



# DAC-X26

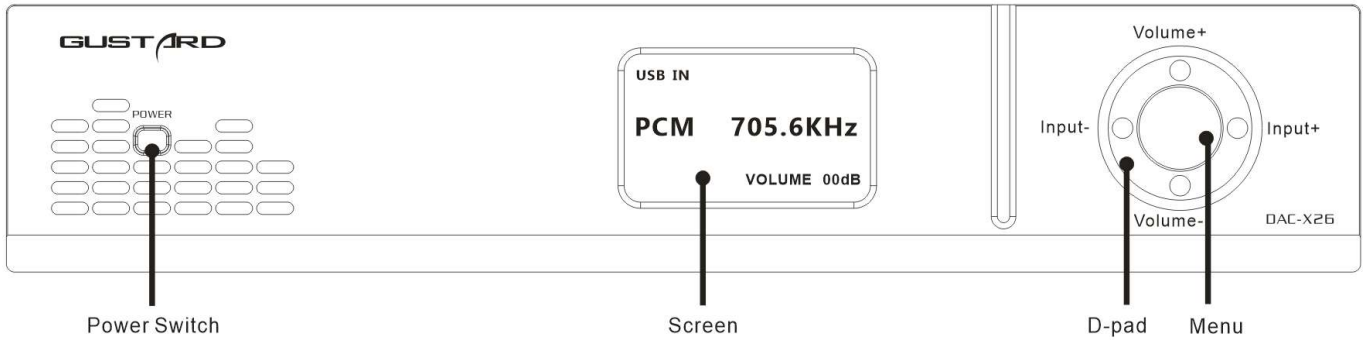
High-performance Audio DAC  
User Manual



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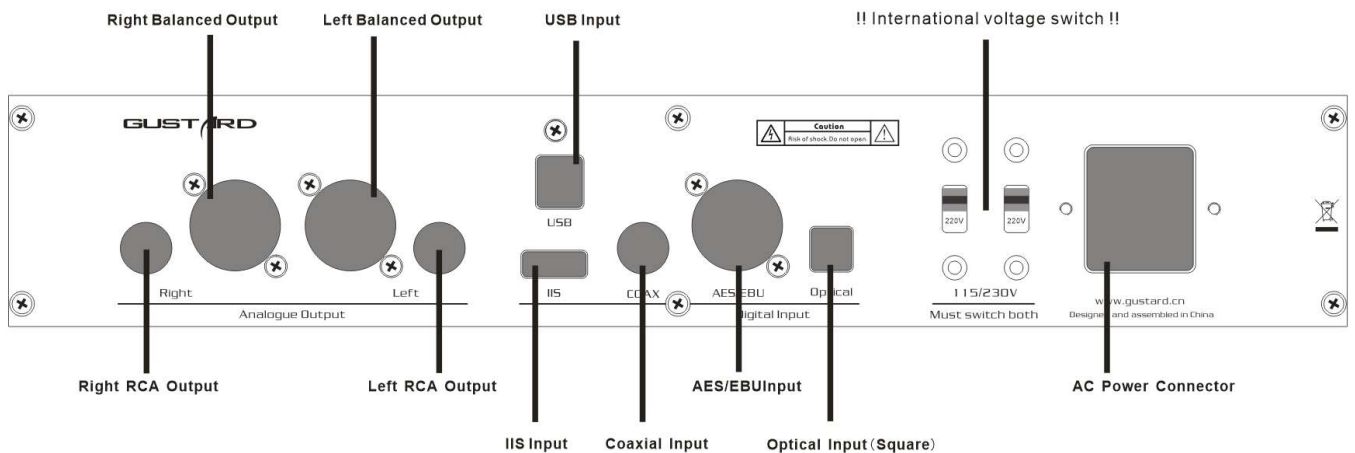
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## Front panel



1. The power switch is a button. When the power is off, press the power switch to turn it on. Press again to power off.
2. The screen will display the current input channel, encoding format and sample rate, volume and other status.
3. The D-pad can be used for input channel selection and volume adjustment; or select and adjust various menu options in the menu state.
4. Press the Menu button to enter or exit the menu.

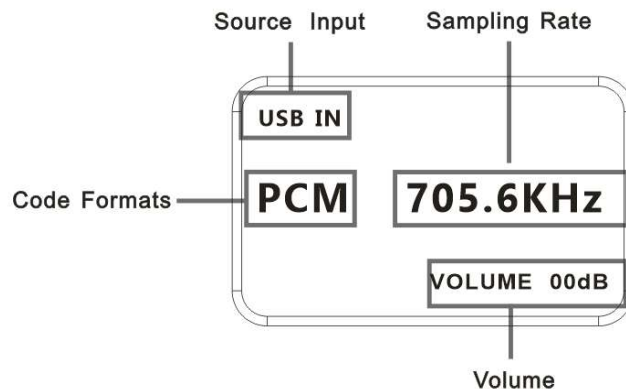
## Rear panel



\*When operating the international voltage switch, please be sure to set both switches to the same voltage at the same time, otherwise the power transformers of the DAC-X26 will be damaged after power-on.

## Display and menu

1. The DAC-X26 uses an OLED screen for real-time status display and functional operation. The following graphic shows the status of the main page of the screen.



2. Digital input channel selection:

The DAC-X26 has a total of five digital input channels. When the screen is in the main page state, press the right button of the D-pad to cycle through the current digital input channel in the order of COAX-AES-USB-IIS-OPT, and press the left button of the D-pad to reverse the loop.

3. VOLUME:

When the screen is in the state of the main page, the D-pad's up and down buttons can be used to directly adjust the digital volume attenuation function of the DAC-X26.

The down button of the D-pad is the attenuation volume, and the up button of the D-pad is for increasing the volume. The volume can be adjusted from 00dB to -90dB for a total of 90 digital volume positions.

4. Settings menu

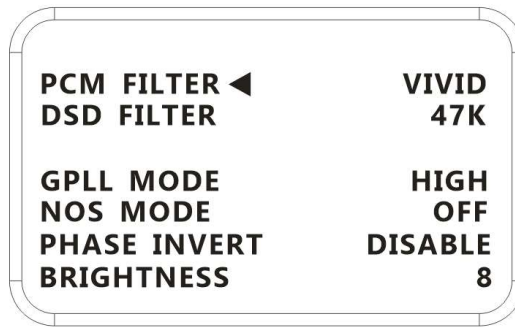
When the screen is in the main page state, press the menu button to enter the settings menu.

In this state, press the up and down buttons of the D-pad to switch the menu items to be modified according to the direction. The left and right buttons of the D-pad are used to adjust the currently selected menu item.

When the screen is in the setup menu state, pressing the menu button again will return to the main page.

The current menu item is switched by the movement of the arrow, in order:

- PCM filter
- DSD filter
- GPLL mode
- NOS mode
- Phase invert
- Brightness



5. Menu items' functions:

The following is a detailed introduction of each menu item:

a. PCM FILTER (PCM digital filter):

The DAC-X26 uses Gustard's proprietary high-performance PCM digital filter algorithm, with a total of three types of PCM digital filters to choose from.

When this menu item is selected, pressing the right button of the D-pad will cycle through the VIVID - GENTLE - COMPOSITE sequence, and press the left button of the D-pad to reverse the loop.

The VIVID filter is similar to the traditional digital filter's FAST roll-off type, which has excellent ringing characteristics, minimal pre-ringing, and fast-converged post-ringing. The VIVID filter provides very realistic and accurate detail, sound field and sound reproduction. We strongly recommend using this digital filter when listening to most music genres.

GENTLE is similar to the traditional digital filter SLOW roll-off type, which sounds more elegant and relaxed.

COMPOSITE is a composite digital filter. Its ringing characteristics are mainly post-ringing and have a very good sound.

b. DSD Filter (DSD digital filter):

The DAC-X26 has a total of 4 DSD filter cutoff frequencies that can be adjusted.

When the menu item is selected, pressing the right button of the D-pad will cycle through the order of 47K - 50K - 60K - 70K, and press the left button of the D-pad to reverse the loop.

Please adjust according to the different DSD sampling rate of your playback. For example, if you listen to DSD64 (2.82M) most, it is recommended to use 47K.

Choosing a larger bandwidth means more high frequency details.

c. GPLL MODE (GPLL precision mode):

The GPLL-M1 high-precision phase-locked loop has ultra-low residual phase noise, and its recovered audio clock achieves ultra-low jitter performance at the femtosecond level. Thanks to complex algorithms, the jitter suppression performance is also excellent.

Therefore, the audio master clock of the DAC-X26's built-in ES9038PRO DAC chips is also supplied by the GPLL high-precision phase-locked loop. It works directly in synchronous mode to bypass internal ASRC resampling and no longer relies on ASRC to guarantee performance (no need for 100M clock).

