

LAV



μDDC

HARMONY μDDC | Manual

V1.2



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1. Getting Started

1.1. Introduction

A heartfelt welcome to our cherished audiophile community! We are honored to have you join us on this journey of premium sound quality, where every product is designed with your dreams in mind. Introducing our new model, μ DDC, a testament to meticulous engineering and a commitment to enhancing your user experience. Backed by expertise in audio and engineering, we've seamlessly combined innovation and convenience to create a μ DDC that redefines performance and usability.

Thank you for choosing to be part of our community. We can't wait to elevate your audio experience!



1.2. Safety Instructions

We're thrilled to have you as part of our family, and your safety is our utmost priority. Before you dive into using your new µDDC, let's go over some essential safety tips to ensure everything goes smoothly:

- 1) **Get to Know Your µDDC:** Take a moment to flip through the user manual. It's packed with handy information about how to use your µDDC safely and effectively.
- 2) **Power Up with Caution:** Power up your µDDC using the included adapter which is the perfect match! If using the USB Type-C to power up, double-check that your adapter got the right juice. We don't want your µDDC getting overloaded and throwing a tantrum!
- 3) **Stay Dry and Grounded:** Keep your µDDC away from water sources and damp areas. Remember, electricity and water don't mix well! And always use grounded outlets to avoid any shocking situations.
- 4) **Keep it Cool:** Your µDDC needs space to stay cool. Make sure there's plenty of airflow around it. Avoid placing your µDDC in direct sunlight or near heat sources like radiators or stoves. Extreme heat can damage delicate components and shorten the lifespan of your µDDC.
- 5) **Keep it Clean, Keep it Safe:** Regular cleaning is key to keeping your µDDC happy. But remember, gentle is the name of the game—no harsh chemicals or scrubbing, please!
- 6) **Hands Off the Repairs:** If your µDDC starts acting up, don't go all DIY hero on it. Leave the fixes to the pros. They've got the skills and know-how to get things back in working order safely.
- 7) **Keep it Kid-Safe:** Little ones are curious creatures, so make sure to keep cords and plugs out of their reach. And always supervise their interactions with µDDC to avoid any unplanned experiments!
- 8) **Power Down for Peace of Mind:** When you're done using your µDDC, hit the off switch. It's a simple step that can prevent any unwanted surprises while you're away.
- 9) **Trust Your Instincts:** If something seems off—smoke, sparks, strange noises—don't ignore it! Shut off the power and reach out to us or a professional for help ASAP.
- 10) **Safety First, Always:** Remember, your safety comes above all else. Take your time, follow these tips, and enjoy using your µDDC with confidence!

If you ever have any questions or concerns about using your µDDC safely, don't hesitate to reach out. We're here to help you every step of the way!

1.3. Quick Start

1

Sit back, relax, and coffee.



Register
Extended
Warranty



Read
Guide

2

Connect all the cables, turn it on,
and you're ready to rock and roll!

