

KGUSS DX1, PA3s

KGUSS Topping DX1 DAC Headphone Amp and PA3s Power Amp User Manual

Comprehensive guide for setup, operation, and maintenance.

INTRODUCTION

This manual provides detailed instructions for the KGUSS Topping DX1 DAC Headphone Amplifier and the Topping PA3s Power Amplifier. The DX1 is a high-performance Digital-to-Analog Converter (DAC) and headphone amplifier, while the PA3s is a powerful Class D stereo power amplifier. Together, these units form a versatile audio system for various applications.

The DX1 features the newest AK4493S DAC chip, supporting up to 32-bit/384kHz PCM and DSD256, offering a dynamic range of 120dB. It provides powerful output for both In-Ear Monitors (IEMs) and full-size headphones with high/low gain options. The PA3s utilizes two MA12070 Class D amplifier chips, delivering 80W x2 at 4 ohms (10% THD+N) or 65W x2 at 4 ohms (1% THD+N), suitable for driving bookshelf and some floor speakers.



Hi-Res Audio



Newest AK4493S

<0.0002%

THD+N

DSD
PCM

Support up to
DSD256 and PCM384



XMOS XU208



No adapter required

Image: Front and rear views of the Topping DX1 DAC Headphone Amp and Topping PA3s Power Amp. The DX1 shows headphone outputs, volume knob, and input/gain switches. The PA3s shows input selectors, volume knob, and various audio inputs and power connection.

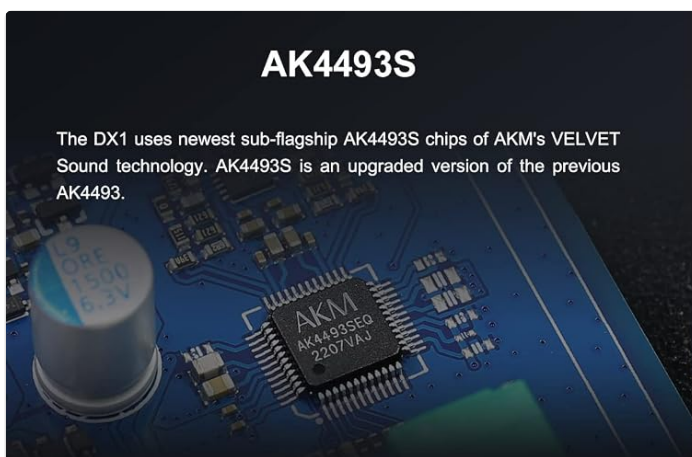
SETUP INSTRUCTIONS

Topping DX1 DAC Headphone Amplifier Setup

1. **Unpack Components:** Carefully remove the DX1 unit, USB cable, and any other accessories from the packaging.
2. **Connect to Power and Data:** Connect the supplied USB cable from the DX1's USB input to your computer (Windows, Mac, Linux) or compatible mobile device (iOS, Android). The DX1 does not require an external power adapter; the USB connection provides both power and data transmission.
3. **Driver Installation (Windows ASIO only):** For most operating systems (Windows 10/11, Mac, Linux, iOS, Android), the DX1 is plug-and-play and does not require driver installation. However, for Windows ASIO applications, a specific driver may be required. Refer to the official Topping website for driver downloads if needed.
4. **Connect Headphones:** Plug your headphones into either the 6.35mm or 3.5mm headphone output jack on the front panel of the DX1.
5. **Connect to PA3s (Optional):** If using with the PA3s, connect the RCA line outputs (Rch, Lch) on the rear of the DX1 to an input on the PA3s using appropriate RCA cables. Note that the line output volume of the DX1 is fixed at maximum and cannot be adjusted. Both headphone and line outputs operate simultaneously.

AK4493S

The DX1 uses newest sub-flagship AK4493S chips of AKM's VELVET Sound technology. AK4493S is an upgraded version of the previous AK4493.



DR
120dB @1kHz

SNR
120dB @1kHz

Plug and play turn your PC into a HIFI source

DX1 has a wide range of compatibility: Windows 10, Windows 11, MAC, Linux, IOS, Android can be plug and play. Only for Windows ASIO applications, you need to install the driver and set it up. The USB hardware is based on XMOS XU208 and Thesycon custom driver (applicable to Windows, other systems are free of driver), which is stable and reliable.

