

GUSTARD

R30

R2R Streaming

Decoder Manual v1.0cn



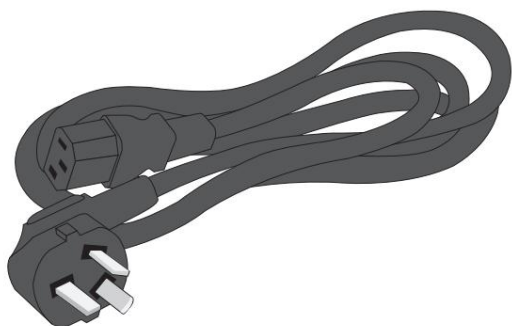
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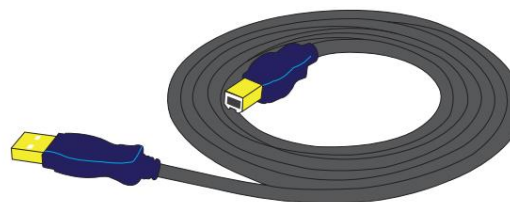
Host



Warranty card



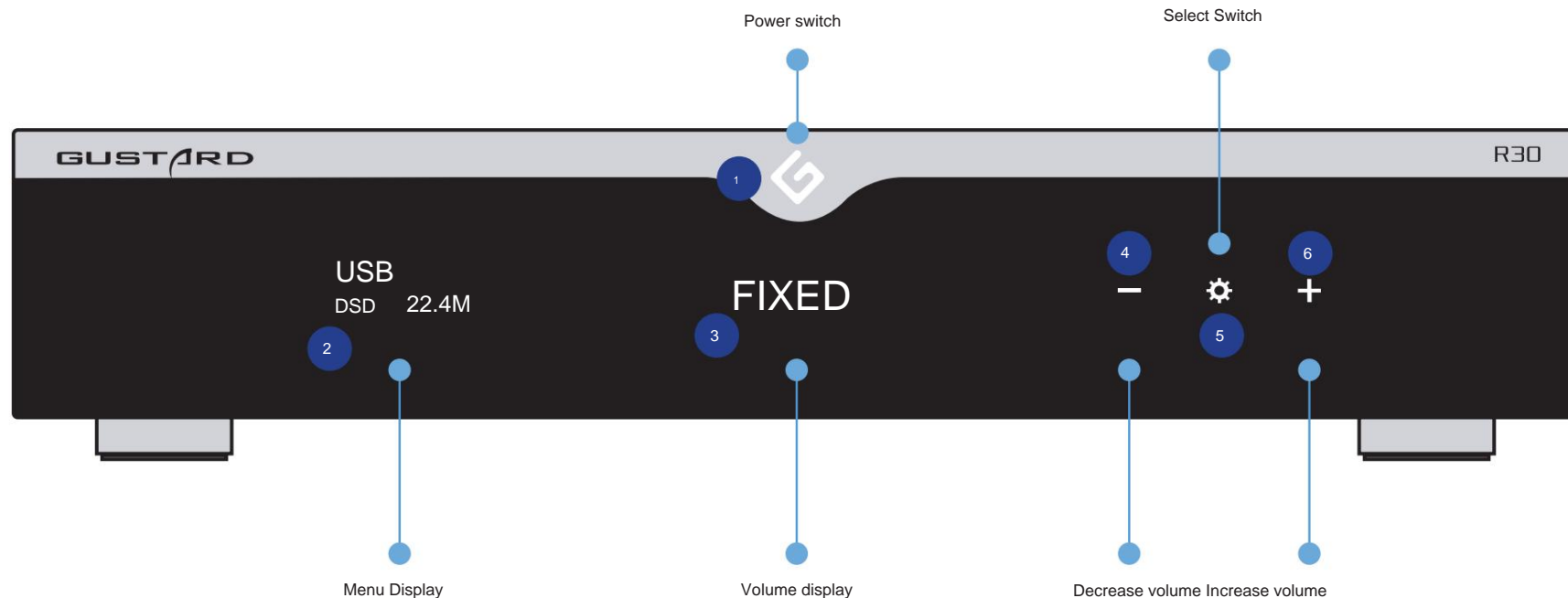
power cord



USB cable

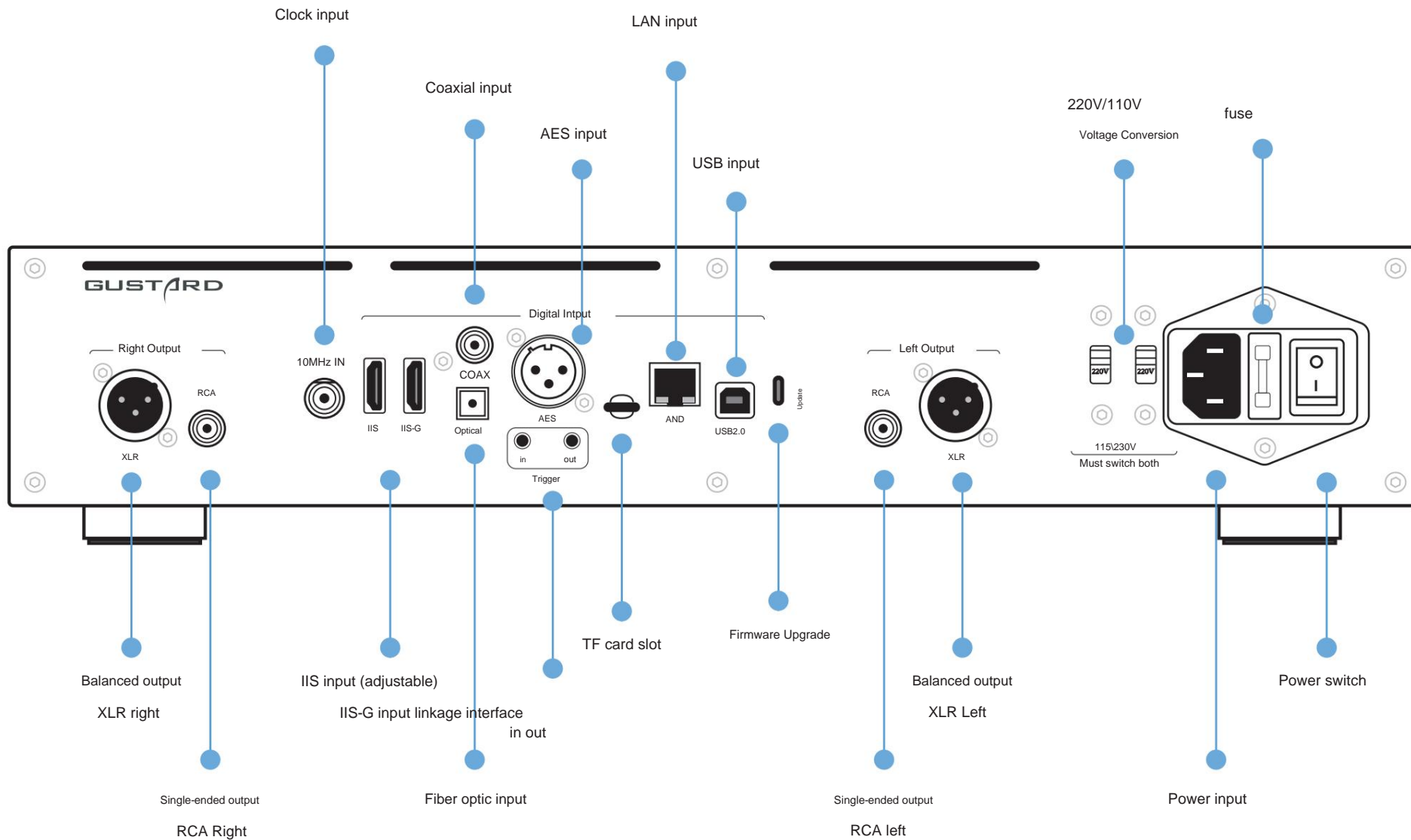


Remote Control



1. Power button, switches between standby and working modes. The R30 remains in standby mode when the power switch on the rear is turned on. 2. Displays the current input channel, encoding format, and sampling rate. * Displays items when entering a menu. 3. Displays the volume level, with -63.5dB to 00dB indicating volume, and FIXED indicating volume passthrough. * Displays options when entering a menu. 4. The "-" button is typically used to attenuate the volume. * It is used to switch options in the menu interface. 5. Short press the small gear button to switch input selections; long press to enter or exit the menu; short press to switch items in the menu. 6. The "+" button is typically used to increase the volume. * It is used to switch options in the menu interface.

Back interface

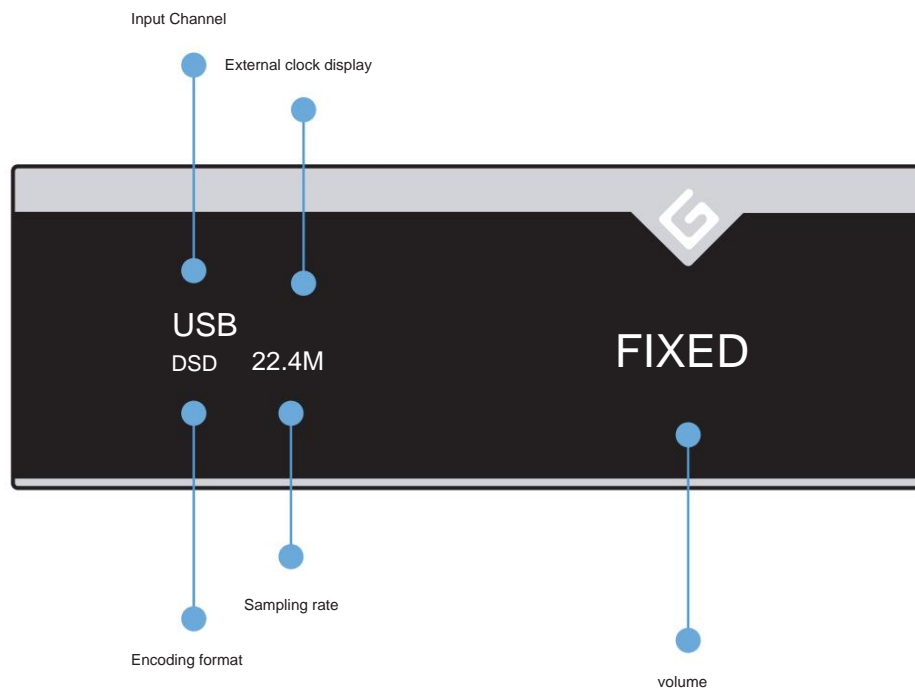


** When operating the 220V/110V voltage switch, please be sure to set both switches to the same voltage at the same time, otherwise the transformer inside the machine will be damaged after powering on.

