BOX•DESIGN

BY PRO-JECT AUDIO SYSTEMS

INSTRUCTIONS FOR USE
Pro-Ject DAC Box DS2 Ultra

Dear music lover,

thank you for purchasing a Pro-Ject Audio DAC Box DS2 Ultra.

In order to achieve maximum performance and reliability you should study these instructions for use carefully.

⚠️ *Warning of a hazard for the user, the unit or possible misuse*

👉 *Important notice*

Safety instructions

⚠️ *AC outlet voltages vary from country to country. Before connecting to the mains, make sure that the voltage in your area meets the voltage requirements printed on the power supply. The power cord is used to disconnect the unit from the mains. Make sure that the power cord is easily accessible at all times. Never handle the device, the power cord/power supply while your hands are wet or damp.*

Avoid letting liquids enter the device or the power supply. Never place any item containing liquid, such as a flower vase on or near the device. Never spill any liquid on the device or the power supply. Never place any naked flame sources, such as lighted candles on or near the device. The product shall not be used in damp or wet locations, next to a bathtub, sink, swimming pool or any other similar conditions.

Connectors
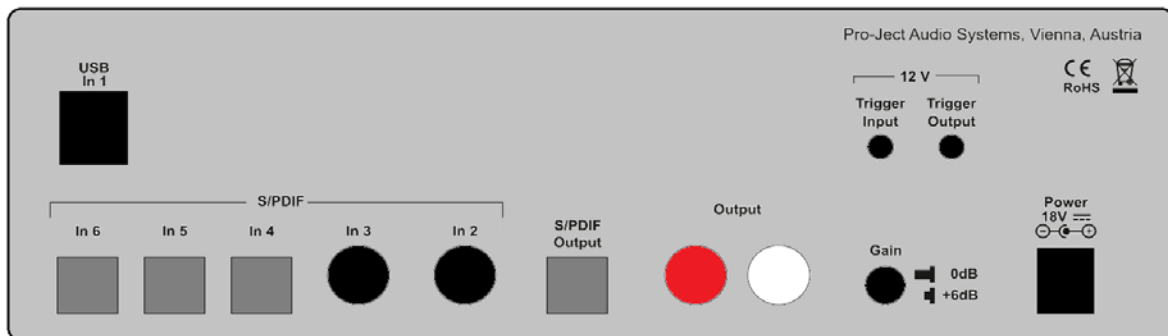
⚠️ *Make all connections,* **except the connection to the computer,** *whilst the unit is disconnected from the power supply. Connect the unit* **to the mains and switch it on before connecting it to the computer***.*

Take care to connect the left and right channels correctly. The right channel is usually marked red, the left channel black or white.

Never use any other power supply than the one supplied with the unit.

Connection to the amplifier

Connect the **Output** RCA socket to a line input (such as **AUX**) on your amplifier. Pressing the **Gain** button on the back panel raises gain by 6dB.

Digital inputs

Sources with a digital output such as a CD player can be connected to the digital inputs (coaxial and optical). A computer can be connected to the USB input.

⚠️ *The DAC supports PCM (LPCM) and DSD format only. The DAC does not work with audio formats like DTS™ or Dolby® Digital. If the DAC is used with a TV satellite/cable receiver or a TV set with an integrated satellite/cable receiver. Make sure that in the set-up menu of your receiver/TV, the format of the digital signal, relayed to the digital output used, is set to PCM.*

Connecting to a computer

Connect the USB-input of the DAC (unit must be switched on) to a free USB-socket on your computer and turn it on/make sure it is powered on.

* For Windows® operating systems an USB driver (supplied on CD) has to be installed. Mac OS® operating systems do not need an additional driver.

☞ *Please note: Connection should be made to an USB-socket of your computer directly. Connecting to USB-hubs can cause problems.*

Mains power connection

Connect the low voltage plug from the power supply to the **Power 18V DC** socket before connecting the power supply to the mains.

Remote power on - triggers

The unit can be switched on & off via a special connection from other Pro-Ject products equipped with trigger connections via the 2,5mm socket marked **Trigger Input**.

A 45cm long power-on cable (polarity ⁻🔘⁺) is supplied for this purpose. Longer cables are available as accessories. The remote power-on signal can be relayed to further units via the **Trigger OUT** socket.

