DENAFRIPS

PONTUS 15th user's manual

Experience the elegant and exquisite art of natural sound,and decode the high-fidelity, pure, intoxicating, and smooth sound quality.

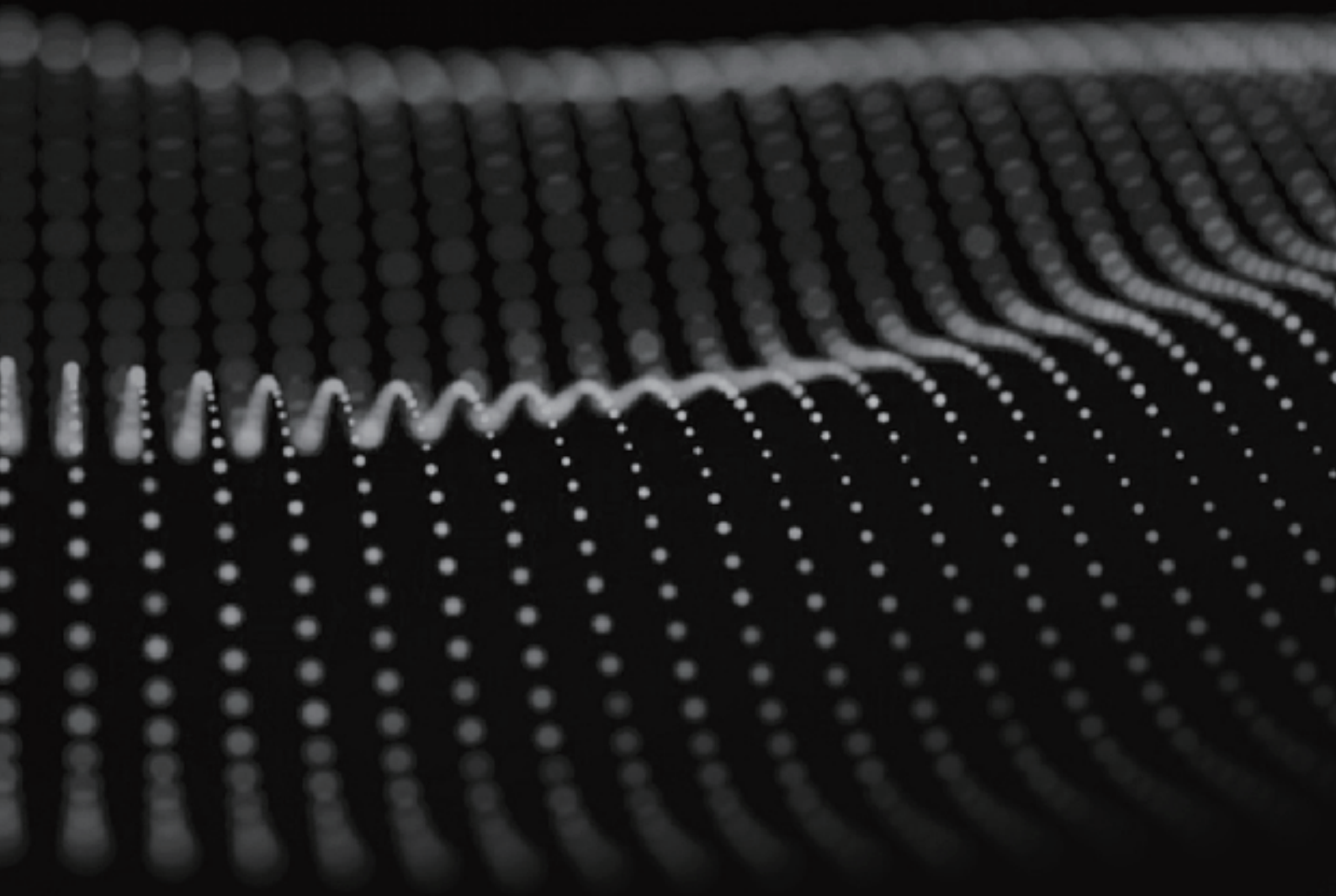


Table of Contents

Important Protective Measures

warnings

Risk of electric shock inside the unit. Do not open the cover.

- To minimise the risk of electric shock, do not remove the outer cover (or back cover).
- If repairs are necessary, they should be carried out by qualified service personnel.
- To avoid fire and electric shock hazards, do not allow the unit to get wet or damp.

①. Read Protective Measures – Before using the device, carefully read all warning information related to protection and operation in the instruction manual.

②. Usage Instructions – Please follow the operation and usage information in the instruction manual, and do not operate in violation of the instruction manual.

③. Keep Away from Moisture and High Temperatures – Do not place this product in or near relatively humid environments, such as bathrooms, sinks, basements, etc.; nor use it in high–temperature environments, such as saunas, etc.

Important Protective Measures

④. Cleaning – Do not use liquid cleaners or aerosol cleaners. Instead, use alcohol applied to a lint–free cloth for cleaning. Before cleaning, please unplug the power plug of this product first.

⑤. Power Supply – Use the power supply in accordance with the product's usage markings. Arrange the wiring properly, and do not step on or pull the power cord to avoid damage.

⑥. Ventilation — This product has ventilation holes on its casing for air circulation. To ensure stable product performance: Do not cover the product with items such as newspapers, tablecloths, or curtains; do not use it on soft surfaces like beds, sofas, or carpets. If installed in a bookcase, storage shelf, etc., a distance of 10cm (4 inches) must be reserved around the device on all sides, and a 10cm (4 inches) ventilation space must also be left between the storage shelf holding the device and the wall.

⑦. Heat Sources — Keep the product away from heat sources, such as radiators, stoves, and other objects that generate heat (including power amplifiers).

Important Protective Measures

⑧. Prevention of Foreign Objects or Liquids – Strictly prevent foreign objects and liquids from entering the interior through the device's holes, to avoid contact with live components that may cause fire or electric shock. This product must not be placed in areas exposed to rain or splashing water, nor should water–containing containers (such as vases) be placed on the device.

⑨. Thunderstorms – During thunder and lightning, it is necessary to protect the device: please unplug the power cord, which can effectively prevent damage from lightning strikes.

⑩. Protection – When the product is not in use for a long time, please unplug the power plug. Proper grounding can prevent damage to the device.