1. The screen displays:

R30 uses a large OLED display to display real-time status and function operations.

The following figure shows the status of the main screen page.



selected input channel

R30 has 7 input channels in total.

When the small gear key is pressed, the current input can be cycled through in the order of COAX

— AES — OPT — USB — STREAMER — IIS(G) — IIS(M*)

aisle.

*** The line sequence of IIS(G) interface is fixed to the GOST format; IIS(M*) is the line sequence Adjustable IIS interface***

Volume adjustment (VOLUME): 3.

When the screen is on the home page, the "+" and "-" buttons can be used to adjust the

The analog volume attenuation function of the passive preamplifier of the R30 is activated.

The volume can be attenuated from 00dB to -63.5dB, with a total attenuation of -63.5dB.

When the volume is at 00dB, press the "+" button again to enter fixed output mode (through, Bypass the volume section), the volume position shows FIXED.

When the volume shows FIXED, press the "-" key to reduce the volume to exit FIXED first, then Adjust the volume.

Settings Menu

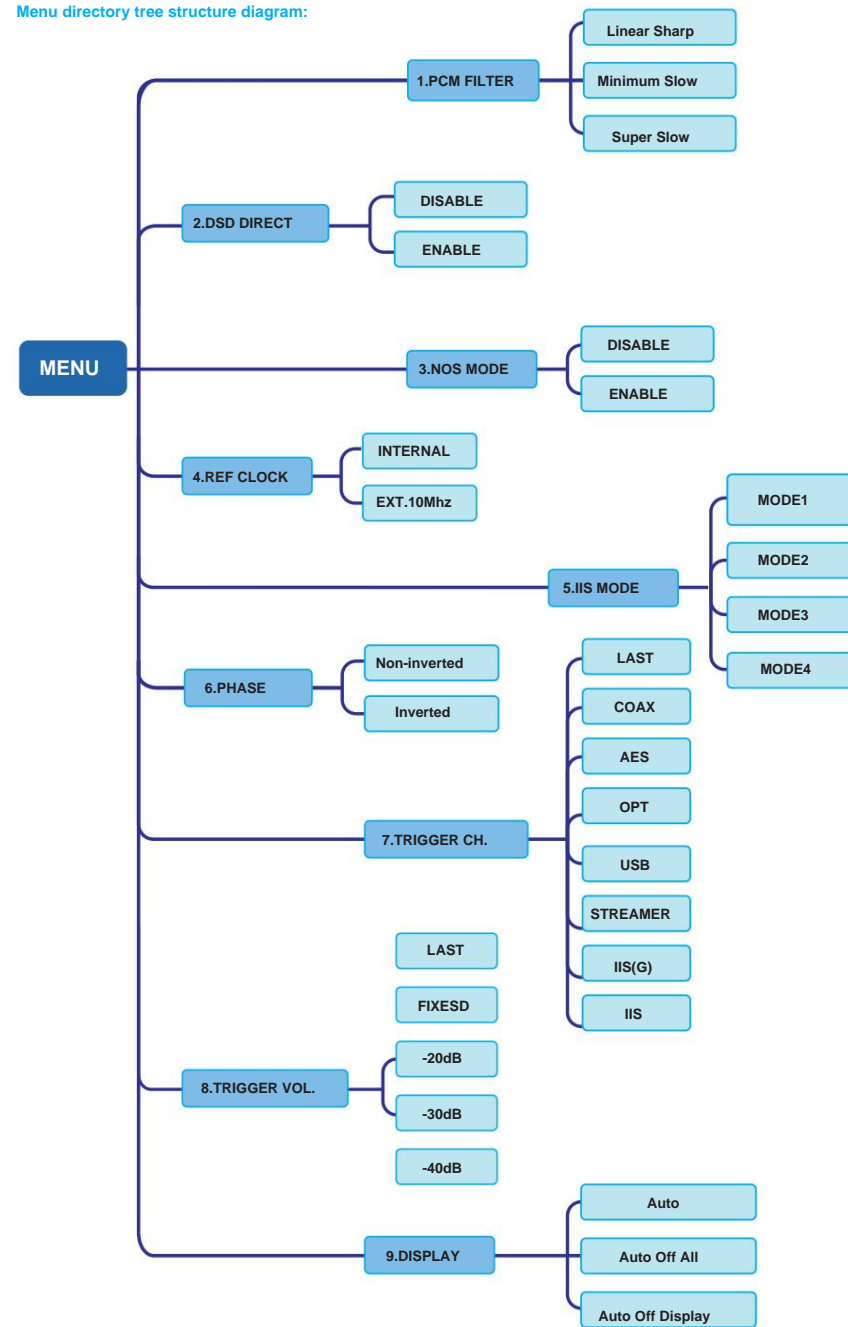
On the home screen, long press the small gear button to enter the settings menu (hereinafter referred to as Menu key).

In this state, the menu key can sequentially switch the menu items to be modified. The "+" and "-" keys are used to adjust the currently selected menu options. When the screen is in the setting menu, long press Press the Menu key once to return to the main page.

The menu is switched by moving the digital cursor, in order:

1. PCM digital filter adjustment
2. DSD Direct Mode Adjustment
3. NOS mode adjustment
4. Reference clock source selection
5. IIS line sequence mode selection
6. Phase adjustment
7. Linkage trigger power-on channel selection
8. Linkage trigger power-on volume selection
9. Screen brightness setting

Menu directory tree structure diagram:

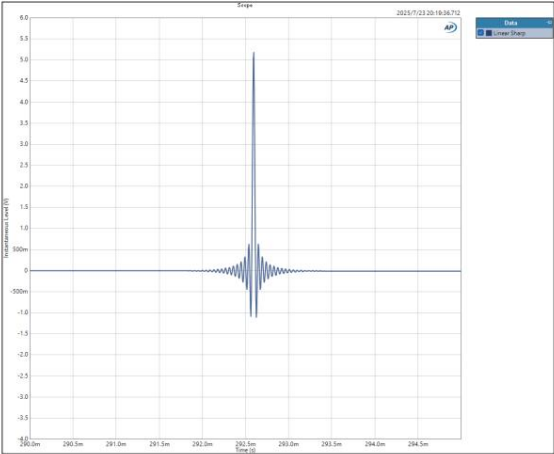


When the home screen is on, press the menu button to enter the menu. Each menu option is introduced below.

1. PCM FILTER (PCM digital filter adjustment):

R30 uses independently developed high-performance DSP PCM digital filters, with a total of 3 PCM digital filter types.

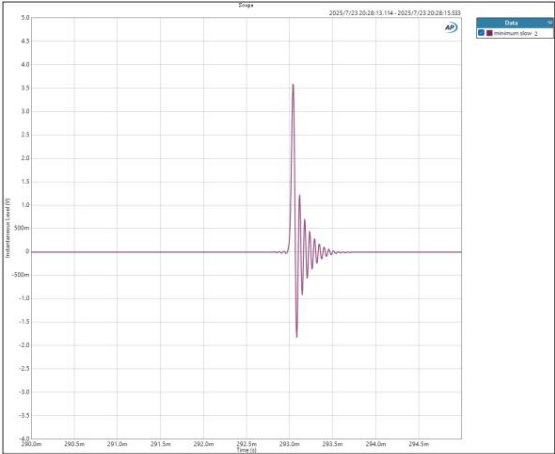
- 默认选项
-
- Linear Sharp
- Minimum Slow
- Super Slow



Linear Sharp digital filter has good sharp roll-off characteristics and low phase distortion.

The pulse response is optimized to suppress high-frequency noise. The transient response is extremely fast, the energy is concentrated, and the micro-dynamics and transient details in the music are preserved. The high frequency extension is silky smooth, the mid-frequency imaging is precise, and the low frequency control is strong. Dive tight.

Good at resolution: high frequencies are transparent, and the metallic texture of transient percussion instruments is good; the mid-frequency is three-dimensional and cohesive, and the details of the human voice's lips and teeth are clear; the low frequency is very elastic, suitable for complex repertoires such as electronic music and large-scale symphonies, presenting a precise positioning of the stage.



Minimum Slow Digital Filter

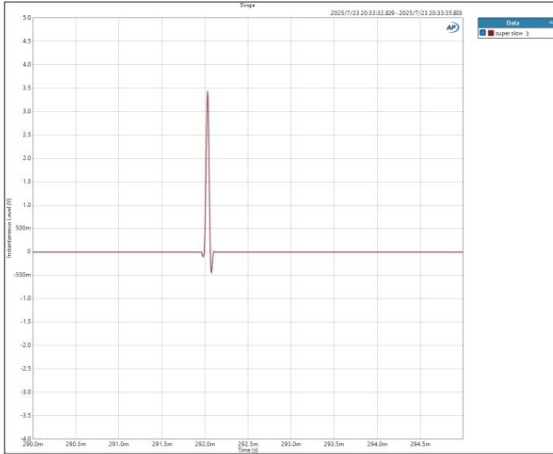
The filter exhibits unique transient characteristics, with almost no pre-ringing before the main pulse, which is the core advantage of the algorithm.

