



CENTURY GOLD

LIMITED EDITION
LOUDSPEAKER SYSTEM



A NEW STANDARD FOR A NEW CENTURY



Century Gold Loudspeaker System

This certifies that this
Century Gold is a Limited Edition
Reference Bookshelf Loudspeaker System,
in celebration of
JBL's 50th Anniversary.

GENUINE JBL

Greg Timbers

Greg Timbers
Senior Acoustic Engineer

JBL is part of the Harman International family of audio companies, a group with a common purpose: combining technology with a love of music to manufacture audio products that provide new levels of satisfaction, performance and value.

To promote diversity and creativity, JBL operates independently in research and development. When it comes to translating the results of these efforts into actual consumer and professional products, JBL draws on the full combined strength of the Harman companies, including one of the world's most advanced manufacturing facilities. The result of this teamwork is that JBL's renowned excellence in engineering is successfully carried through to each individual product, regardless of its application or price range.

As new audio concepts and technologies are pioneered, the partnership of JBL and Harman International guarantees that consumer and professional audio users everywhere will be able to enjoy their full benefits.

JBL continually engages in research related to product development and improvement. Because of this, new materials, production methods and design refinements may be introduced into existing products without notice. For this reason, any current JBL product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.

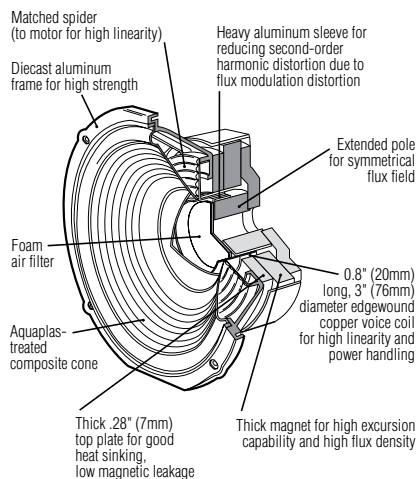


JBL wishes to thank you for selecting the Century Gold loudspeaker system. While the Century Gold loudspeakers are a new development, the ideas behind them go back to the earliest days of JBL. This system is a definitive expression of JBL's quality and craftsmanship. We have spared no effort, overlooked no performance factor necessary to produce the most accurate loudspeaker possible.

The attention to detail extends to the enclosure. The woodworking complements the engineering. Carefully crafted in hardwood veneers, each enclosure is finished by hand.

The Limited Edition Century Gold loudspeaker system will provide many years of superb listening pleasure. Please take a moment to read this owner's manual completely before you begin. It is solely in the interest of ensuring a perfect listening experience that we ask you to follow the setup and hookup procedures outlined in this manual.

FIGURE 1 CENTURY 1200
LOW-FREQUENCY TRANSDUCER



The Limited Edition **Century Gold** Bookshelf Loudspeakers *set a new standard for a new century*. JBL combines the most advanced technology with a classic JBL design. These speakers continue the longstanding tradition of precise studio monitor sound for which JBL is famous. You will enjoy the benefits of pure titanium dome high-frequency transducers, cast-frame low-frequency transducers with vented pole pieces, and JBL's proprietary Symmetrical Field Geometry (SFG™) magnet design, as well as high-definition dividing networks incorporating the highest quality electronic components available.

LOW-FREQUENCY TRANSDUCER

The **Century Gold** features an all-new 12" (300mm) low-frequency transducer developed specifically for the **Century Gold** (Figure 1). Derived from JBL's legacy of highly powerful yet efficient bass drivers, this woofer delivers full low-frequency performance with clarity and speed unprecedented among 12" drivers. The voice coil is 3" (76mm) in diameter and wound on edge from flat copper ribbon wire to a depth of 0.8" (20mm) on a thermoset composite™ form.

