Release note

for the dac8 Stereo v1.2 firmware

Introduction

This document provides comprehensive information related to the v1.2 firmware update package for the dac8 Stereo, including a changelog and step-by-step installation guides for three major operating systems. This major update addresses all known bugs, introduces several new functions, and adds compatibility with the Okto Research ASIO driver for Windows.

Firmware versions prior to the v1.2 use our custom USB update mechanism, delivered as executable packages with output displayed in a command line interface. The process takes around 1 minute to complete and for Windows users, a third-party generic USB library must be installed beforehand to enable communication with the device and facilitate the update.

Starting with version 1.2, firmware updates are compatible with a more user-friendly update utility featuring a graphical user interface. We are dedicated to enhancing our products through ongoing updates, and we strive to bring more value to our customers, regardless of when they made their purchase.

Changelog

Bugfixes

- reduced or eliminated thumps during sample rate and format changes (Note: player software settings significantly impact thumps and we recommend to enable silence insertion during transitions to or from DSD in order to ensure thump-free operation)
- waking host computer up from sleep mode no longer causes loss of USB connectivity

New functions

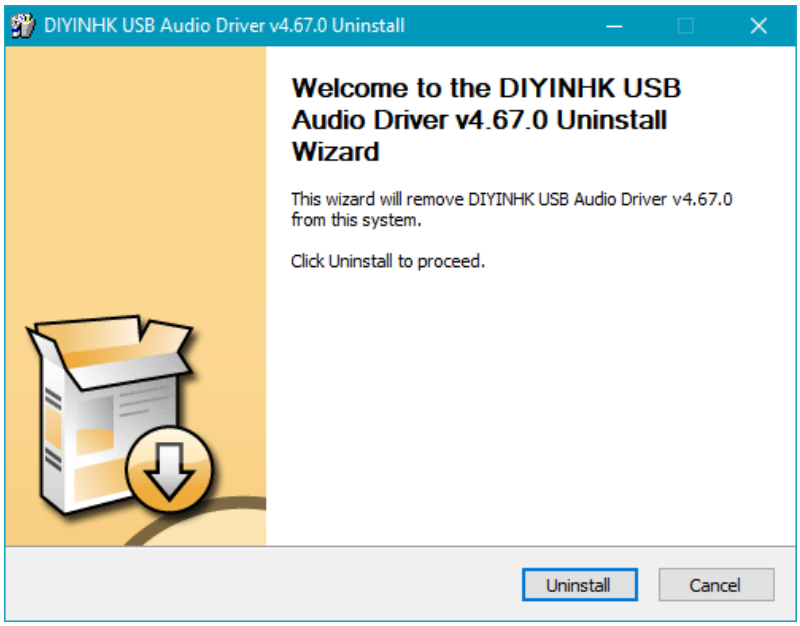
- introduced Okto Research ASIO driver (only compatible with FW v1.2 and newer)
- added Advanced submenu with 3 new entries (covered in the Owner's manual)
    - DPLL width
    - 2nd harmonic THD compensation
    - 3rd harmonic THD compensation
- the remote button with the 'Select' function no longer triggers menu entry from the main screen. This change prevents entering the menu accidentally when changing volume or switching inputs using an Apple Remote or other remotes with the 'Select' button located between the 'Up/Down' and 'Left/Right' buttons

A step-by-step guide for an update over USB

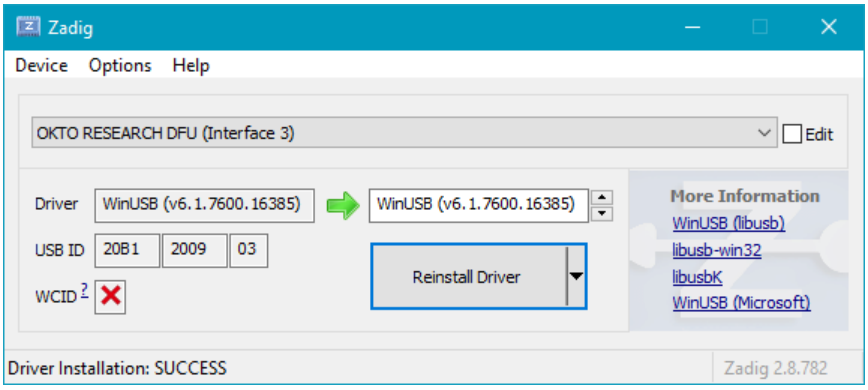
Before starting, please ensure the dac8 Stereo is powered on, USB input is selected, and it is securely connected to your computer. Please note that all settings, including remote control codes, will be lost during the update process, and you will need to pair your remote again.

