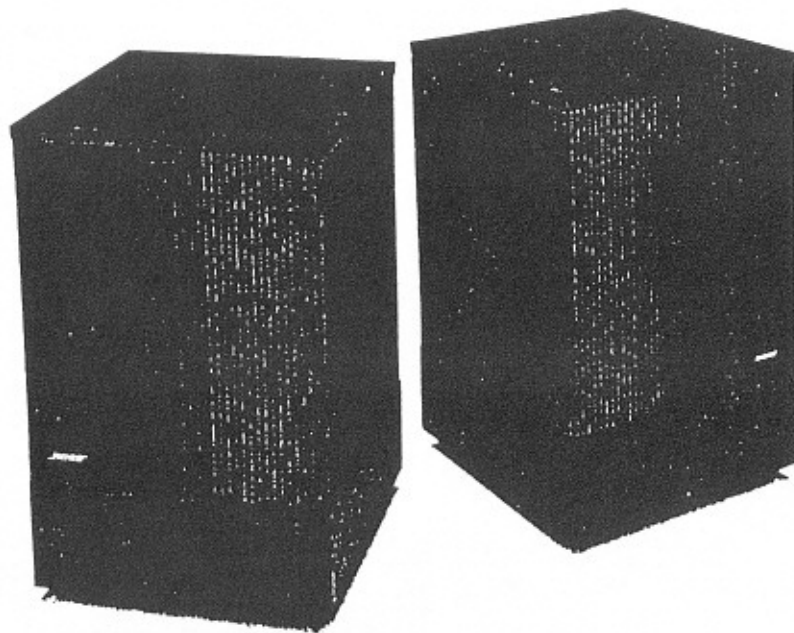


Owner's Manual

BOSE[™] MODEL 501
Direct/Reflecting[™] Speaker System

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I. Introduction

Congratulations on your purchase of the BOSE Model 501 Direct/Reflecting® loudspeaker. This speaker system is the result of many years of research into the art and science of bringing superb musical reproduction into your home.

The design of the Model 501 provides a high proportion of reflected sound simulating the distribution of sound energy normally associated with live performances. This high proportion of reflected sound allows the Model 501 to be easily placed in your listening room.

The design of the Model 501 with its Direct Energy Control, Asymmetrical Design, and mirror-image construction is significantly different from that of conventional loudspeakers. To take full advantage of its outstanding performance, PLEASE TAKE THE TIME TO READ THIS MANUAL.

II. Unpacking Your Model 501s

The BOSE Model 501 speaker system is packed in two cartons marked "Part 1" and "Part 2." Unpack each speaker carefully. Save the carton and all packing materials for possible use later. If either speaker appears to be damaged when unpacked, do not place the damaged speaker in operation. Repack the speaker(s) in its original carton and notify your dealer immediately.

III. Design Features

The BOSE Model 501 Direct/Reflecting® speaker system incorporates a ten-inch woofer and two three-inch tweeters along with a unique Direct Energy Control allowing the speaker system to easily adapt to your listening room. (See Figure 1.)

Utilizing the walls, ceiling, and floor of your listening room to reflect sound, the Model 501 creates a sense of spaciousness with a strong center image. By radiating the high-frequency sound through the side and front grille panels, the 501 simulates the proportion of reflected and direct sound experienced in the larger environment of a live performance.

The ten-inch woofer found in the Model 501 provides outstanding bass performance while providing a portion of the direct sound at middle range frequencies. The extra-long excursion suspension yields powerful low distortion bass reproduction.

The Model 501 Direct Energy Control adjusts the percentage of Direct Sound radiated into the listening area. This control primarily affects the spatial distribution of high-frequency energy and can be used to compensate for speaker placement and listener taste.

