

KGUSS E70 Velvet

KGUSS Topping E70 Velvet AK4499EX DAC Audio Decoder User Manual

INTRODUCTION

The KGUSS Topping E70 Velvet is a high-performance Digital-to-Analog Converter (DAC) designed for audiophiles. It features the flagship AK4499EX DAC chip, Bluetooth 5.1 with LDAC support, and a versatile range of inputs and outputs. This manual provides detailed instructions for setting up, operating, and maintaining your E70 Velvet DAC.

WHAT'S IN THE BOX

Carefully unpack the box and ensure all items are present:

- E70 Velvet DAC Unit
- Remote Control
- USB Cable
- AC Power Cable
- Bluetooth Antenna
- User Manual (this document)
- Warranty Card

All inputs support Auto On/Off function

E70 VELVET auto On/Off function, it will automatically turn on and set to the input which the signal is valid. And when the signal of E70 VELVET's selection is not valid for 1 minute, E70 VELVET will turn off automatically.



Coaxial and Optical(Toslink) also has good performance

The optical and coaxial input of E70 VELVET supports up to 24bit/192kHz audio, which is suitable for digital turntables, disk players, set-top boxes, so that traditional equipment can also give a new sound.



Figure 1: Package Contents

PRODUCT OVERVIEW

Front Panel

The front panel features the display, input selection button, and a multi-function knob for volume control and menu navigation.



XMOS
Bringing technology to life

XU316

**Hi-Res
AUDIO** **Hi-Res
AUDIO
WIRELESS**

Hi-Res Audio &
Hi-Res Audio Wireless

LDAC

Bluetooth 5.1
support LDAC Transmission

<0.00006%

THD+N

VELVET
SOUND
VERITA  TM

AK4499EX

 Vref

Low-noise voltage reference

RCA&XLR

Selectable RCA&XLR output



Ultra low noise preamp



Remote control

Figure 2: Front Panel

Rear Panel

The rear panel provides all input and output connections, including balanced XLR, single-ended RCA, Coaxial, Optical, USB, and Bluetooth antenna port, along with the power input and 12V Trigger interface.



Figure 3: Rear Panel Connections

SETUP

Connecting Power

1. Connect the AC power cable to the power input on the rear panel of the E70 Velvet.
2. Plug the other end of the AC power cable into a suitable wall outlet.

Connecting Audio Sources

The E70 Velvet supports multiple digital audio inputs:

- **USB Input:** Connect your computer (Windows, Mac, Linux), iOS, or Android device to the USB input using the provided USB cable. For Windows ASIO applications, a driver installation is required. For other operating systems, it is typically plug-and-play.
- **Coaxial Input:** Connect a digital audio source (e.g., CD player, digital turntable) to the Coaxial input.
- **Optical (Toslink) Input:** Connect a digital audio source (e.g., TV, game console) to the Optical input.
- **Bluetooth Input:** Attach the Bluetooth antenna to the designated port on the rear panel. Enable Bluetooth on your source device and pair with the E70 Velvet.

Connecting Audio Outputs

The E70 Velvet offers both balanced and single-ended analog outputs:

- **XLR Output:** Connect to an amplifier or active speakers with balanced XLR inputs using XLR cables.
- **RCA Output:** Connect to an amplifier or active speakers with single-ended RCA inputs using RCA cables.

OPERATING INSTRUCTIONS

Power On/Off

Press the power button on the front panel or the remote control to turn the unit on or off.

Input Selection

Press the input selection button on the front panel or use the remote control to cycle through available inputs (USB, Coaxial, Optical, Bluetooth).

Volume Control (Preamplifier Mode)

If the E70 Velvet is set to Preamplifier mode, the multi-function knob on the front panel or the volume buttons on the remote control can adjust the output volume from -99dB to 0dB.

Auto On/Off Function

The E70 Velvet features an automatic on/off function. It will automatically turn on and select the input with a valid signal. If no signal is detected for 1 minute, the unit will automatically turn off.