Windows

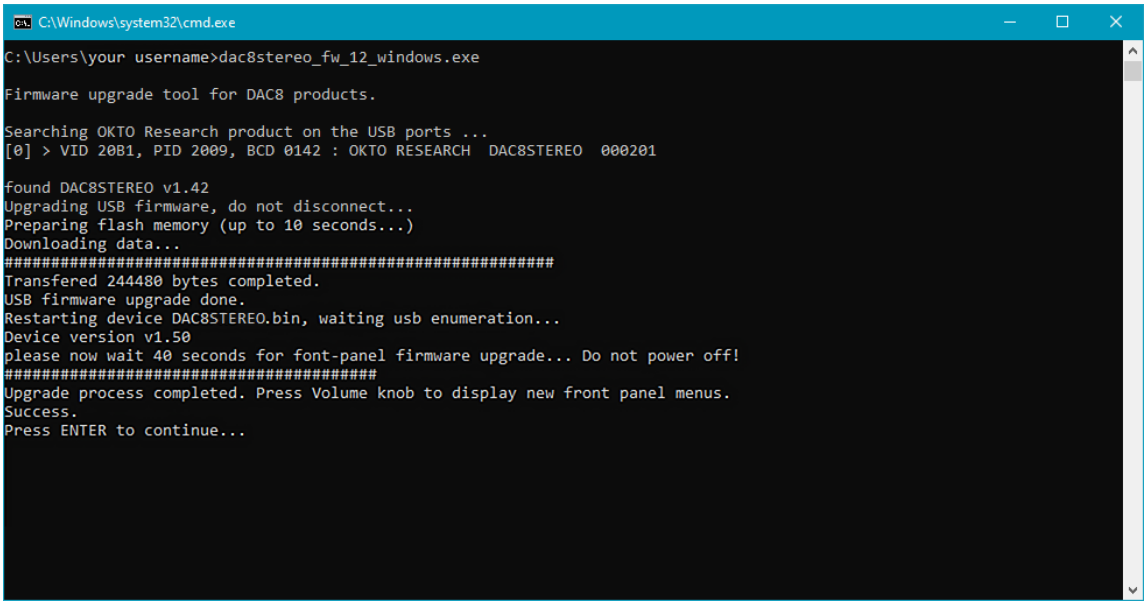
1) Uninstall the DIYINHK driver if it is present



2) Restart your PC
3) Go to https://zadig.akeo.ie/ and download and run the Zadig utility
4) Find "OKTO RESEARCH DFU (Interface 3)" in the dropdown menu. If needed, enable the toggle "List all devices" under "Select" menu.

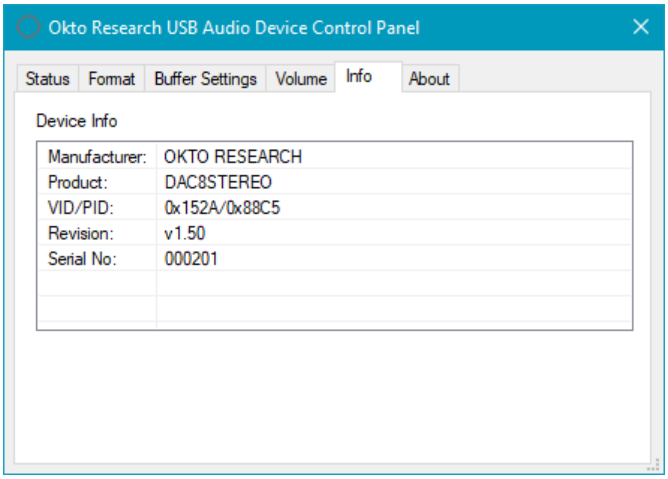


5) Select WinUSB option above the large button and then click the button. After the process finishes, close Zadig.
6) Download the firmware update package from https://oktoresearch.com/assets/dac8stereo/fw/dac8stereo_fw_12.zip and extract file "dac8stereo_fw_12_win.exe"
7) Run the file and wait for the update process to complete. If the process ends up with an error message, please refer to the "Troubleshooting" section.