Front panel controls
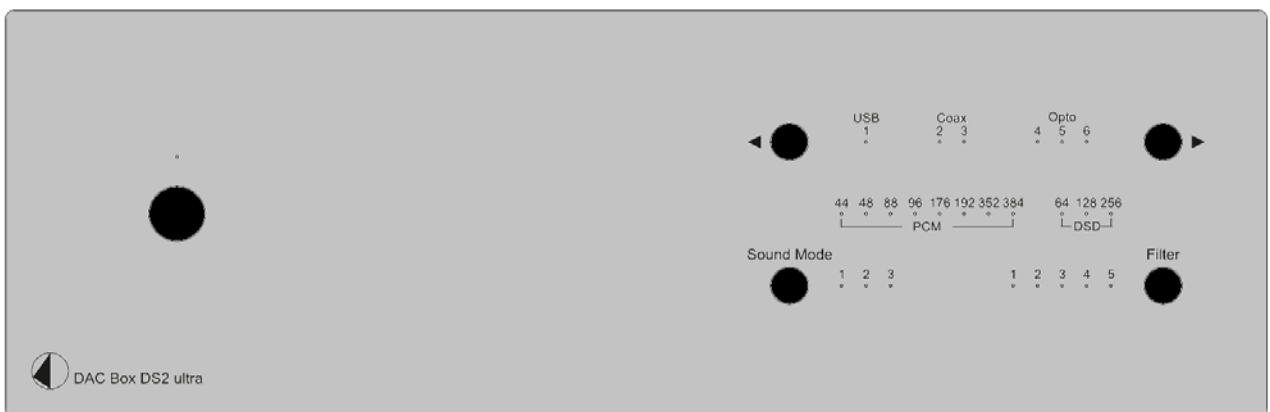
Switching on and into standby

The push button on the left hand side on the front panel turns the unit on and into standby. The blue LED above the button shows that the unit is switched on.

Input selector

Operating ◄/► repeatedly selects the inputs in turns. The selected input, the sampling frequency or the DSD mode of the digital input signal will be indicated by the corresponding LED.

Sound mode

Mode 1:
Upsampling: this mode upsamples all incoming signals to highest possible output rate:

	Sound Mode 1		
input	input PCM sampling freq. [kHz]	output PCM sampling freq. [kHz]	available filters
USB	44	705	1,2
	48	768	1,2
	88	705	1,2
	96	768	1,2
	176	705	1,2,3,4
	192	768	1,2,3,4
	352	705	1,2,3,4
	384	768	1,2,3,4
	705	705	1,2,3,4
	768	768	1,2,3,4
S/PDIF	44	768	1,2
	48	705	1,2
	88	768	1,2
	96	705	1,2
	176	768	1,2,3,4
	192	705	1,2,3,4
	input DSD data rate	output DSD data rate	
USB DSD	64	256	1,2,3,4
	128	256	1,2,3,4
	256	256	1,2,3,4

Mode 2:
Conversion to DSD: all incoming signals are converted to DSD format

	Sound Mode 2		
Input	input PCM sampling freq. [kHz]	output DSD data rate	available filters
USB	44-48	128	1,2
	88-96	256	1,2
	176-768	256	1,2,3,4
S/PDIF	44, 48, 88	128	1,2
	176	128	1,2,3,4
	96	256	1,2
	192	256	1,2,3,4
USB DSD	Same as with Sound Mode 1		

Mode 3:
USB Upsampling bypass:
USB Input sampling rate remains the same as USB output sampling rate.

Sound Mode 3	
USB input	
Sampling frequency [kHz]	available filters
44-96	1,2,3,4
176-768	1,2,3,4,5

DSD input format remains the same as DSD output format.

S/PDIF input rates are upsampled to PCM352kHz / PCM384kHz

Sound Mode 3			
input	input PCM sampling freq. [kHz]	output PCM sampling freq. [kHz]	available filters
S/PDIF	44	384	1,2
	48	352	1,2
	88	384	1,2
	96	352	1,2
	176	384	1,2,3,4
	192	352	1,2,3,4

Filters

Filter button toggles between 5 filters. Availability of filters depends on input format and frequency shown in previous article:

Filter	Sound type	Filter name	Remarks	Sound source positioning	Edge
1	Natural tone	Super slow roll-off	No echo, natural sound	Close	Ultra sharp
2	Acoustic tone	Short delay roll-off	Minimal echo, original sound		Sharp
3	Traditional tone	Slow roll-off	Minimal echo, original sound		Middle
4	Acoustic sound	Short delay sharp roll-off	Post echo, bass sound		Sharp
5	Traditional sound	Sharp roll-off	Pre and post echo, powerful sound	Far	Slow

Driver installation (Windows® operating systems only)

* For Windows® operating systems a USB driver (supplied on CD) has to be installed.

