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Nobsound Nobsound

Nobsound Class A Tube Amplifier DIY Kit (6n9p & 6L6GCR) Instruction Manual

Model: Nobsound

1. Introduction

This document provides essential information and instructions for the Nobsound Class A Tube Amplifier DIY Kit. This kit is designed for enthusiasts with professional soldering skills and includes a circuit diagram for assembly. Please note that a step-by-step manual is not provided, requiring the builder to have a solid understanding of electronics and tube amplifier construction.

The amplifier features a 2.0 channel design with an output power of 7W per channel. It utilizes 5Z4P, 6L6GCR, and 6n9p vacuum tubes to deliver a rich audio experience.



Figure 1: Assembled Nobsound Class A Tube Amplifier with a visual representation of the DIY kit components. This image displays the fully assembled Nobsound Class A Tube Amplifier, featuring its elegant design with visible vacuum tubes. A thought bubble illustrates the various components included in the DIY kit, highlighting the comprehensive nature of the package.

2. Safety Precautions

Working with electronic circuits, especially tube amplifiers, involves high voltages that can be dangerous or even lethal. Adhere to the following safety guidelines:

- **Professional Skills Required:** This is a DIY kit intended for experienced individuals with professional electronic assembly and soldering skills. If you are not confident in your abilities, seek assistance from a qualified professional.
- **High Voltage:** Tube amplifiers operate with high voltages. Always ensure the amplifier is unplugged from the mains power and capacitors are fully discharged before touching any internal components.
- **Proper Grounding:** Ensure proper grounding throughout the assembly process and during operation to prevent electric shock.
- **Ventilation:** Operate the amplifier in a well-ventilated area to prevent overheating.

- **Component Handling:** Handle all components, especially vacuum tubes, with care. Tubes can become very hot during operation.
- **Import Duties:** The buyer is responsible for any import duties imposed by the customs authority of the destination country.

3. Kit Contents

The Nobsound Class A Tube Amplifier DIY Kit includes all necessary components for assembly. Please verify that all parts are present before beginning construction.

- Chassis (metal base with wooden side panels)
- Vacuum Tubes: 1x 5Z4P, 1x 6L6GCR, 2x 6n9p
- Power Transformer
- Output Transformers (2 units)
- Capacitors (various types and values)
- Resistors (various types and values)
- Tube Sockets
- Input/Output Connectors (RCA, Speaker terminals)
- Volume Potentiometer and Knob
- Power Switch
- Wiring and Fasteners
- Circuit Diagram



Figure 2: Overview of Nobsound Class A Tube Amplifier DIY kit components. A detailed view of the Nobsound Class A Tube Amplifier DIY kit components, neatly arranged. This includes various resistors, capacitors, diodes, terminal blocks, and other small electronic parts necessary for assembly.



Figure 3: Detailed view of Nobsound Class A Tube Amplifier DIY kit components. Another perspective of the Nobsound Class A Tube Amplifier DIY kit, showcasing additional components such as tube sockets, wiring, and various fasteners, all essential for the amplifier's construction.



Figure 4: Nobsound Class A Tube Amplifier DIY kit components, including tubes. This image presents a selection of the Nobsound Class A Tube Amplifier DIY kit components, prominently featuring the vacuum tubes (5Z4P, 6L6GCR, 6n9p), along with the power cord, various resistors, and capacitors.

4. Assembly Instructions (DIY Kit)

Important: This kit requires professional soldering skills and a thorough understanding of circuit diagrams. It does not include a step-by-step assembly manual. Builders must rely on the provided circuit diagram and their own expertise.

4.1 General Assembly Steps

1. **Chassis Preparation:** Begin by familiarizing yourself with the chassis and identifying mounting points for transformers, tube sockets, and connectors.
2. **Component Mounting:** Securely mount the power transformer, output transformers, tube sockets, input/output jacks, volume potentiometer, and power switch onto the chassis.
3. **Wiring and Soldering:** Following the provided circuit diagram, carefully wire and solder all resistors, capacitors, and other small components. Pay close attention to component orientation (e.g., electrolytic capacitors, diodes) and

ensure clean, strong solder joints.

4. **Power Supply Section:** Assemble the power supply circuit, including the rectifier tube socket and associated components, ensuring correct voltage regulation and filtering.
5. **Audio Circuitry:** Assemble the pre-amplifier and power amplifier stages, connecting the 6n9p and 6L6GCR tube sockets with their respective passive components.
6. **Input/Output Connections:** Wire the RCA input jacks and speaker output terminals according to the diagram.
7. **Initial Inspection:** Before applying power, thoroughly inspect all wiring for shorts, cold solder joints, and incorrect connections. Use a multimeter to check for continuity and resistance where appropriate.
8. **Tube Installation:** Once all wiring is verified, carefully insert the vacuum tubes into their respective sockets.

