

## DSD playback with Pro-Ject D/A converters

With these Pro-Ject D/a converters is it possible to play DSD tracks from a computer: DAC Box DS (with free upgrade), DAC Box RS, Pre Box RS Digital. Tested with Windows 7 and Windows 8

Up to now the DSD playback over these devices is only reliably possible with the PC software player Foobar2000. Nevertheless, this player has to be prepared, "out off the box" it is not capable to play DSD. Please read here 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 into a folder of your choice.

The actual windows USB driver for DAC Box DS, DAC Box RS und Pre Box RS digital. The driver is provided with the units on CD. Store all files on the CD 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. Now you have to integrate the downloaded components into Foobar. Please do the following: In the upper menu bar, click on "File" and then on "Preferences".

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| File                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Edit View Playb        | ack Library | Help 🗆 🗅 🔟 🕅 🕅 🕅              |       |  |  |
| C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Open                   | Ctrl+O      |                               |       |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Preferences            | Ctrl+P      |                               |       |  |  |
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| <u> </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |             |                               |       |  |  |
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| Opens                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | the preferences dialog |             |                               |       |  |  |



In the window that now opens, please click on "Components".

| omponents                | Installed components: Right-click a component for additional |         |                             |
|--------------------------|--------------------------------------------------------------|---------|-----------------------------|
| )ispla <sup>®</sup>      | Name                                                         | Version | Module                      |
| - Context Menu           | Album List                                                   | 4.5     | foo albumlist               |
| > Default User Interface | CD Audio Decoder                                             | 3.0     | foo_cdda                    |
| Vedia Library            | Converter                                                    | 1.5     | foo_converter               |
| vetworking               | Default User Interface                                       | 0.9.5   | foo_ui_std                  |
| Playback                 | Equalizer                                                    | 1.0     | foo_dsp_eq                  |
| Shell Integration        | File Operations                                              | 2.2     | foo_fileops                 |
| Fools                    | foobar2000 core                                              | 1.3.1   | Core                        |
| Advanced                 | Online Tagger                                                | 0.7     | foo_freedb2                 |
|                          | ReplayGain Scanner                                           | 2.2     | foo_rgscan                  |
|                          | Standard DSP Array                                           | 1.3     | foo_dsp_std                 |
|                          | Standard Input Array                                         | 1.0     | foo_input_std               |
|                          | ZIP/GZIP/RAR Reader                                          | 1.6     | foo_unpack                  |
|                          |                                                              |         |                             |
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|                          | Coherena como contra                                         |         |                             |
|                          | Why are some components graved or                            | it2     | Install Copy report Get upo |

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".

| Components              | Device                                                                                                                                                                          |                                                       |                                                |                   |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------|-------------------|
| Display                 |                                                                                                                                                                                 |                                                       |                                                |                   |
| Keyboard Shortcuts      | DS : Primärer Soundtreiber                                                                                                                                                      |                                                       |                                                |                   |
| Media Library           |                                                                                                                                                                                 |                                                       |                                                |                   |
| Networking              | Buffer length                                                                                                                                                                   |                                                       |                                                |                   |
| Playback<br>DCD Manager |                                                                                                                                                                                 |                                                       |                                                |                   |
| DSP Manager             |                                                                                                                                                                                 | 1000 ms                                               |                                                |                   |
| Shell Inwaration        |                                                                                                                                                                                 |                                                       |                                                |                   |
| Tools                   | Warning; setting too low buffer                                                                                                                                                 | length may cause som                                  | e visualization effect:                        | s to stop working |
| Advanced                |                                                                                                                                                                                 |                                                       |                                                |                   |
|                         | Output format                                                                                                                                                                   |                                                       |                                                |                   |
|                         | Output data format:                                                                                                                                                             |                                                       | -                                              | Dither            |
|                         |                                                                                                                                                                                 |                                                       |                                                |                   |
|                         | Output data format will be chosen a                                                                                                                                             | utomatically for the se                               | ected device.                                  |                   |
|                         | Output data format will be chosen a Fading                                                                                                                                      | Eade in                                               | Fade out                                       |                   |
|                         | Output data format will be chosen a       Fading       Name       Rause and stop                                                                                                | Fade in                                               | Fade out                                       |                   |
|                         | Output data format will be chosen a Fading Name Pause and stop Seek                                                                                                             | Fade in 100 ms                                        | Fade out                                       |                   |
|                         | Output data format will be chosen a Fading Name Pause and stop Seek Manual track change                                                                                         | Fade in<br>100 ms<br>100 ms<br>100 ms                 | Fade out<br>100 ms<br>100 ms                   |                   |
|                         | Output data format will be chosen a         Fading         Name         Pause and stop         Seek         Manual track change         Automatic track change                  | Fade in<br>100 ms<br>100 ms<br>100 ms<br>0 ms<br>0 ms | Fade out<br>100 ms<br>100 ms<br>100 ms<br>0 ms |                   |
|                         | Output data format will be chosen a         Fading         Name         Pause and stop         Seek         Manual track change         Automatic track change         Fade in: | Fade in<br>100 ms<br>100 ms<br>100 ms<br>0 ms         | Fade out<br>100 ms<br>100 ms<br>100 ms<br>0 ms |                   |
|                         | Fading         Name         Pause and stop         Seek         Manual track change         Automatic track change         Fade in:         Fade out:                           | Fade in<br>100 ms<br>100 ms<br>100 ms<br>0 ms         | Fade out<br>100 ms<br>100 ms<br>100 ms<br>0 ms |                   |