Insert the included CD into the drive of you PC and follow the instructions.
Complete the installation by restarting the computer.

After installing the driver, some settings have to be checked/done.

For example - Windows 7® operating system:

→ Control Panel → Hardware and Sound → Sound → Playback:
select **Speaker/Project DAC Box DS USB 2.0 Audio Out**

→ Properties → Supported formats: **make sure nothing is assigned**

→ Level → Sound: setting must be **100**

→ Enhancements: **disable all enhancements** → Advanced → Default Format: set to **studio quality 24/192**

Using Windows 8®, the driver has to be installed in Windows 7® compatibility mode.

DSD playback

Up to now DSD playback on a computer using a Windows® operating system is only reliably possible with the PC software player Foobar2000.
Nevertheless, this player has to be prepared, out of the box it is not capable to play DSD. Please read the following instructions how to prepare the player.

You will need to download the following software and drivers from the internet:
The software player Foobar2000 http://www.foobar2000.org/download

The Foobar2000 for ASIO playback http://www.foobar2000.org/components/view/foo_out_asio

The Foobar2000 for SACD playback http://sourceforge.net/projects/sacddecoder/files/foo_input_sacd/.
Unzip the enclosed files and store into a folder of your choice.

The actual Windows® USB driver comes with the unit on CD. Store all files from the CD on your computer into a folder of your choice.

Please install the USB driver first. To do that, in the folder, where you stored the files to, start the installation by double clicking on **Setup.exe**. Follow the instructions of the installation program.

Please install Foobar2000 now by double clicking on the downloaded file. Please start Foobar2000 after that.