⑪. Maintenance and Power – off Notes – Users must not open the device's casing by themselves to avoid electric shock; if maintenance is required, please contact official or professional maintenance outlets for handling. When plugs, appliance couplers, and power switches are used as disconnect devices, they must be easily accessible for operation.

Product Overview

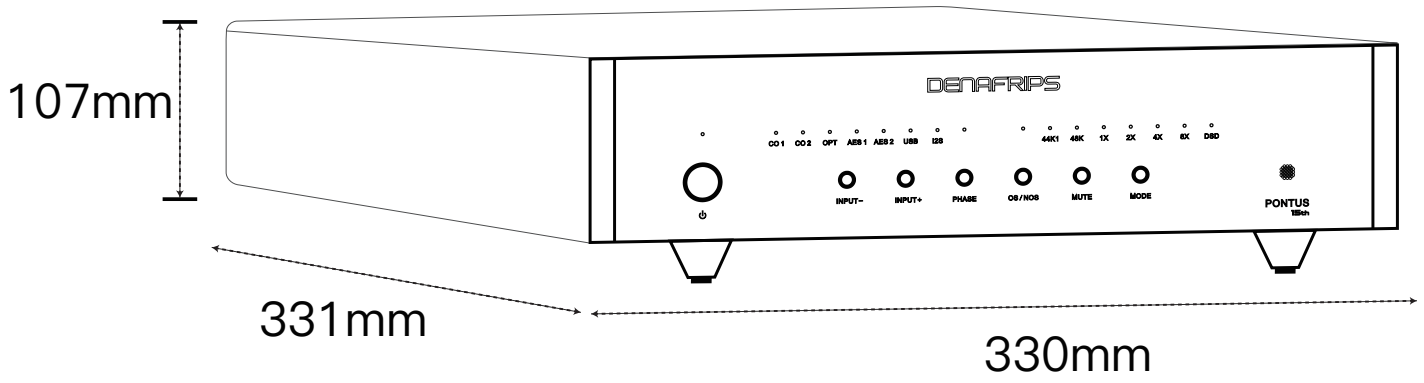
The PONTUS 15th is the fourth iteration of the PONTUS series. Since its introduction, each upgrade has been favoured by music lovers around the world due to its excellent price/performance ratio and outstanding performance. This time, the PONTUS 15th upgrade has not changed much on the exterior, still using the aluminium chassis and sheet metal chassis. However, the internal architecture has been significantly upgraded, optimising the circuitry and perfecting the R2R architecture. The unit is equipped with fully balanced R2R circuits, high-speed multi-channel digital isolators, and multiple sets of R2R array resistors and triggers for precise D/A conversion. The use of a dual power supply system with a high quality LDO chip ensures stable signal transmission.

The PONTUS 15th also employs two in-line, full-size, high-precision custom crystals that The stability of the clock for the machine provides a solid guarantee to ensure the accuracy of high-speed digital signals, accurate clock, is a solid foundation for FPGA algorithms, in order to be able to perfectly play a variety of sample rates and a variety of audio formats. In ad-
dition, the machine is equipped with dual O-shaped transform-ers, fully isolated dual power rectifier filter circuit, as well as customised WIMA, EVOX, EPCOS and other high-quality capac-itors to further enhance the sound quality.

Product Overview

In terms of sound performance, PONTUS 15th sound perfor–mance is more delicate, the low frequency is elastic, thick and powerful; the mid–frequency is full; and the high frequency is translucent and natural, which makes the listening experience more pleasurable and relaxing.

Technical specification

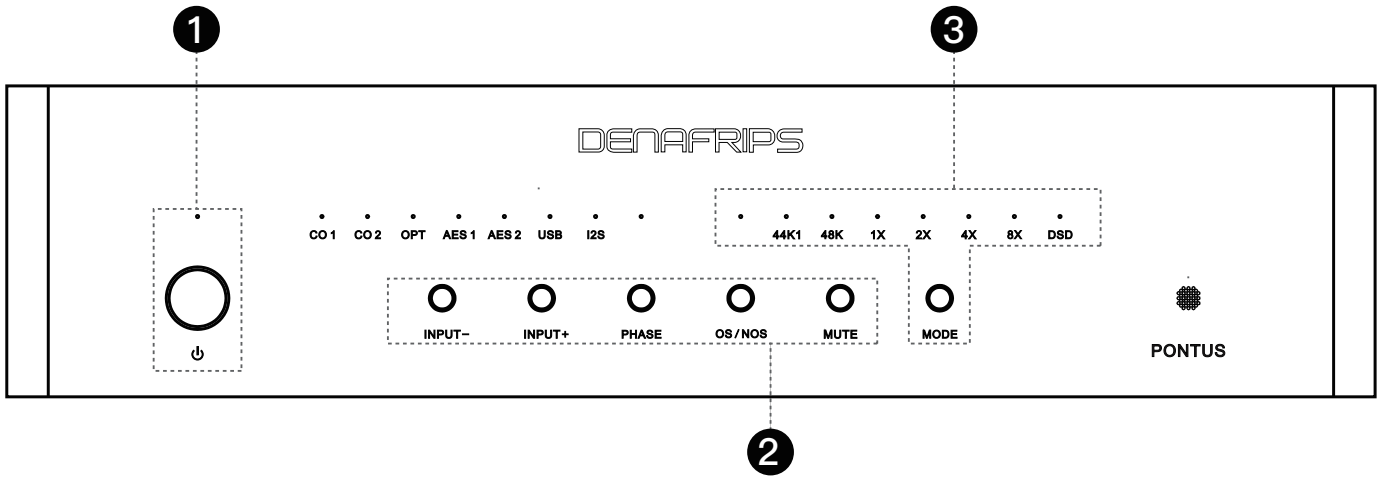


Description	Parameters
R-2R DAC :	Proprietary R2R + DSD Architecture. True balanced 26BIT R2R + 6BIT DSD (32 steps FIR Filters). Low Thermal Effect, High Precision Hand-Matched 0.005% Resistors.
Highlight :	Encapsulated Ultra Low Noise Power Supply. Temperature Compensated Crystal Oscillator TCXO. Adaptive FIFO Buffer and Reclocking. DSD1024, PCM1536 Supports On USB & I2S Input. Proprietary USB Audio Solution via STM32F446 Advanced AMR Based MCU. Licensed Thesycon USB Driver For Windows Platform. Driverless On Mac & Linux. Dual AES/EBU Input Supports. Sharp/Slow Filters Option. I2S Pinout Configuration. I2S DSD Channel Swap Configuration.
DSD :	DSD64 / 2.8224MHz (DoP) on Coax/AES/Opt Input DSD1024 / 45.1584MHz * On USB & I2S Input Only

