**KGUSS DX5II**

# KGUSS TOPPING DX5II Fully Balanced DAC Headphone Amp Combo User Manual

Model: DX5II | Brand: KGUSS

## 1. Introduction

The KGUSS TOPPING DX5II is a high-performance fully balanced DAC and headphone amplifier combo designed for superior audio reproduction. This manual provides essential information for setting up, operating, and maintaining your device.

### What's in the Box

- TOPPING DX5 II x 1
- Remote control x 1
- USB cable x 1
- AC cable x 1
- 6.35mm to 3.5mm Adaptor x 1
- Bluetooth antenna x 1
- Product Information Card x 1


Image: The TOPPING DX5II unit shown with its remote control, USB cable, AC cable, 6.35mm to 3.5mm adapter, Bluetooth antenna, and product information card.

## 2. Product Overview and Key Features

The DX5II is a new generation fully balanced DAC and headphone amplifier combo, offering significant upgrades and advanced functionalities for an enhanced audio experience.

### Key Features:

- **Dual ES9039Q2M DAC Chips:** Each channel utilizes an independent ESS ES9039Q2M DAC chip for lower crosstalk, improved imaging, 133dB SNR, 133dB dynamic range, and distortion as low as 0.00006%.
- **X-Hybrid Headphone Amplifier Circuit:** Features an original triple-stage hybrid amp circuit (discrete input, op-amp gain, discrete output) for high efficiency, improved thermals, and precise delivery. Power output peaks at 7600mW x2 into 16Ω.
- **Wide Headphone Compatibility:** Equipped with 6.35mm single-ended, 4.4mm balanced, and 4-pin XLR headphone jacks, suitable for low-sensitivity headphones to high-sensitive IEMs with a low noise floor of 1.8uVrms.
- **10-Band High-Precision PEQ:** Desktop software allows tweaking 10 independent frequency bands (frequency, gain, Q-factor adjustment). Multiple profiles can be saved, and EQ can be applied

independently to speakers and headphones.

- **LDAC Wireless Connectivity:** Equipped with QCC5125 chip, supporting Bluetooth 5.1 and up to 96kHz/24bit. Fully supports LDAC, aptX-Adaptive, aptX HD, AAC, and SBC audio encodings for high-quality wireless audio.

