



Wavedream DAC

Owner's Manual



WAVEDREAM DAC

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About this document

This manual is aimed at the end user of the Rockna Wavedream DAC. It contains an overview of the device's internal architecture, specific handling details, functional description, safety precautions and product warranty details. This document is not meant for service or repair operations, as these must be carried out only by qualified personnel.

More information regarding Rockna Audio and Audiobyte products can be found on-line at the websites owned and operated by the company:

<https://www.rockna-audio.com>

<https://audiobyte.net>

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Thank you for choosing the Rockna Wavedream digital audio processor. You are now the owner of one of the finest D/A converter available on the market. The Wavedream was designed to give you countless hours of musical enjoyment.

Package Contents

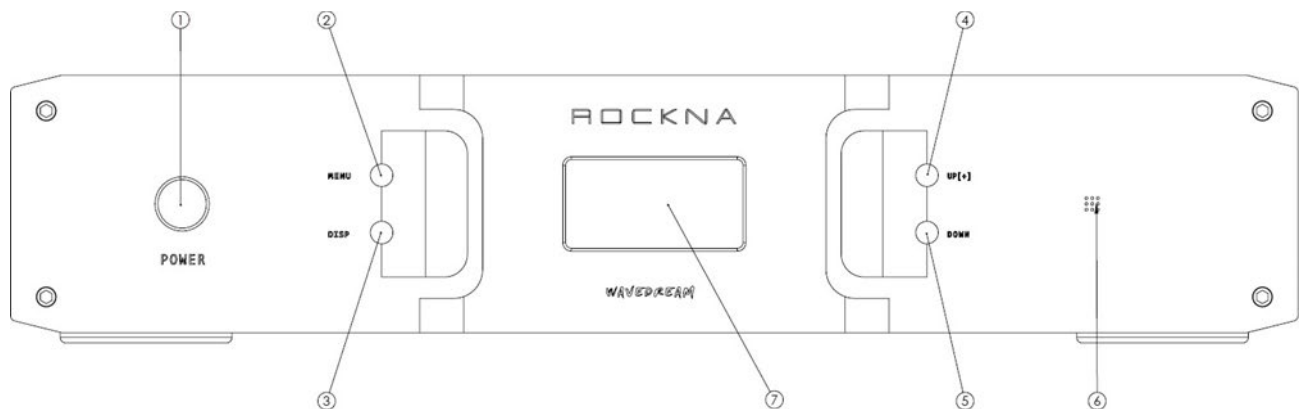
- Anodized aluminium DAC unit black or silver;
- Supply cable;
- IR remote control;
- User manual;
- Warranty Card.

Safety Precautions

- 1) This device is meant for indoor use only.
- 2) Protect device from excessive heat, humidity and liquid filled objects, such as vases.
- 3) Clean only with dry cloth.
- 4) Do not remove product cover while the device is plugged in the mains outlet.
- 5) Use earth grounded outlet if available.
- 6) Do not move the device while operational.
- 7) Lightning or static electricity can affect normal operation of the device. Make sure that it is unplugged during a thunderstorm.
- 8) Make sure the unit is unplugged if it is not to be used for a long period of time.

Functional Description

Front view:



Legend :

1. Power switch - is used to turn on/off the device;
2. Menu button - is used to access the device's menu and to cycle between menu entries;
3. Display intensity button - is used to adjust brightness levels;
4. Up (+) button - are used to adjust the volume level (when in default or volume screen) or to select a new option for the active menu entry;
5. Down (-) button - are used to adjust the volume level (when in default or volume screen) or to select a new option for the active menu entry;
6. IR sensor;
7. OLED display.

