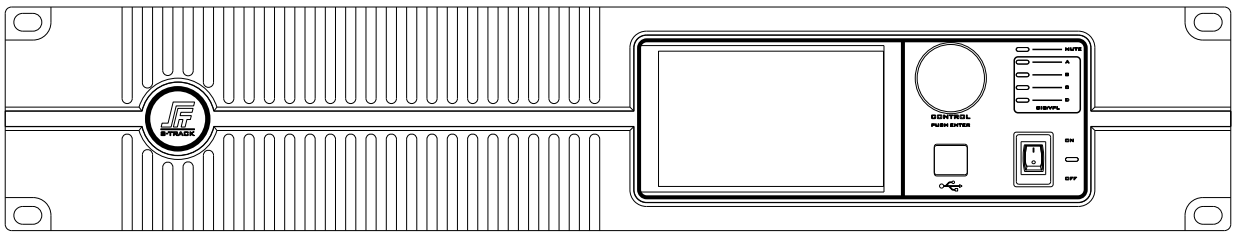
S-TRACK



Whale XD4900
Dante Digital Amplifier

User Manual

Preface

Welcome

Thank you for purchasing the company's professional audio products. Please read this user manual before use, it will give you the correct guidance, is essential for the normal operation of the equipment, and can prolong its life.

We have been working to develop high technology, high performance, competitive price, professional audio equipment. So far, we have different types, covering high, medium and low three levels, and can improve the quality of various occasions. In the research and development process, we have been trying to inject each product will be the soul of the high-tech, and create high quality equipment. We adhere to the ISO quality assurance system, with strict and necessary for professional supervision and every product is qualified, whether received perfect sales service.

We do it just for one purpose: to ensure clients benefit from our real high-tech, high-performance products and competitive price, and good after-sales service and technical support. Have been trying to return customers support for our products, to ensure that customers to buy our professional audio equipment is worth it.

Open box

Firstly check for any damage during transit on the machine. It is advisable to retain the packaging for a period of time to return the equipment needed. Confirm the voltage rating of equipment and region matching. (see the power supply on the rear panel)

Important security considerations

Our product safety management system throughout the product life cycle, from the stage of r&d, manufacturing and customer support. Efforts to ensure that security is "built-in" in the product, rather than the late "extension". We obtain professional product safety certification, in line with this kind of product of all conventional standards. But this internal hazardous voltage and power amplifier, require the user to read the note of this manual. If the product against dampness, drop, the internal parts loose, short circuit, will increase the risk of electric shock, disconnect the power supply, send the product to professional personnel for maintenance.

Support and service

During the use of this power amplifier, our dedicated customer service consultants, to provide one-stop service for you, will bother to provide you with free consulting services (service period) , service content, including hardware platform and software platform of the construction and operational guidance, and products used in the process of technology consulting, software upgrades and other services, to help customers quickly to complete the installation of the machine in the implementation process.

Important safety considerations and symbols

1. Read the rules.
2. Pay attention to all warnings.
3. Ensure compliance with these regulations.
4. Warning: To avoid fire or electrical shock, do not use the equipment in rain or damp environments. Do not use this equipment near water.
5. If you need to clean the unit, use a dry cloth.
6. Don't block air vents; follow the manufacturer's installation instructions.
7. Do not install near heat sources such as radiators, heat control device, stoves, or other equipment (including amplifiers).
8. This equipment should be connected to a grounded socket. Do not use a socket that lacks proper grounding. If the provided plug and socket do not match, consult a professional electrician for replacement.
9. Prevent damage to wires: Avoid tripping over or crushing wires, and pay particular attention to the plug, power socket, and equipment connections.
10. During thunderstorms or when the equipment will not be used for an extended period, please unplug the device.
11. Maintenance should be performed by qualified personnel. Repair must be conducted if the equipment is damaged, such as if the power cord or plug is damaged, or if liquid or object have entered the device. If the equipment has been exposed to rain or moisture, or if it has fallen, do not attempt to operate it.
12. Ensure the input level of the power amplifier does not exceed the nominal sensitivity.
13. Do not connect the output of one channel of the power amplifier to the input of another channel.
14. Do not use the outputs of the power amplifier in parallel or in series with other outputs.
15. If connecting more than three power amplifiers, it is recommended to use a signal distributor to prevent input signal distortion.
16. Do not place liquid containers or open flames on top of the power amplifier, such as vase or candles.
17. Ensure the plug and power switch are easily accessible for convenient operation.
18. Marked with symbols, 11 11 external wire terminals and the terminal connection is dangerous with some terminals.
19. Maintain a separation distance of at least 3 mm between all power switch contacts in the electrical system.



