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POWER DSP 4

USER MANUAL



FRENCH SOUND

blam-audio.com

CAUTION

To prevent unit be short circuit, please do not put it in the wet or damping places. If unit catch water and any liquid that please turn off power immediately and do not open cover by yourself. Please contact with professional engineer for checking to avoid accident happen.

CONTENT OF THE KIT

- | | |
|--|----------------|
| • DSP 4 Unit | 1PC |
| • User Manual | 1PC |
| • USB Computer tuning cable | 1PC |
| • Universal cable | 1 set |
| • Audio streaming with Bluetooth receptor included | 1PC |
| • Plug & Play wiring harness to install in all vehicles without cutting the original wires | 1PC (Optional) |
| • Remote control | 1PC (Optional) |

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4. Common trouble shouting

International guarantee

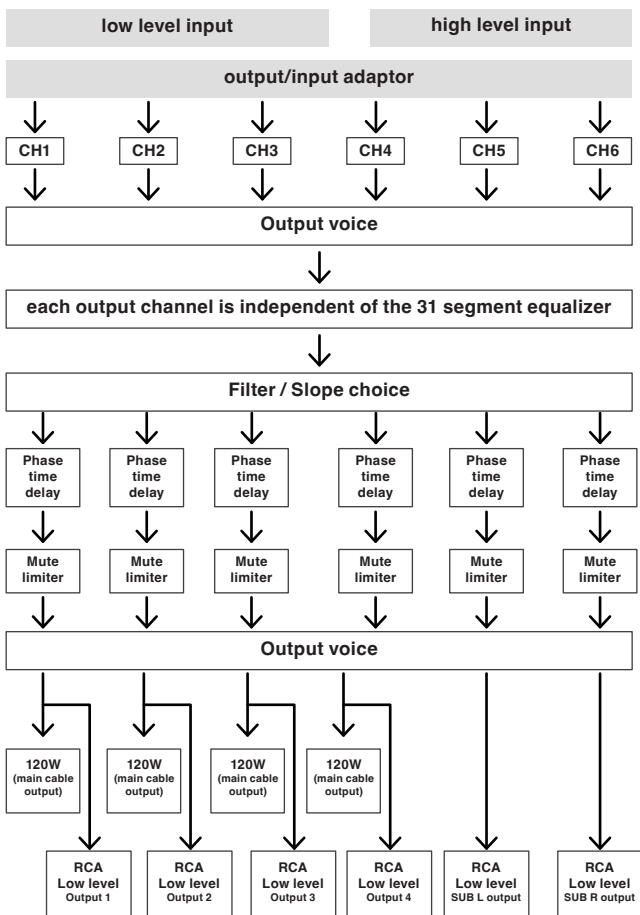
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1. FEATURE

1.1 Audio specification, main audio signal process diagram

This equipment adopts the audio extraction method with high sampling rate of 48KHz. The core processor is the digital signal processor (DSP) with high resolution 64 bit double precision floating point and 170 section 31 parametric equalizer or graphic equalizer, delay and frequency device (low shear and high cut filter, the types of specialized division include: Ning g / Bessel / Butterworth, CH1-CH6 nine slope 6dB and 12dB /18dB/ 24dB/30dB /36dB/ 42dB/ 48dB/off optional) etc..

Main audio signal process diagram



1.2 Input and output side panel

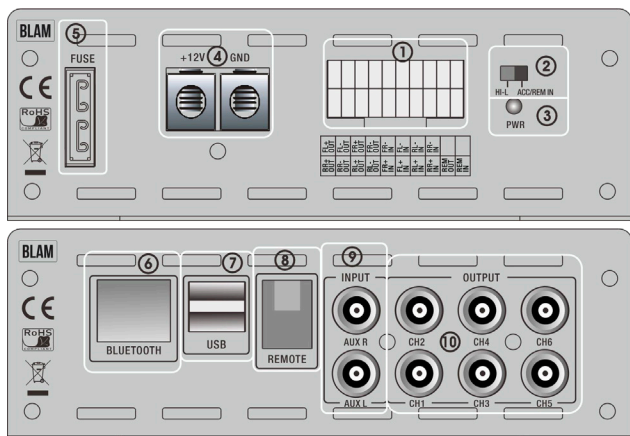


Figure 1.2.1

- | | |
|-----------------------------|--------------------------|
| ① Head unit connecting port | ② HI-L /REM IN convertor |
| ③ Power LED indicator | ④ Power input |
| ⑤ Fuse | ⑥ Bluetooth port |
| ⑦ USB 2.0 PC Connect | ⑧ Remote Control |
| ⑨ Low level input | ⑩ Low level RCA output |

1.3 Software Introduction

DSP 4 PC software control: (please check 3. Software Operation detail)

1) Automatically detect whatever the hardware is connecting with USB cable, if ready and will connect with head unit automatically.

