HOLO AUDIO

青 CYAN

DAC / Preamp / Headphone Amplifier

User's Guide

Overview

"Cyan" can be equipped with two different core modules, one is PCM digital analog conversion module, and the other is DSD digital analog conversion module. The type of core module determines the internal digital-to-analog conversion method. However, another non-source digital analog conversion method can be supported by the internal SRC (Sampling Mode Conversion) function. Please refer to the SRC section below for details. Optional PCM module – The internal source digital analog conversion mode is PCM mode. When receiving DSD data, the internal will automatically convert to PCM and then perform digital analog conversion. Due to SRC capacity limitations, the maximum can only receive DSD256. Optional DSD module – The internal source digital analog conversion mode is DSD mode. When receiving PCM data, it will be automatically converted into DSD and then digitally simulated. Since the DSD cannot perform digital volume control, the "green" volume setting will be disabled and the output level will be fixed at the highest after installation of the optional DSD module. At the same time, since the volume control cannot be performed, the headphone amplifier will be automatically turned off to prevent the excessive volume from damaging the headphones.

Specifications

Digital inputs

COAXIAL1, COAXIAL2, OPTICAL, AES	PCM 44.1-192K (24bit)
	DSD 64X （DOP）
USB	PCM 44.1-384K (32bit)
	DSD 64-256X （DOP）
	DSD 64-256X （Native） with PCM Module
	DSD 64-512X （Native） with DSD Module
I2S	PCM 44.1-384k (32bit)
	DSD 64-256X with PCM Module
	DSD 64-512X with DSD Module

Analog output

PCM 48K NOS	THD+N 0.001% @1K
	SNR -125dB
	Voltage Output 2.3Vrms(RCA), 4.6Vrms(XLR)
DSD 128X	THD+N 0.0007% @1K
	SNR -121dB
	Voltage Output 1.3Vrms(RCA), 2.6Vrms(XLR)
Headphone output	THD+N 0.0015% @1K
	SNR -120dB
	Low resistance (Single Ended） 400mW@32Ohm load
	Low resistance (Balanced） 1600mW@32Ohm load
	High resistance（Single Ended） 180mW@300Ohm load
	High resistance（Balanced） 720mW@300Ohm load

Dimensions	260x281*55mm(WxLxH) *Does not include protruding parts
Weight	5kg (11 Pounds)

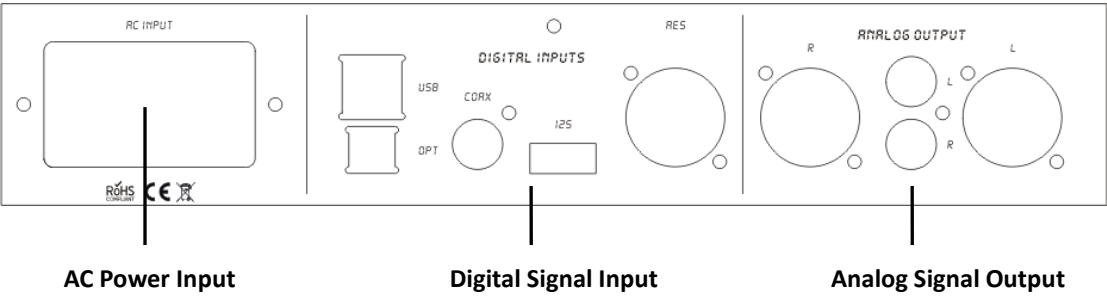|	
Power input (configurable, see the bottom label of the machine)	220-230V 50/60Hz 2A (fuse type 5x20mm SB 2A)
	110-115V 50/60Hz 4A (fuse type 5x20mm SB 4A)
Power consumption	30W

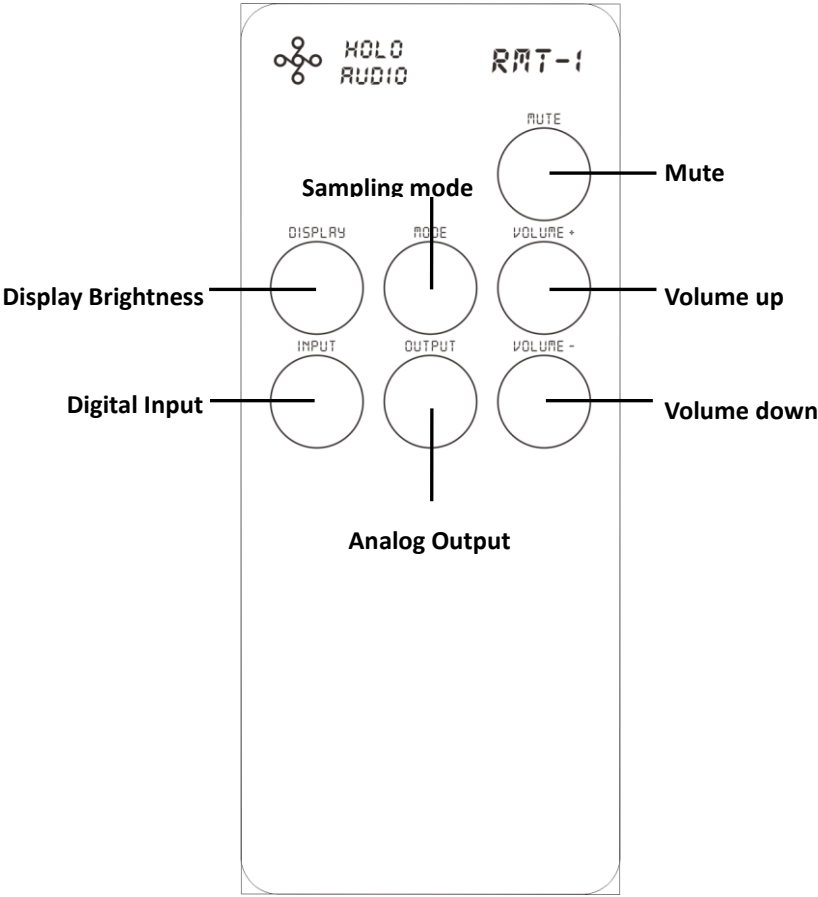|	
Accessories	Power Cable x1
	USB Cable x1
	Remote Control x1

Front Panel

Low-impedance/high-impedance headphone output indicator, red is the low-impedance headphone output, and green is the high-impedance headphone output. Not lit for line output. Oversampling mode indicator, red for oversampling (OS) and green for non-oversampling (NOS).