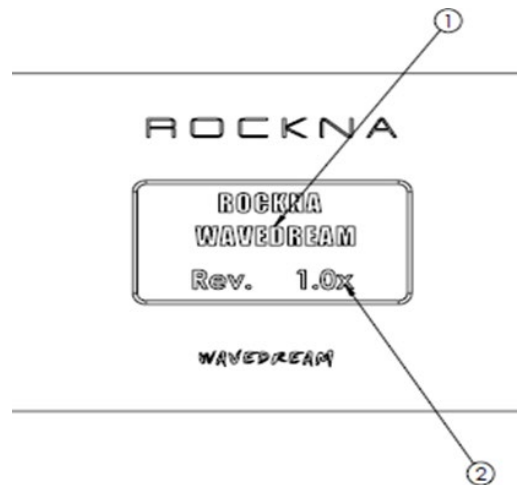
Back view:



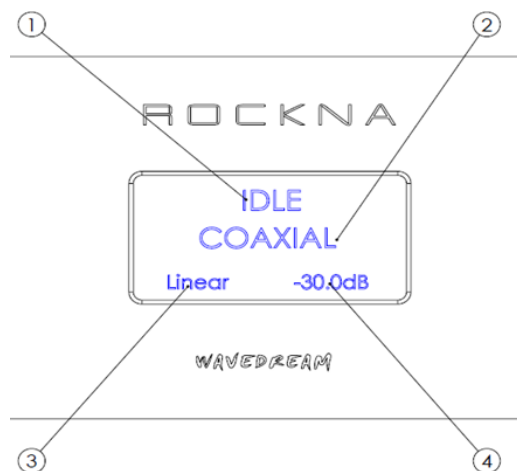
The connectors on the back panel are self-explanatory.

Powering UP

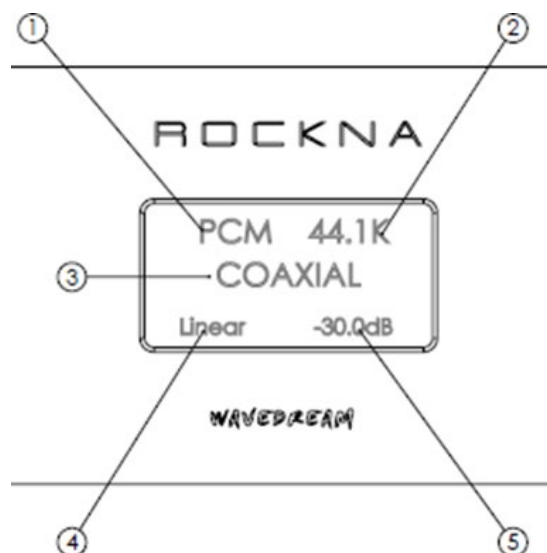
1. Connect the Wavedream to the mains.
2. Connect the necessary inputs and outputs.
3. Make sure you power up the Wavedream **before** the power amplifier you are using and shut it down **after** the power amplifier. In respect to signal purity path, the dac does not have muting relays in the signal path. Therefore, occasional pops can occur on powering up/shutting down. It is recommended to respect the above described power sequence.
4. On powering up, you should see a splash screen for a few seconds. The splash screen will contain "ROCKNA WAVEDREAM" name (1) together with firmware version (2). The firmware version is in format a.bs or a.bx, where a.b = firmware version; s comes from single ended, x from balanced.



5. After a few seconds, the welcome screen is replaced by the default screen. The default screen (no input signal) will show the status(1), data type, sample rate, active input(2), filter type(3) and volume setting(4).



Default screen, IDLE(no signal)



Default screen, signal present

Legend:

1. Data type (PCM or DSD);
2. Sample rate (can be 44.1k, 48k, 64k, 128k, 96k, 176.4k, 192k, 352k, 384k);
3. Active input;
4. Filter type;
5. Volume setting.

Using the menu

A short press on the menu button [(2) on the front view] will access the menu. A long press will exit the menu and return to the default screen. Similar functionality is found on menu button from the remote control.

1st press – Input selection. Now you can use the +/- buttons to select a different input.

- Coaxial (S/PDIF);
- XLR (AES/EBU);
- USB;
- HDMI LVDS (I2S HD-Link1r/p);
- HDMI LVDS (I2S HD-Link2r/p).

Note: In the input selection mode you can change the I2S configuration by pressing the RPT button on the remote control. HD-Link1r - I2S ROCKNA mode, HD-Link1p - I2S PS Audio mode.

2nd press – Digital filter response selection

- Linear;
- Minimum;
- Hybrid;
- Off.

3rd press – DSD Band Width selection

- Wide;
- Narrow.