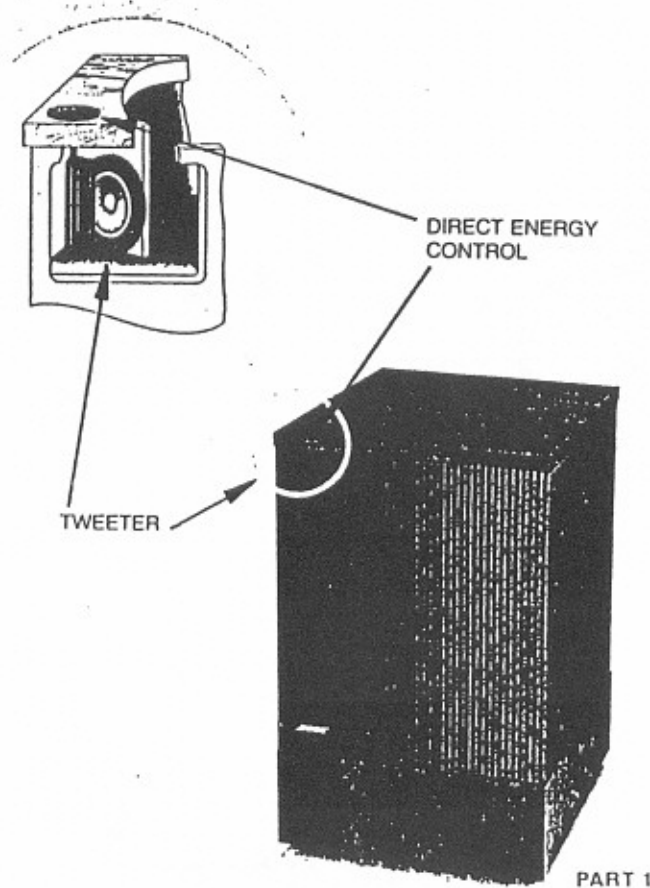


Figure 1

IV. Installation Instructions

A. SPEAKER PLACEMENT

The Model 501 speaker, unlike conventional speaker systems, reflects a high proportion of the high-frequency energy from the walls of your listening room. This provides excellent performance in virtually any listening room.

However, to obtain optimum performance from your Model 501s, it is necessary to follow a few simple placement guidelines. The basic idea is to allow the sound to develop "around" the speaker system. (See Figure 2.)

1. Place the rear of the speaker system against the wall behind the speakers. Excellent results can be obtained with the speakers located against the wall and up to 12" from the rear wall.
2. The speakers should be at least 18" from the side walls. (Suggested distance is two to five feet.) Large objects (such as furniture) should not be placed in front of the speaker system.
3. Best results will be obtained when the speakers are spaced six feet to twelve feet apart. However, separation as small as three feet or as great as fifteen feet will still give excellent results.
4. Since most of the high frequency sound energy is radiated through the sides of the enclosure, it is most important not to block the inward facing grille panels. Massive objects such as bookcases, cabinets, or large pieces of furniture should be kept a minimum of 18" from the sides of the Model 501.

