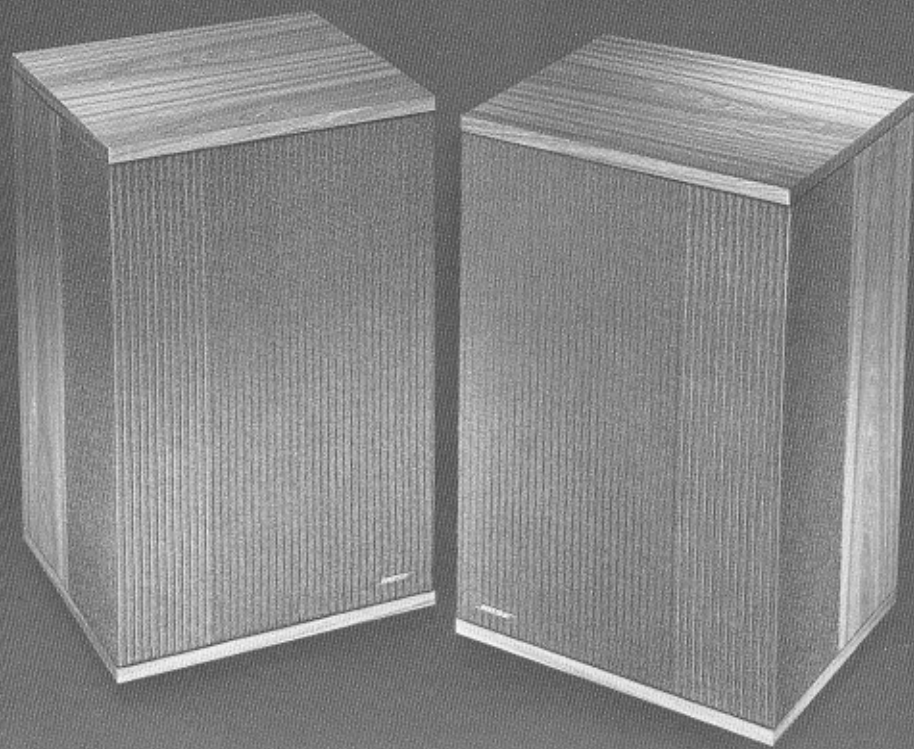


Owner's Guide

**The Bose® 501™ Series IV  
Direct/Reflecting®  
Loudspeaker System**



***BOSE***®

# The Bose® 501™ Series IV Direct/Reflecting® Loudspeaker System

## Introduction

Thank you for purchasing the Bose 501 Series IV Direct/Reflecting® Loudspeaker System. Its advanced design and quality construction will give you many years of listening pleasure.

Since you probably want to hear music from your 501 system as fast as possible, this guide is divided into two parts. **To properly unpack and connect your system, read Part 1.** After you have connected your 501 system, and are enjoying some music, read Part 2. It explains how to double-check your connections, and gives you details on wire sizes, fusing, and room acoustics. **To obtain the best possible performance, please read this entire guide thoroughly.**

## PART 1

### 1. Unpacking

Your 501 system is packaged in two separate cartons marked **left speaker** and **right speaker**. To unpack each carton, open its top, turn it upside down, and lift it off (see FIGURE 1). This will leave your speakers right side up.

If either speaker appears to be damaged when unpacking, **do not place the damaged unit into operation.** Repack the speaker in its original carton, and notify your authorized Bose dealer immediately.

### 2. Connection

1. Turn off your amplifier or receiver, and unplug it from its outlet (ac power mains) before attempting to connect your speakers.
2. Slightly separate the conductors at the end of each length of speaker wire (use 18 gauge or larger wire). For more details, see Part 2, Section 4. Strip approximately 1/2 inch (12 mm) of insulation off each conductor.
3. Connect one wire conductor to the black terminal (marked "-") on the **left** speaker (see FIGURE 2). Connect the other end of the **same** conductor to the output terminal marked COM, GND, NEG, or "-" on the **left** channel of your receiver or amplifier (see FIGURE 3).



FIGURE 1. To unpack your speakers, open the top of the cartons, turn the cartons upside down, and slide them off the speakers.

4. Similarly, connect the red terminal (marked "+") on the **left** speaker to the output terminal marked POS or "+" on the **left** channel of your amplifier or receiver. If your amplifier offers a choice of output impedances, use the terminal marked 8 or 8 OHMS.
5. Repeat Steps 3 and 4 above, connecting the **right** speaker to the **right** output channel of your amplifier or receiver.

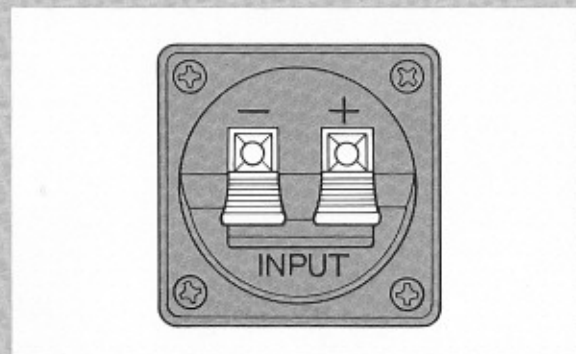


FIGURE 2. To connect the wires to the speakers, depress the buttons below the connectors, and insert the ends of the wires.