2) Display resolution over than 1280*760, or else cannot show fully.

3) Only for windows system's computers.

1.4 Function Introduction

Specification

Active Range	95dB
S/N Ratio	95dB
T.H.D.	≤0.1%
Freq. Response	20Hz ~ 20KHz
Input Impedance	Low level input:20KΩ High level input:240Ω
Low level output impedance	100Ω
Power Output (4Ω)	RMS 75W X 4 , Peak Power: 120W X 4
Signal input/output range	RCA Input: 7Vpp; High level: 26Vpp; RCA Output: 8Vpp; Amplifier: 26Vpp
Temperature	-20 ~ 70°C
Supply Voltage	DC 9V ~ 16V
Sampling rate	48KHz/24Bit
Turn-on REM output	+12 V starting voltage output(0.2A)
Power consumption	≤0.1W

Function

Input signal type	Choice: 4ch high level, 2ch low level, Bluetooth, USB
RCA output location	Freely definable output sound position and speaker type
Output signal gain	Gain range: Mute, -59.9dB to 0dB
Output signal equalizer	<p>1:6 Each output channel 31 band equalizer engine:</p> <p>1. Equalizer type: 1st equalizer for Q and low pass option. 2nd equalizer for Q and high pass option others for Q balance</p> <p>2.Frequency range: 20Hz~20KHz, resolution 1Hz.</p> <p>3.Q (slope or gradient): 0.40~128.0</p> <p>4.Gain:-20.0dB~+20.0dB,resolution 0.1dB</p>
Output signal crossover	<p>Each output with 2 rank's high/low pass independent filter 1</p> <p>1. Professional filter type: Butterworth, Linkwitz-Riley, Bessel</p> <p>2.Filter crossover: 20Hz - 20KHz, Resolution 1Hz</p> <p>3.Filter slope setting: 6/12/18/24/30/36/42/48/Off/Oct</p>
Output phase and time delay	<p>Each output channel can be adjusted for phase and time delay, parameter range</p> <p>Phase: 0 °/180 °</p> <p>Time delay: 0.000-20.0ms, 0.00-692cm, 0.00-273inch</p>
Scene operations	Unit can keep 6-style of music scenes by preset.

2. SYSTEM CONNECTIONS

2.1 System classic connecting reference

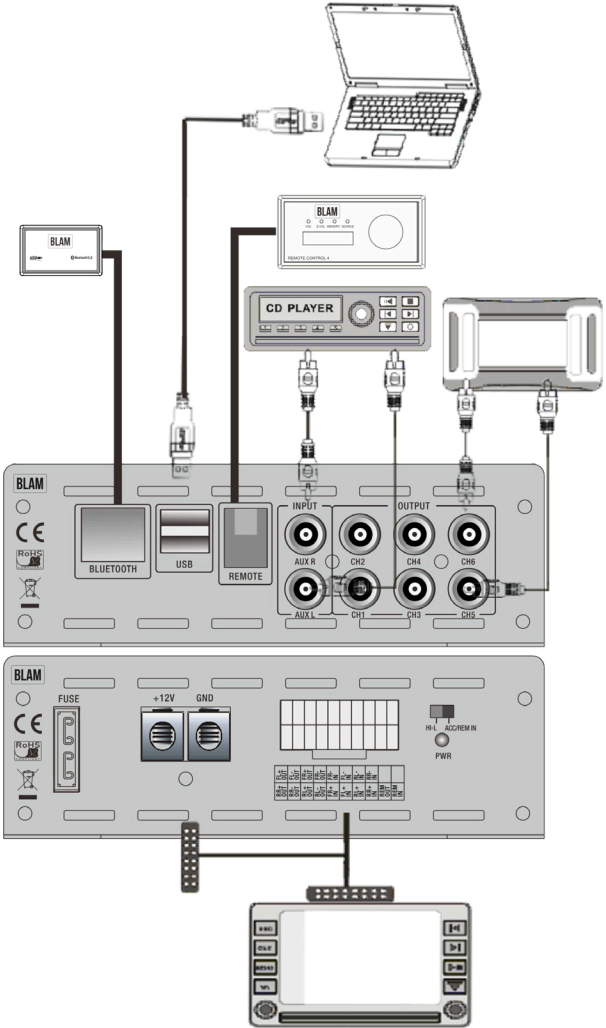


Figure 2.1

this connecting method is for two units input, please refer below:

1. Please use Plug & Play cable to connect original car unit and DSP 4 for upgrade audio system effects. Please use OUT5 and OUT6 RCA output when Install bass amplifier or subwoofer

2. with the player, using RCA low level input connection, mobile phone use standard AUX special line.

2.2 Unit connection

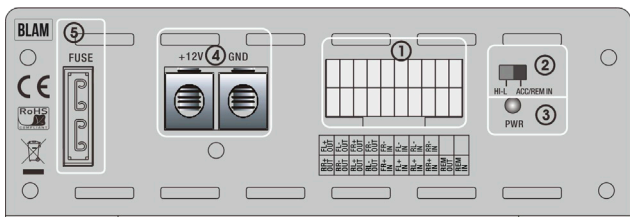


Figure 2.2

Indication“1”is the plug connecting position and assort with connecting cable which is matching unit.(figure 2.2) Connecting wire specifically defined in the following table:

FL+ OUT	FL- OUT	FR+ OUT	FR- OUT	FR- IN	FL- IN	RL- IN	RR- IN		
RR+ OUT	RR- OUT	RL+ OUT	RL- OUT	FR+ IN	FL+ IN	RL+ IN	RR+ IN	REM OUT	REM IN

Direction:

- only for the original Plug & Play cables, or user using others directly.
- REM input, when the toggle switch to ACC, only ACC input; When the toggle switch is switched to HOST, the two high level input lines of FL+/FL- are defined.

When there is original car or other high level input, the machine will detect the audio signal to start the machine.

Note:

When do not use high level input (only RCA low level input), the toggle switch dial in DC, defined in FL+/FR+/RR+/RL+ arbitrary a all can access REM or ACC input, can be normal to start the machine.

2.3 Low level RCA input/output indication

“9” “10” position where is “low level RCA input/output” (figure1.2.1)

- Low level RCA inputs, usually followed by an external player RCA output as the auxiliary input, maximum input level is 10VPP.
- the low level RCA output, CH1 to CH6 signal with the original car interface is the same, but there is without power amplifier, while the default output type of CH5 and CH6 is ultra-low left and ultra-low right, usually external bass amplifier, as bass strengthened. Of course, users can configure their own initiative RCA low level output to complete more high-end divided by two or three-way system.

2.4 USB 2.0 Port

As shown in figure 1.2.1, the "7" indicator bit is the "USB2.0" position.

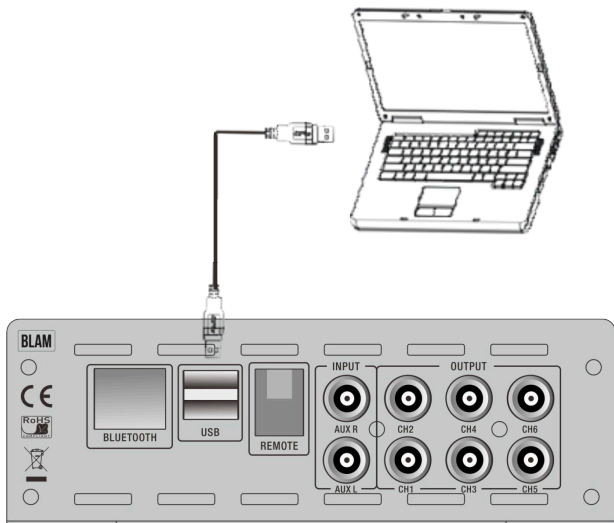
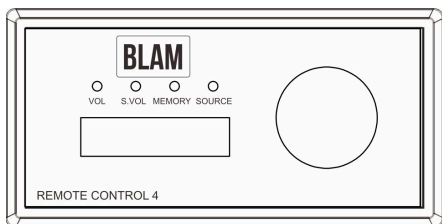


Figure 2.3

Use Random accessories USB cable into this hole on a computer connected to the PC, open tuning software to debug the sound system.