Head phone output indicator

Low resistance (red LED)

high resistance (green LED)

Oversampling mode indicator

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R - LO
○
G - HI

R - OS
○
G - NOS

Single-ended HP input

Display

Multi-function knob

Balanced HP

Rear Panel

AC Power Input   **Digital Signal Input**   **Analog Signal Output**

Remote Control

- Sampling mode
- Mute
- Display Brightness
- Volume up
- Digital Input
- Volume down
- Analog Output
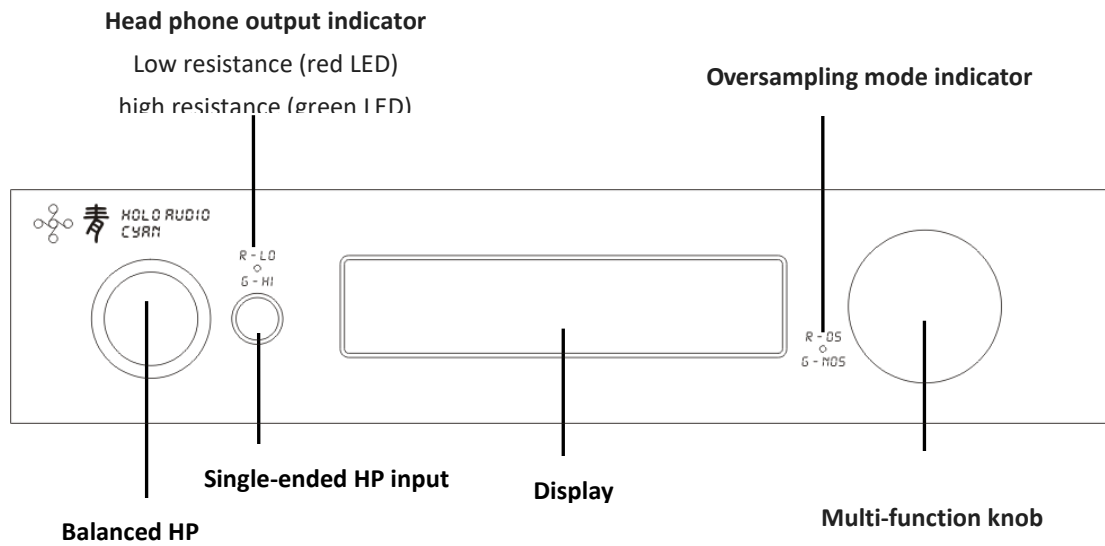
Settings

Settings can be applied without the remote control. This can be done by using the multi-function knob on the front panel of the DAC.

In the default mode, rotate left and right to set the volume, short press the knob to unmute/mute. Press and hold the knob to enter the setting mode. Press and hold the knob again to enter the next setting mode. In the setting Mode, rotate left and right for the corresponding settings.
The order is:
"IN – Digital Input Settings"
"Out – Analog Output Settings"
"FMODE – Sample Mode Settings"
DISP – Display Brightness Settings"

Volume settings

The adjustable volume maximum is 100dB, adjustable by 0.5dB per step/increment. When the digital volume attenuation function is turned off, this is the through mode.

Digital input settings
Select the digital source signal in "USB", "I2S", "COAX", "AES", "OPT".

Analog output settings

LINE – Line output, output on the single-ended and balanced line ports on the rear panel.
HP-LO – Headphone low-impedance output, single-ended and balanced headphone output port on the front panel for headphones below 100 ohms.
HP-HI – Headphone high-impedance output, single-ended and balanced headphone output port on the front panel for headphones with 100 ohm impedance or more.

Sampling mode setting Divided into two types, NOS mode and OS mode. For the selection of NOS mode and OS mode, please refer to https://kitsunehifi.com/nosvsos/

Display brightness settings

Set the brightness of the display, a total of 6 levels of brightness. The lowest level is to completely turn off the display.

Internal SRC (sampling rate conversion)

Optional discrete PCM module, due to SRC chip limitations, supports DSD256 when receiving DSD signals. If using the optional discrete DSD module instead of discrete PCM Module, the maximum support would be DSD512 and is due to the fact that SRC is not required and all DSD is processed via the discrete DSD module.   See details below:

	Mode	Input Format	Internal SRC
Cyan - PCM	NOS mode	PCM	No SRC
		DSD	Convert DSD to PCM
	OS mode	PCM	Oversampled to 352.8K or 384K PCM
		DSD	Convert DSD to PCM
Cyan - DSD	NOS mode	PCM	Convert PCM to DSD
		DSD	No SRC
	OS mode	PCM	Oversampled to DSD256
		DSD	Convert PCM to DSD

I2S Digital Input

LVDS differential transmission mode

   The Physical interface is the same as HDMI and an HDMI cable can be used. However, the electrical signal it transmits is I2S protocol, not the audio and video signals of the conventional HDMI. *Please do **NOT** attempt to use HDMI devices with I2S Devices as damage may occur,* ie. bluray player, TV etc.
   NOTE: *Always* have both devices *powered off* when plugging in or unplugging HDMI I2S cables.
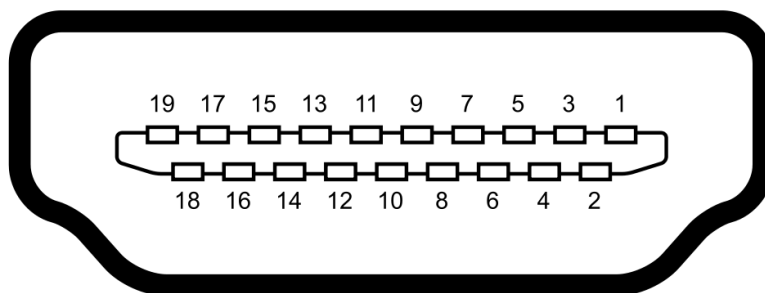
Pin	PCM	DSD
1	I2S_DATA-	DSD_DATA_L-
2	GND	GND
3	I2S_DATA+	DSD_DATA_L+
4	I2S_BCK+	DSD_BCK+
5	GND	GND
6	I2S_BCK-	DSD_BCK-
7	I2S_LRCK-	DSD_DATA_R-
8	GND	GND
9	I2S_LRCK+	DSD_DATA_R+
10	I2S_MCLK+	DSD_MCLK+
11	GND	GND
12	I2S_MCLK-	DSD_MCLK-
13	NC	NC
14	NC	NC
15	NC	NC
16	NC	NC
17	GND	GND
18	NC	NC
19	GND	GND

Driver Installation

Apple Mac OS X 10.6.4 and above comes with a driver, no need to install drivers. Mac OS does not support DSD Native mode.

