User's Manual

Amári

Hi-End Mastering-grade AD/DA Converter

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1. INTRODUCTION

Amari is a hi-end 384kHz PCM / DSD256 AD/DA converter. Its majestic sound will suit mixing engineers, mastering gurus and the most dedicated audiophiles. The beautifully designed desktop unit is equipped with a slick touchscreen display. It offers 1 pair of Analog outs (either on XLR or TRS connectors), 1 pair of analog inputs (either on Combo XLR or RCA), and 2 high power headphone (HP) outputs with dedicated volume control and adjustable output impedance.

KEY FEATURES:

- High-End 24-bit 384 kHz AD (2x AK5578) and DA (8x CS43198) converters resulting in dynamic range of 128dB for the A/D and 138dB for the D/A
- DSD64, DSD128 and DSD256 formats supported (DSD over PCM)
- 2 headphone outputs with dedicated volume control for each output with user-selectable output resistance (a.k.a. headphone membrane weight compensation) that can be switched to balanced mode.
- 1 pair of analog outputs (either on XLR or TRS)
- 1 pair of analog inputs (either on combo XLR or RCA)
- Large touchscreen display to ease the advanced functions control and visualization
- Dedicated knobs and buttons for fast access of the most frequent controls
- Stunning design
- 10M and WC input for better system integration and improved audio clarity
- Convenient and easy to use control panel on PC/MAC

2. SAFETY NOTES

To reduce the risk of electrical shocks, fire, and related hazards:

1. Do not remove the screws, cover, or cabinet. There are no user-serviceable parts inside.
2. Refer servicing to qualified service personnel.
3. Do not expose this device to rain, moisture or spillover of liquid of any kind.
4. Should any form of liquid or a foreign object enter the device, do not use it. Switch off the device and then unplug it from the power source. Do not operate the device again until the foreign object is removed or the liquid has completely dried and its residues fully cleaned up. If in doubt, please consult the manufacturer.

5. Do not handle the power cables with wet hands!
6. Avoid placing things on the cabinet or using the device in a narrow and poorly ventilated place, which could affect its operation or the operation of other closely located components.
7. If anything goes wrong, turn off the device first and then unplug the power. Do not attempt to repair the device yourself. Consult authorized service personnel or your dealer.
8. Do not install near any heat sources such as radiators, stoves, or other devices (including amplifiers) that produce heat.
9. Do not use harsh chemicals to clean your unit. Clean only with specialized cleaners for electronics equipment.
10. Connect all your devices before powering your unit.
11. To completely turn off the device, unplug the power adapter first from the outlet and then from the rear panel of the unit.
12. Both occasional and continued exposure to high sound pressure levels from headphones and speakers can cause permanent ear damage.
13. The device is designed to operate in a temperate environment, with a correct operating temperature of 0-50 °C, 32-122 °F

3. QUICK START

1. Hook up to a power source and connect AMARI to your Windows or Mac computer with an USB Type-B cable. Power on the unit.
2. Visit www.antelopeaudio.com and log in or create a customer account.
3. Head to the Antelope Audio Customer Support page and download and install the Antelope Launcher, Windows ASIO driver or MAC unified driver (depending on your system)
4. Install the software by following the on-screen instructions.
5. Open the Antelope Launcher and update the AMARI firmware & Control Panel to the latest available versions.
6. Launch the AMARI Control Panel from the Antelope Launcher.
7. Use the Antelope Audio Registration Wizard to register your device. Simply follow the on-screen instructions.

Experiencing any trouble along the way? Contact Antelope Audio Customer Support for assistance.

4. FRONT & REAR PANELS EXPLAINED

4.1 FRONT PANEL EXPLAINED

1. Left Balanced Headphone Output
2. Right Balanced Headphone Output
3. Headphone Output 1 Volume Control
4. Headphone Output 2 Volume Control
5. Touchscreen
6. Oven Clock Indicator
7. Atomic Clock Indicator
8. Word Clock Indicator
9. Master Volume Knob
When pressed the display shows the Monitor Out panel with Volume/Mute/(Trim...)
10. Mono Button
11. Mute Button
12. Dim Button
Press this button to attenuate the audio by a preset amount.

4.2 REAR PANEL EXPLAINED

1. 10M Atomic Clock Input
2. Word Clock Input
3. Kensington Lock
4. AES Input
5. S/PDIF Input & Output
6. Analog Left & Right Inputs (RCA Connectors)
7. TOSLINK Input & Output
8. Analog Left & Right Inputs (Combo Connectors)
9. AES Output
10. USB 3.1 Gen1 Type B Connector
11. Analog Left & Right Outputs
12. Analog Left & Right Outputs (TRS Connectors)
13. Power Supply Connector

5. AMARI SOFTWARE CONTROL PANEL

Easy and intuitive to use, the Amari Software Control Panel mirrors much of the unit's touchscreen functionality, and also offers flexible control over signal routing.