4th press – Phase selection

- Normal;
- Invert.

5th press – Dither selection

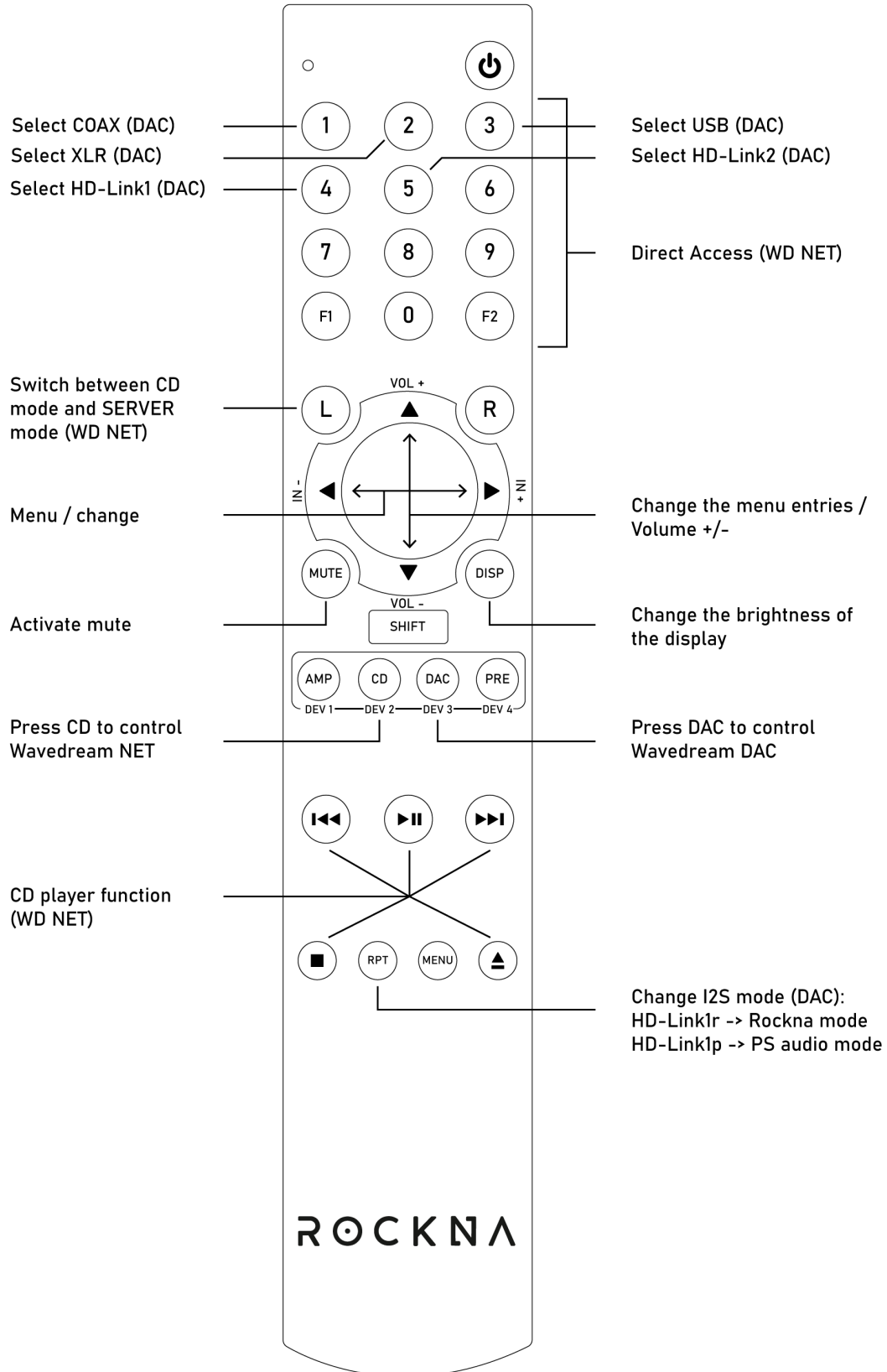
- On;
- Off.

6th press – Clock selection

- Stream;
- Local.

