S'Space Pro

User Manual

V1.0

Contents

Legal Information and Contact Information for the R&D Company:

Playeah (Brand Name: S'Space Pro) has been under copyright protection since,* / */2020.

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1、 Product Introduction

1.1 Introduction to the Sound Master 'S'Space Pro'

S'space Pro is a full scene sound, electricity, light and shadow integrated meta-control center designed and developed for the theme exhibition hall, fresh art exhibition, high-end boutique gallery, immersive reality show, interactive sitcom, etc. Excellent sound field processing makes the environment more atmospheric. S'space Pro uses playeah's self-created "Playeah Soun3D" spatial sound composite rendering engine, with up to 64 channels of independent speaker output, to build a more detailed, natural and enveloping three-dimensional sound field. It can work together with set decoration, lighting effects, and video images to create an integrated environment of sound, electricity, light and shadow..

Integration of stage art, music and environment coordination

The fusion of sound, light and shadow is not simply following the changes of the drumbeat. The built-in "IMFA" and "RTBC" technologies of S'space Pro can intelligently analyze and extract music metadata, and coordinate lighting effect changes, dynamic video rhythms and other dynamic actions in real time, making light and shadow dynamic effects and electromechanical linkage more in line with music rhythm and theme emotion.

Multiple interactions, more immersive experience

Playeah independently develops the "UISIF" interactive interface enable S' space Pro to build an organic connection with the audience' s perception and actions of sight, hearing, smell, touch, body and movement. It make the theme environment and people can realize all-round mutual interaction, make the theme more touching, and let people be more immersed in the scene.

1.2 Product Diagram

1.3 Precautions for use

- Space Pro has been installed and debugged, and can be used normally
- Space Pro must be connected to the network and be able to connect to the Internet.
- Before use, you should be familiar with the contents of the manual and operate strictly in accordance with the requirements in the manual.

2. Power On, Login, and Account Management

2.1 Account and password

After the installation of Space Pro is completed, the installer will activate the device and open an account. Users are requested to obtain the activated account and password from the installation personnel before use.

This account will be associated with all the functional permissions opened on this machine, as well as the functional permissions of Yeetone Music Cloud. It is also a key credential for future renewals, upgrades, and services. This is the core value of the 'Space Pro'. Please keep and manage it properly. It is recommended to change the password immediately after the first login.

Space Pro will perform network verification each time you log in. Please ensure that your device is online during work. If not logged in online, the system will prompt for offline working status. If the offline working status exceeds the limit time, the system will restrict its use.

2.2 Power on and login

Before use, the "Space Pro" needs to be installed and debugged by an authorized dealer, and it will only be delivered to users after confirming that all functions have been set up. Therefore, users only need to turn on the power to start using it.

Press the power switch on the front panel of Space Pro and start the device. After about 15-30 seconds, the login interface will appear on the monitor connected to the device. As shown in the following figure:

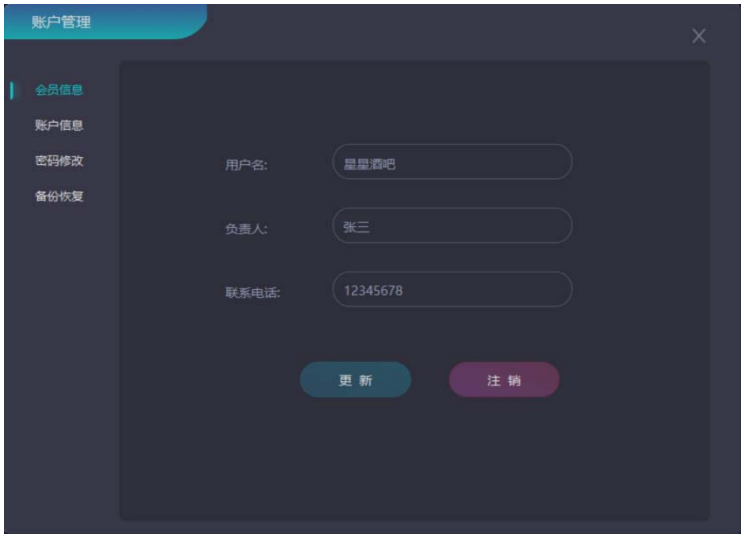
Users can enter the system and start using it by entering their account and password. If the "automatic login" option is selected, the system will save the last entered account and password and automatically log in after power on.

2.3 Account Management

After entering the main interface, click on the portrait tab in the upper right corner of the screen 

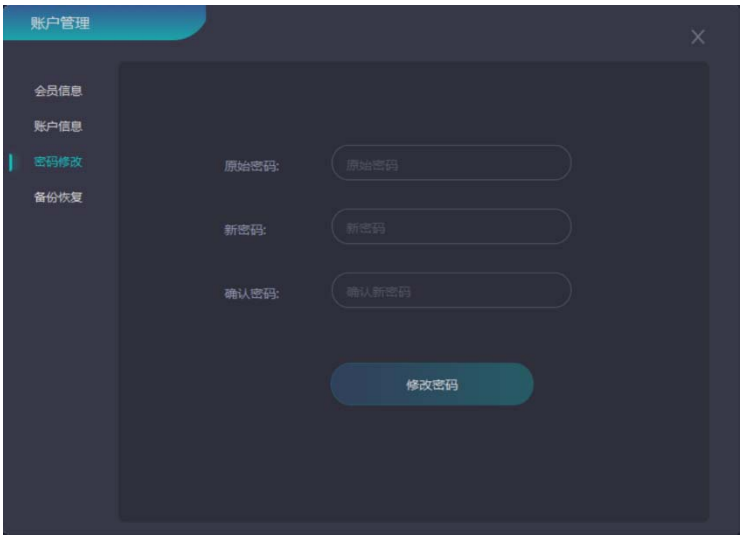
. You can manage this account here.