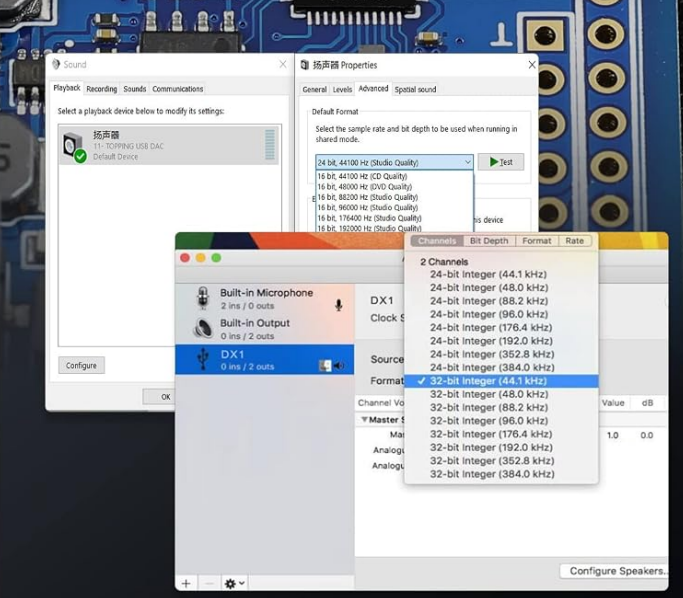


Image: Close-up of the Topping DX1's internal components highlighting the AK4493S DAC chip and a diagram illustrating its plug-and-play compatibility with various operating systems.

Topping PA3s Power Amplifier Setup

1. **Unpack Components:** Carefully remove the PA3s unit and power adapter from the packaging.
2. **Connect Speakers:** Connect your passive speakers to the speaker terminals on the rear of the PA3s. Ensure correct polarity (+ to + and - to -) for both left and right channels.
3. **Connect Audio Source:** Connect your audio source (e.g., DX1, preamplifier, or other audio device) to either the RCA

(SE) inputs or the TRS (BAL) inputs on the rear of the PA3s.

4. **Connect Power:** Connect the supplied DC26V power adapter to the power input on the rear of the PA3s, then plug the adapter into a wall outlet.



80W x 2

@4Ω, 10%THD+N

65W x 2

@4Ω, 1%THD+N

Balanced

Amplifier

MA12070 x 2

Merus Class D

<0.004%

THD+N

RCA+TRS

Input

Image: Front and rear views of the Topping PA3s Power Amplifier. The front panel shows the power/input select button and volume knob.

The rear panel displays balanced (TRS) and single-ended (RCA) inputs, speaker terminals, and the DC power input.

OPERATING INSTRUCTIONS

Topping DX1 DAC Headphone Amplifier Operation

1. **Power On:** The DX1 powers on automatically when connected via USB to a powered device.
2. **Select Input:** The DX1 typically auto-detects the USB input. Ensure your computer or device is configured to output audio to the DX1.
3. **Adjust Headphone Volume:** Use the large knob on the front panel to adjust the volume for your headphones.
4. **Select Gain:** On the rear panel, locate the 'GAIN' switch. Select 'H' for high gain (for harder-to-drive headphones) or 'L' for low gain (for sensitive IEMs or easier-to-drive headphones).
5. **Line Out Behavior:** Remember that the RCA line outputs on the rear have a fixed maximum volume and operate simultaneously with the headphone outputs. Adjust volume on the connected amplifier (e.g., PA3s) when using the line out.



Image: Top-down view of the Topping DX1 showing the front panel with 6.35mm and 3.5mm headphone jacks, volume knob, and input/gain indicators. Below it, the rear panel shows RCA line outputs, a gain switch, and a USB input.

Topping PA3s Power Amplifier Operation

1. **Power On:** Press the power/select button on the front panel to turn on the PA3s.
2. **Select Input:** Press the power/select button repeatedly to cycle between the 'SE' (Single-Ended RCA) and 'BAL' (Balanced TRS) inputs. The corresponding indicator light will illuminate.
3. **Adjust Volume:** Use the large knob on the front panel to adjust the output volume to your speakers.

2xMA12070 Fully balanced Class D amplifier

Each channel of PA3s uses one MA12070 Class D power amplifier chip. This allows separation in layout improving performance and reducing crosstalk. The power is shared across two chips, the heat dissipation is also halved for each chip, improving reliability and extending the lifespan of the product.