Equilateral triangle within the exclamation mark remind the user of this manual is important for operation and maintenance (maintenance).



Next to the amplifier outputs of lightning sign warns the user has to get an electric shock risk. Likely to cause dangerous lightning symbols are marked output connector.
The amplifier is opened not contact output terminals. For all the attachment before you close the amplifier.



Within an equilateral triangle with lightning of the arrow symbol, warns the user the product has a "dangerous" voltage insulation shell, can produce shock hazard to the human body.



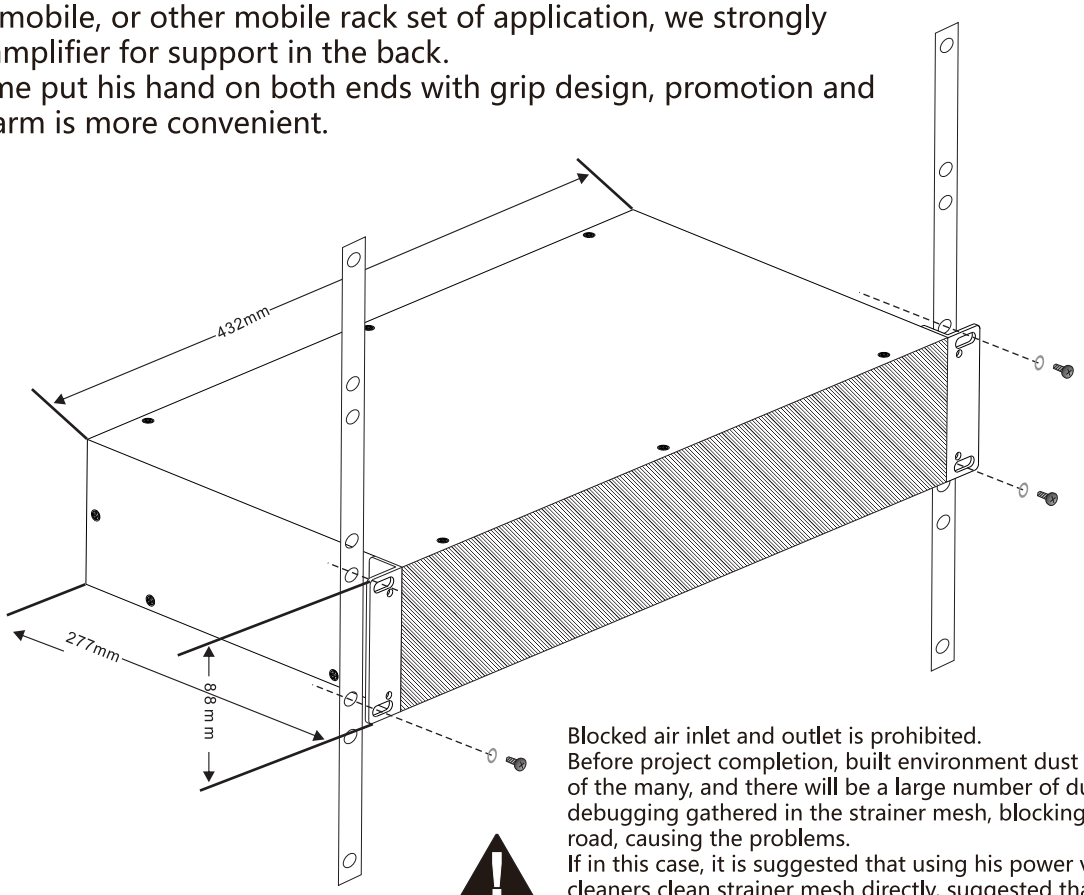
Caution: to avoid electric shock risk, please do not remove shell. Internal no users can maintenance parts. Contact a qualified professionals for repair.



Warning: to avoid fire or electric shock, don't make the equipment in the rain or be affected with damp be affected with damp.