2.5 The remote control function is introduced



1. Choose the total volume /sub volume / memory / source and other functions
2. VOL LED: Rotate the knob to increase or decrease Volume.
3. SUB VOL LED: Rotate the knob to increase or decrease SUB Volume.
4. MEMORY LED: Rotate the knob to switch to the memory 1 to 6 channel, then press the knob to enter the memory channel, press and hold knob for 3 seconds will back to the VOL mode.
5. INPUT LED: Rotate the knob to switch to the Hi-level/Low-level input mode.
6. U disk music playback interface: Rotate the knob to switch the next song to the left and the previous song to the right. Press the knob to pause playing. Press and hold the knob for 3 seconds to return to volume mode.

3. SOFTWARE OPERATION

3.1 Software Installation

PC tuning software is no need to install drive program, plug and play.
Operating environment: Suitable for Windows XP / Vista / WIN7 / WIN8 / WIN10 operating system.

The installation procedure describes:

After you install the software and downloading, double-click the installation file, step down can be achieved by tuning the software is installed.

3.2 Turn on and turn off

Double-click the DSP 4 icon to open the software, and the main interface before online is shown in figure 3.2.1: (the upper right corner refers to the unconnected state)



Figure 3.2.1

DSP 4 provides only wired USB PC software connection. Wired USB connection:

Ensure that DSP 4 power state, with a USB cable to connect to a computer through the USB interface, the computer will find the new device and automatically install the update equipment, after a few seconds the installation is complete. Mixer software will automatically line up with the hardware. Right corner refers to "connected" state.

3.3 Software interface



Figure 3.2.2

Software interface DSP 4 unit divided into the following functional:

- ① as shown in figure 3.2.2, "1", input signal selection:High level, AUX, Bluetooth, USB.
- ② as shown in figure 3.2.2 "2", shows the main menu and connection status.
- ③ as shown in figure 3.2.2 "3", the high-pass and low-pass Settings
- ④ as shown in figure 3.2.2, "4", area is output channel EQ setting of the divider.
- ⑤ as shown in figure 3.2.2, "5", shows the setting of delay space.
- ⑥ as shown in figure 3.2.2, "6", output channel configuration and common parameter adjustment area.
- ⑦ as shown in figure 3.2.2, "7", shows the setting of Mixer space.

3.3.1 Input signal select

In the online mode, in Figure 3.2.2 "1", click the appropriate input source, you can switch the audio input signal.

8. Optional: High level,Aux, Bluetooth, USB. The default audio source can be selected in the option of "2" zone. The default power source is high level. Users can choose AUX and player as the default power source. The volume can be directly pushed left and right, or input volume value, scroll the mouse wheel, etc. Adjustable range: 0-60

3.3.2 Output channel switch and operations

"6" area, click on the corresponding channel number in Figure 3.2.2 (CH1, CH2CH6), you can switch to the corresponding channel to adjust relevant parameters when changing the channel editing, where there are only 3.2. 2 "3" zone (crossover and equalization parameters) will vary depending on the channel and change the parameter values.

3.3.3 Output volume, delay, type, mute and phase setting

In Figure 3.3.1, there are six output channels commonly used parameters are displayed, the user can quickly adjust the parameters directly here. Of course, users can also customize the horn type of each output channel.

Specifically adjusted as follows:



Figure 3.3.1

1. The output volume control, volume control for each channel independently and the master volume, pushing the volume fader below each channel label can be in OFF (off), - adjust between 60dB to OFF; while on the right also has a total volume of all output is adjustable, adjustment range is OFF (off), - between -39dB to 6dB.

2. Mute and phase adjustment, also under the label of each channel are phase and mute both buttons select, and click on the button you can be between "positive phase" and "inverted" Switch, click the mute button You can switch between "open tone" and "off the sound." Figure 3.3.2 as follows:



Figure 3.3.2

3. Select delay units, which are in milliseconds, centimetres, and inches. The range of milliseconds: 0.000~20; Range of mm: 0~692; Range of inches: 0 to 273; DSP 4 processor output signal path can be any type of configuration freedom to any sound field point and the speaker type. The system defaults to 4.1 full-range passive mode.

