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Model: U18 | Brand: AOSHIDA

INTRODUCTION

The Gustard U18 is a high-performance USB Digital Interface designed to enhance your audio system. It functions as a ground isolation USB bridge and a hi-end audio interface, supporting high-resolution audio formats such as DSD512 and PCM768K. Featuring advanced components like the XMOS XU216 processor, K2 clock synthesizer, and AS338 audio oscillators, the U18 provides multiple output interfaces including IIS, AES, Optical, Coaxial, and Clock outputs for versatile connectivity with various audio devices.

SAFETY NOTES

- Install this unit in a well-ventilated, cool, dry, clean place, away from direct sunlight, heat sources, vibration, dust, moisture, or cold.
- Use only the specified voltage for this unit. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, or personal injury. The manufacturer is not responsible for any damage resulting from the use of this unit with an incorrect voltage.
- Do not attempt to modify or repair this unit yourself. Contact the salesperson or customer service when any service is needed. The cabinet should never be opened for any reason.
- When not planning to use this unit for long periods (e.g., during vacation), disconnect the power cable from the AC wall outlet.

FEATURES

- **XMOS XU216 Processor:** Equipped with 16 cores for rich resources and a smooth audio experience, supporting DSD512 and PCM768K.
- **Independent CPLD for Signal Shaping:** The isolated IIS signal is reshaped to remove jitter introduced by the isolator.
- **Complete Grounding Isolation:** Achieved by a 200 Mbps isolator to eliminate all interference from your PC.

- **2nd Generation K2 Clock Synthesizer:** Features ultra-low noise and supports external OCXO. K2 can generate audio-specific frequencies using a 10MHz clock source with extremely low loss.
- **Accusilicon AS338 Hi-End Audio Oscillators:** Two AS338 oscillators ensure strict requirements, packaged with nitrogen gas and 100% checked by phase noise analyzer. Jitter is as low as 38fs, improving bass quality and harmony.
- **LT3045 Linear Regulator:** The clock power supply is based on LT3045, a high-performance low dropout linear regulator with an RMS Noise of only 0.8 μ VRMS (10Hz to 100KHz).
- **Configurable IIS Pinout:** Offers 4 modes for compatibility with various DACs.
- **Rich Interfaces:** Includes USB, IIS-H, AES, Coaxial, Optical, and Clock inputs/outputs.

PACKAGE CONTENTS

Upon unboxing your Gustard U18, please verify that all the following items are included:

- Gustard U18 USB Digital Interface Unit
- USB Cable
- AC Power Cable
- User Manual
- Warranty Card

Video: Unboxing the Gustard U18 USB Digital Interface. This video demonstrates the contents of the package and the initial unboxing experience.



Image: A visual representation of the Gustard U18 unit and its included accessories, such as cables and documentation.

PRODUCT OVERVIEW

Front Panel



Image: Front view of the Gustard U18, showing the display screen, REF button, and IIS button.

- **Display Screen:** Shows current status and settings.
- **REF Button:** Used for input selection or other reference functions.
- **IIS Button:** Used for IIS pinout configuration or DSD flag settings.

Rear Panel

XMOS 768K XU216 010312 Fully Isolation CPLD for signal shapin


2nd generation clock Synthesizer with ultra-low noise.

AS338- selected crystal for HI-end audio.

Specific toroidal transformer for audio.

Configurable IIS pinout.

U18 is the new generation of high-performance USB audio interface designed by Gustard.




220mm x 170mm x 50mm



XMOS
XU216
 DSD
 DSD512
 PCM
 768K


XU216 from XMOS has 16 cores, which brings rich resources and smooth experience.

Fully isolation.



Complete grounding isolation is achieved by 200 Mbps isolator to eliminate all interference from your PC.

2nd generation clock Synthesizer with ultra-low noise.



K2
 GUSTARD
 Ultra Low Noise Clock Synthesizer.

Support external OCXO. K2 can generate the audio-specific frequency using 10Mhz clock source with extremely low loss.

Image: Rear view of the Gustard U18, highlighting all input and output ports.

- **Optical Output:** Digital audio output via optical fiber.
- **AES Output:** Professional digital audio output via XLR connector.
- **COAX Output:** Digital audio output via coaxial cable.
- **IIS Output:** Digital audio output via HDMI connector (not standard HDMI video).
- **WCK Output:** Word Clock output.
- **10M CLK Input:** Input for external 10MHz clock.
- **USB Input:** USB Type-B female connector for connecting to a computer or other USB audio source.
- **Voltage Switching (110/220V):** Switch to select appropriate input voltage.
- **Power Input:** AC power connector.
- **Power Switch:** Main power on/off switch.
- **FUSE:** Fuse holder for power protection.

