

Vandersteen Audio

Model 1B Loudspeaker System



Please Note



Thank-you for your purchase of the Vandersteen Audio Model 1B. With proper care your new speakers will provide many years of trouble free, high quality musical enjoyment.

We recommend that you read this entire manual prior to connecting or using your Vandersteen Audio Model 1B loudspeaker system.

Vandersteen Audio

Introduction

The Vandersteen Audio Model 1B is the result of more than ten years of advanced research into cost effective dynamic loudspeaker design. Engineering, construction and materials far exceeding industry standards have produced a floor standing speaker system unmatched by larger and far more costly designs.

The Model 1B is a worthy addition to any quality music system. The transient perfect first order cross-over network and computer optimized driver design and placement insure

superior dynamic and transient response from records, tapes and CDs. Custom engineered drivers, built exclusively for Vandersteen Audio, are mounted in special baffles designed to maximize their accuracy and efficiency. An aesthetically pleasing appearance, incorporating an acoustically transparent grill and an audibly vented top, allows the Model 1B to compliment the decor of your home.

The Vandersteen Audio Model 1B is designed and built in the United States of America.

Operation Manual

Connections

CAUTION - At no time should bare wires come into contact with the aluminum dress plate. Amplifier damage could result.

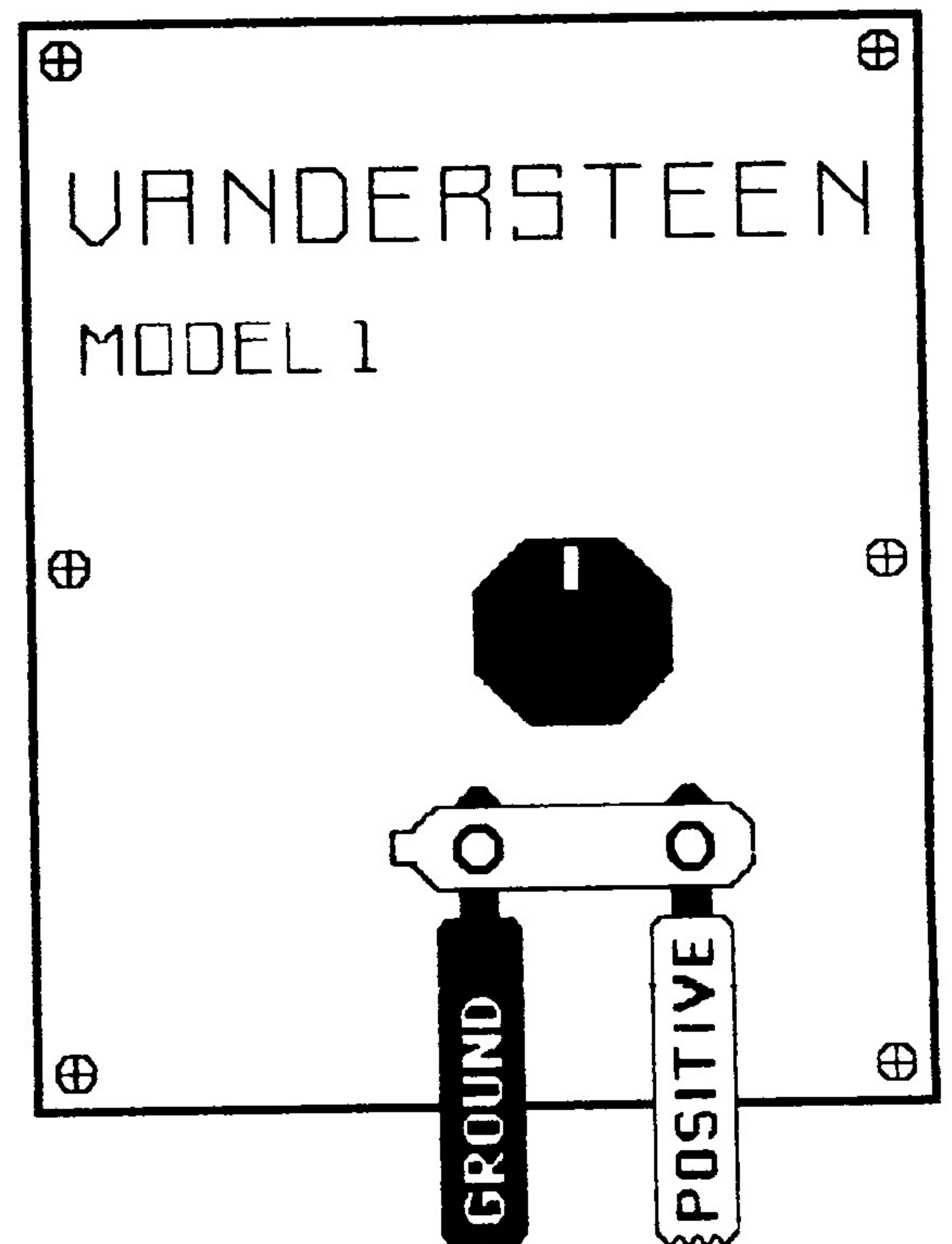
Overview

The inputs of the Vandersteen Audio Model 1B are located on the aluminum dress plate at the rear of the speaker and are designed to accept standard size banana plugs (included).