Account management includes membership information, account details, password updates, and backup & recovery functions. The following image shows the account management page.

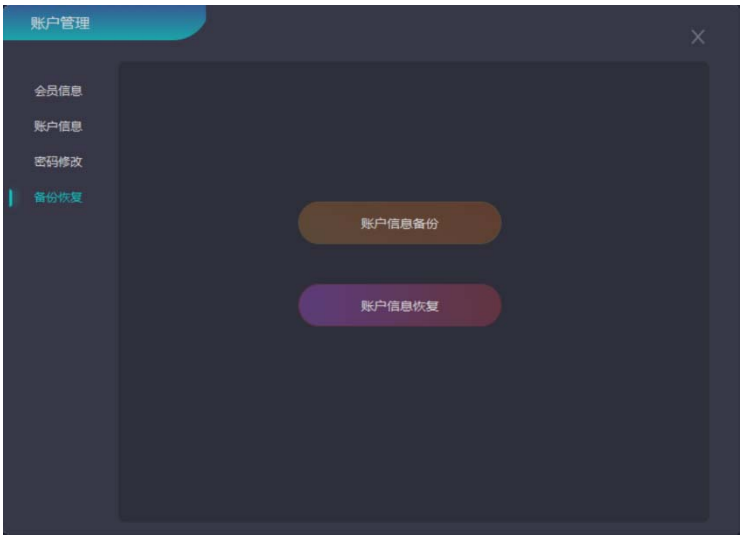


This page displays membership information. You can update the username, contact person's name, and phone number on this page..

This page is for account information. On this page, you can view the permission information of this account, including the number of music that can be downloaded, the music categories that can be selected, and you can view and update the account period, account balance and account level.



This page is for password modification, changing the password of this account. It is recommended that new users change their password after the first startup.



This page is for backup and recovery, uploading the playlist and downloaded music data of this account to the server for backup. You can also restore the backup data from the server to the local machine.

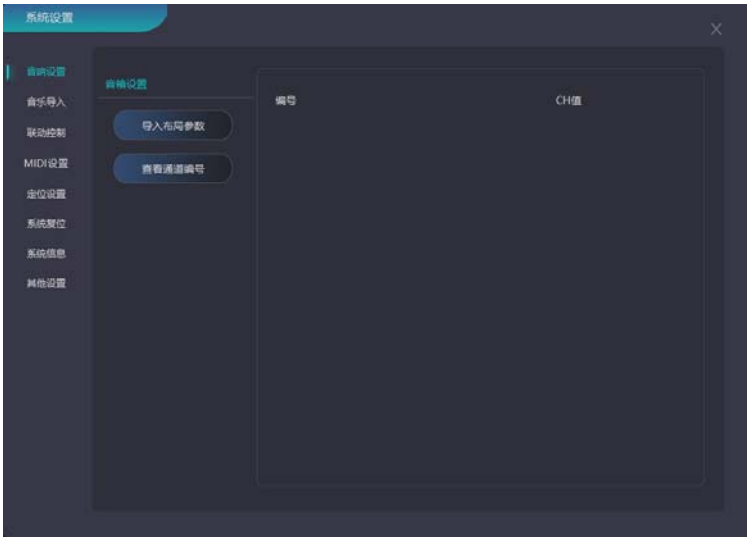
3. System settings

After entering the work interface, click on the "System Settings" tab 

in the upper right corner of the screen. You can set up the system on this device.

The system settings include: audio settings, music import, linkage control, MIDI settings, positioning settings, system reset, system information, and other settings.

3.1 Audio settings

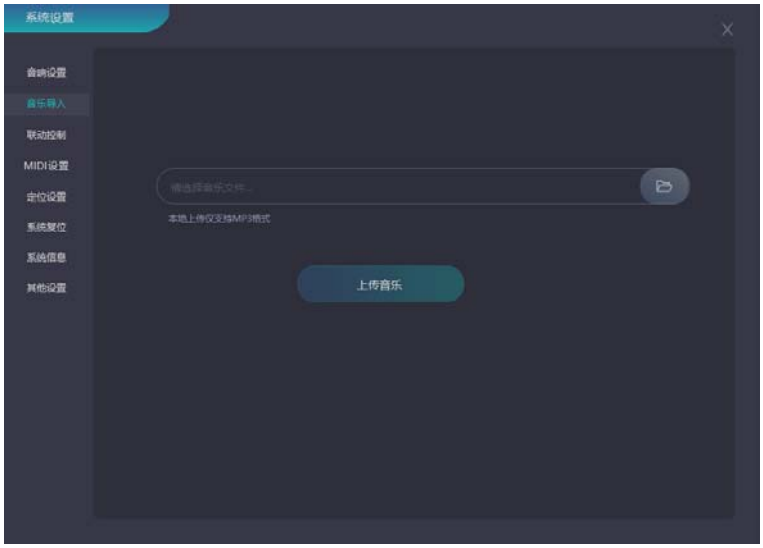


This page is for audio settings, including speaker settings and mode settings.