© Pro-Ject Audio Systems · Pro-Ject DAC Box DS2 Ultra · Revision 2016.11.9 b

Now you have to integrate the downloaded components into Foobar2000. Please do the following: In the upper menu bar, click on **File** and then on **Preferences**.
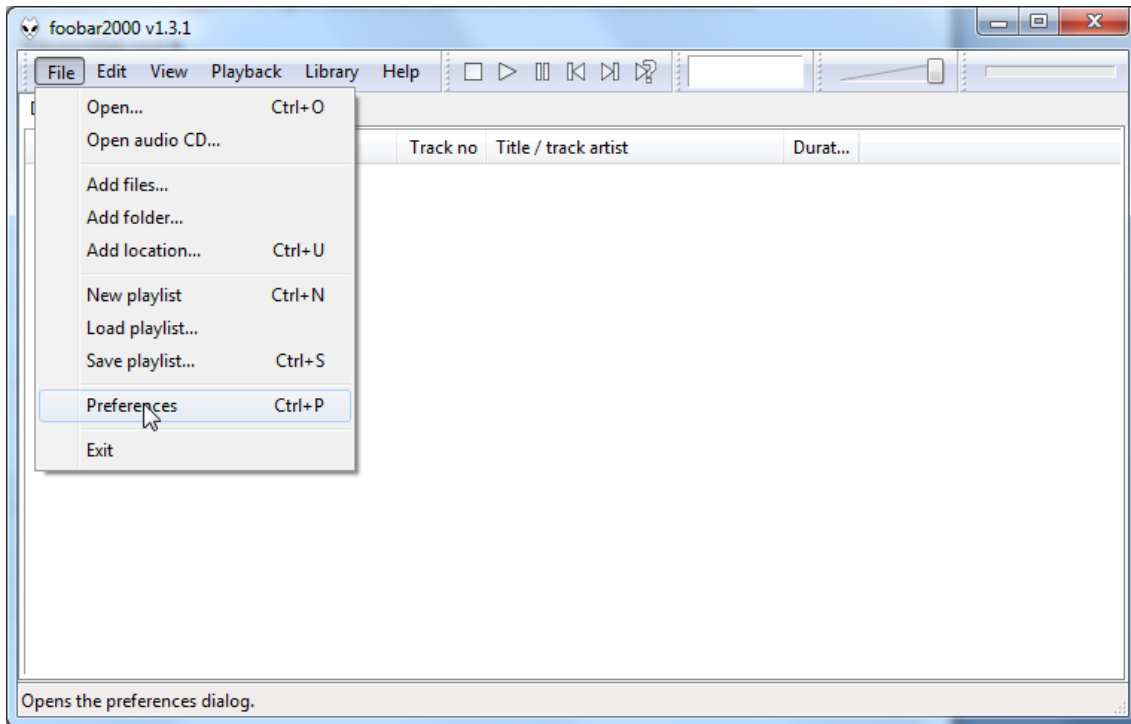
In the window that now opens, please click on **Components**.
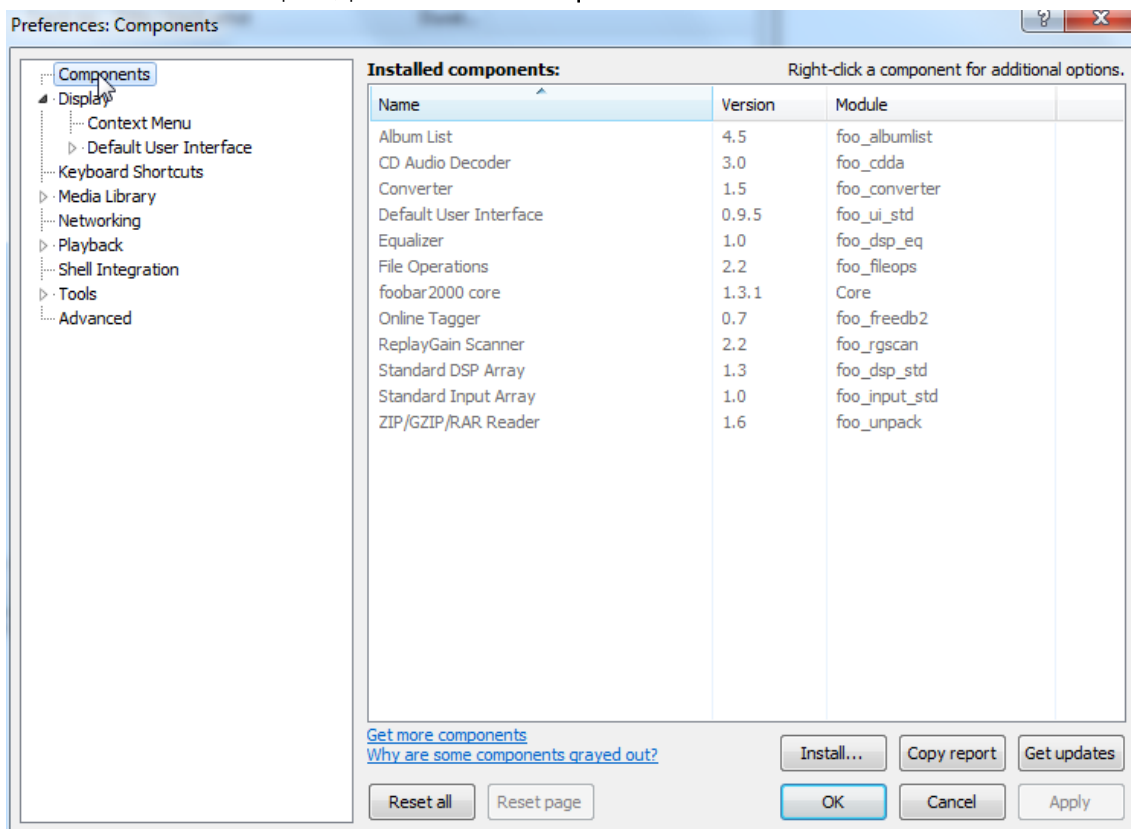
Now click on **Install...** (lower right) und search for **foo_out_asio.fb2k-component** in the opened explorer window. Click on it and after that on **Apply** to activate the Component. Foobar2000 asks now, if you agree to start, restart the program to activate the changes. Confirm with **Yes**. Foobar2000 restarts.

Now exit Foobar2000 and double click on the program **ASIOProxyInstall-0.6.5.exe** in the folder, where you unzipped the Component **foo_input_sacd** to. Follow the instructions of the installation program.

