

SHANLING UA5

SHANLING UA5 Portable Headphone Amplifier User Manual

Model: UA5

1. INTRODUCTION

The SHANLING UA5 is a high-performance portable USB DAC and headphone amplifier designed to enhance your audio experience across various devices. It features advanced audio components and a versatile design for optimal sound quality and user convenience.

- **High-Performance Portable USB DAC:** Equipped with dual ES9038Q2M DACs and 2x RT6863 independent amplifying chips, supporting up to 768kHz/32bit and DSD512 for detailed and dynamic sound.
- **Unique Body Design:** Features a flexible monochrome OLED screen for displaying playback information and a golden scroll wheel for precise volume control and settings adjustment.
- **Hybrid Power Supply System:** Automatically switches between USB power and an internal 220mAh lithium battery to power analog components, ensuring clean audio and extended battery life (up to 6 hours for single-ended output).
- **Dual Headphone Outputs:** Provides both 3.5mm single-ended (137mW@32Ω) and 4.4mm balanced (211mW@32Ω) outputs to drive a wide range of headphones.
- **Wide System Compatibility:** Compatible with Android, iOS, Windows, and Mac devices, including smartphones, computers, and players.

2. SETUP AND CONNECTIONS

Follow these steps to connect your SHANLING UA5 to your audio source and headphones.

2.1 Connecting to Audio Source

1. Use the provided USB-C to USB-C cable to connect the UA5 to your smartphone (Android), tablet, or computer (Windows/Mac).
2. For iOS devices, a special Lightning to USB DAC cable (sold separately) is required.
3. For Windows PC, download and install the SHANLING USB Drivers from the official website. No drivers are needed for Mac.



3.5mm & 4.4mm Connectors Digital SPDIF Output

Connect to the 3.5mm single-ended connector for normal headphones or upgrade to the balanced 4.4mm connectors for the full potential of the UA5.

UA5 can be used as a USB to Coaxial SPDIF converter, serving as a high-quality connection between smartphones and High-End home DACs or receivers. Especially useful for older Hi-Fi devices lacking quality USB inputs.

3.5 MM 137mW@32Ω | **4.4 MM** 211mW@32Ω

* Coaxial SPDIF connection requires matching cable with TRRS 3.5mm Connector

Figure 2.1: SHANLING UA5 compatibility with various systems.

2.2 Connecting Headphones

- Insert your 3.5mm single-ended headphones into the corresponding jack on the UA5.
- For balanced audio, insert your 4.4mm balanced headphones into the dedicated jack.

Compatible With Lots of Systems

Portable USB DAC UA3 compatible with various OSes like Android,iOS,Windows and Mac,you could use it connect with your smartphones,computer and players.



The diagram illustrates the SHANLING UA5 DAC connected to four different systems: an iPhone, an Android phone, a Macbook, and a PC. Dashed lines represent the connections from each device to the central UA5 unit.

Figure 2.2: SHANLING UA5 with 3.5mm and 4.4mm headphone connectors.

2.3 Gaming System Compatibility (UAC 1.0 Mode)

To use the UA5 with gaming systems like Nintendo Switch, hold down the volume wheel while connecting the UA5 to the device. This activates UAC 1.0 mode, ensuring broader compatibility.



Superb Signal Processing

With in-house developed FPGA system and highly precise crystal oscillator, UA5 can process all data with improved accuracy and enhanced performance of both PCM and DSD data.

Figure 2.3: SHANLING UA5 connected to a gaming system.

3. OPERATING INSTRUCTIONS

The SHANLING UA5 features an intuitive control wheel and OLED screen for easy operation.

3.1 Control Wheel Functions

- **Rotate Wheel:** Adjusts volume.
- **Single Press:** Turns off the screen.
- **Hold for 2 Seconds:** Enters the Settings Menu.
- **Double Press:** Locks the volume.

3.2 Menu Navigation

Once in the Settings Menu (hold wheel for 2 seconds):

- **Single Press:** Moves to the next setting.
- **Rotate Wheel:** Adjusts the selected setting.
- **Hold for 2 Seconds:** Exits the menu.



Figure 3.1: SHANLING UA5 control diagram.

3.3 Available Settings

- **DAC Mode:** Switch between Single/Dual DAC (applies to 3.5mm output). 4.4mm output automatically uses Dual DAC mode.
- **Battery Charging:** Enable/Disable charging of the internal battery.
- **Gain:** Select High or Low gain for headphone output.
- **Power:** Choose between Hybrid (battery-assisted) or USB (fully USB powered) modes.
- **Digital Filter Mode:** Select from various filter options (Linear Fast, Linear Slow, Mini Fast, Mini Slow, Apodizing, Hybrid, Brick Wall).
- **Balance:** Adjust left/right channel balance.
- **SPDIF:** Turn SPDIF optical output On/Off. Note: SPDIF ON mutes analog outputs.
- **Screen Timeout:** Set the duration before the screen turns off (0-60 seconds, 0 for always on).
- **Screen Brightness:** Adjust screen brightness (0-10).
- **Screen Rotation:** Rotate screen display (0/180 degrees).
- **Firmware Version:** Displays current firmware.