In the speaker settings section, click "Import Layout Parameters" to import the speaker's layout parameter table, allowing "Space Pro" to automatically adapt internal parameters according to the speaker layout to achieve the best usage effect.

This step is performed during system installation and debugging. In general, users do not need to take any action. Users can click the "View Channel Number" button to display the channel numbers of all speakers in the right window. Easy for users to check the circuit later.

3.2 Music import



This page is for music import, importing local files into Space Pro's system (only supports MP3 format),

You need to upload music files through external storage such as a USB flash drive, insert it into the USB port of , then click "Browse" to select the music file you want to upload, click "Upload Song", and display "Upload Successful" to complete the upload.

3.3 Linkage Control

This page is for linkage control. Space Pro adopts OSC control protocol, which can communicate and control with external devices such as video and lighting, allowing video playback or lighting effects to change with the music.

3.3.1 Input linkage

This page is the input linkage in linkage control, which contains the OSC address of the play and pause keys, and is the input address of the OSC protocol; the sent data is the linkage data of the OSC protocol. The output linkage needs to be linked with the input data.

3.3.2 Output linkage

There are three categories of linkage output: OSC protocol, 485/232 protocol, and BPM output.

This page is for OSC protocol. Set the specified song to send OSC commands to other devices.

This page is for the 485/232 protocol. Set the specified song to send 485/232 commands to other devices.

This page is BPM output. The BPM value of the song is linked with the lights and videos, so that the lights, videos and the rhythm of the song are triggered synchronously. Supports OSC protocol and 485/232 serial port protocol. When connecting to BPM, click the upper right corner of the page to link with external devices, synchronize values with external devices, and tags 

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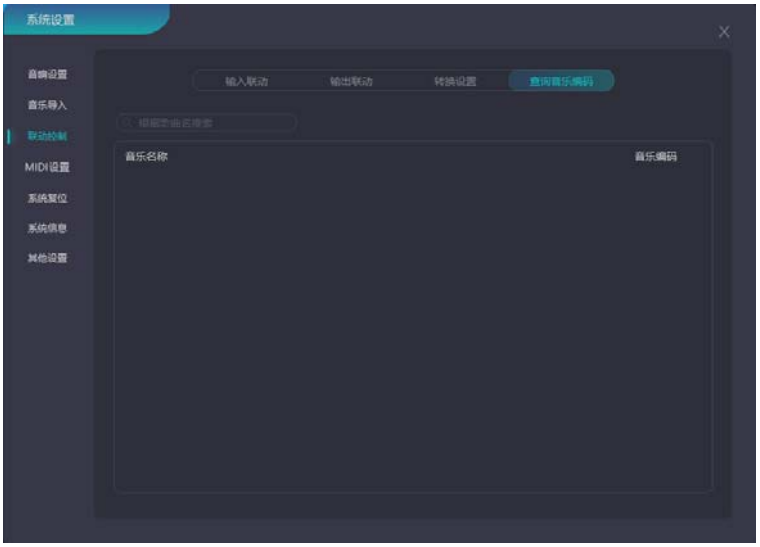
3.3.3 Conversion Settings

This page is for conversion settings. 串口转OSC协议和串口 In the system, the serial port is connected (this serial port is the serial port for external input devices). After the connection, this serial port is converted to OSC protocol or 485/232 protocol serial port.

3.3.4 Query Music Code



This page is for querying music codes, which can be used to search for music codes and linkage settings.

3.4 MIDI Settings

The fourth page is Midi settings. The function of this page is to connect with the midi controller so that the midi control can be synchronized with the computer. Before connecting, arrange the position of each function on MIDI to avoid confusion.

1) Input - Learning, this section is the fader for the "Input" page of the Learning Control Center.

Operation: For example, select "Microphone 1" and click on 学习. Then, "Learning" will be displayed. At this point, you need to turn the connected knob on the MIDI controller to activate recognition. Once the learning is successful, the MIDI keyboard will be connected for MIDI control