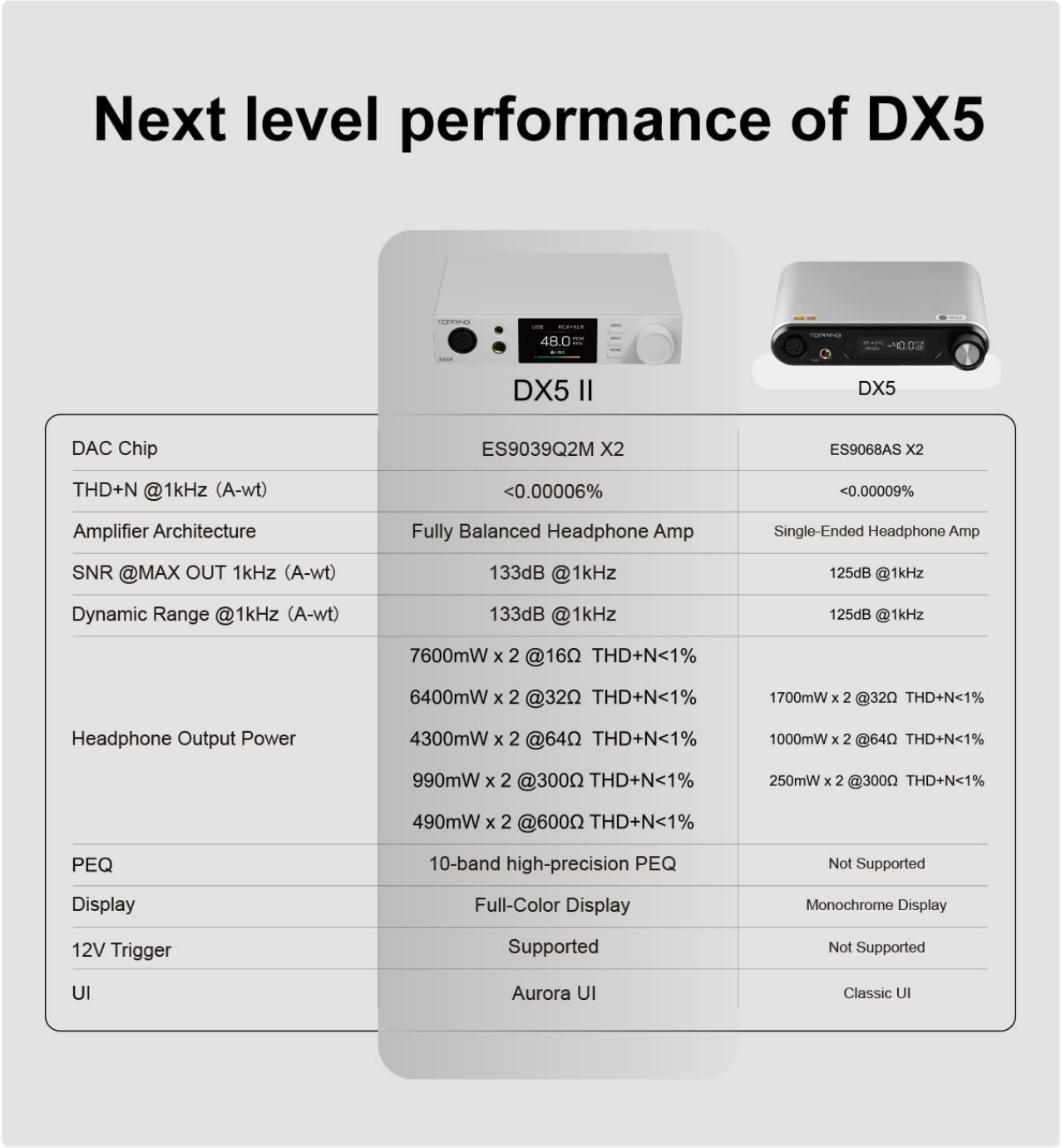


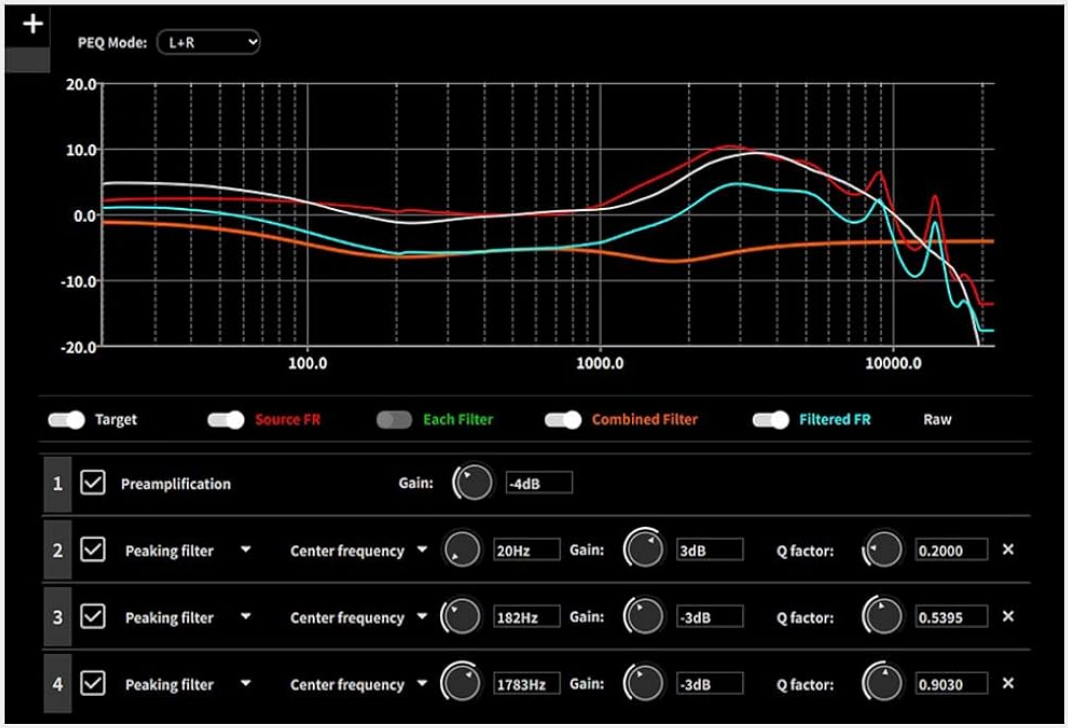

Image: A comparison table highlighting the improved specifications of the TOPPING DX5 II over its predecessor, the DX5, including DAC chip, amplifier architecture, SNR, dynamic range, headphone output power, PEQ, display, 12V Trigger, and UI.


Image: Detailed view of the dual ES9039Q2M DAC chips and a schematic of the X-Hybrid Headphone Amplifier Circuit, emphasizing the advanced internal components and their contribution to audio performance.


Image: The TOPPING DX5II unit with various headphones connected to its 6.35mm single-ended, 4.4mm balanced, and 4-pin XLR headphone output jacks, illustrating its broad compatibility.