3.4 Eddict Player App (Android Only)

For Android users, the official Eddict Player app allows fine-tuning of various settings, including volume, filters, DAC mode, gain, and channel balance.

Ultra-Low Noise Output

At Shanling, we believe that an extremely black background with zero unwanted noise is crucial for a proper high-fidelity sound. UA5 is designed strictly follow this approach.

≈ 0



Figure 3.2: Eddict Player app interface for SHANLING UA5 settings.

4. MEDIA INTEGRATION

4.1 Product Features Overview

APP Personality Settings

- * APP Eddict Player is only for android
- * Not available for IOS

Through the official APP Eddict Player (Android platform only), UA5 can not only fine-tune the volume, but also has 7 kinds of filters, single/dual DAC, high and low gain, channel balance and other ways to customize your exclusive sound experience.

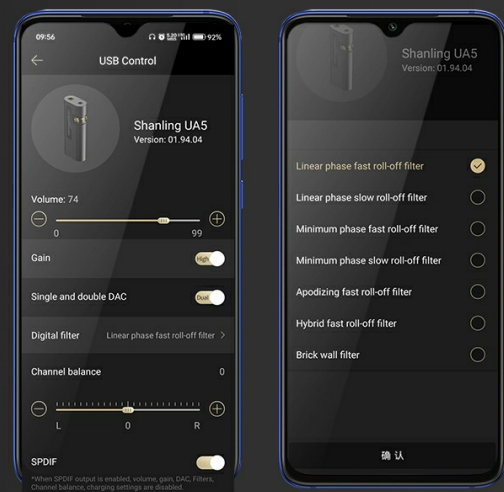


Figure 4.1: Dual ES9038Q2M ESS DACs for high-resolution audio.



Figure 4.2: Dedicated Headphone Amplifiers with Dual RT6863 AMPs.

Compatible with Gaming Systems

Hold down the volume wheel while connecting UA5 to a device, to switch UA5 to the UAC1.0 mode. This mode assures compatibility with a wider range of devices, especially gaming systems. Making games sound better than ever before.



Figure 4.3: Hybrid Battery Power System for stable and clean power delivery.

Dedicated Headphone Amplifiers

Two Ricore RT6863 amplifiers serve as a natural pairing for the ESS DAC chips, completing UA5's fully balanced circuit and assuring proper driving power for your headphones.

Dual RT6863 AMP

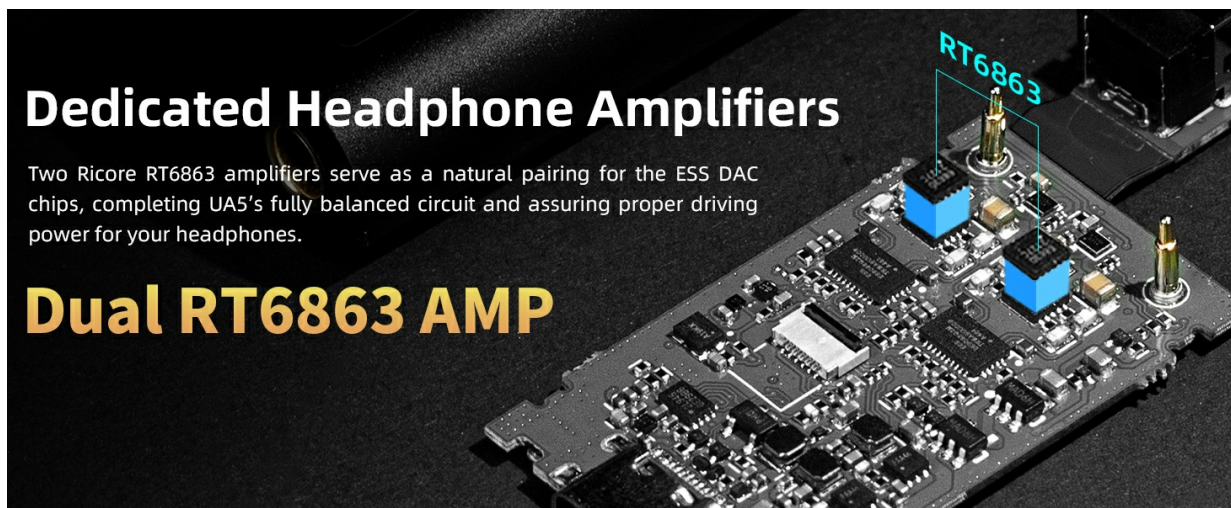


Figure 4.4: Ultra-Low Noise Output for a clean audio background.