7th press – Return to the input selection menu

Remote control function



Specification Sheet

Digital inputs

S/PDIF	24 bit	44.1-192k PCM	DoP DSD 64
AES/EBU	24 bit	44.1-192k PCM	DoP DSD 64
USB	32 bit	44.1-384k PCM	DSD 64 - 256,512(ASIO)
HD-Link1(LVDS)	32 bit	44.1-384k PCM	DSD 64 - 512
HD-Link1(LVDS)	32 bit	44.1-384k PCM	DSD 64 - 512

Outputs Wavedream Edition

THD+N (at -6dB)	0.003% or -90dB
S/N ratio (at 0dB)	122 dB
Dynamic range	122 dB
Output impedance	0.5 ohms
Max. voltage	6.6Vpp (SE); 13.2Vpp (XLR)

Outputs Wavedream Signature

THD+N (at -6dB)	0.0008% or -102dB
S/N ratio (at 0dB)	132 dB
Dynamic range	132 dB
Output impedance	0.5 ohms
Max. voltage	10Vpp (SE); 20Vpp (XLR)

*Digital processing***High-freq. asynchronous capture digital inputs**

500Mhz sampling

Memory-based PLL, digital domain only

300 fS jitter

Custom digital filters

Linear, minimum and hybrid phase, 16x

Filter type (advanced convolution)

Parks-McClellan, 4820 taps

Mathematical precision

68 bit INTEGER

Stopband attenuation

-145 dB

Passband ripple

0.0001 dB

Dither

Triangular shaped distribution

Volume control

Cutom multiplier array, 256 steps, 0.5 dB step

General

128x64 white OLED display, dimmable in 4 steps

4 control switches

IR remote control

Firmware upgrade via USB

Dimension: 440x360x90mm

Wight(net): 7.8Kg

USB Configuration

For the computer playback side, please consider the following information:

Under Win XP environment, kernel streaming (KS) is recommended for PCM, and ASIO for DSD playback.

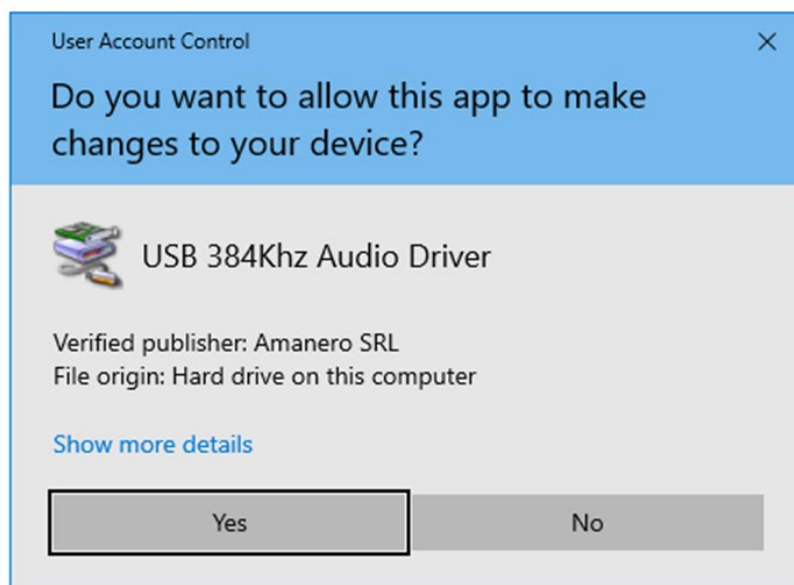
Under W7/8/10 environment, WASAPI or ASIO mode is recommended for both PCM and DSD playback.

USB Driver Installation Details (Windows)

Note: On MAC and Linux systems there is no need for USB driver installation.

Do not connect the USB cable between the DAC and your computer before driver installation! If you have already connected the device to the PC, click Cancel if an installation screen has shown up and remove the USB cable.