Now please start Foobar2000 again and open the **Preferences** Box by clicking on **File/Preferences**.
Click on **Install** and go the folder where you unzipped **foo_input_sacd** to.
Click on **foo_input_sacd.fb2k-component** and confirm with **Apply**.
Foobar2000 asks once again, if you agree to start restart the program to activate the changes.
Confirm with **Yes**. Foobar2000 restarts.

Now you have installed all necessary components. Before you can start to playback DSD files however, you have to carry out some settings. For that please open the **Preferences** Box by clicking on **File/Preferences** again.
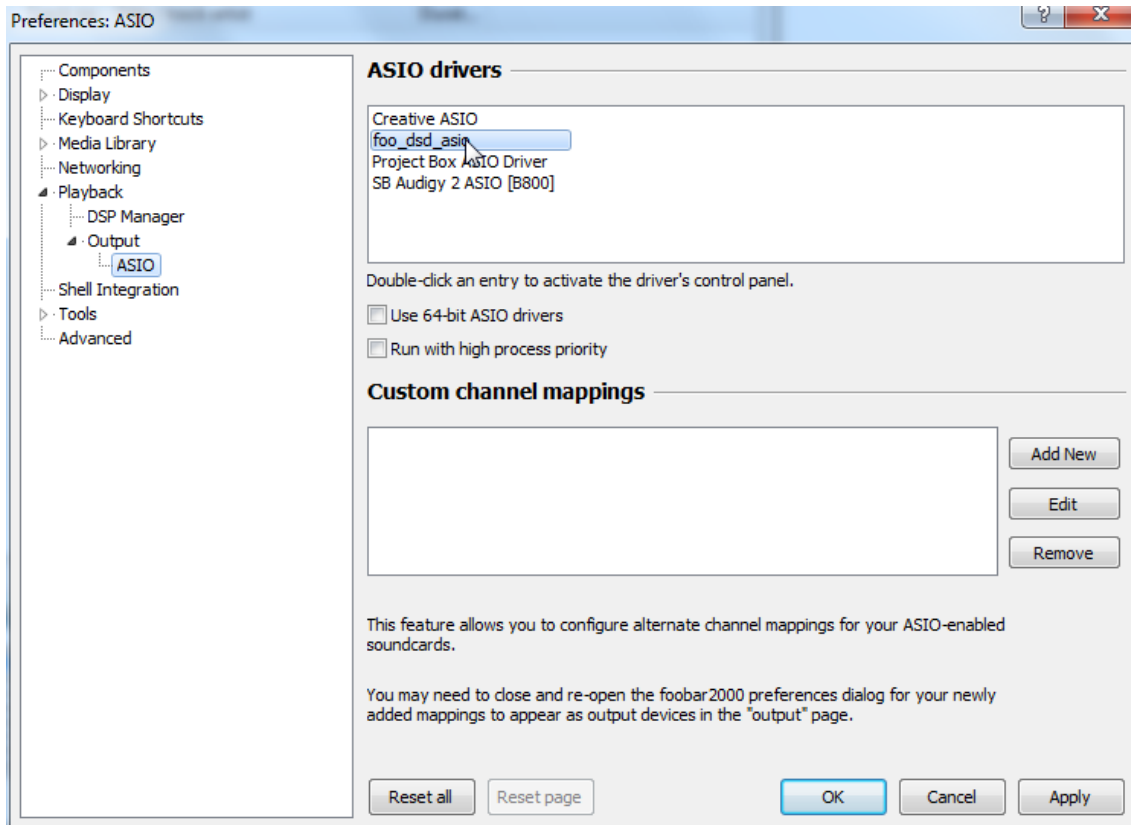
Click on the small triangle to the left of **Playback** now and after that on **Output**.
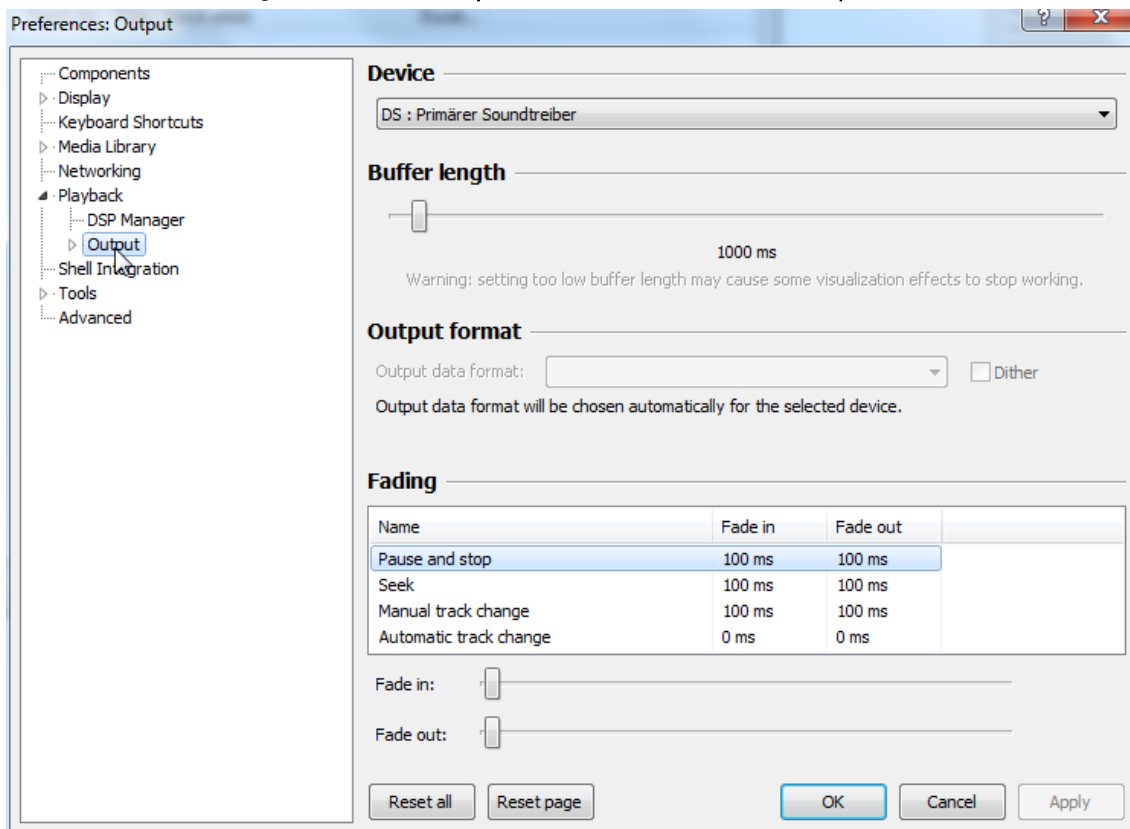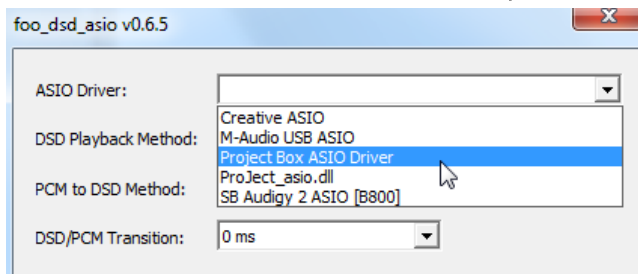
In the dropdown menu below **Device**, choose the driver **Asio: foo_dsd_asio**.
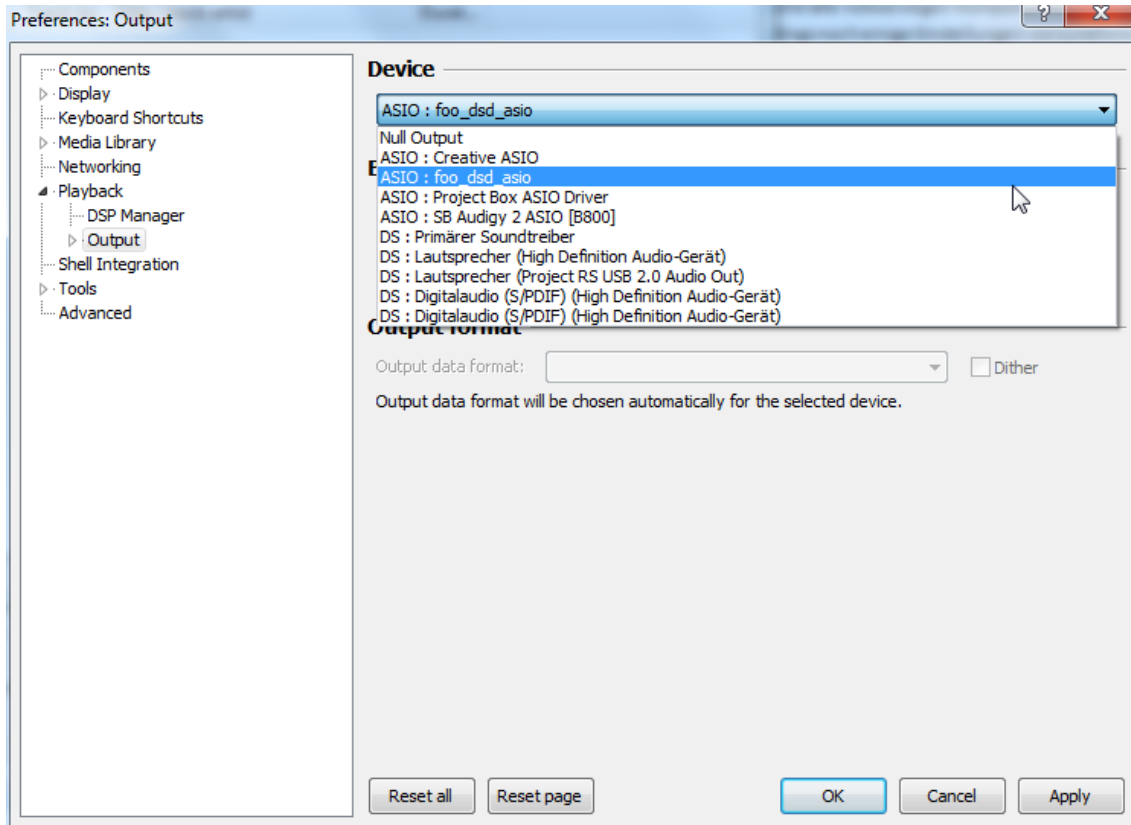
Click **Playback** and the small triangle on the left side of **Output** and then on **ASIO**. Below **ASIO Drivers** please double click on **foo_dsd_asio**.


