

AIYIMA D20

AIYIMA D20 Balanced DAC User Manual

Model: D20

1. INTRODUCTION

The AIYIMA D20 is a high-performance balanced Digital-to-Analog Converter (DAC) designed for audiophiles and gamers. Featuring dual DAC chips (ESS ES9039Q2M and AKM AK4493S), an XMOS XU316 processor, Bluetooth 5.1 with LDAC, and multiple input/output options including ARC and XLR, the D20 delivers exceptional audio fidelity for various applications. This manual provides detailed instructions for setting up, operating, and maintaining your D20 DAC.

2. PRODUCT OVERVIEW

Familiarize yourself with the front and rear panels of the AIYIMA D20 DAC.



Image 1: AIYIMA D20 Front and Rear Panel Layout

This image displays the front and rear panels of the AIYIMA D20. The front panel includes the Power Button, Display Screen, Volume Knob, and Infrared Receiver Window. The rear panel features Balanced XLR Outputs, RCA Outputs (RCA-1, RCA-2), Bluetooth Input, Optical Inputs (Optical-1, Optical-2), 12V Trigger Input/Output, Coaxial Input, USB Input, ARC Input, and DC 12V Power Input.

3. SETUP

3.1 Unpacking

Carefully unpack the AIYIMA D20 and verify that all components are present:

- AIYIMA D20 Decoder x1
- 12V Power Supply x1
- User Manual x1
- 12V Trigger Cable x1
- USB-A to USB-C Cable x1
- Optical Cable x1

- Remote Control x1

Contenido del paquete



AIYIMA D20 *1



Cable Trigger 12V *1



Cable USB-A/C a USB-C *1



Cable óptico *1



Control remoto *1



Manual de usuario *1



Adaptador de corriente *1

Image 2: AIYIMA D20 Package Contents

This image shows all items included in the AIYIMA D20 package: the D20 unit, a 12V power supply, user manual, 12V trigger cable, USB-A to USB-C cable, optical cable, and remote control.

3.2 Connections

Connect the D20 to your audio source and output devices using the appropriate cables. Ensure all connections are secure before powering on the device.

1. **Power Connection:** Connect the provided 12V power adapter to the DC 12V input on the rear panel and then to a power outlet.
2. **Audio Input:** Choose one of the following digital inputs based on your source device:
 - **USB:** Connect to a PC, gaming console (PS5, Switch), or mobile device using the USB-C port.
 - **Optical (OPT1/OPT2):** Connect to TVs, CD players, or other digital audio sources.
 - **Coaxial:** Connect to compatible digital audio sources.
 - **ARC:** Connect to your TV's HDMI ARC port for high-quality TV audio.

- **Bluetooth:** Pair with a Bluetooth-enabled device (refer to section 4.4 for pairing instructions).

3. **Audio Output:** Connect the D20 to your amplifier, active speakers, or preamplifier:

- **Balanced XLR Output:** For optimal sound quality with compatible balanced amplifiers.
- **RCA Output (RCA1/RCA2):** For standard unbalanced connections to amplifiers or active speakers.

4. **12V Trigger:** Use the 12V Trigger input/output to synchronize power on/off with compatible devices.