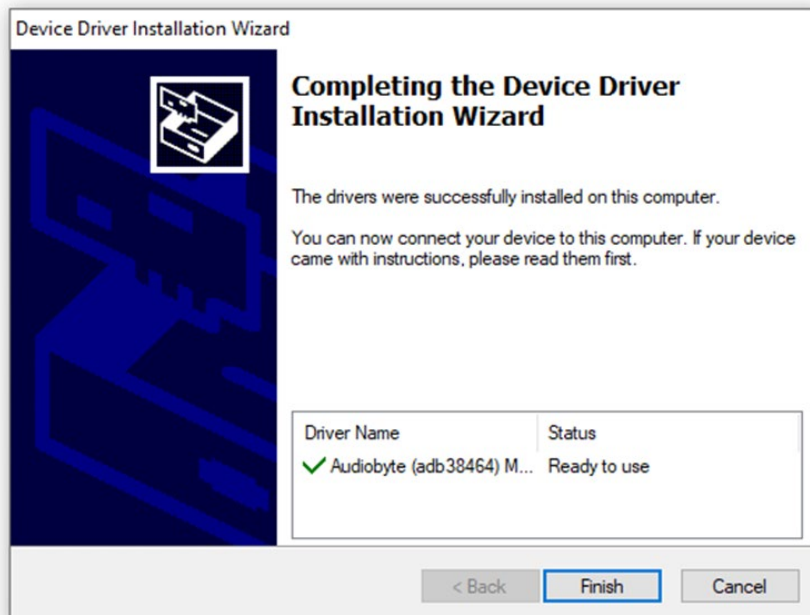
1. Download the USB Drivers archive from the bottom of the product webpage:
<https://www.rockna-audio.com/products/wavedream-dac>
2. Unpack the zip archive.
3. Enter the unpacked Driver W10, Driver W7 W8 or Driver XP folder, depending on your operating system.
4. Launch Setup32.exe for 32bit OS or Setup64.exe for 64bit OS.
5. Confirm driver installation on your machine.



6. After the application launches, click Next:



7. Wait for the driver to be copied and then click Finish:



ASIO Driver Installation Details (Windows)

Note: We recommend installing the ASIO drivers after the USB ones!

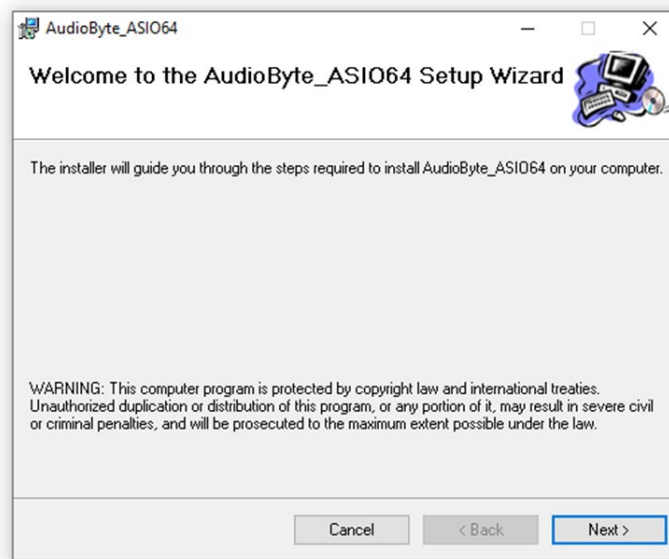
1. The ASIO drivers can be found in the USB Drivers archive that you can download from the bottom of the product webpage:

<https://www.rockna-audio.com/products/wavedream-dac>

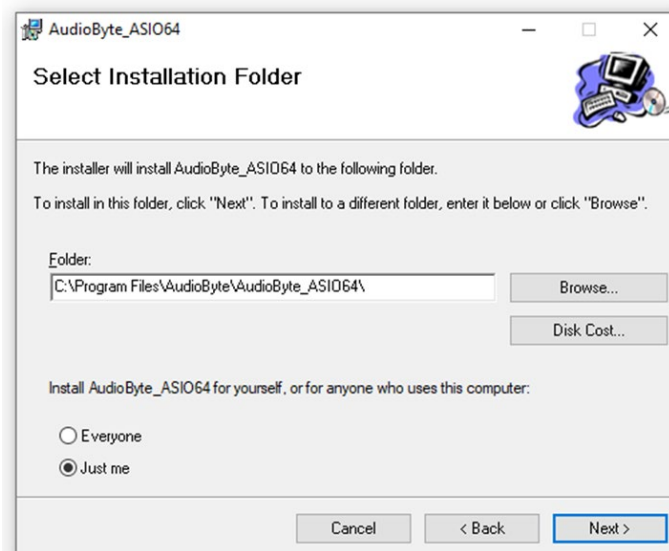
2. Unpack the zip archive.

