

Willsenton R200

Willsenton R200 Tube Integrated Amplifier and Headphone Amplifier User Manual

INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Willsenton R200 Tube Integrated Amplifier and Headphone Amplifier. Please read these instructions thoroughly before using the product and retain them for future reference.

The Willsenton R200 is a meticulously crafted audio device featuring a pure vacuum tube design with hand-made point-to-point wiring. It incorporates high-quality wide frequency response EI output transformers and a specially developed square power transformer. The preamplifier section utilizes one 12AX7 and two 6N1 vacuum tubes, while the power amplification stage employs four 5881 vacuum tubes in an AB1 class push-pull configuration. This design delivers an open, unrestrained, and powerful sound, ideal for large-scale and dynamic music. An external independent BIAS ADJ current display meter with adjustment and monitoring functions helps maintain optimal vacuum tube performance, extending their lifespan.

1. SETUP

1.1 Unboxing and Inspection

Carefully remove all components from the packaging. Inspect the amplifier and accessories for any signs of damage. The package should include:

- Willsenton R200 Tube Integrated Amplifier
- Full set of Vacuum Tubes (1x 12AX7, 2x 6N1, 4x 5881)
- Tube Cage (Protective Cover)
- Power Cord

1.2 Tube Installation

Before powering on the unit, ensure all vacuum tubes are securely seated in their respective sockets. The tubes are typically labeled and correspond to specific sockets on the amplifier chassis. Gently push each tube straight down into its socket until it is firm. The preamplifier uses one 12AX7 and two 6N1 vacuum tubes, while the rear stage uses four 5881 vacuum tubes.



Figure 1: Close-up of the installed vacuum tubes (12AX7, 6N1, 5881) on the Willsenton R200 amplifier.

1.3 Protective Cover Installation

For safety and protection of the vacuum tubes, install the provided tube cage (protective cover) over the tubes. This cover helps prevent accidental contact with hot tubes and provides physical protection.



Figure 2: Willsenton R200 with the tube protective cover in place.

1.4 Connecting Audio Sources and Speakers

Connect your audio sources (e.g., CD player, AUX devices, Bluetooth) to the appropriate input terminals on the rear panel. Connect your speakers to the output terminals, ensuring correct polarity (positive to positive, negative to negative) and impedance matching (4Ω or 8Ω).



Figure 3: Rear panel connections for audio inputs and speaker outputs.

1.5 Power Connection

Connect the provided power cord to the amplifier's AC input and then to a suitable power outlet. Ensure the power supply voltage matches the amplifier's requirements ($\sim 115V \pm 5\%$ (50Hz)).

2. OPERATING INSTRUCTIONS

2.1 Power On/Off

Locate the power switch on the front panel. Turn the switch to the 'ON' position to power on the amplifier. The vacuum tubes will begin to glow, indicating operation. Turn to 'OFF' to power down.



Figure 4: Front panel controls and illuminated vacuum tubes.

2.2 Input Selection

Use the input selector knob on the front panel to choose your desired audio source (CD, AUX1, AUX2, BTH).

2.3 Volume Control

Adjust the volume knob on the front panel to your preferred listening level. Start with a low volume and gradually increase it to avoid sudden loud sounds.

2.4 Headphone Usage

The amplifier includes a dedicated headphone output. Connect your headphones to the 6.35mm headphone jack on the front panel. The headphone output impedance is suitable for headphones ranging from 30Ω to 300Ω.

2.5 Bluetooth Pairing

To connect via Bluetooth, select the 'BTH' input. The amplifier will enter pairing mode. On your device, search for 'Willsenton R200' and connect. The amplifier uses a Qualcomm QCC3034 BTH chip and supports aptX, aptX HD, aptX Low Latency, SBC, and AAC audio formats with an effective transmission distance of 10

meters.

2.6 Bias Adjustment and Monitoring

The Willsenton R200 features an external independent BIAS ADJ current display meter. This allows for monitoring and adjustment of the vacuum tube bias, which is crucial for optimal performance and tube longevity. Refer to the specific instructions for bias adjustment if needed, typically found in a more detailed service manual or provided by the manufacturer.



Figure 5: Bias adjustment and monitoring points.

3. MAINTENANCE

3.1 Tube Run-in Period

It is recommended to allow 100-300 hours for the amplifier's vacuum tubes to 'run-in' or break-in. Generally, you will experience better and more stable sound after 100 hours, with optimal sound achieved after accumulating more than 300 hours of use.

3.2 Cleaning

To clean the amplifier, power it off and disconnect it from the power outlet. Use a soft, dry cloth to wipe down the chassis. Avoid using liquid cleaners or abrasive materials, as these can damage the finish.

3.3 Tube Replacement

Vacuum tubes have a finite lifespan. If you notice a degradation in sound quality or a tube fails, it may need replacement. Always replace tubes with compatible types (12AX7, 6N1, 5881) and ensure the amplifier is powered off and unplugged before attempting replacement. Consult a qualified technician if you are unsure.

4. TROUBLESHOOTING

- **No Power:** Ensure the power cord is securely connected to both the amplifier and the wall outlet. Check the power switch position. Verify the power outlet is functional.
- **No Sound:** Check all audio input and speaker connections. Ensure the correct input source is selected. Verify the volume level is not set to minimum or muted. Check speaker cables for damage.
- **Distorted Sound:** Check for loose tube connections. Ensure speaker impedance matches the amplifier's output. Reduce volume if distortion occurs at high levels.
- **Humming/Buzzing Noise:** Ensure all cables are properly shielded and connected. Try moving the amplifier or audio sources away from other electronic devices that might cause interference. Check for proper grounding.
- **Bluetooth Connection Issues:** Ensure the amplifier is in Bluetooth input mode. Check that your device's Bluetooth is enabled and within the 10-meter range. Try unpairing and re-pairing the device.

If problems persist, consult a qualified audio technician.

5. SPECIFICATIONS

Model	Willsenton R200
Output Power (FTC Rated)	20W + 20W (8Ω, 20Hz-20KHz, THD 1%)
Output Power (Peak)	30W + 30W
Frequency Response	10Hz - 42KHz (±1.5dB)
Harmonic Distortion	0.2% (1W/1kHz, rated output power less than 5%)
Signal-to-Noise Ratio	90dB (A-weighted)
Input Sensitivity	260mV
Input Impedance	100kΩ
Input Terminals	CD, AUX1, AUX2, BTH
Output Impedance	4Ω, 8Ω
Headphone Output Impedance	30Ω - 300Ω

Power Supply Voltage	~115V±5% (50Hz)
Machine Size (WxDxH)	390 x 260 x 215mm (15.35 x 10.24 x 8.46 inches)
Vacuum Tubes Used	1x 12AX7, 2x 6N1, 4x 5881
Net Weight	16.5 kg (36.38 lbs)
Power Consumption	260W
Bluetooth Chip	Qualcomm QCC3034
Bluetooth Audio Formats	aptX, aptX HD, aptX Low Latency, SBC, AAC
Bluetooth Transmission Distance	Effective range of 10 meters
Bluetooth Specifications	V5.0

6. WARRANTY INFORMATION

Specific warranty details are typically provided with your purchase documentation. Please refer to the warranty card or contact your retailer for information regarding coverage, duration, and service procedures. Keep your proof of purchase for warranty claims.

7. CUSTOMER SUPPORT

For technical assistance, product inquiries, or service requests, please contact the retailer where you purchased your Willsenton R200 amplifier. You may also find support information on the official Willsenton website or through authorized service centers.