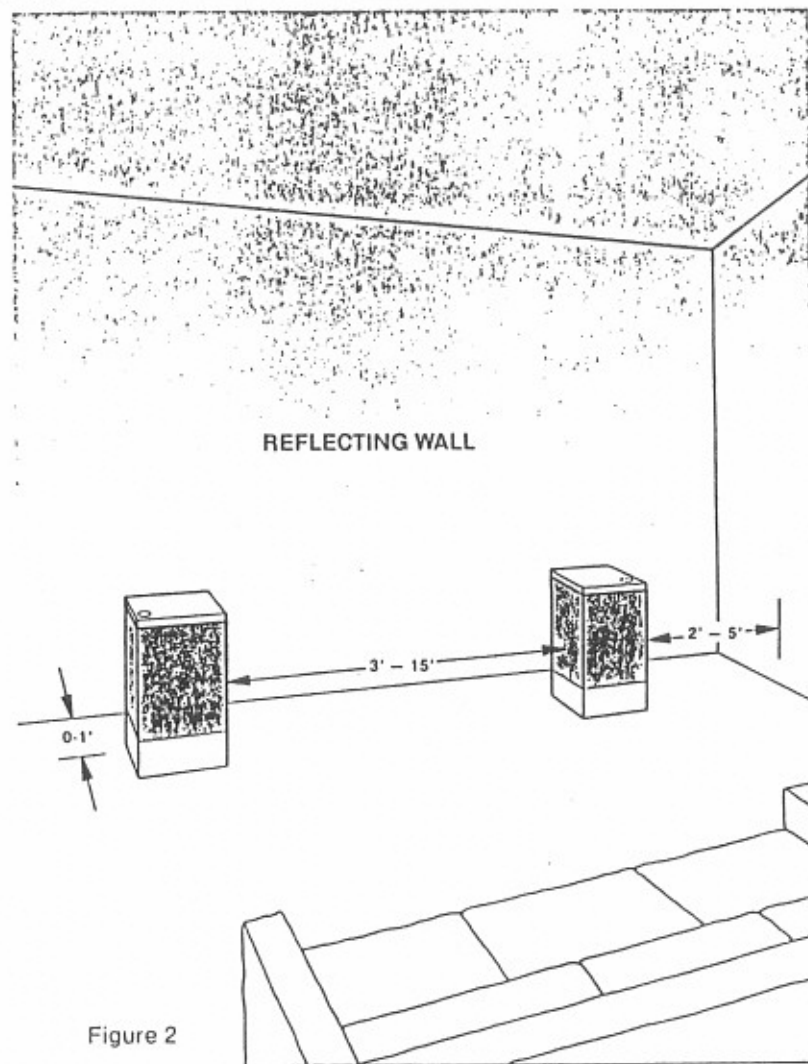


Figure 2

Installation Instructions

B. CONNECTING THE SPEAKERS

1. Choosing The Correct Wire

It is important to choose the correct wire size for your speaker system. If the wire used to connect the speakers to your amplifier is too small (has too much resistance), audible coloration of the sound and loss of power can result. The table below specifies the correct wire gauge necessary for various wire lengths. Copper zipcord, readily available at most electrical and hardware stores, can be used for speaker connection. Normally, this wire will have a ribbed line(s) running along one of the conductors so that each wire can be easily identified for proper phasing of your speaker system.

RECOMMENDED CONNECTION WIRE†

Maximum Wire Length	Wire Gauge
15 feet	18-gauge, zipcord (or two-conductor wire)
23 feet	16-gauge, two-conductor wire
36 feet	14-gauge, two-conductor wire

†The wire lengths shown in the table above were calculated on the basis of a maximum audible coloration of ± 0.5 dB. Following the guidelines provided, the most discerning listener will be unable to detect any coloration introduced by the speaker wire. Most listeners will not notice any effect even if wire lengths are increased by as much as 50%.

2. Wire Connection and Proper Phasing

It is necessary to follow the next procedure carefully to assure that both speakers are properly connected and phased. (See Figure 3.)

- Strip approximately 1/2 inch of insulation from each end of the wires. Make sure that there are no loose wire strands.
- Place the "Part 1" speaker (identified by the rear label) on the left side of your room. Next, locate the "Pos" and "Com" connection terminals on the rear of the speaker.
- Connect one conductor of the speaker wire to the terminal marked "Com" on the speaker. (The wire may be identified by a ribbed line(s) on the insulation or by the color of the wire.) Next connect the other end (of the same wire) to the terminal marked "com," "negative," or "minus" on the left channel of your amplifier.
- In the same manner, connect the "Pos" terminal on the left speaker to the terminal marked "Pos," "positive" or "plus" on the left channel of the amplifier.*
- Place the "Part 2" speaker on the right side of the room and repeat the connection procedure for the right amplifier channel.
- If there is a question whether the speakers are properly phased, a simple test can determine if your connections are correct. First, adjust your equipment for "mono" and play music containing deep bass through your speaker system. With the speakers positioned next to each other, the sound should come from a point between the center of the speakers with the music natural and full. (Be sure that the balance control on your amplifier is set in the center or "normal" position during this test.)