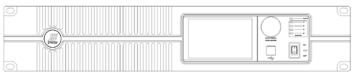
The rack installation and specifications

The four screws and washers install the amplifier to the equipment frame rail.
Want to use the amplifier outside the frame, in the bottom of the mount self-adhesive rubber MATS.
For portable, mobile, or other mobile rack set of application, we strongly recommend amplifier for support in the back.
Matching frame put his hand on both ends with grip design, promotion and place on the arm is more convenient.



Blocked air inlet and outlet is prohibited.
Before project completion, built environment dust because of the many, and there will be a large number of dust during debugging gathered in the strainer mesh, blocking the wind road, causing the problems.
If in this case, it is suggested that using his power vacuum cleaners clean strainer mesh directly, suggested that the apparent use a regular cleaning maintenance environment.

Packing list

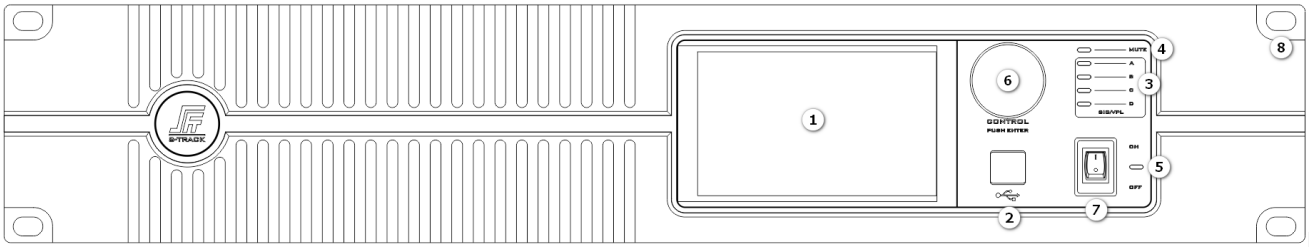

The power amplifier 1


The power line 1


The user manual


Four machine mat

The instructions on the front panel



1.LCD displayAccording to the real-time temperature and power amplifier power amplifier work volume.

2.USB debug portConnect to computers through the mouth.

3.The light - flood lightsThe lights indicate A, B, C, D channel output level, the brightness changes over the amplitude of the output signal.Peak clipping occurs, the LED flashing bright orange light, the intensity and duration associated with the degree of peak clipping.

4.The mute lampMute on said the device is in a state of protection. Amplifier mute because of malfunction, the leds emit bright red light.This usually occurs when the power on and off. At other times there is mute said overheating or other protective behaviors.

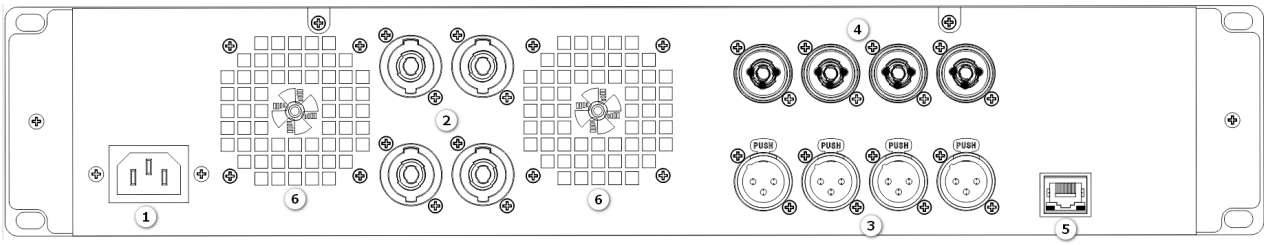
5.Power indicatorWhen the power amplifier opens, the indicator lights up.

6.The encoderThrough the rotary encoder to control the volume and browse the menu.

7.The power switchPress (" 1 "or" ON ") for the power supply when open, press the (" 0 "or" OFF ") for the power shut down.

8. Rack installation.

The instructions on rear panel



1.The power input

Supply voltage must be consistent with the nominal voltage

2.The speaker output socket screw

1 channel, channel 2, 3 channels, 4 channel will be the outlet is connected to the speakers.

3.Balance XLR input signal

Pin 2 anode, pin 3 negative, pin 1 block (ground) used for a long or short distance connection, fixed or often plug.

4.Link socket

1 channel, channel 2, 3 channels, 4 channel link socket, use this socket is connected to the balance and a power amplifier.

5.LAN /Dante

So, through this interface to connect the computer, digital audio transmission.

