**XDUOO TA20 Plus**

# XDUOO TA20 Plus Balanced Tube Headphone Amplifier User Manual

Model: TA20 Plus

## 1. Introduction

The XDUOO TA20 Plus is a high-performance desktop balanced tube headphone amplifier designed to deliver a rich and refined audio experience. It features a hybrid design combining vacuum tubes for signal amplification and transistors for Class A buffering, ensuring powerful output and a warm, detailed sound signature. This manual provides essential information for the proper setup, operation, and maintenance of your TA20 Plus amplifier.

## 2. Safety Information

- **Power Supply:** Use only the specified power adapter. Ensure the voltage matches your local power supply.
- **Ventilation:** Do not block ventilation openings. Ensure adequate airflow around the unit to prevent overheating.
- **Moisture:** Keep the amplifier away from water, moisture, and high humidity environments.
- **Heat:** Avoid placing the unit near heat sources or in direct sunlight. The vacuum tubes generate heat during operation.
- **Handling Tubes:** Vacuum tubes can become hot. Exercise caution when handling or replacing them. Allow the unit to cool down before touching tubes.
- **Servicing:** Do not attempt to service the unit yourself. Refer all servicing to qualified personnel.
- **Placement:** Place the amplifier on a stable, level surface. Keep it away from strong magnetic fields.

## 3. Package Contents

Please check that all items are present in the package:

- XDUOO TA20 Plus Headphone Amplifier
- Power Cable
- User Manual (this document)
- Warranty Card (if applicable)

## 4. Product Overview

The TA20 Plus features a robust aluminum shielded case to minimize external interference. Its design incorporates a 5Z4P tube for rectification and two 12AU7 tubes for audio signal amplification, contributing to its characteristic warm and sweet sound.

### 4.1 Front Panel




Figure 4.1: Front Panel Layout

- **XLR Headphone Output:** 4-pin balanced headphone output.
- **4.4mm Balanced Headphone Output:** Balanced headphone output.
- **6.35mm Unbalanced Headphone Output:** Standard unbalanced headphone output.
- **VU Meter:** Displays audio signal level.
- **Digital Display:** Shows volume level and input selection.
- **Volume/Input Knob:** Rotate to adjust volume. Press to cycle through input sources (AUX1, AUX2, BAL).

### 4.2 Rear Panel



Figure 4.2: Rear Panel Connections

- **RCA Line Out:** Unbalanced stereo RCA output.
- **RCA Line In (AUX1, AUX2):** Two sets of unbalanced stereo RCA inputs.
- **XLR Balanced In:** Balanced stereo XLR input.
- **Power Inlet:** For connecting the power cable.
- **Power Switch:** Turns the unit on or off.

### 4.3 Internal Components (Tubes)




Figure 4.3: Vacuum Tubes in Operation

The TA20 Plus utilizes a 5Z4P tube for rectification and two 12AU7 tubes for signal amplification. These tubes are visible through the protective grille and emit a warm glow during operation.




Figure 4.4: Key Features Overview

## 5. Setup

Follow these steps to set up your XDUOO TA20 Plus amplifier:

1. **Placement:** Place the amplifier on a stable, flat surface with sufficient ventilation. Keep it away from other electronic devices that might cause interference.
2. **Connect Audio Source:**
    - For unbalanced sources (e.g., CD player, DAC with RCA output), connect RCA cables from your source to either the **AUX1 IN** or **AUX2 IN** ports on the rear panel.
    - For balanced sources (e.g., high-end DAC with XLR output), connect XLR cables from your source to the **BALANCED IN** ports on the rear panel.
3. **Connect Headphones:** Plug your headphones into the appropriate output on the front panel:
    - For 6.35mm unbalanced headphones, use the **6.35mm** jack.
    - For 4.4mm balanced headphones, use the **4.4mm** jack.
    - For 4-pin balanced headphones, use the **XLR** jack.
4. **Connect Power:** Connect the power cable to the power inlet on the rear panel and then to a wall outlet.



Figure 5.1: Connectivity Options

## 6. Operation

1. **Power On:** Flip the power switch on the rear panel to the 'ON' position. The tubes will begin to glow, and the unit will initiate a warm-up sequence.
2. **Tube Warm-up:** Allow approximately 30-60 seconds for the tubes to warm up and stabilize. During this time, you may hear a soft hum or no sound. This is normal.
3. **Select Input:** Press the Volume/Input knob on the front panel to cycle through the available input sources: AUX1, AUX2, and BAL. The selected input will be indicated on the digital display.
4. **Adjust Volume:** Rotate the Volume/Input knob clockwise to increase the volume and counter-clockwise to decrease it. Start with a low volume level before playing audio to avoid sudden loud sounds.
5. **Enjoy Audio:** Begin playing audio from your connected source. The VU meter will respond to the audio signal level.
6. **Power Off:** When finished, turn the power switch on the rear panel to the 'OFF' position.

## 7. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the amplifier. Do not use liquid cleaners or solvents.
- **Tube Replacement:** Over time, vacuum tubes may degrade and require replacement. The TA20 Plus uses one 5Z4P tube and two 12AU7 tubes. When replacing tubes, ensure the amplifier is powered off and unplugged, and allow the tubes to cool completely. Carefully pull the old tubes straight out and insert the new tubes, aligning the pins correctly.
- **Ventilation:** Regularly check that the ventilation openings are clear of dust and debris.
- **Storage:** If storing the unit for an extended period, disconnect it from power and store it in a cool, dry place.

## 8. Troubleshooting

- **No Sound:**
  - Ensure the amplifier is powered on and the tubes are glowing.
  - Verify that the correct input source is selected (AUX1, AUX2, or BAL).
  - Check all audio cable connections between the source and the amplifier, and between the amplifier and headphones.
  - Confirm that the volume is not set to minimum.
  - Test with a different audio source or headphones to isolate the issue.
- **Distorted Sound:**
  - Reduce the volume level from both the source and the amplifier.
  - Check for loose or damaged audio cables.
  - Ensure the headphones are properly connected and not damaged.
  - Consider if the tubes might be nearing the end of their lifespan and require replacement.
- **One Channel Not Working:**
  - Check the headphone connection; ensure it is fully inserted and not damaged.
  - Verify the audio input cables are securely connected to both left and right channels.
  - If using balanced connections, ensure both XLR or 4.4mm connections are correct.
  - Try swapping the left and right input cables at the source to determine if the issue is with the source or the amplifier.
  - If possible, try different headphones to rule out headphone issues.
- **Humming or Noise:**
  - Ensure the amplifier is placed away from other electronic devices that might cause electromagnetic interference.
  - Check for proper grounding of all audio components.
  - Try plugging the amplifier into a different power outlet.

## 9. Specifications

| Feature | Specification |
| --- | --- |
| Model | TA20 Plus |
| Tube Type (Rectifier) | 5Z4P |
| Tube Type (Amplification) | 2 x 12AU7 |
| Output Power | Up to 2000mW |
| Input Interfaces | 2 x RCA (unbalanced), 1 x XLR (balanced) |
| Headphone Output Interfaces | 6.35mm (unbalanced), 4.4mm (balanced), 4-pin XLR (balanced) |
| Product Dimensions | 6.02 x 10.24 x 6.97 inches (15.3 x 26 x 17.7 cm) |
| Item Weight | 11.33 pounds (5.14 kg) |
| Manufacturer | XDUOO |



Figure 9.1: Product Dimensions

## 10. Warranty and Support

For warranty information and technical support, please refer to the warranty card included with your product or contact your authorized XDUOO dealer. Keep your purchase receipt as proof of purchase for warranty claims.

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