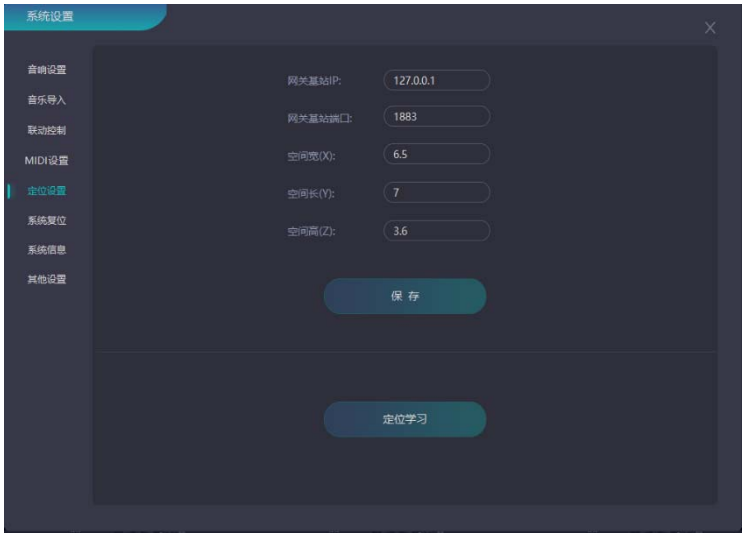
2) Output - Learning, this section is the fader for the "Output" page in the Learning Control Center.

Operation: For example, select "Subwoofer" and click on 学习. "Learning in Progress" will appear, and you should turn the connected knob on the MIDI controller to activate recognition. After successful learning, the MIDI keyboard will be connected for control.

3) Control - Learning, this section is the function button for the "Play Function" in music playback learning.

Operation: For example, select the "Confirm Button" and click ✓. "Learning in Progress" will be displayed. At this point, you need to press the button on the MIDI controller to activate recognition. Once this section of MIDI learning is completed, you can use the up, down, left, and right buttons to control the music playlist, track selection, and playback. To confirm playback, select and click ✓.

3.5 Positioning Settings

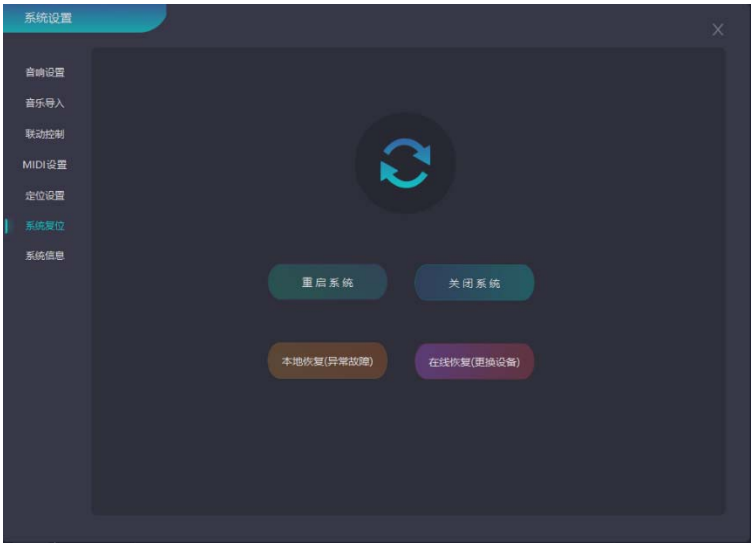


The fifth page is the positioning setting, input the positioning setting of the channel, and set the length, width and height of the space according to the specific space size. The length, width and height of the spatial position distribution diagram in the input interface of the control center are all set on this page.

Positioning Setup Steps:

1) Gateway Base Station IP: The IP of the base station for system communication.
2) Gateway Base Station Port: 1883.
3) Set the dimensions of the space (length, width, height): This setting varies depending on the size of the space.
4) Movement Learning: After enabling real-time tracking control system, click the "Movement Learning" option on this page to activate it (you need to hold the microphone and the positioning tracking system while moving around the space for activation). The system will display "Learning Successful" once completed

3.6 System Reset



Page 6 is for System Reset. On this page, you can restart or shut down the system. If the Space Pro encounters any issues, you can restore the system from this page. The system restore includes:

1) Local recovery - restores the system to its last normal working state.
2) Online Recovery - This is used for recovering devices after hardware failure and updating them.

3.7 System Information

Page 7 is for System Information. On this page, you can view the basic information and parameters of the device. The "Check for Updates" option allows you to update the system version online.

3.8 System Information

This page is for other settings. FTP is a standard protocol used for file transfer over a network. When downloading songs, if the download fails, you can also use the FTP protocol to download the songs.