Technical specification

Description	Parameters
PCM :	24bits / 44.1, 48, 88.2, 96, 176.4, 192KHz On All Input 1536kHz* On USB & I2S Input
NOTE* :	USB Firmware V3.4.1 – PCM1536 / DSD1024 supports disabled for compatibility with macOS
Digital Input :	Coax 1 via RCA； Coax 2 via BNC 75 Ω； TOSLink x 1； AES EBU x 2 ； USB2.0 Type B ； I2S via HDMI LVDS
Analog Output :	RCA at 2.0Vrms, 625 Ω ； XLR at 4.0Vrms, 1250 Ω
Sampling Mode :	Non–Oversampling NOS / Oversamping OS
AC Power Requirement :	100–240VAC, 50/60Hz (Worldwide Voltage)
Power Consumption :	⩽20W
Frequency Response :	20–70KHz (+1/–3dB)
THD+N :	0.001%(A)
S/N Ratio :	120dB(A)
Dynamic Range :	>121dB
Stereo Crosstalk :	–110dB
Dimension :	330W x 331D x 107H mm(Includes feet)
Weight :	8.5 Kg
Color :	Black / Silver
Warranty	12 Months

Introduction to the Front Panel



(1) Standby Button

Press the button once to switch on the DAC, vice versa, press once to put the DAC into standby mode. The Standby LED shall be on when the DAC is in Standby Mode. The LED shall be off when the DAC is in Operating Mode.

(2) Control Button (From left to right)

a. NPUT + / INPUT – :

Press the buttons to select the input source, namely, CO1, CO2, OPT, AES1, AES2, USB, I2S. Press + to select the next right input. Press to select the previous left input. The respective input source LED shall be on to indicate that the input source is selected.

b. PHASE :

Press the button to toggle Phase Output.
LED On: Negative Phase
LED Off: Positive Phase

c. OS/NOS :
Press the button to toggle between OS/NOS model. The LED lit to indicate the DAC is in NOS mode.

d. MUTE :
Press the button to enable/disable MUTE. When mute, the Input Signal LED will be blinking from Left to Right.

(3) Digital Audio Signal Input Sampling Rate

The following table illustrate the Input Sampling Rate LED status.

Base Sampling Rate	Multiplier	Input Format
44.1 kHz	1X	44.1 kHz
	2X	88.2 kHz
	4X	176.4 kHz
	8X	352.8 kHz
	16X = 2X + 8X	705.6 kHz
	32X = 4X + 8X	1,411.2 kHz
48 kHz	1X	48 kHz
	2X	96 kHz
	4X	192 kHz
	8X	384 kHz
	16X = 2X + 8X	768 kHz
	32X = 4X + 8X	1536 kHz
DSD	1X	DSD 64
	2X	DSD 128
	4X	DSD 256
	8X	DSD 512
	16X = 2X + 8X	DSD 1024

(4) Filter Selection (Effective in OS Only)

1. Press the MUTE button once to enter configuration mode
2. Press the Mode momentarily
   - OPT On = Sharp Filter
   - OPT Off = Slow Filter
3. Wait for 10s
4. DAC back in operational mode

(5) Dual AES/EBU Input

1. Press the MUTE button once to enter configuration mode
2. Press the INPUT+ momentarily, CO1, CO2 LED will turn on/off
   - CO1 On = Dual AES/EBU Input Enabled
   - CO2 Off = Dual AES/EBU Input Disabled
3. Wait for 10s
4. DAC back in operational mode

(6) I^2S Pinout Configuration

1. Select I^2S–A Input
2. Press the MUTE button once to enter configuration mode
3. Press the Phase button momentarily, 1X 2X 4X will turn on/off in a fixed pattern to denote binary 000–111
   - PSAUDIO I^2S Standard = 1X On, 2X 4X Off = 100
4. Wait for 10s
5. DAC back in operational mode

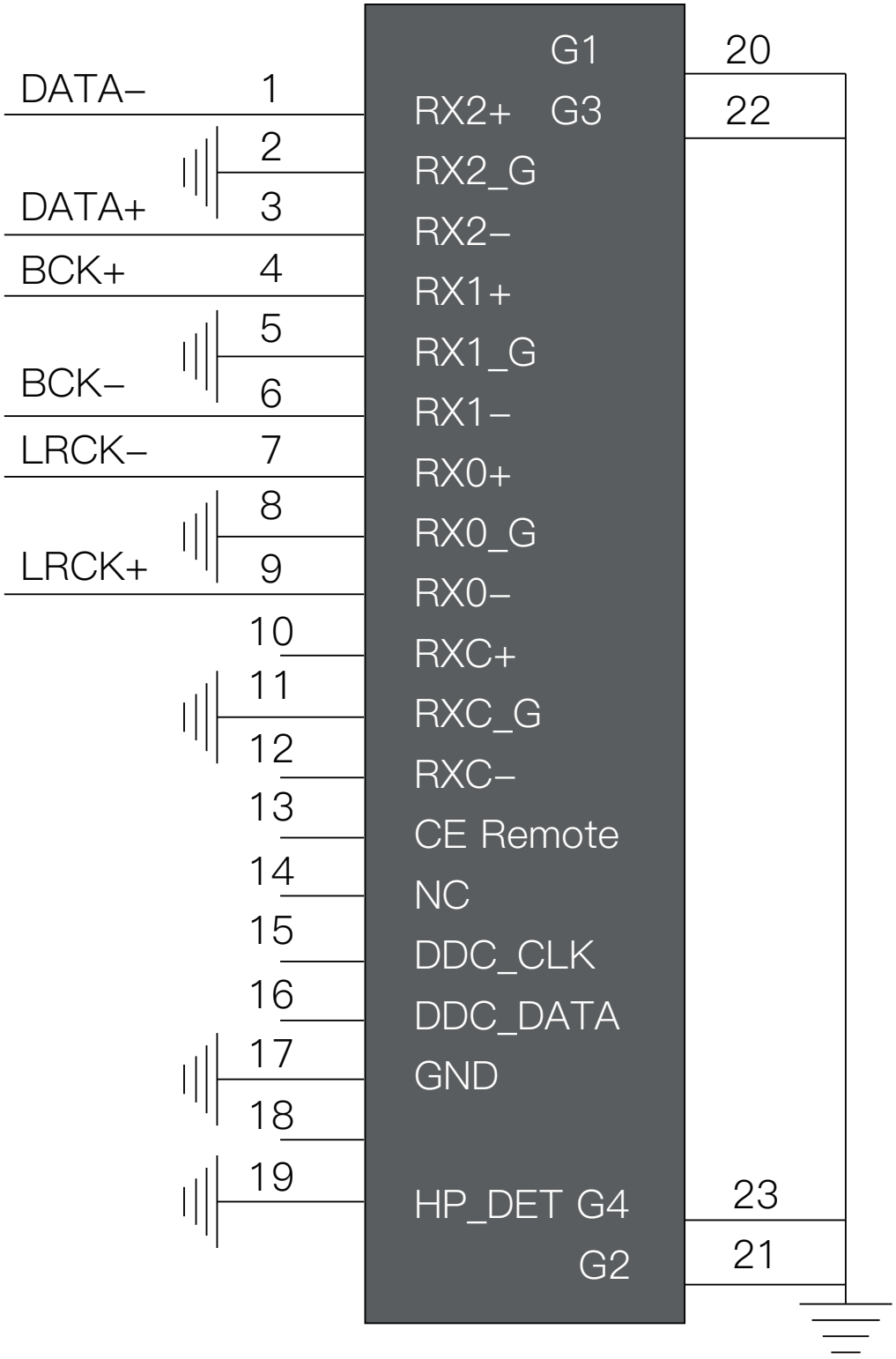
Video Guide:
https://www.denafrips.com/config–pontus