The GPLL-M1 has Normal Precision, HIGH high precision, BYPASS (IIS pass) and CDT Opt. (CD player optimization), a total of four modes to choose from.

The BYPASS mode is available to users of external independent phase-locked loop devices with extreme levels of performance, such as Titans audio's Helen.

You can choose this mode if you have purchased a device that has better digital output performance than the GPLL-M1 and whose IIS output is compatible with the IIS output standard of Gustard. The CDT Opt. mode is a mode for optimizing the reception of coaxial or AES signals output from the CD player to ensure that the X26 can stably lock such digital input signals. It is also a high-precision mode. In this mode, the highest acceptable sampling rate for coaxial or AES is 192 kHz.

\* In BYPASS mode, the highest acceptable sampling rate for coaxial or AES is 192 kHz. Meanwhile, the audio main clock (MCLK) frequency input by IIS must be 90.3168M or 98.304M. Otherwise, it may cause silence when playing music with a relatively high sampling rate. If you want to connect U16 to use this mode, because the default output frequency of MCLK of U16 is 22.5792 or 24.576M, you need to unplug the J35 jumper of U16 to use this mode normally.

d. NOS MODE (Non-OverSampling Mode):

As PC performance continues to evolve and the performance of oversampling digital filter algorithms built into the audio player software advances, CAS audiophiles can use high-performance PCs for digital oversampling filter processing. Then, digital audio stream signals that have been processed by the oversampling digital filter are directly sent to the DAC chip by using a digital audio transmission interface such as USB audio that supports high sampling rate. This provides a higher sound quality and a different listening experience.

In other words, this means that you need to bypass the digital filter integrated in the DAC. The DAC-X26 can be set to bypass the built-in high-performance oversampling digital filter so that the sound of an external high-performance digital filtering algorithm can be easily heard. There are 2 modes available for this menu item:

OFF: Turn off the NOS mode and use the X26 built-in high performance oversampling digital filter.

ABOVE 176K: Turn on NOS mode only when the digital input sample rate is above 176kHz.

\* In NOS mode, because of the ESS's DAC chips design, direct playback of a relatively low sample rate, such as 44.1kHz, will result in an output analog signal frequency bandwidth of only 8kHz. Therefore, we limit this feature to the inability to turn on NOS mode when the digital input sample rate is below 176kHz.

e. PHASE INVERT (Analog output phase inverting switch):

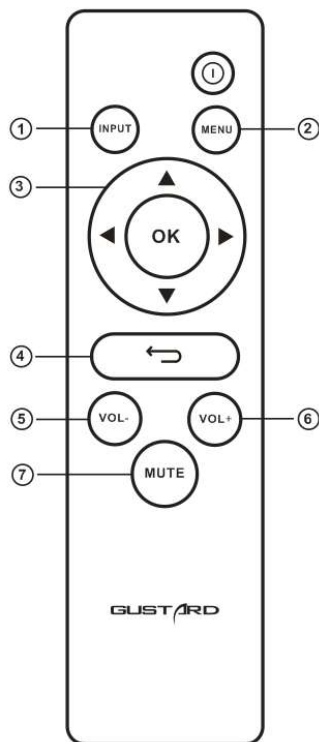
This function has two options: DISABLE (RCA positive phase output - XLR American standard) and ENABLE (RCA inverted output - XLR Japanese / European standard) optional.

When this function is DISABLEd, the RCA output of the DAC-X26 is positive phase, and the XLR balanced output is the American standard polarity output, which is 1 ground, 2 hot, and 3 cold. When this function is ENABLEd, not only the RCA output is the inverting output, but the XLR balanced output will be the Japanese/European standard polarity output, which is 1 ground, 2 cold, and 3 hot.

f. BRIGHTNESS (Screen brightness):

This menu item adjusts the brightness of the OLED screen, and a total of 8 screen brightness levels can be adjusted.

## IR Remote control



- ① Input selection button: Press this button once, the digital input channel of DAC-X26 will switch to the next one, and the digital input channel will cycle in the order of COAX-AES-USB-IIS-OPT.
- ② Menu button: Press this button once to enter the setup menu of the DAC-X26, press this button again to exit the setting menu.
- ③ D-pad and OK button: After entering the setting menu of the DAC-X26, use the up/down of the D-pad to switch the function to be adjusted, and adjust the options by left/right. Press OK to confirm the result and return to the main page.
- ④ Back button: Returns to the main page state.
- ⑤ Volume minus button: When the DAC-X26 is in the main page state, press this button to decrease the volume.
- ⑥ Volume plus button: When the DAC-X26 is in the main page state, press this button to increase the volume.
- ⑦ Mute button: In the non-mute state, press this button once, the DAC-X26 will be muted; press this button again to unmute.

**Note:** ● The operating distance varies depending on the angle. ● If there is something between the remote control and the IR sensor, it may not operate normally. ● If the remote control will not be used for a long time (one month or longer), remove the battery. ● If the battery Leaking, please thoroughly clean all the residues in the battery compartment and install new batteries. ● When using other devices controlled by infrared rays, using this remote control may operate these devices by mistake.

## Windows driver installation

\*The unit's accessories contain a CD containing the GUSTARD USB Audio driver. This driver can also be downloaded from our official website <http://www.gustard.cn>

\*This driver supports Windows 7 (SP1 and newer); Windows 8; Windows 10

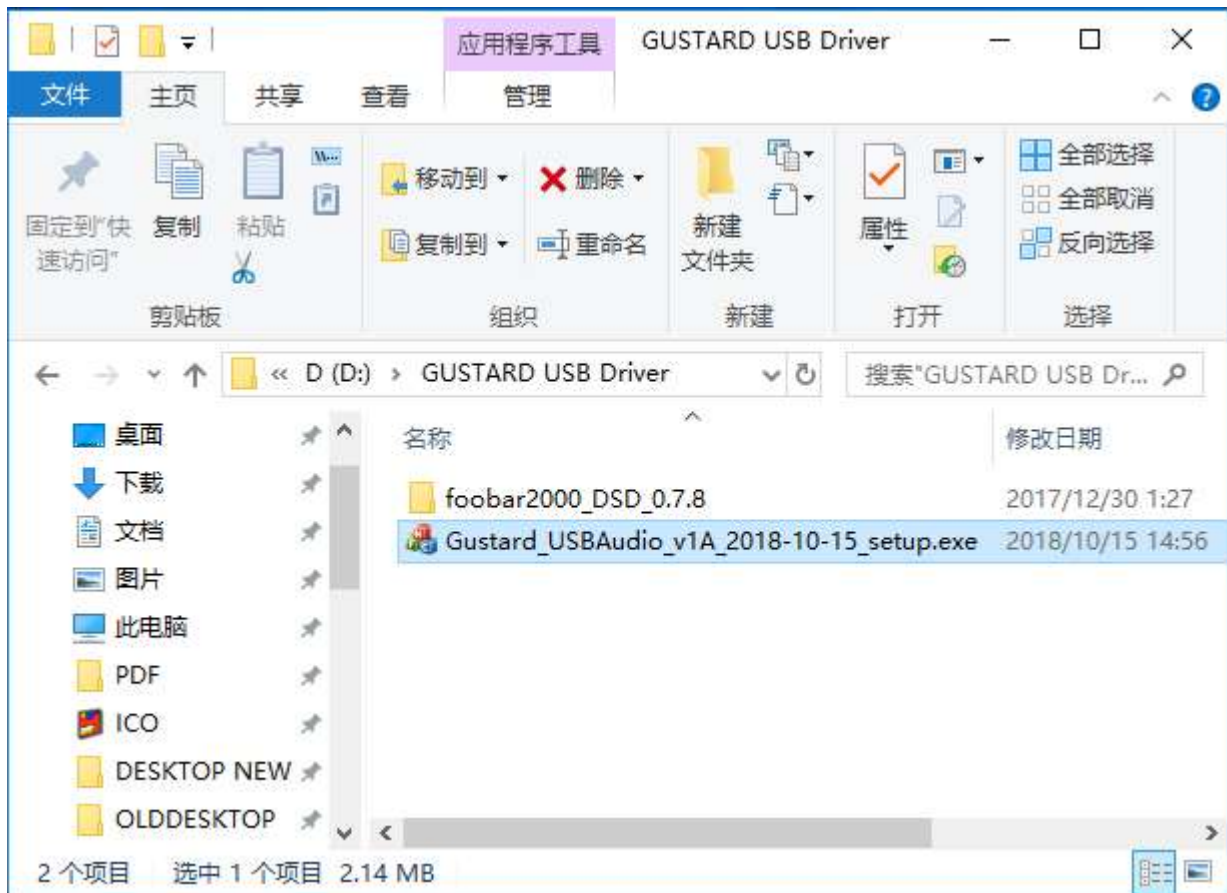
1. For users who use a desktop PC to connect to the U16, it is recommended to use the native USB2.0 interface. It is also highly recommended to use the USB port on the back of the chassis. Because the USB port on the rear panel of the chassis is directly connected to the motherboard. The USB port on the front of the chassis is connected to the motherboard with an extension cable, which has a certain negative effect on high-speed signals.
2. Please connect the U16 to the computer with the USB cable, then turn on the power of the U16. The computer will prompt you to find new hardware and try to set the device. If you don't see this prompt, please try to replace other USB ports or manually restart U16.