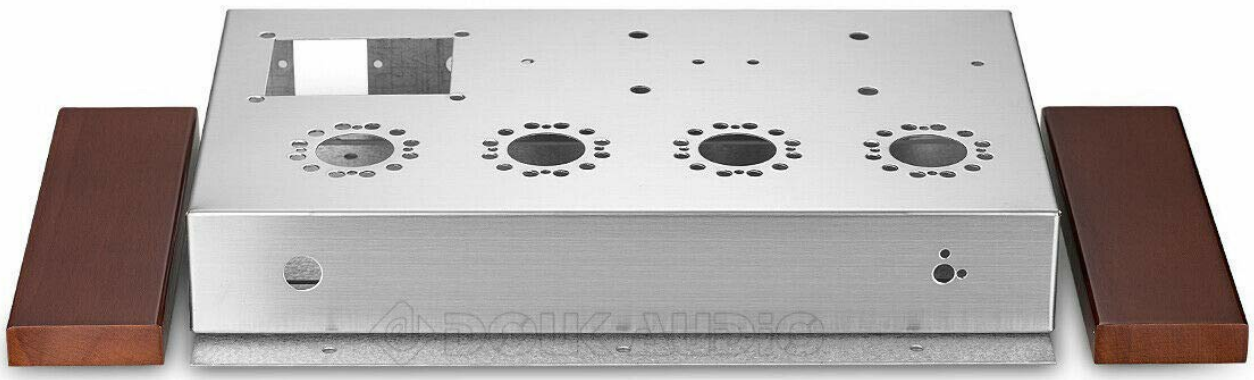


Figure 5: Metal chassis for the Nobsound Class A Tube Amplifier DIY kit. The robust metal chassis of the Nobsound Class A Tube Amplifier DIY kit, shown with its elegant wooden side panels. This forms the foundational structure for mounting all electronic components.

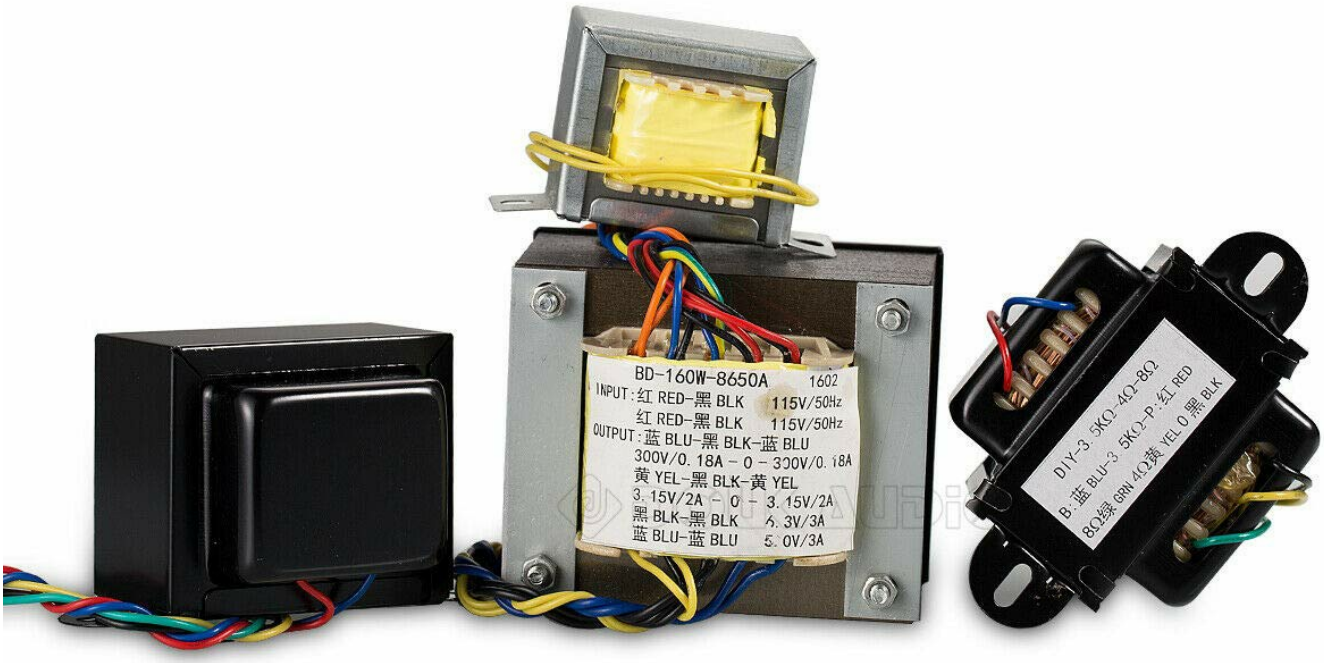


Figure 6: Power and output transformers. The power and output transformers included in the Nobsound Class A Tube Amplifier DIY kit. These are crucial for power supply and impedance matching to the speakers.



