

## 250Ti Jubilee Instruction Manual

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## The 250Ti Jubilee

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A definitive expression of quality and craftsmanship, the 250Ti Jubilee is the most advanced JBL loudspeaker built for the home. No effort has been spared and no performance factor has been overlooked in building the most accurate loudspeaker possible, from the singular shape of the enclosure to the design of the level controls. The woodworking of the 250Ti Jubilee – with each hand-detailed enclosure carefully crafted of dense fiberboard and finished in high-gloss lacquer – complements the engineering.

The 250Ti Jubilee will sound as good as your equipment and program source will allow. Imaging is precise and stable. Frequency response, both on and off axis, is nearly ruler-flat to well beyond the audible bandwidth. Distortion is held to levels more typical of fine electronics than of loudspeakers.

Despite its sophistication, the 250Ti Jubilee is easy to set up properly. Please read this manual thoroughly before beginning. The instructions and information it contains will ensure a trouble-free setup and will allow you to realize the full potential of your system.

## Placement

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For the best performance, place your 250Ti Jubilee speakers at least three feet from any walls, and equidistant from your primary listening position (there is no designated right or left speaker). The location of your primary listening position is determined by the distance between the speakers; the area created between the loudspeakers and the listening position should ideally equal a 40- to 60-degree angle. For example, if the loudspeakers are 2.4m (8 feet) apart, your listening position should be 2.4 – 3.65m (8 to 12 feet) from each speaker. To widen the area in which the best stereo image will be perceived, turn the speaker to face the primary listening position.

Speaker wire and interconnecting cables are an important component in an audio system. The 250Ti Jubilee system is internally wired with specially designed cable manufactured for JBL by Monster Cable®. The same care that was taken in selecting internal system wiring should be taken in selecting and applying the cables that will connect the various system components. Your 250Ti Jubilee dealer has the experience and knowledge to recommend suitable interconnects and speaker wire to best complement your system.

The following gauge wires (minimum requirements) are recommended:

Gauge	Distance
1 mm <sup>2</sup> (18 AWG)	Up to 5 meters (15 feet)
1.5 mm <sup>2</sup> (16 AWG)	Up to 10 meters (30 feet)
2 mm <sup>2</sup> (14 AWG)	Up to 25 meters (75 feet)

The length of the wire will depend on the location of the loudspeakers and amplifier. Since you should listen carefully to your loudspeakers *before* determining their final position, you may want to arrange a temporary wiring layout that allows you to move the loudspeakers and experiment with their placement. After you have determined the best location for the system, permanent connections may then be made using the shortest cable runs possible. Use the same length wires for both speakers.

In some systems, the amplifier may be located near the loudspeaker system and connected using a short length of wire. Although such a hookup requires a relatively long cable between the preamplifier and main amplifier, the benefit of the short amplifier-to-loudspeaker connection often outweighs any drawbacks.

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## Connections

**WARNING:** Be sure your amplifier is turned off before connecting or disconnecting the loudspeakers. Making connections while the amplifier is operating could seriously damage the loudspeaker system and void the warranty. The amplifier must also be turned off before connecting or disconnecting cables at the amplifier or preamplifier inputs.

**Before you begin.** Examine your speaker wire carefully. One conductor is solid, and the other is differentiated by a ridge, printed marking or color stripe. Assign one conductor positive (+) and the other negative (–) polarity, and always connect the designated conductors to their respective amplifier and loudspeaker terminals, positive-to-positive, and negative-to-negative. This will ensure that the loudspeakers will work together (in phase) rather than in opposition. (Connecting the loudspeakers out of phase will not cause damage but will result in reduced low-frequency output and lack of stereo effect.)

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JBL 250Ti Jubilee loudspeakers are designated to produce a positive pulse when a positive voltage is applied to the positive (red) terminal. Some audio amplifiers invert polarity (i.e., reverse the polarity of both channels). Before you make your final connections, audition the system carefully with both normal (+ amp to + speaker) as well as reversed (+ amp to – speaker) connections to determine the best method. The “correct” connection is the one that yields the best audible results. Be sure to reverse both left and right connections to keep the system in phase.