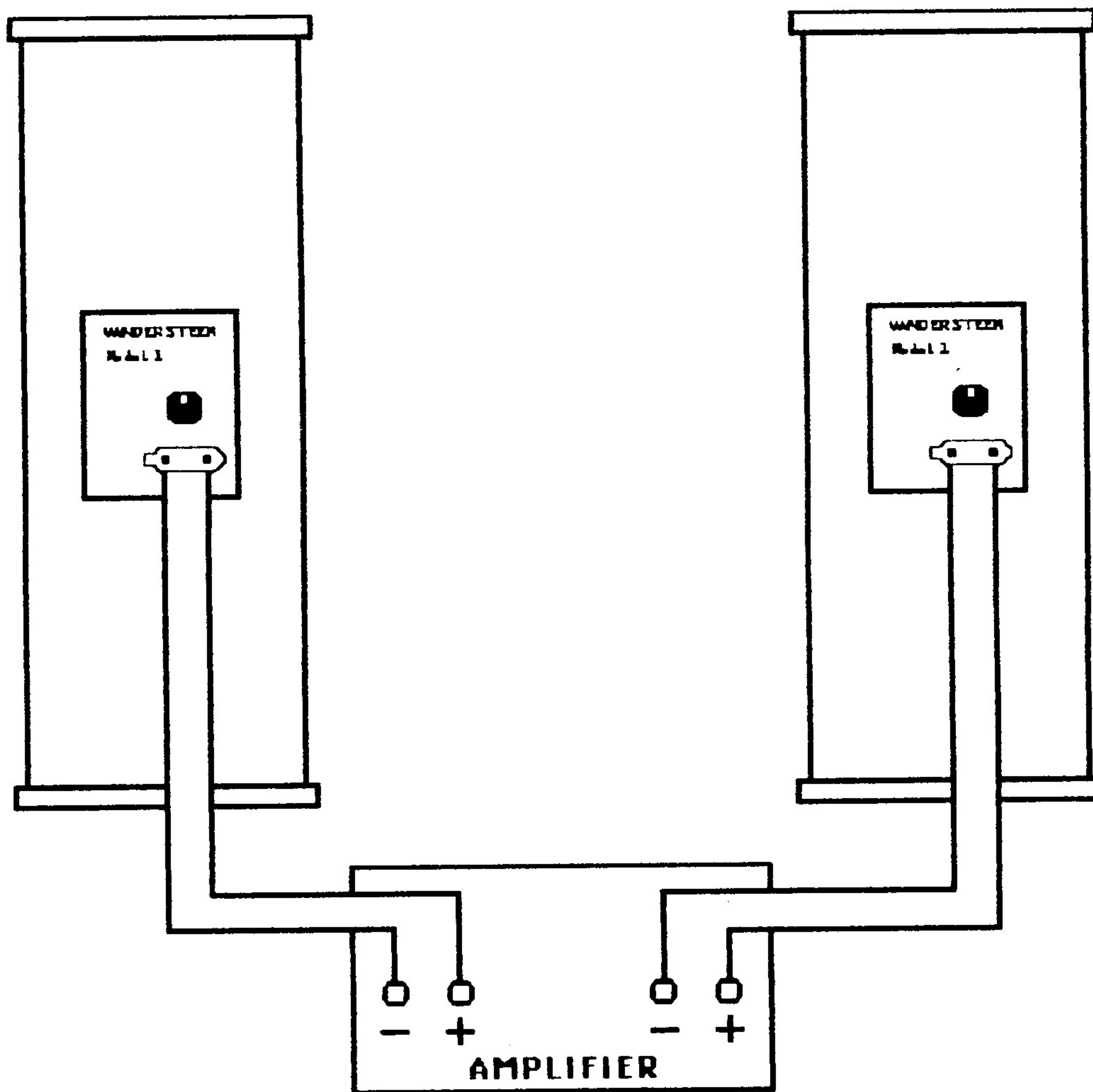
Connections

1. Place the banana plug into its jack with the ground ridge toward the left (black) terminal and loosen the set screws.
2. Strip approximately 0.3 inches of insulation from the speaker ends of the speaker cable.
3. Verify cable polarity, then from the bottom, carefully push the exposed ground side of the speaker cable through the hole in the ground (left) side of the banana plug and tighten its set screw.