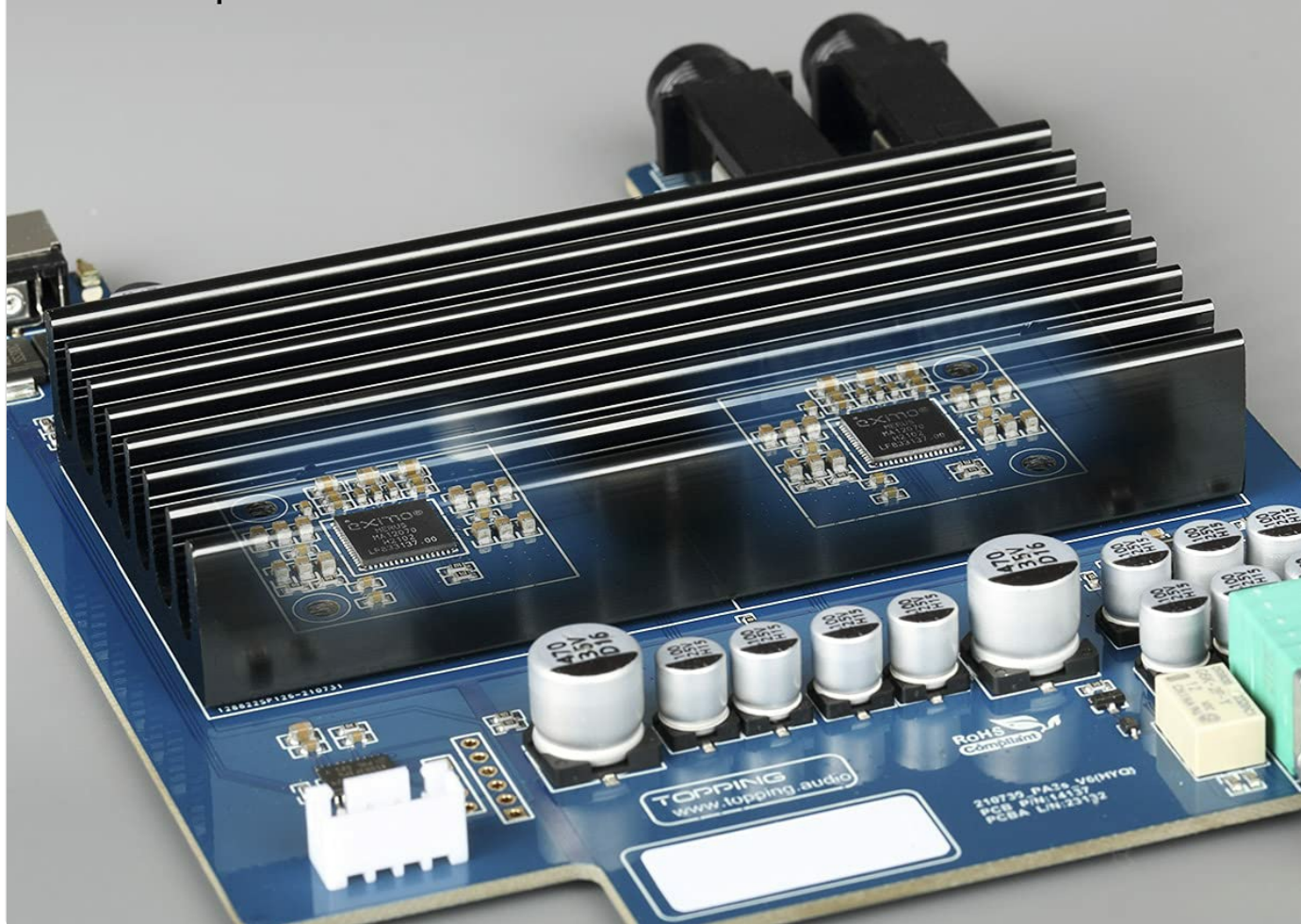


Image: The Topping PA3s Power Amplifier positioned on a cabinet, connected to a pair of bookshelf speakers, demonstrating its use in a home audio setup.

MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the units. Avoid using abrasive cleaners, solvents, or chemical sprays, as these can damage the finish or internal components.
- **Placement:** Place the units in a well-ventilated area, away from direct sunlight, heat sources, and excessive moisture. Ensure there is adequate space around the units for proper airflow.

- **Handling:** Handle the units with care. Avoid dropping them or subjecting them to strong impacts.
- **Cable Management:** Ensure all cables are securely connected and not under undue strain. Avoid bending cables sharply.

