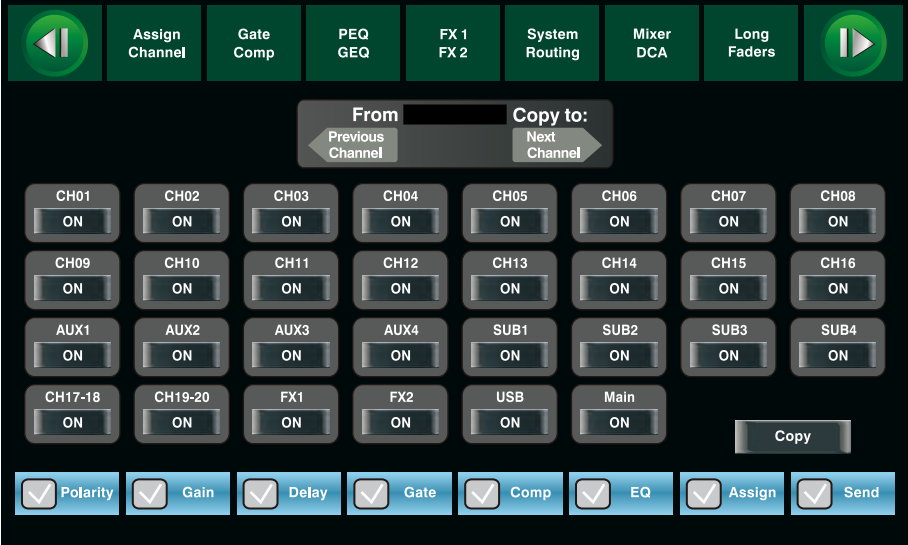


触摸Delete除当前预设，触摸Load 载入当前预设。



DSP预设若载入到相同的通道，则DSP设置与监听、静音等设定都同预设完全一样。若载入到不同的通道，则DSP设置为当前通道设定。监听和静音等其他设定同载入的预设一样。例如：若选中通道6并将其保存为场景预设6。若选中通道6，同时按载入键(load)载入场景预设6，则通道6将同场景预设6完全一样，若选中其他通道，如通道7，再按载入键(load)载入场景预设6。则通道7的DSP设定不变，但是静音、监听等其他设置同场景预设6一样。

5.17 Copy



选择某通道，可以将此通道的设定参数复制给其他通道，所选的被复制的通道会闪烁，然后触摸Copy控制项，完成复制。触摸OFF开关，转成ON，其背景亮红色，此时可开始复制。



