



HIPPO D2412

Digital Mixing Console

User Manual

Preface

The purpose of this section is to ensure that the user is able to use the product correctly through this manual in order to avoid danger in operation or property damage. Before using this product, please read the product manual carefully and keep it for future reference.

Outlined

This manual applies to Digital Mixing Console.

This manual describes the function and use of the various function modules of the Digital Mixing Console, and guides you through the installation and commissioning of the Digital Mixing Console.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 Note	Provides additional information to emphasize or supplement important points of the main text.
 Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions



To ensure reliable use of the equipment and the safety of personnel, please observe the following during installation, use and maintenance:

- During the installation and use of the equipment, the electrical safety regulations of the country and the region of use must be strictly observed.
- When installing the equipment, make sure that the ground wire in the power cord is well grounded and the chassis grounding point is well grounded, do not use a two-pronged plug. Make sure that the input power supply of the equipment is 110V-240V 50/60Hz AC.
- Keep the working environment well ventilated so that the heat generated by the equipment at work can be discharged in time to avoid damage to the equipment due to high temperature.

- Always unplug the unit's AC power cord from the AC power outlet before: A. Removing or reinstalling any part of the unit; B. Disconnecting or reconnecting any electrical plug or connection to the unit. Do not operate with electricity.
- There are AC high-voltage parts in the equipment, non-professionals should not disassemble it without permission to avoid the danger of electric shock. Do not repair the equipment privately to avoid aggravating the degree of damage.
- Do not spill any corrosive chemicals or liquids on or near the unit.
- If the unit emits smoke, odors, or noises, immediately turn off the power and unplug the power cord, and contact your dealer or service center.
- If the unit is not working properly, contact the dealer or service center from which you purchased the unit and do not disassemble or modify the unit in any way. (We are not responsible for problems caused by unauthorized modifications or repairs).



- Do not drop objects on the equipment or vibrate the equipment vigorously, and keep the equipment away from locations with magnetic field interference. Avoid installing the equipment in a place where the surface vibrates or is susceptible to shock (neglecting this may damage the equipment).
- Please do not use the device in high temperature, low temperature or high humidity environment, the specific temperature and humidity requirements refer to the device's parameter table.
- The unit needs to be used indoors and should not be installed in an exposed location where it may get wet or very humid.
- Turn off the main power supply of the equipment in a humid dewy environment or when it is not used for a long time.
- When cleaning the equipment, please use a sufficiently soft dry cloth or other alternatives to wipe the internal and external surfaces, do not use alkaline detergent to wash, and avoid hard objects to scratch the equipment.
- Please keep all the original packaging materials of the equipment properly so that in case of problems, the equipment can be packed using the packaging materials and sent to the agent or returned to the manufacturer for processing. We will not be responsible for any accidental damage during transportation that is not caused by the original packaging materials.



- Requirements for the quality of installation and commissioning personnel
Qualifications or experience in the installation and commissioning of audio and video systems and qualifications to perform related work, in addition to the knowledge and operational skills listed below.
 - Basic knowledge and installation skills of audio and video systems and components.

- Basic knowledge and skills in low voltage cabling and wiring of low voltage electronics.
- Basic audio and networking knowledge and skills and the ability to read and understand the contents of this manual.

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Chapter 1 Product Introduction

1.1 Introduction

The digital mixer effectively integrates digital mixing systems with innovative design and powerful DSP functions, adopting a new concept of integrating modern digital and traditional operation, bringing users a very professional function experience. Simple operation interface, professional mixing effect, both in a professional performance on the ability to play excellent, but also fully meet the inexperienced individual users to provide powerful results.

The digital mixer has a strong processing power and advanced features, for the convenience and speed brought about by the design of the software operation process, you can quickly tune the mixing interface. Convenient and fast operation experience, so that everyone can enjoy the convenience and powerful functions of the digital mixer.

1.2 Product Features

- Rich audio interface: 20 inputs (12 balanced XLR/TRS combination digital gain microphone channels, 4 TRS 6.35mm stereo input channels, 2 USB playback channels), 2 S/PDIF digital signal input channels: coaxial digital input & optical digital input, 16 USB sound card input channels;
- Extremely low distortion and ultra-low noise floor, versatile parameter adjustability, and good consistency due to digital gain to effectively prevent misuse;
- Stereo SPDIF IN/OUT (coaxial and optical digital interface), AES/EBU OUT digital interface;
- 7-inch high-definition touch screen, friendly software interface, clarity navigation design;
- The operating panel consisting of a digital encoder and dedicated keys enables all settings to be made quickly and easily;
- 5 built-in effects for singing and performing, the built-in effects can simplify the system wiring; the device comes with classic reverb, chorus, modulation and other effect modules; FX effects can be used to return to the mix using a dedicated return channel and does not occupy the mono and stereo input channels;
- Scene storage is different from the analog mixer is one of the most practical and significant features, can store 255 complete scenes, all the scenes can be exported to an external storage device for storage backup, in order to later call at any time.

1.3 Functions

- ✧ 20 input channels: 12 balanced XLR/TRS combination digital gain microphone channels; 4 channels TRS 6.35mm input channels; 2 USB playback channels; stereo SPDIF IN/OUT, AES/EBU OUT digital interface, low noise floor, multi-functional parameters adjustable;
- ✧ The use of high-end audio AD/DA chip makes it have excellent audio indicators, the maximum input and output levels reach 22dBu;
- ✧ XMOS professional sound design program, 16X16 multi-track recording and playback USB sound card;
- ✧ Built-in USB recording and playback function, support APE, FLAC, MP3, WAV and other audio formats; built-in 4G storage space, you can upload audio files for local playback;
- ✧ 8-channel DCA grouping, 8-channel mute grouping, inputs and outputs, effects channels can be programmed;
- ✧ Each input channel has a 6-band parametric equalizer, compressor, noise gate, polarity, and delay;
- ✧ Each output channel has an 8-band parametric equalizer, 31-band graphic equalizer, high and low pass filters, voltage limiter, and time delay;
- ✧ Built-in adaptive trap feedback suppression algorithm;
- ✧ 5 effect types: mono delay, stereo delay, chorus, reverb, pitch shift; 4 effect channels;
- ✧ Dual-machine hot backup synchronizes data in real time over the network;
- ✧ Unique LOCK key to hold live scene data or prevent misuse;
- ✧ Input and output motorized fader separation, perfect LED level light design;
- ✧ 7-inch 1024x600 resolution high-definition capacitive touch screen, full-function operation control mixer;
- ✧ Supports 30-255 groups of scene presets, which can be imported into USB storage for easy backup recall;
- ✧ Built-in: Sine wave, pink noise, white noise signal generator;
- ✧ Unique Link connection function for adjacent channel binding settings;
- ✧ Channel name customization;
- ✧ Cross-platform development platform, support for Windows, Linux, macOS, Android, iOS mainstream operating system full-featured control software.