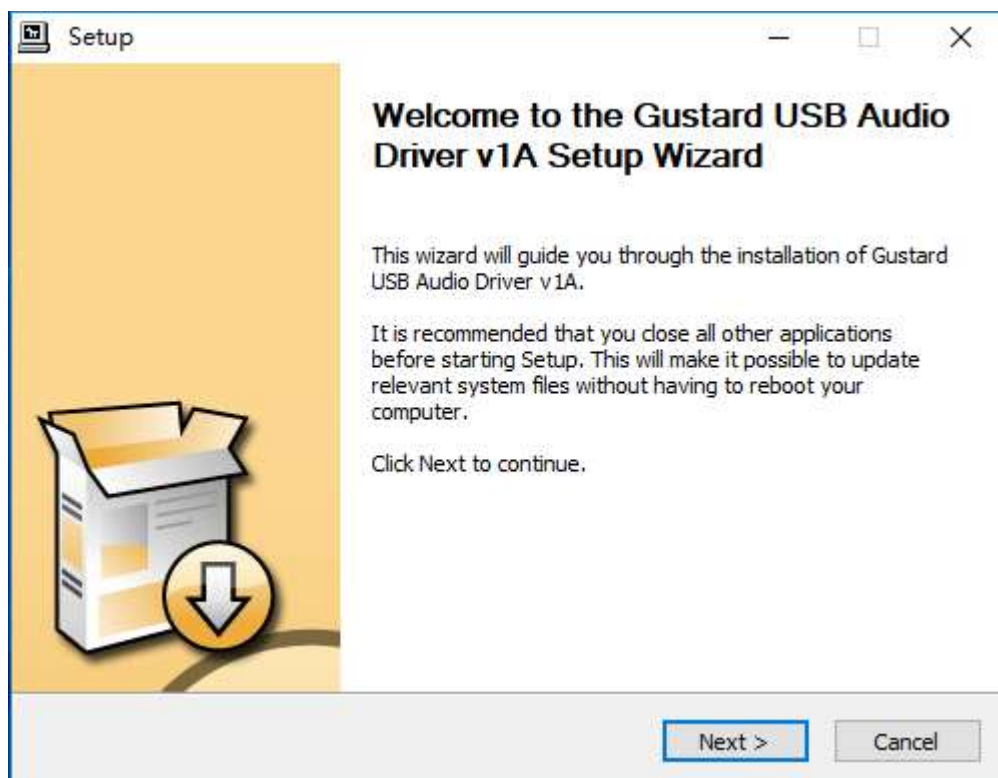


3. Open the CD and double-click to run the Gustard\_USBAudio\_v1A\_2018-10-15\_setup.exe program.

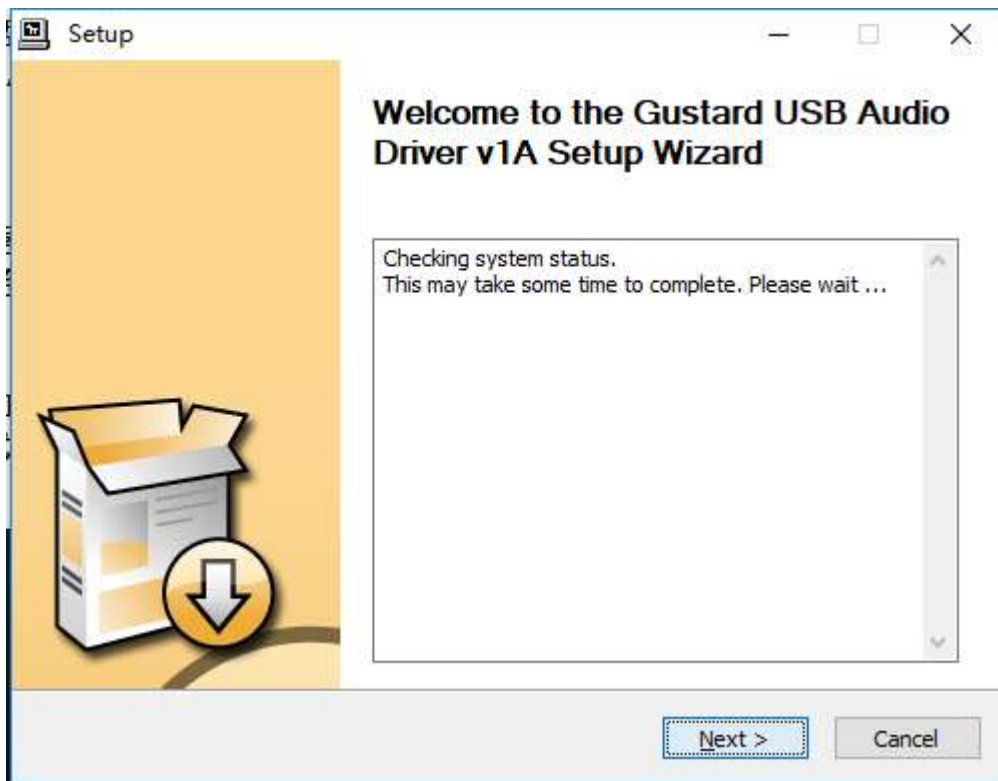
If the "User Account Control" window appears, click "Yes".



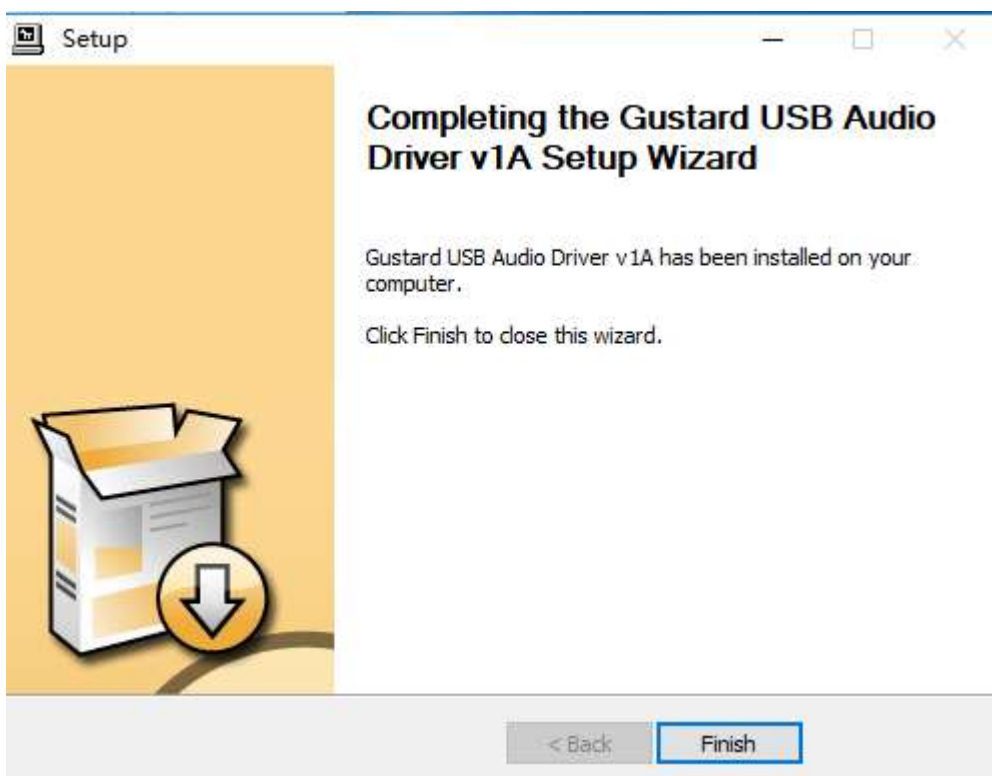
4. Click the next or install button as prompted.



5. When the installer checks the device, if there is a red text prompt: **Setup requires that the device is...**, please restart the GUSTARD U16 or re-plug the USB cable.