The first step: Click on the right side of the "Reset EQ" button in the dialog box, select the "Yes" button, return to the main interface, all channels are reset to "empty" (no connection to any speaker, there is no output of), as shown below Figure 3.3.3:

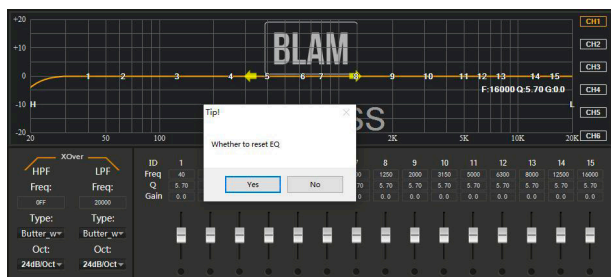


Figure 3.3.3

4. The output delay adjustment, is set in the delay space area to the left of the illustrated adjustment, as follows (Figure 3.3.4), click on the value of the input box next to the corresponding speaker can be entered after the delay value corresponding units.



Figure 3.3.4

3.3.4 Output signal equalizer and crossover operation

Output channel equalizer and crossover editor mainly in the following areas of regulation, as shown in 3.3.5:

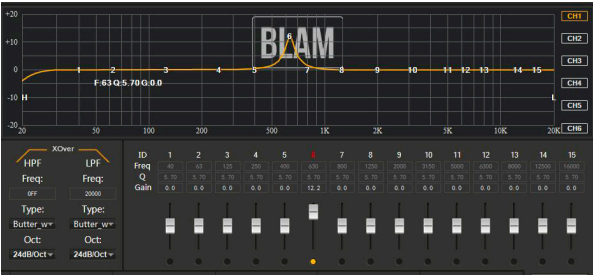


Figure 3.3.5

Gain, drag around to adjust the equalizer frequency points; when the mouse is moved to the left and right of the small red box, press and drag left and right to adjust the equalizer Q. All parameters are displayed simultaneously adjust the current real-time equalizer is also updated value EQ parameters editing area.

1. the output channel EQ editing method, all 31 equalizer will work for the next parametric equalizer. When the parametric equalizer curve, if available in the box below the corresponding input parameter values can be (frequency, Q value, and gain) adjusted in real time will also be revealed at the top (as shown in Figure 3.3.6 parametric equalizer case).

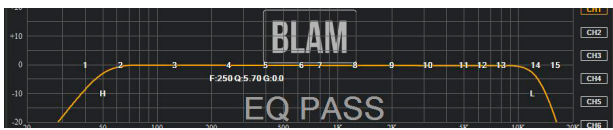


Figure 3.3.6

Straight balanced: the button shown in Figure 3.3.4, the current channel as long as there is an equalizer in the open state, this button will appear highlighted in green state, indicating that you can click this button to make all the equalizer current channel change to not start moving (directly). Click the button that will return to "restore the balance." Then click on "restore the balance" button will allow all current equalizer channel back to the last activated state.

Note:

This operation will change the equalizer gain.

Reset balanced: the button shown in Figure 3.3.5, click this button to make all current channel equalizer parameters return to the initial state: uniform distribution of frequency, Q value is 1.2, a gain of 0dB.

2. the output channel divider editing method



Figure 3.3.9

In the column of "frequency divider" in figure 3.3.9, the parameter value of the device frequency divider.

Type setting: drop-down menu to select the way, there are (Linkwitz-Riley), (Bessel) and (Butterworth) and other three options.

Frequency setting: via direct input value, scroll the mouse wheel up and down keys on the keyboard and other ways to adjust low-cut or high-cut frequency. Adjustment range: 20Hz ~ 20KHz.

Slope(slope)settings:6dB/Oct,12dB/Oct,18dB/Oct,24dB/Oct,30dB/Oct,-36dB/Oct, 42dB/Oct, 48dB/Off/Oct and other 9 options.

Note:

In 6dB / Oct, there is no type of algorithm, but a common type (displayed as NULL).

3.3.5 Output signal equalizer and crossover operation



Figure 3.3.10

Reset EQ button:

It is used to restore the parameters of the 31-band equalizer to the original pass-through mode (the frequency of the equalizer, the Q value and the gain are restored to the initial value).

Restore All Equalizations button:

pass-through mode (the gain of all equalization points is restored to 0 dB, the frequency and value are unchanged).

GEQ button:

Click the "GEQ" button to switch to the "Graphic Equalizer" mode. The frequency, Q value and gain can be adjusted under the "Parameter EQ" interface; only the gain adjustment can be made under the "Graphic Equalizer" interface, and the frequency and Q value are not operational.

Link output Configure button:

Click this button, a pop-up dialog box, select the synchronous mode (option to "copy from left to right" or "Copy from right to left" radio button), press "OK" to confirm; when you click this button again FBI releasing left and right channels function.