TROUBLESHOOTING

No Sound Output

- **Check Power:** Ensure both DX1 (via USB) and PA3s (via DC adapter) are powered on.
- **Check Connections:** Verify all audio cables (USB, RCA, TRS, speaker wires) are securely connected to the correct inputs and outputs.
- **Source Selection:** For PA3s, ensure the correct input (SE or BAL) is selected. For DX1, ensure your computer/device is outputting audio to the DX1.
- **Volume Levels:** Confirm that the volume knobs on both DX1 (for headphones) and PA3s (for speakers) are turned up.
- **Headphone/Speaker Functionality:** Test with different headphones or speakers to rule out issues with the output devices.

Distorted or Poor Sound Quality

- **Source Quality:** Ensure the audio source material is of good quality.
- **Cable Integrity:** Check for damaged or faulty audio cables.
- **Gain Setting (DX1):** Adjust the gain switch on the DX1. If the sound is distorted, try the 'L' (low) gain setting. If too quiet, try 'H' (high) gain.
- **Speaker Impedance (PA3s):** Ensure your speakers' impedance is within the recommended range for the PA3s (4-8 ohms).
- **Ground Loop Noise:** If you experience humming or buzzing, it might be a ground loop issue. Try connecting devices to the same power strip or using a ground loop isolator if necessary. The DX1 features a Discrete LNRD circuit designed to reduce noise from USB power.

DX1 Not Recognized by Computer

- **USB Port:** Try connecting the DX1 to a different USB port on your computer.
- **USB Cable:** Test with a different USB cable.
- **Drivers (Windows ASIO):** If using Windows ASIO applications, ensure the correct driver is installed.

SPECIFICATIONS

Topping DX1 DAC Headphone Amplifier

Note, please consider the following information before deciding to add to cart

- 1. DX1 does not use nfca module.
- 2. The volume of line out is fixed at the maximum and cannot be adjusted.
- 3. The headphone amplifier output and the line output will come out simultaneously.



Contents list



- 1 DX1
- 2 USB cable
- 3 User manual
- 4 Warranty card

Spec

	PCM	DSD (Native)	DSD (DOP)
USB IN	44.1kHz-384kHz / 16bit-32bit	DSD64-DSD256	DSD64-DSD128
DX1 DAC parameters (USB In@44.1kHz)			
THD+N @1kHz (A-wt)	<0.0002%		
THD @20-20kHz 90kBw	<0.0006%		
SNR @1kHz (A-wt)	120dB		
Dynamic range @1kHz (A-wt)	120dB		
Frequency Response	20Hz-20kHz (±0.3dB)		
	20Hz-40kHz (±0.7dB)		
Output Level	2.0Vrms @0dBFS		
Noise (A-wt)	<2.0uVrms		
Channel Crosstalk @1kHz	-112dB		
Channel Balance	0.3 dB		
Output Impedance	22Ω		

DX1 Headphone Amplifier specifications	
THD+N @1kHz (A-wt)	<0.0003% @Output=200mW (32Ω)
	<0.0002% @Output=45mW (300Ω)
THD @20-20kHz 90kBw	<0.003% @Output=200mW (32Ω)
	<0.001% @Output=45mW (300Ω)
SNR @MAX OUT 1kHz (A-wt)	118dB
Dynamic Range @1kHz (A-wt)	118dB
Frequency Response	20Hz-20kHz (±0.3dB)
	20Hz-40kHz (±0.7dB)
Output Level	2.2Vpp @G=L
	11Vpp @G=H
Noise (A-wt)	<1.0uVrms
Channel Crosstalk @1kHz	-86dB
Gain	-2dB (Vrms/FS) @G=L
	12dB (Vrms/FS) @G=H
Output Impedance	< 0.7Ω
Output Power	280mW x 2 @32Ω THD+N<0.1%
	190mW x 2 @64Ω THD+N<0.1%
	51mW x 2 @300Ω THD+N<0.1%
Load Impedance	>8Ω

Image: A detailed table outlining the technical specifications for the Topping DX1 DAC and Headphone Amplifier, including DAC parameters and headphone amplifier performance metrics.

DX1 DAC Parameters (USB IN @44.1kHz)

Parameter	Value
THD+N @1kHz (A-wt)	<0.0002%
THD @20-20kHz 90kBw	<0.0006%
SNR @1kHz (A-wt)	120dB
Dynamic range @1kHz (A-wt)	120dB
Frequency Response	20Hz-40kHz (±0.3dB)
	20Hz-40kHz (±0.7dB)
Output Level	2.0Vrms @0dBFS
Noise (A-wt)	<2.0uVrms

Parameter	Value
Channel Crosstalk @1kHz	-112dB
Channel Balance	0.3dB
Output Impedance	220