5.1 MONITOR VIEW

On the very top is the Function Strip, which contains the following menus and controls:

1. Power On/Off Button
Turns the unit On or Off.

2. Clock Source
Chooses the clock source for Amari. The following options are available:
Oven (Thermal-controlled oscillator)
Word Clock (Word Clock input)
AES (AES Input)

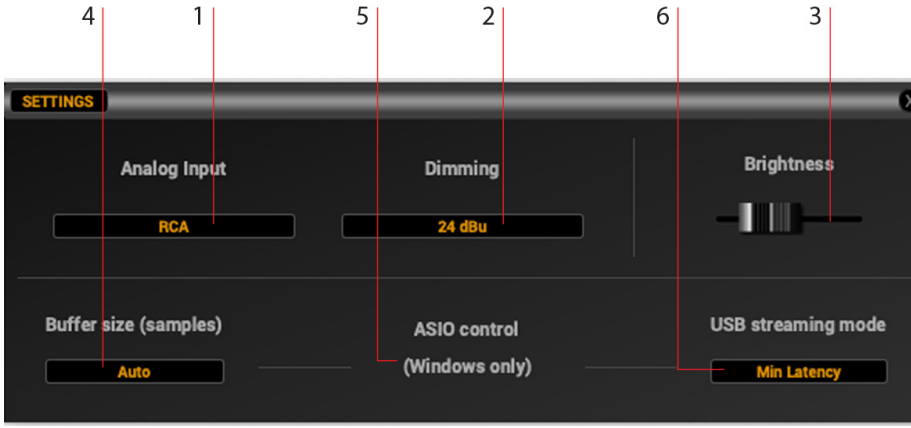
S/PDIF (S/PDIF Inputs)
TOSLINK (TOSLINK Inputs)
USB (Computer Audio)

3 Sample Rate
Chooses the sample rate for the Amari. The following options are available:
32kHz
44.1kHz
48kHz
88.2kHz
96kHz
176.4kHz
192kHz
352.8kHz
384kHz

4. Lock Indicator
When lit, the Amari sample rate is locked.

5. Device Selector
Chooses from available devices according to their serial number.

6. Settings Button



Opens the Amari Settings menu. There, the following options are available:
6.1. Analog Input source select dropdown menu
6.2. Dimming dropdown menu

6.3. Brightness slider for the Amari touchscreen display
6.4. Buffer size dropdown menu (on Auto by default)
6.5. ASIO Control (Windows only)
6.6. USB Streaming Mode with the following choices:
- Min Latency
- Low Latency
- Standard
- Relaxed
- Safe
- Extra Safe

7. Minimize Button
Minimizes the Amari Control Panel

8. Close Button
Closes the Amari Control Panel.

9. Output Selector
Chooses the Amari output you want to control. The following choices are available:

Headphone 1
Headphone 2
Digital

10. Source
Chooses the audio sorce you are hearing from the monitor outputs. The following choices are available:
- Analog
- USB Play (Computer Audio)
- AES
- SPDIF
- TOSLINK

11. Balance knob
Lets you adjust L/R channel balance.

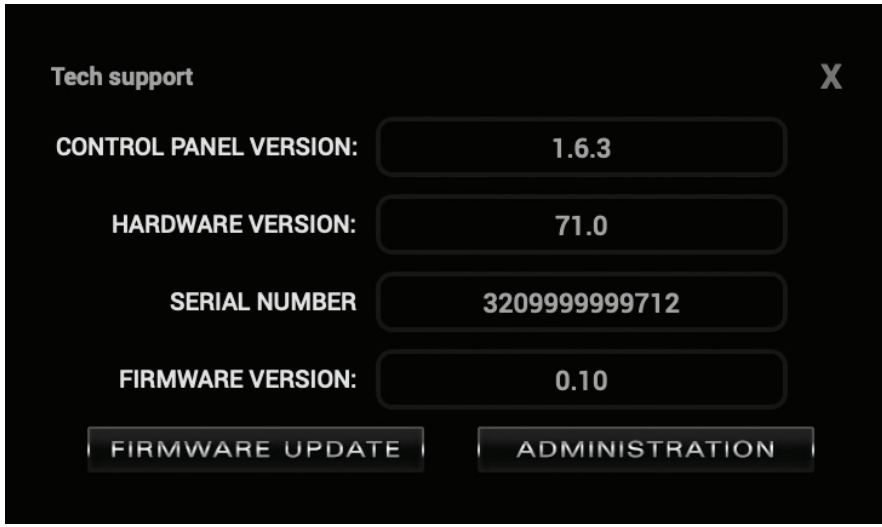
12. Gain Knob
Lets you adjust gain.