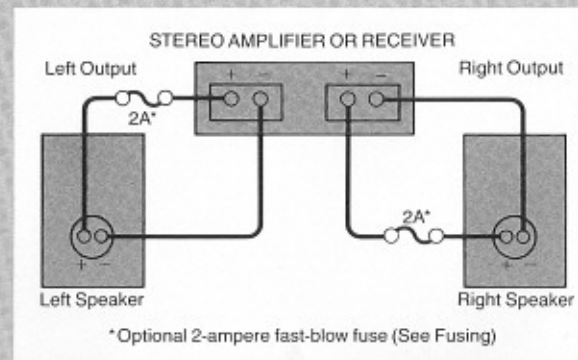


FIGURE 3. Make sure to connect terminals positive to positive and negative to negative as shown.

6. Check **very carefully** to be certain that no loose strands of wire are "bridged" from one terminal to the other on either of your speakers or on any of the amplifier outputs. **Bridged wires create short circuits which can damage your amplifier or receiver.** Repair any loose strands **before** plugging in your amplifier or receiver.
7. Plug in your amplifier or receiver, turn it on, and enjoy!

## PART 2

### 3. Speaker Placement

Unique design of the 501™ Series IV system provides excellent sound in a wide variety of listening environments. Any speaker system, however, is dependent upon its placement. To help your 501 system deliver optimum performance, and to help you decide between potential locations in your listening room, the following guidelines are suggested (see FIGURE 4):

#### A. Spacing

1. Place the left and right speakers on the left and right sides of the room respectively, spaced 4 to 12 feet (1.2–3.6 m) apart.
2. To hear the most accurate bass response in most rooms, set the speakers from 0 to 12 inches (30 cm) away from the rear wall.
3. Place the speakers at least 18 inches (45 cm) from the side walls. Optimum distance is 2 to 5 feet (0.6–1.5 m). Large objects (furniture, etc.) should not be placed in front or to the far sides of the speakers.

#### NOTE:

A large portion of the sound energy radiated by your 501 system comes through the far sides (i.e., the left side of the left speaker, the right side of the right speaker) of the speakers. For this reason, **it is important not to block or cover the far side grille panels.** Place your speakers so that the fronts and far sides are at least two feet from any absorbent furnishings (stuffed chairs, heavy drapes, etc.) which can soak up high-frequency sound.

It is not always possible to follow placement directions exactly. If you must make a compromise in speaker placement, your first priority is to maintain the proper distance between the speakers and side walls. This will maximize performance in your listening area.

#### B. Room Acoustics

1. Your Bose® 501 system performs best when sound energy is given room to develop “around” the speakers, reflecting off nearby walls. The speakers

will sound best when they are positioned to reflect off hard surfaces such as wood, brick, glass, plaster-board, and/or sturdy paneling.

2. Your 501 speakers are designed to provide optimum sound reproduction when placed in a room with an average amount of sound absorbent furnishings (carpeting, wall hangings, and drapes). If your room contains few furnishings and has bare walls and floor, the music may sound unnaturally shrill or bright. A slight decrease in treble (use the control on your amplifier or receiver) should improve the sound.
3. If your listening room contains more absorbent furnishings than normal (stuffed furniture, unusually heavy carpeting, or many drapes), the music may sound dull and lifeless. A slight increase in treble (again using the control on your amplifier or receiver) should improve the sound.
4. If your music seems to be lacking in bass, improvement can usually be heard by moving the speakers closer to the wall behind them. Heavy “booming” bass can be tamed by moving the speakers away from walls. If moving the speakers is not feasible, a slight increase in bass (using the control on your amplifier or receiver) should improve the sound. Inadequate bass response can also be caused by improper speaker phasing. Section 5, **Phasing Test**, gives details on proper phasing.

### 4. Wire Selection

If the wire used to connect your speakers to your amplifier or receiver is too small, audible coloration of the sound, and power loss can occur. The accompanying table specifies minimum thickness of 2-conductor wire recommended for various speaker-to-amp distances.

Standard 2-conductor zipcord (common lamp cord) can be used for speaker connection. This wire is often color coded, or has a ribbed line or lines running along one conductor for easy identification of the positive and negative leads.