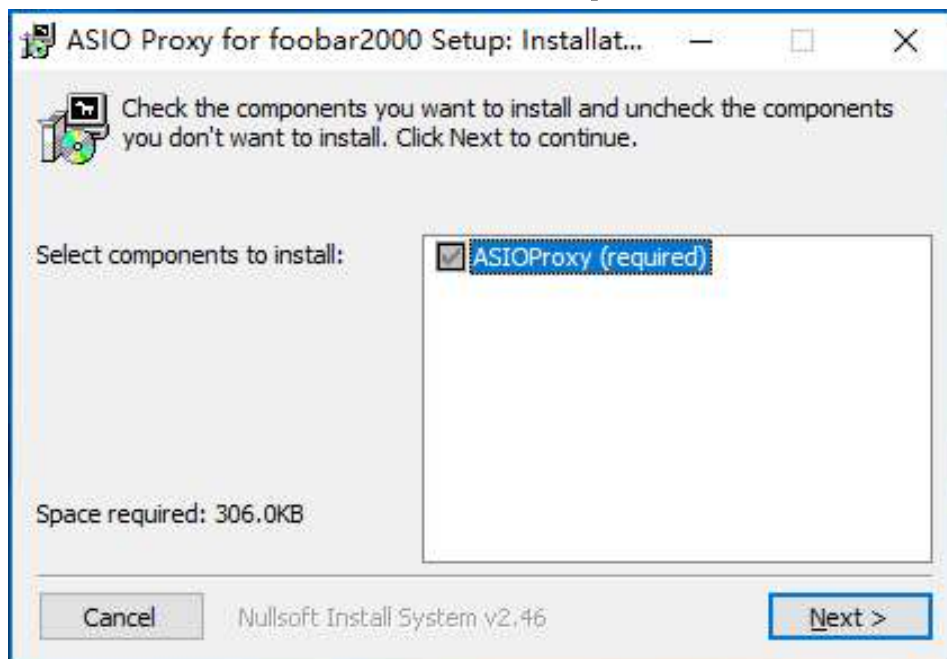


6. The figure below shows the screen for successfully installing the driver. Click Finish to complete the installation.

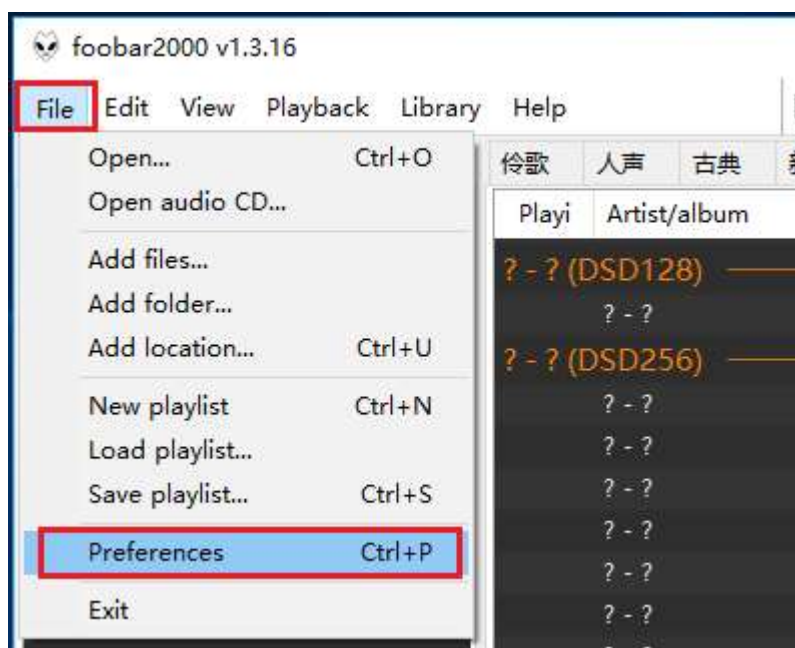


## DSD playback settings using foobar2000

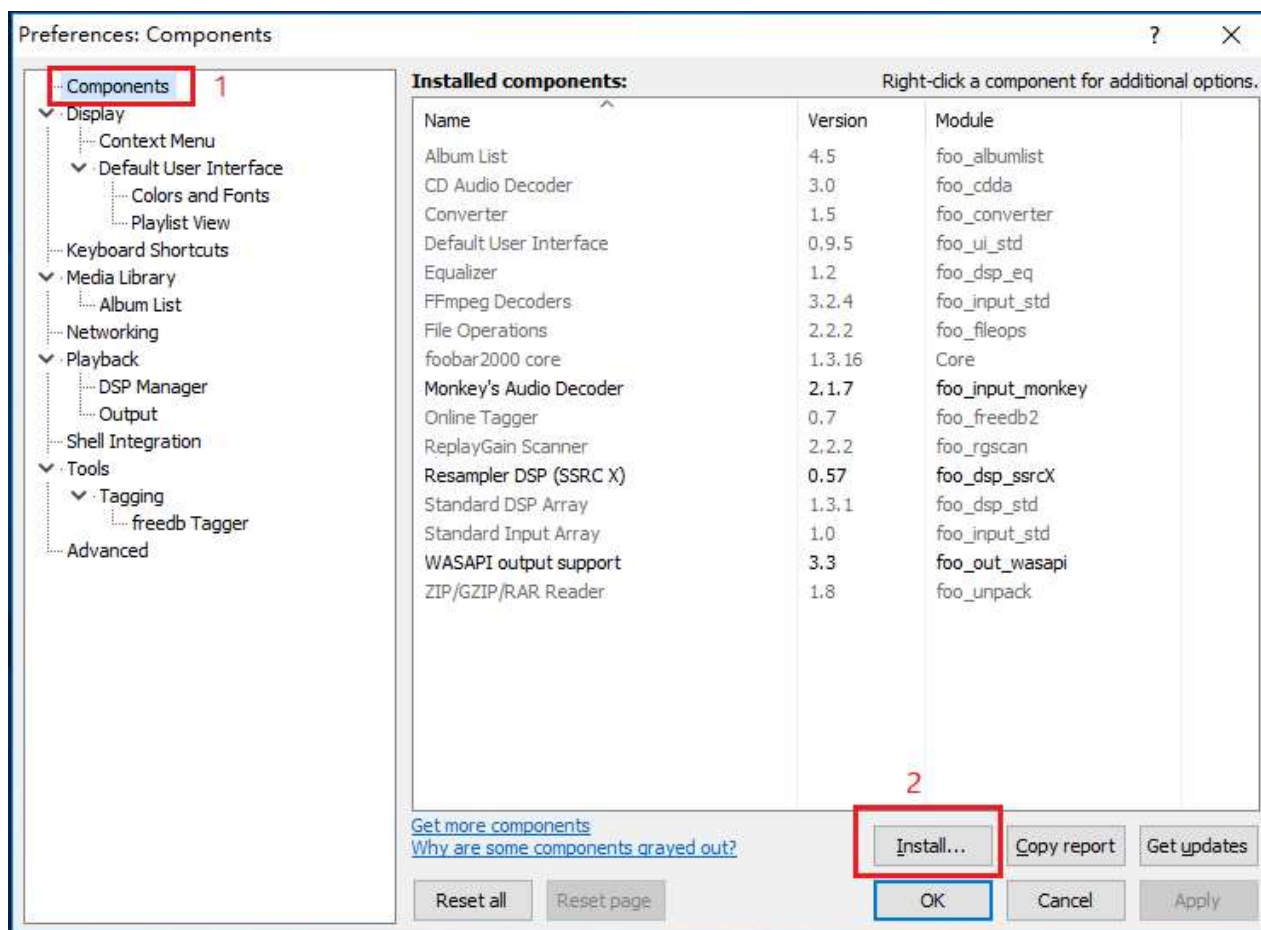
1. Open the folder foobar2000\_DSD\_0.7.X, double-click to run ASIOProxyInstall-0.7.2.exe, and then click next or install to complete the installation.



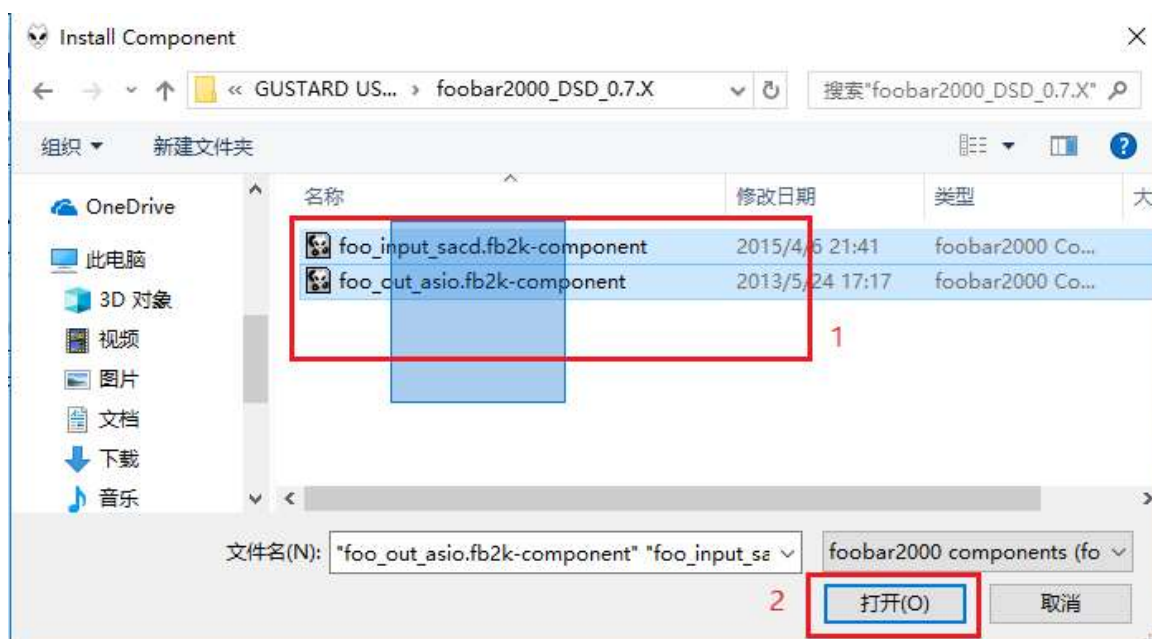
2. Run Foobar2000. Click File -> Preferences.