Linux OS also has a built-in driver and does not require a driver.

The latest Windows 10 comes with a driver, but since its own driver does not support ASIO and does not support DSD, you need to install the driver provided by Holo Audio. The driver installation steps are as follows.

Connect "青 Cyan" to the power supply and turn it on. Connect the USB input port to the computer USB port by using the USB cable, and select the input source as USB. Note that if the input source is not selected as USB, the computer will not recognize the Cyan DAC USB Device properly.

When "青 Cyan" is connected to the computer via USB, the Windows system will display a notification that the new hardware is found, and the driver installation failed. Please ignore the failure notification (see the figure below).

Locate the file named "HoloAudio_v4.35.0_2017-11-01_setup.exe" Double click or right click to open/run the file. (Filename and version may have changed. Please refer to whatever is newest on the products website)
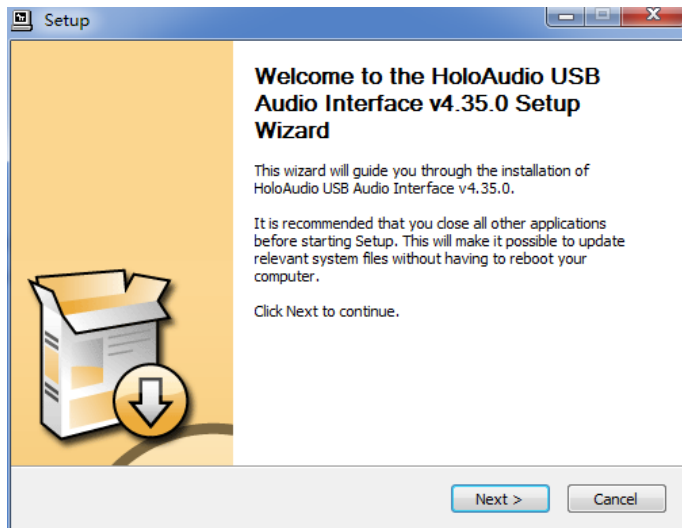
The installation wizard will ask you to close other applications before installing. If you have other applications running, please close it and click > "NEXT".
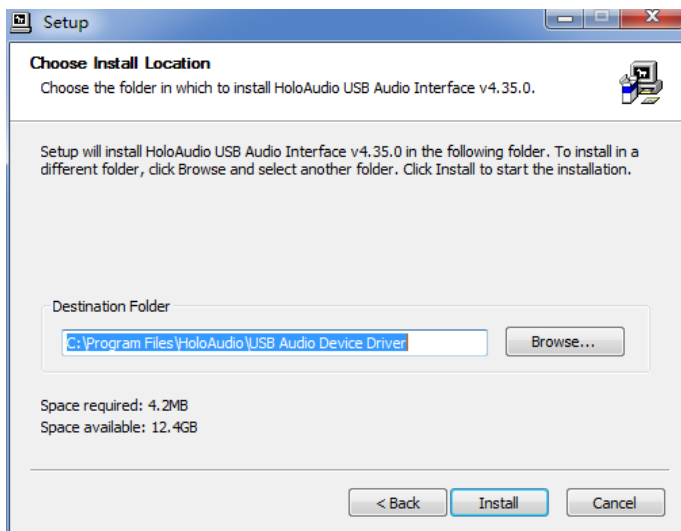
If necessary, select the installation folder by clicking "Browse..." or use the default path (recommended) and click > "Install".
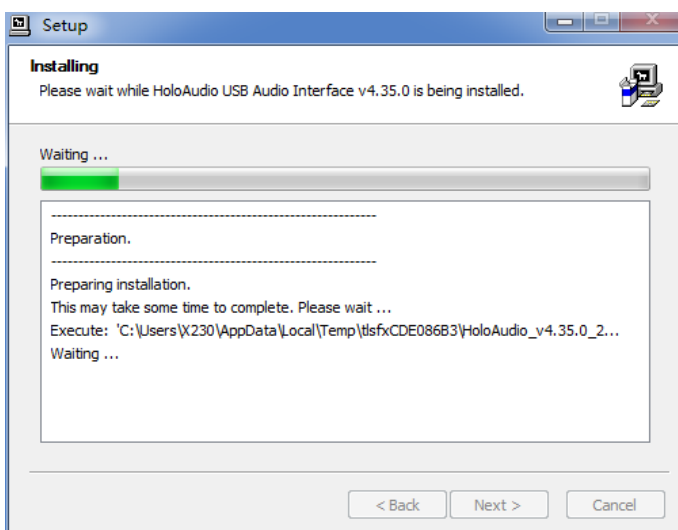
...Installation is in progress...
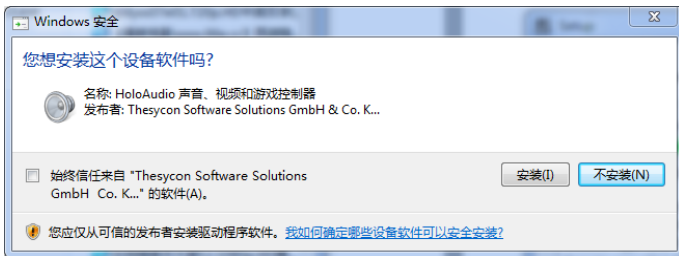
If the message like the either one on the left pops up during the loading process click > "Install".
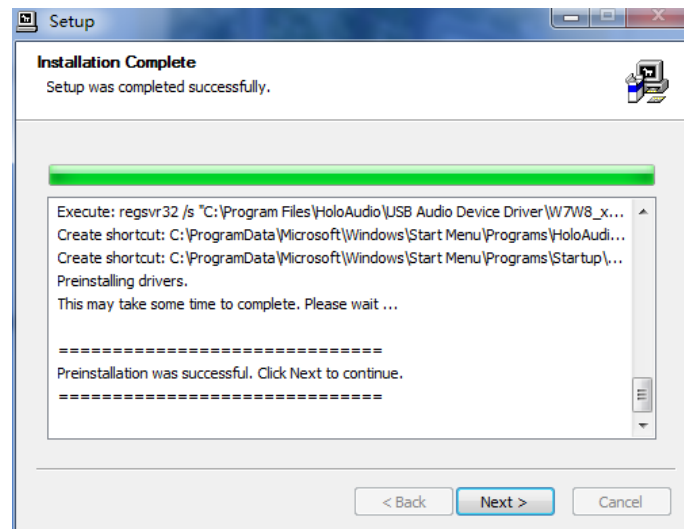
When you see the notification as shown on the left, the driver installation is complete, click > "NEXT" to continue.
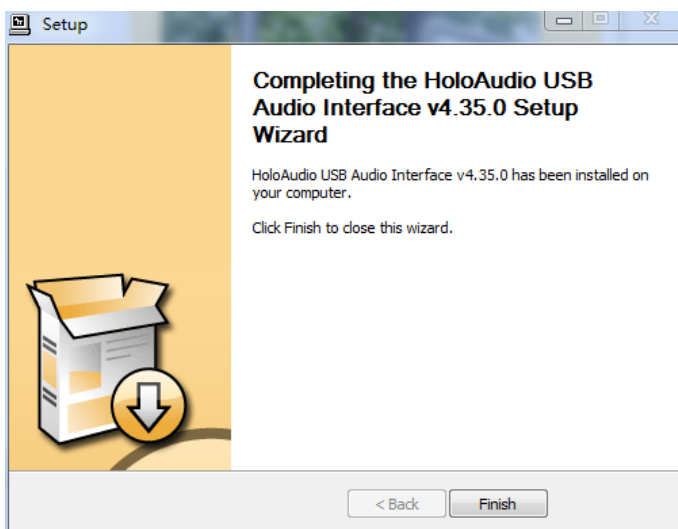
Click > "Finish" to close the installer. The device is now available to any application under Windows as an ASIO and WDM audio device.