I²S Pinout Configuration

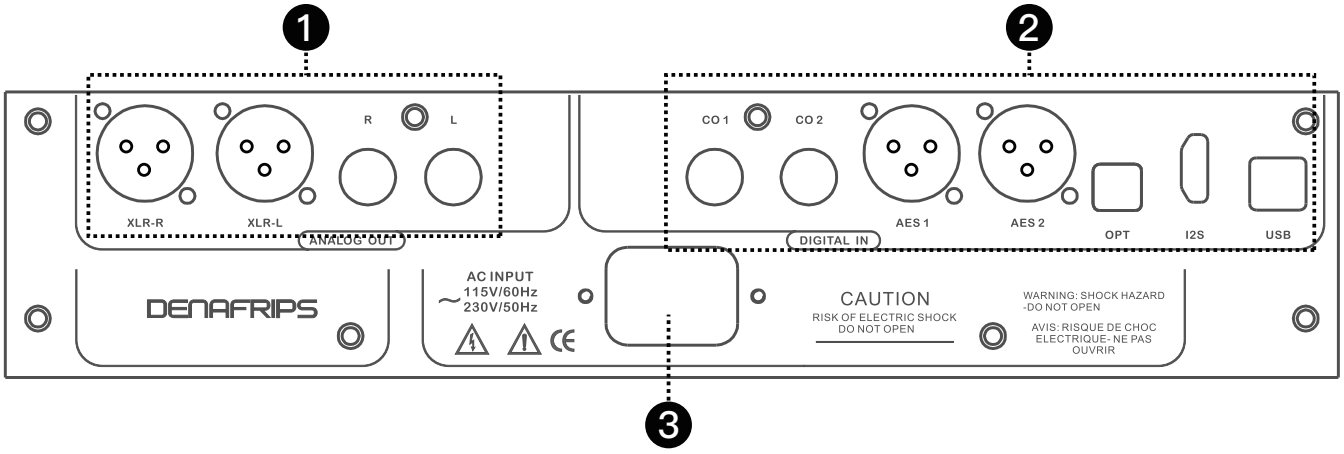
Mode	LED on & off Relationship Diagram		
	1X	2X	4X
	DATA	BCK	LRCK
0	○	○	○
1	●	○	○
2	○	●	○
3	●	●	○
4	○	○	●
5	●	○	●
6	○	●	●
7	●	●	●

I2S PINOUT						
PIN	DATA		BCK		LRCK	
Mode	1	3	4	6	7	9
0	DATA–	DATA+	BCK+	BCK–	LRCK–	LRCK+
1	DATA+	DATA–	BCK+	BCK–	LRCK–	LRCK+
2	DATA–	DATA+	BCK–	BCK+	LRCK–	LRCK+
3	DATA+	DATA–	BCK–	BCK+	LRCK–	LRCK+
4	DATA–	DATA+	BCK+	BCK–	LRCK+	LRCK–
5	DATA+	DATA–	BCK+	BCK–	LRCK+	LRCK–
6	DATA–	DATA+	BCK–	BCK+	LRCK+	LRCK–
7	DATA+	DATA–	BCK–	BCK+	LRCK+	LRCK–