The cone is a rigid paper/fiberglass composite, treated with Aquaplas™ for strength, speed, and damping. JBL's Symmetrical Field Geometry is employed in the form of an aluminum sleeve around the pole piece. This sleeve reduces second-order distortion through induced flux control. Its aluminum composition is also a more efficient conductor of heat, so it assists in dissipating heat away from the voice coil to extend the power capacity. Cooling of the voice coil is further enhanced by the use of a vented pole piece. The rigid frame is cast from aluminum alloy, an excellent thermal conductor, which further acts to efficiently draw heat away from the voice coil and magnet assembly. This combination of advanced design technology results in a bass driver that is remarkably free from dynamic restriction due to heat buildup.

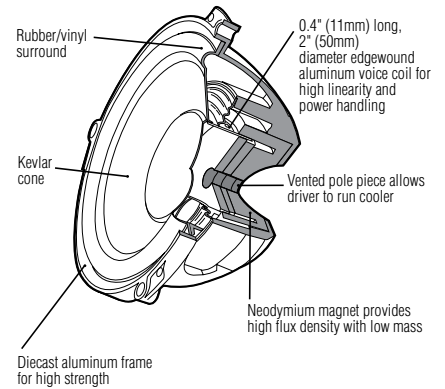
MID-FREQUENCY TRANSDUCER

The **Century Gold** also features an all-new 5" (127mm) mid-frequency transducer developed specifically for the **Century Gold** (Figure 2). The voice coil is 2" (50mm) in diameter and wound on edge from flat aluminum ribbon wire to a depth of precisely .4" (11mm) on a thermoset composite™ form. The cone is made of Kevlar® with a composite rubber/vinyl surround. Kevlar was chosen for the cone material because it is extremely strong and rigid while relatively low in mass. This allows the driver to move fast enough to reproduce the dynamics of the critical midrange frequencies while retaining the low distortion characteristics necessary for accurate musical reproduction. Its very high power capability and freedom from breakup make it an ideal midrange in a system that is designed to play at high levels with absolutely no signs of distress. It makes the transition from the woofer at 600Hz, providing good dispersion throughout the important vocal range.

HIGH-FREQUENCY TRANSDUCER

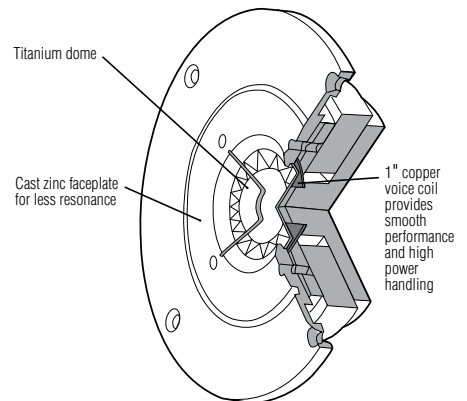
Throughout the history of high-frequency transducer design, the goal of extended frequency response has been at odds with the need for high power handling. JBL has long chosen titanium as the material for its highest quality high-frequency transducers and the **Century Gold** is no exception (Figure 3). Titanium possesses the essential requirements for a high-frequency transducer. First, titanium is extremely light yet rigid. The goal is to maintain a piston-like action as high in frequency as possible. If the material flexes easily, the diaphragm will break up into random vibrations. Second, titanium is virtually free from fatigue. The material is virtually immune from the cumulative effects of millions of flexures over long operating periods. These factors, coupled with the higher power handling that titanium affords, allow us to produce an extremely smooth high-frequency transducer with extended frequency response that can handle all the demands of today's digital programs.

**FIGURE 2 CENTURY 500
MID-FREQUENCY TRANSDUCER**



No.
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**FIGURE 3 D50 GOLD
HIGH-FREQUENCY TRANSDUCER**



DIVIDING NETWORKS

The job of the dividing network is to distribute the various frequencies to their respective transducers. The network is also designed to complement component location on the baffle. Slopes are chosen to match the exact response of each driver in its respective frequency range, as well as to ensure that the high-frequency transducers are adequately protected from dangerous low-frequency components.