*If your amplifier has a choice of impedances on the amplifier output, use the terminals marked "4" or 4 ohms.

If the sound is not localized between the speakers and is lacking in bass, it's possible that one set of speaker connections is reversed. Reverse the connections to one speaker only and repeat the test.

3. Fusing Your 501s

Any loudspeaker may be damaged if the amplifier powering it should fail. Fusing your speakers will minimize the possibility of damage due to either amplifier failure or "overdriving" the speaker by a large amplifier. When using amplifiers producing over 50 watts per channel, your Model 501 speaker should be fused. It is important to real-

ize that overdriving your amplifier (playing so loud that serious distortion results) generates excessive high frequency energy that can damage the tweeters even with a low power amplifier.

Referring to the speaker connection diagram, the fuse-holders should be inserted in the positive wire connecting each speaker. BOSE Corporation recommends use of a 2-ampere, fast-acting Buss AGC Series or Littelfuse AG Series. A fuse kit containing fuses and holders can be obtained from BOSE Customer Service Department for \$5.00. Ask for part number 108938-1.

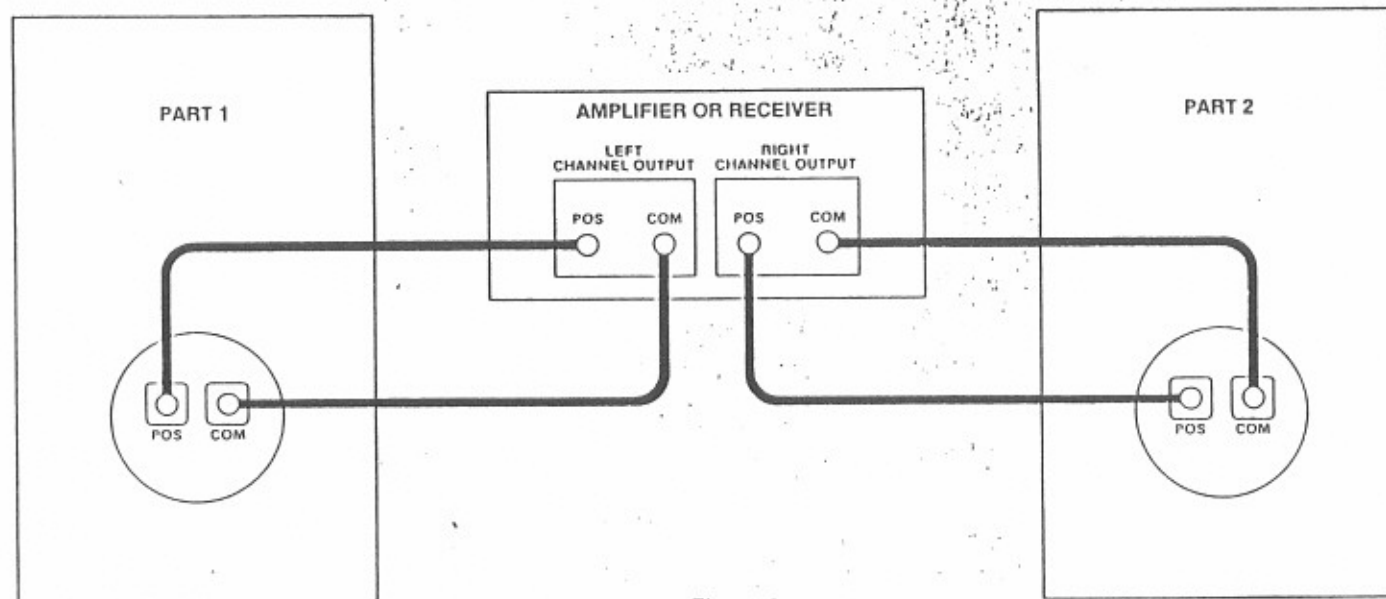


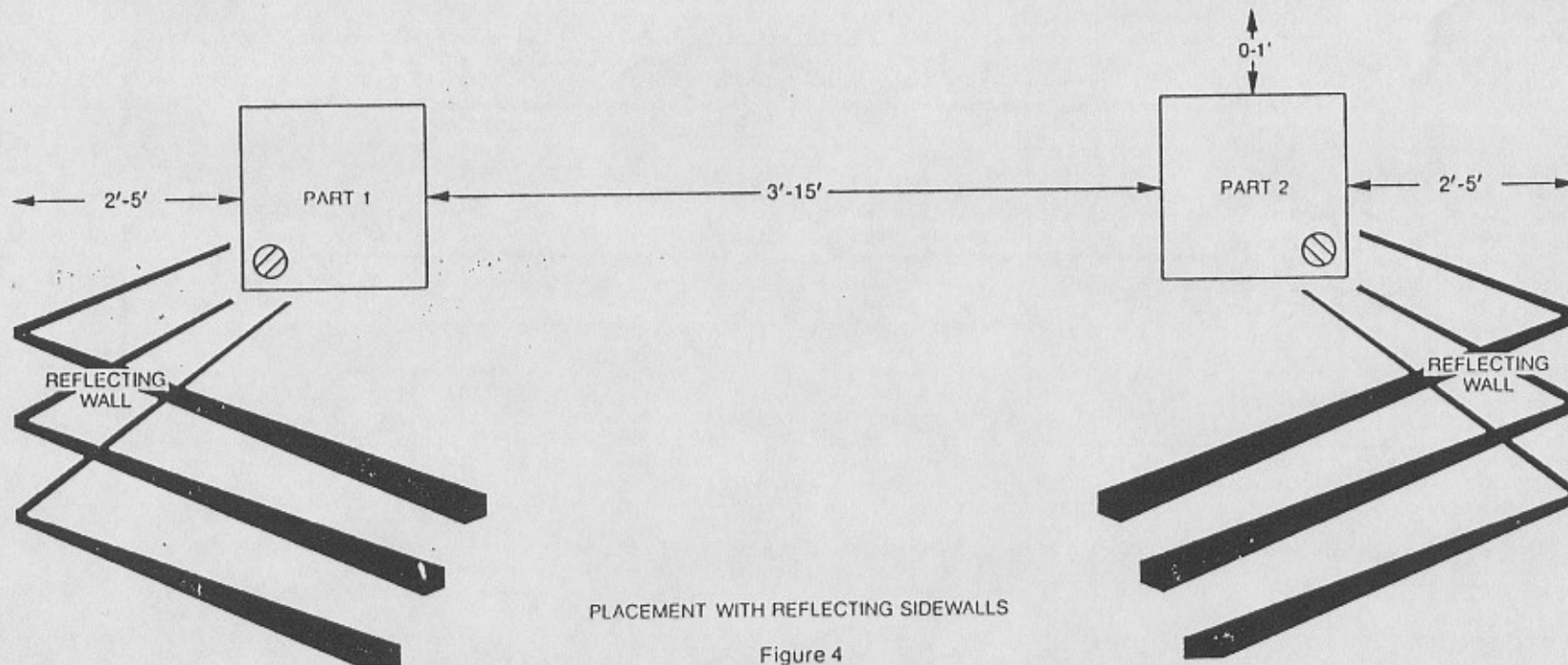
Figure 3

Installation Instructions

C. ADJUSTMENT OF THE DIRECT ENERGY CONTROL

The Direct Energy Control has been carefully designed to provide the optimum performance of the Model 501 under a wide range of listening conditions. This control affects the spatial distribution of high frequency energy. At distances close to the loudspeaker, the listener will notice significant changes in high frequency energy. However, the effect becomes subtle with increasing distance from the speaker and will be less noticeable in larger rooms, where the listener is principally in the reverberant field.