HDMI I²S Input Diagram

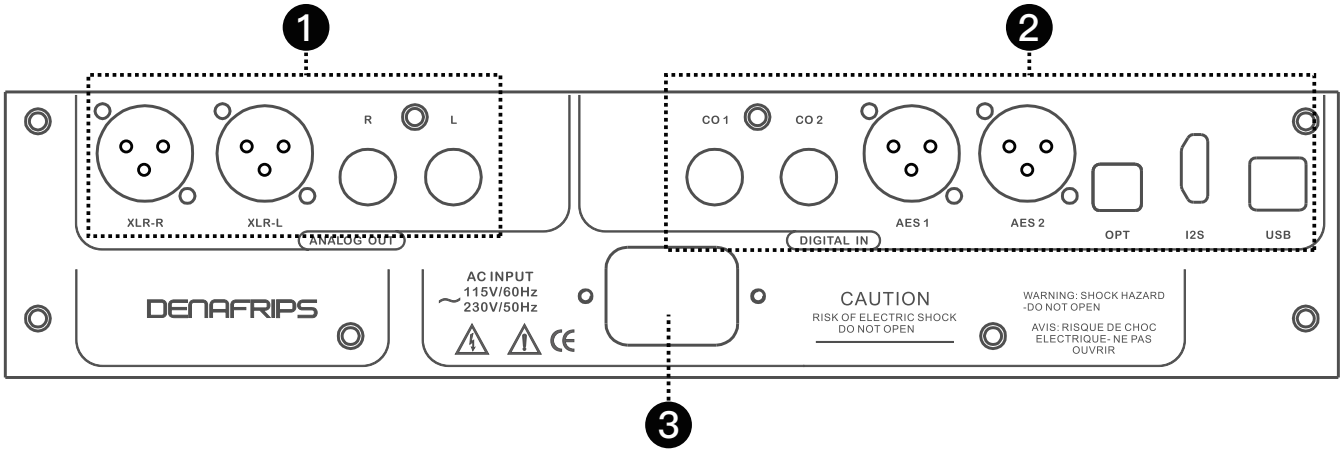


Introduction to Rear Panel Interfaces



1. **Analog Audio Signal Output Area**
   This device is equipped with one pair of XLR outputs and one pair of RCA outputs. Select the appropriate output based on your equipment.
   XLR–R: Balanced output for the right channel of analog signals.
   XLR–L: Balanced output for the left channel of analog signals.
   RCA–R: Balanced output for the right channel of analog signals.
   RCA–L: Balanced output for the left channel of analog signals.
   Note: The RCA output terminals are connected in parallel to the positive terminal of the XLR. To avoid affecting your listening experience, we do not recommend using the RCA and XLR outputs simultaneously.
   Remark: It is recommended that the diameter of the RCA cable plug used does not exceed 3.2 mm.

Introduction to Rear Panel Interfaces



2. Digital Audio Input Interface Area

This device is equipped with a total of 7 input interfaces, namely CO1, CO2, AES1, AES2, OPT, I2S, and USB.

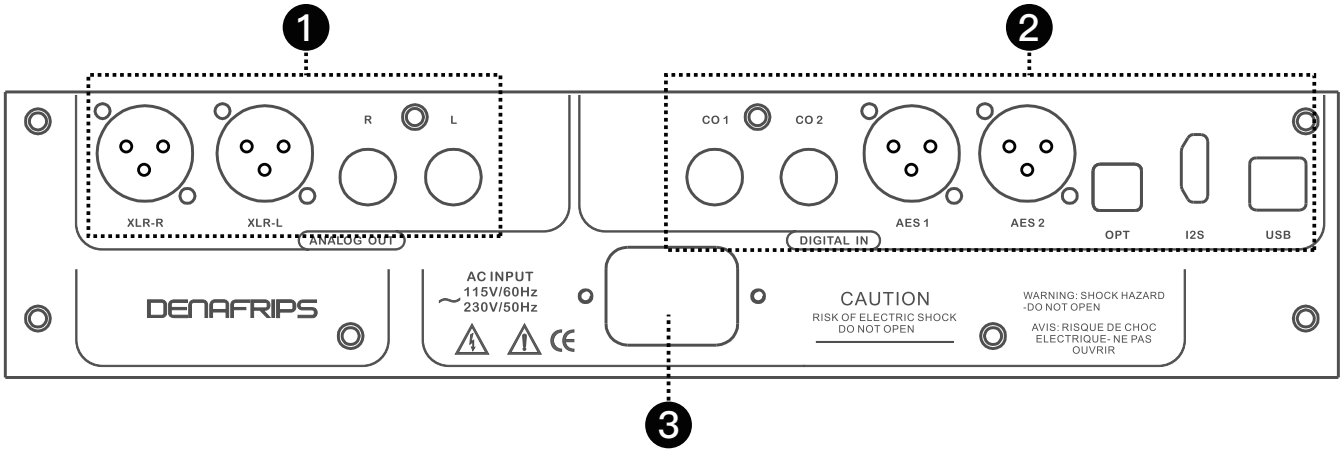
CO1: COAX (Coaxial) digital input interface. This interface adopts an RCA connector and has an input impedance of 75Ω.

CO2: COAX (Coaxial) digital input interface. This interface adopts a BNC connector and has an input impedance of 75Ω.

AES1: Digital balanced input interface with an input impedance of 110 ohms. (This device can be set to single–mode input or dual–mode input; see the above functional setting instructions
for details.)

AES2: Digital balanced input interface with an input impedance of 110 ohms. (This device can be set to single–mode input or dual–mode input; see the above functional setting instructions
for details.)