4. Repeat step 3 for the positive side of the speaker cable and the positive (right) side of the banana plug.
5. Connect cables to amplifier in the normal manner. Verify polarity at the amplifier connection.



From Amplifier

Speaker Connection



System Connection

Connection Notes

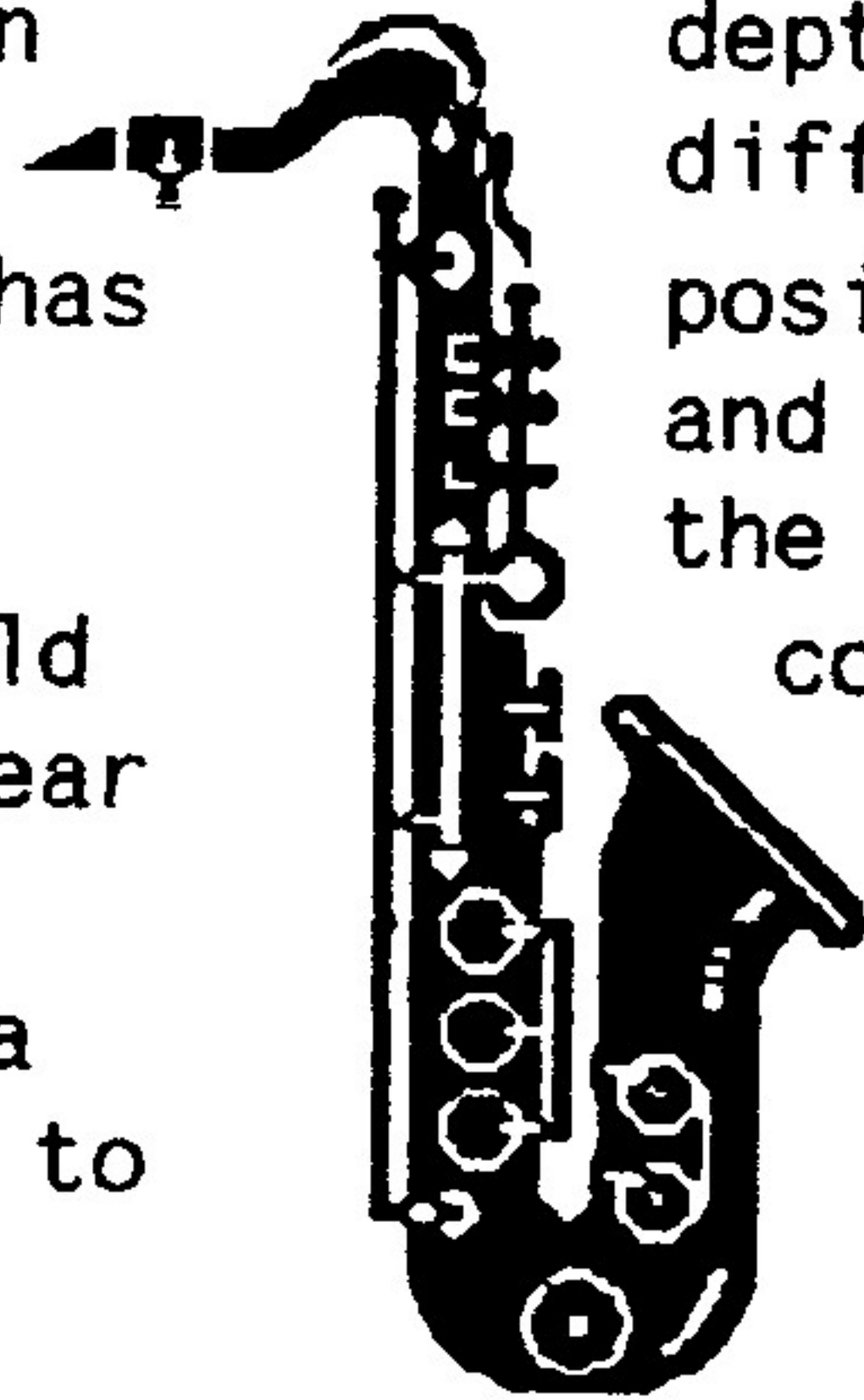
- a. All cables should be high quality and no longer than necessary.
- b. All connections should be kept clean and free of corrosion.
- c. Bare wires should not touch the aluminum dress plate.