Connections to the 250Ti Jubilee loudspeaker system are made at the two terminals located on the back of the enclosure, which are designed to permit a variety of connection methods, as described below. Each method has its own advantages. Experimentation, and the advice of your JBL 250Ti Jubilee dealer, will be helpful in choosing the best method for your system.

### **Bare Wire Method**

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The most positive connection is made by directly connecting clean, bare wire. For each terminal, separate each wire into three equal bundles.

Turn the terminal counterclockwise and pass the center bundle through the exposed hole in the binding post. Wrap the remaining bundles around the post and twist them together with the center strands. Tighten the knob securely so that a snug, positive connection over a maximum area is achieved. Do not apply excessive force, and *do not overtighten*. Trim off any excess wire that is not in contact with the binding post contact surfaces to avoid a short circuit.

### **Spade or Banana-type Connector Method**

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This method involves fastening the ends of wires to spade or banana-type connectors which are then, in turn, attached to the binding posts. Bear in mind, however, that there is an advantage to keeping the number of contacts to a minimum. If this type of connection is desired, we recommend using the highest-quality terminals, expertly connected to the selected cables.

### **“Bi-Wire” Connecting Method**

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The system’s internal dividing network is electrically separated at the low-frequency to midrange transition. External strapping bars connect the networks when a single-wire connection method is used (the system is shipped from the factory with the strapping bars in place). By removing the bars, connections may be made to the individual network sections using two wires (four conductors). The

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same type of wires may be used for both low-frequency and high-frequency sections to reduce wire effects (resistance, inductance, etc.) and to avoid intermodulation of low and high frequencies.

In some systems, using specialized wires for low-frequency and high-frequency sections may yield excellent results. In either case, low-frequency cables should be as short as possible, and the left and right cables for each section must be the same length. **CAUTION: Never connect two amplifier channels to the same loudspeaker without first removing the strapping bars. Operating two amplifier channels with the bars in place will seriously damage the amplifiers and void the warranty.**

The bi-wire option also enables you to power the system with two amplifiers. Four identical amplifiers (or two dual-channel units) may be used, although specialized low- and high-frequency amplifiers offer clear advantages. Your JBL 250Ti Jubilee dealer can recommend the amplification that will best suit your needs. In all cases, the left and right amplifiers for each section must be identical. Make sure that the input sensitivity of the two amplifiers is equal, or that input level controls are provided to maintain the proper low-to-mid/high balance. If you are using two identical stereo amplifiers, you may locate one near each loudspeaker and drive low- and high-frequency sections through short wire runs.

Input polarity must be the same for both low- and high-frequency sections. Some amplifiers invert polarity. If the polarity is reversed to one section, a discontinuity in response will be apparent in the crossover region. If a problem is suspected, reverse the polarity to either low- or high-frequency sections of both loudspeakers. Amplifier polarity markings may not ensure correct polarity connections.

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## Maintaining Connections

All connections should be inspected and cleaned or remade periodically. Frequency of maintenance depends on the metals involved in the connection, atmospheric conditions and other factors. Consult your dealer for specific recommendations.

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## Amplifier Power Recommendations

The 250Ti Jubilee is capable of handling 200 watts continuous (based on an 8-hour test using broadband noise shaped to simulate the power distribution of music) with peaks of up to 800 watts (indicating the system's ability to handle transient peaks well above average power levels). Unfortunately, amplifier power ratings generally refer only to continuous, steady-state power levels measured with a test signal, and are only an *indication* of how loud the

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system will play without distortion. More important than the power rating is the quality of *sound* the amplifier is capable of, or its *dynamic power capability*. Since amplifier specifications are not a reliable indicator of sound quality, an amplifier should be chosen only after careful listening. If it can achieve the desired volume level without distortion, then the amplifier has sufficient power, regardless of its rating. Your JBL 250Ti Jubilee dealer can make recommendations and arrange auditions to help you select suitable amplification for your system.