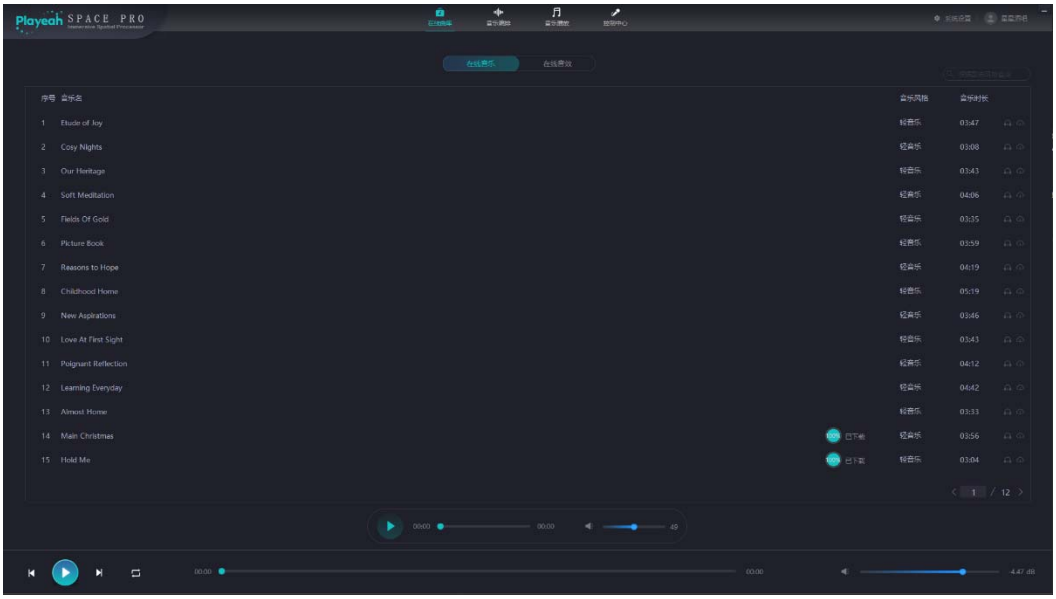
4. Online music library

To solve the problem of users not having matching program playback after being equipped with a spatial sound system, Space Pro has partnered with Yeetone Music Cloud to embed and integrate Yeetone Music Cloud's spatial sound music library into Soundscape Master "Space Pro". Users only need to log in with a valid account and password and open "Space Pro" to instantly browse the music library of Yeetone Music Cloud online, select their favorite music to download to the local device for daily playback.

The picture below is the interface of the "Online Music Library" in Space Pro.

The "Online Library" in Space Pro currently offers two types of music.

4.1 Online Music

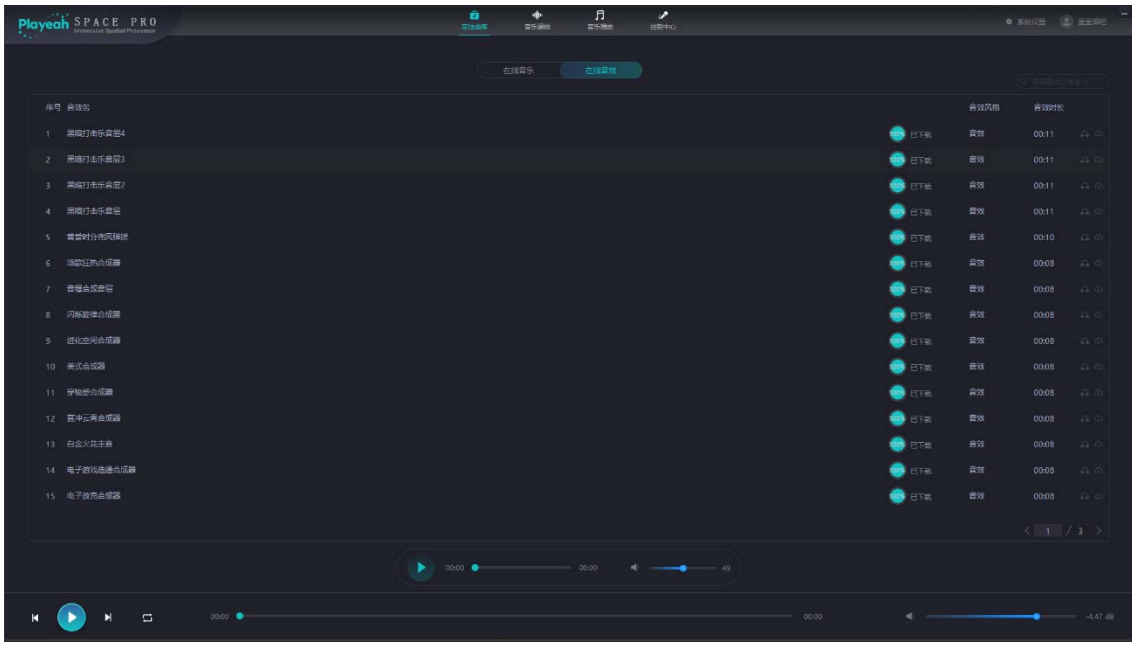


This page is for online music, which requires a successful connection to the Internet to function properly. Users can search for song styles and types according to their preferences. 

1) The tag  is for trial listening mode, limited to headphone trial listening only, wearing headphones to experience immersive music in both ears. Select a song to use trial listening mode, and then download it according to user preferences.

2) The label  is song download, and the downloaded songs will be automatically sent to the online playlist of the music arrangement.