Under most listening conditions, listeners will find that the Direct Energy Control provides a significant aid in optimizing the performance of the Model 501. Please note that the numbers which appear in Figure 5 are for reference only and do not appear on your speaker system. They are there to help you understand the positioning required for optimum performance in your listening environment. In the diagram, the left speaker control, when starting from the top marking, is rotated clockwise for increasingly high numbers. The right speaker is rotated counterclockwise for the same increase in reference numbers.



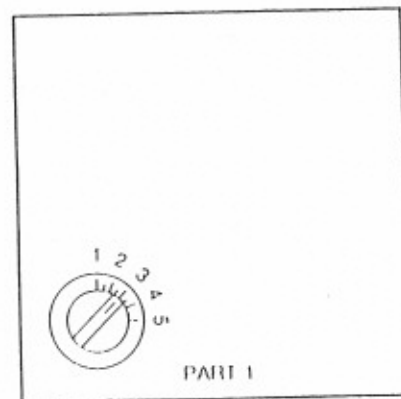
The following guidelines should be followed:*

POSITIONS 1 AND 2. These positions provide the maximum direct sound energy at high frequencies. They are used to establish high frequency balance if side reflecting walls are not present or are covered with sound absorbing material. These positions provide less stereo spread than higher numbers and will be preferred by some listeners for reproduction of soloists and small ensembles.

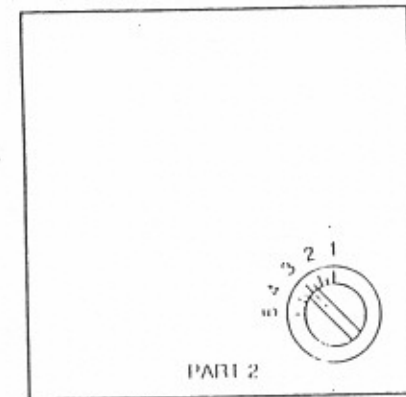
*Please note that it is not necessary for both speakers to be adjusted the same.

POSITION 3. This is the normal setting of the Direct Energy Control. This position is used when a side reflecting wall is located near the side of the speaker, as shown in Figure 4.

POSITIONS 4 AND 5. These positions provide maximum reflected sound energy at high frequencies and are used when a reflecting side wall is present. Operation in Positions 4 and 5 will provide very spacious stereo reproduction, especially suited for large ensembles such as an orchestra or a chorus.



ROTATE CLOCKWISE FOR
MAXIMUM REFLECTED SOUND



ROTATE COUNTER CLOCKWISE
FOR MAXIMUM REFLECTED SOUND

POSITIONS OF THE
DIRECT ENERGY CONTROL

Figure 5

V. Room Acoustics

The Model 501 provides outstanding performance in a wide variety of listening rooms. A particular virtue is its ability to provide an unusually large "Best Listening Area." However, the acoustics of the listening room will affect the quality of sound reproduced by any speaker system. Although the science of room acoustics is a complex one, there are steps that can be taken to optimize the acoustics of your listening room.

One of the most common problems relates to rooms that sound too "bright." This occurs when the room contains very few furnishings and has bare walls and floors. The result is normally a shrill or harsh sound. A simple test to determine the "liveness" of your room can be accomplished by clapping your hands together. If you hear a ringing or echoing sound, your room is overly "live" or "bright." The addition of carpeting, wall hangings, or drapes will usually help to remedy this problem.

If your listening area contains heavily upholstered furniture, wall-to-wall carpeting, and heavy drapes, etc., you may find that the sound coming from your speakers is lacking in high-frequency energy. Rooms like this sound dull and lifeless and are often referred to as acoustically "dead." By removing some of the absorbent furnishings, the tonal balance of the system can be improved.