DX1 Headphone Amplifier Specifications

Parameter	Value
THD+N @1kHz (A-wt)	<0.0003% @Output=200mW (32Ω)
	<0.0002% @Output=45mW (300Ω)
THD @20-20kHz 90kBw	<0.003% @Output=200mW (32Ω)
	<0.001% @Output=45mW (300Ω)
SNR @MAX OUT 1kHz (A-wt)	118dB
Dynamic Range @1kHz (A-wt)	118dB
Frequency Response	20Hz-20kHz (±0.3dB)
	20Hz-40kHz (±0.7dB)
Output Level	2.2Vpp @G=L
	11Vpp @G=H
Noise (A-wt)	<1.0uVrms
Channel Crosstalk @1kHz	-86dB
Gain	-2dB (Vrms/FS) @G=L
	12dB (Vrms/FS) @G=H
Output Impedance	< 0.7Ω
Output Power	280mW x 2 @32Ω THD+N<0.1%
	190mW x 2 @64Ω THD+N<0.1%
	51mW x 2 @300Ω THD+N<0.1%
Load Impedance	8Ω

Topping PA3s Power Amplifier

Spec

PA3s Power Amplifier specifications		
	SE IN	BAL IN
THD+N @1kHz (A-wt)	<0.0050% @4Ω 5W	<0.0045% @4Ω 5W
	<0.0040% @8Ω 5W	<0.0040% @8Ω 5W
THD @20-10kHz (20kBW)	<0.0080% @4Ω 5W	<0.0070% @4Ω 5W
	<0.0070% @8Ω 5W	<0.0060% @8Ω 5W
SNR @MAX OUT 1kHz (A-wt)	107dB	112dB
Dynamic Range @1kHz (A-wt)	107dB	112dB
Frequency Response	20Hz-40kHz (±0.1dB)	20Hz-40kHz (±0.1dB)
Output Level	46Vpp @4Ω	46Vpp @4Ω
	48Vpp @8Ω	48Vpp @8Ω
Noise (A-wt)	<70uVrms	<70uVrms
Channel Crosstalk @1kHz	-96dB	-100dB
Input sensitivity	0.92Vrms	1.75Vrms
Gain	25.2dB	19.5dB
Channel Balance	0.5 dB	0.5 dB
Output Power	80W x 2 @4Ω THD+N<10%	
	45W x 2 @8Ω THD+N<10%	
	65W x 2 @4Ω THD+N<1%	
	37W x 2 @8Ω THD+N<1%	
Adapter Impedance	4-8Ω	

Image: A detailed table outlining the technical specifications for the Topping PA3s Power Amplifier, including performance metrics for both single-ended (SE) and balanced (BAL) inputs.

PA3s Power Amplifier Specifications

Parameter	SE IN	BAL IN
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Parameter	SE IN	BAL IN
THD+N @1kHz (A-wt)	<0.0050% @4Ω 5W	<0.0045% @4Ω 5W
	<0.0040% @8Ω 5W	<0.0040% @8Ω 5W
THD @20-10kHz (20kBw)	<0.0080% @4Ω 5W	<0.0070% @4Ω 5W
	<0.0070% @8Ω 5W	<0.0060% @8Ω 5W
SNR @MAX OUT 1kHz (A-wt)	107dB	112dB
Dynamic Range @1kHz (A-wt)	107dB	112dB
Frequency Response	20Hz-40kHz (±0.1dB)	20Hz-40kHz (±0.1dB)
Output Level	46Vpp @4Ω	46Vpp @4Ω
	48Vpp @8Ω	48Vpp @8Ω
Noise (A-wt)	<70uVrms	<70uVrms
Input Sensitivity	0.92Vrms	1.75Vrms
Gain	25.2dB	19.5dB
Channel Balance	0.5dB	0.5dB
Output Power	80W x 2 @4Ω THD+N<10%	80W x 2 @4Ω THD+N<10%
	45W x 2 @8Ω THD+N<10%	45W x 2 @8Ω THD+N<10%
	65W x 2 @4Ω THD+N<1%	65W x 2 @4Ω THD+N<1%
	37W x 2 @8Ω THD+N<1%	37W x 2 @8Ω THD+N<1%
Adapter Impedance	4-8Ω	4-8Ω

WARRANTY AND SUPPORT

This product comes with a warranty. Please refer to the warranty card included in your product packaging for specific terms, conditions, and duration of the warranty. The warranty card will provide details on how to obtain service if required.

For technical support or further inquiries, please contact the retailer where you purchased the product or visit the official KGUSS/Topping website for support resources.

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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

Anonymous

Email

you@example.com

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