Figure 7: Vacuum tubes included in the kit. A close-up of the vacuum tubes supplied with the Nobsound Class A Tube Amplifier DIY kit. These include one 5Z4P rectifier tube, one 6L6GCR power tube, and two 6n9p pre-amplifier tubes.

5. Operating Instructions

5.1 Connecting Audio Sources

Connect your audio source (e.g., CD player, DAC, pre-amplifier) to the RCA input jacks on the rear of the amplifier using high-quality RCA cables.

5.2 Connecting Speakers

Connect your passive speakers to the speaker output terminals. Ensure correct polarity (+ to + and - to -) and match the speaker impedance (4Ω or 8Ω) to the amplifier's output impedance for optimal performance and safety.

5.3 Powering On/Off

1. Ensure all connections are secure and correct.

2. Turn the volume knob to its minimum setting.
3. Plug the power cord into a suitable mains outlet.
4. Flip the power switch to the 'ON' position. Allow a warm-up period of approximately 10-15 minutes for the tubes to reach optimal operating temperature.
5. To power off, turn the volume to minimum, then flip the power switch to 'OFF'.

5.4 Volume Control

Adjust the volume using the knob on the front panel. Start with a low volume and gradually increase it to a comfortable listening level.

6. Maintenance

6.1 Tube Replacement

Vacuum tubes have a finite lifespan and may need replacement over time. If you notice a degradation in sound quality or a tube fails, replace it with a compatible type (5Z4P, 6L6GCR, 6n9p). Always ensure the amplifier is powered off and unplugged, and tubes have cooled down before attempting replacement. Handle tubes by their base to avoid damaging the glass envelope.

6.2 Cleaning

Dust can accumulate on the chassis and components. Use a soft, dry cloth to clean the exterior. For internal cleaning, ensure the unit is unplugged and use compressed air or a soft brush to remove dust from components. Avoid using liquid cleaners.

6.3 General Care

Keep the amplifier away from direct sunlight, heat sources, and excessive moisture. Ensure adequate ventilation around the unit during operation.

7. Troubleshooting

If you encounter issues with your Nobsound Class A Tube Amplifier, consider the following troubleshooting steps:

- **No Power:** Check the power cord connection and the power switch. Ensure the mains outlet is functional.
- **No Sound:** Verify all audio source and speaker connections. Check if the tubes are glowing (indicating power). Ensure the volume is not at minimum. Inspect for any loose wires or cold solder joints from assembly.
- **Humming Noise:** A slight hum is normal for tube amplifiers, but excessive hum may indicate a grounding issue, faulty power supply capacitors, or improper wiring. Review your ground connections and power supply section.
- **Distorted Sound:** This could be due to faulty tubes, incorrect bias settings (if adjustable), or issues with passive components. Try swapping tubes if you have spares.
- **Channel Imbalance:** Check connections for the affected channel. Inspect the tubes and components specific to that channel.
- **Component Defects:** Some users have reported issues with certain components like transformers or capacitors. If troubleshooting doesn't resolve the issue, a component-level inspection may be necessary.

For complex issues, it is recommended to consult with an experienced electronics technician.

8. Technical Specifications

Feature	Specification
Output Power	7W x 2
Frequency Response	13 ~ 33k Hz (-3dB)
Total Harmonic Distortion (THD)	1.5%
Signal-to-Noise Ratio (SNR)	≥ 93dB
Whole Consumption	≤ 80W
Input Impedance	100kΩ
Input Sensitivity	0.8Vrms
Output Impedance	4Ω / 8Ω
Tubes Included	1x 5Z4P, 1x 6L6GCR, 2x 6n9p
Number of Channels	2
Mounting Type	Surface Mount
Voltage	80 Volt (Internal operating voltage, not mains input)

9. Warranty and Support

As a DIY kit, the warranty typically covers the components at the time of purchase. The successful operation of the assembled amplifier depends on the builder's skill and adherence to proper assembly techniques.

For customer support, Nobsound aims to provide courteous and prompt assistance. Most questions are answered within 12 hours. For inquiries regarding components or general support, please refer to the seller's contact information or visit the official Nobsound store:

Visit the Nobsound Store on Amazon

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