Note: the left or right channel by the FBI, the software will automatically lock output channels, output of the equalizer, divider and output volume data may FBI mute, phase, space and delay are not the FBI.

In the locked FBI, the item associated tone has an FBI logo be displayed.

Mixer settings: click "mixer" in the "7" area in Figure 3.2.2, then you can switch to (Figure3.3.14) the relevant parameter settings for the corresponding adjustment.

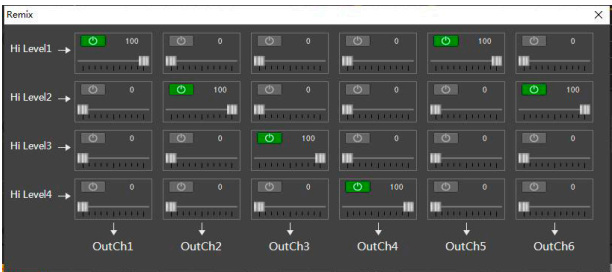


Figure 3.3.14

3.4 Setting introduce

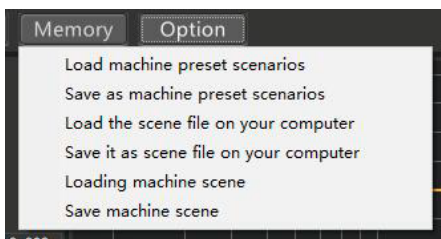


Figure 3.4.1

As shown in Figure 3.4.1 DSP 4 software of the scene in three major types of actions: the machine stored scene data, computer data stored scene and the whole scene data manipulation.

1. The machine data stored scene operation: refers to the scene data is now running the machine and set aside six in one scene between the data stored load, save, and delete operations

Note: the choice of input signal sources, the output signal and the output channel type configuration for the machine stored total volume not save scene data load operation

2. The computer stored scene data operation: the machine is now running in the scene data is saved as a computer file, or to load a previously saved scene computer files to the machine running.

Note: the choice of input signal sources, the output signal and the output channel type configuration for the computer stored a total volume not save scene data load operation.

3. The whole scene data: is to copy all the data in the machine to machine, or save all of the data on existing machines as computer files, of course, including all of the input and output configuration data and advanced options data. This is mainly used for data storage and copy machine.

3.4.1 Output volume, delay, type, mute and phase setting

1. Save for the machine preset.

This function is to save existing work scene preset scene for the machine data (total of 6).

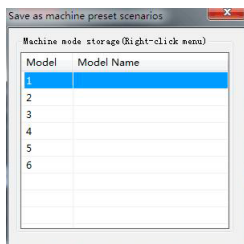


Figure 3.4.2

Step 1: Click on the main interface to the top menu "Memory" button will pop up all the scenes action item (see Figure 3.4.1).

Step 2: Click "Save as machine preset scenarios" item will pop up after the Save As dialog window machine preset (Figure 3.4.2).

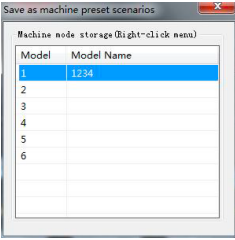


Figure 3.4.3

Step 3: Right click the blank box and a menu will pop up. Select and input the file name to be saved, such as (1234), and it will be saved directly.(Figure 3.4.3).

2. Loading machine preset scenarios

This feature is to preset scene previously saved machine data (saved as a machine preset) out of tune as the machine is currently running scene.

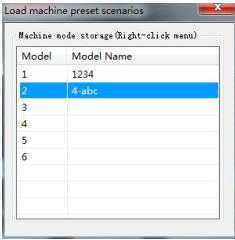


Figure 3.4.4

Step 1: Click on the main interface to the top menu "Memory" button will pop up all the scenes action item (see Figure 3.4.1).

Step2: Click "Load machine preset" item will pop up after loading machine preset scene window dialog box (Figure 3.4.4).

Step 3: as dialog box of figure 3.4.4 , select the machine where the user wants to load a preset number (as selected on the 3rd), and then point below the "Load" button on the pop-up shown 3.4.5 loading data transfer progress shown in the wait window.



Figure 3.4.5

Step 4: After data transfer is completed, the machine load preset scene is complete, but you can see the upper left corner of the software will appear as the currently running preset scene the name ,but once in the console interface parameters changed, it will become the" Custom "in the name, because this time the machine is running and the data has been loaded set of data that is different).

