

OWNER'S MANUAL FOR 501 SERIES II DIRECT/REFLECTING® SPEAKER SYSTEM

BOSE





501 SERIES II OWNER'S MANUAL

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I. INTRODUCTION

Thank you for purchasing the BOSE 501 SERIES II Direct/Reflecting® speaker system. Your BOSE 501s are the culmination of many years of research and dedication to the art of bringing superb musical reproduction into your home.

The BOSE 501 utilizes two speakers radiating toward the rear wall making speaker placement important to the 501's overall performance. This difference in design and placement contributes directly to the new level of realism of music reproduction achieved by the 501 speaker system.

The detailed instructions on placement of the loudspeakers are important for you to follow, as this is the only way you can obtain the full benefits of the 501's unique design. PLEASE TAKE THE TIME TO READ THIS MANUAL. When properly installed, your 501s will provide a new dimension of listening pleasure.

II. UNPACKING YOUR 501s

The BOSE 501 speaker system is packed in a single carton. Unpack the speaker carefully. Save the carton and packing materials for possible use later. If the speaker appears to be damaged when you unpack it, do not place the speaker in operation. Repack the speaker in its original carton and notify your dealer immediately. (See Section IV.)

III. INSTALLATION OF YOUR 501s

A. Speaker Placement

The BOSE 501 is a floor standing speaker which produces both direct and reflected sound. This loudspeaker achieves much of its realism by using the wall of your listening room, just as instruments in a live performance use the back wall of the stage to project sound toward the listening area. Figure 1 shows the arrangement of the speakers and the wall. This reflecting wall ideally should be made of dense solid substance such as wood, brick, cement block, plaster or sheetrock. Substances such as pegboard, cork or acoustical tile make ineffective reflecting walls.

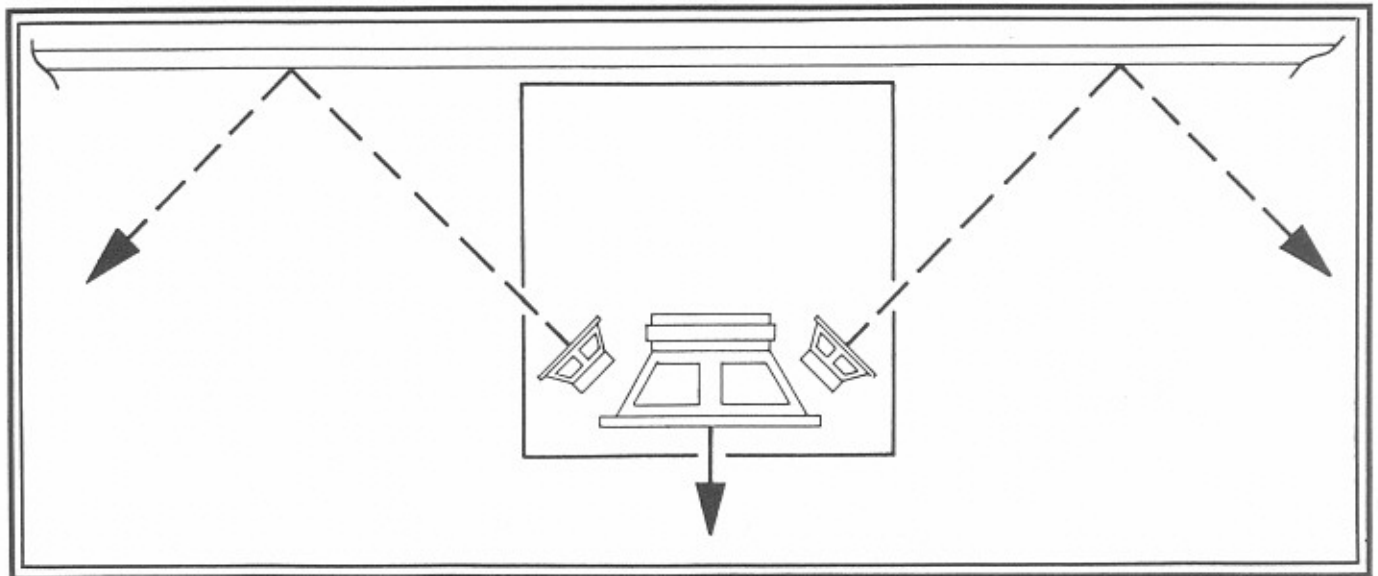


FIG. 1

The guidelines listed below should be followed in placing the 501 speakers relative to other surfaces in the room. The basic idea is to provide space around the speakers to allow sound waves to disperse properly.