6.VentIn order to fully ventilation cooling, vents and other equipment or wall around the minimum distance of 10 cm.

XLR Input

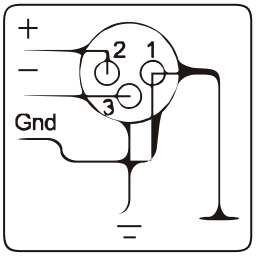
1、 Balanced Input Connector

The XLR input connector is an XLR input connector that is electronically balanced and connected as follows:

Pin 1 ground/shield

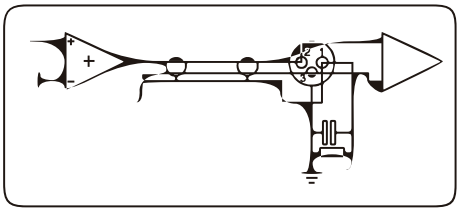
Pin 2 positive (+)

Pin 3 negative (—)



2、Un-balanced Input Connector

Connect an input to an unbalanced source. At the enlarged end of the wire, it is possible to connect Pins 1 and 3 to the XLR jacks. However, a better method is to connect pin 3 to the shield at the end of the source of the wire. This has the advantage of reducing AC noise. Whenever possible, balanced input connectors are recommended.



Each channel has a balanced 3-core input terminal.The input terminals are connected by standard cable and can be replaced quickly.

Balanced connections are recommended to reduce AC noise and interference, especially when long cables are used.

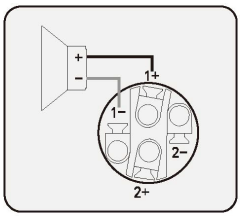
Unbalanced connections are suitable for short cables where the source impedance of the signal should be less than 600 ohms.

Speakon Output

Each channel accepts a normal 2-wire cable.Stereo and parallel modes - each speaker is connected to its own amplifier channel, and for stereo or parallel modes, mode padding must be set.The connection method is shown in the figure below:

Output terminal safety warning: Do not touch the output terminal when the amplifier is powered on.

Before making all connections, turn off the danger of electric shock



Voltage Peak Limiter (VPL)

(VPL)The unique function of the amplifier, it can choose the recording power suitable for each output channel.

VPL allows you to choose the appropriate output power for the connected speakers to achieve the best recording performance. The correct setting is determined by the type of system and the load of the connection channel.

LED Indicator light Used to monitor system operations and identify general problems

Power:Green Mute:Red SIG/VPL:Green/Red

Turn on the power switch of the power amplifier. When the power indicator is on, there will be a 7-9 second power-on delay period. The MUTE red light-emitting indicator is on (mute indicator). The signal indicator is a green SIG.
MUTE indicator is full bright output mute (protection circuit works)
The flashing of the VPL indicator and all the other indicators indicate that the amplifier has reached the maximum output. The compression circuit works to prevent overload output. The MUTE indicator starts to flash and enters the state of thermal compression, and the fan begins to accelerate.
The amplifier reaches the maximum set temperature. The MUTE indicator flashes at high speed and the VPL indicator lights up and enters the thermal protection state.

Overheating situation

When the ventilation is not smooth, or the power amplifier is overloaded in the low resistance state, overheating protection will be generated. The starting temperature of the overheat protection device is as follows:

25-50℃:Fan rotation at low speed
50-65℃:The fan changed from low speed to high speed
75℃:The protection indicator starts flashing
85℃： The protection indicator flashes and the compression indicator glows, the compression circuit starts to work, and the output is controlled by 15db
90℃： Thermal protection.At the same time, the protection lamp flashes at high speed and the compression indicator lights up. In this case, it may be that the load is too low, the ventilation is blocked or the cooling fan cup