Common software settings

<u>**Windows**</u>

Default playback device settings

      After installing the driver, Windows will have one more audio output device, so that the system will have multiple audio output devices to choose from. Normal application software will be output to the default playback device on Windows. At this time, you need to set it up to use the "green" as the default playback device for Windows.

Right click on the sound icon in the desktop status bar, click to select > "Play Device (P)" or press the "P" button on the keyboard to enter the playback device control panel, as shown below.

In the sound/playback directory, make the output device settings, click to select >"Speaker XMOS USB Audio", then click the > "Set as Default (S)" button to set "Cyan" as the system default output device.

J.River

Playback settings

The following operations are based on the J.River Media Center 20.0.27 English user interface.
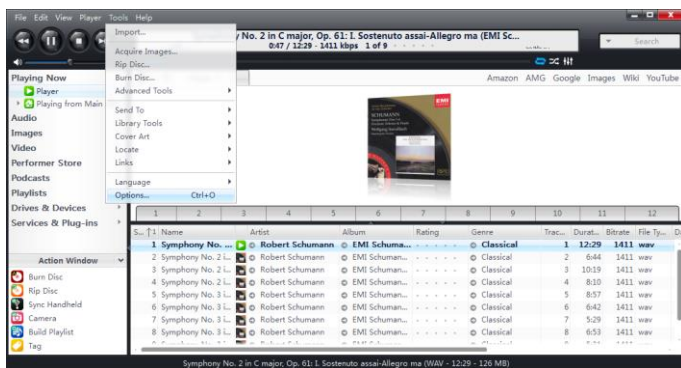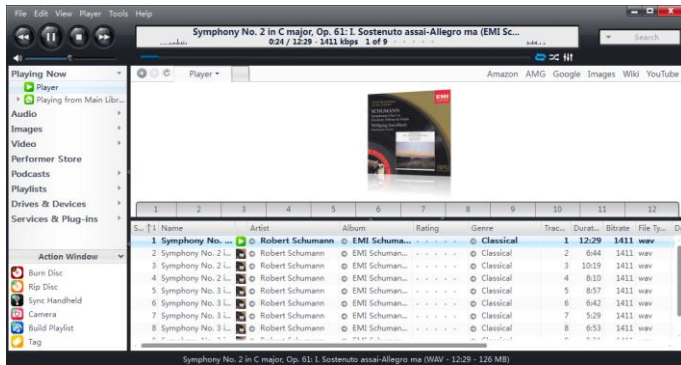
Click > Tools / Options on the play page or use Ctrl+O to enter the settings page.
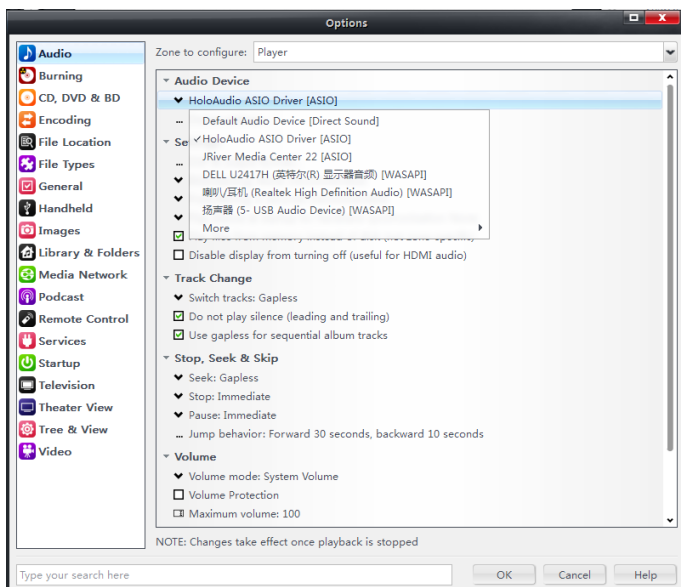
Set > "Audio Device" to "HoloAudio ASIO Driver [ASIO]".
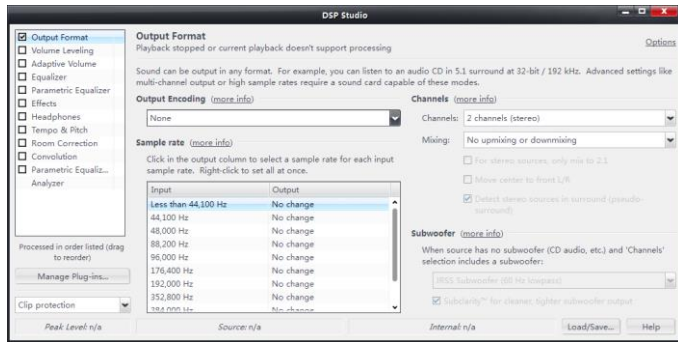
Click > "Settings" / "Output Format"
If you want to set to PCM output, select Output Encoding to > "None". If you want to set to DSD output, select the corresponding DSD bit rate here.
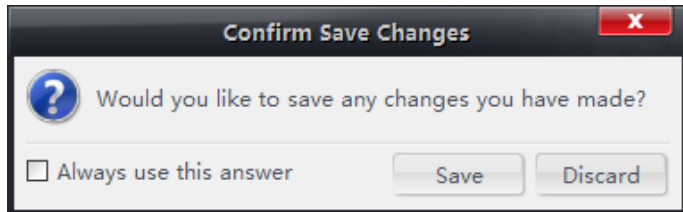
After setting the above parameters and clicking Exit Settings, a dialog box like the one on the left will pop up. Click > "Save".