Chapter 2 Specification

Category	Parameter Item	Parameter Description
Peripherals	Input Interfaces	20 input channels: 12 balanced XLR/TRS combination digital gain microphone channels; 4 channels TRS 6.35mm input channels; 2 USB playback channels; 2 S/PDIF digital signal input channels: coaxial digital input & optical digital input; 16 USB sound card input channels
	Output Interfaces	12 output channels: 2 L/R XLR Main output channels; 4 XLR AUX output channels; 2 USB recording channels, 1 group (2 channels) S/PDIF digital signal stereo output channels: coaxial digital output & optical fiber digital output, 1 group (2 channels) of AES/EBU digital signal stereo output channels; 2 LR XLR monitor channels; 1 group (2 channels) TRS6.35mm stereo monitoring channels; 16 USB sound card output channels
	Display	7-inch high-definition touch screen, 1024 x 600 resolution
	Control Interfaces	1 RJ45 interface (controlled via UDP protocol), 2 USB A interfaces
Audio processing	Processor	ADI SHARC ADSP-21489 450 MHz high performance 32-bit/40-bit floating-point DSP processor; 24-bit A/D and D/A converter, 48kHz sampling rate
	Input Channel	Functional module: Delay, Polarity, Phantom power, 6-band Parametric Equalizer, Compressor, Noise Gate, Acoustic Notch Feedback Canceler

	Output Channel	Functional module: Delay, 8-band Parametric Equalizer, 31-band Graphic Equalizer, Compressor/Limiter
	Phantom Power	DC 48V
	Signal-to-Noise Ratio	110dB
	Frequency Response	20Hz~20KHz, ± 0.2 dB
	THD+N	$\leq 0.003\%$ @1kHz, +4dBu
	Maximum Output Level	22dBu
	Maximum Input Level	22dBu
	Analog/Digital Dynamic Range	114dB
	Digital/Analog Dynamic Range	114dB
	Input to Output Dynamic Range	110dB
	Input Impedance	Balanced: 2.4K Ω
	Output Impedance	Balanced: 100 Ω
	Noise Floor	-92dBu
	Channel Isolation	70dB@1kHz
	Common Mode Rejection Ratio	>60dB@50Hz
	System Latency	≤ 6 ms
	Filter	Low Cut, High Cut, Low Shelf, High Shelf
	Equalizer	- Parametric Equalizer: Frequency: 20 to 20kHz, Gain: -15 to +15dB, Q Factor: 0.4 to 4 - Graphic Equalizer: Frequency:

		20~20kHz, Gain: -15~+15dB
	Effects	5 effect types: Mono Delay, Stereo Delay, Chorus, Reverb, Pitch Shift
General specification	Operating Voltage	AC 100V~240V, 50Hz/60Hz
	Maximum Power	35W
	Operating Temperature and Humidity	0℃~55℃, 10%~90%RH, No condensation
	Installation	Table placement, adding hanging ears, rack installation
	Product Dimensions (L×W×H)	504.9mm×416mm×145.7mm
	Net Weight	9.15kg
	Package Dimensions (L×W×H)	576mm×496mm×219mm
	Package Weight	10.1kg

Chapter 3 Interface/Keypad Description

3.1 Front Panel



- ① Preamp: The preamplifier includes the Gain adjustment knob, +48V phantom power supply, reverse switch button, PAN adjustment button, Low Cut frequency setting knob, and Low Cut function switch button;
- ② Gate/Compressor: Includes Noise Gate and Compressor Enable/Disable buttons, Threshold setting, and Input Signal Compression display box (GR);
- ③ Equalizer (EQ): Frequency (Freq) adjustment knob, Gain adjustment knob, Bandwidth (Q) adjustment knob, Band Select (BAND), and Equalizer Enable/Disable buttons;
- ④ Config: Configuration, Includes DIGITAL GAIN knob, LINK Enable/Disable, DELAY TIME SET knob and DELAYER switch;
- ⑤ 7-inch high-definition LCD touch screen: it can display all processing modules and can be controlled by touching and clicking;
- ⑥ Quick Control Button Module: Including switching Main interface button, switching Menu interface button, switching AUX matrix configuration interface button, switching scene setting interface button, switching level meter (METER) interface button, switching +48V phantom power control interface button, switching DCA Group control interface, switching Mute Group control interface, copying (COPY)/recording (Play/Rec) control interface, copying (PATSE) function button, FX system mute (FX Mute) function button.
- ⑦ Encoder Data Wheel: Change the selected value or position to fine-tune parameters and scroll through the list;
- ⑧ Main channel output level display;
- ⑨ USB2.0 (Class A): For connecting USB storage devices and Wi-Fi adapters;
- ⑩ Monitor Control Module: Includes Phones monitor interface, Phones gain knob and MONITOR monitor gain control;
- ⑪ CLR SOLO button: click this button to clear all channels from listening (SOLO);
- ⑫ Clear Mute (CLR MUTE) button: Click this button to clear all channel mutes (Mute);
- ⑬ Channel Selection (SEL) button: Click the SEL button to select the channel for control, 1-4 module will display and can control the channel parameters (only one channel can be selected for control);
- ⑭ SOLO button: Clicking on the corresponding channel's SOLO button will send the student's voice to the SOLO interface (multiple channels can be listened to);
- ⑮ Displays the current channel level;
- ⑯ Channel Mute button: Click to mute the corresponding channel;
- ⑰ USB AUDIO: Click to jump to the USB AUDIO function detail interface;
- ⑱ Graphic Equalizer (GEQ): click it to jump to the Graphic Equalizer function details interface;

- ⑰ SYSTEM MUTE button: click to mute all output jacks;
- ⑱ Input fader switching control module: a total of four groups of channel modules (CH1-8, CH9-16 &S/SPDIF IN &USB PLAY, DCA1-8, AUX Send & FX Send) Clicking on the button allows the input fader to be adapted to the current channel, and adjusting the fader adjusts the gain of the channel module with the button selected;
- ㉑ Input Control Fader: Adjusting the fader controls the selected channel gain, which can be multiplexed by different channel modules;
- ㉒ Output fader switching control module: a total of three groups of channel modules (AUX1-4, FX1-4, DIGITAL OUT) Clicking the button allows the output fader to be adapted to the current channel, and adjusting the fader adjusts the gain of the channel module with the button selected;
- ㉓ LOCK button: Click to lock the current screen, all fader buttons cannot be controlled after locking;
- ㉔ Output Control Fader: Adjusting the fader controls the selected channel gain, which can be multiplexed by different channel modules;
- ㉕ MAIN Control Fader: The adjustment controls the MAIN channel gain.

3.2 Rear Panel



- ① Power: Please use an interface power supply of 110V-220V power adapter;
- ② USB AUDIO CARD (Class B) and ETHERNET interface: USB AUDIO CARD for USB sound card function; ETHERNET: Ethernet interface for connecting to interactive software on the PC side;
- ③ Two fiber optic interfaces and a pair of SPDIF inputs and outputs for digital signal transmission;
- ④ CH1-CH16 input channels: CH1-CH12 are balanced XLR female connector inputs, and CH13-CH16 are stereo inputs using a large 3-pole connector;

- ⑤ AUX1-4, MAIN, and AES/EBU OUT output connectors: Balanced XLR male connectors are used.