1. The speaker should be no closer than eighteen inches from the side wall or from openings into adjacent rooms.
2. Speakers should be eighteen inches from nearby massive objects such as bookcases, cabinets, or other large pieces of furniture.
3. The 501 speaker, although designed to be placed against the wall, can be moved out from the wall a maximum distance of one foot.
4. Separation between the speakers should be between four and fifteen feet. Best results will be obtained with a separation of six to twelve feet. (See Fig. 2).

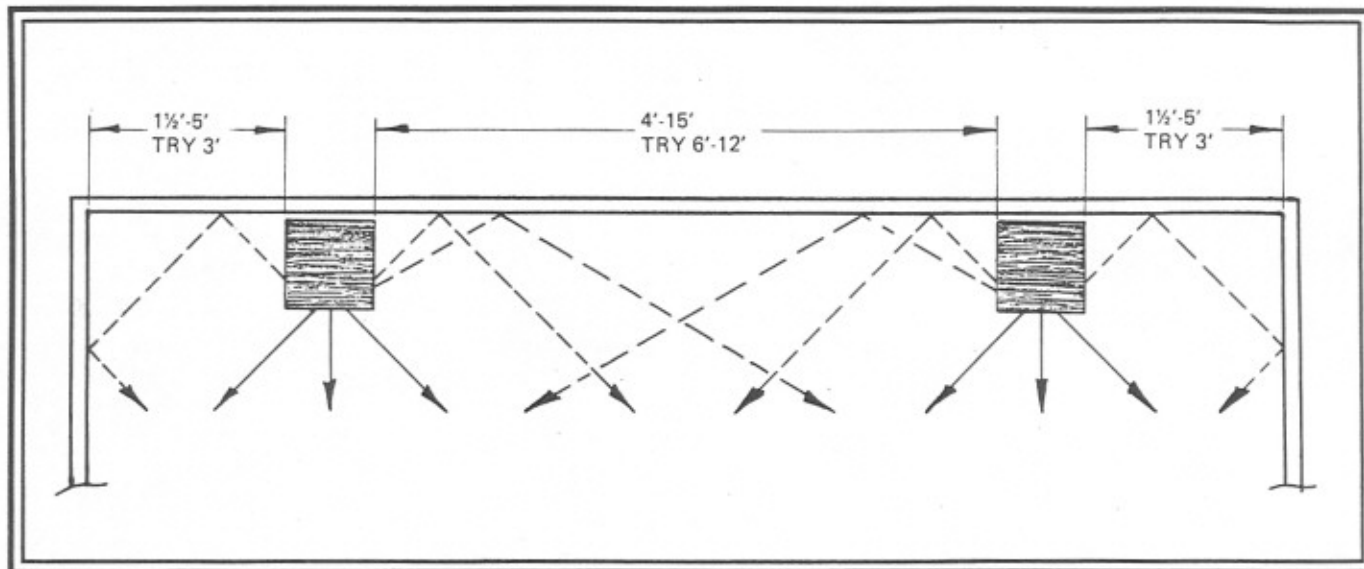


FIG. 2

Speakers placed in a listening room filled with sound absorbing material (particularly heavy cushioned furniture, drapes, and carpets) will occasionally produce a sound lacking in brightness (loss of high frequencies). Often proper balance will be restored by placing the speaker on a low stand (6 to 12 inches high). This will raise the tweeters clear of nearby obstructions, additionally aiding dispersion of high-frequency sound.

B. Connecting the Speakers

1. Selecting the Speaker Wire

If the wire chosen for connecting the speakers to your amplifier has too much resistance, audible coloration of the sound and loss of power can result. The table below summarizes the permissible wire length for 18, 16, and 14 gage two-conductor wire for your 501 speaker system. Copper zipcord wire is readily available at most electrical and hardware stores. This wire usually has a ribbed line running along one of the conductors so that the conductors can be identified at each end for obtaining the proper phasing of your BOSE 501s.

TABLE 1—Maximum Wire Lengths for Each Speaker

18 gauge zipcord (or two-conductor wire)	14 feet
16 gauge two-conductor wire	23 feet
14 gauge two-conductor wire	36 feet

2. Proper Phasing of Your 501s

It is important that the connections to your speaker and receiver or amplifier be the same for both channels so that both speakers are in phase. (Incorrect phasing will reduce the bass output of the speakers.) The two terminals on the back of the 501 are marked 4 OHMS and COM. Start with your left 501. Place it on the left side of the room. Connect this speaker to the left channel speaker output terminals of your receiver or amplifier. (If there is a choice of impedances on the amplifier output, use the terminal marked "4 OHMS." Connect the "COM" terminal of the left speaker to the "O" or "GROUND" terminal of the left channel output. Connect the "4 OHM" terminal of the speaker to the "PLUS" or "4 OHM" terminal of the left channel amplifier output. Connect the right speaker in exactly the same manner. (Check your connections carefully by observing the rib marking on the zipcord wire, allowing you to determine which wire is connected to which terminal). If stranded wire is used, be certain that the loose strands are not accidentally touching the other terminal of the amplifier, causing possible damage or a short circuit. Also make certain that all amplifier and speaker terminals are securely tightened.