In the window that follows, please choose **Project Box Asio Driver** and in the dropdown menu **ASIO Driver**.

In the same window, please choose **DoP Marker 0x05/0xFA** in the dropdown menu **DSD Playback Method**. Close the window with a click on the small **X** in the upper right corner.

© Pro-Ject Audio Systems · Pro-Ject DAC Box DS2 Ultra · Revision 2016.11.9 b
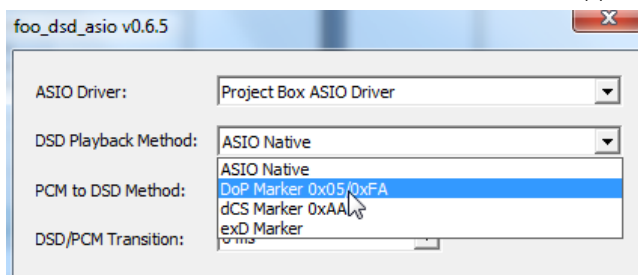
Select **Tools**, click the small triangle to the left and then **SACD**. Choose **DSD** in the dropdown menu **ASIO Driver mode**.
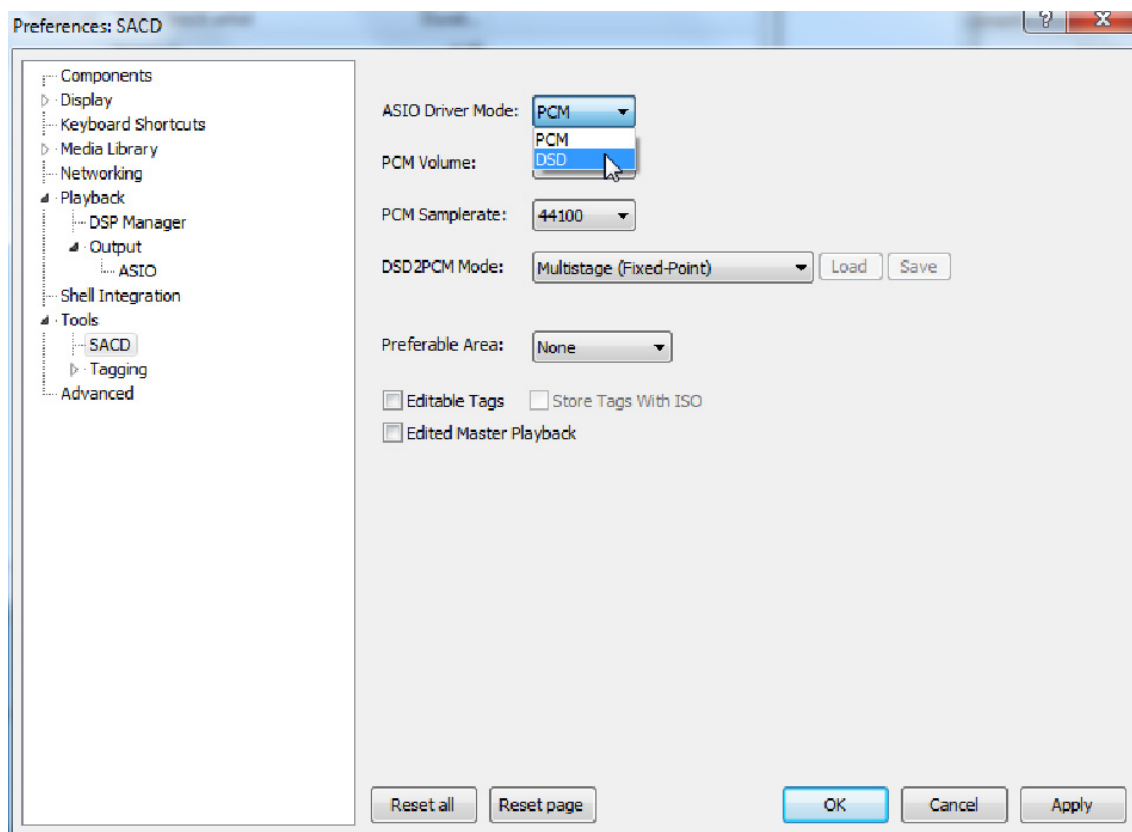
Now you have completed all necessary settings. Close the **Preferences** window with a click on **OK**. Now you can playback DSD files with the extensions **DSF** and **DFF**. You can open the files in Foobar2000 either with your mouse via drag and drop or with the **File** menu in the upper menu bar.