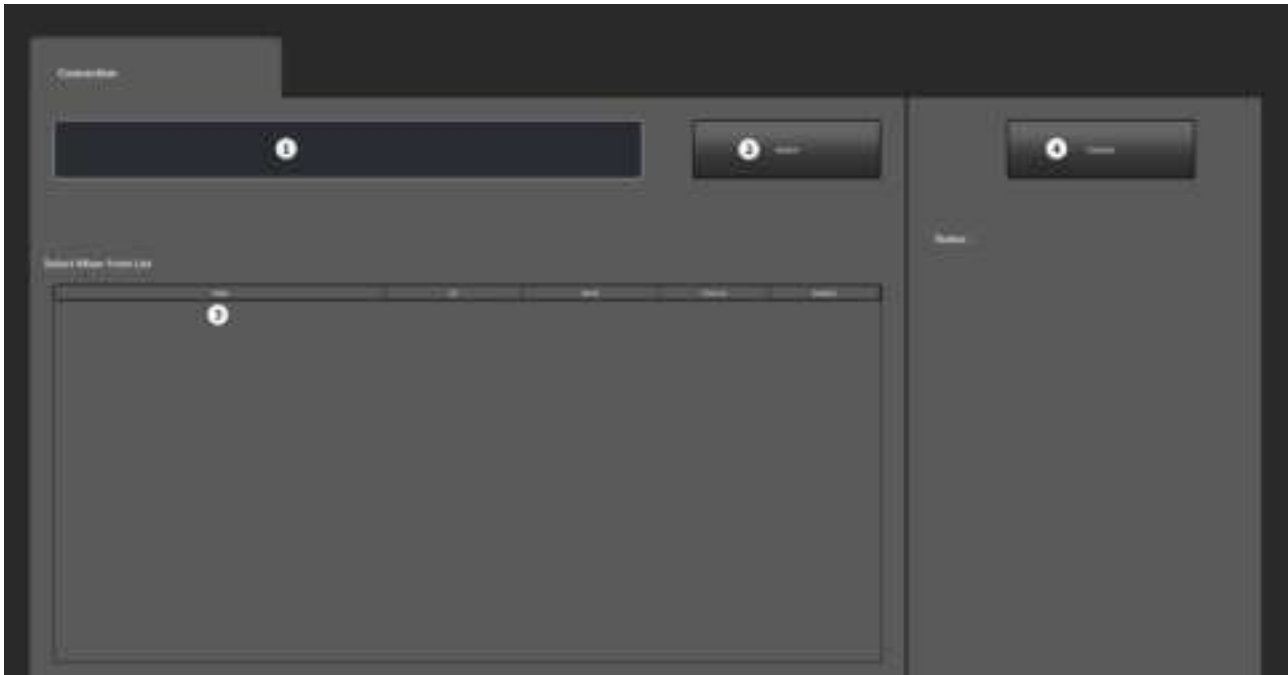
Chapter 4 Instructions for Use

4.1 Software and Documents Download



- ① View device IP address: Enter [Menu] ➡ [Network] to view the device IP address information, the default is automatically assigned by DHCP, you can choose to manually set the IP address;
- ② Audio files (Record), interactive software download (Soft) can support the system Windows, Android, macOS, Linux, related documents download (Document) including manual upgrade guide;
- ③ Default password: (LOCK, scene reset password) 123456.

4.2 PC Software Login Connection



- ① IP input box: IP address can be entered and displayed;
- ② Search: search for devices, devices in the same network segment can be found;
- ③ Device list: display online device name, IP address and other information;
- ④ Connection: select the device in the list, click "Connect" to connect, and automatically jump to the main interface.

4.3 Main Interface



- ① Navigation bar: Displays the type of channel and the channel range;
- ② Channel Name: Displays the channel name (customizable name), touch to navigate to the channel configuration interface;
- ③ Sound Image Slider: Adjust the image of the distribution of sound sources in space by touching and sliding or using the data wheel;
- ④ Monitor: Route the signal of this channel to the monitor interface;
- ⑤ AUX output overview: this input channel matrix is configured to the AUX channel quick display;
- ⑥ FX output overview: this input channel matrix is configured to the AUX channel quick display;
- ⑦ E: Display the channel EQ equalizer enable/disable status;
- ⑧ C: Indicates the channel compressor function enable/disable status;
- ⑨ G: Displays the channel auto gain function enable/disable status;
- ⑩ A: Displays the channel feedback suppressor enable/disable status;
- ⑪ Ø: Shows that the channel has changed the input signal polarity;
- ⑫ 48: Displays this channel: phantom power enabled/disabled (red is enabled);
- ⑬ D: The current channel has been grouped into DCA formations;
- ⑭ M: The current channel has been organized into the Mute grouping;

- ⑮ Level Meter: Displays the real-time signal level of the current channel;
- ⑯ Channel Fader: Touch the fader slide to adjust the current channel gain;
- ⑰ LINK: Links the channel to an adjacent channel and the channel settings will all be copied to the adjacent channel;
- ⑱ Mute: The channel is muted (shown in red), and the orange color indicates that the channel is turned on for system mute or mute group or DCA group mute.

4.4 Input Channel

4.4.1 Overview



- ① Overview: displays the enabled channel controls for the current channel;
- ② Reset: restores all parameter configurations of this interface to the default state;
- ③ Phase: change the polarity of the current input signal;
- ④ Delay: display the delay configuration and delay information;
- ⑤ Digital Gain: control the channel digital gain (+/-15dB) by slider;
- ⑥ DCA Group: shows that the channel has been assigned to DCA grouping;
- ⑦ Mute Group: shows that the channel has been assigned to the Mute group;
- ⑧ Equalizer switch: turn on/off the equalizer and display the curve diagram of the equalizer area;

- ⑨ Equalizer switch: turn on/off the equalizer and display the curve graph of the equalizer area;
Compressor switch: turn on/off the compressor and display the curve graph;
- ⑩ Noise Gate switch: turn on/off the noise gate and display the curve graph;
- ⑪ AUX send: send the current channel signal to the AUX auxiliary output channel;
- ⑫ FX send: send the current pass-through signal to the FX effector channel.

4.4.2 Configuration



- ① Configuration: parameter configuration interface;
- ② Reset: restores the current interface parameter configuration to the default value;
- ③ Channel Name: display the channel name, touch and then display the keyboard to customize the channel name;
- ④ Link: link the channel with the neighboring channel, the channel settings will be copied to the neighboring channel;
- ⑤ Phase: change the current channel input signal polarity;
- ⑥ 48V: turn on or off the 48V phantom power supply of the channel;
- ⑦ Gain: Channel gain is controlled by slider;
- ⑧ Delayer: Enable or disable the current channel delayer (delay range: 0-1000ms);
- ⑨ Sound Image: Adjust the image of the distribution of the sound source in space, touch and slide or use the data wheel to adjust;
- ⑩ Digital Gain: Channel digital gain (+/-4dB) is controlled via a slider;
- ⑪ Low Cut: The low cut filter uses the frequency set by the frequency controller as the cutoff frequency, and frequencies below the cutoff frequency are weakened;
- ⑫ SPDIF Out: Routes the channel signal to the SPDIF channel output;
- ⑬ AES Out: Routes the channel signal to the AES Out channel output;
- ⑭ Auto Mix: The input signal is mixed according to the set mixing ratio and sent to the output channel;
- ⑮ DCA Grouping: Shows that the channel has been assigned to a DCA grouping;
- ⑯ Mute Grouping: shows that the channel has been assigned to a mute grouping.

4.4.3 Equalizer



- ① Equalizer configuration interface;
- ② Real-time analyzer: Turn on/off the real-time analyzer to display the channel signal amplitude and peak value;
- ③ On/Off button: turns the equalizer on or off;
- ④ Reset: restores the current interface parameter configuration to the default values;
- ⑤ Low Cut Filter On/Off Button: The filter uses the frequency set by the frequency controller as the cutoff frequency and attenuates the frequencies below the cutoff frequency;
- ⑥ Low Cut Frequency: Sets the low cut filter cutoff frequency;
- ⑦ Band 1-4 on/off buttons: Enable/disable the associated parametric equalizer band, which is fully parameterized and has a frequency range of 20Hz-20KHz;
- ⑧ Gain: Adjusts the gain at the frequency setting of the relevant equalizer band in the range -15dB to +15dB;
- ⑨ Frequency: Sets the center frequency of the associated equalizer band, and if shelf filters are enabled, the control is used to set the inflection frequency of the shelf filters;
- ⑩ Bandwidth (Q): adjusts the bandwidth of the associated equalizer band; the bandwidth control is hidden when the shelf filter is selected;
- ⑪ Low Shelf: enables/disables the Low Shelf filter, which changes equalizer bands 1 through channel 6 from a parametric filter to a low-shelf filter;

- ⑫ Elevated: enables/disables the elevated filter, changing equalizer bands 1 through channel 6 from parametric to elevated filters;
- ⑬ High Cut Filter On/Off Button: The filter uses the frequency set by the frequency controller as the cutoff frequency and attenuates frequencies higher than the cutoff frequency;
- ⑭ High Cut Frequency: Sets the inflection frequency of the high cut filter.

4.4.4 Compressor



- ① Compressor Configuration screen;
- ② Reset: restores all parameter settings for this screen to their default values;
- ③ On/Off: Turns the compressor on/off;
- ④ Input: Displays the input level;
- ⑤ Compressor graphic: Compressor graph with horizontal scale from 0dB to -60dB;
- ⑥ Attenuation: Displays the signal level attenuated by the compressor;
- ⑦ Output: Displays the output level after processing by the compressor;
- ⑧ Threshold: Sets the threshold at which the compressor begins to attenuate the signal level, and starts working when the input signal exceeds the threshold;
- ⑨ Ratio: Sets the input/output compression ratio for when the input signal exceeds the threshold;
- ⑩ Gain: Adjusts the total output gain to compensate for the level lost by the signal after compression;

- ⑪ Establishment Time: Sets the start-up time for the compressor to begin working when the signal exceeds the threshold;
- ⑫ Release Time: Sets the release time for the compressor to stop compressing when the signal falls below the threshold.