# Ten-band high-precision PEQ adjustment

We develop a brand new PEQ adjustment* that supports ten customizable frequency bands. Topping's brand new PEQ algorithm and desktop software allow you to fine-tune the frequency, gain, and bandwidth of each PEQ band. The software supports the import of target curves and raw curves, and enables curve compensation using the target curve. It can also save multiple profiles for easy switching. All outputs support independent PEQ configuration, and both headphones and speakers can be accurately adjusted to the ideal state.




*The PEQ function supports up to PCM 192kHz/32bit.

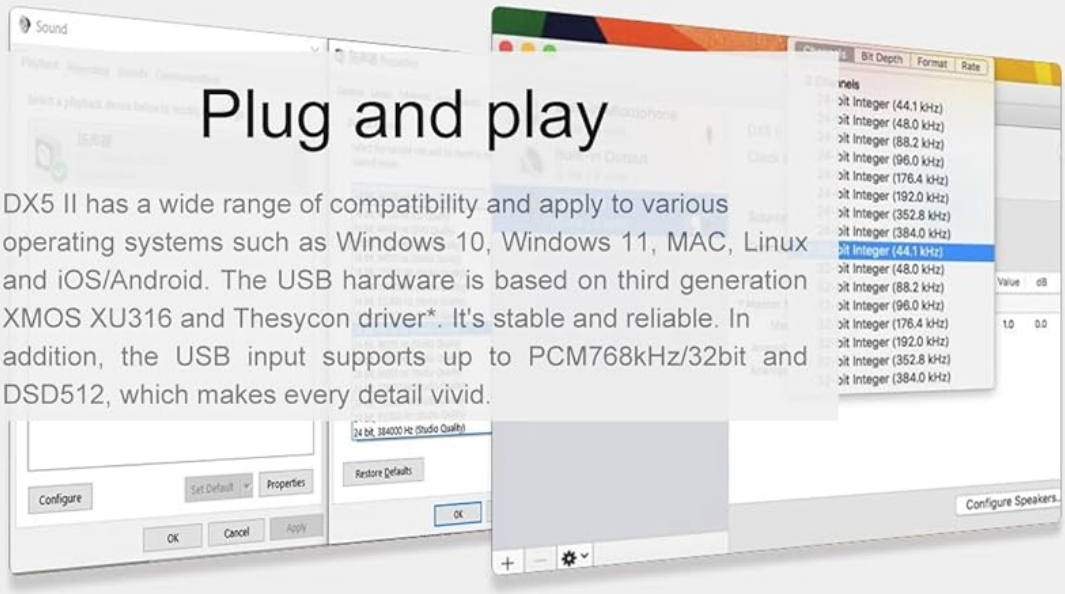
Image: A screenshot of the desktop software interface for the 10-band high-precision PEQ adjustment, showing customizable frequency bands, gain, and Q-factor settings.