4.2 Online Sound Effects



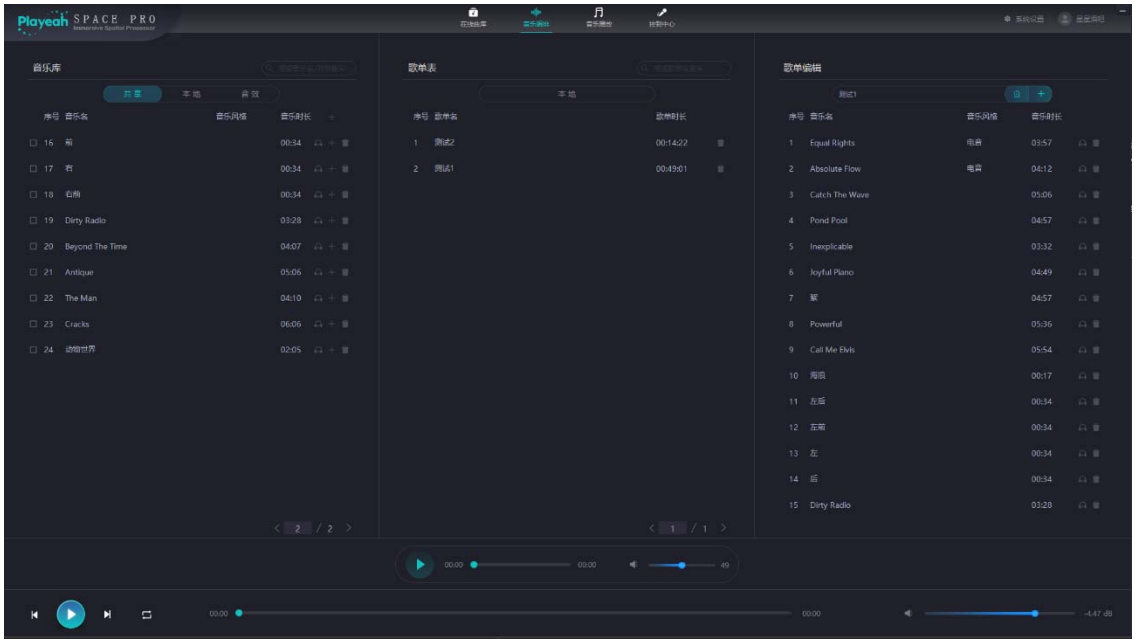
This page is an online audio effect, which can run normally only after successfully connecting to the Internet. Extract electronic special effects to demonstrate 3D surround, so that the experience effect is more prominent.

5. Music arrangement

Music Arrangement is the complete library of downloaded and imported tracks, with a strictly categorized selection in the shared music library based on musical styles.

Music Arrangement allows offline music playback and playlist editing.

The Music Arrangement interface provides a trial listening mode for all tracks (headphone-only preview). During playlist editing and track sorting, users can preview tracks and categorize or arrange them according to their needs.



This page is for music arrangement,

Music Library:

1) Share: Click 共享 to switch to the tracks displayed after downloading online music from the online music library interface.

2) Local: Click on 本地 to switch to the local music displayed after successful upload from the local source.

3) Sound effects: Click 音效 to switch between the tracks displayed after downloading the online sound effects from the online music library.

Song list editor:

i. **Create a new playlist:** The first step is to click + Add and sort the tracks you want to add to the music list (just drag the tracks with the mouse). Step two, enter the playlist name in the edit box. Third, click + to save the playlist and finish editing. (Note: The number of tracks for creating a new playlist is limited to 15.).

ii. **Modify playlist:** Select the playlist you want to modify in the playlist table to modify it. (Note: Before that, check if the playlist is in the music

playback schedule. If it is in the schedule, you need to click delete to make changes.). Otherwise, it will display 'already scheduled, no modifications allowed'. 

iii. **Delete playlist:** Click the delete button in the playlist  to complete it. (Note: The deleted playlist needs to be deleted in the music playback interface's schedule first).

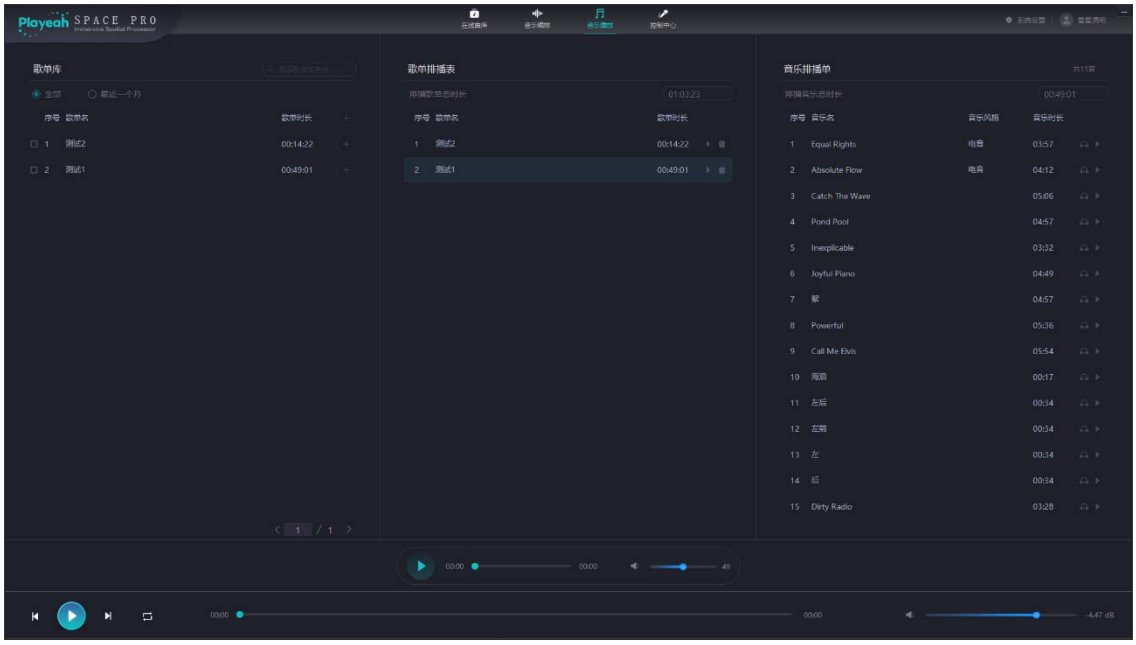
iv. **Clear playlist editing list:** Click on  to clear the editing table.