4.4.5 Noise Gate



- ① Noise Gate Configuration interface;
- ② Reset: restores all parameter settings of this interface to default values;
- ③ On/Off: turn on/off the noise gate;
- ④ Input: input level;
- ⑤ Noise Gate Graph: graph of noise gate curve, with horizontal scale from 0dB to -75dB;
- ⑥ Attenuation: Displays the signal level reduced by the noise gate;
- ⑦ Output: displays the output level after noise gate processing;
- ⑧ Threshold: Set the threshold value to allow the audio signal to pass, when the signal is lower than the threshold value, it will be attenuated by the noise gate;
- ⑨ Attenuation: Set the amount of output signal attenuation when the input signal is lower than the threshold value;
- ⑩ Hold Time: Set the time for the noise gate to remain open after it is turned on and the length of time for the noise gate to remain open when the input level drops below the threshold;

- ⑪ Build-up time: Set the response speed of the noise gate for when the signal exceeds the threshold value;
- ⑫ Release time: for when the signal is below the threshold, set the response speed of the noise gate to attenuate the audio signal.

4.4.6 AUX Sends



- ① AUX Sends: Auxiliary sends configuration interface;
- ② Reset: restores all parameter settings of this interface to the default values;
- ③ AUX output channel name;
- ④ AUX Sends slider: set the audio signal level sent from this channel to the AUX output channel;
- ⑤ Display the gain value of the current sending channel;
- ⑥ Touch the drop-down box to select to send pre-fader/post-fader/dynamic pre-dynamic/post-dynamic signals to the AUX output channel;
- ⑦ Mute: mute the AUX Sends channel without affecting any other AUX outputs or sends.
- ⑧ AUX channel setting: tap the button to jump to the AUX sends configuration interface.

4.4.7 FX Sends



- ① FX sends: Effects sends configuration interface;
- ② Reset: restores all parameter settings in this interface to their default values;
- ③ FX channel name;
- ④ Send slider: sets the audio signal level of the channel to send to the effect mix signal;
- ⑤ Display the gain value of the current send channel;
- ⑥ Touch the drop-down to select the effects type;
- ⑦ Touch to switch the send pre-fader/post-fader signal to the FX channel;
- ⑧ FX channel setting: tap the button to jump to the FX sends configuration interface.

4.4.8 Anti-Feedback



- ① Anti-Feedback: parameter configuration interface;
- ② Reset: restores all parameter settings for this screen to their default values;
- ③ ON: Turns the feedback suppressor on/off;
- ④ AUTO: Automatically seeks out whistling points and suppresses them;
- ⑤ Manual: When a suspect feedback frequency is recognized, touch this button to apply a filter at that frequency;
- ⑥ Unlocked/Locked: Unlocked whistling frequency point/Locked whistling frequency point;
- ⑦ Frequency Grid: Displays the whistling points captured by the filter at different frequencies and the amount of attenuation;
- ⑧ Trap: Enables or disables filters for different frequency bands:
- ⑨ Frequency: Sets the center frequency of the filter;
- ⑩ Cut Amount: Sets the amount of filter attenuation;
- ⑪ Filter Depth: Increases or decreases the depth of all filters;
- ⑫ Filter Bandwidth: Sets all filter bandwidths;
- ⑬ ON: Turns noise gain on/off;
- ⑭ Noise: Noise gain setting.

4.5 Main LR Output Channel

4.5.1 Overview



- ① Overview interface;
- ② Reset: restores all parameter settings of this interface to the default values;
- ③ Delay: displays the delay configuration as well as the delay information;
- ④ DCA Groups: shows that the channel has been assigned to DCA Groups;
- ⑤ Mute Groups: shows that the channel has been assigned to Mute Groups;
- ⑥ Parameter Equalizer Switch: turns the equalizer on or off;
- ⑦ Compressor/Limiter Switch: turns the compressor/limiter on or off.

4.5.2 Configuration



- ① Configuration: Parameter configuration interface;
- ② Reset: restores all the parameter settings of this interface to the default values;
- ③ Channel Name: display the channel name, touch the display keyboard to customize the channel name;
- ④ Delay Switch: turn on or off the Delay;
- ⑤ Delay Slider: control the Delay by slider, and display the Delay configuration and information;
- ⑥ DCA Groups: shows that the channel has been assigned to DCA Groups;
- ⑦ Mute Groups: shows that the channel has been assigned to Mute Groups.

4.5.3 Parameter Equalizer



- ① PEQ: Parameter equalizer configuration interface;
- ② Reset: restores the current interface parameter configuration to the default value;
- ③ Open: turn on or off the parameter equalizer;
- ④ RTA: turn on or off the real-time analyzer;
- ⑤ Parameter Adjustment Display: graphically represent the equalizer curve according to the equalizer parameter configuration;
- ⑥ Turn on the Low Cut Filter: the filter takes the corresponding frequency controller setting frequency as the cutoff frequency and attenuates the frequencies below the cutoff frequency;
- ⑦ Frequency (Low Cut Frequency): Set the inflection frequency of the Low Cut Filter;
- ⑧ On/Off: Enable or disable the different frequency bands of the parametric equalizer;
- ⑨ Gain: adjusts and displays the gain at the frequency setting of the relevant equalizer band, ranging from -15dB to +15dB;
- ⑩ Frequency: Adjusts and displays the center frequency of the equalizer, which ranges from 20Hz to 20KHz for all bands, and if the shelf filter is enabled, the control is used to set the inflection frequency of the shelf filter;
- ⑪ Bandwidth (Q): adjusts the bandwidth of the associated equalizer band, with the shelf filter selected, the bandwidth control will be hidden;

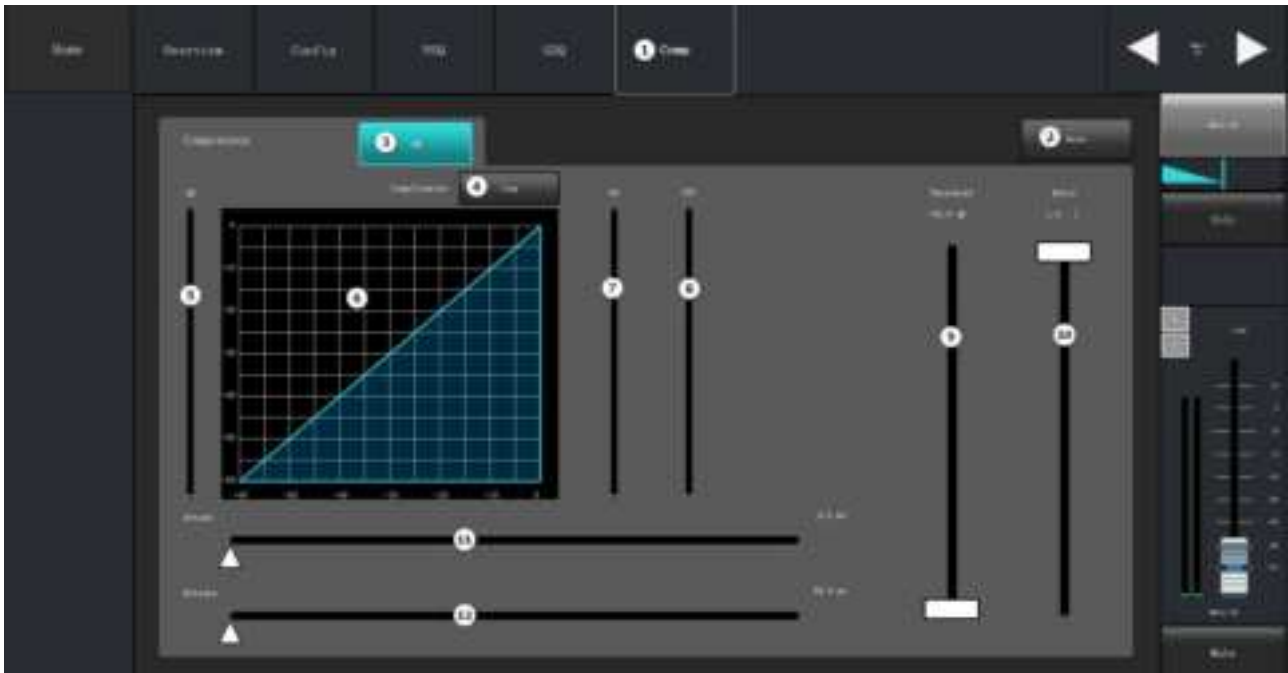
- ⑫ Low Shelf: Enable/disable the Low Shelf filter, change the equalizer band 1 to band 8 from parametric filter to low shelf filter;
- ⑬ High Shelf: Enables/disables the High Shelf filter, and changes the equalizer band 1 to band 8 from parametric filter to High Shelf filter;
- ⑭ Turn on High Cut Filter: The filter uses the corresponding frequency controller setting frequency as the cutoff frequency, and attenuates frequencies above the cutoff frequency;
- ⑮ Frequency (high-cut frequency): sets the inflection frequency of the high-cut filter.