# LDAC wireless available

Equipped with QCC5125 chip, DX5 II supports Bluetooth 5.1 and can support up to 96kHz/24bit. Also it fully supports LDAC/ aptX-Adaptive/aptX/aptX HD/AAC/SBC and other audio encodings, allowing high-quality audio to be transmitted wirelessly to provide a music experience beyond CD level.

# Plug and play

DX5 II has a wide range of compatibility and apply to various operating systems such as Windows 10, Windows 11, MAC, Linux and iOS/Android. The USB hardware is based on third generation XMOS XU316 and Thesycon driver*. It's stable and reliable. In addition, the USB input supports up to PCM768kHz/32bit and DSD512, which makes every detail vivid.




*Note: Only for Windows ASIO applications, you need to install the Thesycon driver and set it up. Drivers are not required under other systems.

# Directly connect active speaker to adjust volume

DX5 II also features a "preamp" mode. In preamp mode, you can adjust the output volume of DX5 II, then connect it directly to a pure amplifier or active speaker without the need for a separate preamplifier. Both input and output interfaces of the DX5 II come with volume memory functionality, enabling the device to automatically restore the last set volume when switching outputs—allowing for a quick return to your familiar listening environment.

Image: The TOPPING DX5II's 2.0-inch full-color screen displaying the Aurora UI, showcasing different visualizers like FFT, VU meter, and playback info, along with display settings options.

### Official Product Video: Overview

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Video: An official overview of the TOPPING DX5II Fully Balanced DAC Headphone Amp Combo, highlighting its design, features, and connectivity options.

## 3. Connections and Setup

Proper connection of your DX5II is crucial for optimal performance. Follow these steps to set up your device.

### Front Panel Overview

- **4-pin XLR Headphone Output Jack:** For balanced headphone connections.
- **6.35mm Headphone Output Jack:** For single-ended headphone connections.
- **4.4mm Balanced Headphone Output Jack:** For balanced headphone connections.
- **Screen:** Displays current status, settings, and UI.
- **Remote Control Receiver:** For infrared remote commands.
- **Menu Button:** Accesses the setup menu.
- **Input Button:** Switches input channels.
- **Home Button:** Switches home page display modes.
- **Volume Knob & User-defined Button:** Rotates to adjust volume; press for user-defined functions.

### Rear Panel Overview

- **Balanced XLR Output:** For balanced line output to amplifiers or active speakers.
- **Single-ended RCA Output:** For single-ended line output to amplifiers or active speakers.
- **USB Input:** Connects to a computer or other USB audio source.
- **Optical SPDIF Input:** Connects to optical audio sources.
- **Coaxial SPDIF Input:** Connects to coaxial audio sources.
- **Bluetooth Input:** For wireless audio streaming.
- **12V Trigger IN/OUT (3.5mm jack):** For synchronized power control with other devices.
- **Power Input (AC 100-277V 50/60Hz):** Connects to the AC power supply.
- **Power Switch:** Turns the device on/off.