3. Fusing Your 501s

Any loudspeaker is subject to damage if the amplifier powering it should fail. Using a fuse with each speaker will minimize the possibility of serious damage to your speakers. Use a BUSS AGC-3 Fuse for amplifiers rated less than 50 watts rms or a MDL-2 Fuse for amplifiers rated over 50 watts rms. The fuse should be connected in series with either of the two wires in the cable to each speaker. A fuse holder, such as a BUSS-3383-1 or a LITTELFUSE 356001, may be used for convenience.

IV. IN CASE OF DIFFICULTY

If you suspect a problem with one of your 501s, it's worth a few minutes of your time to determine whether the defect is in the 501 or in some other portion of your high fidelity system.

If one speaker sounds defective, switch the left and right speaker cables where they are connected to your amplifier or receiver. If the trouble moves to the other speaker, the defect is not in the speaker or the speaker wiring.

If the trouble appears in both speakers, connect your 501s to another amplifying source or high fidelity system that is operating properly. If the trouble is not apparent, the difficulty is not with the speakers.

If the trouble persists in one or both speakers, contact your dealer. He will verify the defect, and will arrange for service either at our Factory-Authorized Service Agency or by the BOSE Factory. If it becomes necessary for you to return your unit to the factory, he can obtain a Return Authorization Number which must appear on the outside of the carton when the unit is returned to the Factory. BOSE Corporation will make every effort to remedy any problem within the terms of the warranty at minimum inconvenience to you. (See Section VII.)

V. TECHNICAL INFORMATION

Speaker Complement

Woofer: A 10-inch, long-excursion woofer with a specially designed high-temperature one-inch long voice coil, long-throw foam surround and spider. Using a high-energy ceramic magnet, this woofer is capable of extremely high power output at low frequencies. In addition, the cone and dust cap are designed for exceptionally smooth frequency response throughout the middle-frequency range.

Tweeter: Two 3-1/2-inch, high-sensitivity tweeters, with large ceramic magnets to minimize power dissipation in each speaker. Additionally, they are designed for very smooth and extended high-frequency response. These speakers are carefully matched to the woofer and crossover network.

Crossover Network

The crossover network exactly matches the frequency response of the woofer and tweeters throughout the audio range. The crossover network effectively extends the high-frequency response of the tweeters. This network consists of two high-grade film capacitors, two 5% resistors, and an inductor. Computer style wire-wrap connections are used throughout the crossover network for maximum reliability.

Power Handling Capability

Recommended Amplifier Power is as follows:

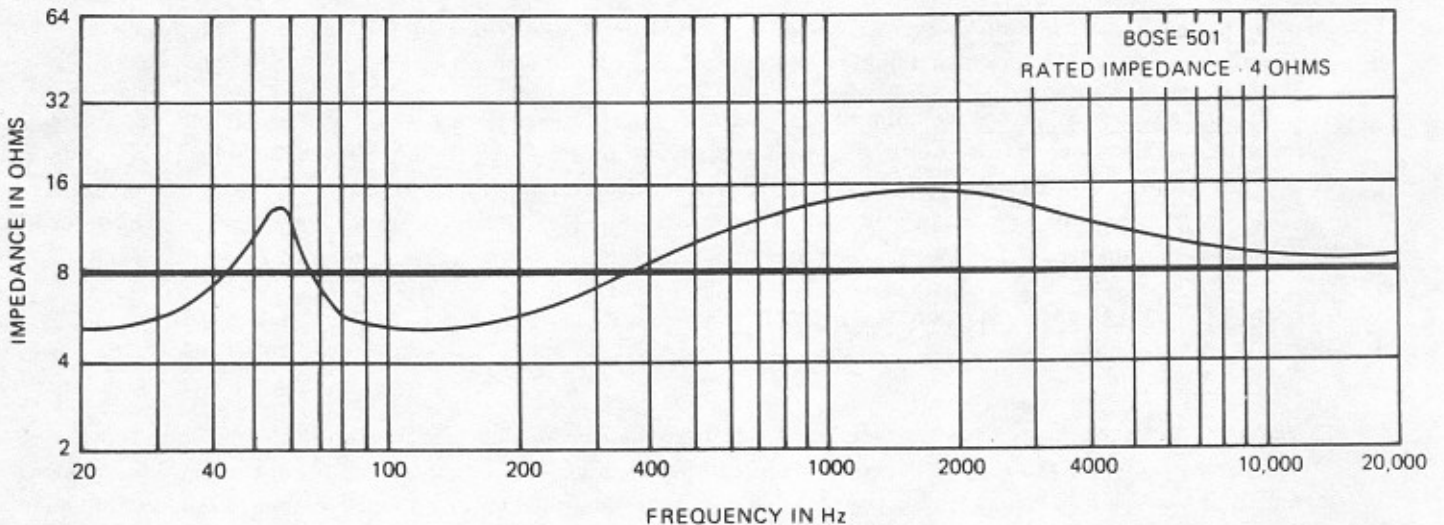
1. Minimum rms power at 4 ohms — 20 watts
2. Maximum rms power at 4 ohms — 100 watts*