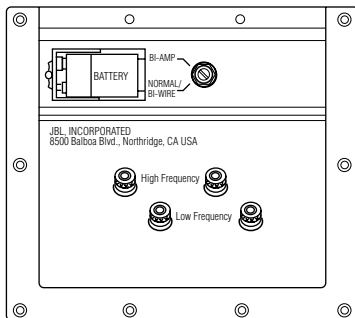
**NOTE:** If four amplifier channels are used, the high-frequency amplifier may be up to 6dB less powerful than the low-frequency amplifier. This is because the low-frequency section requires approximately four times the power of the high-frequency section, due to the power versus frequency distribution of music. For example, if a 200-watt low-frequency amplifier is used, a 50-watt high-frequency amplifier will clip, or “run out of power” at approximately the same level, when playing music.

Do not use fuses or circuit breakers of any kind between the amplifier and loudspeakers. Such devices will seriously degrade the sound quality and do not ensure protection from loudspeaker damage. The key to safe operation is having adequate amplifier power to avoid distortion at the highest sound levels required.

## Biased Crossover Battery Replacement

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The crossover network in the 250Ti Jubilee uses a 9V battery to maintain a charge on the capacitors used in the midrange, high-frequency and ultrahigh-frequency circuits. The purpose of this charge is to allow the capacitors to operate in a “class A” mode. This treatment gives the system greater detail and spatial properties than a traditional network. The current drain on the battery is extremely small. The average battery life is 3 to 4 years. When replacement is required, remove the two top center screws on the network cup and carefully lift off the curved battery cover. The battery is held in a clip on the left side of the network. Simply remove the old battery and replace it with a new one. Reinstall the cover and screws.



Loudspeaker grilles protect the transducers and enhance the appearance of the system in many rooms. However, even the most acoustically transparent grille affects the sound. On the 250Ti Jubilee, the effect is minor, particularly for casual listening or background music, but apparent. For serious listening in circumstances where damage is unlikely (i.e., when small children are not present), we recommend that the grille be removed.

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**General Care**

The 250Ti Jubilee is finished in high-gloss lacquer. The beautiful, deep-gloss finish is the result of a meticulous multistep painting and polishing procedure. Treat the surface very carefully to avoid scratching the finish. Use only lint-free cotton cloths for dusting. To remove fingerprints and smudges, an ammonia-free window cleaner may be used; apply a small amount to a lint-free cotton cloth and gently clean the surface. Never use any abrasive cleaners or strong chemicals to clean the enclosure. In case of deep scratches or damage, please consult a qualified furniture repair shop.

The grille may be gently vacuumed in the removed position only. Stains may be removed with an aerosol cleaner, following its instructions. Do not use solvents on the grille.

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**Service**

JBL 250Ti Jubilee loudspeakers are designed to provide years of trouble-free service. No maintenance is required. If a problem is suspected, first make sure that all connections are properly made and clean. If a problem exists in one loudspeaker, reverse the speaker wires to the left and right system. If the problem remains in the same system, then the fault is in the loudspeaker. If the problem appears in the opposite system, the cause is in another component or cable.

Do not move loudspeaker cones or diaphragms by hand. The voice coil assembly is aligned with extreme precision and the clearance is very small. Any attempt to move the assembly by hand can easily force the coil out of alignment and cause distortion or failure.

Should your 250Ti Jubilee system ever need service, contact the JBL dealer or distributor from whom it was purchased. If this is not possible, write directly to the JBL Customer Service Department, describing the problem as fully as possible, and wait for return authorization. Do not return products to the JBL factory without prior authorization. Address correspondence to: JBL Customer Service, 80 Crossways Park West, Woodbury, NY 11797 Telephone: (516) 496-3400, or (800) 645-7292. Outside the United States, contact your local JBL distributor.

## Specifications

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### 250Ti Jubilee

Low Frequency:	360mm (14 in.)
Midrange:	200mm (8 in.) 130mm (5 in.)
High Frequency:	25mm (1 in.) Titanium Dome
Frequency Response:	±2dB, 50Hz – 21kHz
Usable Response (– 6dB):	30Hz – 25kHz
Sensitivity:	89dB, 2.83 volts @ 1m
Power-Handling Capability:	200 watts continuous 800 watts peak
Nominal Impedance:	8 ohms
Crossover Frequency:	350Hz, 1.2kHz, 5kHz

JBL continually engages in research related to product improvement. New materials, production methods and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description, but is always warranted to equal or exceed the original design specifications unless otherwise stated.



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