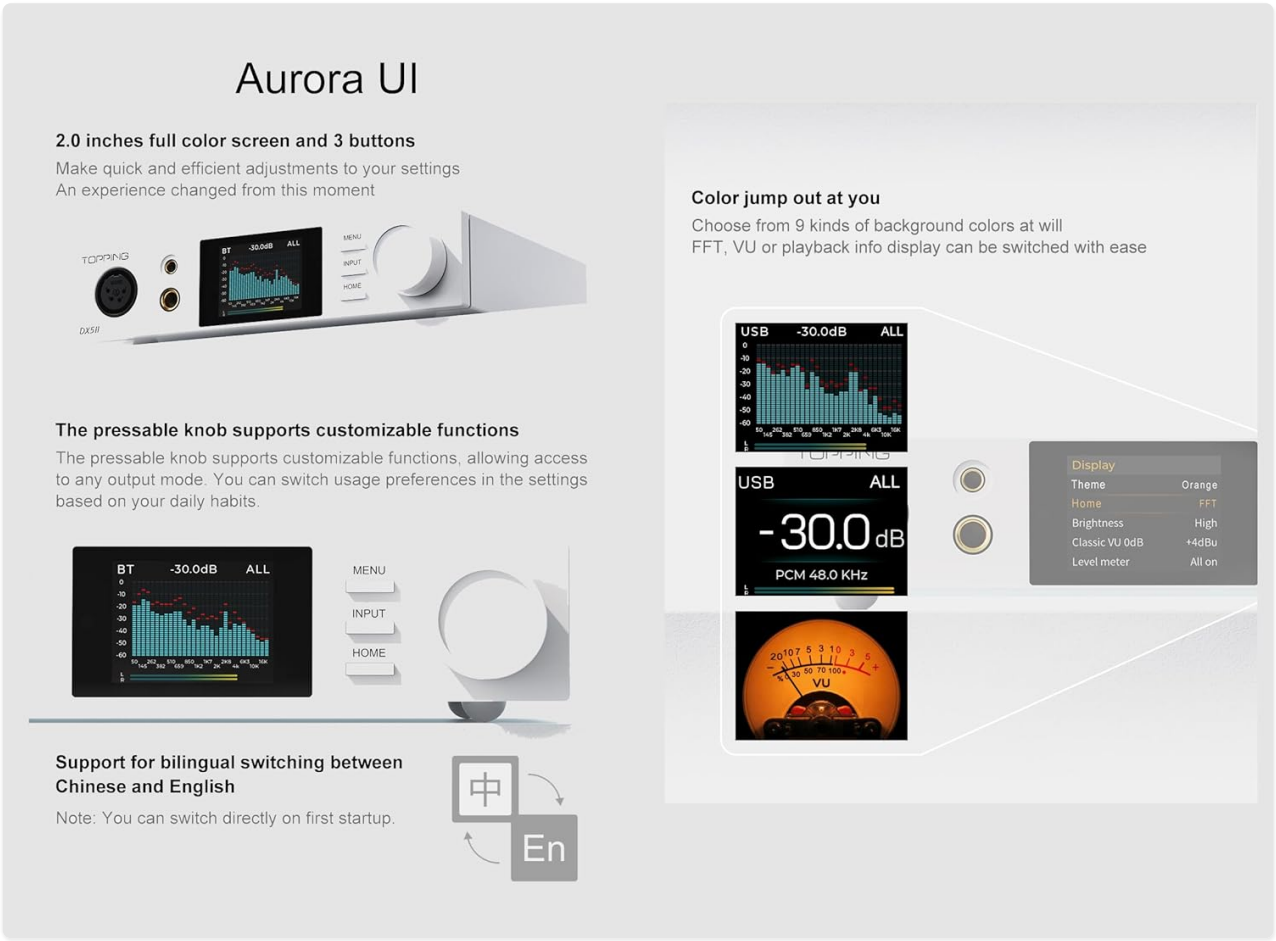


Image: A detailed diagram illustrating the front and rear panels of the TOPPING DX5II, with all input and output ports clearly labeled for easy identification and connection.

## Connecting to Input Sources

The DX5II supports USB, Coaxial, Optical, and Bluetooth inputs. Connect your audio source to the corresponding input port on the rear panel.

## Connecting Headphones

Three types of headphone jacks are available on the front panel: 6.35mm single-ended, 4.4mm balanced, and 4-pin XLR balanced. Connect your headphones to the appropriate jack.