3. Click on "Components" on the left and click on "Install" on the bottom right.

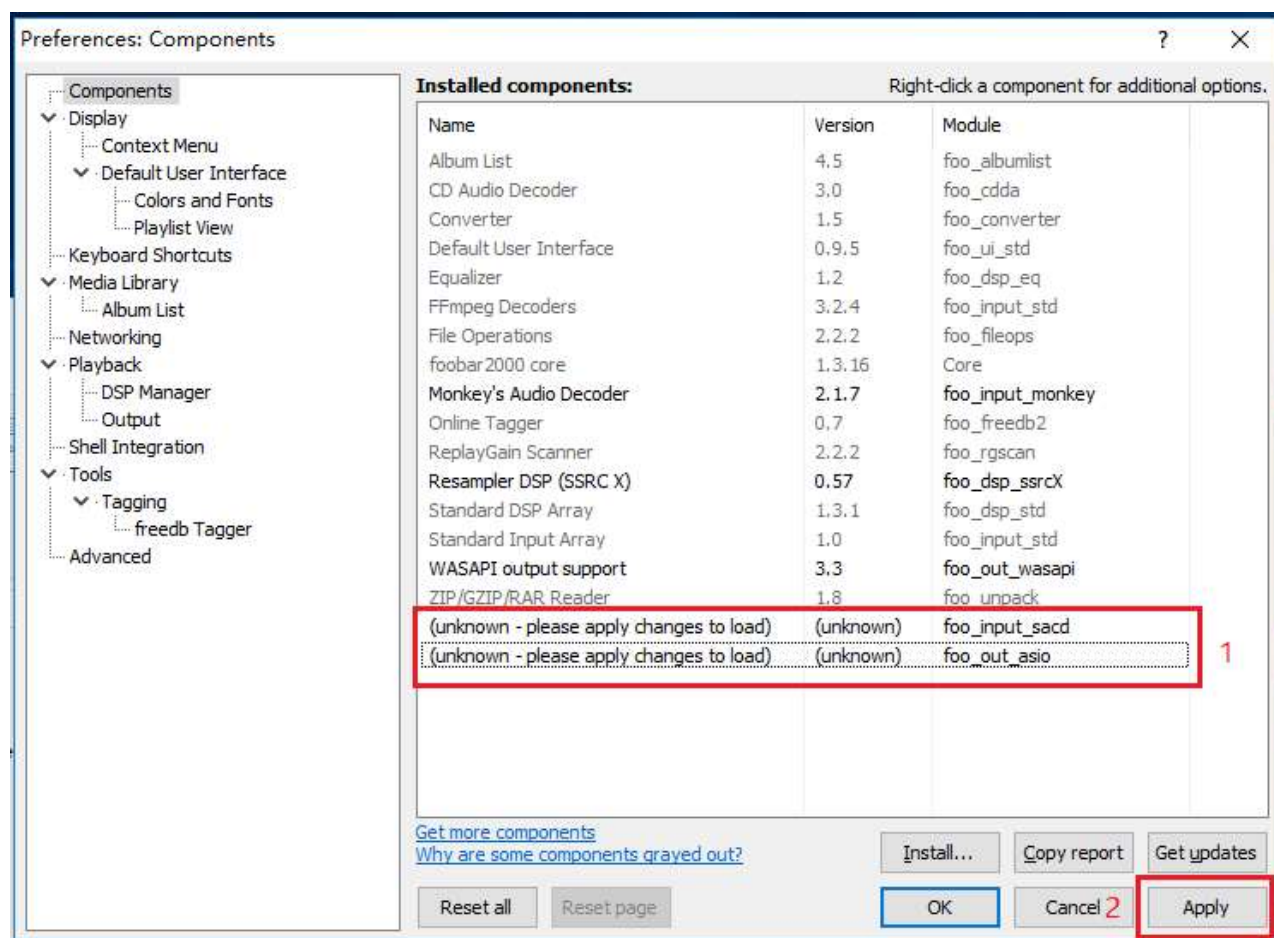


Use the mouse to select two files at the same time, or press Ctrl to select two files at the same time. Then click "Open".

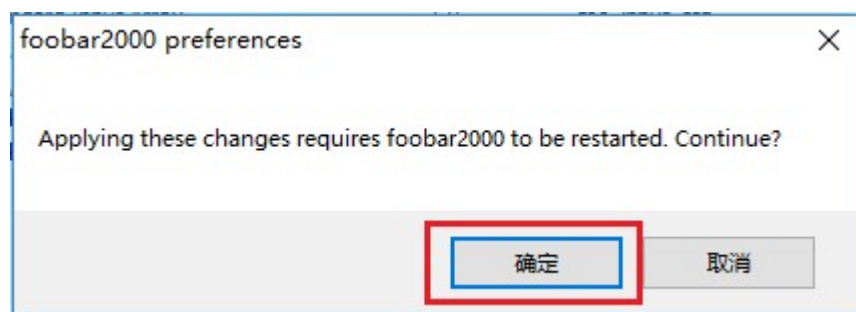




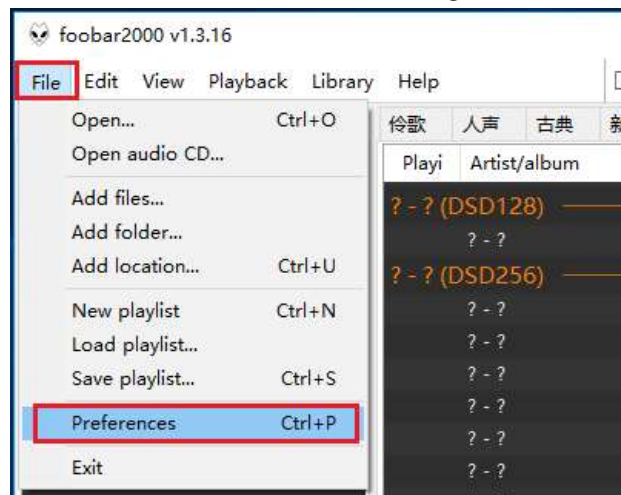
Two rows of component information will be added to the component list, followed by "Apply".