The post-ringing is very low, but its decay rate is carefully optimized to ensure that it does not cause audible delay in the listening experience.

Tail effect.

The high frequency overtones are delicate and not sharp, the mid-frequency density is solid and well-defined, and the low frequency dive is accurate and not bloated. It is especially good at restoring the wooden resonance of classical instruments and the subtle breath of human voice.

now Boundless sound field immersive feeling.



The Super Slow digital filter, like a master brewer,

smooths out the harsh edges of digital audio. A waveform graph reveals that, aside from a noticeable spike in the center, all other pre- and post-ringing is virtually eliminated. Its sonic aesthetic lies in the softness of high frequencies like dusk, the warmth of midrange instruments imbued with vintage tube gear, and the elastic rhythm of low frequencies reminiscent of vinyl records. Unlike typical digital filters, which prioritize resolution, Super Slow prioritizes the naturalness of a wooden concert hall, allowing reverberation to slowly dissipate like the lingering aroma of aged wine. When processing 1970s rock recordings, it miraculously removes the harshness of early digital conversions, restoring an organic vitality close to that of the master, much like imbuing a new wine with the layers of age. Whether it's the live atmosphere of jazz, the woody resonance of classical string music, or any genre that demands an "analog warmth," Super Slow imbues them with a unique charm gently polished by time.

2. DSD DIRECT (DSD direct mode adjustment):

默认选项 → **DISABLE**
ENABLE

* When enabled, there may be a slight clicking sound when the playback data format switches between PCM and DSD.

3. NOS MODE (No Supersampling Filter Mode):

When enabled, the PCM signal will bypass the oversampling digital filter module and go directly to the R2R decoding

Module. Also, the PCM filter option setting will be ignored.

默认选项 → **DISABLE** ENABLE

4. REF CLOCK (reference clock selection):

The GCLK-02 low-noise clock synthesizer features ultra-low phase noise, achieving femtosecond-level jitter performance while directly delivering the near-end performance of a reference clock.

The synthesizer can also provide multiple frequency outputs. The R30's built-in digital processing circuits and the master clock for key components are also provided by the GCLK-02 lock synthesizer.

REF CLOCK can be selected:

默认选项 → **INTERNAL is the internal reference, using the internal OCXO constant temperature clock.**

EXT. 10Mhz is to select the external 10M reference source. It is recommended to connect to the COSTIDA C16 or C18 reference 10M master clock.



When EXT. 10Mhz mode is selected and the external 10M is locked correctly. Exit
After the menu, the main screen will display EXT.



When the external clock is referenced, if the external clock is lost or the external

The external clock is forgotten to be turned on, or the 10Mhz frequency deviation of the external clock output is greater than

When the error is $\pm 150\text{ppm}$, **EXT ERR** will be displayed and flash at the

same time.

Menu function introduction

5. IIS MODE (IIS line sequence mode selection):

The R30 has two IIS input ports: 1. IIS(G) is

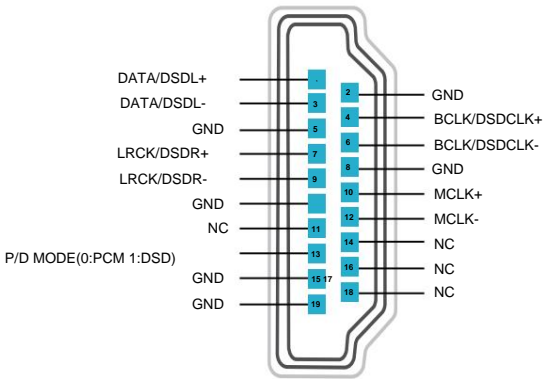
a fixed Gerstner line sequence and cannot be adjusted. A DSD FLAG must be enabled on the front end when playing back DSD.

2. IIS(M*) is an adjustable line order mode. It can automatically detect PCM and DSD encoding, so no FLAG signal is required.

(Gostode interface) The interface line sequence is as follows:

*IIS(G) interface requires DSD FLAG to be provided by the front end when playing back DSD

MODE1 IIS-G (GUSTARD)



IIS OVER HDMI(Socket view)

Please do not connect to the usual HDMI, this is not really HDMI

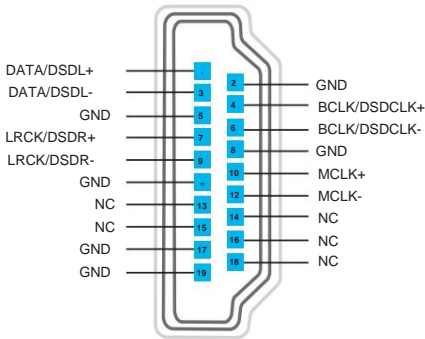
MODE1 is compatible with the Costa mode. If you are connecting to a Costa front-end such as U12,

U16, U18, S16, S26, etc. can be connected and matched with MODE1 mode under the premise of selecting the Gostar output mode.

All MODE1-MODE4 line

sequences refer to the following figure:

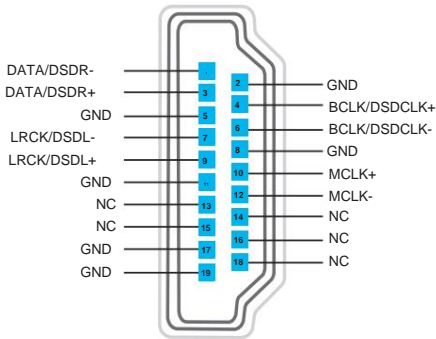
MODE1 (GUSTARD)



IIS OVER HDMI(Socket view)

Please do not connect to the usual HDMI, this is not really HDMI

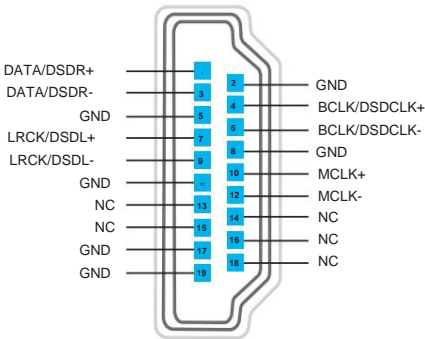
MODE2



IIS OVER HDMI(Socket view)

Please do not connect to the usual HDMI, this is not really HDMI

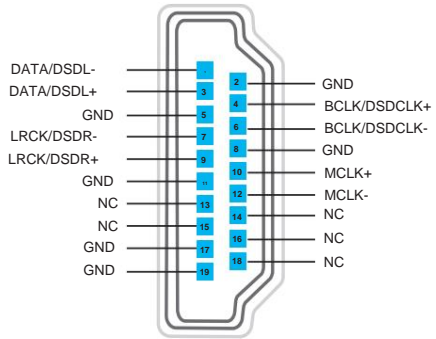
MODE3



IIS OVER HDMI(Socket view)

Please do not connect to the usual HDMI, this is not really HDMI

MODE4



IIS OVER HDMI(Socket view)

Please do not connect to the usual HDMI, this is not really HDMI

6. PHASE (Phase Setting):

This function has two options:

默认选项 →

NON-inverted (RCA positive output - XLR US standard)

Inverted

(RCA inverted output - XLR Japanese/European standard)

When in NON-inverted, the RCA output of R30 is positive phase, and the XLR balanced output is American standard polarity output, that is, 1 ground, 2 hot, 3 cold.

When Inverted, not only the RCA output will be inverted, but the XLR balanced output will also be Japanese/European standard polarity output, that is, 1 ground, 2 cold, 3 hot.

7. TRIGGER CH. (Linkage trigger start channel selection):

The R30 can be activated from standby mode by an external 12V trigger signal. If the 12V trigger signal switches the R30 to the input channel while it is operating, it will automatically enter standby mode if the 12V trigger signal stops or turns to 0V.

1. This time the machine is turned on by 12V trigger, not manually turned on.

2 After this trigger is turned on, it is in the trigger channel set

3 After this trigger, the input channel has not been switched manually.

*** The above 3 conditions are met and the system will automatically enter standby mode before execution.

默认选项 →

LAST (the input channel that was last used before entering standby)

COAX — AES — OPT — USB — STREAMER — IIS(G) — IIS

For the rest of the channels above, whichever one you select, when the 12V trigger signal comes, it will enter that channel and start up.

8. TRIGGER VOL. (Linkage trigger power-on volume selection):

The R30 can be triggered by an external 12V linkage signal, automatically start up from standby mode and set to this volume. Or

When the R30 is working, it will be switched to the set volume by the 12V trigger linkage signal. This option is used to set the R30 output after the trigger is turned on.

The volume of the output.

默认选项 →

LAST (the volume that was being used before entering standby)

FIXED (Output at fixed full volume) -20dB (Output

at volume attenuated to -20dB) -30dB (Output at volume attenuated

to -30dB) -40dB (Output at volume attenuated to -40dB)

9. DISPLAY (screen brightness setting):

默认选项 →

AUTO

Automatically reduce brightness

AUTO OFF ALL Automatically turns off the screen and buttons (just like standby)

AUTO OFF DISPLAY Automatically turns off the screen display

The screen will light up when the sampling rate and format are changed, or when the machine is operated.

Using it can easily cause screen burn-in, ghosting, etc. Therefore, it is designed to always automatically reduce the brightness, or manually select the automatic screen off option.

Can reduce interference.

infrared remote control

* When used to operate DAC products, please press and hold the DAC key for more than 3 seconds to enter the DAC operation mode.

AMP and STREAM modes are used for

Control other types of products of Gostede

• Standby button: In standby mode, press this button to put R30 into working mode;

In working state, press this

• Menu button: Press this button

to enter the R30 function setting menu. • 4-way direction button: When entering the R30 menu,

use the up/down keys of the 4-way direction button to switch to the desired

Adjustment function, through the left

/ Right to adjust options.