For the **Century Gold** system, we chose our Charge-Coupled Linear Definition™ Dividing Network. The inductors are all designed for high-current, low-distortion operation. All capacitors in the network are series/parallel connected and operated with D.C. bias. This effectively enables the capacitors to operate in “Class A” mode, which substantially increases sonic detail, resolution, and dynamics. The low-frequency section of the dividing network is mounted on a dedicated circuit board that separates both electrical and magnetic properties from that of the midrange and tweeter sections.

Additionally, the **Century Gold**'s dividing network allows for passive, bi-wire, passive bi-amp, and full active bi-amp operation. For the full active bi-amp mode we recommend the use of a high-quality electronic crossover.

BATTERY REPLACEMENT

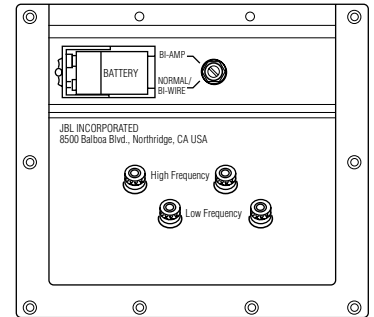
The battery should be replaced approximately every 2 years. This is accomplished as follows:

- Unscrew the two screws that hold the battery access cover in place. It is located on the upper portion of the dividing network, on the rear of the speaker enclosure (Figure 4).
- Write today's date, including the year, in this manual.
- Install the battery by aligning the battery terminals with the mating terminals in the network housing. Align male to female, female to male terminals, then snap the connectors together, assuring a tight connection.
- Replace the battery access cover and install screws.

BATTERY REPLACEMENT RECORD

Date Installed: _____

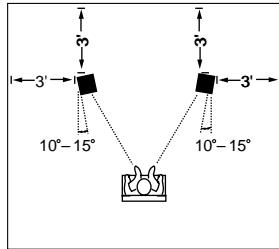
FIGURE 4 BATTERY INSTALLATION



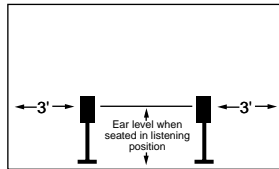
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FIGURE 5 PLACEMENT
POSITION TOP VIEW



POSITION FRONT VIEW



PLACEMENT

Ideally the systems should be placed at least three feet from any walls. The height, at the top of the midrange, should be at ear level. The two speakers should be equidistant from your primary listening position; the distance should be determined by the distance between the speakers. We recommend that the angle between the speakers, at the listening position, be between 45° to 60°. For example, if the speakers are 8' apart, your listening position should be 8'–12' 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 (Figure 5).

It is normally recommended that the **Century Gold** loudspeakers be positioned so that the high-frequency transducers are towards the inside. In some listening environments, however, the imaging characteristics may be improved by positioning the high-frequency transducers towards the outside. We suggest you experiment with the positioning of your loudspeakers to determine the ideal placement in your listening room.

SPEAKER CONNECTIONS

The Century Gold loudspeakers can be connected by one of several methods. The binding posts on the rear panel of the Century Gold will accept most types of audio cable and connectors, including banana plugs and bare wire (Figure 6). Follow the hookup method that best describes your system.

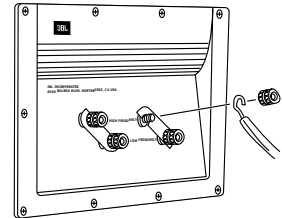
STANDARD CONNECTIONS (FIGURE 7)

1. For each channel, connect the red (+) terminal on the Century Gold to the red (+) terminal on your amplifier.
2. For each channel, connect the black (-) terminal on the Century Gold to the black (-) terminal on the amplifier.

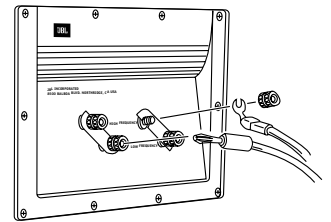
Connecting the systems in this manner ensures that they will operate in phase; that is, they will work together rather than in opposition. Connecting the speaker system out of phase will not cause damage but will adversely affect the speaker's sound.