Foobar2000

Playback settings

Set the required files for playing DSD files and the foobar2000 player software to download this folder first in this network folder http://pan.baidu.com/s/1pLgseWb. After downloading the folder, extract the compressed file and prepare for installation and setup.
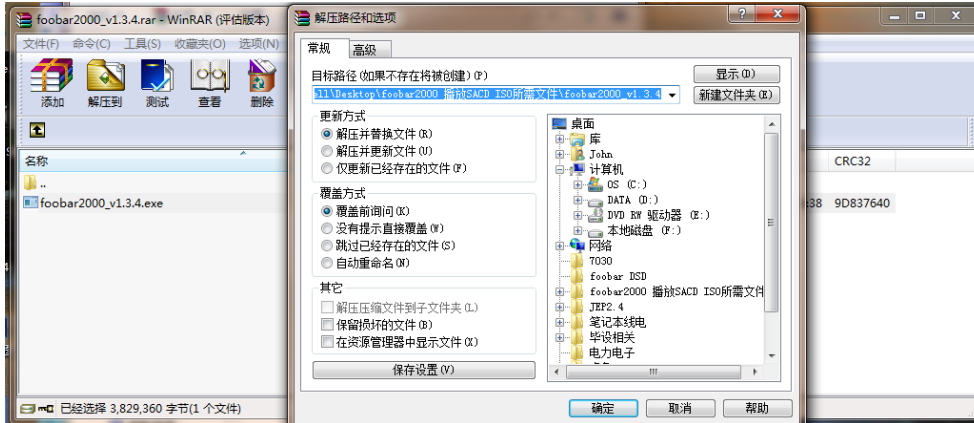
Open the decompressed foobar2000 file. It is recommended to install it with the default settings until it is completed.
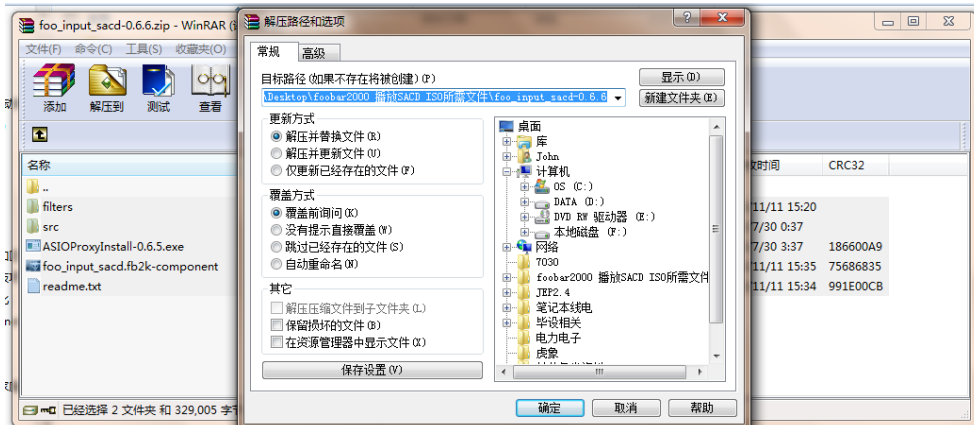
Click to open the foobar2000 installation file:

Click > the "NEXT > button" to continue the installation.