Guía Completa de Integración de Dispositivos

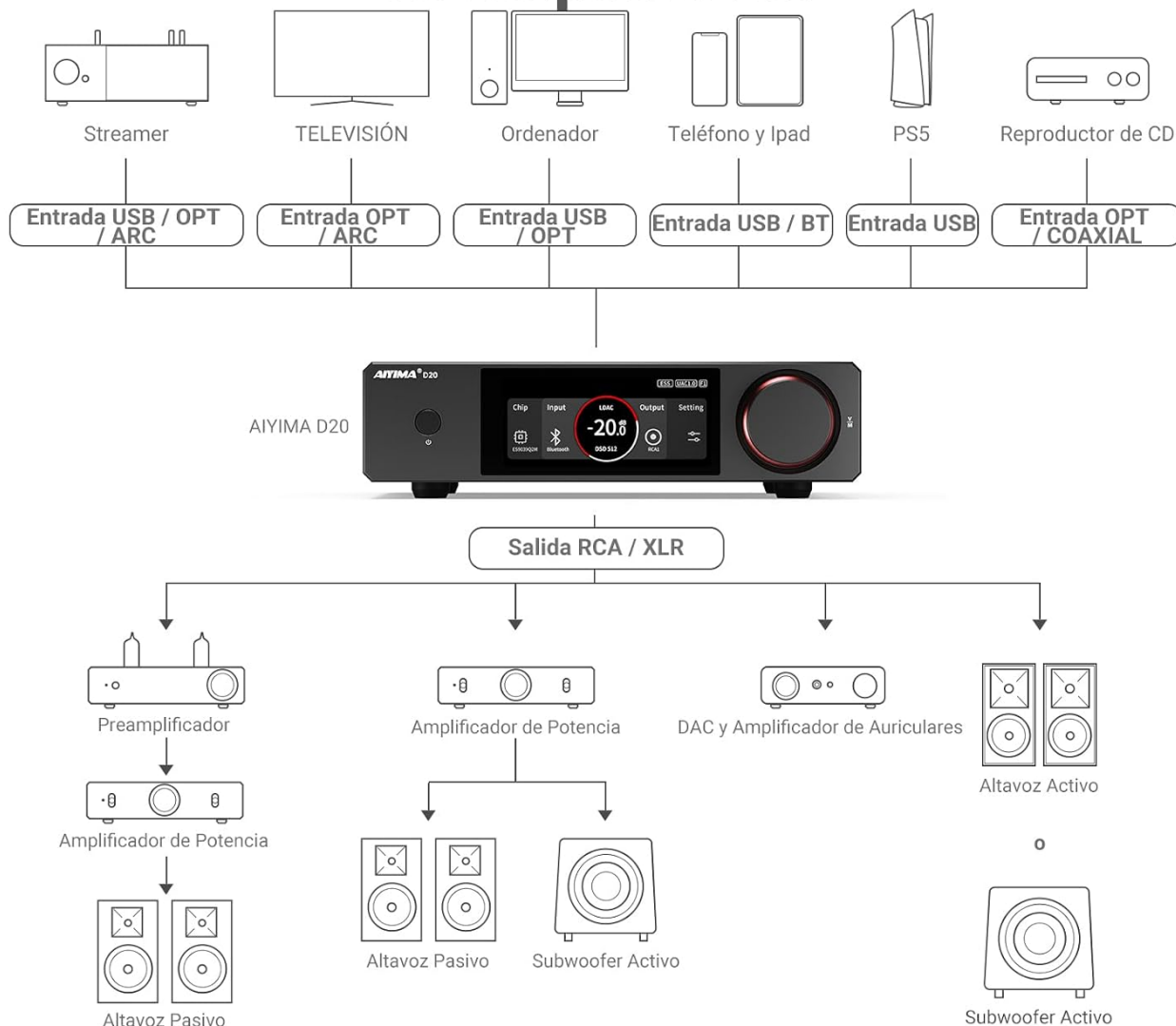


Image 3: AIYIMA D20 Complete Device Integration Guide

This diagram illustrates various connection scenarios for the AIYIMA D20, showing how to connect streamers, TVs, computers, phones, PS5, and CD players as input sources, and how to connect the D20's RCA/XLR outputs to preamplifiers, power amplifiers, DAC/headphone amplifiers, active speakers, passive speakers, and active subwoofers.

4. OPERATION

4.1 Front Panel Controls

- **Power Button:** Short press to power on the device or return to the home screen. Long press to power off.

- **Volume Knob:**
 - Press once: Enter/Confirm selection.
 - Double press: Exit menu or mute/unmute audio.
 - Rotate: Adjust volume level or navigate menu options.
- **Display Screen:** The 3.4-inch HD LED screen shows current volume, sample rate, active input/output, and system information. It offers five brightness levels and a screen-off mode for comfortable viewing. Ten dynamic VU meter display modes are available for visual feedback.



Image 4: AIYIMA D20 Display Screen Options

This image showcases various display modes and VU meter styles available on the AIYIMA D20's 3.4-inch HD LED screen, allowing users to customize the visual feedback.

4.2 Input Selection

Use the Volume Knob or the remote control to navigate to the 'Input' menu on the display screen. Select your desired input source (Bluetooth, ARC, Optical 1, Optical 2, USB, Coaxial).

4.3 DAC Chip Selection

The D20 features dual DAC chips: ESS ES9039Q2M and AKM AK4493S. You can switch between these chips to experience different sound characteristics. Refer to the on-screen menu for chip selection.

4.4 USB Modes (UAC 1.0 / UAC 2.0)

The D20 supports both UAC 1.0 and UAC 2.0 USB modes. This allows for compatibility with various devices:

- **UAC 1.0 (Gaming Mode):** Ideal for gaming consoles like Nintendo Switch and PS5, offering plug-and-play functionality and low latency.
- **UAC 2.0 (Music Mode):** Suitable for PCs and other devices requiring high-resolution audio playback, supporting native DSD and high sample rates.

Switch between modes via the device settings or dedicated button if available.



Image 5: AIYIMA D20 UAC 1.0 and UAC 2.0 Modes

This image illustrates the two USB Audio Class modes: UAC 1.0 for gaming (low latency, wide compatibility) and UAC 2.0 for music (high-resolution audio, native playback).

4.5 Bluetooth Pairing

To pair your Bluetooth device with the AIYIMA D20:

1. Select 'Bluetooth' as the input source on the D20. The display will indicate it is in pairing mode.
2. On your mobile device or computer, search for available Bluetooth devices and select 'AIYIMA D20'.
3. Once connected, the D20 display will confirm the active Bluetooth connection.

The D20 supports Bluetooth 5.1 with Qualcomm QCC5125 chip, offering high-definition audio codecs including SBC, AAC, aptX, aptX HD, aptX Adaptive, and LDAC for stable, high-quality wireless streaming.

