

RAY TUBES

CORE 12AT7
Product Media Kit

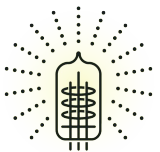


1. The Product
2. The Company
3. The Numbers



CORE 12AT7

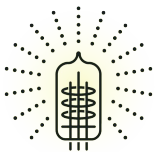
The **12AT7** is part of a large family of dual triodes that also includes the common 12AX7 and 12AU7 tubes. Its higher gain and transconductance made it suitable for high frequency applications in devices like TVs and FM radios. In the world of audio, it's commonly used as a driver or phase inverter in push-pull audio circuits. Both of its common cousins are already available in the CORE collection—now, Ray Tubes is **expanding the family with the CORE 12AT7.**



Product Highlights

The **Ray Tubes CORE Collection** delivers everything you know and love about tube audio with reliability and consistency. CORE is all you need for years of audio bliss.

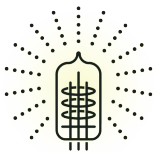
- Designed and manufactured by a team with decades of experience
- Hand-selected specifically for use in audio applications
- Substantially more consistent performance than New Old Stock
- Unlike NOS and most other new production, covered by the Ray Tubes One Year Warranty



Sound Characteristics

The CORE 12AT7 delivers a clear and energetic sound character, **ideal for users seeking mid-to-high frequency articulation and rhythmic precision.**

- The bass is restrained, prioritizing clarity and a well-defined structure.
- The midrange frequencies are linear and open, excelling with vocals and acoustic instruments.
- The treble performance is crisp and energetic, staying clean and controlled without introducing harshness.
- The dynamics are responsive with smooth transitions, while the soundstage offers good positioning and layering of notes.



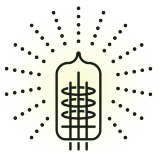
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Our Philosophy

Tube audio has brought audiophiles together for decades, but in recent years, it's **become more difficult to access than ever**. Ray Tubes is on a mission to change that. With rigorous quality control standards backed by the Ray Tubes One Year Warranty, **Ray Tubes is making reliable, consistent vacuum tubes accessible to everyone**—audiophiles old and new, musicians, retailers and amp designers around the world, and why not, even that one guy who just thinks tubes look cool on his shelf.

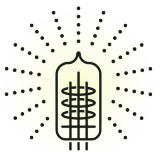
The bottom line: Ray Tubes puts in the work so you can experience the warm, vintage sound of tube audio **without the hassle**.



Our Quality Control

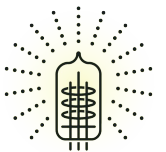
Each tube undergoes **a seven-step quality control process**, including a 24-hour burn-in period, stress tests to minimise microphonics, and critical parameters that are carefully measured to ensure consistency and accurate matching. Finally, sound engineers assess each tube **under real-world listening conditions**.

By the end of the quality control process, **only 5% of tubes commissioned for production meet Ray Tubes' standards**.



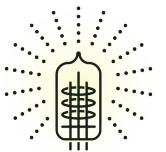
Our Warranty

Books have been written about the countless ways vacuum tubes can and do fail. With most manufacturers, and all New Old Stock, a tube failure leaves the user high and dry. Ray Tubes is different. All Ray Tubes products are backed by the **Ray Tubes One Year Warranty**, which covers manufacturing defects for twelve months from the date of purchase.



Partnership and Feedback

Ray Tubes is always looking to improve their products and expand their wonderful network of retail, brand, and studio partners. Is there a tube you'd love to see in the lineup? Are you interested in stocking Ray Tubes, collaborating on a product, or showing off Ray Tubes in your space? Or do you simply have a comment or question you'd like to share? Get in touch at **help@raytubes.com**.



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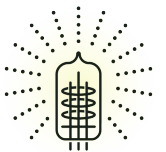


Technical Specification

- **Tube Type:** 12AT7 / ECC81 / 6201 / CV4024
- **Tube Socket:** 9-pin

Heater

- **Heater Voltage:** 6.3 V (parallel) / 12.6 V (series)
- **Heater Current:** 0.30 A / 0.15 A



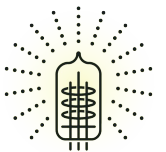
Technical Specification

Maximum Ratings in Class A Amplification (Per Section)

- **Anode Voltage:** 300 V
- **Grid Voltage:** -50 V
- **Anode Dissipation Power:** 2.5 W
- **Heater-to-Cathode Voltage:** ± 90 V

Grid Circuit Resistance

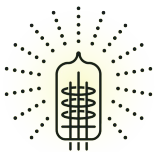
- **Self Bias:** 1 M Ω
- **Fixed Bias:** 0.25 M Ω



Technical Specification

Interelectrode Capacitance

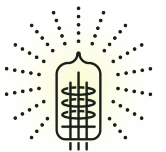
- **Grid-to-Grid:** 0.005 pF
- **Plate-to-Plate:** 0.4 pF
- **Grid-to-Plate (per section):** 1.5 pF
- **Grid-to-Cathode/Heater (per section):** 2.2 pF
- **Plate-to-Cathode/Heater (per section):** 0.5 pF
- **Heater-to-Cathode (per section):** 2.4 pF
- **Plate-to-Cathode (per section):** 0.2 pF
- **Cathode-to-Heater/Grid (per section):** 4.6 pF
- **Plate-to-Heater/Grid (per section):** 1.8 pF



Technical Specification

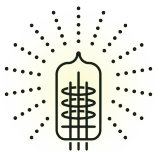
Static Parameters

- **Anode Voltage:** 100 V / 250 V
- **Anode Current:** 3.7 mA / 10 mA
- **Transconductance:** 4 mA/V / 5.5 mA/V
- **Cathode Resistor:** 270 Ω / 200 Ω
- **Amplification Factor:** 60 / 60
- **Approx. Internal Resistance:** 15 k Ω / 10.9 k Ω
- **Approx. Grid Voltage:** -5 V / -12 V



Package Contents

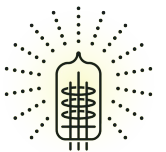
- Pair of matched vacuum tubes OR single vacuum tube
- User handbook featuring burn-in guidelines
- Certificate of authenticity and warranty



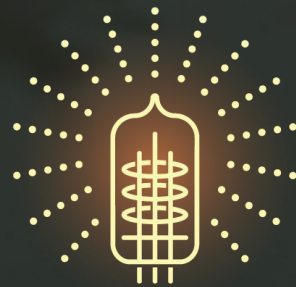
Ray Tubes Retail Partners

Local audio retailers are the beating heart of any community of audiophiles. No one's better placed to help you with every aspect of your purchase than your local retailer, and part of the Ray Tubes mission is to support those retailers in any way possible. That's why there are no direct sales through the Ray Tubes website. Instead, check out the extensive network of Ray Tubes retail partners at <https://raytubes.com/pages/retailers>.

You won't be disappointed.







RAY TUBES

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