The low frequencies of any speaker system radiate equally in all directions. Because of this, the wall behind the speaker and adjacent side walls reinforce these lower frequencies. The bass response of the Model 501 can be altered by changing the position of the speaker in relation to nearby walls and corners.

If the speakers seem to be lacking in bass, moving the speakers closer to the rear wall or nearer to a corner of the room will increase the bass response.*

If your system tends to produce a bass heavy, or "booming" sound, move the speakers away from the corner wall. Next, move the speaker away from the rear wall.* Also try using the

low-cut filter of your amplifier (if equipped with one) as this may restore a more natural tonal balance.

Many room acoustic problems can be improved by using the bass and treble controls of your amplifier as many of today's recordings are heavily equalized. You are encouraged to use your amplifier tone controls to adjust the sound quality to suit your listening room's acoustics and your personal listening tastes.

*See Section IV A, Speaker Placement, for recommended distances

VI. Technical Information

A. SPECIFICATIONS

1. Spatial Characteristics

The Model 501 utilizes Asymmetrical Design for optimum stereo reproduction with rear and side wall reflections. The tweeters, angled toward the rear walls, reflect sound energy into the main listening area. A Direct Energy Control provided with the outward-directed tweeter allows control of the spatial characteristics of the speaker system. The Model 501 is designed in mirror-image pairs for optimum stereo reproduction.

2. Speaker Configuration

WOOFER — One ten-inch acoustic suspension woofer utilizing a long-throw 1½-inch diameter voice coil with 16-ounce magnet. Linear high-excursion suspension system provides high output capability.

TWEETER — Two three-inch, wide-range tweeters with extended low-frequency response for use with Direct Energy Control. Flat Total Power Radiation to over 15 kHz.

ENCLOSURE — A walnut grain vinyl clad, floor-standing loudspeaker with acoustic suspension design and acoustically transparent side panels.

Shipping Weight: 48 lbs. Speaker Weight: 42 lbs.
Speaker Dimensions: 14½"W x 24"H x 14½"D

3. Impedance

The impedance of the Model 501 speaker system is conservatively rated at 4 ohms. However, since the impedance of the Model 501 is substantially above 4 ohms over all but a small portion of the frequency range, high quality receivers can operate an additional pair of 8-ohm speakers or a second pair of 501's (connected in parallel) with no difficulty.

4. Power Handling

The minimum recommended power: 20 watts rms per channel. Amplifiers rated over 50 watts can be used

with the Model 501; however, each channel should be fused. See Section IV., B.3. Fusing Instructions.

B. IN CASE OF DIFFICULTY:

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

If one speaker sounds less brilliant than the other, make certain the Direct Energy Control is correctly positioned.

If one speaker sounds defective, do not switch the speaker cables, as this may damage the speaker. Instead, disconnect the defective speaker's wire at the amplifier output and reconnect to the amplifier channel operating correctly. If the speaker system that sounded defective now plays correctly, the difficulty is not in the speakers or in the speaker wiring.

If the trouble appears in both speakers, connect your Model 501s to another amplifier that is operating properly. If the speakers now operate correctly, the difficulty is not in the speakers or in the speaker wiring.

If the trouble persists in one or both speakers, contact your dealer. He will verify the defect and will arrange for service at one of our factory-authorized service agencies, 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.

C. CARE AND MAINTENANCE

The Model 501 speaker system has a walnut grain, vinyl cabinet with a dark brown asymmetrically-designed grille panel. The vinyl veneer can be cleaned by wiping with a soft damp cloth and mild detergent. The grille cloth requires no care although it may be carefully vacuumed if necessary. The internal components of the Model 501 have been designed for a long, maintenance-free life. If used properly, the Model 501 should provide many years of enjoyment.

VII. Warranty

FULL 5-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, Mass. 01701.
2. Return the unit together with proof of purchase to BOSE Corporation, 100 The Mountain Road, Framingham, Mass. 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 of 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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