13. Output Level Meters

Visualize the signal level of the left and right channels.

14. Device info button
Displays various information about your device such as:
Control panel, hardware and firmware version and serial number

You can also use the buttons below to update the firmware of the device or get to the administration panel (the same as using the controls from the Antelope Audio Launcher)



5.2 HEADPHONE 1 & 2 VIEWS

These sections control the Headphone 1 & Headphone 2 outputs of the Amari. They feature the following options and menus:

1. Source
Chooses the audio source you are routing to Headphone outputs 1 & 2. The following choices are available:
   Analog
   USB Play (Computer Audio)
   AES
   SPDIF
   TOSLINK

2. Balance Knob
Adjusts the L/R channel balance.

3. Gain Knob
Lets you adjust gain.

4. Output Level Meters
Visualize the signal level of the left and right channels.

5. Balanced Output Switch
Turns balanced headphone output On or Off.

6. HP Membrane Weight Compensation knob
Adjusts headphone output impedance. Goes from inverse impedance values (-4.6 Ohms) all the way to 85.3 Ohms.

5.3 DIGITAL VIEW

This section manages signal routing for the digital inputs and outputs of Amari. The digital outputs and inputs are fixed, while the audio sources can be chosen freely from the drop-down menus.

The available sources are as follows:

Analog
USB Play (Computer Audio)
AES
SPDIF
TOSLINK

6. GLOSSARY

Balanced Connection
In contrast to an unbalanced cable, a balanced cable has three conductors in the connector and three wires in the cable: two signal wires and a separate ground wire. The two signal wires carry identical copies of the signal, but one has its polarity reversed. Summing the signals will make them cancel each other out. Both signal copies pick up the same noise as they travel along the cable, which means noise will get canceled out as well. Balanced inputs make use of this by flipping the polarity of the signal upon receiving it — in such a way that only the noise gets cancelled while the audio signal is preserved. Typically, long cable runs, studio environments and professional audio systems utilize balanced connections for this very reason.

Oven Control
Oscillator accuracy is compromised when exposed to temperature fluctuations. Housing the oscillator in a shielded container, or "Oven" that maintains a constant temperature brings significant benefits to the detail, dynamics, and stereo image of the audio.

Sample Rate & Bit Depth
Once an audio signal is transformed into the digital world, it becomes a small piece of information at a time point. By increasing the sample rate and bit depth, you also increase the pieces of information, thus resulting in a more detailed representation of the original analog signal. Bit depth describes the amount of bits of information for each sample. It is addressed directly to the resolution of each sample in digital audio data.

Atomic Clock
Based on real atomic technology, the Rubidium Atomic Reference Generator is designed specifically to appeal to the most discerning audiophiles and audio professionals. The technology is a staggering 100,000 times more accurate than the quartz oscillators used in most equipment.

Word Clock
A word clock is a clock signal used to synchronise digital audio devices. S/PDIF, AES/EBU, ADAT, and TDIF are some of the popular formats that use a word clock.

Kensington Lock
Used for locking down the device in demonstration rooms.

AES

AES3 (also known as AES/EBU) is a standard for the exchange of digital audio signals between professional audio devices. An AES3 signal can carry two channels of PCM audio over several transmission media including balanced lines, unbalanced lines, and optical fiber.

S/PDIF (Sony/Philips Digital Interface)
The consumer version of AES3 which uses coaxial cables to carry the audio signal.

TOSLINK (Toshiba Link)
TOSLINK is a standardized optical fiber connector system. Also known generically as an “optical audio cable” or just “optical cable”, its most common use is in consumer audio equipment (via a “digital optical” socket), where it carries a digital audio stream.

Headphone Membrane Weight Compensation
AMÁRI’s 2 high-power stereo headphone outputs (on XLR connectors) feature individual volume controls (capped at 20dBu max), with digital trim and selectable output impedance – from -4.6 to 85.3 Ohm, available in 17 control steps. These options let you configure AMÁRI for ideal compatibility with your favorite headphones, matching their impedance for best performance. AMÁRI’s high-fidelity headphone driver chip offers fully differential input (per amplifier). It is a dual-amp design, optimized to eliminate possible temperature drifts and deliver differential signal quality. The headphone outs also feature dual DAC architecture for maximum performance.

Thank you for purchasing Amari!