Click > the "I Agree" button to proceed with the installation.
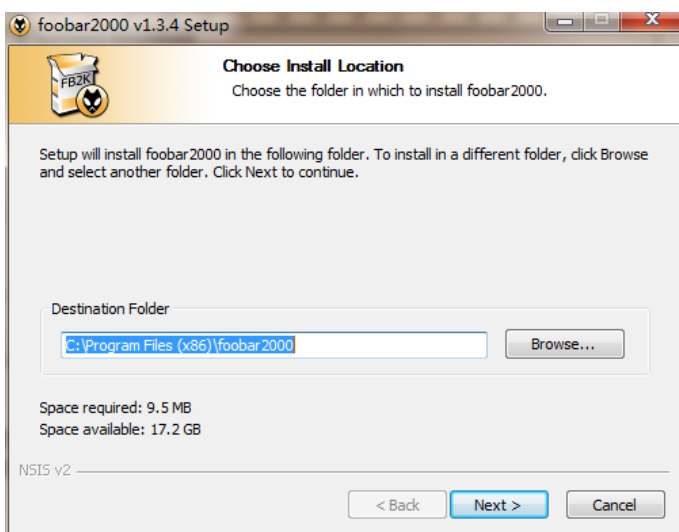
If necessary, select the installation folder by clicking on "Browse..." or use the default
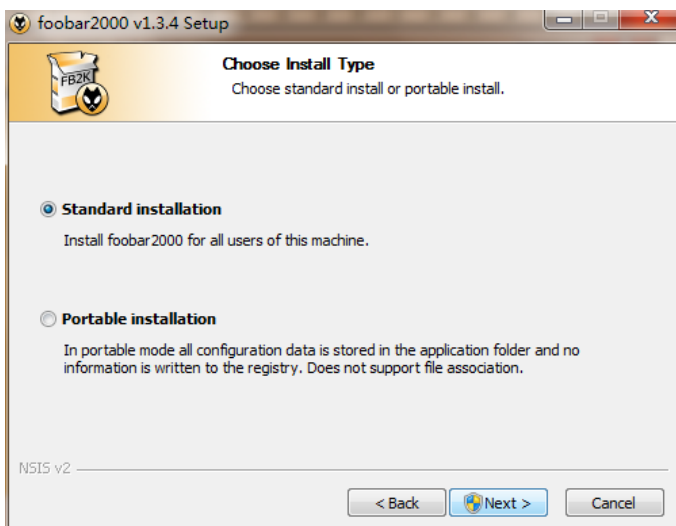
The installation type here selects the default "Standard installation", *do not* select "Portable installation".
Click > the "Next >" button to continue the installation.
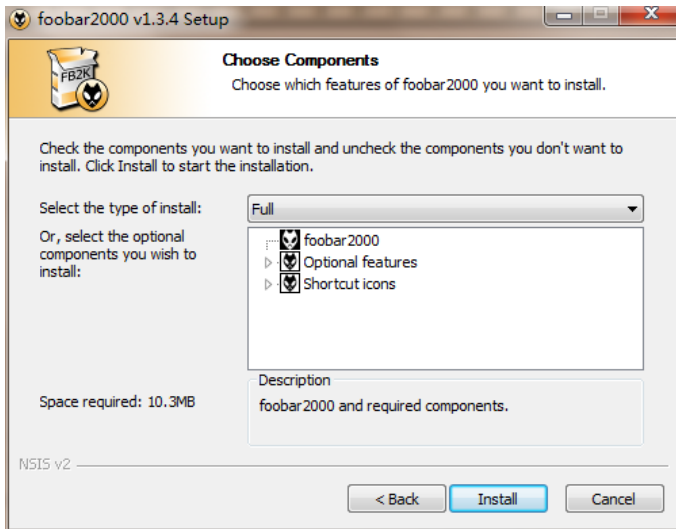
Here the software composition selects the default (Full) all installation (recommended). Click > the "Install" button to continue the installation
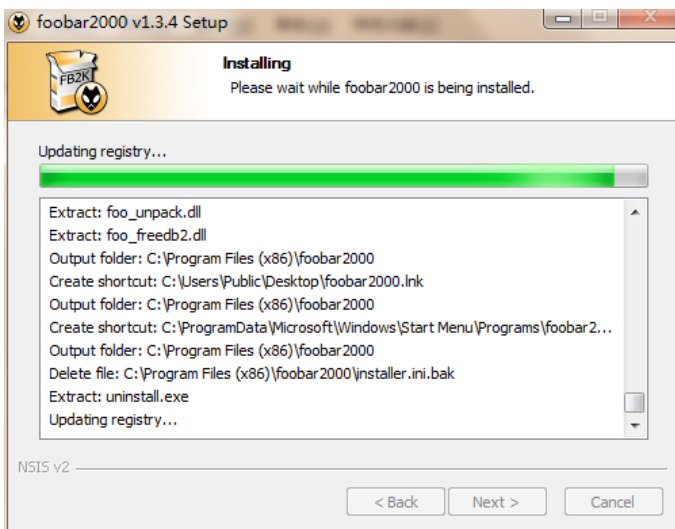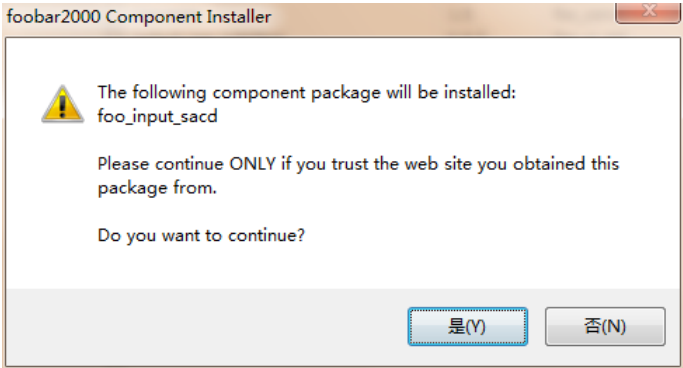
…Installation is in progress…
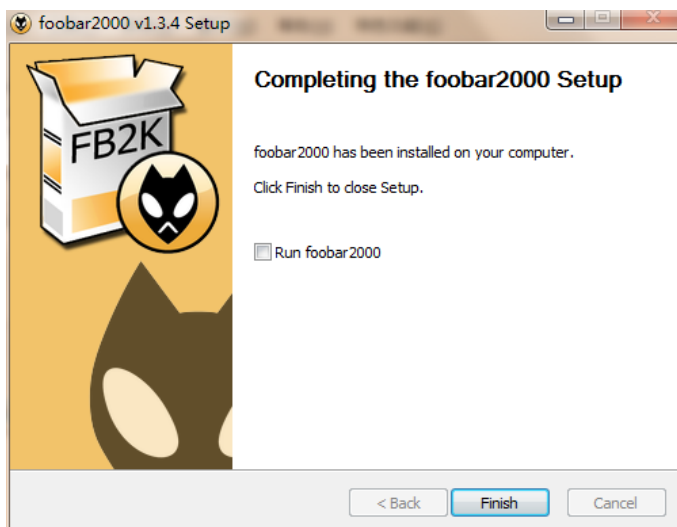
When you see the notification as shown on the left, the installation is complete, click > the "Finish" button and the Foobar 2000 installation is complete.
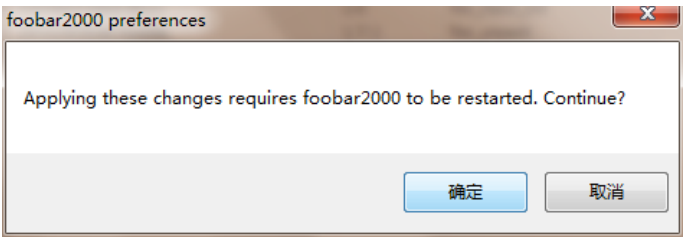
Foobar2000 plays SACD/ISO settings

1. Install the ASIO plugin. Double-click the "foo_out_asio" file to install it with the default settings until it is complete.

The installation prompt will pop up. Click > the "Yes" button to continue the installation.
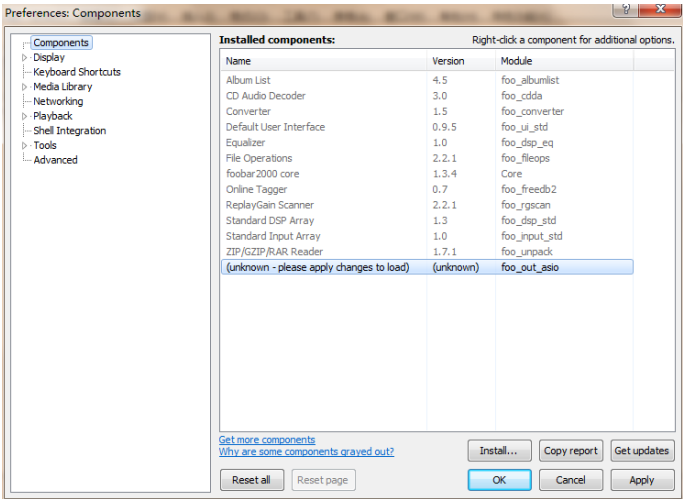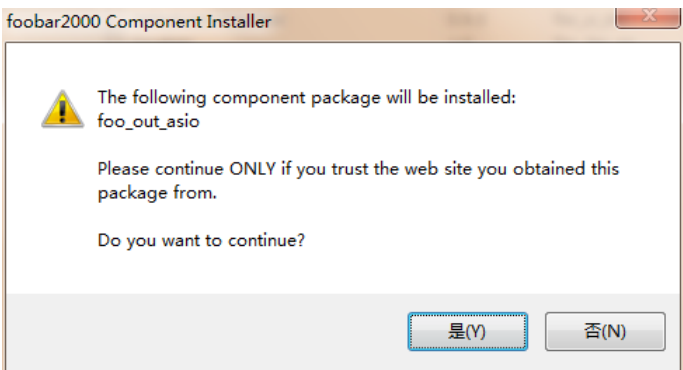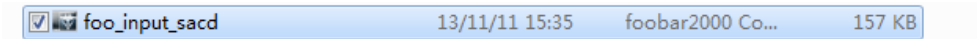