Coaxial and Optical(Toslink) also has good performance

The optical and coaxial input of E70 VELVET supports up to 24bit/192kHz audio, which is suitable for digital turntables, disk players, set-top boxes, so that traditional equipment can also give a new sound.



Figure 4: Auto On/Off Function

Screen Brightness Setting

The screen brightness can be adjusted through the unit's menu settings. Refer to the troubleshooting video for a demonstration of this setting.

Your browser does not support the video tag.

Video 1: Demonstrating screen brightness settings and other basic operations.

Selectable Output Port

The E70 Velvet allows you to choose between XLR only, RCA only, or both XLR+RCA outputs simultaneously, depending on your audio setup requirements.

Selectable output port

E70 VELVET has balanced XLR output and single ended RCA output. You can choose "XLR only", "RCA only" or "XLR+RCA" output for different applications.



XLR 4V/5V & RCA 2V/2.5V selectable output

We understand that in addition to the more versatile XLR 4V and RCA 2V outputs, there are also extensive needs for XLR 5V and RCA 2.5V. E70 VELVET adds options to set this to meet a wider range of needs. When XLR 4V and RCA 2V are selected, more devices can be adapted; when XLR 5V and RCA 2.5V are selected, the performance will be pushed from extreme to more extreme.



Figure 5: Selectable Output Ports

Preamplifier Function

In addition to its DAC mode with a fixed output level, the E70 Velvet can operate as a preamplifier. This allows direct control of the output volume, providing convenience when connected to a power amplifier or active speakers without a separate preamplifier.



Figure 6: Preamplifier Function

KEY FEATURES

- **Flagship AK4499EX DAC Chip:** The E70 Velvet utilizes the high-performance AK4499EX DAC chip, known for its exceptional audio fidelity. This chip contributes to the device's low distortion and high signal-to-noise ratio.



Figure 7: AK4499EX DAC Chip

- **Low-Noise Voltage Reference Power Supply:** The device incorporates a low-noise voltage reference power supply, which significantly reduces distortion to as low as -125dB and keeps noise below 1.3uVrms, ensuring a clean audio signal.



Figure 8: Low-Noise Voltage Reference

- **LDAC 24bit/96kHz Bluetooth Transmission:** Certified for Hi-Res Audio Wireless and LDAC, the E70 Velvet uses the QCC5125 chipset to support high-quality Bluetooth audio protocols including LDAC, AAC, SBC, aptX, aptX LL, aptX HD, and aptX Adaptive.



Figure 9: Bluetooth 5.1 with LDAC

- **Newest XMOS XU316 USB Support:** The XU316 USB interface supports DSD512 and PCM 768kHz, offering broad compatibility with Windows 10/11, Mac, Linux, iOS, and Android devices.



Figure 10: XMOS XU316 Chip

- **12V Trigger Interface:** The E70 Velvet includes a 12V Trigger interface for synchronized power control with other compatible audio equipment, such as the Topping L70 headphone amplifier. This allows for automatic power on/off of connected devices.

12V Trigger interface

The E70 VELVET is equipped with a 12V Trigger interface, which has both active control (Trigger out) and passive control (Trigger in). With only one easy-to-obtain 3.5mm to 3.5mm cable, the E70 VELVET can be turned on and off synchronously with other devices equipped with a 12V Trigger interface. It is especially convenient when used with amplifiers, especially the L70.



Figure 11: 12V Trigger Interface

SPECIFICATIONS

The following table details the technical specifications of the E70 Velvet DAC:

Parameter	RCA Output	XLR Output
THD+N (A-wt)	<0.00008% @1kHz	<0.00006% @1kHz
THD @90kBw (No-wt)	<0.0002% @20-20kHz	<0.0002% @20-20kHz
SNR (A-wt)	125dB @1kHz	131dB @1kHz
Dynamic Range (A-wt)	125dB @1kHz	131dB @1kHz
Frequency Response	20Hz-40kHz (±0.3dB)	20Hz-40kHz (±0.2dB)
Frequency Response	20Hz-40kHz (±1.0dB)	20Hz-40kHz (±0.8dB)

Parameter	RCA Output	XLR Output
Output Level	2.1Vrms @0dBFS (4V Mode)	4.2Vrms @0dBFS (4V Mode)
Output Level	2.5Vrms @0dBFS (5V Mode)	5.0Vrms @0dBFS (5V Mode)
Noise (A-wt)	<1.3uVrms	<1.3uVrms
Channel Crosstalk	-130dB @1kHz	-143dB @1kHz
Channel Balance	0.3dB	0.3dB
Output Impedance	50Ω	100Ω

Note: The above data is the result obtained from TOPPING lab test under AC220V 50Hz and E70 Velvet set to 5V output mode.