此标志为可以从当前通道复制到其他通道，可触摸Previous Channel或Next Channel来选择。

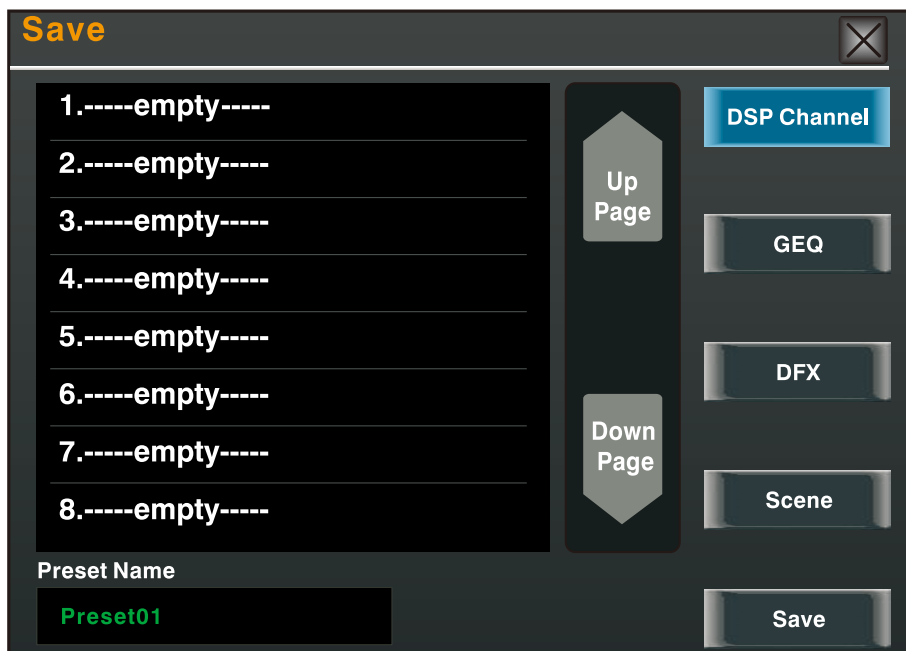


触摸方框内的勾来选择您想要复制的参数，默认设置是选择所有。

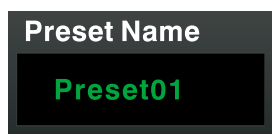


选好后再按Copy控制项来完成复制。操作过程中请留意LCD屏幕上的显示。

5.18 Save

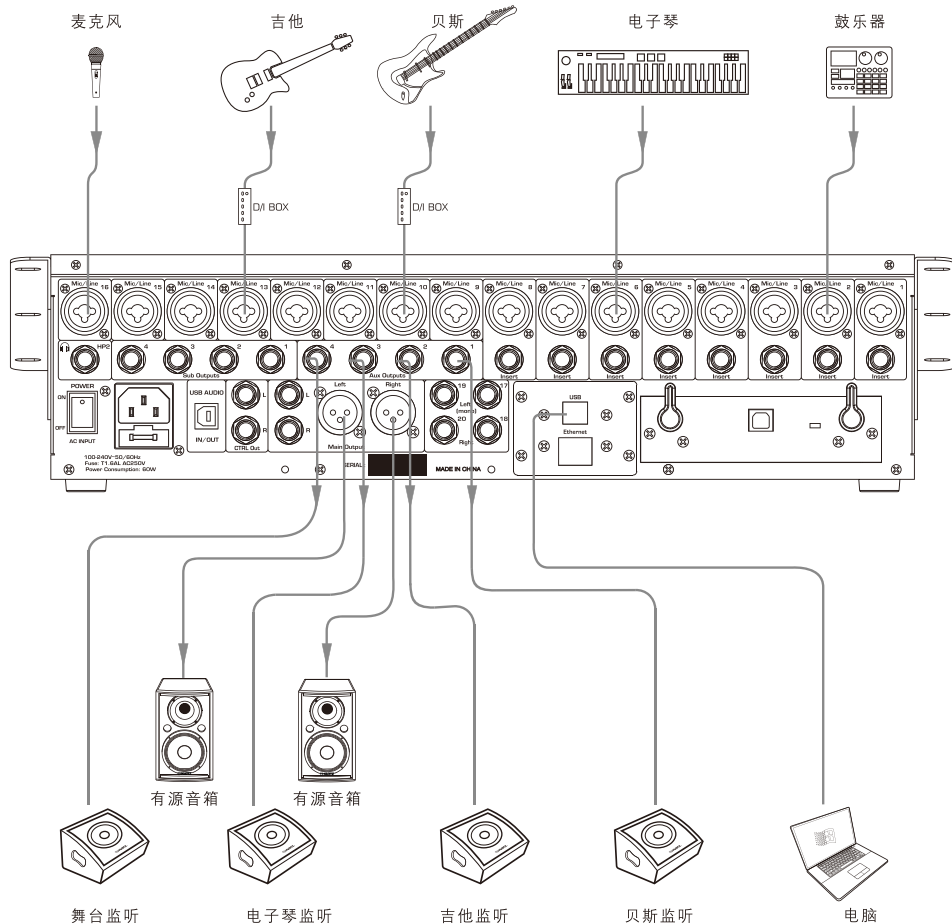


按下此按钮来保存DSP通道设定。在屏幕上可以通过触摸来保存DSP通道，GEQ，DFX和场景(Scene)，请按LCD屏上的指示操作。

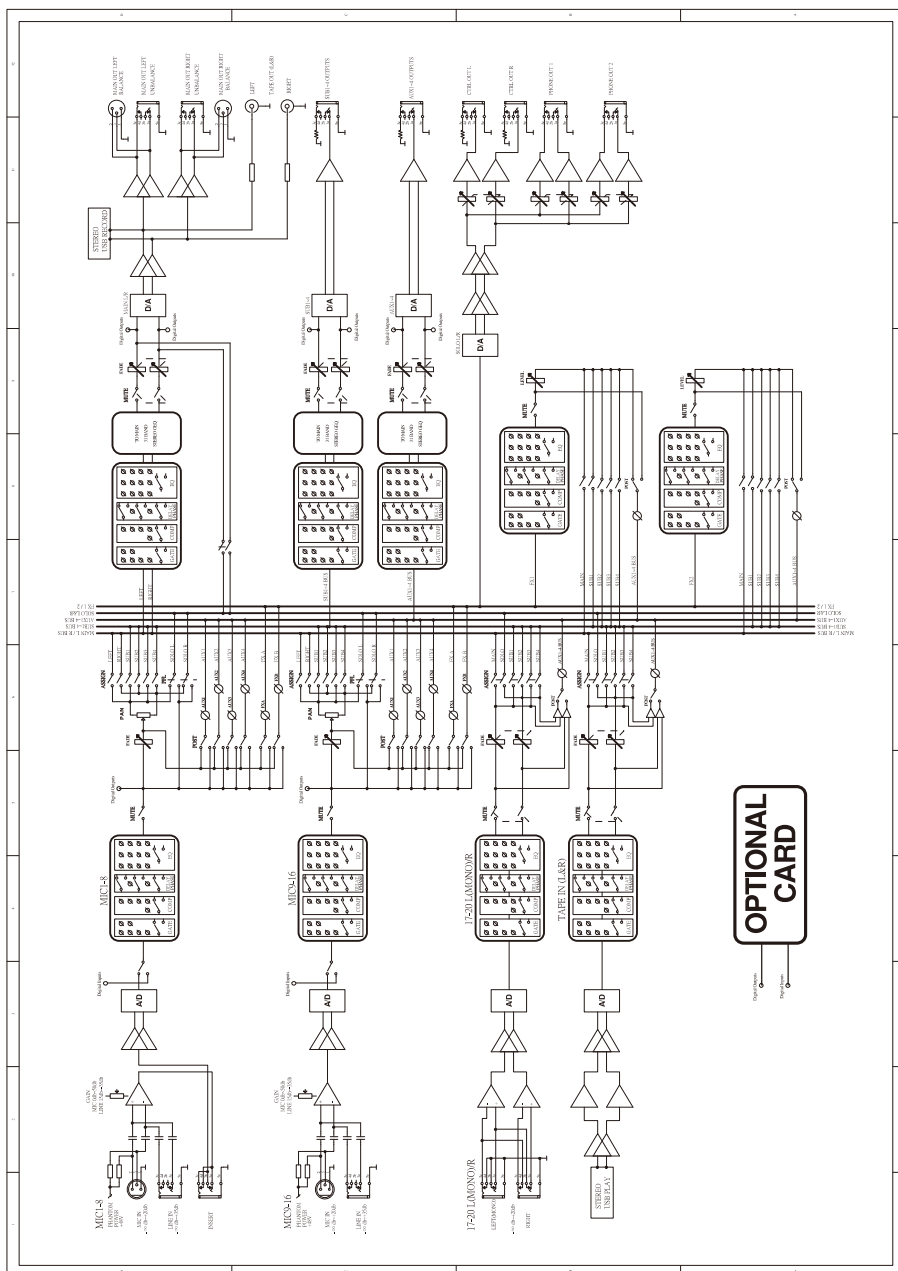


此方框内的预设名称是可编辑的。触摸此方框，在虚拟键盘中键入相应的名称，完成后，点击Save来保存当前预设。

6 设备连线图



7 方框图



8 技术参数

型号		DMX 2040
麦克风输入	通道	16路
	幻象电源	48V
	频率响应	20Hz~20kHz @ 0dBu $\pm$ 1.5dB
	信噪比	104dB
	总谐波失真度	<0.01% @ 0dBu 1kHz
	最大输入电平	+22dBu
	输入类型	平衡输入
线性输入	频率响应	20Hz~20kHz @ 0dBu $\pm$ 1.5dB
	总谐波失真度	<0.01% @ 0dBu 1kHz
	增益	+15dBu~+35dBu
	最大输入电平	+20dBu
	输入类型	非平衡输入
立体声输入	通道	4路
	频率响应	20Hz~20kHz @ +4dBu $\pm$ 1.5dB
	总谐波失真度	<0.01% @ 0dBu 1kHz
	增益	$-\infty$ ~ +10dB
	最大输入电平	+22dBu
	输入类型	平衡输入
磁带/USB输入	频率响应	20Hz~20kHz @ +4dBu $\pm$ 1.5dB