☞ *Please be aware that downloads from the Internet are made entirely at your own risk. Under no circumstances can we carry responsibility or provide support for software products sourced from the internet or for any damage or problems arising from the use thereof. All downloads should be checked with an up-to-date anti-virus programme.*

Technical specifications Pro-Ject DAC Box DS2 Ultra

Frequency response:	20Hz - 50kHz (0dB/-1dB)
SNR:	113dB (20Hz-20kHz)
THD:	0,00085% (20Hz-20kHz)
THD+N:	0,0009% (20Hz-20kHz)
Crosstalk:	-117dB (10kHz@0dB)
Digital inputs:	2 x coaxial
	3 x optical (TOSlink®)
	1 x USB (B socket)
USB input:	digital serial data protocol USB 2.0
Operating systems	
24Bit/kHz192 playback:	Windows VISTA®, Windows 7®, Windows 8®, Windows 10®, Mac OS®
DSD playback:	Windows VISTA®, Windows 7® , Windows 8®, Windows 10®, Mac OS®
D/A converter:	AK4490 32-bit PCM 768kHz / DSD256
Sampling rates:	
Coaxial inputs	up to 192kHz/24bit
Optical inputs	up to 192kHz/24bit
USB input	up to 768kHzHz/32bit + DSD64, DSD128 and DSD256
USB mode:	asynchronous data transfer with DoP
Line-level outputs:	1 pair RCA/phono sockets
Digital output:	1x optical (TOSlink®)
Output voltage typically:	RCA/phono sockets 2,2Vrms / +6dB active: 4,4Vrms
Outboard power supply:	18V/1A DC; suitable for your country's mains supply
Power consumption:	300mA DC,<1W in standby
Dimensions W x H x D (D with sockets):	206 x 71 x 200 (220) aluminium
	240 x 72 x 199 (220) wood
Weight (without power supply):	1.890g aluminium
	2.070g wood

Service

Should you encounter a problem which you are not able to alleviate or identify despite the above information, please contact your dealer for further advice. Only when the problem cannot be resolved there should the unit be sent to the responsible distributor in your country.

Warranty

The manufacturer accepts no responsibility for damage caused by not adhering to these instructions for use. Modification or change to any part of the product by unauthorized persons, release the manufacturer from any liability over and above the lawful rights of the customer.

Copyright, trademarks