## Connecting to Amplifiers or Active Speakers

Use XLR or RCA cables to connect the DX5II to your amplifiers or active speakers. Ensure to turn off all devices before making connections to avoid damage.

## 12V Trigger Connection

The 12V Trigger IN/OUT allows the DX5II to be activated by other devices or to activate other devices via a 3.5mm AUX cable. This enables synchronized power on/off with compatible equipment.

## Official Product Video: User Manual Walkthrough

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Video: A detailed walkthrough of the TOPPING DX5II user manual, covering various aspects of setup, connections, and initial operation.

## 4. Operating Instructions

Familiarize yourself with the operational controls and settings of your DX5II.

### Power On & Off / Standby Operation

- **Power On:** Press the power switch on the rear panel.
- **Standby:** Short press the volume knob on the front panel or use the remote control to enter standby. Press again to exit.

### Volume Setting

- **Mute/Unmute:** Press the mute button on the remote control.
- **Adjusting Volume:** Rotate the volume knob on the front panel or use the volume buttons on the remote control.

### Input Settings

The DX5II supports multiple input channels. You can choose between auto-detect or manual selection in the setup menu. Use the Input button on the front panel or remote to switch between active inputs.

### Output Settings

The device allows preselection of commonly used output channels. Options include All (Headphone Outputs), All (Line Outputs), HPA SE (6.35mm), HPA BAL (4.4mm/4-pin XLR), LO SE (RCA), and LO BAL (XLR).

### PCM Filter Setting

The DX5II offers various PCM filter options (F-1 to F-8) to fine-tune the sound characteristics.

### PEQ Configuration

The 10-band high-precision PEQ can be configured via desktop software. You can save up to 5 custom configurations and apply them offline.

### Aurora UI Display

The 2.0-inch full-color screen offers various display modes (Normal, VU, FFT) and customizable background colors. The pressable knob supports customizable functions.

## 5. Troubleshooting

If you encounter any issues with your DX5II, refer to the following common problems and solutions:

- **No Sound:** Check power supply, input selection, cable connections, and upstream devices.
- **H/M/L blinks, others are off (Firmware exception):** Unplug and re-plug the power cable, then flash the firmware again.
- **HML and H/L blinks alternately (Input voltage is high/low):** Use the included power adapter.
- **HML and M blinks alternately (Positive and negative voltage anomalies):** Check power supply, disconnect other devices, and reboot.

- **Blinks only the current gain LED (Headphone amplifier circuit outputs abnormal DC voltage):** Change the song or turn down the volume.

For further assistance, please contact customer support.

### Official Product Video: Troubleshooting Guide

Your browser does not support the video tag.

Video: A guide to common troubleshooting steps for the TOPPING DX5II, addressing various operational issues and their potential solutions.

## 6. Specifications

### General Attributes

| Attribute | Value |
|---|---|
| Measured Dimensions | 19.0cm x 15.5cm x 4.4cm (including protruding parts) |
| Weight | 945g |
| Power Input | 100-277VAC 50Hz/60Hz |
| Signal Input | USB/BT/OPT/COAX |
| Line Out Output | XLR/RCA |
| Headphone Output Jack | 6.35mm headphone output jack, 4.4mm headphone output jack, 4-PIN-XLR headphone output jack |
| Other Connectors | 12V Trigger In (3.5mm jack), 12V Trigger Out (3.5mm jack) |
| Bluetooth Range | >10M |
| Display | 2inch LCD |
| Control | 3 buttons + multifunction knob + Remote control |
| Standby Power Consumption | <1.3W |
| Power Consumption | <6W |