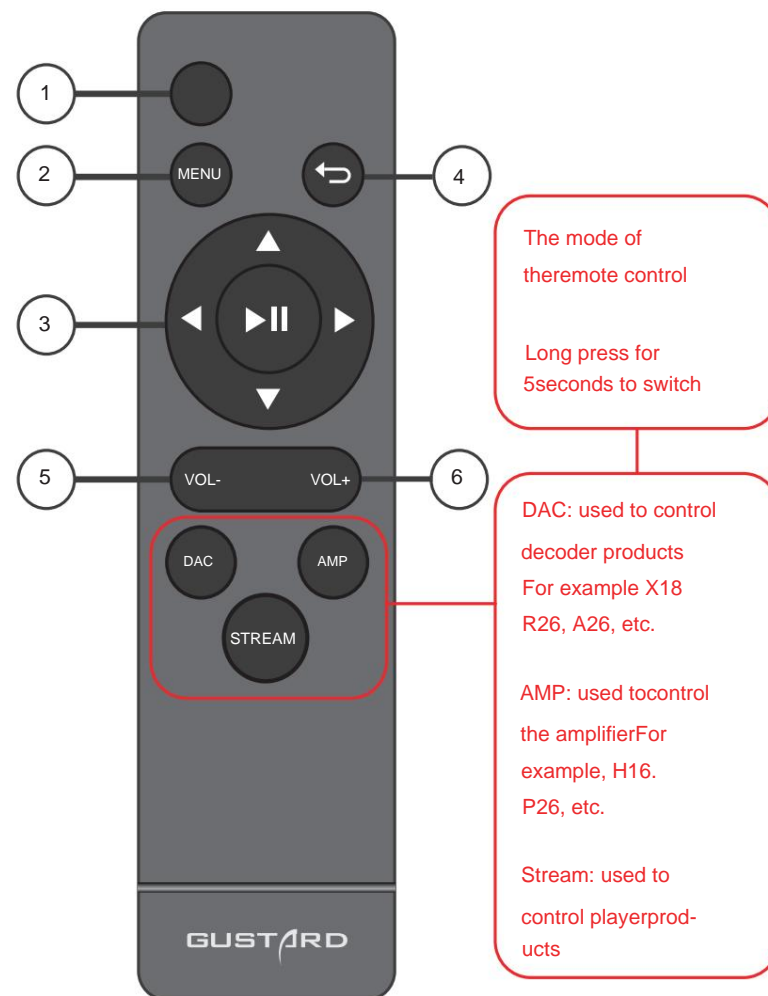
Press the center to mute or unmute. • Back

Button: Return to the home screen. • Volume Down Button: When

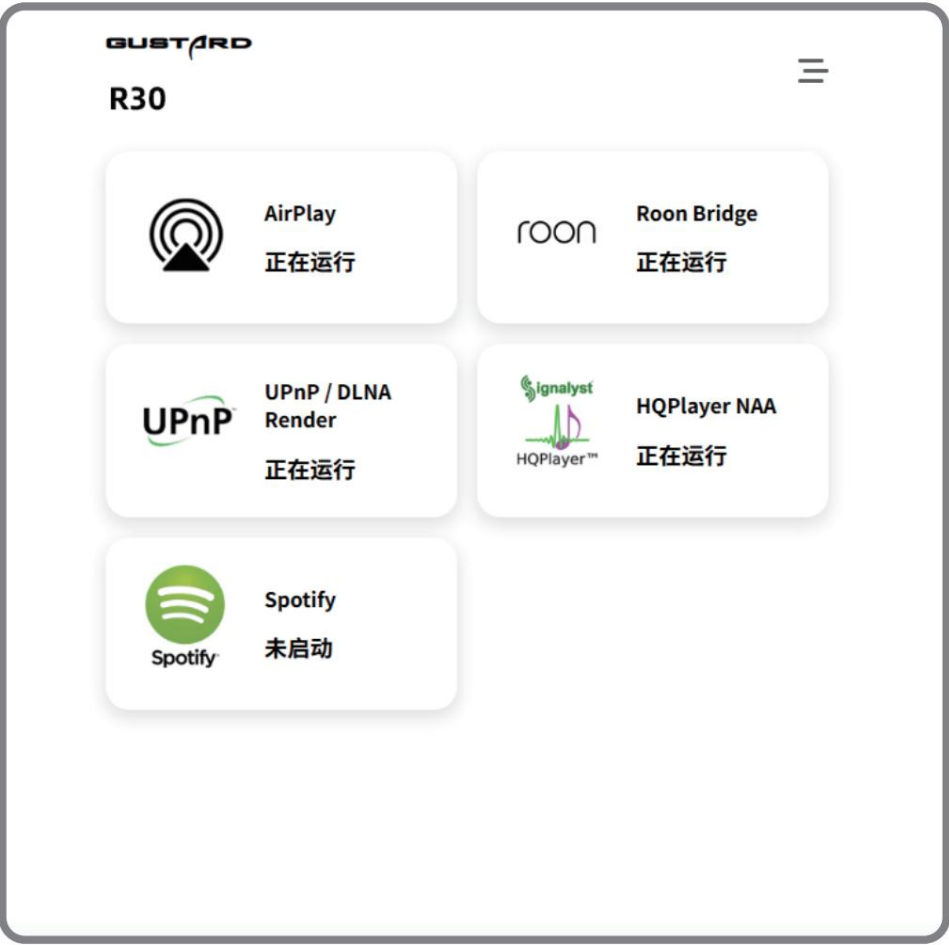
the R30 is in the home screen, press this button to decrease the output volume. • Volume Up Button: When the R30 is in the home screen, press this button to increase the output volume.

Notice:

- Operating distance varies according to angle
- If there is anything between the remote control and the sensor, it may not operate properly
- If the remote control will not be used for a long time (a month or more), remove the batteries.
- If the battery leaks, thoroughly clean all residue from the battery compartment and install new batteries.
- When using other devices controlled by infrared rays, using this remote control may cause them to operate incorrectly.



Easy to use Bridge Streamer



After the R30's RJ45 is connected to your LAN, select the Streamer channel and wait for Wait for the system to boot up (about one minute, when the screen displays DSD 24.5Mhz)

On a PC in the local area network, enter: <http://R30.local>

Open the R30 bridge settings page, as shown on the left:

You can turn off the streaming protocol that is not frequently used through the web page to maximize the system music playback. Release efficiency.

At the same time, the online upgrade of the bridge is also operated on the web page.

(On mobile phones and tablets, after the dedicated APP for the bridge is launched, the above operations can be performed on the APP (

USB driver installation under Windows system

USB driver installation under Windows system

* This driver is suitable for all WINDOWS systems.

*The MAC OS system has its own driver, so you can just plug it in and use it without having to install a separate driver.

* The accessories of this machine include a CD containing GUSTARD USB driver.

* You can also download related drivers, components and manuals from www.gustard.cn* This driver supports Windows 7

SP1 and above; Windows 8; Windows 10; Windows 11

1. For users who use desktop computers to connect to the decoder, it is recommended to use the native USB2.0 interface. It is also strongly recommended to use the interface on the back of the chassis.
Because the rear interface is directly connected to the motherboard, and the interface on the front of the chassis has an extra adapter cable, it has a certain negative impact on high-speed signals.
Effect.
2. Use a USB cable to connect the USB port of the Goste device to the computer and turn on the power of the device. The computer will prompt that new hardware has been found.
And try to set up the device. If there is no prompt, please try another USB interface or restart the USB interface of the Gostar.



⚙ 正在设置设备
正在设置“Gustard USB Audio 2.0”。

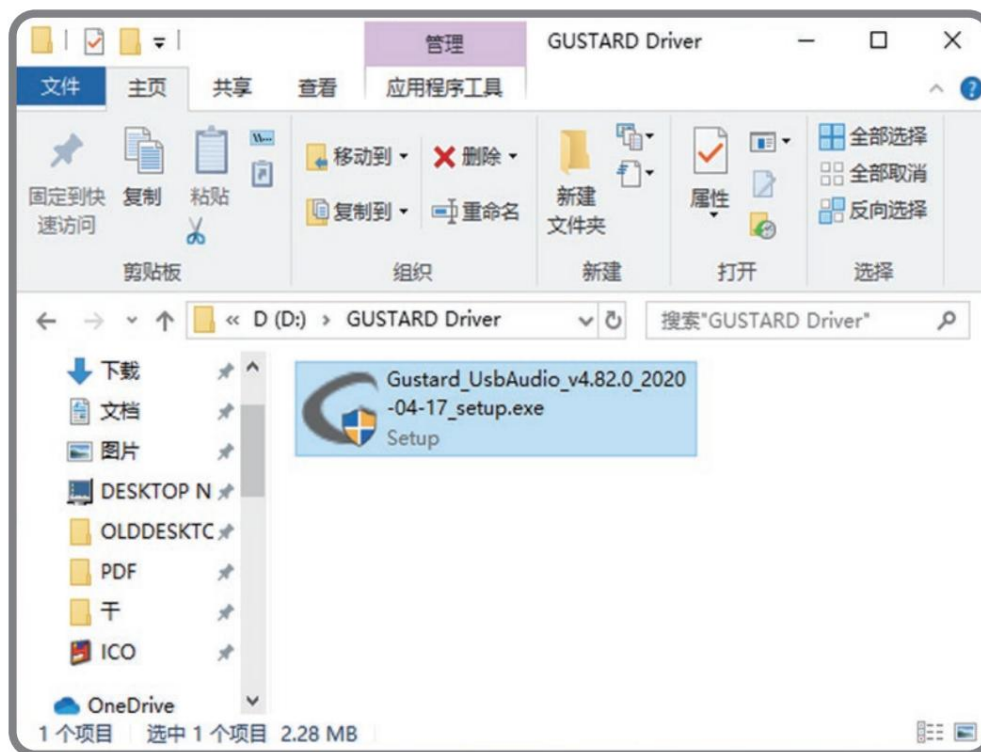
USB driver installation under Windows system