In the dropdown menu below "Device", choose the driver "Asio: foo\_dsd\_asio".

| Preferences: Output | them.                                                                                              | S ×                 |
|---------------------|----------------------------------------------------------------------------------------------------|---------------------|
| [ Components        | Device                                                                                             |                     |
| Display             | ASIO : foo dsd asio                                                                                | *                   |
|                     | Null Output                                                                                        |                     |
|                     | ASIO : Creative ASIO                                                                               |                     |
| ⊿ · Playback        | ASIO : foo_dsd_asio                                                                                |                     |
| DSP Manager         | ASIO : SB Audigy 2 ASIO [B800]                                                                     | 63                  |
| Output              | DS : Primärer Soundtreiber                                                                         |                     |
|                     | DS : Lautsprecher (High Definition Addo-Geral)<br>DS : Lautsprecher (Project RS USB 2.0 Audio Out) |                     |
| ▷·lools             | DS : Digitalaudio (S/PDIF) (High Definition Audio-Gera                                             | at)                 |
| Advanced            | Output rormat                                                                                      | at)                 |
|                     | Output data format:                                                                                | → Dither            |
|                     | Output data format will be chosen automatically for the                                            | ne selected device. |
|                     |                                                                                                    |                     |
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|                     |                                                                                                    |                     |
|                     |                                                                                                    |                     |
|                     | Reset all Reset page                                                                               | OK Cancel Apply     |



Click now on the small triangle to the left of "Output" and then on "ASIO". Below "ASIO Drivers" please double click on "foo\_dsd\_asio".

| Preferences: ASIO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8                                                                                                                                                   | x   |
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| ;Components                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ASIO drivers                                                                                                                                        |     |
| Exploy     Exploy | Creative ASIO<br>foo_dsd_asin<br>Project Box AsIO Driver<br>SB Audigy 2 ASIO [B800]                                                                 |     |
| ASIO<br>Shell Integration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Double-click an entry to activate the driver's control panel.                                                                                       |     |
| > Tools<br>Advanced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Use 64-bit ASIO drivers Run with high process priority                                                                                              |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Custom channel mappings                                                                                                                             |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Add                                                                                                                                                 | New |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                     | lit |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | You may need to close and re-open the foobar2000 preferences dialog for your newly added mappings to appear as output devices in the "output" page. |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Reset all         Reset page         OK         Cancel         Application                                                                          | ply |

In the window that follows, please choose "Project Box Asio Driver" in the dropwon menu "ASIO Driver".

| foo_dsd_asio v0.6.5  |                                                                        | × |
|----------------------|------------------------------------------------------------------------|---|
| ASIO Driver:         |                                                                        | - |
| DSD Playback Method: | Creative ASIO<br>M-Audio USB ASIO                                      |   |
| PCM to DSD Method:   | Project Box ASIO Driver<br>ProJect_asio.dll<br>SB Audiov 2 ASIO [B800] |   |
| DSD/PCM Transition:  | 0 ms                                                                   |   |

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.

| foo_dsd_asio v0.6.5  |                                                  | x |
|----------------------|--------------------------------------------------|---|
| ASIO Driver:         | Project Box ASIO Driver                          | - |
| DSD Playback Method: | ASIO Native                                      | - |
| PCM to DSD Method:   | ASIO Native DoP Marker 0x05/0xFA dCS Marker 0xAA |   |
| DSD/PCM Transition:  | exD Marker                                       |   |
| L                    |                                                  |   |



Now click on the on the small triangle to the left of "Tools" and then on SACD". Choose "DSD" in the dropdown menu "ASIO Driver mode".

| Preferences: SACD                                                                                                                                                                                         | Red.                                                                                                                                                                                                                                                                   | ₹ X |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Components<br>Display<br>Keyboard Shortcuts<br>Media Library<br>Networking<br>Playback<br>DSP Manager<br>Output<br>Grading<br>Shell Integration<br>Tools<br>Shell Integration<br>Atomic Tools<br>Advanced | ASIO Driver Mode: PCM   PCM Volume: DSD   DSD 2PCM Mode: Multistage (Fixed-Point)   DSD 2PCM Mode: Multistage (Fixed-Point)   Call Call   Preferable Area:   None Image: Call   Editable Tags Store Tags With ISO   Edited Master Playback   Reset all   Reset page OK | cel |
|                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                        |     |

Now you have completed all necessary settings. Close the "Preferences" windwo 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.