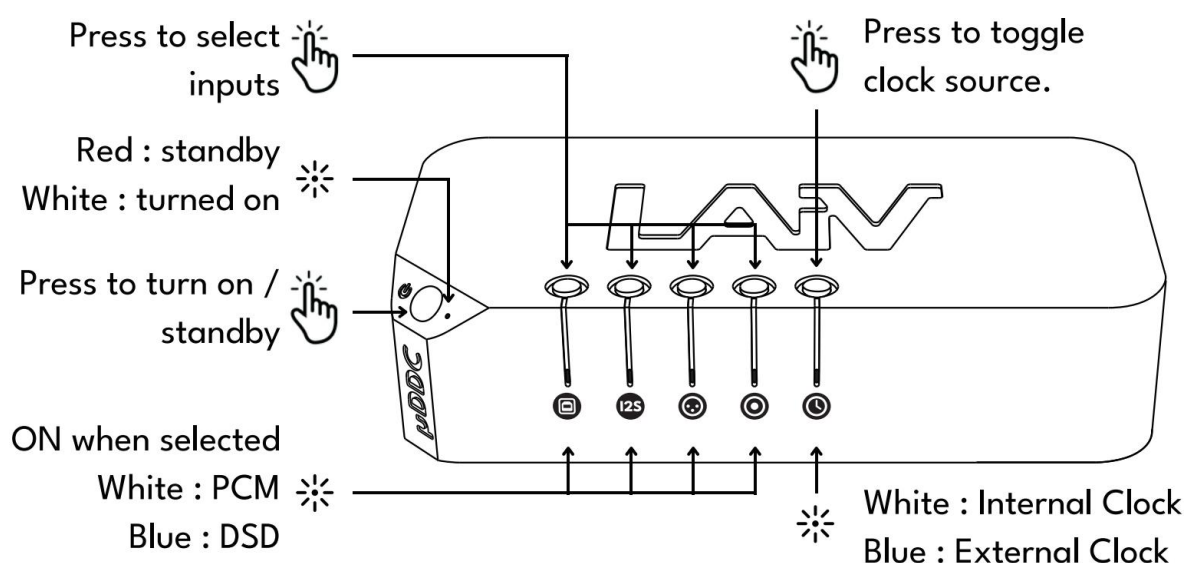




2. Basics About The μ DDC

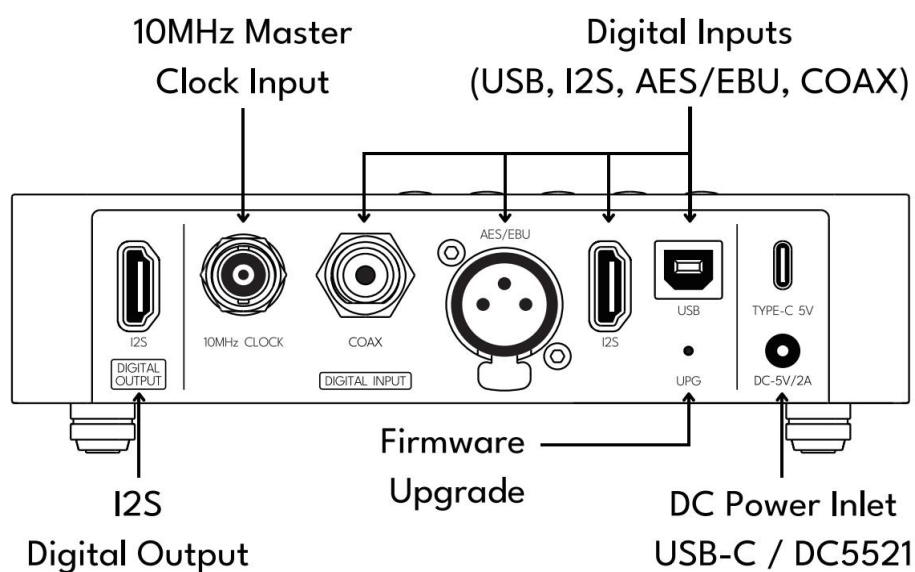
2.1. The Front Panel

All the information and controls are easily accessible on top of the front panel of the μ DDC, designed to give you a smooth and hassle-free experience controlling your device.



2.2. The Rear Panel

The rear panel of the μ DDC features three distinct sections. Positioned on the far right is the DC power inlet, providing power to the device. Moving toward the center, you will find the array of digital inputs, including USB, I²S, AES/EBU and COAX (coaxial) offering versatile connectivity options to suit various digital sources. In addition, there is a Master Clock input to provide seamless integration with an external 10MHz master clock for precision synchronization. Finally, on the left side are the digital output which is I²S output, allowing you to seamlessly connect the μ DDC to Harmony DAC or other audio equipment for exceptional sound reproduction.



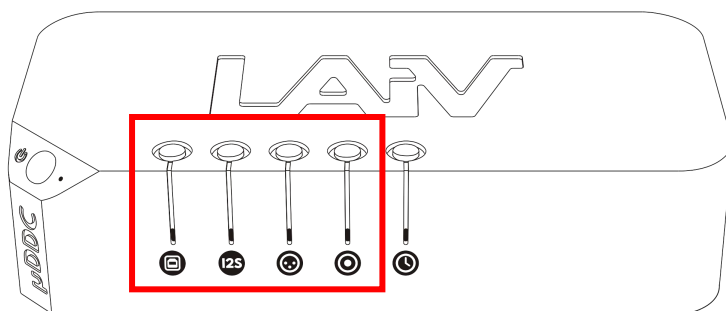
Q: Can both the Type-C and DC power sources be connected simultaneously?

A: Yes, you can connect up both power sources for the Harmony μ DDC but it is not necessary to connect both power sources.