6. Music playback

The playlist in the music playback interface is recognized after the music arrangement is successfully edited.

Space Pro supports mono, stereo, 3D spatial surround, and headphone-style immersive surround playback modes, achieving diverse experience effects in Space Pro.

The "Music Playback" page is divided into three parts: song library, playlist schedule and music playlist.

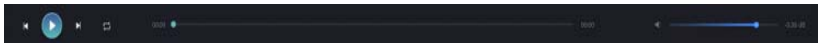


This page is for music playback, and the playlist library is synchronized with the playlist table in "Music Arrangement".

1) Playlist library: a collection of all arranged playlists. Click + on the tag to add.
2) Playlist: The songs to be played. During the playback process, the tracks here will be played in a loop in order, and the playback order of the playlist can be adjusted. If the playlist does not need to be played, you can choose to click delete. The number of songs on the playlist is limited to 15.
3) Music playlist: the tracks in the playlist can be selected for playback or audition individually.

Note: If it is necessary to delete or modify tracks in the playlist. The playlist must first be deleted from the playlist schedule, and then returned to the music arrangement to delete it, otherwise it will display "The song is playing, modification is prohibited."

The functions of each tag in "music playback":

1) Headphone listening test: 
2) Music playback: 

3) Play mode: Switching between single playback and sequential playback 

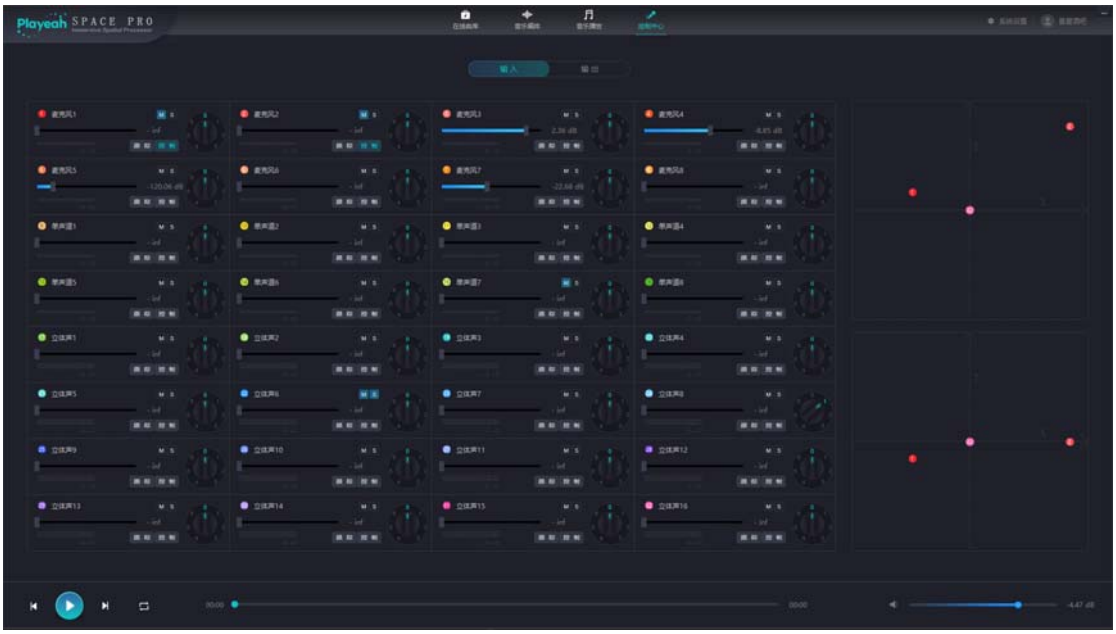
4) Total volume: 

7. Control Center

In order to make the "Space Pro" system more comprehensive, this system has opened 32 input channels, including 8 microphones, 8 mono channels and 16 stereo channels. The OSC universal protocol is used to interconnect with external devices to achieve spatial control of the Space Pro system, making the sense of space more flexible. The output channels include stereo output, 3D surround input/output, independent subwoofer volume control, and stereo sub-channel modulation. These features enable S 'space Pro to achieve comprehensive and multifunctional development.

The control center of "Space Pro" is divided into two modules: input and output.