3.4.2 Load and Save to store scene files on your computer

1.Save as a scene file on the computer

This function is to save the current machine working scene data to a computer in order to prepare the late call.

Step 1: Click on the main interface to the top menu " File" button will pop up all the s cenas action item (see Figure 3.4.1).

Step 2: Click "Save as PC Presets File " will bring up the file after item Save As dialog window (Figure 3.4.5).

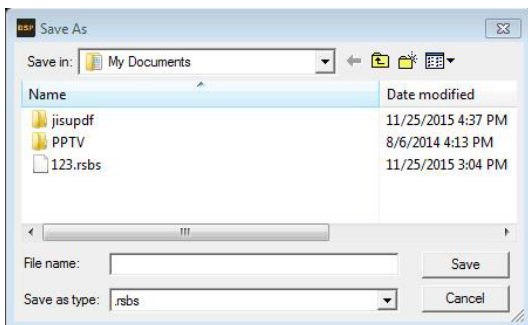


Figure 3.4.5

Step 1: Enter the file name in the pop-up window you want, save point on it.

2. loading scene files on your computer

This function is previously stored in the scene file on the computer the machine work load for the current scene.

Step 1: Click on the main interface to the top menu "File" button will pop up all the scenes action item (see Figure 3.4.1)

Step 2: Click "Load" after entry window will pop open file dialog box (Figure 3.4.6).

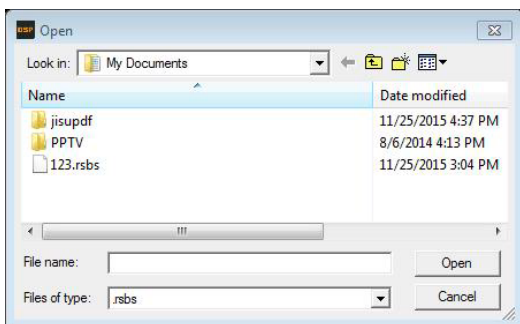


Figure 3.4.6

Step 3: Open the pop-up window, select the file name of the user you want to call, point to open it.

3.4.3 Load and save the whole store a scene

1. Save the whole store the scene

This function is to save all the data on the machine is now on-line for a computer file data (data file of the whole machine, including the current job scenario, six groups of all machine data preset scene, output channel configuration data and advanced data and other options), to when copying machine call late the whole device.

Action does not change any data now on-line machine Specific methods of operation and the "Save the scene file on the computer is" basically the same, please refer to the operation on their own.

2. Load the whole scene

This function is to load previously saved on the computer the whole machine to machine data files (data file of the whole machine, including the current job scenario, six groups of preset machine all the scenes, the output channel configuration data scenario, six groups of preset machine all the scenes, the output channel configuration data and advanced data and other options data). That is, the previous overall good debugging machine data copied to now coupled machines.

We recommend similar models when making audio system, for the whole replication functions.

The specific operation method is basically the same as "loading the scene file on the computer", please refer to the operation by yourself.

3.5 Options Introduction



Figure 3.5.1

After click on the main interface to the top menu "Option" button in Figure 3.5.1, it will pop up "option" of each menu item. You can choose a language: Simplified Chinese / traditional Chinese/English.

3.5.1 Noise Gate

In the Options menu, click on "Noise Gate", It can adjust the noise range: 0-20

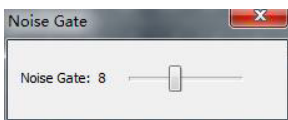


Figure 3.5.2

3.5.2 RESET

In the Options menu, click on "Reset", This operation will restore factory settings.

3.5.3 Input volume

In the Options menu, click on "Input Vol", It can adjust the range of Subwoofer volume and Bluetooth volume.

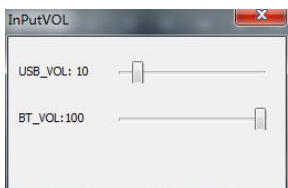


Figure 3.5.3

3.5.4 Information about the inquiry

In the Options menu, use the mouse to click on the "About" option the system will pop up a message Query dialog box, in which you can query to: SEQ ID letter version information of the device, the software version information and device information.

4. COMMON TROUBLESHOOTING

Before applying power, carefully check the cable is normal, we must ensure that all interfaces as a normal connection. Common Fault diagnosis and treatment.