FIGURE 6 CONNECTIONS

BARE WIRE CONNECTING METHOD

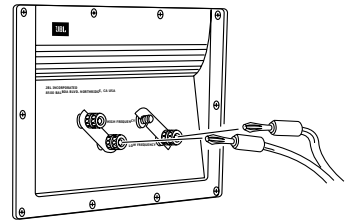


BANANA/SPADE CONNECTING METHOD



No.
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FIGURE 7 STANDARD
CONNECTING METHOD



BI-WIRING

The Century Gold's outer connection panel and internal dividing network are designed so that separate sets of speaker cable can be attached to the low-frequency transducer and midrange/high-frequency transducer portions of the dividing network. This is called bi-wiring. Bi-wiring can provide several sonic advantages and considerably more flexibility in power amplifier selection. The advantages of bi-wiring are as follows:

REDUCTION OF INTERMODULATION

The majority of current flowing between an amplifier and speaker is devoted to bass reproduction. In fact, 60% or more of an amplifier's output is destined for the woofers. When current flows through a wire, it produces an electro-magnetic field (EMF) that expands and collapses at a rate equal to that of the music's complex frequency components. If a single speaker wire must conduct the full musical frequency, the preponderance of low-frequency information can interact with or modulate high frequencies. The resulting intermodulation can create audible changes to the high frequencies even before they reach the loudspeakers.

By using separate cables for high and low frequencies, unwanted high-frequency modulation is avoided. Low-frequency information flows through one cable while high frequencies flow through another.

FREQUENCY-OPTIMIZED CABLES

Having the opportunity to use separate low- and high-frequency cables allows you to use cables best suited to each frequency range. Optimally, you should use high-quality, audiophile-grade speaker cables for both low- and high-frequency conductors. However, let your ears guide you to the cables that best match the Century Gold loudspeakers to your amplifier.

AMPLIFIER FLEXIBILITY

Bi-wiring also allows you the option of using separate stereo power amplifiers for left and right speakers, or even four mono amplifiers. Whether you use two or four amplifiers, it is important to use the same brand and model to power like connections on the Century Gold.

BI-WIRING CONNECTIONS

Figures 8 through 10 show two bi-wiring options, single stereo amplifier and dual stereo amplifier modes. For passive and bi-wire connections, set the switch to the Normal/Bi-Wire position (Figure 8a).

IMPORTANT

1. The external “strapping bars” that normally connect the Century Gold’s low-frequency and high-frequency terminals *must be removed before bi-wiring*. To remove the shorting straps, simply loosen and slide the bars off to the side (Figure 11).
2. *Never connect two amplifiers to the same loudspeaker without first removing the strapping bars.* Operating two amplifier channels without removing the strapping bars can seriously damage your amplifiers!
3. If you have hooked up your Century Gold loudspeakers in any of the bi-wire configurations indicated, it is not advisable to use additional speakers separately or simultaneously.
4. As with conventional one-amplifier connections, make sure that all speaker cables are the same length.