### DX5 II DAC Parameters (LineOut/USB In@96kHz)

| Parameter | RCA | XLR |
|---|---|---|
| THD+N @1kHz (A-wt) | <0.00008% | <0.00006% |
| THD @20-20kHz 90kBw | <0.0005% | <0.00015% |
| SNR @1kHz (A-wt) | 128dB | 132dB |

| | | |
|---|---|---|
| Dynamic Range @1kHz (A-wt) | 128dB | 132dB |
| Frequency Response | 20Hz-20kHz (±0.3dB), 20Hz-40kHz (±1.0dB) | 20Hz-20kHz (±0.3dB), 20Hz-40kHz (±1.0dB) |
| Output Level | 2.5Vrms @0dBFS | 5.0Vrms @0dBFS |
| Noise @A-wt | <1.1uVrms | <1.3uVrms |
| Channel Crosstalk | -135dB @1kHz | -147dB @1kHz |
| Channel Balance | 0.3 dB | 0.3 dB |
| Output Impedance | 50Ω | 100Ω |

*Note: The above data is the result of the test in TOPPING laboratory under AC220V 50Hz condition.*

## DX5 II Headphone Amplifier Specifications (USB In@96kHz)

| Parameter | 6.35mm headphone jack | 4.4mm/4-pin XLR headphone jack |
|---|---|---|
| THD+N @1kHz (A-wt) | <0.00008% @Output=20mW (32Ω), <0.00007% @Output=22mW (300Ω) | <0.00007% @Output=85mW (32Ω), <0.00007% @Output=85mW (300Ω) |
| THD @20-20kHz (90kBw) | <0.0005% @Output=20mW (32Ω), <0.0005% @Output=22mW (300Ω) | <0.0005% @Output=85mW (32Ω), <0.0005% @Output=90mW (300Ω) |
| SNR @MAX OUT 1kHz (A-wt) | 131dB | 133dB |
| Dynamic Range @1kHz (A-wt) | 131dB | 133dB |
| Frequency Response | 20Hz-20kHz (±0.3dB), 20Hz-40kHz (±1.0dB) | 20Hz-20kHz (±0.3dB), 20Hz-40kHz (±1.0dB) |
| Output Level | 7.2Vpp @G=L, 24.2Vpp @G=H | 15.0Vpp @G=L, 48.6Vpp @G=H |
| Noise (A-wt) | <2.5uVrms @G=H, <1.1uVrms @G=L | <4.3uVrms @G=H, <1.8uVrms @G=L |
| Channel Crosstalk | -127dB @1kHz | -143dB @1kHz |
| Gain | G=L 8.6dB (Vrms/FS), G=H 18.7dB (Vrms/FS) | G=L 14.6dB (Vrms/FS), G=H 24.7dB (Vrms/FS) |

| | | |
|---|---|---|
| Channel Balance | 0.3 dB | 0.3 dB |
| Output Impedance | <0.1Ω | <0.1Ω |
| Output Power | 3300mW x 2 @16Ω THD+N<1%, 2200mW x 2 @32Ω THD+N<1%, 1160mW x 2 @64Ω THD+N<1%, 250mW x 2 @300Ω THD+N<1%, 120mW x 2 @600Ω THD+N<1% | 7600mW x 2 @16Ω THD+N<1%, 6400mW x 2 @32Ω THD+N<1%, 4300mW x 2 @64Ω THD+N<1%, 990mW x 2 @300Ω THD+N<1%, 490mW x 2 @600Ω THD+N<1% |
| Load Impedance | >8Ω | >8Ω |

*Note: The above data is the result of the test in TOPPING laboratory under AC220V 50Hz condition.*

## 7. Safety Precautions

- Do not keep the unit in a hot, humid environment or hit the unit strongly.
- Opening the case instantly voids the warranty!
- Indoor use only.
- Topping accepts no liability for any loss or damage arising directly or indirectly from the failure of DX5 II.
- For improvement purposes, specifications subject to changes without prior notice.

## 8. Warranty and Support

Hificollege aims for 100% customer satisfaction. We offer authoritative certification, ensuring 100% authenticity of all products sold. Our support team is ready to answer any questions 24/7. We provide more than 1 year of quality restoration, covering repair and shipping costs. We also offer a lowest price match within 30 days.