3. Double-click to run the Gustard_UsbAudio_v4.82.0_setup.exe program

(This example, or the updated version is the same)

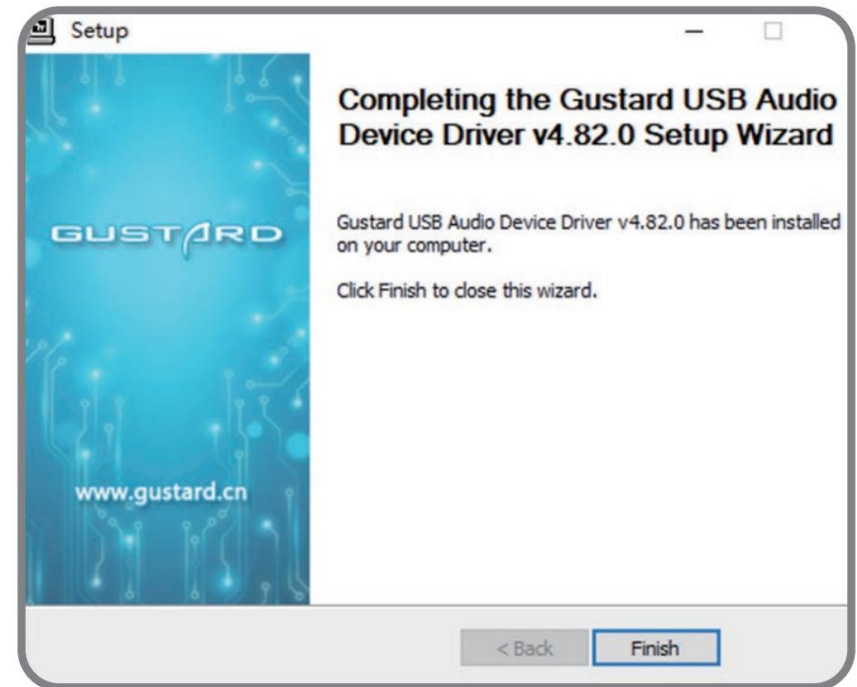
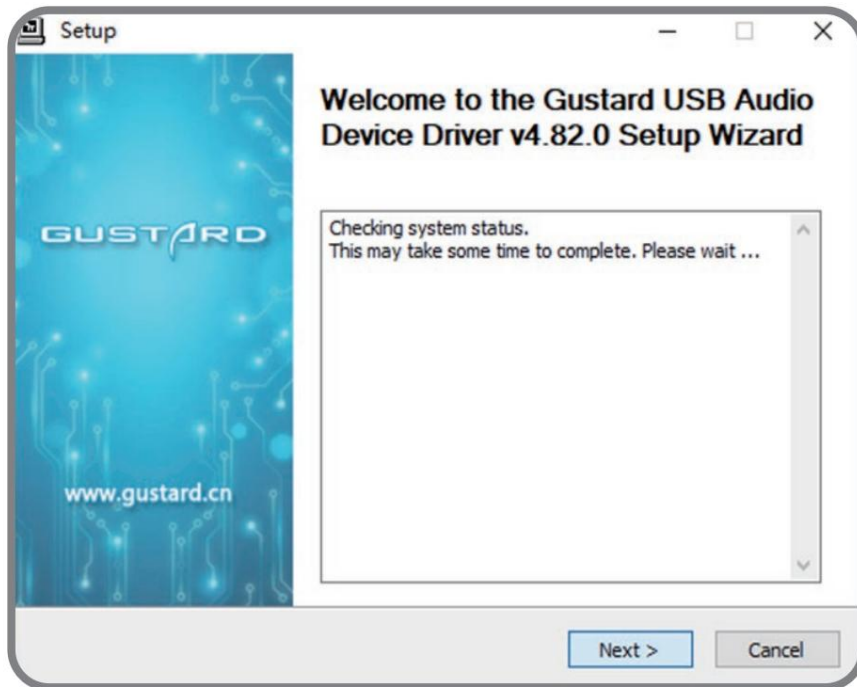
If the "User Account Control" window pops up, click "Yes".

4 . When prompted, click next or install.



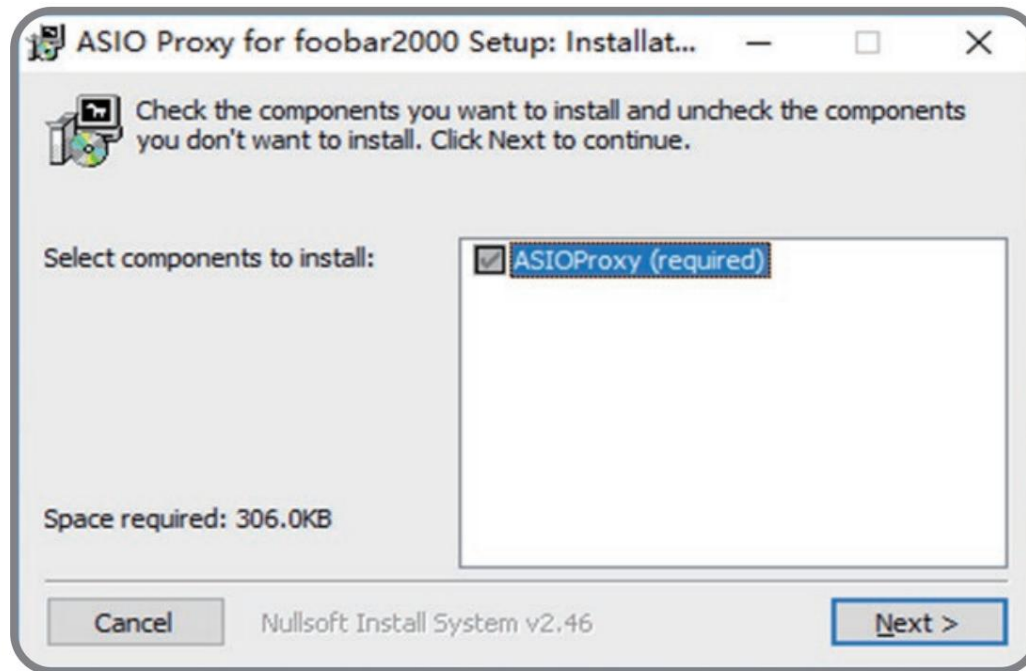
USB driver installation under Windows system

5. Check the device. If there is a red text prompt: Setup **requires that the device is...**, please restart the Gostar USB interface or re-plug the USB cable.
6. On the screen that shows the driver has been successfully installed, click Finish to complete the installation.

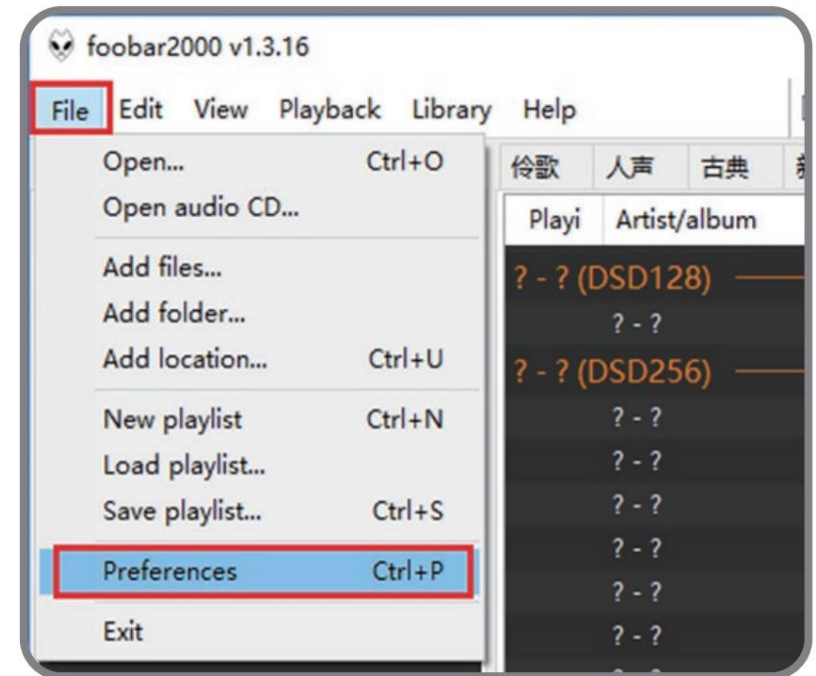


If any other English prompt box appears, just select YES.

Open the folder foobar2000_DSD_0.7.X, double-click to run ASIOProxyInstall-1.0.7.2.exe , and click next or install to complete the installation.