Introduction to Rear Panel Interfaces

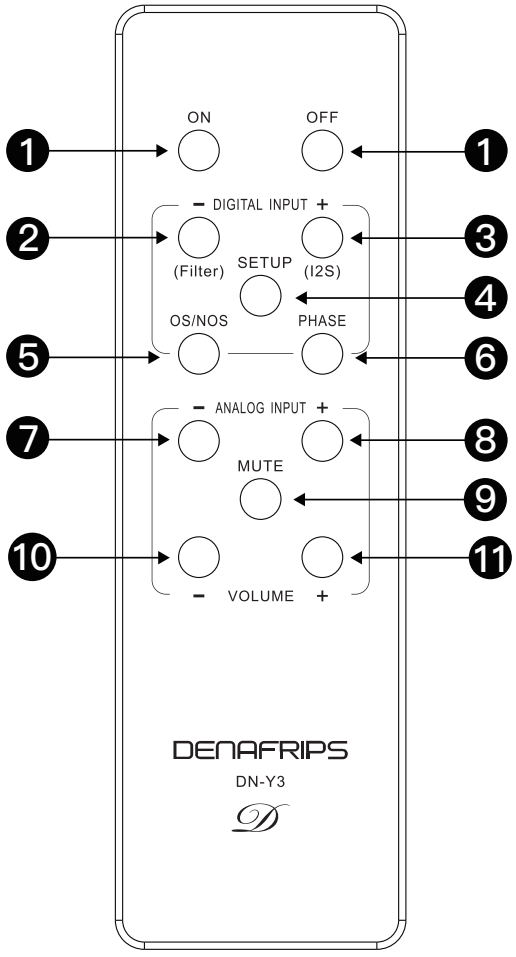


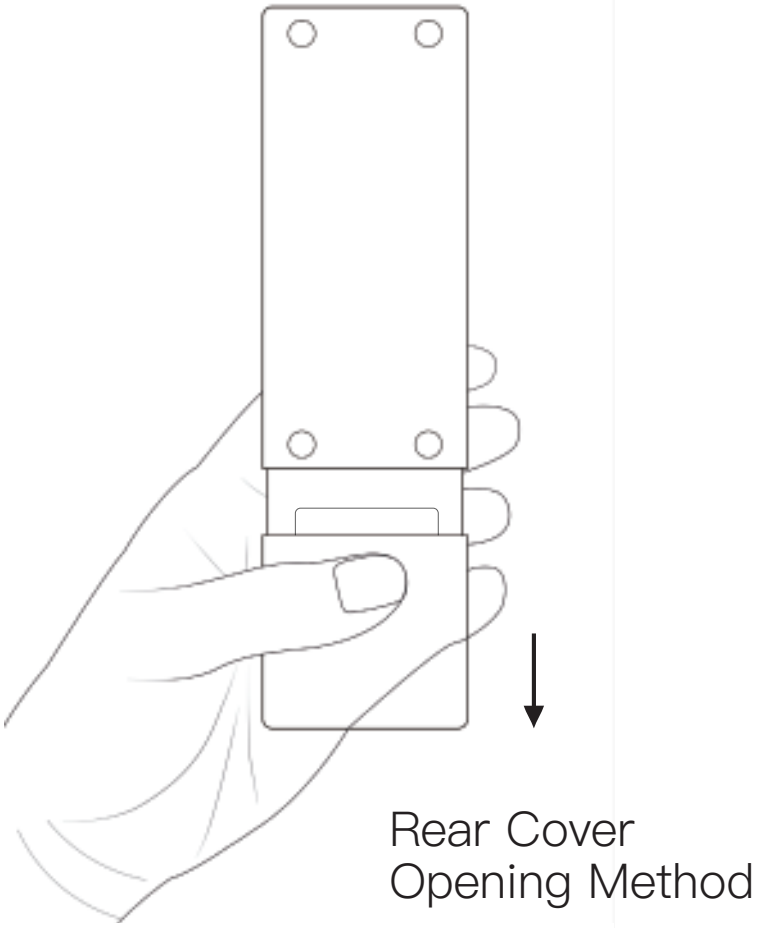
OPT: OPT digital input interface.
I2S: I2S (HDMI standard cable) input interface. The wire sequence may vary among different manufacturers. This device offers 8 wire sequence options to match products from different manufacturers; see the functional setting instructions for details.
Note: Do not plug in or unplug this cable when the device is powered on, as static electricity may damage the product.
USB: (Universal Serial Bus) interface. This interface enables convenient digital audio transmission, supports high–fidelity audio data transfer, and is suitable for connecting to PCs, Macs, and various digital audio devices.

3. Power Input Interface

This device is a Class I equipment and requires a 3–core power cable. Ensure the power supply is properly grounded. By using the power input interface correctly, you can ensure the DAC device receives stable and reliable power support.

Introduction to the Remote Control





Rear Cover
Opening Method

①. **ON/OFF Button:** Turns the device on or off.

②. **INPUT– Button:** Selects or switches to the previous input source. When in setup mode, press this button (along with the INPUT+ button) to toggle settings left/right.

③. **INPUT+ Button:** Selects or switches to the next input source. When in setup mode, press this button (along with the INPUT– button) to toggle settings left/right.

Introduction to the Remote Control

④. **SETUP Button:** Press once to enter setup mode. If the device is already in setup mode, a short press will exit setup mode.
⑤. **OS/NOS Button:** Switches between OverSampling (OS) and Non–OverSampling (NOS) modes.
⑥. **PHASE Button:** Press to directly switch the phase on the panel.
⑦. **ANALOG INPUT– Button:** Selects the analog input source.
⑧. **ANALOG INPUT+ Button:** Selects the analog input source.
⑨. **MUTE Button:** Instantly mutes the audio (press again to restore volume).
⑩. **VOLUME– Button:** Decreases the music volume.
⑪. **VOLUME+ Button:** Increases the music volume.

Note:

1. The remote control is an optional accessory. If you use the remote control, a CR2032 button battery is required.
2. Due to logistics restrictions, detachable batteries of this type are prohibited from being included in shipments. Therefore, the remote control will be delivered without a battery. Please prepare a 3V CR2032 button battery by yourself.
3. Except for the ON/OFF buttons, buttons ②–⑥ can control DENAFRIPS DAC devices, while buttons ⑦–⑪ can control DENAFRIPS preamplifier devices.

USB DRIVER INSTALLATION – WINDOWS OS

USB driver is required for Windows Operating System (Windows 7/8/8.1/10, X86/X64). The USB driver is licensed by THESYCON to provide the highest quality audio playback for Computer Audio System.

NOTE: Mac and Linux OS do not require the USB driver.

Installation Guide:

- Download the driver from the support page: https://www.denafrips.com/support.
- Do not connect the USB cable from the computer to the DAC. Remove it before the USB driver installation.
- Double click the “DENAFRIPS_UsbAudio_v4.82.0” (or the latest version) to install the USB driver.
- Follow the on-screen instruction to complete the installation.