SETUP

Follow these steps to set up your Gustard U18:

1. **Power Connection:** Ensure the voltage switch on the rear panel is set to the correct local voltage (110V or 220V). Connect the supplied AC power cable to the unit's power input and then to a wall outlet.
2. **USB Source Connection:** Connect your audio source (e.g., PC, Android device, iOS device, PS5, Nintendo Switch) to the **USB Input** on the rear panel using the provided USB cable.
3. **Audio Output Connection:** Connect the Gustard U18 to your DAC or amplifier using one of the available digital outputs: **IIS Output** (via HDMI cable, ensure your DAC supports IIS over HDMI), **AES Output**, **COAX Output**, or **Optical Output**. Choose the output that best suits your receiving device.
4. **External Clock (Optional):** If you are using an external 10MHz clock, connect it to the **10M CLK Input**.
5. **Power On:** Flip the **Power Switch** on the rear panel to the 'ON' position. The front display screen will illuminate.
6. **Driver Installation (for PC):** For Windows operating systems, you may need to install specific drivers. Refer to the official Gustard website for the latest drivers. macOS and Linux typically do not require additional drivers.

OPERATING INSTRUCTIONS

The Gustard U18 features intuitive controls for seamless operation:

- **Input Selection:** Press the **REF Button** on the front panel to cycle through the available digital inputs (USB, Optical, Coaxial, 10M CLK). The selected input will be indicated on the display screen.
- **IIS Pinout Configuration:** The IIS output has 4 configurable modes. Press the **IIS Button** to change the pinout mode. The current mode will be displayed. *Please confirm your DAC's pinout before changing this option. Only these 4 modes are supported.*
- **DSD Flag Setting:** Long press the **IIS Button** to change the DSD Flag setting. This is important for proper DSD signal recognition by your DAC.
- **Display Information:** The front display screen provides real-time information about the active input, sampling rate, and DSD status.

SPECIFICATIONS

Input	Optical / Coaxial / USB
Output Level	2Vrms
THD+N	0.00009% (-105dB)
Dynamic Range	125dB
SNR	125dB
USB Specifications	UAC1/UAC2 (selectable by switch)
USB Compatibility	Windows 7/8/8.1/10/11 (needs drivers), Mac OSX0.6+, Linux (Driverless), Android, iOS, SONY PS5 (UAC1), Nintendo SWITCH (UAC1)
USB PCM Sampling Rate	44.1-768kHz (32bit)
USB DSD Sampling Rate	2.8224-22.5792MHz (1bit), DoP256
Optical/Coaxial PCM Sampling Rate	44.1-192kHz (24bit)
Optical/Coaxial DoP	DoP64
Power Consumption	<5W
Standby Power	<0.1W
Dimensions (WxHxD)	220 x 170 x 50mm (excluding protrusions)
Weight (with package)	2.5kg

TROUBLESHOOTING

If you encounter issues with your Gustard U18, please refer to the following common troubleshooting steps:

- **No Power:** Ensure the AC power cable is securely connected to both the unit and the wall outlet. Check the power switch position and the fuse. Verify the voltage switch is set correctly.
- **No Sound Output:**
 - Verify the correct input is selected on the U18 using the REF button.
 - Check all audio cables (USB, IIS, AES, Coaxial, Optical) for secure connections.
 - Ensure your DAC/amplifier is powered on and the correct input is selected on that device.
 - If using IIS output, confirm the IIS pinout mode on the U18 matches your DAC's requirements.
 - For PC connections, ensure the correct audio driver is installed and selected as the output device in your operating system's sound settings.
- **Intermittent Audio/Signal Drops:**
 - Check USB cable quality and connection. Try a different USB port or cable.
 - Ensure your computer's USB port is providing stable power.
 - Minimize other USB devices connected to the same hub or computer.
 - If using an external clock, ensure it is stable and properly connected.
- **Distorted Sound:**

- Verify that the sampling rate and bit depth settings on your source device match the capabilities of the U18 and your DAC.
- Check for any loose cable connections.

If the problem persists after trying these steps, please contact AOSHIDA customer support for further assistance.

MAINTENANCE

To ensure the longevity and optimal performance of your Gustard U18, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to wipe the exterior of the unit. Avoid using abrasive cleaners, solvents, or chemical sprays, as these can damage the finish.
- **Ventilation:** Ensure the unit has adequate ventilation. Do not block the ventilation holes or place the unit in an enclosed space that restricts airflow.
- **Storage:** When not in use for extended periods, store the unit in a cool, dry place, away from direct sunlight and extreme temperatures. Disconnect the power cable.
- **Cable Connections:** Periodically check all cable connections to ensure they are secure and free from damage.

WARRANTY AND SUPPORT

AOSHIDA provides comprehensive support for its products, including the Gustard U18 USB Digital Interface.

- **Warranty Period:** The product comes with a one-year free repair period, which may be extended depending on the specific brand and product. Please refer to your warranty card for detailed terms and conditions.
- **Return Policy:** A 30-day return policy is offered.
- **Customer Service:** 24-hour online service is available for any questions or assistance you may need.
- **Contact Information:** For consulting and after-sales service, please contact our after-sales team via email at service@aoshida-audio.com.