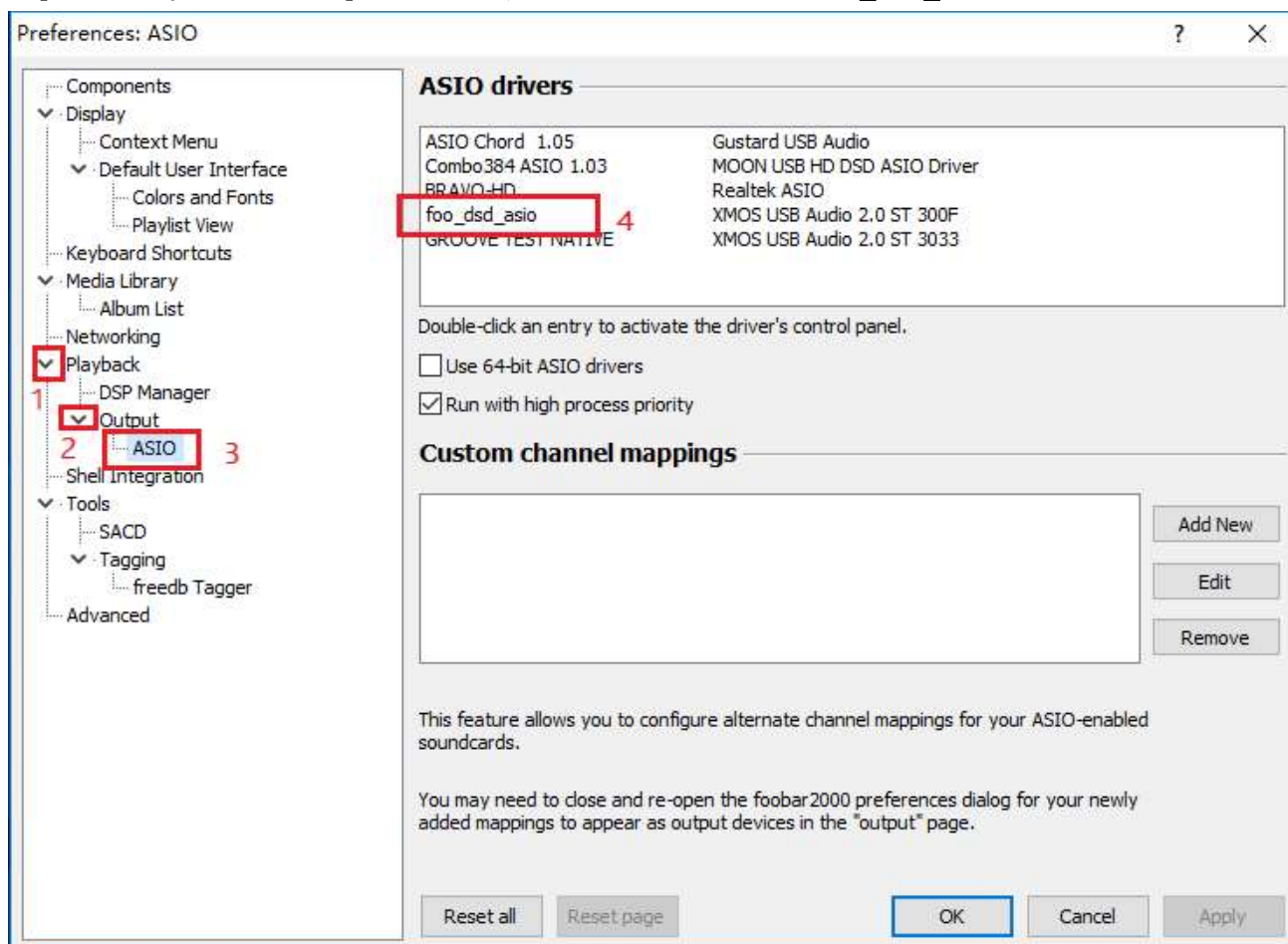
The window shown below will pop up and click "OK". Then Foobar2000 will restart.



4. Click File -> Preferences again.

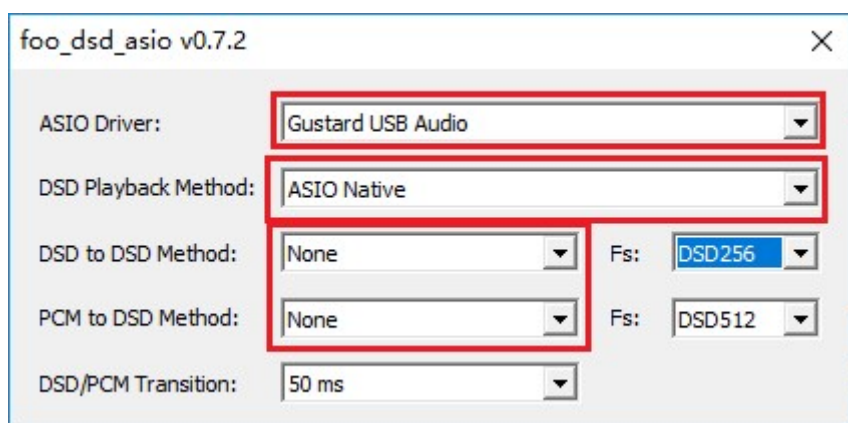


5. Expand Playback - Output - ASIO, and double-click foo\_dsd\_asio.

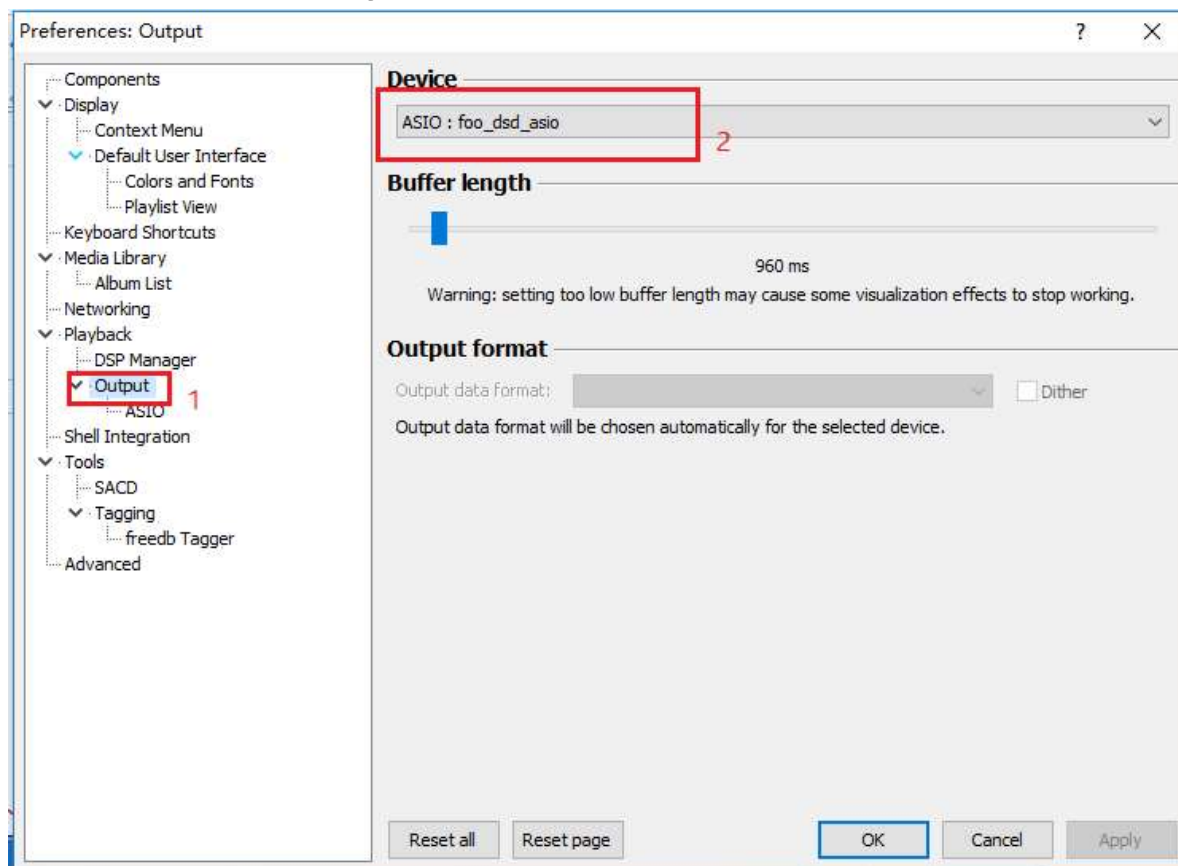


6. In the "foo\_dsd\_asio v0.7.2" window. Select "Gustard USB Audio" from the drop-down menu of the first line ASIO Driver. Select "ASIO Native" from the drop-down menu in the second line of the DSD Playback Method.

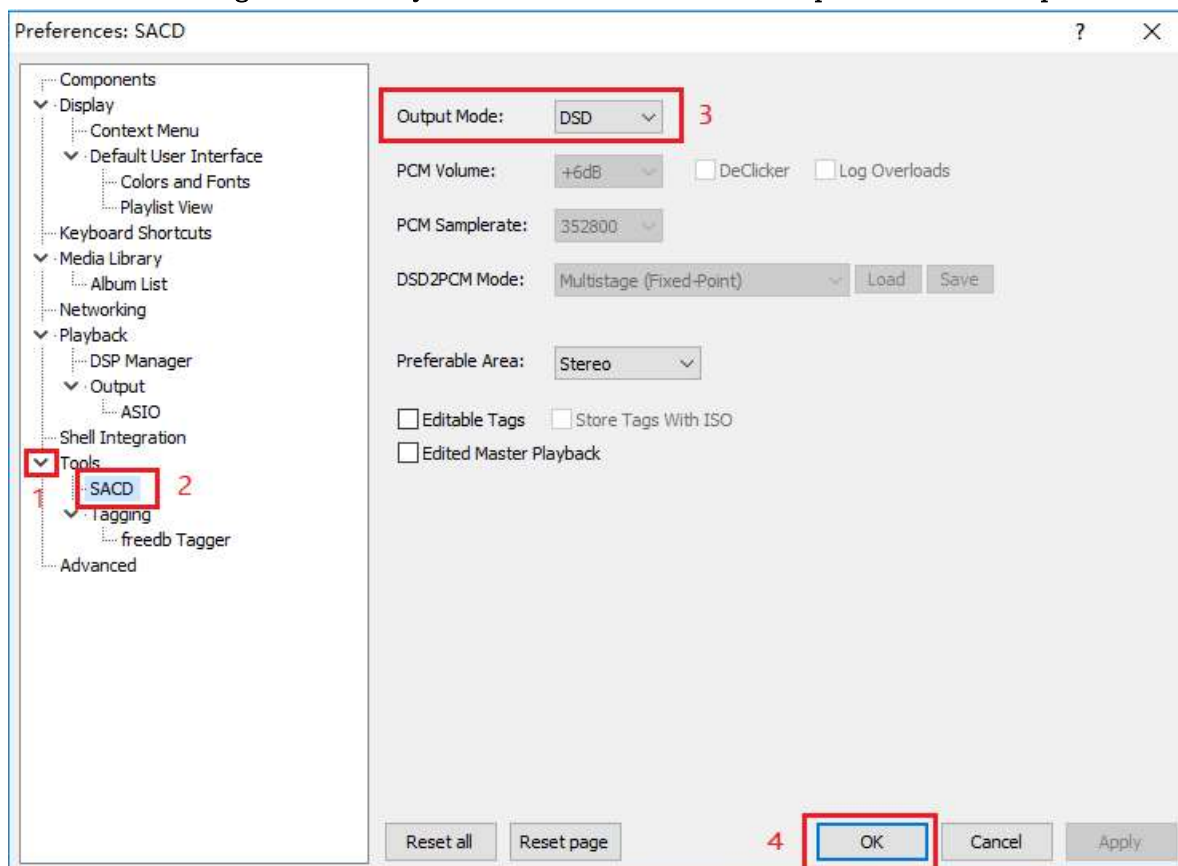
For other settings, please make the same selection according to the red box in the figure. Then click the X in the upper right corner to exit.