Figure 1. Welcome screen

USB DRIVER INSTALLATION – WINDOWS OS

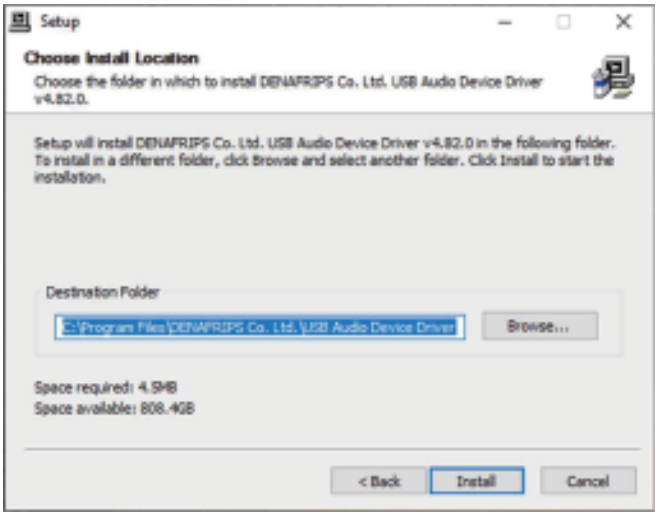


Figure 2. Default Installation Directory

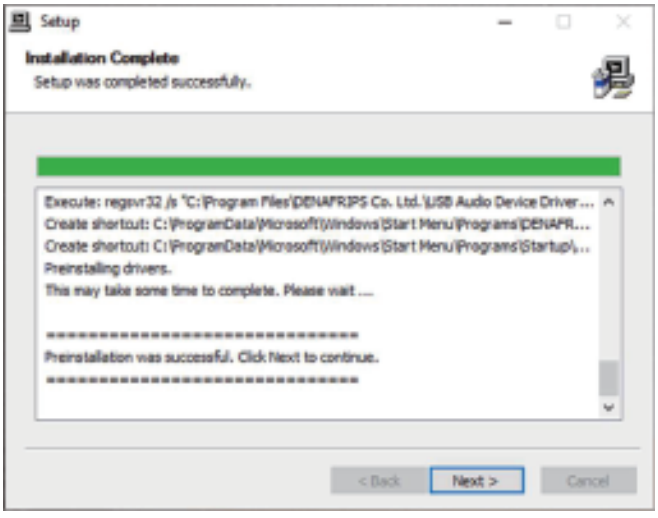


Figure 3. Preinstallation Successful

USB DRIVER INSTALLATION – WINDOWS OS

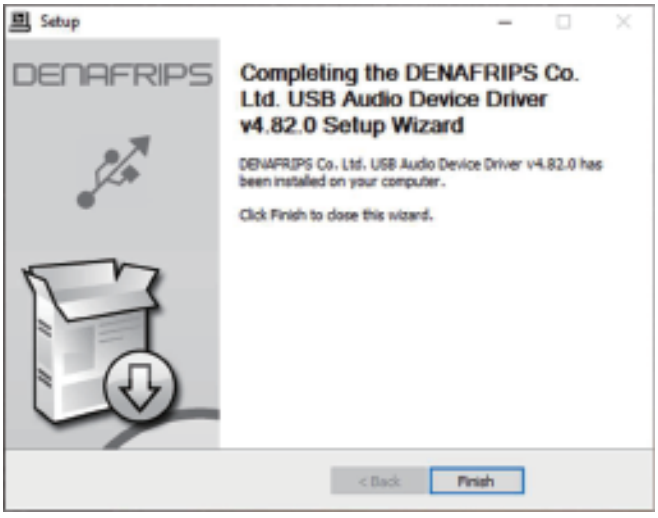


Figure 4. Completed

- Restart the computer to complete the installation
- Connect the USB cable to the DAC
- Power on the DAC. Select USB input
- The USB DAC shall be detected. The driver status can be monitored as follows

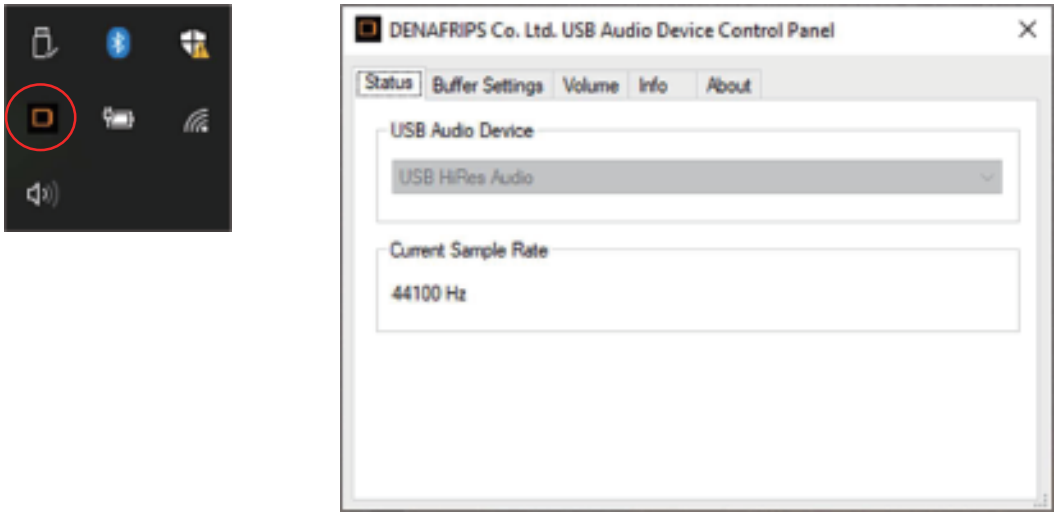


Figure 5. Taskbar & Control Panel

USB DRIVER INSTALLATION – WINDOWS OS

- Select DENAFRIPS USB DAC as default Windows OS Soundcard

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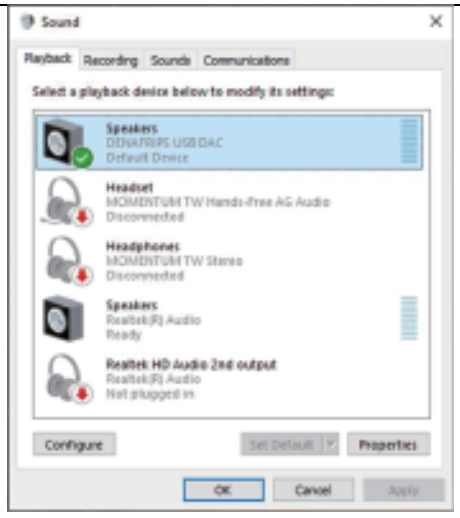
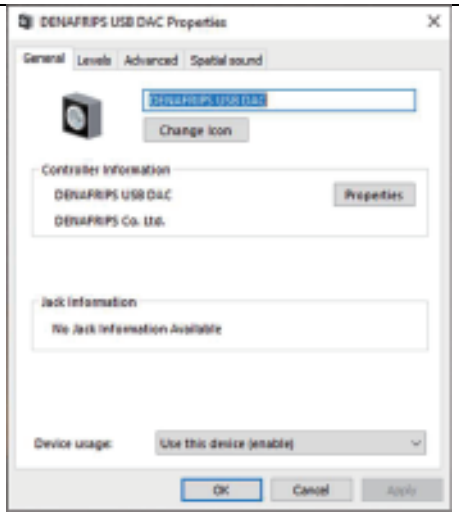
<tr><td> 
</td><td> 
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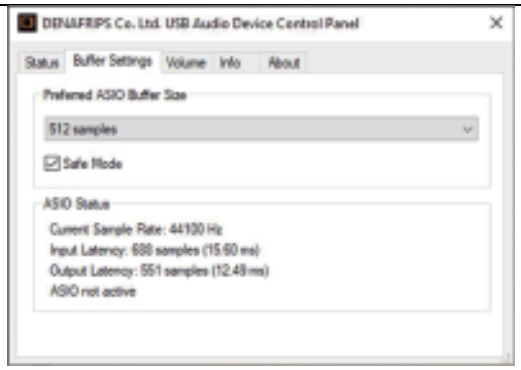
</td><td> 
</td></tr>
<tr><td>Direct–Sound default format</td><td>ASIO Buffer Size</td></tr>
</table>