4.5.4 Graphic Equalizer



- ① GEQ: Graphic equalizer configuration interface;
- ② Reset: restores the current interface parameter configuration to the default value;
- ③ RTA: turn on/off the real-time analyzer;
- ④ On: turn on or off the graphic equalizer;
- ⑤ Real-Time Analyzer Waveform Display: display channel signal amplitude and peak value;
- ⑥ Graphic Equalizer: 31-band graphic equalizer control, select the corresponding frequency band to push the slider to set parameters.

4.5.5 Compressor/Limiter



- ① Compressor/Limiter: Compressor/Limiter configuration interface;
- ② Reset: restores all parameter settings of this interface to default values;
- ③ On: turn on/off the Compressor/Limiter;
- ④ Compressor/Limiter Toggle Switch: switches between Compressor processing module and Limiter processing module;
- ⑤ Input: display the input level;
- ⑥ Compressor Graphic: Compressor graphic with level scale from 0dB to -60dB;
- ⑦ G.R: displays the signal level attenuated by the Compressor;
- ⑧ Output: displays the output level after processing by the Compressor;
- ⑨ Threshold: Sets the threshold at which the Compressor starts to attenuate the signal level, and starts to work when the input signal exceeds the threshold;
- ⑩ Ratio: sets the input/output compression ratio for when the input signal exceeds the threshold;
- ⑪ Build-up time: for the signal exceeding the threshold, set the response time for the Compressor to start working;
- ⑫ Release time: set the response time for the Compressor to stop compression when the signal is below the threshold.

4.6 FX Channel

4.6.1 Overview



- ① Overview: Overview interface;
- ② Reset: restores all parameter settings of this interface to default values;
- ③ Effects Pickup: select pre-fader/post-fader signal;
- ④ DCA Groups: shows that the channel has been assigned to DCA Groups;
- ⑤ Mute Groups: shows that the channel has been assigned to Mute Groups;
- ⑥ Equalizer switch button: turn on the equalizer, click curve overview graph to jump to the equalizer configuration interface;
- ⑦ AUX Sends: send the current effect signal to the auxiliary output channel.

4.6.2 Configuration



- ① Config: parameter configuration interface;
- ② Reset: restores all the parameter settings of this interface to the default values;
- ③ Channel Name: display the channel name, touch the display keyboard to customize the channel name;
- ④ Effect Pickup: select the pre-fader/post-fader signal;
- ⑤ Main L/R: send the current channel signal to the Main output channel;
- ⑥ DCA Groups: shows that the channel has been assigned to DCA Groups;
- ⑦ Mute Groups: shows that the channel has been assigned to the Mute Groups.

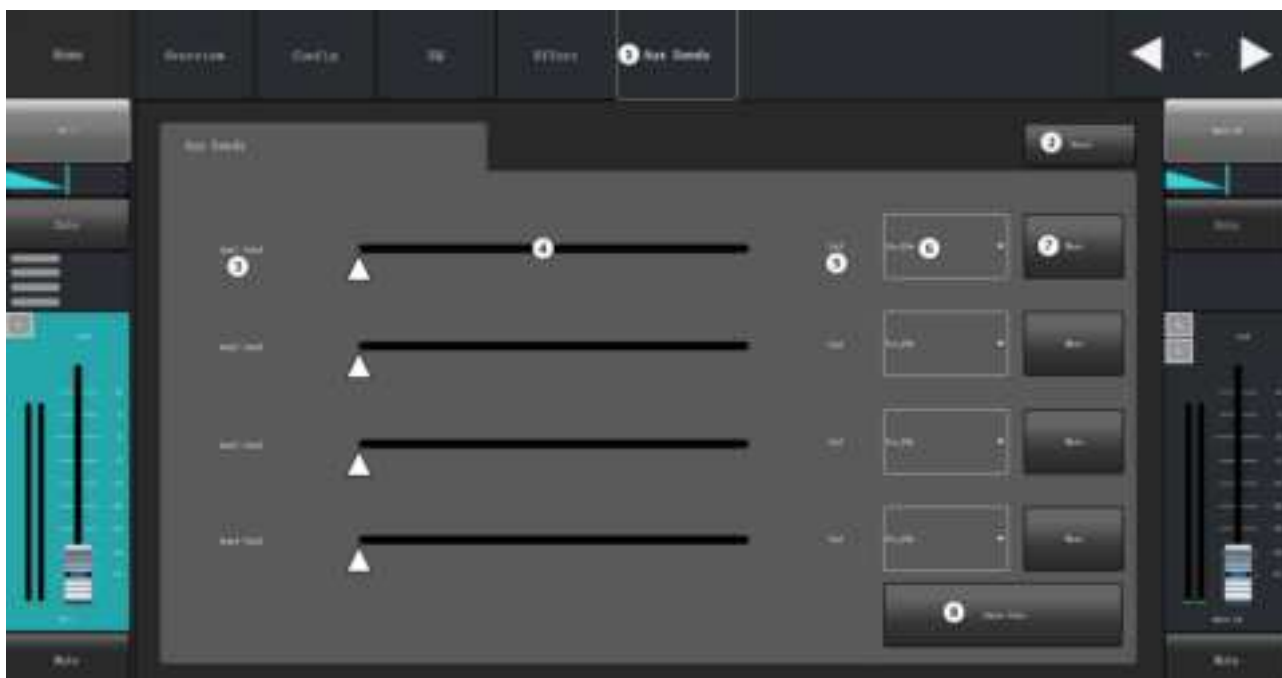
4.6.3 Equalizer



- ① EQ: Equalizer parameter configuration interface;
- ② Reset: restores the current interface parameter configuration to the default value;
- ③ Turn on/off: turn on or off the equalizer;
- ④ RTA: turn on/off the Real-Time Analyzer;
- ⑤ Graphical representation of the equalizer curve according to the equalizer parameter configuration;
- ⑥ Low Cut: Attenuates or cuts out the sound below this set frequency;
- ⑦ Low Cut Frequency: Set the range of Low Cut, the range is between 20Hz and 20KHz;
- ⑧ Low Shelf: Enables/disables the Low Shelf filter, changing the equalizer band 1 to band 3 from a parametric filter to a low shelf filter;
- ⑨ Gain: Gain is adjusted and displayed under the frequency setting of the gain-related equalizer band, ranging from -20dB to +20dB;
- ⑩ Frequency: Sets the inflection frequency of the low shelf filter;
- ⑪ High-shelf: Enables/disables the high-shelf filter, changing the equalizer bands 1 to 3 from parametric filter to high-shelf filter Gain: Adjusts and displays the gain under the Frequency setting of the gain-dependent equalizer band in the range of -20dB to +20dB;
- ⑫ Gain: Adjusts and displays the gain under the frequency setting of the gain-related equalizer band, ranging from -20dB to +20dB;

- ⑬ Frequency: Sets the inflection frequency of the high shelving filter.