3. Enter the unpacked ASIO folder.

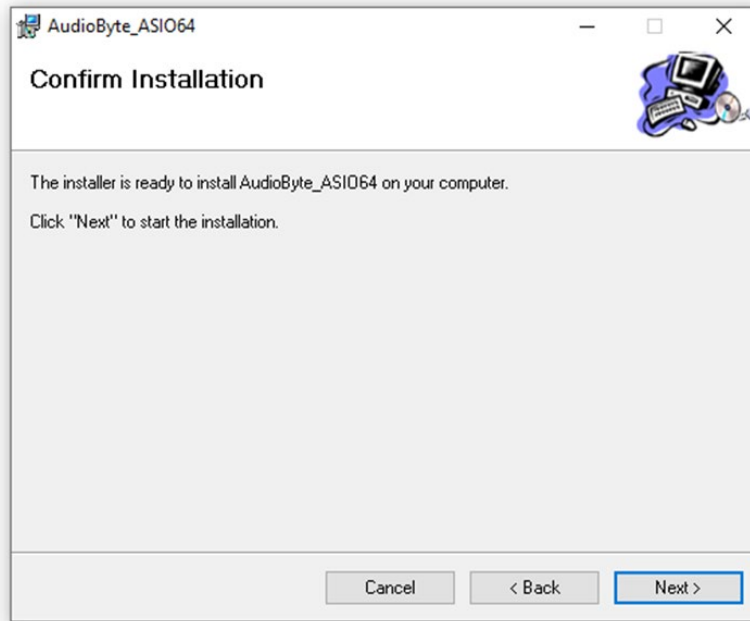
4. Launch SetupASIO32.msi for 32bit OS or SetupASIO64.msi for 64bit OS and click Next to proceed.



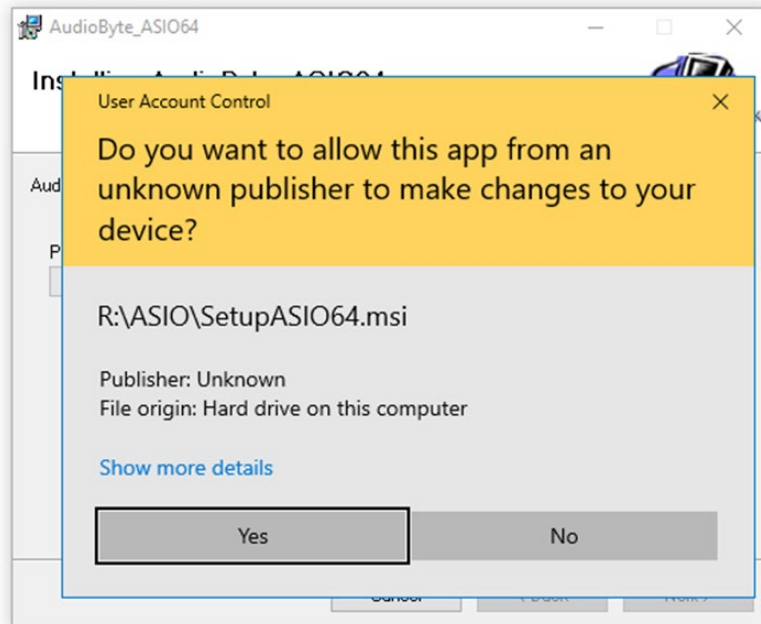
5. Select the installation folder, the users that you want to install for and then click Next.



6. Click Next again to start installation



7. Press Yes to accept the driver to be installed in your system folders.



8. Click on Close after the installation has finished.

Firmware Update

It is straightforward to update the FPGA firmware of the DAC. Just follow the steps below:

To download the latest version of the firmware for your product, you need to create an account on <https://support.rockna-audio.com> and register your device by serial number.