3. Settings For The μ DDC

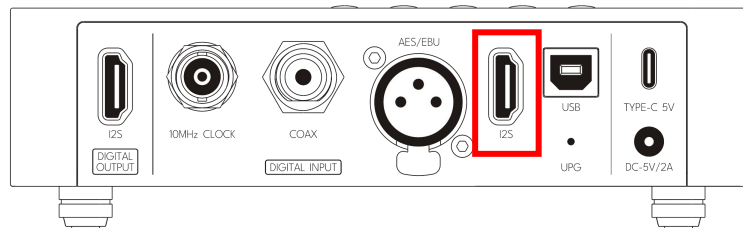
3.1. Selecting Input Sources

The μ DDC offers four distinct inputs, each catering to different connectivity needs. Whether it's USB, I²S, AES/EBU or Coaxial, you have the flexibility to choose the input that suits your setup best. To switch between inputs, simply press the buttons located on the top side of the μ DDC. The indicator will show the selected input source.



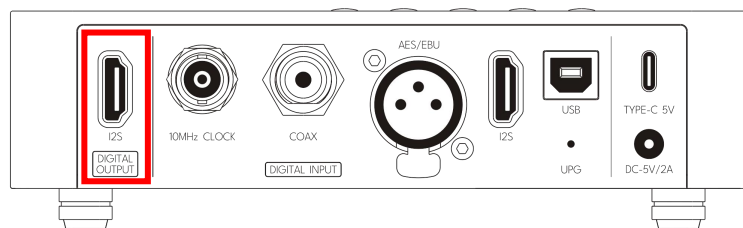
3.2. I²S Mode Input/Output Selection

1) Input I²S mode selection



- Press and hold the **I²S button** for about 3-4 seconds to enter the input I²S mode selection. When the clock indicator is blinking in **WHITE**, it signifies that the device is in the **INPUT I²S selection mode**. By pressing the I²S button, you can switch between modes accordingly. In addition, by pressing the **USB button**, you can switch the DSD swap on or off.

2) Output I²S mode selection (*No selection needed when connected to Harmony DAC*)



- Press and hold the **Clock button** for about 3-4 seconds to enter the output I²S mode selection. When the clock indicator is blinking in **BLUE**, it signifies that the device is in the **OUTPUT I²S selection mode**. By pressing the I²S button, you can switch between modes accordingly. Additionally, by pressing the **USB button**, you can toggle the DSD swap on or off.

I²S Mode Selection

	Laiv Audio	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5	Mode 6	Mode 7
Indicator								
Pin 1	SDOUT-	SDOUT+	SDOUT-	SDOUT+	SDOUT-	SDOUT+	SDOUT-	SDOUT+
Pin 3	SDOUT+	SDOUT-	SDOUT+	SDOUT-	SDOUT+	SDOUT-	SDOUT+	SDOUT-
Pin 4	BCK+	BCK+	BCK-	BCK-	BCK+	BCK+	BCK-	BCK-
Pin 6	BCK-	BCK-	BCK+	BCK+	BCK-	BCK-	BCK+	BCK+
Pin 7	LRCK-	LRCK-	LRCK-	LRCK-	LRCK+	LRCK+	LRCK+	LRCK+
Pin 9	LRCK+	LRCK+	LRCK+	LRCK+	LRCK-	LRCK-	LRCK-	LRCK-

DSD Swap Mode Selection

	Indicator	
	ON	OFF
DSD Swap Mode		



Please lower the volume of your system to the lowest audible level before selecting the I²S mode to prevent damage to your loudspeakers.



Q: I am unable to select the input I²S modes for the Harmony DAC after connecting it to the Harmony μDDC?
A: The Harmony DAC automatically selects the Laiv I²S mode when connected to the Harmony μDDC in I²S mode, eliminating the need for additional configuration.



Q: I have tried all the I²S modes, but none of them are working well with Harmony μDDC. What can I do?
A: Unfortunately, there are no industrial standards for I²S connectivity, so it's possible that none of the modes are compatible with your system.

3.3. External 10MHz Master Clock Input

The µDDC is equipped with an external master clock input, enabling it to connect to an external 10MHz master clock source. This feature ensures precise synchronization across all audio devices, improving overall system performance and audio clarity. By pressing the Clock button, you can select to use external master clock input.

White LED = Internal Clock

Blue LED = External 10MHz master clock



Q: Why am I not able to change the clock input by pressing the Clock button?

A: This indicates that a supported master clock signal is not detected and, therefore, the internal clock is being used. Please ensure the clock cable is securely connected and that a supported 10MHz master clock signal is being used.