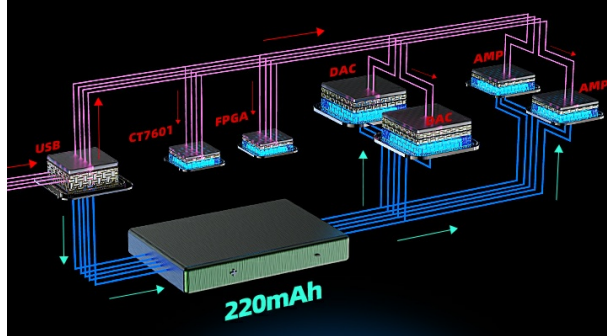
UNIQUE BODY DESIGN

SHANLING UA5 Portable USB DAC adds a flexible monochrome OLED screen, and the playing songs, sampling rate and volume are clear at a glance. In addition, in order to adjust the volume more accurately, the UA5 body is inlaid with a golden scroll wheel, and you can perform many functions such as volume control and setting by gently turning it. Top quality Hi-Fi performance in palm of your hand.

Figure 4.5: Superb Signal Processing with in-house developed FPGA system.

Hybrid Battery Power System

UA5 adds a small 220mAh battery, dedicated to powering its analog audio circuit of DACs and amplifiers. Offering up to 6 hours of clean power and consistent sound quality, no matter what device is used to power the UA5.



USB Power Mode

Standard mode of USB DACs, whole UA5 is powered directly from the USB port of the connected device for an unlimited time.



Hybrid Power Mode

DACs and amplifiers are powered by the battery, while other sections are using limited power from the USB connector.



*When battery is depleted, UA5 will automatically switch to the USB Power Mode and enable charging. When the battery is charged or UA5 reconnected to a device, it will switch back to the Hybrid Power Mode.

* UA5 can be fully charged in just 30 minutes.

Figure 4.6: USB-C connectivity allows for various cable options.

4.2 Official Product Video

Video 4.1: An official review video showcasing the features and performance of the SHANLING UA3 and UA5 portable USB DAC/AMPs.

5. SPECIFICATIONS

Product Dimensions

2.68 x 1.06 x 0.53 inches

Item Weight	1.02 ounces
Item Model Number	UA5
Batteries	1 Lithium Ion battery required (included)
Hi-Res Support	Up to 32bit / 768kHz & DSD512
DAC	Dual ES9038Q2M ESS
Digital Filters	User selectable from 7 options
Battery Life	6 hours (3.5mm output), 3 hours (4.4mm output)
3.5mm Single-Ended Output Power	2.1V @ 32Ω (137mW)
4.4mm Balanced Output Power	2.6V @ 32Ω (211mW)
3.5mm SPDIFC Coaxial Output	Support up to 24bit / 192kHz (3.5mm TRRS standard)

6. MAINTENANCE

To ensure the longevity and optimal performance of your SHANLING UA5, follow these maintenance guidelines:

- Keep the device clean by wiping it with a soft, dry cloth. Avoid using harsh chemicals or abrasive materials.
- Store the UA5 in a cool, dry place away from direct sunlight, extreme temperatures, and humidity.
- Avoid dropping or subjecting the device to strong impacts.
- Ensure connectors are clean and free of debris before plugging in cables or headphones.

7. TROUBLESHOOTING

If you encounter issues with your SHANLING UA5, refer to the following common solutions:

- **No Sound Output:**
 - Check all cable connections to ensure they are secure.
 - Verify the volume level on both the UA5 and your connected device.
 - Ensure the correct DAC mode (Single/Dual) is selected in the settings.
 - If using SPDIF output, ensure analog outputs are not muted.
- **Device Not Recognized:**
 - For Windows, ensure SHANLING USB Drivers are installed.
 - For iOS, confirm you are using a compatible Lightning to USB DAC cable.
 - Try connecting to a different USB port or device.
 - If connecting to a gaming system, ensure UAC 1.0 mode is activated.
- **OLED Display Issues:** Some users have reported the OLED display becoming dim or uneven over time. If this occurs, contact SHANLING support for assistance.
- **Battery Not Charging/Short Battery Life:**
 - Ensure 'Battery Charging' is enabled in the settings.
 - Check the USB cable and power source.
 - If using Hybrid Power Mode, battery life will vary based on usage.

7.1 Factory Reset

To perform a factory reset:

1. Turn the wheel to bring up the volume setting screen.
2. On this screen, press and hold the wheel for 4 seconds to enter the service menu.
3. Then press and hold the wheel for 2 seconds to perform the factory reset of the UA5.

8. WARRANTY AND SUPPORT

SHANLING products are covered by a limited warranty. For specific warranty terms, technical support, or service inquiries, please refer to the official SHANLING website or contact your authorized dealer. Keep your proof of purchase for warranty claims.