FIGURE 8 BI-WIRE CONNECTING METHOD

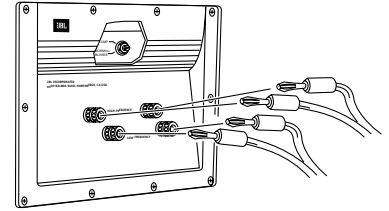


FIGURE 8A NORMAL/BI-WIRE POSITION

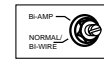


FIGURE 9 ONE-AMP BI-WIRE

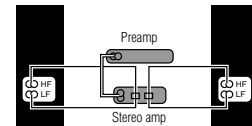


FIGURE 10 TWO-AMP BI-WIRE

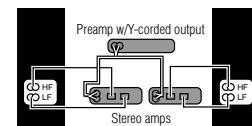


FIGURE 11 REMOVAL OF SHORTING STRAPS

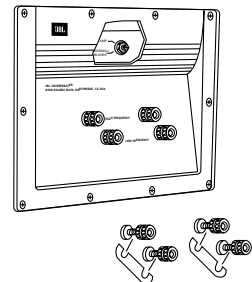


FIGURE 12 BI-AMP CONNECTING METHOD

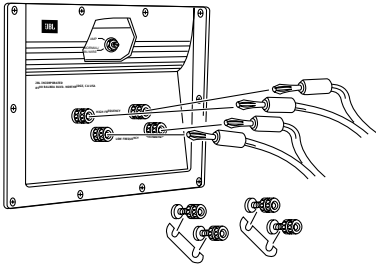
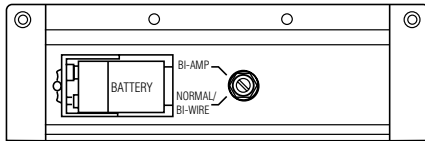


FIGURE 12A BI-AMP SWITCH SETTING



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BI-AMPING CONNECTIONS

The optimal method of powering the *Century Gold* system is with two amplifiers, one for low frequencies and one for the mid/high frequencies. It is necessary to use a high-quality active crossover module. Since each amplifier only drives a limited frequency range, this method allows the user to select amplifiers with the desired sonic character for low and high frequencies.

Make sure that the input sensitivity of each of the amplifiers is the same, or that input level controls are provided to maintain the proper low-to-mid/high balance. If two identical stereo amplifiers are used, one may be located near each loudspeaker to drive low and mid/high frequency sections through short wire runs.

The external “strapping bars” that normally connect the *Century Gold*’s low-frequency and high-frequency terminals *must be removed before bi-amping*.

To remove the shorting straps, simply loosen and slide the bars off to the side (Figure 11).

If the system is wired in the bi-amp method, set the Bi-Amp/Normal switch to the Bi-Amp position (Figure 12 and Figure 12a).

MAINTENANCE AND SERVICE

The Century Gold loudspeaker systems have an oiled finish. Cleaning should be done with an untreated dust cloth. Do not use conventional furniture waxes and polishes, which are not designed for oiled finishes. If touch-up is necessary or the finish appears to be drying out, the surface may be re-oiled with a commercially available oil-finishing preparation. Do not use any solvents on the finish.

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

All wiring connections should be inspected and cleaned or remade periodically. The frequency of maintenance depends on the metals involved in the connections, atmospheric conditions, and other factors, but once per year is the minimum. The battery should be replaced approximately every three years. Consult your JBL dealer for specific recommendations.

If a problem occurs, 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 speaker, then the fault is with the loudspeaker. If the problem appears in the opposite speaker, the cause is in another component or cable. In the event that your Century Gold loudspeaker system ever needs service, contact your local JBL dealer.

SYSTEM SPECIFICATIONS

Frequency Response: 50Hz – 20kHz \pm 1.5dB
38Hz – 22kHz – 6dB

Sensitivity: 90dB for 2.83V @ 1 meter

Recommended Maximum Power Handling: 200 watts continuous
800 watts peak

Nominal Impedance: 6 ohms

Crossover Frequencies: 600Hz, 2800Hz

Low-Frequency Transducer: Century 1200

Mid-Frequency Transducer: Century 500

High-Frequency Transducer: 050 Gold

Internal Volume: 1.8 cubic feet

Tuning Frequency: 32Hz

Dimensions (HxWxD): 26-1/2 x 15 x 11-7/8"
673 x 381 x 302 mm

Weight: 60 lbs
27.22 kg

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JBL Consumer Products
80 Crossways Park West, Woodbury, NY 11797
8500 Balboa Boulevard, Northridge, CA 91329
1-800-336-4JBL (4525) (USA only)

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