Supported Formats

Input	PCM	DSD (Native)	DSD (DoP)
USB IN	44.1kHz-768kHz / 16bit-32bit	DSD64-DSD512	DSD64-DSD256
COAX/OPT IN	44.1kHz-192kHz / 16bit-24bit	X	X
BT IN	AAC/SBC/APTX/APTX LL/APTX HD/APTX Adaptive/LDAC	X	X

TROUBLESHOOTING

This section addresses common issues you might encounter with your E70 Velvet DAC. For visual guidance, please refer to the troubleshooting video below.

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Video 2: TOPPING E70 Velvet Troubleshooting Guide

Common Issues and Solutions

Phenomenon	Solution
Noisy playback	• Try with different songs. • Ensure the specifications of the songs are supported by this unit. • If noise appears only when playing DSD files, check and adjust the computer system volume and music player volume to maximum. • Check the source, downstream equipment, and cables for issues. • If noise disappears after unplugging the USB cable, it may be interference from the source. Consider adding a USB isolator.
One channel with noise/no output	• Check the source, downstream equipment, and cables. • Try swapping the left and right channel connections and test with another source. • In the Topping control panel, set Volume -> Output to 0dB.

Phenomenon	Solution
Channel imbalance	• Set to "CB 0.0dB" in the setup menu. • Check the source, downstream equipment, and cables. Try swapping left and right channel connections.
Cannot pair Bluetooth	• Enable Bluetooth function in the setup menu (BT ON). • The unit may be connected to another Bluetooth device. Press and hold the brightness button on the remote to enter pairing mode. • Bring the Bluetooth device closer to the unit. • Turn the power of the unit off and on again. • Remove obstructions between the Bluetooth device and the unit.
Bluetooth audio cut off	• To prevent electromagnetic interference, locate the unit away from microwave ovens, wireless LAN devices, and other Bluetooth devices. • Reconnect the Bluetooth device.
Connected USB device not recognized	• Ensure the USB cable is connected properly. Try a different USB cable. • Try another USB port on your computer. • If it's a driver problem, try reinstalling the driver from the manufacturer's website. • Test with a different computer. • Some phones require OTG function to be enabled first.
Remote control not responding	• Enable remote control function in the setup menu (r-O). • Insert two fresh AAA batteries. • Aim the remote control at the remote control receiver on the unit. • Bring the remote control closer to the device. • Use your Android phone's camera to check if the remote's IR emitter blinks when a button is pressed. If not, the remote may be defective. • If you have multiple Topping devices, ensure you are using the correct remote control.
Cannot adjust unit's volume	• Check if DAC mode is set in the setup menu (d-d). In DAC mode, the volume is fixed at maximum. • To adjust volume, set the unit to Preamplifier (PRE) mode.

MAINTENANCE

To ensure the longevity and optimal performance of your E70 Velvet DAC, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the unit. Avoid using abrasive cleaners, solvents, or chemical sprays.

- **Placement:** Place the unit on a stable, flat surface away from direct sunlight, heat sources, and excessive moisture. Ensure adequate ventilation around the unit.
- **Power:** Disconnect the power cable from the wall outlet if the unit will not be used for an extended period.
- **Handling:** Avoid dropping or subjecting the unit to strong impacts.

WARRANTY AND SUPPORT

The KGUSS Topping E70 Velvet DAC comes with a manufacturer's warranty. Please refer to the included warranty card for specific terms and conditions. For technical support, service, or warranty claims, please contact the seller or the manufacturer directly. Keep your purchase receipt as proof of purchase.