After the installation is complete, click the "OK" button to make the installation take effect.
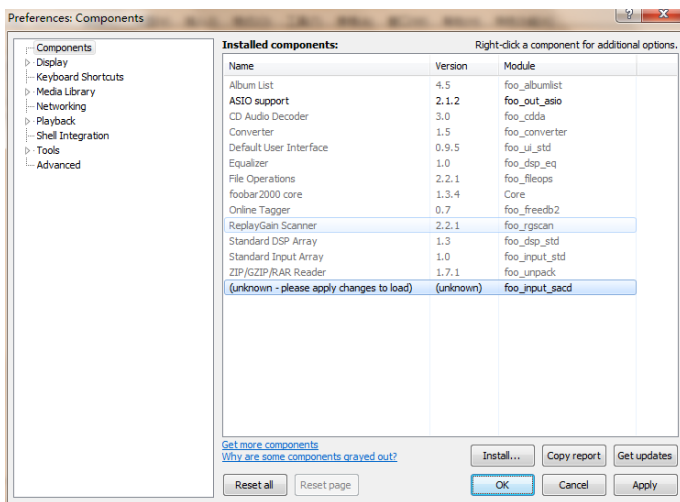

The application change program will ask to restart the Foobar 2000 prompt dialog and click > the "confirm" button.
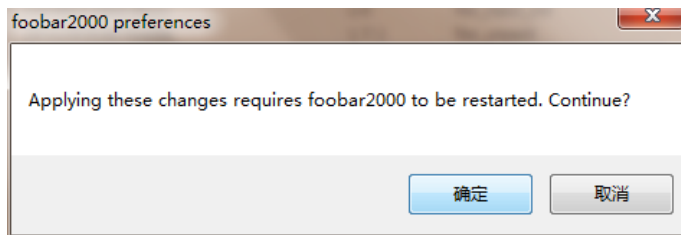
1. Install the "foo_input_sacd" file and install it with the default settings until it is complete.

The prompt dialog box shown on the left will pop up during installation: Click > the "Yes" button to continue the installation.
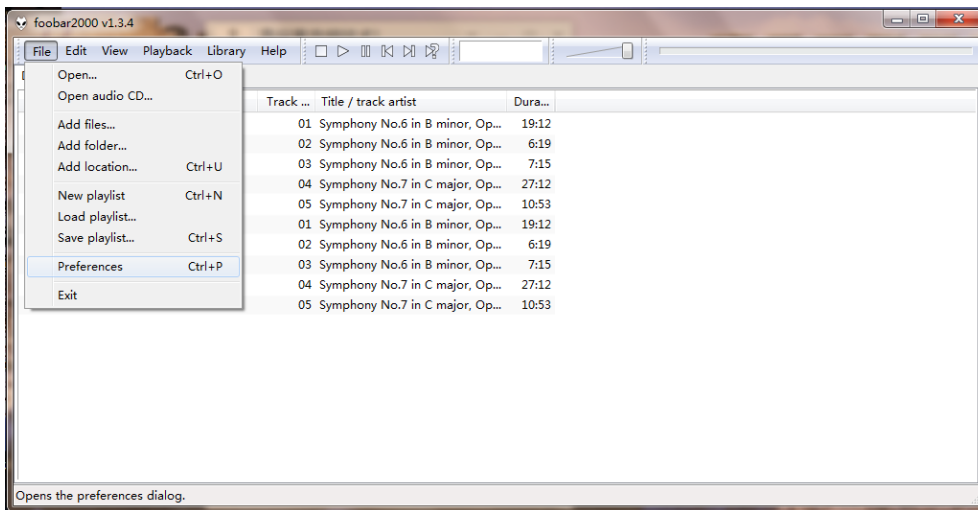
After the installation is complete, click > the "OK" button to make the installation take effect.
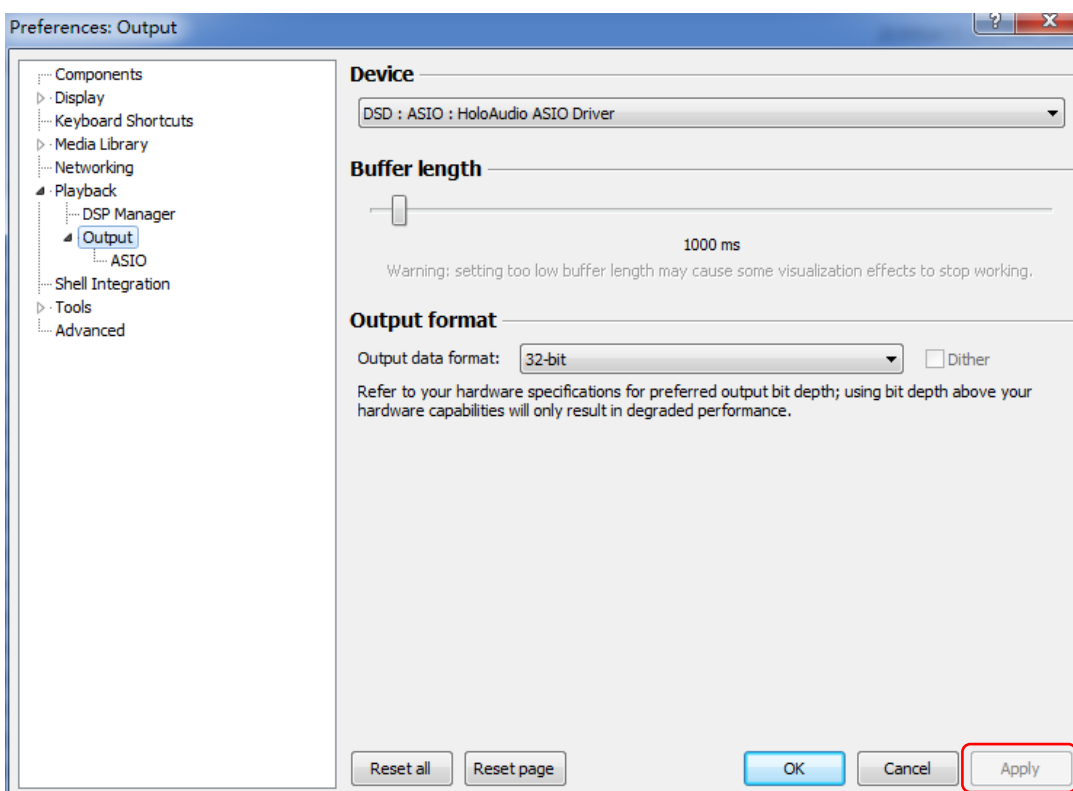