Specifications

Input interfaces	4 Analog + 4 Dante
Output interfaces	4 Analog + 4 Dante; 4 Link, to achieve multiple amplifiers on-line
Control interface	1 RJ45 interface, 1 USB-B interface, can be operated through the PC software to achieve parameter control
Display	3.97-inch touch screen, input/output level display, function operation display and so on
DSP Processing Parameters	
Input Channel	Function Module: Analog/Dante Switching, Mute, Gain. Physical interface: 3-pin XLR female connector
Output Channel	Function Module: Gain, Crossover, Delay, Limiter, Phase, 8-band Parametric Equalizer. Physical interface: Speaker Speakon socket interface
Frequency Response	20～20kHz, ±0.3dB
Maximum Input Level	+14 dBu, balanced input
Maximum Output Level	+14 dBu, balanced output
THD+N	<0.008% @ 2.2 dBu
Sampling Rate	48KHz
Bit Depth	24-bit
Noise Floor	-88dBu
Input Impedance	20 KΩ (balanced input), 10 KΩ (unbalanced input)
Output Impedance	100 Ω (balanced output), 50Ω (unbalanced output)
Input Sensitivity	1.22V
Input Common - Mode Rejection Ratio	>80dB

Power Amplifier Parameters	
Rated Power at 8Ω	4×900W
Signal - to - Noise Ratio	>112dB
Damping Factor	> 1000@ 8Ω
Total Harmonic Distortion	<0.1% (20Hz～20 kHz 1W)
Frequency Response	20Hz～34KHz (+0/-0.3dB, 1W/8Ω)
Level Adjustment	Front - panel potentiometer, from negative infinity to 0dB
Cooling Method	Stepless speed - regulating fan, with air flow from front to rear
Power Amplifier Protection Modes	Short circuit, open circuit, DC voltage, over heat, over voltage, radio frequency, ultra - low frequency protection
Power Supply Specification	AC voltage 180～240VC (90V～120VAC), 50～60Hz
Operating Temperature Range	0～50℃
Operating Humidity Range	Below 90%RH (but no condensation)
Chassis	2U
Chassis Dimensions (H×W×L)	88mm×277mm×484mm
Net Weight	13.5kg
Package Dimensions (H×W×L)	150mm×465mm×545mm
Gross Weight	16.5kg

Software Interface

The software interface is divided into TWO versions: PC version and touch-screen version, which are displayed on Windows PC platform and touch-screen version.The two can be synchronized through RS485, Dante and USB.

HomePage（PC Version）



① Menu bar: switch between different menu interfaces.

② Input and output matrix selection

③ Analog output matrix

④ Input and output matrix selection Input/

⑤ output channel mute selection

⑥ Input/output volume fader

⑦ Quick control of input/output channels

⑧ Input/output signal strength

⑨ Input/output gain value

Home Page（Touch Screen Version,pls refer to the PC version function introduction ）



Frequency Divider（PC Version）



① High pass/low pass slope diagram

② Frequency regulation of high pass filter, including type and slope regulation

③ Frequency regulation of low pass filter, including type and slope regulation

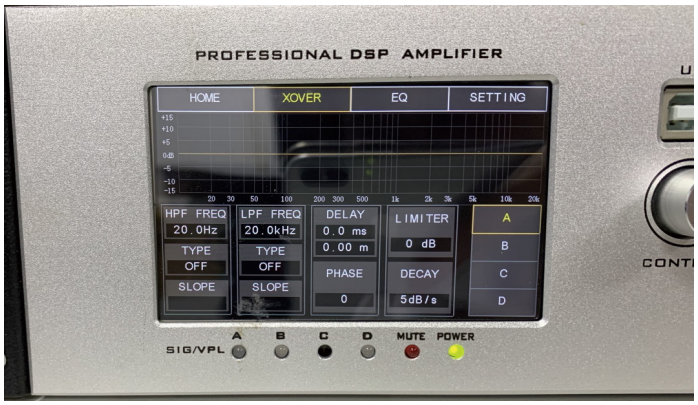
④ **Delay time:** signal with the input of the processor to the output of the processor time interval, generally used to produce reverberation

⑤ **Limiter threshold:** the starting level of the limiter. When the signal is higher than this limit value, the limiter processing module is started.Recovery time: When the input signal falls below this setting, the sound channel is not immediately converted