7.1 Input



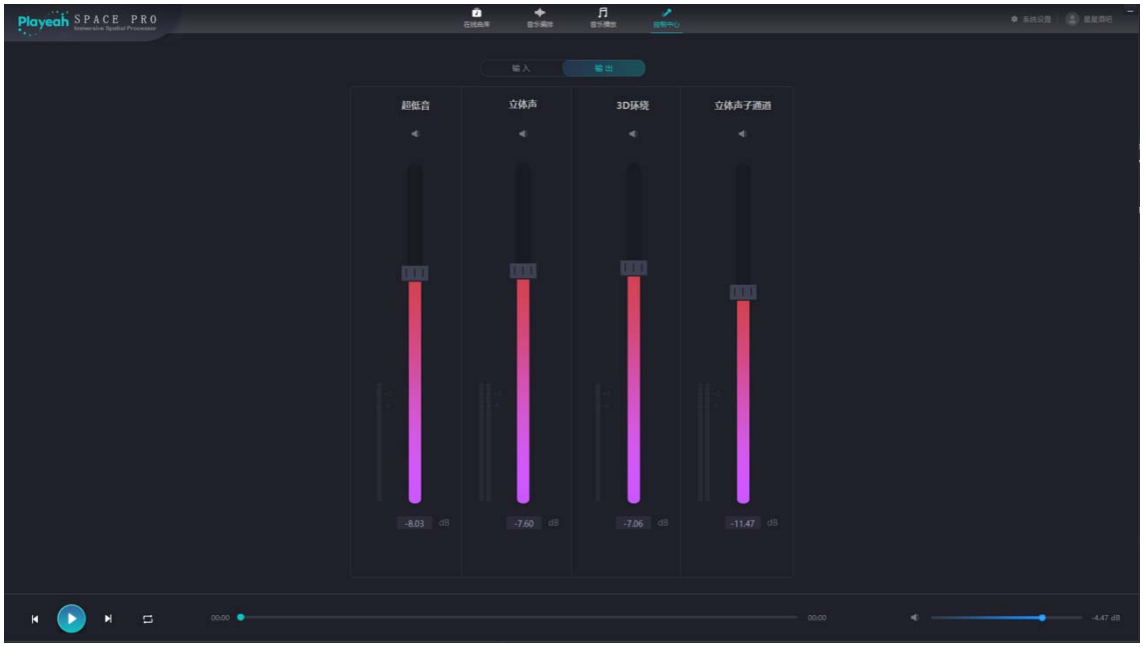
This page is the input for the control center,

The Space Pro system has a total of 32 input channels, including 8 microphones, 8 mono channels and 16 stereo channels.

1) Track playback control: In the 32 channels of the system, each channel is equipped with separate "mute" and "solo" control functions. Function: It can independently control the playback of tracks. Click on the tag: M S
2) Tracking: Use real-time tracking control system for positioning. Click on the tag to activate: 跟踪
3) Control: External device control, supporting OSC protocol. Click on the tag to activate: 控制
4) KNN: KNN: KNN is another type of translation that does not rely on accurately perceiving the optimal position. It is a version of the "k-nearest neighbors" interpolation algorithm, which is also used in complex systems such as 3D graphics and network science. Label: 
5) On the right is the spatial position distribution map: click on track

activation to track the real-time position information of the orbit. Click Control Activate, and the location information of the external device control will be displayed.

7.2 Output



This page is for output control in the Control Center.

1) Subwoofer: Independently controls the low-frequency volume, allowing adjustments based on different venues or music styles.
2) Stereo: Controls the volume of stereo music.
3) 3D Surround: Controls the volume of 3D surround music.
4) Stereo Sub-Channel: In addition to the main stereo channel, this function allows volume control for additional stereo channels. For example, in an indoor venue, the primary stereo channel is used, while an additional channel can be assigned to an outdoor area for independent control.

Level table in input and output: The unit of level is decibels (dB),

This label is a stereo level meter.


This label is a mono or multi-channel level meter. s

8、 Specifications and Parameters

model: S’ SPACE PRO			
Processing core:	Intel 64bit 8core CPU	Storage space:	8GB RAM, 512GB SSD
Control Protocol:	OSC,MIDI, RS485,RS232,Qlab,UDP	Number of control channels:	4x RS485, 4x RS232
AoLP standard:	AES67 international standard, GY/T332 national standard	Sound field algorithm:	VDAP, VBAP, KNN, HOA
Real time dynamic sound source:	The 32	Auto-Tracking Beacons:	32 groups
Built in mixer:	16 channel mono input; 16 stereo inputs; 64 output channels	Mixing Output Control:	Independent bass control
Frequency response:	20HZ-20kHz	Harmonic distortion:	0.003%@ 1kHz
Clock accuracy:	±0.1ppm	Signal-to-Noise Ratio (SNR):	102dB
Sampling rate:	48/96kHz	Processing precision:	floating point 64bit
Dynamic range:	96dB	Quantization precision:	24bit.
Audio formats:	WAV, MP3	Network audio input:	48ch@Dante
Network audio output:	64ch@Dante	Dante interface:	2x RJ45
Network interface:	1 x RJ45, 1Gbps	USB interface:	4x USB3.0
Video interface:	1x HDMI	Power supply:	AC 220V,Redundant backup dual power supply
Dimensions:	430mm x 385mm x 90mm	Weight:	7.6Kg

9、 Technical Support

If you have any questions and need technical assistance, please scan the following WeChat customer service QR code to contact us.