Playback software recommendation:

- roon
- JRiver
- Foobar2000
- Sonicstudio Amarra

Customer Notes and Troubleshooting

Phenomenon	Solution
A. No sound output	1. Check that all input and output connection cables are properly connected. 2. Check the volume setting of the audio source to ensure that it is not set to mute and that the volume is moderate. 3. Replace the data cable or cables to ensure there is no damage. 4. Make sure the input source is the same as the panel selection. 5. Make sure the unit is not in ‘MUTE’ state.
B. Noise or murmur	1. Use the power cord and power adapter to ensure stable power supply. 2. Check all connecting cables and interfaces to ensure good contact. 3. Try to avoid placing the DAC in areas with high electromagnetic interference, such as near power lines or wireless devices.
C. sound quality distortion	1. Make sure the sample rate and format of the input signal match the format supported by the DAC. 2. Adjust the DAC’s filter and decoder settings to select the appropriate sound quality mode. 3. Check all signal cables and connectors to make sure the connections are firm and undamaged.

Customer Notes and Troubleshooting

Phenomenon	Solution
D. Input Signal Unrecognizable	1. Ensure that the format and sampling rate of the input signal match those supported by the DAC. 2. Check the input interface and connecting cable to ensure there is no damage or poor contact.
E. Device Fails to Power On	1. Check whether the power cable and power adapter are connected securely, and at the same time ensure that the power socket supplies power normally. 2. Try restarting the DAC, or disconnecting the power supply and then reconnecting it. 3. If the problem remains unresolved, please contact the manufacturer and we will provide a detailed solution.
F. USB Device Not Recognized on Computer	1. Ensure that the latest USB driver for the DAC is installed. 2. Check the USB connection cable and interface to ensure a good connection and no damage. 3. Try replacing the USB cable or using a different USB port.

Customer Notes and Troubleshooting

Phenomenon	Solution
G. Repair Time	1. After receiving the device, apply for repair immediately. The repair process will be initiated on the 2. next day and may be completed within two days (the specific duration depends on the extent of the device damage). On the 4th and 5th days, the device will undergo testing, aging testing, and packaging. If everything goes smoothly, the device will be sent back on the 6th and 7th days.
H. Pin Configuration Method	First, turn down the volume to prevent speaker damage caused by popping sounds. Then play the PCM file, adjust the product pins (there are 8 modes in total), and record the modes that can play the PCM file. Next, play the DSD file and record the playable modes. Finally, confirm the modes compatible with both formats. If multiple modes are compatible, simply select the one with the best listening experience.
I. Warranty Transfer	You may provide us with the new owner's name, email address, address, and resale date of the device, so as to resolve any indirect consultation issues regarding the warranty after your resale.

Customer Notes and Troubleshooting

Phenomenon	Solution
J. How to Obtain Warranty Service	You only need to contact our DENAFRIPS Support email, then explain the issue and show us the warranty card as well as the device model. We will do our utmost to assist you with the necessary repairs and maintenance.
K. Driver Compatibility	The driver downloaded from the official PONTUS 15th website is applicable to all current on-sale products of DENAFRIPS, so you can use it with confidence.
L. Recommendations for Device Usage Duration	Our decoder adopts an R2R architecture the longer it is used, the more pleasant the sound quality becomes. However, if you do not use this product for more than two days, we recommend turning it off and disconnecting the power supply.
M. Whether ReTiming Is Performed After Passing Through the FIFO Buffer	You may provide us with the new owner's name, email address, address, and resale date of the device, so as to resolve any indirect consultation issues regarding the warranty after your resale.

After-Sales Service

1. Thank you very much for choosing DENAFRIPS products. This product comes with a one-year free warranty. Duringthe warranty period, if the product malfunctions due to non-human factors, we will provide free repair or replacement services. Please provide the serial number on the warranty card when contacting customer support.

1. Within Warranty Period: Within one year from the date of purchase, under normal use and non-human damage, if there are any product quality or functional issues. Learn More：https://www.denafrips.com/blank-6
DENAFRIPS provides free repair or replacement of parts and covers the round-trip shipping costs.

2. Within the Warranty Period: Within one year from the date of purchase, if any product quality or functional issues occur due to human-caused damage.
The specific charges will be determined based on the actual fault and the cost of replacing parts. Please contact our after-sales service center for a detailedrepair quote. The customer is responsible for the round-trip shipping costs.

3.After the Warranty Period: Paid repair service will be available after the warranty period expires. We will continue to provide repair services for a fee.
Specific charges will be determined based on the actual fault condition and the cost of replacement parts. Please contact our after-sales service center for a detailed repair quote. The customer is responsible for the round-trip shipping costs.

2. **The product will not be eligible for free warranty service under any of the following conditions:**
   a. The product has exceeded the specified warranty period from the date of purchase.
   b. The product does not match the model, barcode, or purchase date listed on the warranty card.
   c. Unauthorized modification or repair of circuits or components by anyone other than DENAFRIPS technicians.
   d. Damage caused by human factors (such as dropping, impact, water exposure, fire, etc.).
   e. Damage caused by irresistible natural forces (such as earthquakes, floods, lightning strikes, etc.).
   f. Damage caused by exceeding the allowed operating environment.
   g. Damage caused by improper use or storage (including but not limited to: circuit or component burnout due to excessive voltage; damage to the casing or internal components due to impact; damage caused by excessive dust; product oxidation or corrosion, etc.).

3. **This warranty policy applies only to customers who purchase products from the official website. For products purchased from distributors, the warranty terms will be governed by the warranty policy established by the seller.**

DENAFRIPS

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