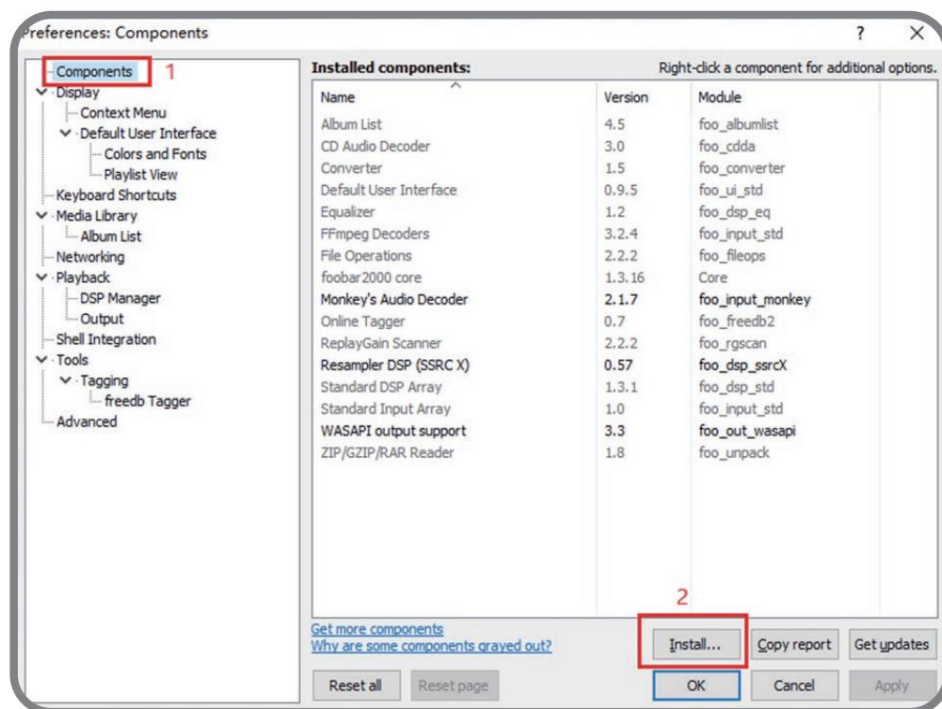


2. Run the Foobar2000 program. Click File -> Parameters (Preferences)



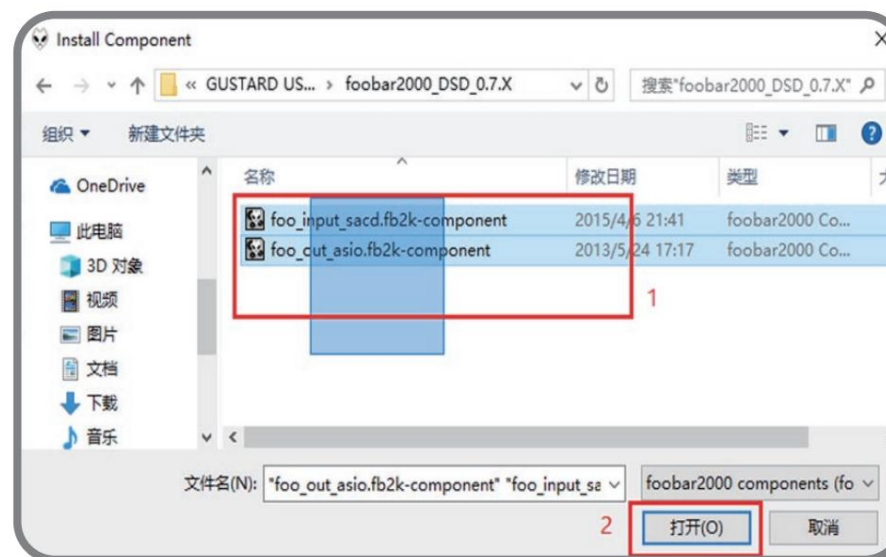
3. Click "Components" on the left, then

Click "Install" in the lower right corner (the Chinese version is "Install")



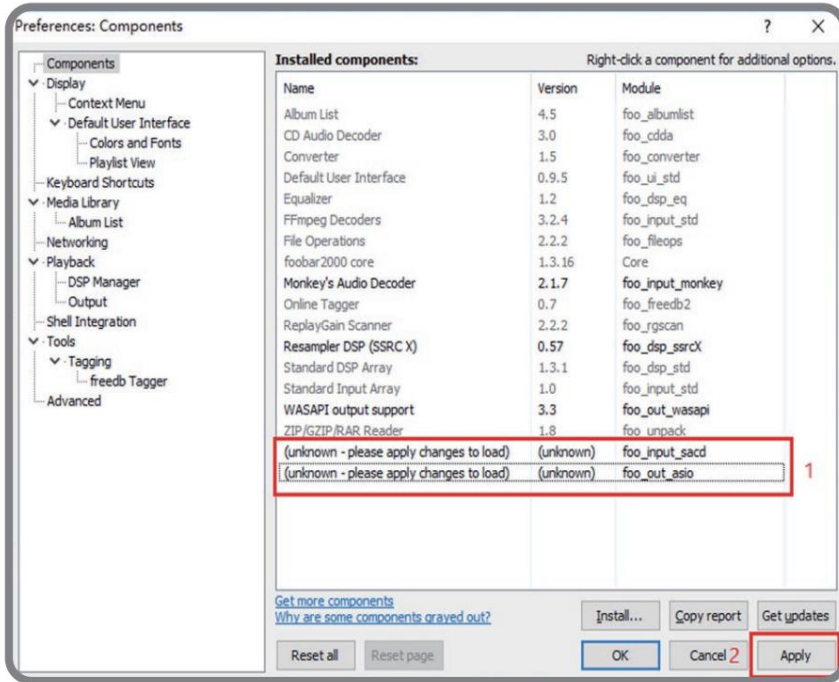
Use the mouse to select two files at the same time, or press Ctrl to select two files at the same time.

Then click "Open", which means "open" in Chinese.



Two new lines of component information will be added to the component list, then click "Apply"

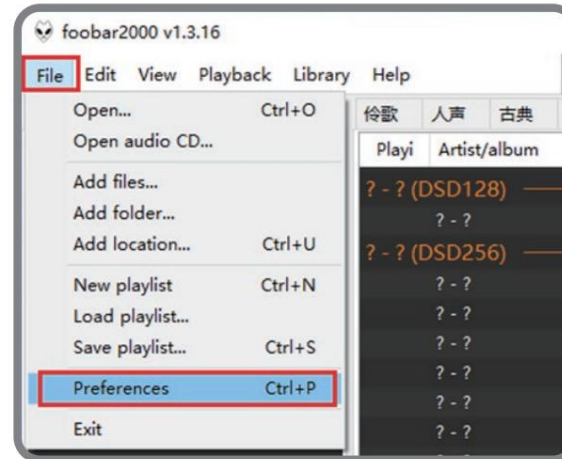
(The Chinese version is "Application").



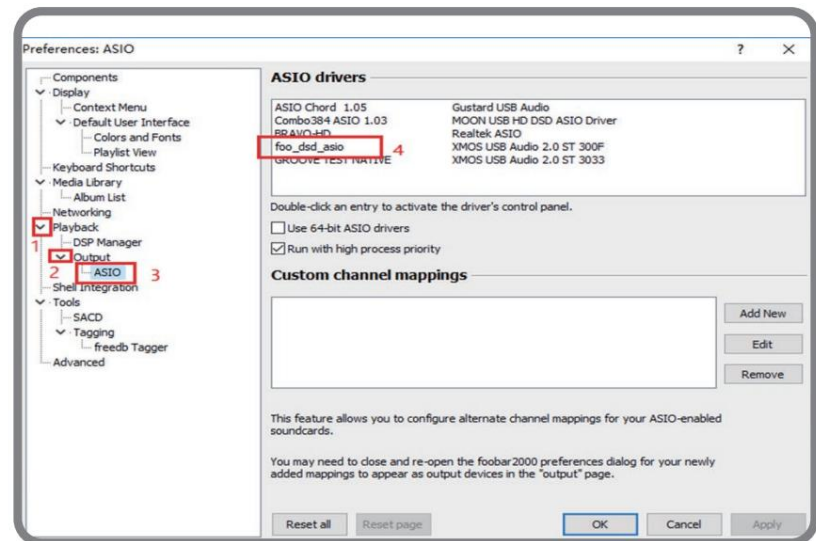
A box will pop up, click "OK". Then the Foobar2000 software will restart.



4. Click File again—> Preferences.



5. Expand "Playback" (Chinese version is "playback") - "Output" (Chinese version is "output") on the left.
(The text version is "Output") - "ASIO", then double-click "foo_dsd_asio"

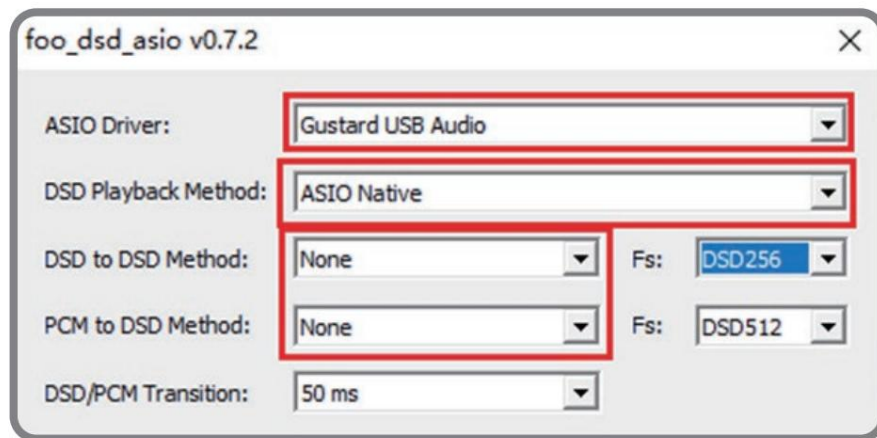


6. In the pop-up window "foo_dsd_asio v0.7.2."

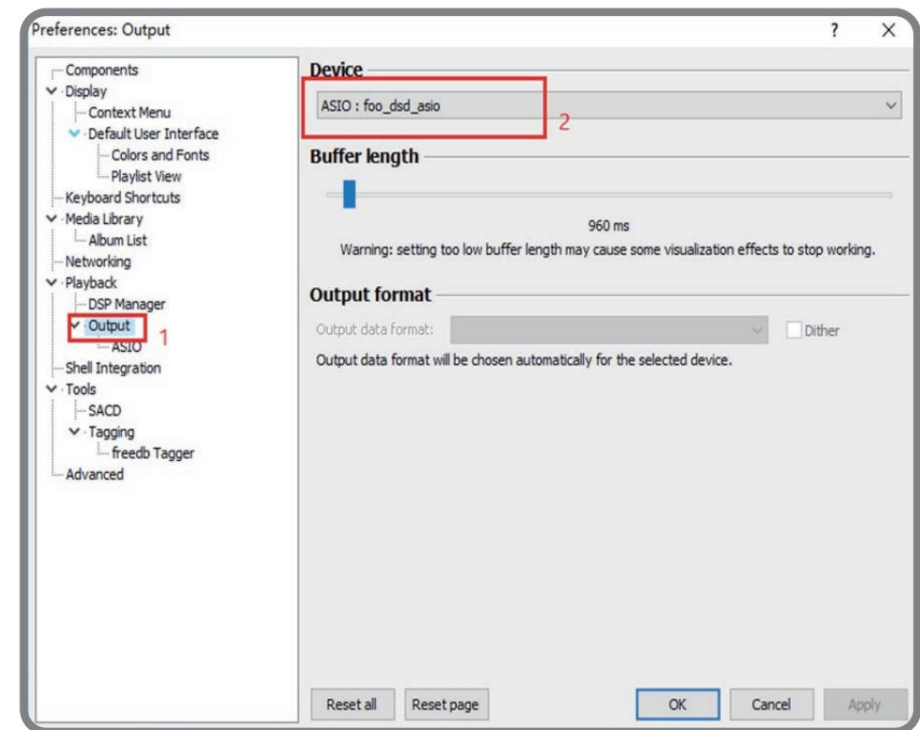
Select "Gustard USB Audio" from the drop-down menu of the first row of ASIO Driver.