1. Go to <https://support.rockna-audio.com/downloads> and download the right version of the software depending on the type of display (white screen or yellow screen);
2. Unpack the archive;
3. Set the DAC input on USB;
4. Make sure that on the PC side the playback is bit-perfect (attenuation is set to 0dB, channels are not inverted, no DSP effects are added etc.);
5. Select the DAC as output device and play the .wav update track;
6. During the update process, you will see "UPD." on display. Let the wave file play until the end without changing the volume level or other player parameters;
7. When update is completed successfully, you will see "UPD. DONE" on display;

Note: The update will start only if currently installed FPGA firmware version and the update wave FPGA firmware version are different. Update and downgrade are both possible.

ROCKNA AUDIO LIMITED WARRANTY

Three (3) Years

WARRANTY COVERAGE:

ROCKNA AUDIO warranty obligation is limited to the terms set forth below.

WHO IS COVERED:

Rockna Audio warrants the product to the original purchaser or the person receiving the product as a gift against defects in materials and workmanship as based on the date of original purchase from an Authorized Dealer. The original sales receipt showing the product name and the purchase date from an authorized retailer is considered such proof.

WHAT IS COVERED:

The Rockna Audio warranty covers new products if a defect arises and a valid claim is received by Rockna Audio within the Warranty Period. At its option, Rockna Audio will either (1)repair the product at no charge, using new or refurbished replacement parts, or (2)exchange the product with a product that is new or which has been manufactured from new, or serviceable used parts and is at least functionally equivalent or most comparable to the original product in Rockna Audio current inventory, or (3)refund the original purchase price of the product. Rockna Audio warrants replacement products or parts provided under this warranty against defects in materials and workmanship from the date of the replacement or repair for one(1) year or for the remaining portion of the original product's warranty, whichever provides longer coverage for you. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes Rockna Audio's property. When a refund is given, your product becomes Rockna Audio's property.

Note: Any product sold and identified as refurbished or renewed carries a one(1) year limited warranty. Replacement product can only be sent if all warranty requirements are met. Failure to follow all requirements can result in delay.

WHAT IS NOT COVERED - EXCLUSIONS AND LIMITATIONS:

This Limited Warranty applies only to the new products manufactured by or for Rockna Audio that can be identified by the trade-mark, trade name, or logo affixed to it. This Limited Warranty does not apply to any non-Rockna Audio hardware product or any firmware, even if packaged or sold with the product. Non-Rockna Audio manufacturers, suppliers, or publishers may provide a separate warranty for their own products packaged with the bundled product. Rockna Audio is not liable for any damage to or loss of any programs, data, or other information stored on any media contained within the product, or any non-Rockna Audio product or part not covered by this warranty. Recovery or reinstallation of programs, data or other information is not covered under this Limited Warranty.

This warranty does not apply (a)to damage caused by accident, abuse, misuse, misapplication, or non-Rockna Audio product, (b)to damage caused by service performed by anyone other than Rockna Audio or Rockna Audio Authorized Service Location, (c)to a product or a part that has been modified without the written permission of Rockna Audio, or (d)if any Rockna Audio serial number has been removed or defaced, or (e) product,

accessories or consumables sold "AS IS" without warranty of any kind by including refurbished Rockna Audio product sold "AS IS" by some retailers.

This Limited Warranty does not cover:

- Shipping charges to return defective product to Rockna Audio.
- Labor charges for installation or setup of the product, adjustment of customer controls on the product, and installation or repair of systems outside of the product.
- Product repair and/or part replacement because of improper installation, connections to improper voltage supply, abuse, neglect, misuse, accident, unauthorized repair or other cause not within the control of Rockna Audio.
- Damage or claims for products not being available for use, or for lost data or lost firmware.
- Damage occurring to product during shipping.
- A product that requires modification or adaptation to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or repair of products damaged by these modifications.
- A product used for commercial or institutional purposes(including but not limited to rental purposes).
- Product lost in shipment and no signature verification receipt can be provided.
- Failure to operate as per Owner's Manual.

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY FOR THE CONSUMER. ROCKNA AUDIO SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states do not allow the exclusions or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