	总谐波失真度	<0.01% @ 0dBu 1kHz
	增益	$-\infty$ ~ +10dB
	最大输入电平	+22dBu
最大输出电平	主输出	+20dBu
	AUX输出	+20dBu
	SUB输出	+20dBu
	磁带输出	+14dBu
	控制室输出	+20dBu
	输入对输出	-83dBu @ +4dBu 1kHz
系统串音	相邻通道	-82dBu @ +4dBu 1kHz
	噪声	-84dBu
	阀值范围	-84dBu ~ 0dB
噪音门	启动时间	0.5mS ~ 200mS
	释放时间	5mS ~ 2S
	阀值范围	-30dBu ~ +20dB
压缩	启动时间	10mS ~ 150mS
	释放时间	10mS ~ 1S
	比率	1:1 ~ 24:1
	增益	0dBu ~ +24dB
	麦克风输入	1.4k Ω
阻抗	插入倒送	2.5k Ω
	所有其他输入	10k Ω 或更大
	磁带输出	1k Ω
	所有其他输出	120 Ω
	高频(高通)	21Hz~19.2kHz $\pm$ 24dB
EQ	中高频	21Hz~19.2kHz $\pm$ 24dB
	中低频	21Hz~19.2kHz $\pm$ 24dB
	低频(低通)	21Hz~19.2kHz $\pm$ 24dB
	A/D, D/A转换器	24位
数字信号处理	DSP	32位
	动态范围	114dB
电源供应	电压	210~240VAC, 50Hz
	保险丝	T1.25AL
物理特性	工作温度	0°C~40°C
	存储温度	-20°C~40°C
	尺寸(深*宽*高)	350 * 440 * 120mm
	净重	7.2kg



Manufactured to German Standards.
Specifications are subject to change without notice.
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