4.6.4 FX AUX Sends



- ① AUX Sends: Auxiliary Sends configuration interface;
- ② Reset: restores all parameter settings of this interface to the default values;
- ③ AUX output channel name;
- ④ AUX Send slider: set the audio signal level sent from this channel to the AUX output channel;
- ⑤ Display the gain value of the current sending channel;
- ⑥ Touch the drop-down box to select to send pre-fader/post-fader/pre-dynamic/all pre signals to the AXU output channel;
- ⑦ Mute: mute the AUX Send channel without affecting any other AUX output or send;
- ⑧ Aux Gain: click to jump to the Aux channel interface.

4.6.5 Effects

I. Mono Delay



- ① Effect: Effect parameter configuration interface;
- ② Reset: restores all parameter settings in this interface to their default values;
- ③ Select the type of Effect including Mono Delay, Stereo Delay, Chorus, Reverb and Pitch Shift;
- ④ Effect Preset: click the drop-down list to select the effect preset scene;
- ⑤ Input Level: the level of the signal not processed by the effector;
- ⑥ Delay: set the delay time in milliseconds;
- ⑦ Tap Tempo: set the tempo of the regeneration using a tap;
- ⑧ Regeneration: set the echo decay ratio, the echo will decay slowly and gradually according to the ratio range;
- ⑨ Low Cut: attenuates or cuts out the sound below this set frequency, the range is between 20Hz and 2KHz;
- ⑩ High Cut: Attenuates or cuts out the sound above the set frequency, ranging from 200Hz to 20KHz;
- ⑪ Output level: the level after effect processing;
- ⑫ FX Returns to Monitors: the current effect is sent to the AUX output channel.

II. Stereo Delay



- ① Effect: Effect parameter configuration interface;
- ② Reset: restores all parameter settings in this interface to their default values;
- ③ Select the type of Effect including Mono Delay, Stereo Delay, Chorus, Reverb and Pitch Shift;
- ④ Effect Preset: click the drop-down list to select the effect preset scene;
- ⑤ Input Level: the level of the signal not processed by the effector;
- ⑥ Delay: set the delay time in milliseconds;
- ⑦ Tap Tempo: set the tempo of the regeneration using a tap;
- ⑧ Regeneration: set the echo decay ratio, the echo will decay slowly and gradually according to the ratio range;
- ⑨ Low Cut: attenuates or cuts out the sound below this set frequency, the range is between 20Hz and 2KHz;
- ⑩ High Cut: Attenuates or cuts out the sound above the set frequency, ranging from 200Hz to 20KHz;
- ⑪ Output level: the level after effect processing;
- ⑫ FX Returns to Monitors: the current effect is sent to the AUX output channel.

III. Chorus



- ① Effect: Effect parameter configuration interface;
- ② Reset: restores all parameter settings in this interface to their default values;
- ③ Select the type of Effect including Mono Delay, Stereo Delay, Chorus, Reverb and Pitch Shift;
- ④ Effect Preset: click the drop-down list to select the effect preset scene;
- ⑤ Input Level: the level of the signal not processed by the effector;
- ⑥ Ratio: sets the speed of the pitch shift;
- ⑦ Depth: sets the time range of audio signal adjustment;
- ⑧ Sine/Saw option: selects the mode of tone change;
- ⑨ Low Cut: attenuates or cuts out the sound below this set frequency, the range is between 20Hz and 2KHz;
- ⑩ High Cut: Attenuates or cuts out the sound above the set frequency, ranging from 200Hz to 20KHz;
- ⑪ Output level: the level after effect processing;
- ⑫ FX Returns to Monitors: the current effect is sent to the AUX output channel.

IV. Pitch Shift



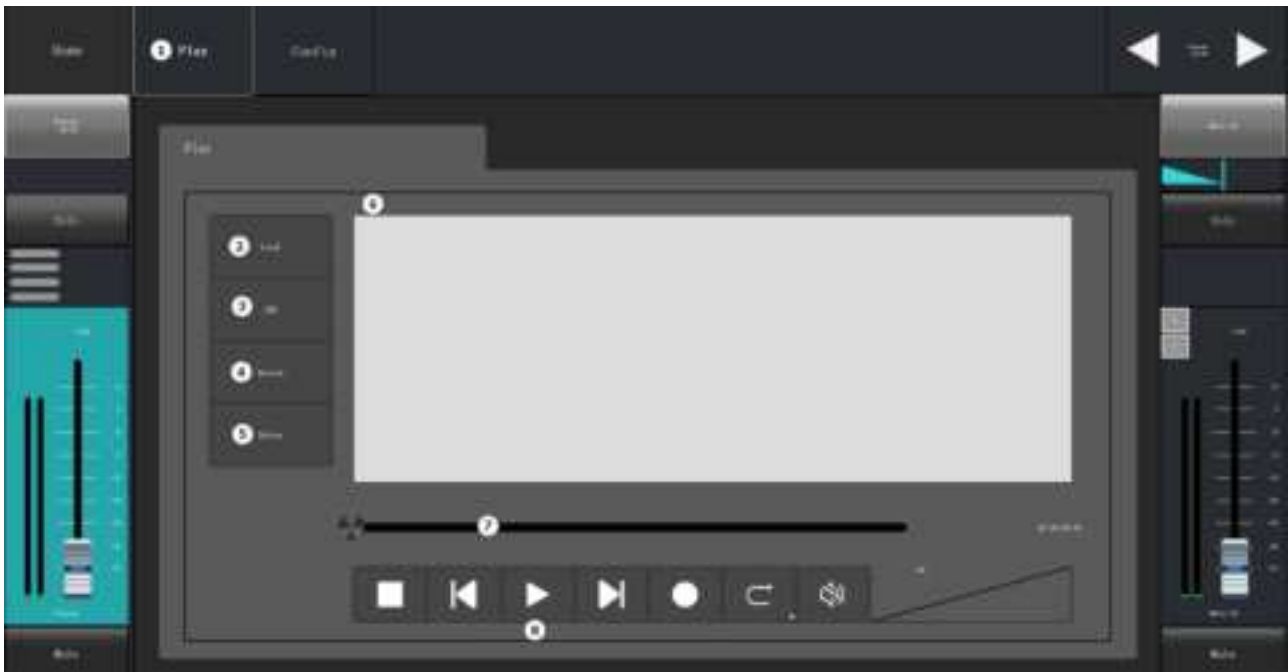
- ① Effect: Effect parameter configuration interface;
- ② Reset: restores all parameter settings in this interface to their default values;
- ③ Select the type of Effect including Mono Delay, Stereo Delay, Chorus, Reverb and Pitch Shift;
- ④ Effect Preset: click the drop-down list to select the effect preset scene;
- ⑤ Input Level: the level of the signal not processed by the effector;
- ⑥ Left: Control the gain of the left channel output via the slider;
- ⑦ Right: Control the gain of the right channel output via the slider;
- ⑧ Low Cut: attenuates or cuts out the sound below this set frequency, the range is between 20Hz and 2KHz;
- ⑨ High Cut: Attenuates or cuts out the sound above the set frequency, ranging from 200Hz to 20KHz;
- ⑩ Left Channel Delay: set the left channel pitch shift delay time;
- ⑪ Right Channel Delay: set the right channel pitch shift delay time;
- ⑫ Left Channel Sharp/Lower: Left channel selects Sharp or Lower Shift;
- ⑬ Right Channel Sharp/Lower: Right channel selects Sharp or Lower Shift;
- ⑭ Output level: the level after effect processing;
- ⑮ FX Returns to Monitors: the current effect is sent to the AUX output channel.