8) Verify the successful completion by turning on the unit with a rotary control press, which should bring you to the updated main screen

9) Press and hold the rotary control to turn the unit off, and then unplug it from mains for 5 or more seconds. After power cycling, the unit is ready for use.
10) Download and install Okto Research ASIO driver from the following link: https://oktoresearch.com/assets/OktoResearchUsbDriver.zip. The following picture displays info tab of the driver control panel showing new revision after a successful firmware update.



Mac OS

1) Download the update package from the following link: dac8stereo_fw_12.zip.
2) Extract the ZIP archive file and open the folder named "dac8stereo_fw_12".
3) Right-click on the subfolder called "MacOS" and select "New Terminal at Folder".
4) Copy and paste the following command into the terminal and press Enter. Ensure you don't copy any extra or unwanted characters
   `chmod 755 ./dac8stereo_fw_12_macos`
5) Close the terminal, then open the "MacOS" subfolder. Right-click on the file "dac8stereo_fw_12_macos" and select "Open". You will likely see a security warning since this is not a signed file. Confirm "Open" to proceed.
6) Wait for the update process to complete. Verify the update by turning on the unit with a press of the rotary control and reviewing the FW version in the Status menu.
7) Press and hold the rotary control to turn the unit off and then unplug it from mains for 5 or more seconds. After power cycling, the unit is ready for use.

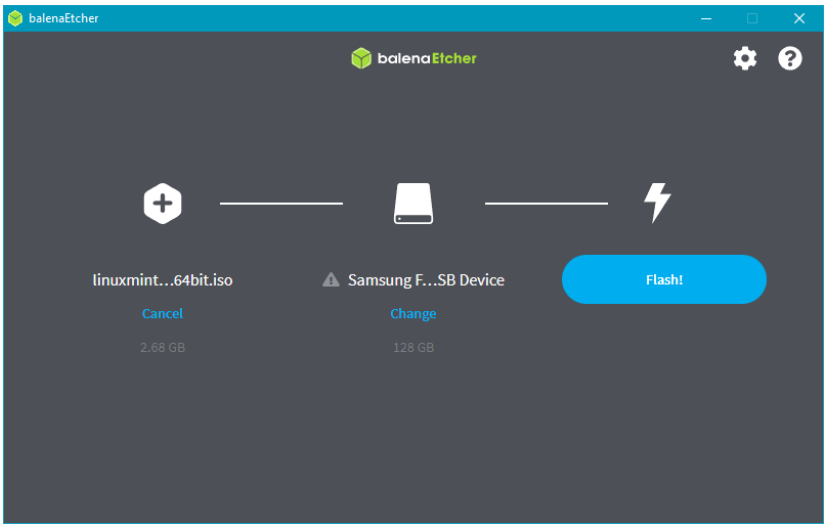
Linux

The update package is available for arm32, arm64 and x86-64 architecture.