7. Click "Output" on the left, then select "ASIO:foo\_dsd\_asio" from the drop-down menu for "Device" on the right.



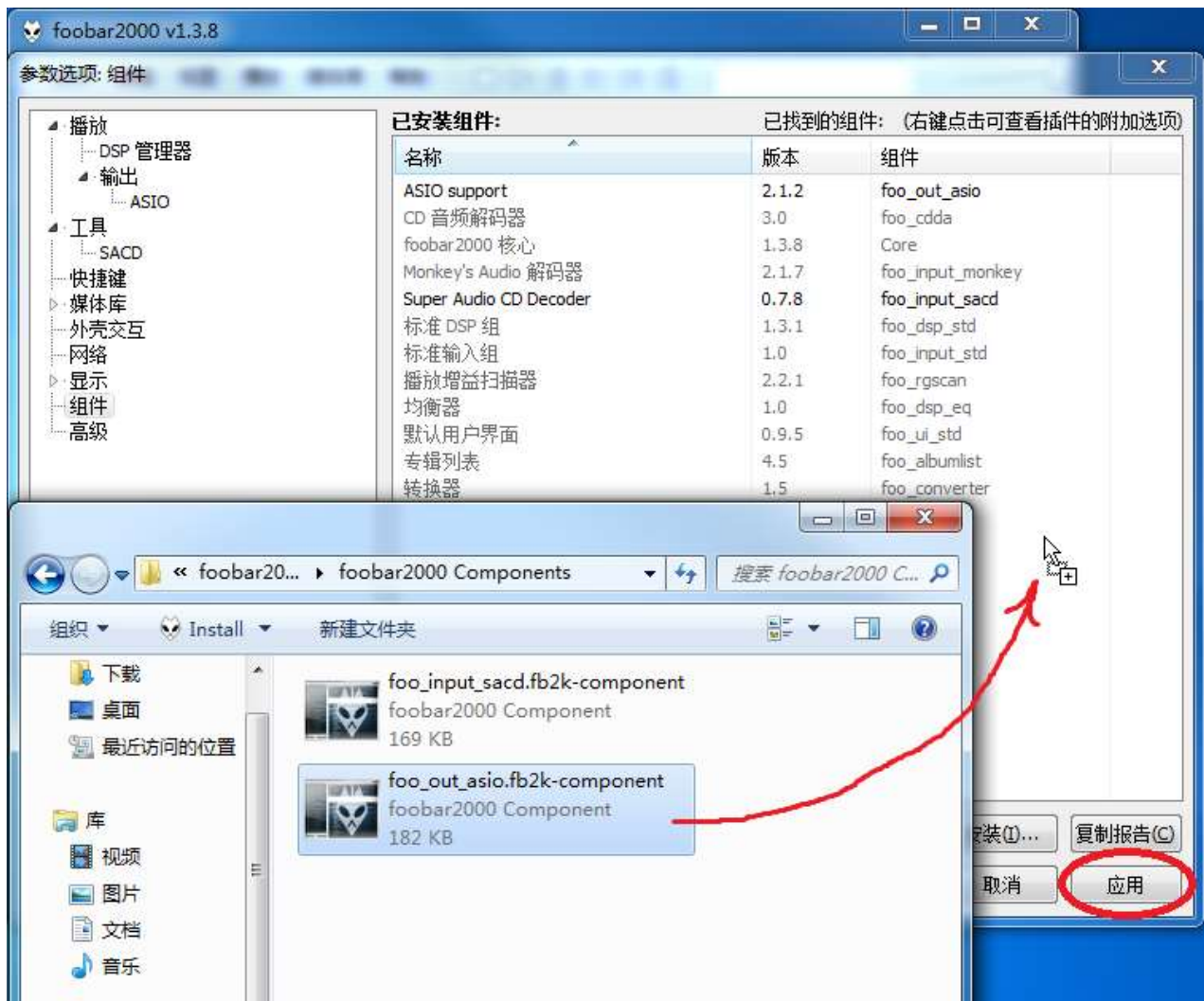
8. Then click on Tools -> SACD and select "DSD" from the drop-down menu in the Output Mode on the right. Finally click "OK" below to complete the setup.



## DSD playback troubleshooting for Foobar2000

1. Q: Why does my foobar2000 preference window play (Playback) -> Output (Output) does not show ASIO?

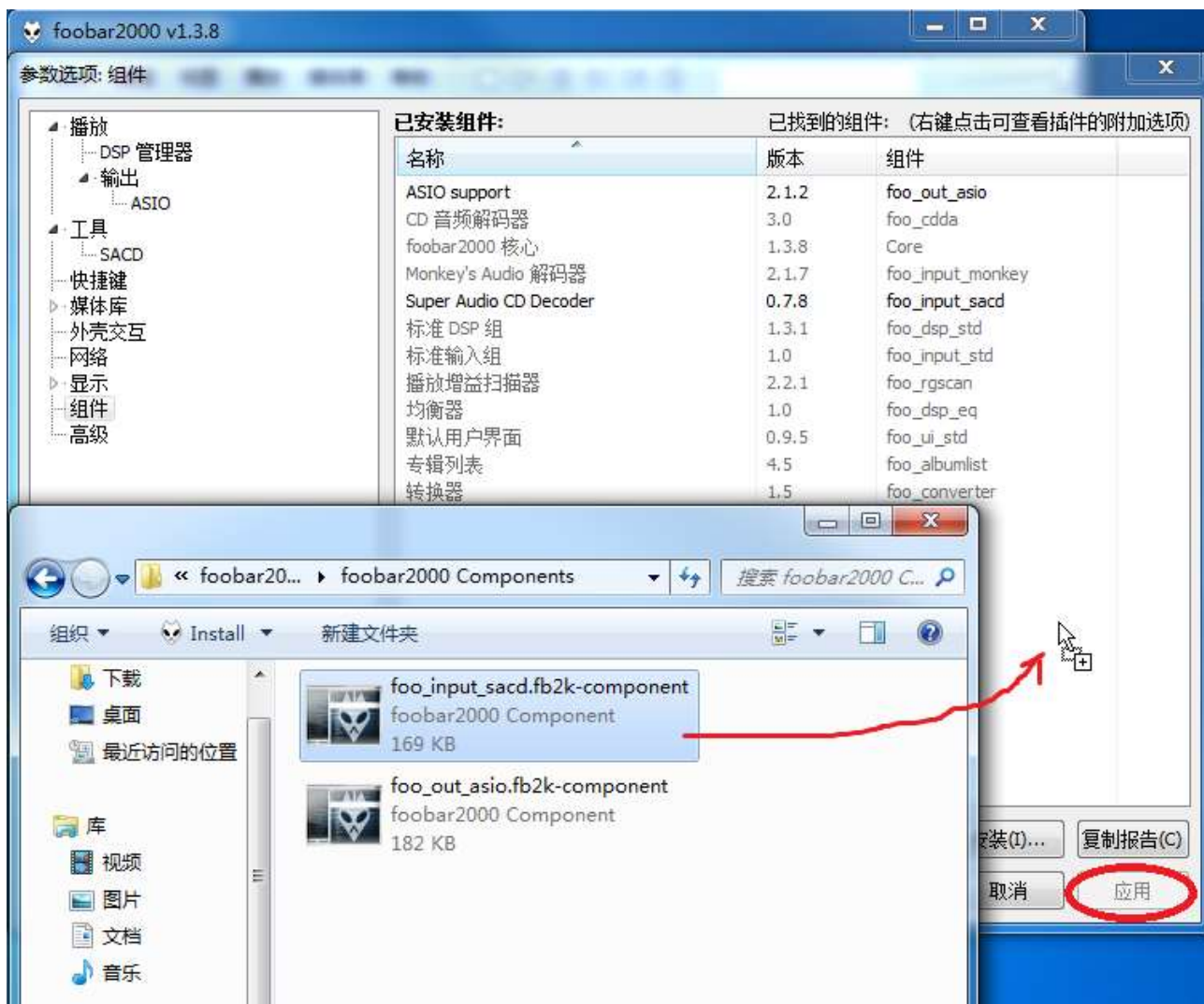
A: Because you don't have the ASIO component installed. Drag the foo\_out\_asio.fb2k-component file from the foobar2000\_DSD\_0.7.X folder to the space in the box to the right of the component option in the preference window of foobar2000, then click the "Apply" button in the lower right corner. Click OK in the Restart foobar2000 dialog that pops up at this time. After restarting foobar2000, you can find the ASIO option.