V. Reverb



- ① Effect: Effect parameter configuration interface;
- ② Reset: restores all parameter settings in this interface to their default values;
- ③ Select the type of Effect including Mono Delay, Stereo Delay, Chorus, Reverb and Pitch Shift;
- ④ Effect Preset: click the drop-down list to select the effect preset scene;
- ⑤ Input Level: the level of the signal not processed by the effector;
- ⑥ Reverberation sense: the size of the reverberation time;
- ⑦ High-frequency attenuation amount: High-frequency attenuation amount control;
- ⑧ Original/Reverb: The ratio of the original signal to the signal processed with reverb;
- ⑨ Output level: the level after effect processing;
- ⑩ FX Returns to Monitors: the current effect is sent to the AUX output channel.

4.7 Playback/Recording



- ① Player interface;
- ② Local: list of local music files;
- ③ USB: List of audio files in external USB (Class A) removable hard disk devices;
- ④ Record: list of recorded files;
- ⑤ Delete: Only local files as well as recorded files are allowed to be deleted;
- ⑥ List: Displays the current list of tracks, touch to select the track to play;
- ⑦ Audio file playback progress bar, slide to determine the playback position;
- ⑧ Playback controls: Stop, Previous, Pause, Next, Record, Play Mode, Mute, Volume Adjustment.

4.8 Other Functions

4.8.1 Menu settings



- ① DCA Grouping: navigates to the DCA Grouping screen;
- ② Real-Time Analyzer: Navigates to the Real-Time Analyzer screen;
- ③ Test Signal: Noise generator, including a, sine wave, pink noise, white noise signal;
- ④ FX Overview: Navigates to the effects preview screen;
- ⑤ Scene: scene setting interface, provides 30 scenes, can be increased to 255 scenes;
- ⑥ Sound card: USB sound card settings;
- ⑦ Clear: one-key clear function (algorithm, mute, monitor, gain);
- ⑧ Copy/Paste: Copy/Paste, you can copy the configuration parameters of the current channel to other channels, limited to the same type of channel to copy and paste each other;
- ⑨ Restore Factory Settings: clear the current scene file configuration and restore to the default configuration;
- ⑩ Upload File/Network: on the PC side is to upload audio files to the device locally, on the device side is to display the device IP address and turn on the Wi-Fi module;
- ⑪ Search device/fader calibration: on the PC side is to jump to the search device interface, on the device side is fader calibration;
- ⑫ Language: switch the interface display language (languages include: English, Simplified Chinese, Traditional Chinese);

- ⑬ Upgrade/U disk firmware upgrade: Upgrade is the software on the PC side to upgrade the device side, U disk firmware upgrade is the device side to upgrade the software through USB;
- ⑭ Version: show the version information;
- ⑮ Service: udp service: check/cancel the central command control check box; host backup: check/cancel the dual hot backup function, set the host's IP address above the slave, real-time synchronization of the host's data over the network.

4.8.2 DCA Grouping

I. DCA Grouping Main Interface



- ① DCA 1-8: Main interface of DCA grouping;
- ② DCA grouping channel name;
- ③ DCA grouping channel faders that control the gain of all channels that are grouped into that grouping;
- ④ Mute: The formation channel is muted.

II. DCA Grouping Configuration Screen



- ① DCA Grouping Options: selects the relevant DCA grouping available for editing;
- ② DCA name: The name of the formation channel is displayed, and the name can be customized and modified;
- ③ Select All: Select all channels to be assigned to the DCA group;
- ④ Clear: Clears all assignments in the selected DCA grouping;
- ⑤ Touching a channel's Assign button adds that channel to the selected DCA group, and both Inputs/Outputs and Effects Returns can be assigned to a DCA group.

When a channel is programmed into one or more DCA groups, the output of that channel is equal to the sum of all the faders of that DCA group plus the value of the channel's fader. When a channel is programmed into one or more DCA groups, the channel and all DCA groups must be unmuted if the audio signal of the channel is required to pass through. The same principle applies when a channel belongs to a DCA and mute group. If the audio signal of the channel is needed to pass through, the mutes of all groups must be canceled.

4.8.3 Mute Grouping

I. Mute Grouping Main Interface



- ① Mute Group Edit: Click to enter the mute group detail configuration interface;
- ② Mute: mute selected grouping.

II. Mute Grouping Details Screen

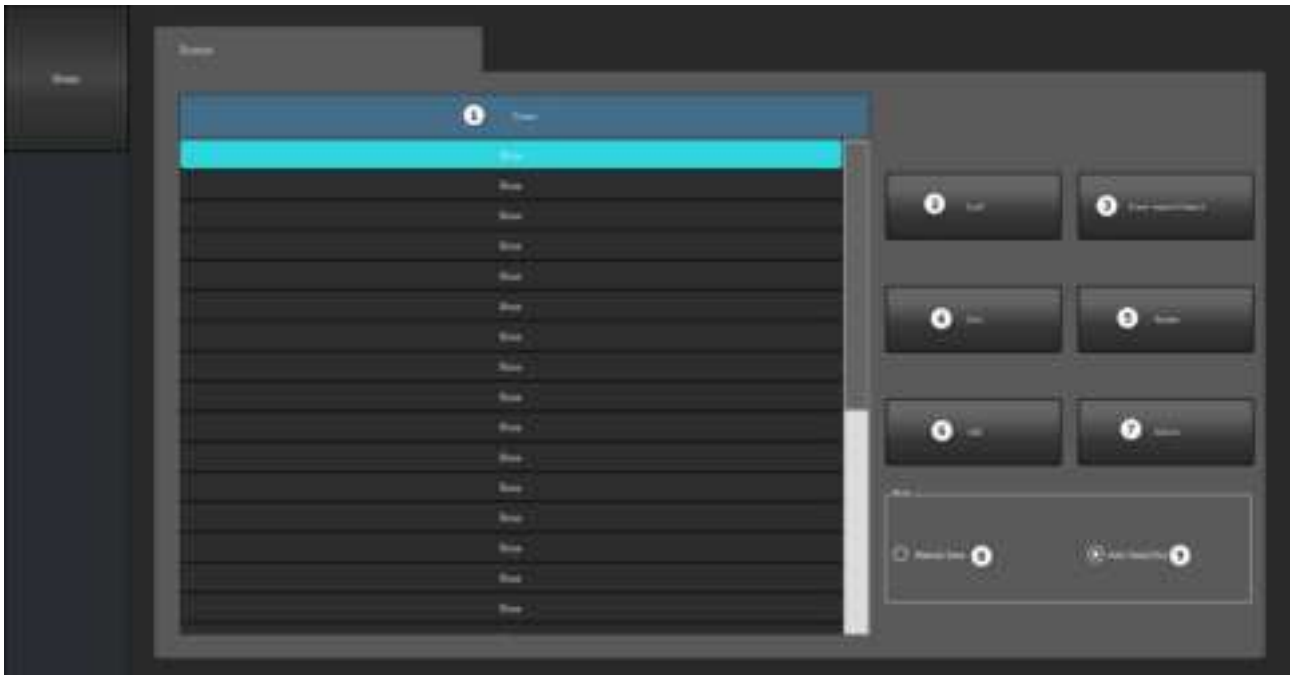


- ① Mute Grouping Options: Select a mute grouping that can be edited;

- ② Grouping Name: the name of the grouping channel is displayed, and the name can be customized and modified;
- ③ Mute: mute or unmute the channels that have been assigned to the mute group;
- ④ Select All: Select or clear all mute group assignments;
- ⑤ Close Edit: touch to navigate to the main Mute Group screen;
- ⑥ Assign button: touch the channel name to add the channel to the selected mute group.

When a channel is muted via a mute group, the mute button for that channel will turn orange. When a channel is muted via the channel mute button and the mute grouping, the mute button for that channel turns red. For an audio signal to pass through, all mutes associated with the channel must be canceled.