4.6 Bypass Function

The D20 includes a bypass function that allows you to skip the preamplifier stage, sending a pure, uncolored audio signal directly to your power amplifier. This can be enabled or disabled through the device settings.



Image 6: AIYIMA D20 Bypass Mode

This image shows the AIYIMA D20 display indicating the 'Bypass' function, which allows the preamplifier stage to be skipped for a direct audio signal path.

4.7 Volume Memory

The D20 features an independent volume memory function, automatically saving the volume setting for each output channel. This eliminates the need to repeatedly adjust volume when switching between different interfaces or sources.

5. MAINTENANCE

5.1 Cleaning

To maintain the appearance and functionality of your D20, clean the unit with a soft, dry cloth. Avoid using liquid cleaners, solvents, or abrasive materials, as these can damage the finish or internal components.

5.2 Op-Amp Replacement

The AIYIMA D20 is equipped with four built-in, replaceable operational amplifiers (op-amps) in a DIP8 package. Users can insert, remove, and replace these op-amps to customize the tonal character of the sound to suit personal preferences. Exercise caution and refer to specialized guides if you choose to replace op-amps, ensuring proper orientation and handling of components.



Image 7: AIYIMA D20 Op-Amp Replacement

This image shows a close-up of an op-amp being inserted into a socket on the AIYIMA D20's circuit board, demonstrating the user-replaceable nature of these components.

6. TROUBLESHOOTING

If you encounter issues with your AIYIMA D20, refer to the following common troubleshooting steps:

- **No Sound Output:**
 - Ensure the D20 is powered on and the power adapter is securely connected.
 - Verify that the correct input source is selected on the D20.
 - Check all audio cables (XLR, RCA, Optical, Coaxial, USB) for secure connections.
 - Confirm that the volume level on the D20 and your connected amplifier/speakers is not muted or set too low.
 - Test with a different audio source or output device to isolate the problem.
- **Distorted or Poor Sound Quality:**
 - Ensure the audio cables are not damaged or improperly connected.

- Check the source audio file quality.
- Verify that the sample rate and bit depth of your source match the D20's capabilities.
- If using Bluetooth, ensure your device is within range and there is no interference.
- Try switching between the ESS and AKM DAC chips to see if the sound characteristic improves for your specific audio.

- **Bluetooth Connectivity Issues:**

- Ensure the D20 is set to Bluetooth input mode and is in pairing mode.
- Delete previous Bluetooth connections from your source device and try pairing again.
- Ensure your Bluetooth device is within the effective range (typically up to 10 meters) and there are no major obstructions.

- **Display Not Working or Frozen:**

- Check the power connection.
- Try restarting the D20 by unplugging and re-plugging the power adapter.
- Adjust the display brightness settings.

7. SPECIFICATIONS

Below are the technical specifications for the AIYIMA D20 Balanced DAC:

Feature	Specification
Model Number	D20
DAC Chips	ESS ES9039Q2M, AKM AK4493S (Dual DAC Design)
USB Processor	XMOS XU316
Bluetooth Chip	Qualcomm QCC5125 (Bluetooth 5.1)
Bluetooth Codecs	SBC, AAC, aptX, aptX HD, aptX Adaptive, LDAC
PCM Decoding	Up to 768 kHz / 32-bit
DSD Decoding	DSD512 (Native)
Signal-to-Noise Ratio (SNR)	≥ 124 dB
Total Harmonic Distortion + Noise (THD+N)	$\leq 0.0002\%$
Inputs	Bluetooth, ARC, Optical (x2), USB, Coaxial
Outputs	Balanced XLR, RCA (x2)
Display	3.4-inch HD LED (with VU meter modes)
Power Supply	DC 12V
Channels	2 (Stereo)

Feature	Specification
Dimensions (L x W x H)	19 cm x 19 cm x 4.6 cm (approximate)
Compatible Devices	TVs, PCs, CD players, gaming consoles (Switch, PS5), mobile phones, tablets



Image 8: AIYIMA D20 Internal Components Overview

This image highlights the key internal components of the AIYIMA D20, including the ESS ES9039Q2M and AKM AK4493S dual DAC chips, XMOS XU316 processor, Qualcomm QCC5125 Bluetooth chip, and LME49720 op-amps.



Image 9: AIYIMA D20 THD+N and SNR Performance Graphs

This image presents graphs illustrating the low Total Harmonic Distortion + Noise (THD+N) and high Signal-to-Noise Ratio (SNR) performance of the AIYIMA D20 across its two channels.

8. WARRANTY

The AIYIMA D20 Balanced DAC comes with a **24-month warranty** from the date of purchase. This warranty covers manufacturing defects and malfunctions under normal use. Please retain your proof of purchase for warranty claims. The warranty does not cover damage caused by misuse, unauthorized modifications, accidents, or improper installation.

9. SUPPORT

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact AIYIMA customer service through their official website or the retailer where you purchased the product. Provide your product model (D20) and a detailed description of the issue for efficient support.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question