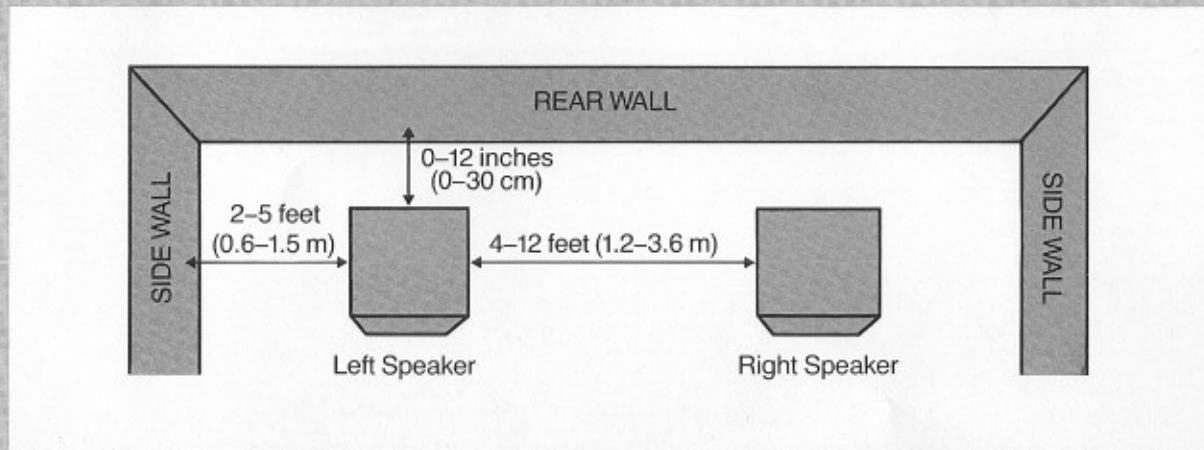


FIGURE 4. Recommended placement in average-sized listening rooms.

**Note on Wire Sizes: As the gauge number of a wire gets smaller, the wire itself gets larger.** For instance, when a minimum gauge of 18 is suggested, an acceptable substitute is 16 gauge, **not** 20 gauge.

#### RECOMMENDED WIRE SIZES\*

Maximum Length	Wire Gauge
30 feet (9 m)	18 (.75 mm <sup>2</sup> )
45 feet (14 m)	16 (1.5 mm <sup>2</sup> )
70 feet (21 m)	14 (2.0 mm <sup>2</sup> )

\*Based on a maximum frequency response deviation of  $\pm 0.5$  dB.

#### 5. Phasing Test

If you are not certain that the speakers are connected to your amplifier "in phase" (i.e., positive to positive, negative to negative), perform this simple test:

1. Set your sound system for MONO (monophonic) reproduction. Be sure the balance control is centered or set to normal.
2. Temporarily place the speakers so that they are facing each other closely.
3. Play music containing deep bass notes through the system. If the speakers are phased correctly, the sound will appear to come from a point between the speakers with full, natural bass response.
4. If the music seems to be lacking in deep bass, reverse the wire connections to **one** speaker, and repeat the test. Use the connection that produces the most powerful bass.

#### 6. Fusing

Any speaker can be damaged if the amplifier driving it should fail. Damage may also occur by playing the music so loudly that it sounds distorted. **This can happen even with a low-powered amplifier or receiver.**

Your 501\* speakers incorporate Automatic System Protection circuitry which guards against certain types of

electrical stress. Fusing will provide additional protection, and is recommended.

To properly install optional fuses (not provided), fuse-holders should be inserted into the + (POS) wire connecting each speaker to your amplifier or receiver (see FIGURE 2). Use **2-ampere, fast-blow** Buss AGC Series or equivalent fuses.

A fuse kit containing fuses and holder is available for \$7.50 from Bose Service, 78 Turnpike Road, Westborough, MA 01581. Ask for 501 Fuse Kit, Part Number 108938-2.

#### 7. Maintenance

The wood-grain vinyl cabinetry of your 501 Series IV speakers can be cleaned by wiping with a soft, damp cloth and a mild detergent. The grille panels require no special care, but may be carefully vacuumed if necessary.

#### 8. In Case of Difficulty

If you suspect a problem with your Bose® 501 Series IV system, use the following checklist to determine if the difficulty is actually in the speaker system, or in some other component of your music system:

**If one speaker sounds defective, do not** switch the speaker cables, as this could damage a speaker. Disconnect the defective speaker at the amplifier output terminals, and reconnect it to the amplifier channel that is operating correctly. If the speaker that sounded defective now plays properly, the problem is not in the speaker or the wiring.

**If trouble appears in both speakers,** connect them to another amplifier that is known to be working properly. If the speakers now operate correctly, the problem is not in the speakers.

**If trouble persists in one or both speakers,** contact your authorized Bose dealer. He will verify any defects and arrange for service by an authorized service agency or by the Bose factory. Bose Corporation will make every effort to remedy any problem within the terms of the warranty at minimum inconvenience to you.

#### 9. Technical Information Features

Direct/Reflecting® system  
Free Space® array  
Dual Frequency™ crossover network  
Automatic System Protection circuitry  
Syncom® II computer testing  
Five-year, transferable warranty

**Driver complement:** One (1) 10-inch (25.4 cm) long-excursion woofer, two (2) 3-inch (7.6 cm) tweeters, mounted in a Free Space array.

**Nominal impedance:** 8 ohms

**Power rating:** 115 watts IEC, compatible with receivers or amplifiers rated from 20 to 230 watts per channel

**Cabinet:** Wood-grain vinyl veneer, 16" W x 14" D x 25" H  
40.1 x 35.6 x 63.2 cm

**Shipping weight:** 40 lb (18.1kg)/speaker

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