4.8.4 Scene Configuration



- ① Scene: Scene list, select the scene for editing by drop-down slider;
- ② Load button: tap the scene number in the list to load;
- ③ Import/Export Scene buttons: export and import scenes;
- ④ Save button: applicable to save the current scene content to another scene;
- ⑤ Rename button: modify the name of the selected scene;
- ⑥ Add button: add a new scene;
- ⑦ Delete button: deletes the selected scene;

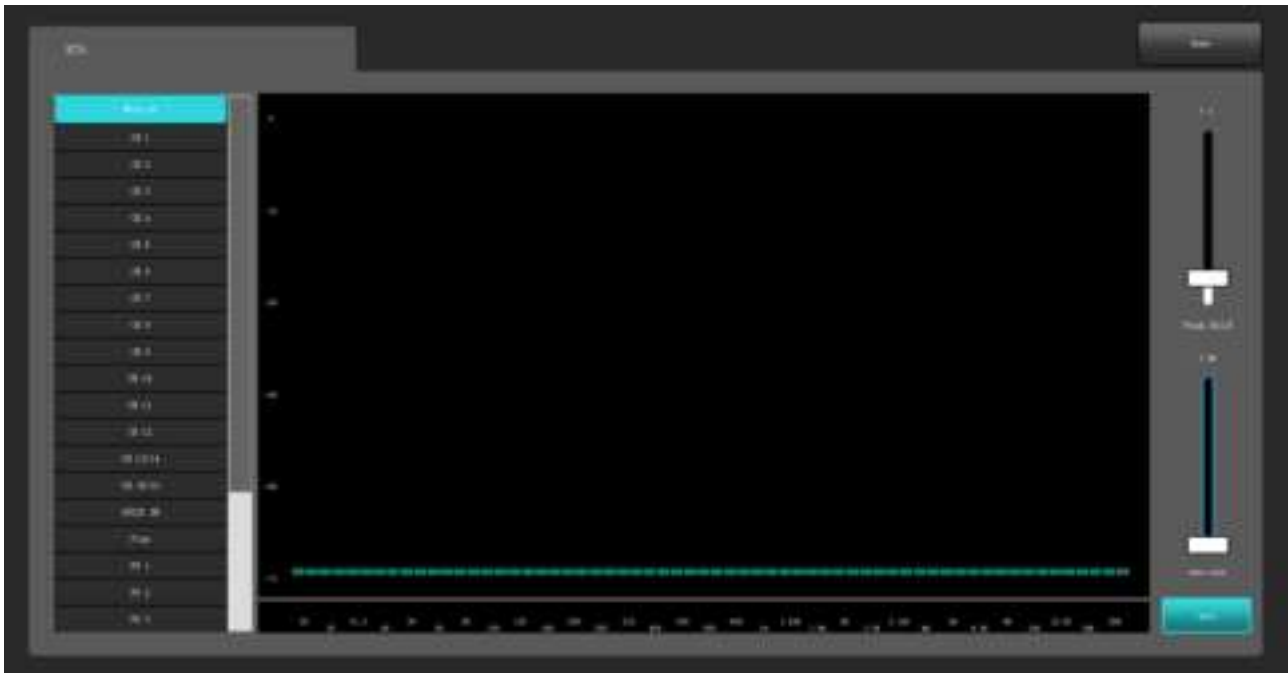
- ⑧ Manual Save: manually save the current scene;
- ⑨ Auto save (10s): save the scene automatically every 10 seconds.

4.8.5 Noise Generator



- ① Reset: reset the noise generator settings;
- ② Assign button: touch the channel name to assign the noise to that channel output;
- ③ On/Off: Turn on or off the noise generator;
- ④ Sine wave: Enable the sine wave signal output;
- ⑤ White Noise: enable white noise signal output;
- ⑥ Pink noise: enable pink noise signal output;
- ⑦ Frequency: Set the noise output frequency;
- ⑧ Gain slider: sets the noise output signal level.

4.8.6 Real-Time Analyzer



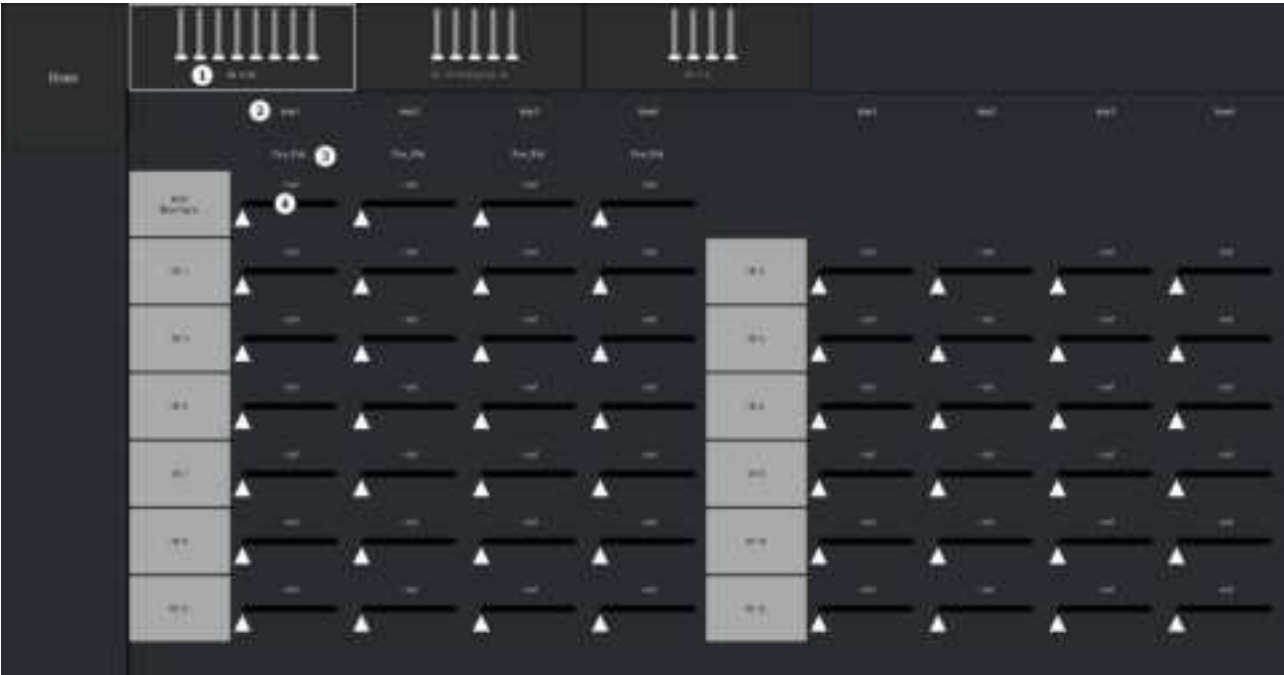
The real-time analyzer sources mainly include input channels, playback channels, Main L/R, AUX auxiliary outputs, and FX effects.

4.8.7 Level Meters

The level overview is used to display real-time level information for all input/output channels.



4.8.8 Auxiliary Output Matrix Overview



- ① Groups CH1-12, Stereo Single Channels 13-16/Digital Inputs (RCA/SPDIF) 17-18, and FX Effects 1-4 can be selected in the navigation bar;
- ② AUX output channel name;
- ③ Pre_Fdr/Post_Fdr: Shows where the signal was sent (pre-fader or post-fader);
- ④ Control Slider: Used to adjust the signal level of the auxiliary transmitter.

Chapter 5 Packing List

Device	Power Cable	User Manual
1PCS	1PCS	1PCS

Warranty Regulations

The warranty period of this product is 1 year.

In the warranty period of non-man-made damage caused by the product performance failure can enjoy three packages of service.

Warranty card by the sales unit stamped after the effective. The alteration is invalid!

The following conditions (including, but not limited to, this) are not covered by the three-package service:

1. No warranty card or missing valid invoice or the date has exceeded the validity period of the three packages of services;
2. Not in accordance with the requirements of the product instructions for use, maintenance, management and damage caused;
3. The product model or code on the warranty voucher does not match the physical goods;
4. Damage caused by the dismantling and repair of non-authorized service providers;
5. Normal discolouration, wear and tear and consumption during the use of the product are not covered by the warranty;
6. The product cannot be used due to the user's own network reasons, please consult customer service staff.



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