Select "ASIO Native" from the drop-down menu of DSD Playback Method on the second line.

Make the same selections as the red-boxed area in the image. Then click the X in the upper right corner to exit.

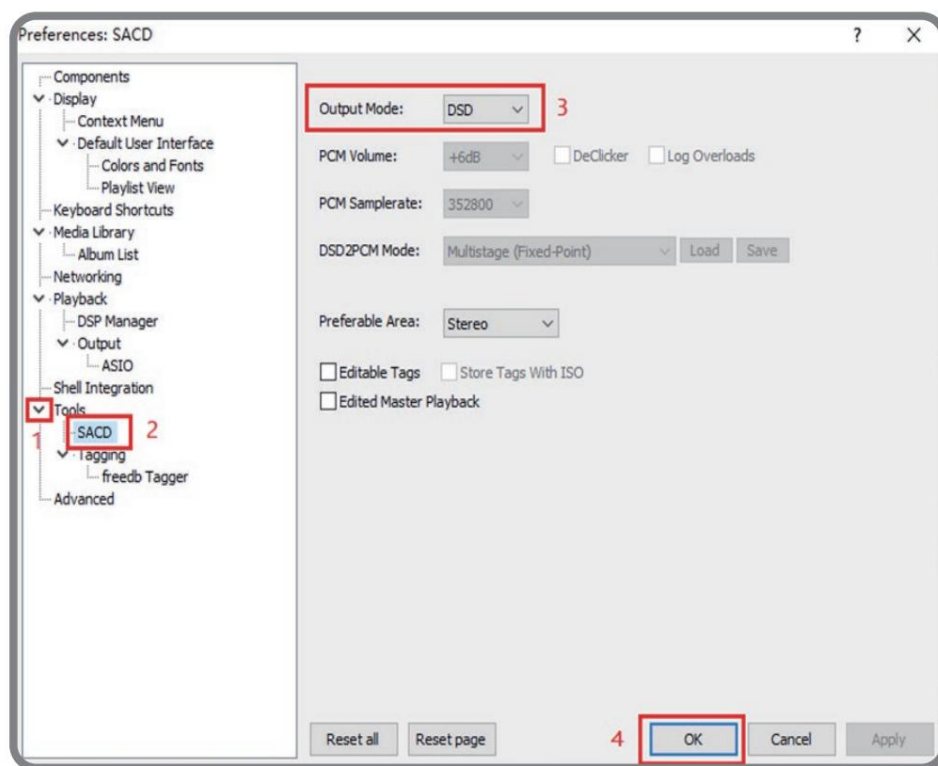


7. Click on the left "Output" (Chinese version is "yy"), then on the right "Device" (Select "ASIO:foo_dsd_asio" from the drop-down menu of "Device")



Solution to FooBar2000 not playing DSD properly

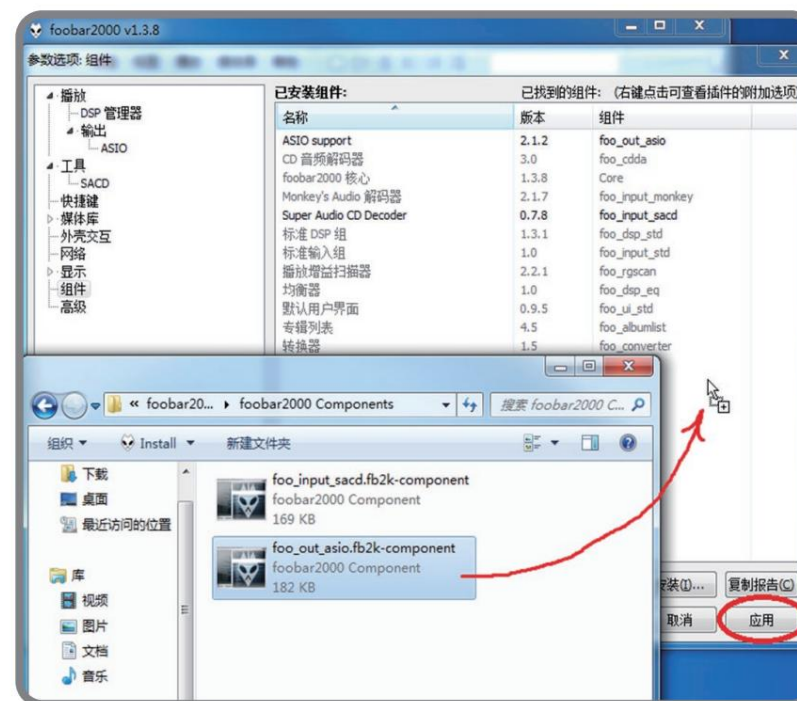
Next, click Tools -> SACD, and select "DSD" from the drop-down menu under Output Mode on the right. Finally, click "OK" to complete the setup.



Solution to FooBar2000 not playing DSD properly

1. Why is my fooBar2000 Preferences Playback->Output No ASIO in (Output)?

Because the ASIO component is not installed. Drag the foo_out_asio.fb2k-component file in the fooBar2000_DSD_0.7.X folder to the blank space in the box to the right of the fooBar2000 component option, then click the "Apply" button in the lower right corner. Click OK in the pop-up Restart fooBar2000 dialog box. After restarting fooBar2000, you can find the ASIO option.



Solution to FooBar2000 not playing DSD properly

2. Why is there no SACD in the Tools section of my foobar2000 preferences?

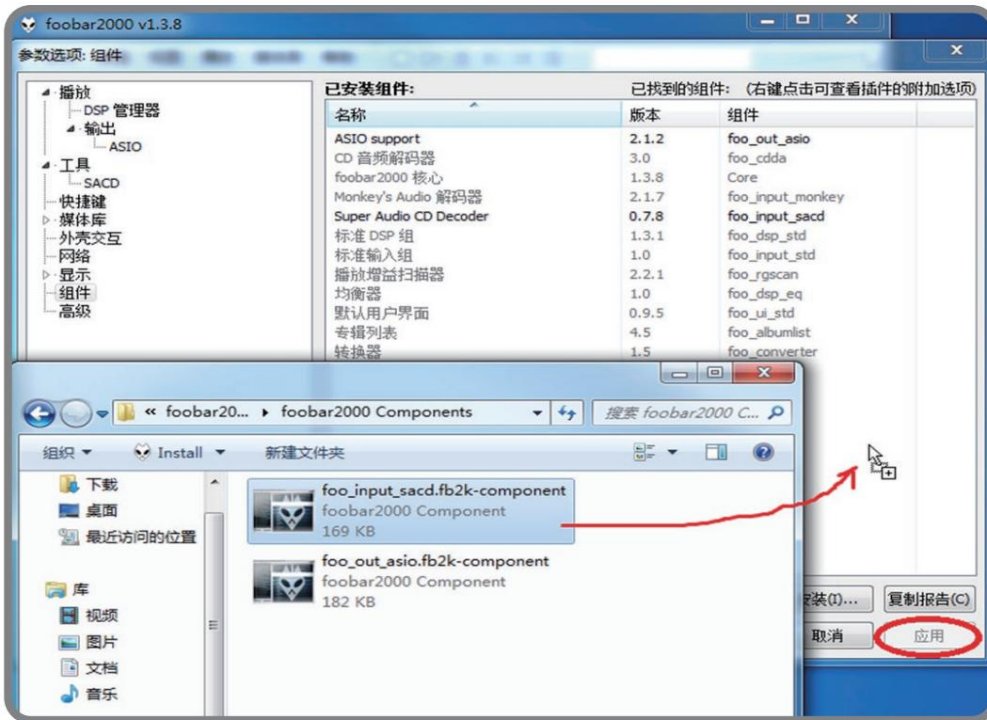
Because the SACD component is not installed.

Drag the foo_input_sacd.fb2k-component file to the foobar2000 component

In the blank space on the right side of the option, click the "Apply" button in the lower right corner.