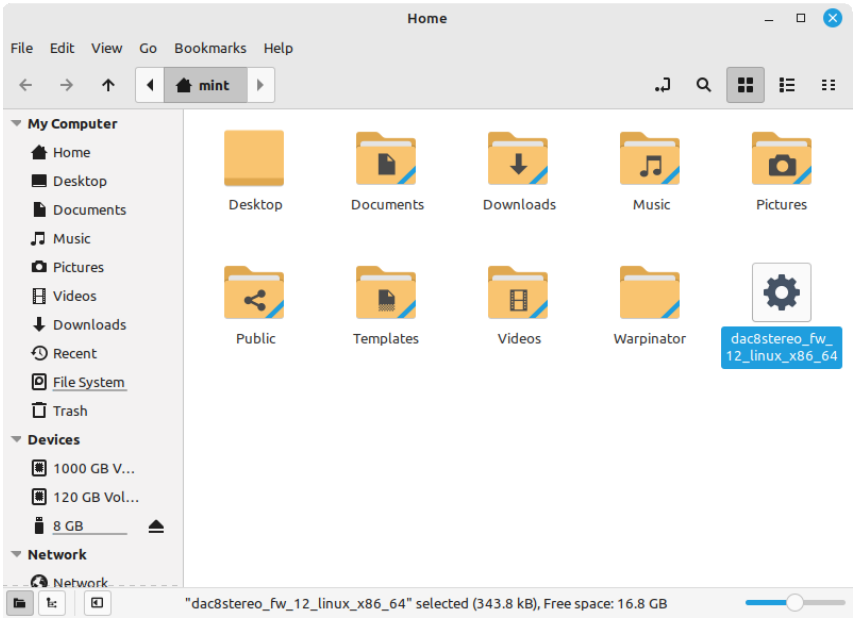
1) Download the firmware update package from https://oktoresearch.com/assets/dac8stereo/fw/dac8stereo_fw_12.zip and extract file "dac8stereo_fw_12_linux_*version*" to your home folder, where "*version*" will correspond one of the three variants available for different platforms
2) Open terminal and install a generic USB library by running command "sudo apt-get install libusb-1.0-0-dev"
3) Run command "chmod 777 ./dac8stereo_fw_12_linux_*version*" into the terminal and run it to change permissions for the file
4) Run command "sudo ./dac8stereo_fw_12_linux_*version*"
5) Verify the successful completion by turning on the unit with a rotary control press, which should bring you to the updated main screen
6) Press and hold the rotary control to turn the unit off and then unplug it from mains for 5 or more seconds. After power cycling, the unit is ready for use.

Any operating system (using bootable Linux Mint USB stick)

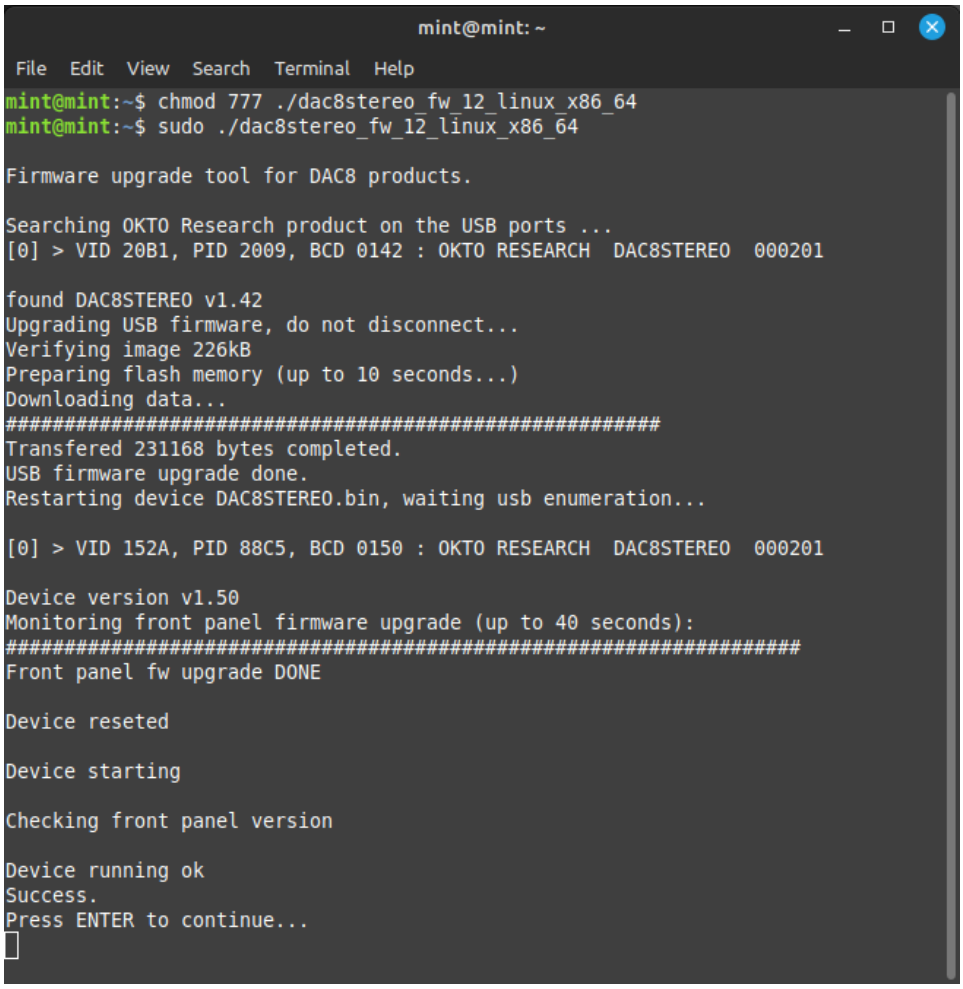
1) Download the firmware update package from https://oktoresearch.com/assets/dac8stereo/fw/dac8stereo_fw_12.zip and extract file "dac8stereo_fw_12_linux_x86_64" to your hard drive and remember the location (or alternatively copy it to a flash drive. It needs to be a different drive than the one used in step 4)
2) Download Linux Mint https://www.linuxmint.com/download.php. Steps in this guide were tested with the Cinnamon edition.
3) Download free software called Etcher and install it https://www.balena.io/etcher
4) Connect a flash drive with at least 4 GB capacity to your computer and run Etcher. Click on "Select image" and choose the Linux Mint ISO file you downloaded, then click "Select USB drive" if the one you want to use is not selected already. Click on "Flash!" and wait until the process finishes. Warning: all the data on the flash drive will be lost.