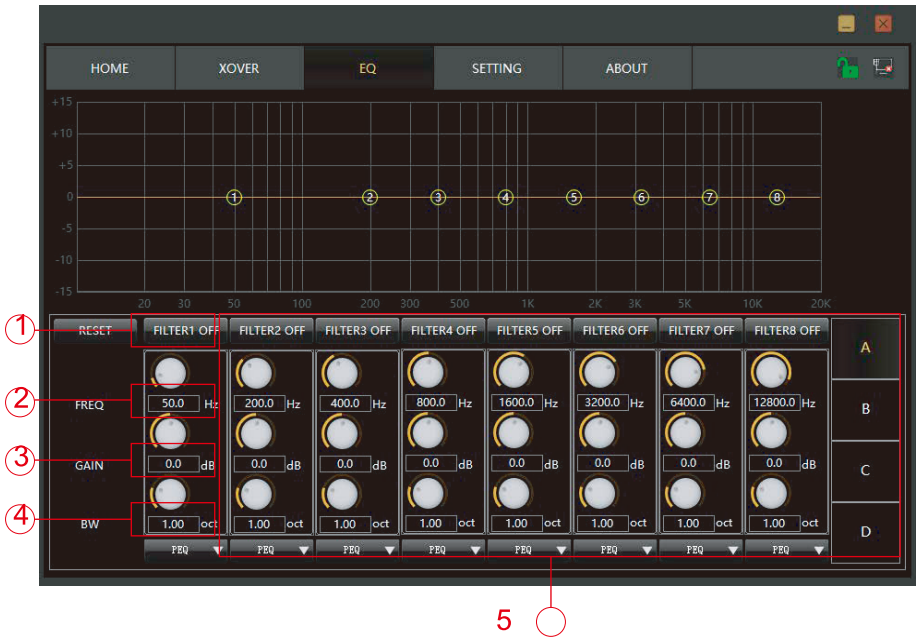
⑥ The output phase is reversed, corresponding to the input signal

⑦ Output channel

Frequency divider (touch screen version, frequency divider function please refer to PC panel frequency divider interface function introduction.))



Equalizer (PC version)



① **Reset: r**estore the center frequency, gain, bandwidth to default values Center

② frequency: whether the equalizer is effective

③ **Gain:** gain/attenuation value at the center of frequency

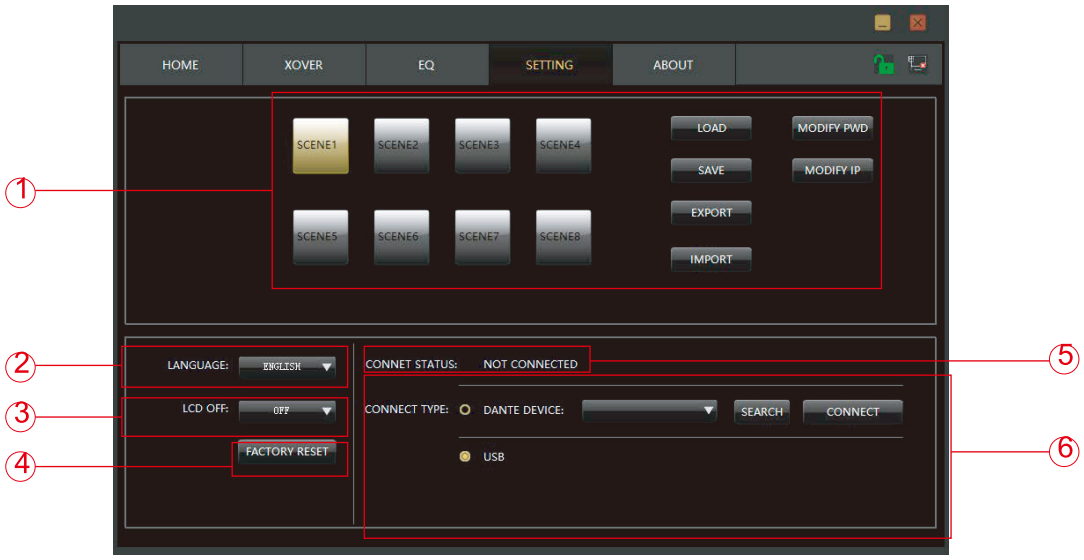
④ **Bandwidth:** the influence range of the segment around the center frequency. The larger the value, the larger the bandwidth and the larger the influence range

⑤ **Pass-through/Enable:** Whether the equalizer is effective

Equalizer (Touch screen version,For the function of the equalizer, please refer to the function introduction of the PC panel setting interface)



Setting （PC version）



① Load scene, save scene, modify password, import scene, export scene

② Interface language setting

③ Standby time setting

④ Restore default settings

⑤ Show current connection status

⑥ Two connection methods are available:Dante、USB

Setting (Touch screen version, click the "about" button to view the software version number)





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