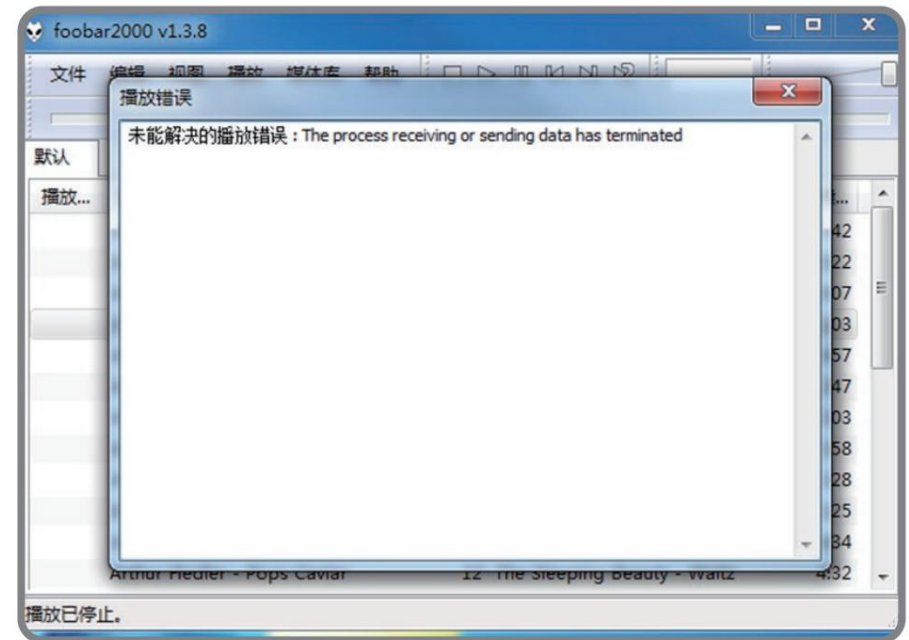
Click OK in the Restart foobar2000 dialog box. You can find it after restarting foobar2000.

SACD options.



3. Why is it that when playing DSD files, the following error message appears even though the above settings are correct?

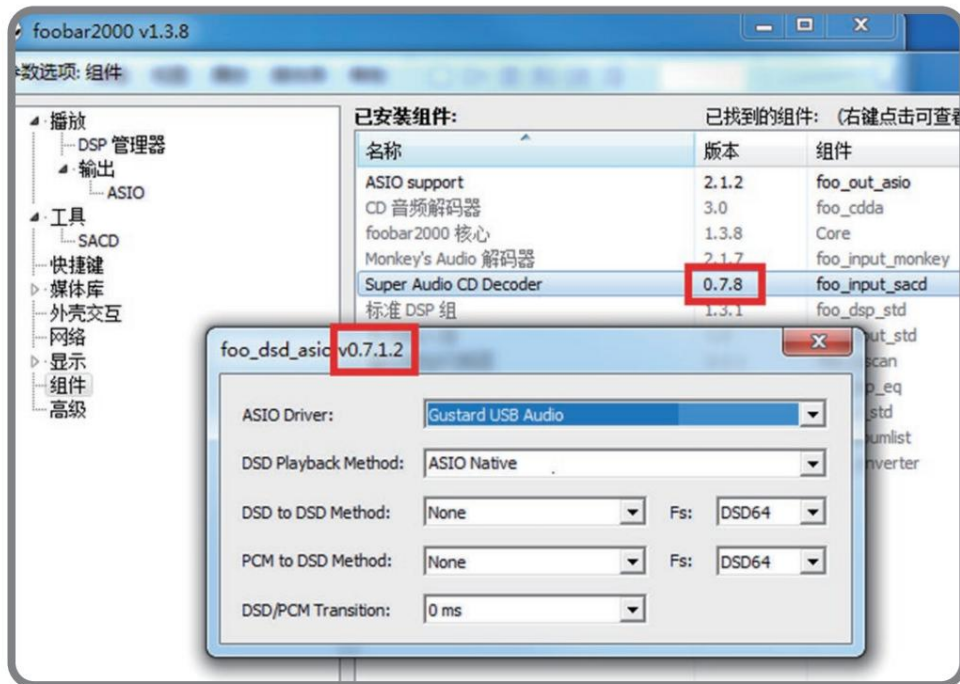
Error in the diagram.



This is because the version of ASIOProxy conflicts with the version of the SACD decoding component.

Solution to Foobar2000 not playing DSD properly

The correct version is shown in the figure below, all of which are 0.7.X...



Some users are using an older version of foobar2000, which has a SACD decoding component.

If you are still using version 0.6.X, and you have installed ASIOProxyInstall-0.7.2.exe

Program, then the version of the foo_dsd_asio window is 0.7.2, which is the same as

A conflict has occurred with the SACD decoding component.

There are two solutions:

1. Update the SACD component version. The installation method is the same as [Question 2] above. However

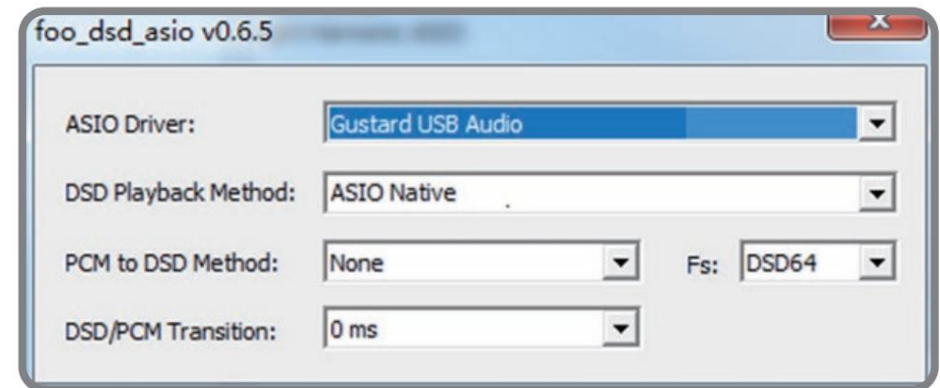
Some versions of foobar2000 components are locked and cannot be replaced. Please reinstall the new version.

The official original version can solve the problem very well.

2. If you do not want to reinstall foobar2000, you can install the old version as follows

ASIOProxyInstall-0.6.5.exe. Baidu Google search ASIOProxyInstall-

0.6.5.exe can be downloaded and conflicts can be resolved.



Digital input:

COAX/AES/OPT input format support:

PCM 16-24bit/44.1-192kHz DOP64

USB input format support:

PCM 16-32bit/44.1-768kHz DSD DOP64-DOP256 NATIVE DSD DSD64-DSD512

STREAMER input formats support:

PCM 16-32bit/44.1-768kHz; DSD DOP64-DOP256; NATIVE DSD: DSD64-DSD512 (STREAMER function can be set to open or close the protocol and can be upgraded online)

IIS(G) input format support:

PCM 16-32bit/44.1-1536kHz DSD DOP64-DOP256 NATIVE DSD DSD64-DSD1024

IIS (MODE1-MODE4) input format support:

PCM 16-32bit/44.1-1536kHz DSD DOP64 DOP256 NATIVE DSD DSD64-DSD1024
(PCM/DSD codec auto detection)

*USB input operating system support:

WIN7/WIN8/WIN10/WIN11 32-64bit; Mac OSX; Linux; Android OTG

10Mhz BNC input interface:

Input impedance 50 Ohm, 0dBm-20dBm, CMOS Square wave: 0.2V-3.3V, Sine wave: 0.5-3.3V

Trigger trigger linkage interface operating voltage:

Input: 12V Typ. Output: 12V Typ.

Analog output:

Frequency Response: 20-20kHz /+-0.2dB VIVID Digital

Filter **Dynamic Range:** >123dB (20K BW

Awt.) **Signal-to-Noise Ratio:** >123dB

(20K BW Awt.) Crosstalk: -139dB

@ 10kHz THD+N: <=0.0015% @

1kHz **IMD:** \ddot{y} 0.005% @ -1dBfs

RCA Output Level: 2.5Vrms (VOLUME FIXED)

RCA output impedance:

100 \ddot{y} XLR output level: 5.1Vrms (VOLUME FIXED)

XLR output impedance:

100 \ddot{y} XLR interface definition: US standard (1 ground, 2 hot, 3 cold)

Phase: Non-Inverted

Other parameters:

AC power supply: AC 115V/230V 50/60Hz **Overall**

power consumption:

<35W Body dimensions: **Width** 430mm * **Depth** 300mm * **Height** 80mm (including machine feet 94mm) **Packing dimensions:** **Length** 530mm * **Width** 400mm *

Height 180mms **Weight:** 10Kg (including packaging)

Thank you very much for purchasing GUSTARD brand HIFI products. To protect your rights, please carefully read the following warranty terms so that you can promptly receive the comprehensive after-sales service provided by GUSTARD.

1 Product Warranty:

GUSTARD guarantees a two-year free warranty for all electronic products from the date of purchase, providing lifetime maintenance. Within 15 days of purchase, we offer a factory replacement service (if the product is scratch-free). Within one month of warranty, we provide a free return shipping fee. For warranty periods between one month and two years, we cover the shipping fee.

* The manufacturer only bears the shipping costs to mainland China. Overseas shipping costs and taxes generated are to be negotiated between the user and the merchant.

2 Under what circumstances can you enjoy free

warranty service: During the free warranty period of GUSTARD electronic products from the date of sale, if the user uses the product normally, the product will fail due to component quality or manufacturing problems.

3 The product will not be covered by warranty service if any of the following

circumstances apply: a. The product has exceeded the specified warranty period from the date of purchase and is no longer covered by warranty service. b. The actual product does not match the product model, barcode, and purchase date on the warranty card. c. The product has been modified or repaired without the authorization of a GUSTARD technician. d. Damage caused by force majeure.

e. Damage caused by operating outside the permitted

operating environment. f. Damage caused by improper use or storage (including but not limited to: circuit or component burnout due to excessive voltage; damage to the outer casing or internal components due to collision; damage caused by liquids such as water or oil entering the product; damage caused by excessive dust; oxidation or corrosion of the product, etc.).

4 Out-of-warranty service: For

machines that are out of warranty, such as individual component damage, damage to the exterior due to human error, or unauthorized software modification resulting in malfunction, GUSTARD promises to repair them for a fee if the conditions are met (large-scale component or circuit board damage cannot be repaired). The user will be responsible for shipping, repair, and material costs.



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