Allure:

Before repaired, please refer to the following table to find a cause.



After checking still beyond repair:

Keep the machine back to the initial value.



Still can not be repaired when:

Please consult the manufacturer customer service department.

Troubleshooting methods :

No.	Symptom	Reason and solutions
1	No electricity	1. pls check if power linking correct 2. pls check if REM IN if linking correct
2	No voice	1. pls check if turn on mute style 2. pls check if input channel is correct
3	Cannot link USB	1. pls check if USB cable is setting correct 2. pls check if find name as "HID-compiling device" in the computer

GB

Conditions of guarantee

All BLAM product are covered by guarantee drawn up by the official BLAM distributor in your country. Your distributor can provide all details concerning the conditions of guarantee.

Guarantee cover extends at least to that granted by the legal guarantee in force in the country where the original purchase invoice was issued.

GB

Conditions de garantie

En cas de problème, adressez-vous en premier lieu à votre revendeur BLAM.

La garantie pour la France sur tout matériel BLAM est de 2 ans. En cas de matériel défectueux, celui-ci doit être expédié à vos frais, dans son emballage d'origine auprès du revendeur, lequel analysera le matériel et déterminera la nature de la panne.

Si celui-ci est sous garantie, le matériel vous sera rendu ou remplacé en "franco de port". Dans le cas contraire, un devis de réparation vous sera proposé. La garantie ne couvre pas les dommages résultant d'une mauvaise utilisation ou d'un branchement incorrect (bobines mobile brûlées par exemple...).

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DE

Garantiebedingungen

Alle BLAM Lautsprecher sind durch eine vom offiziellen BLAM Vertragshändler in Ihrem Landgewährten Garantie abgedeckt. Einzelheiten bezüglich der Garantiebedingungen erhalten Sie von Ihrem Vertragshändler. Die Gewährleistung erstreckt sich mindestens auf die geltende gesetzliche Garantie des Landes, in dem der Original-Kaufbeleg ausgestellt wurde.

E

Condiciones de la garantía

Todos los altavoces BLAM están cubiertos por la garantía extendida por el distribuidor oficial de BLAM de su país. Su distribuidor le proporcionará detalles concernientes a las condiciones de la garantía. La cobertura de la garantía alcanza por menos hasta la concedida por la garantía legal en vigor en el país en donde se emitió la factura de compra original.

P

Condições da garantia

Todos os altifalantes BLAM são abrangidos por uma garantia redigida pelo distribuidor oficial da BLAM no seu país. O seu distribuidor pode fornecer todos os pormenores relativamente às condições da garantia. A cobertura da garantia estende-se pelo menos ao que é concedido pela garantia legal em vigor no país em que o recibo de compra original foi emitido.

I

Condizioni di garanzia

Tutti gli altoparlanti BLAM sono coperti dalla garanzia rilasciata dal distributore ufficiale BLAM del vostro paese. Il vostro distributore potrà fornirvi tutti i dettagli riguardanti le condizioni di garanzia. La copertura della garanzia comprende almeno ciò che è contemplato dalla garanzia legale in vigore nel paese in cui è stata rilasciata la fattura originale d'acquisto.

NL

Garantievoorwaarden

Alle BLAM luidsprekers vallen onder een garantie die door de officiële BLAM -distributeur in uw land is opgesteld. Uw distributeur kan u alle details leveren met betrekking tot de garantievoorwaarden. Garantie dekking geldt ten minste voor de wettelijke toegekende garantie die van kracht is in het land waar de originele aankoopbon is uitgegeven.

PL

Warunki gwarancji

Wszystkie głośniki BLAM są objęte gwarancją wydawaną przez oficjalnego dystrybutora BLAM w Twoim kraju. Dystrybutor poinformuje Cię o wszystkich szczegółach związanych z warunkami gwarancyjnymi. Zakres gwarancji obejmuje przynajmniej gwarancję ustawową oferowaną w kraju, w którym wydano oryginalną fakturę zakupu.

RU

Условия гарантии

Все динамики BLAM обеспечиваются гарантийным обслуживанием, осуществляемым официальным дистрибьютором BLAM в Вашей стране. Ваш дистрибьютор может сообщить Вам все детали, относящиеся к условиям гарантийного обслуживания. Территорией действия условий гарантии является, как минимум, территория той страны где было приобретено данное изделие BLAM в соответствии с оригинальным счетом-фактурой.



Driven by passion.

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