The application change program will ask you to restart the Foobar 2000 prompt dialog and click > the "Confirm" button.

The Foobar 2000 must also be set up after the installation is complete.
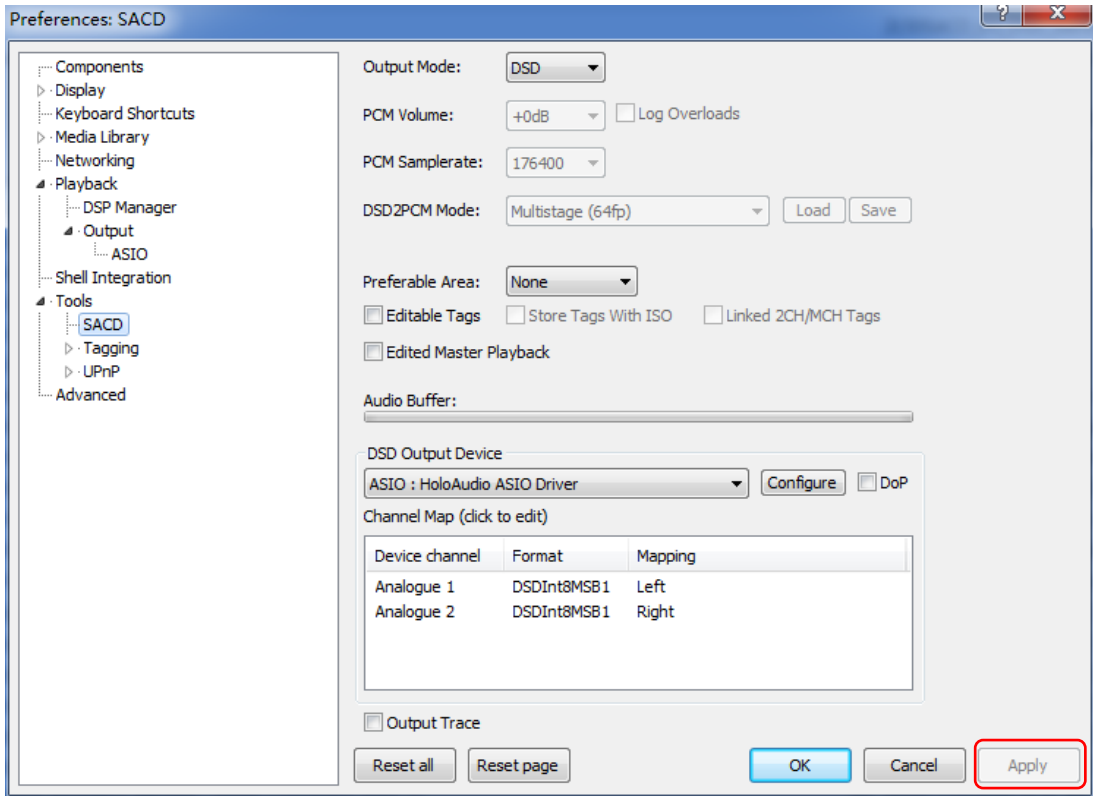

In the foobar2000 play interface, click > "File" to select "Preferences", or press CTRL+P to open the preference interface.

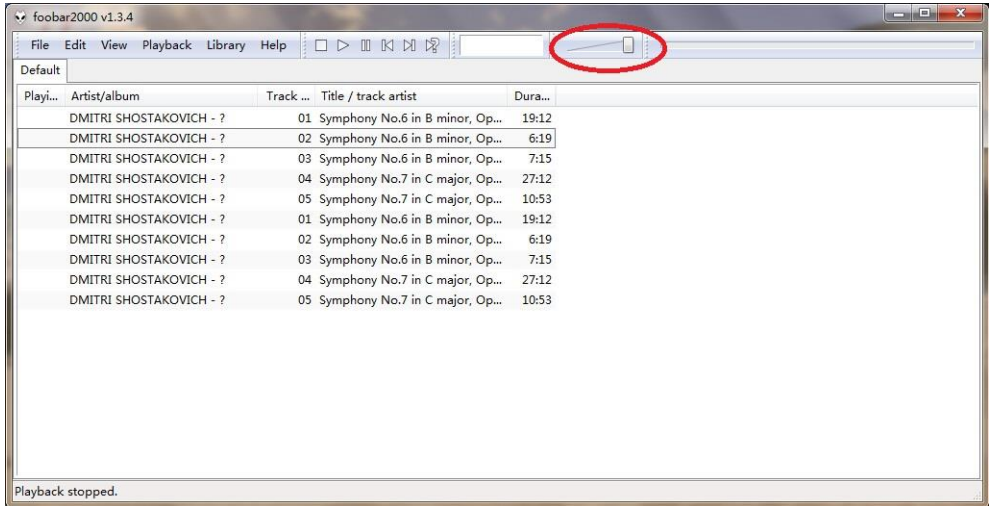With the path Playback/Output, select the output device as:

"DSD: ASIO: HoloAudio ASIO Driver" as shown and then click > the "Apply" button.

SACD output format
settings:

Set the parameters as
shown in the figure below
via the Tools/SACD and
click > the "Apply" button.

At this point, all the settings
are completed, click > the
"OK" button.

If "cyan" is not set as the system
default device but is occupied by
Foobar2000 alone, the volume of
Foobar2000 must be set to **100%**

Note: When playing DSD, the output volume of the system volume synthesizer in the task bar at the bottom of the

computer *must be* ***100%***

Click on the volume icon in the circle in the taskbar, right >
click/open the volume synthesizer (M) to view and
operate.