5) Restart your computer and go into BIOS to set it to boot from the flash drive. You can refer to this article for help: https://www.techadvisor.com/article/728456/how-to-boot-from-usb.html. Alternatively, there is a slightly simpler way using Advanced Startup menu on Windows https://www.techadvisor.com/article/732023/how-to-access-bios-in-windows-10.html
6) In the boot menu, select option "Start Linux Mint", which should be the first one
7) After the system boots, navigate to your hard drive of your computer where the update file is stored (or alternatively to the flash drive) and copy the file to the home folder of the Linux Mint



8) Right-click on the white space in the home folder and select "Open in terminal"
9) Write command “chmod 777 ./dac8stereo_fw_12_linux_x86_64” into the terminal and run it to change permissions for the file
10) Now run command “sudo ./dac8stereo_fw_12_linux_x86_64” and wait until the update process completes.



11) Verify the successful completion by turning on the unit with a rotary control press, which should bring you to the updated main screen
12) Press and hold the rotary control to turn the unit off and then unplug it from mains for 5 or more seconds. After power cycling, the unit is ready for use.
13) Reboot the computer and remove the USB drive with Linux Mint when you are asked to do that. The flash drive will need to be formatted to be usable for storing data again.

14) Windows users are recommended to download and install Okto Research ASIO driver from the following link: https://oktoresearch.com/assets/OktoResearchUsbDriver.zip.

Troubleshooting

Initial firmware versions released in 2019 and early 2020 contain a bug that could prevent a successful update of your device and under some circumstances, this might happen even with more recent versions on systems running Windows. Although there is no risk of bricking the unit, you may encounter an error or find that the update was not installed. If this occurs, please power cycle the dac8 and follow the guide for "Any operating system (using bootable Linux Mint USB stick)" as an alternative.

If that doesn't help either, please contact us to request a hardware programming tool that connects to the dac8 Stereo's digital input board, bypassing the bug. While we will provide the programming tool at no cost, we may ask you to forward it to another person in your country after you've successfully updated your unit. We will cover any associated shipping expenses.

Please do not hesitate to contact us at info@oktoresearch.com if you run into difficulties and need further guidance.