*For reproducing speech and music, amplifiers exceeding 100 watts may be used if fusing recommendations are followed. (Check Section III B 3.)

Most 501 owners will find amplifiers rated between 35 and 50 watts rms per channel most satisfactory. In fact, very loud volume is possible with amplifiers rated at 50 watts rms per channel. For source material with wide dynamic range, and extremely loud volume, amplifiers rated over 70 watts rms per channel may be used.

Impedance Rating of the BOSE 501

The impedance of the 501 speaker system is 4 ohms. However, impedance ratings for high fidelity loudspeakers are not based on universally recognized standards. Bose Corporation chooses a very conservative method for rating impedance. The actual impedance of the 501 loudspeaker system over the audio frequency range is shown below. As can be seen from the curve the impedance is always greater than 4 ohms, and over most of the audio range is over 8 ohms. Loudspeakers with average impedance lower than that of the 501 have been rated by their manufacturers as having a nominal impedance of 8 ohms, indicating that their loudspeakers are suitable for use in multiple speaker installations. With high quality receivers the impedance of the 501 is high enough to permit operating two 501s in parallel.



VI. CARE AND MAINTENANCE

The 501 has a walnut vinyl veneer cabinet with a dark brown/random-black, textured grille cloth. The vinyl veneer may be cleaned by wiping with a soft cloth wetted with water and detergent, or soap. The grille cloth requires no care, although it may be carefully vacuumed if necessary.

The loudspeaker and crossover elements of the 501 are designed for long, maintenance-free life. Used properly, the 501 should provide you with many years of enjoyment.

VII. FULL FIVE YEAR WARRANTY

BOSE warrants this unit to be free from defects in materials and workmanship for a period of five years from the original date of purchase. During that period, BOSE will remedy all such defects, without charge for parts or labor, upon return of the unit together with the original sales receipt or other proof of purchase to BOSE or to an authorized BOSE service agency. This warranty does not extend to damage resulting from improper installation, misuse, neglect or abuse, or to exterior appearance.

IN NO EVENT SHALL BOSE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES

Should this unit fail within the warranty period, you should contact your nearest BOSE dealer for service instructions. The dealer may ask you to return the unit together with proof of purchase to him, or direct you to return the unit together with proof of purchase to the nearest authorized BOSE service agency. Alternatively, you may elect to send the unit directly to BOSE by carefully following this procedure:

1. Obtain a "Return Authorization" number from the BOSE Customer Service Department, 100 The Mountain Road, Framingham, Massachusetts 01701.
2. Return the unit together with proof of purchase to BOSE Corporation, 100 The Mountain Road, Framingham, Massachusetts 01701, *freight prepaid*, in its original shipping carton. Display the Return Authorization number prominently on the outside of the carton. If you need a new carton, your dealer or BOSE Corporation will provide a free replacement carton. Any damage in transit due to improper packing is not covered by the warranty and will not be recognized as an insurance claim by the transportation companies.

Your unit will be repaired and returned to you at BOSE's expense. If the defects cannot be repaired after a reasonable number of attempts by BOSE to do so, you may elect to receive a refund or replacement, but only if the unit is returned to BOSE free and clear of all liens and other encumbrances.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation or incidental or consequential damages, so that the above limitation may not apply to you.

A postage-paid registration card is provided requesting information about you and your high-fidelity system. The return of this card is encouraged, but is not a condition to coverage under this warranty.

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