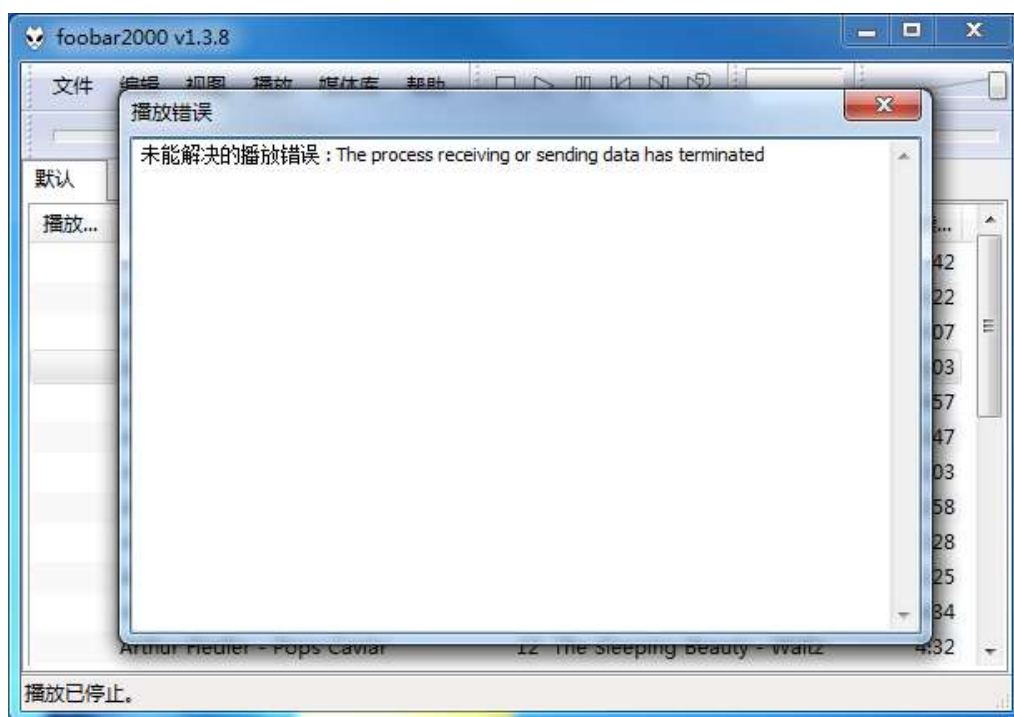


2. Q: Why is there no SACD in the tool options in my foobar2000's preference window?

A: Because you don't have the SACD component installed. Drag the `foo_input_sacd.fb2k-component` file from the `foobar2000_DSD_0.7.X` folder to the space in the box to the right of the component option in the preference window of foobar2000, then click the "Apply" button in the lower right corner. Click OK in the Restart foobar2000 dialog that pops up at this time. After restarting foobar2000, you can find the ASIO option.



3. Q: I have installed the above two Foobar2000 components. Why do I see an error window like the one below when I play the DSD file?



A: Because the version of your ASIOProxy conflicts with the version of the SACD decoding component. The **correct** version is shown below, all of which are 0.7.X.

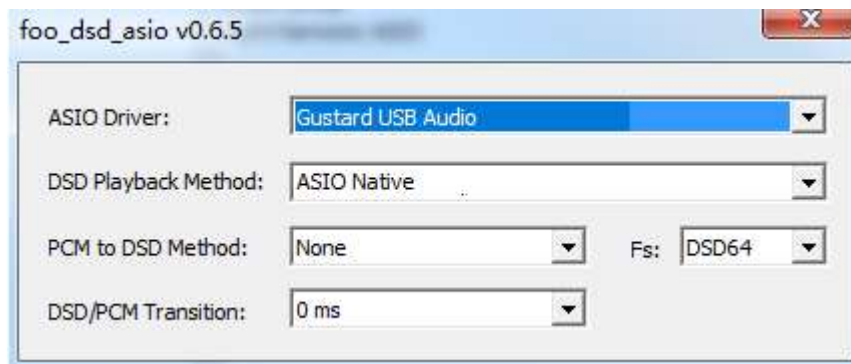


Some users use the old version of foobar2000, and its SACD decoding component stays in the 0.6.X version. If the ASIOProxyInstall-0.7.2.exe program is installed, the version of the foo\_dsd\_asio window is 0.7.2. This creates a conflict with the SACD decoding component.

There are two solutions.

One is to update the version of the SACD component, and the installation method is consistent with the solution to the second problem. However, some versions of the foobar2000 component are locked and cannot be replaced. Please reinstall the new version of the official original Foobar2000 to solve the problem.

Second, if you are not willing to reinstall foobar2000, you can install the old version of ASIOProxy, such as ASIOProxyInstall-0.6.5.exe. Google search ASIOProxyInstall-0.6.5.exe to find the download link, which can also solve the problem.



## Product specifications

Sample rate supported by digital input channels:

COAX : PCM 16-24bit/44.1-384kHz; DSD DOP64-DOP128  
AES : PCM 16-24bit/44.1-384kHz; DSD DOP64-DOP128  
OPT : PCM 16-24bit/44.1-192kHz; DSD DOP64  
USB : PCM 16-32bit/44.1-768kHz; DSD DOP64-DOP256; NATIVE DSD: DSD64-DSD512  
IIS : PCM 16-32bit/44.1-768kHz; DSD DOP64-DOP256; NATIVE DSD: DSD64-DSD512

\*USB input supported operating system: WIN7 SP1/WIN8/WIN10 32-64bit; macOS; Linux

Analog output performance:

Amplitude frequency response: 20-20kHz /+/-0.1dB  
DNR: 125dB  
Crosstalk: -137dB @ 1kHz  
THD+N: <0.0006% 20-20kHz  
IMD: <0.0006%

RCA Output level: 2.5Vrms (VOLUME 00dB)  
Output impedance 100 ohms

XLR Output level: 5.0Vrms (VOLUME 00dB)  
Output impedance 100 ohms

Other specifications:

AC Power supply: AC 115V/230V 50/60Hz  
Power consumption: <60W  
Dimensions: Width 330mm \* Height 65mm \* Depth 260mm (Excluding protrusions)  
Weight: 7Kg (including packaging)

## Product Warranty:

You will enjoy the 2-year free warranty and lifetime maintenance after the date purchasing GUSTARD' s U16 product.

\*The manufacturer bears only the freights from Chinese mainland. Part of the freight and tax generated from overseas will be solved by the user with the dealer negotiation.

## Free Warranty Service

GUSTARD U16 from the purchasing date in the free warranty period, the user uses the product in normal, and the product fails due to component quality or manufacturing problems.

## Beyond the Warranty Service

Belonging to one of the following circumstances, products are no longer provided warranty service.

- a. Products from the date of purchase has exceeded a predetermined warranty period.
- b. Model, barcodes and purchase date do not match the actual product and warranty card.
- c. Without GUSTARD technician permission, unauthorized modifications to the circuit, components or self-repaired product.
- d. Damaging caused by irresistible natural forces.
- e. Beyond the permitted use of environmental damage.
- f. Damaging due to incorrect use or improper storage. Including but not limited to: the voltage is too high to burn the circuits or components; Bumping and resulting in damaging the shell or internal; damaging due to water, oil, liquid and excessive dust; product oxidation or corrosion, etc.
- g. Beyond the warranty period, such as an individual component damage, appearance due to human damage, firmware modifications lead to unable to work by unauthorized users. GUSTARD commits to take reasonable maintenance fees (except large area components or circuit board burned beyond repair). Freight and maintenance costs, material costs are required the user to bear.