3.4. Auto Power On Setting

The auto power on feature allows you to choose how the µDDC powers up. When this feature is enabled, the µDDC will automatically power on as soon as it receives power from an external source. If the feature is disabled, the µDDC will remain off when power is supplied, and you will need to press the power button to turn it on manually. This setting gives users flexibility to integrate the µDDC seamlessly into different setups—whether you prefer automated system startup or manual control.

Setting the Power-On Mode for the µDDC

1.) **Press and hold the AES/EBU button** until the AES/EBU indicator starts blinking. This indicates that the µDDC has entered Power-On Setting Mode.

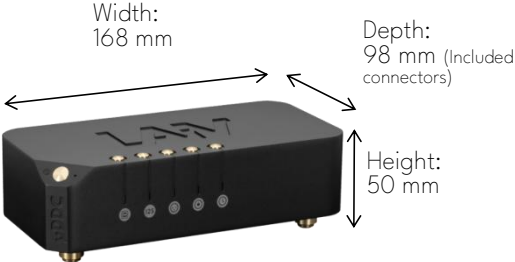
2.) Check the USB indicator to see the current power-on setting. Press the AES/EBU button to toggle between the two settings

USB Indicator ON → Auto Power-On is enabled

USB Indicator OFF → Manual Power-On is selected

3.) The µDDC will automatically save your selected setting and exit the mode after a few seconds of no button activity.

4. Technical Specifications

Finish ¹	 Black Anodized Aluminium Silver Anodized Aluminium
Size and Weight ²	 Width: 168 mm Depth: 98 mm (Included connectors) Height: 50 mm Weight: 0.6kg

Chip	Intel® Altera® Cyclone® FPGA
Clock	Precision Ultra-Low Phase Noise Femto Clock
Digital Inputs	1 x USB 1 x I ² S 1 x AES/EBU 1 x Coaxial 1 x 10MHz Clock Input, 50 Ω , Square/Sine wave
Digital Output	1 x I ² S
Supported Formats (Input dependent)	USB - PCM: 44.1kHz - 768kHz DSD: DSD64 - DSD512 I ² S - PCM: 44.1kHz - 768kHz DSD: DSD64 - DSD512 AES/EBU - PCM: 44.1kHz - 192kHz DSD: DSD64 via DoP only Coaxial - PCM: 44.1kHz - 192kHz DSD: DSD64 via DoP only
Frequency Response	15Hz – 80kHz, within ± 0.5 dB ³
THD+N	0.000005% ³
Crosstalk	≤ -165 dB ³
Signal to Noise Ratio (SNR)	≥ 145 dB ³
Features	Compact & Modular Design Precision Ultra-Low Phase Noise Femto Clock Proprietary FIFO Buffer and Reclocking Technology Versatile I ² S Inputs & Galvanically isolated I ² S Outputs Support External 10MHz Master Clock Input
Controls	Front panel

Power	5VDC/2A, DC 5.5/2.1 mm female
In the Box	Welcome card with Quick Start guide Harmony μ DDC Power adapter with interchangeable plugs

1. Colours vary by configuration and manufacturing process.

2. Size and weight vary by configuration and manufacturing process.

3. The specification was evaluated using an Audio Precision APx Analyzer under PCM192kHz, SPDIF input, and balanced XLR output conditions.

5. Warranty and Contact Information

5.1. Warranty Terms

Warranty Period: 24 months from the date of purchase.

What's Covered: Defects in materials and workmanship.

What We'll Do: Repair your product if it has any defects during the warranty period.

How to Get Service:

- Register the warranty of your product within 3 months of the date of purchase at <https://www.laiv.audio/warranty-registration>
- To obtain warranty service, the customer must contact the Company's customer service department at info@laiv.audio.
- Proof of purchase, such as the original purchase receipt and warranty card, may be required.
- The customer may be responsible for shipping the defective Product to the Company's designated service center.

What's Not Covered:

- Import duties or taxes whenever applicable.
- Damage resulting from misuse, abuse, or unauthorized modifications or repairs.
- Normal wear and tear.
- Consumable parts, such as batteries, unless otherwise stated

Limitation of Liability: Our responsibility limited to repairing or replacing the parts.

Refer to the QR or <https://www.laiv.audio/terms-and-conditions#warranty> for the complete warranty terms.



5.2. Contact Information

For any inquiries or support related to this product, please don't hesitate to contact our Customer Support Team:

Email : support@laiv.audio

Website : <https://www.laiv.audio/contact>

We're here to assist you with any questions or concerns you may have regarding the product.