Positioning

Overview

As speakers have become more accurate, with increased dispersion and imaging capabilities, their positioning in the listening room has become more critical. Most loudspeaker manufacturers now recommend that their speakers should be placed somewhat away from the rear and side walls.

Because speakers are used in a room they must work with that room to present an accurate sound stage



recreation with proper placement and depth of instruments. Each room is different and requires slightly different positioning to obtain optimal response and imaging, however the basic needs of the speakers will remain fairly consistent.

The following sections detail both the basics and particulars in positioning your Model 1B's to obtain optimum performance in most types of listening environments.

Basics

Wide dispersion contributes to the excellent imaging of the Model 1B but also requires that the speakers not be positioned directly against the rear or side walls. The Model 1B should be placed at least six inches away from the rear wall and two feet away from the side walls. The speakers can be different distances from the side walls, however both speakers should be an equal distance

from the rear wall.

The Model 1B does not require the use of speaker stands. Care should be taken when the Model 1B is used on carpet that they remain vertical and do not lean forward or backward.

No furniture, plants or other objects should be placed in front of the Model 1B where they could possibly interfere with the sound quality.

Side Walls

The most critical element of room placement affecting sound quality is the distance of the speakers from the side walls. As with most modern speaker designs, the Model 1B performs best when placed away from the side walls at least two feet. The speakers will generally sound better as they are moved even more than two feet from the side walls, and it is recommended that you place them as far away as room size and aesthetic considerations will allow.

While it is not required that both speakers be the same distance from their respective side walls, symmetrical placement may improve the imaging. If possible, the speakers should be tried in symmetrical and asymmetrical placements to determine which is superior.

When conducting your listening tests on speaker positions, listen for the most overall musical sound and the proper placement of musical images within the sound stage recreation.

Rear Wall

The Model 1B is designed to be placed at least six inches away from the rear wall for optimum performance. This distance should not be considered an absolute as the speakers will often sound better with additional space behind them. If possible, the speakers should initially be placed at least one foot from the rear wall then slowly moved forward, away from the wall, in small steps while listening for the effects on

the sound quality.

The Model 1B may be tilted-in toward the listening position. The optimum degree of tilt-in will vary, however the speakers should both be equal. The distance from each rear corner of the speaker to the rear wall should be carefully measured and the speaker should be twisted until the two speakers are identical. The speakers should be the same distance from the rear wall.

Height

The Model 1B is designed to stand directly on the floor and does not require the use of a stand. Care should be taken that speakers placed on carpet remain vertical with no forward or backward lean. The speakers should

always be completely stable, with no tendency to rock in any direction. Stability can be increased on thick or shag carpet with the use of some small cone shaped feet placed under the corners of the speakers.

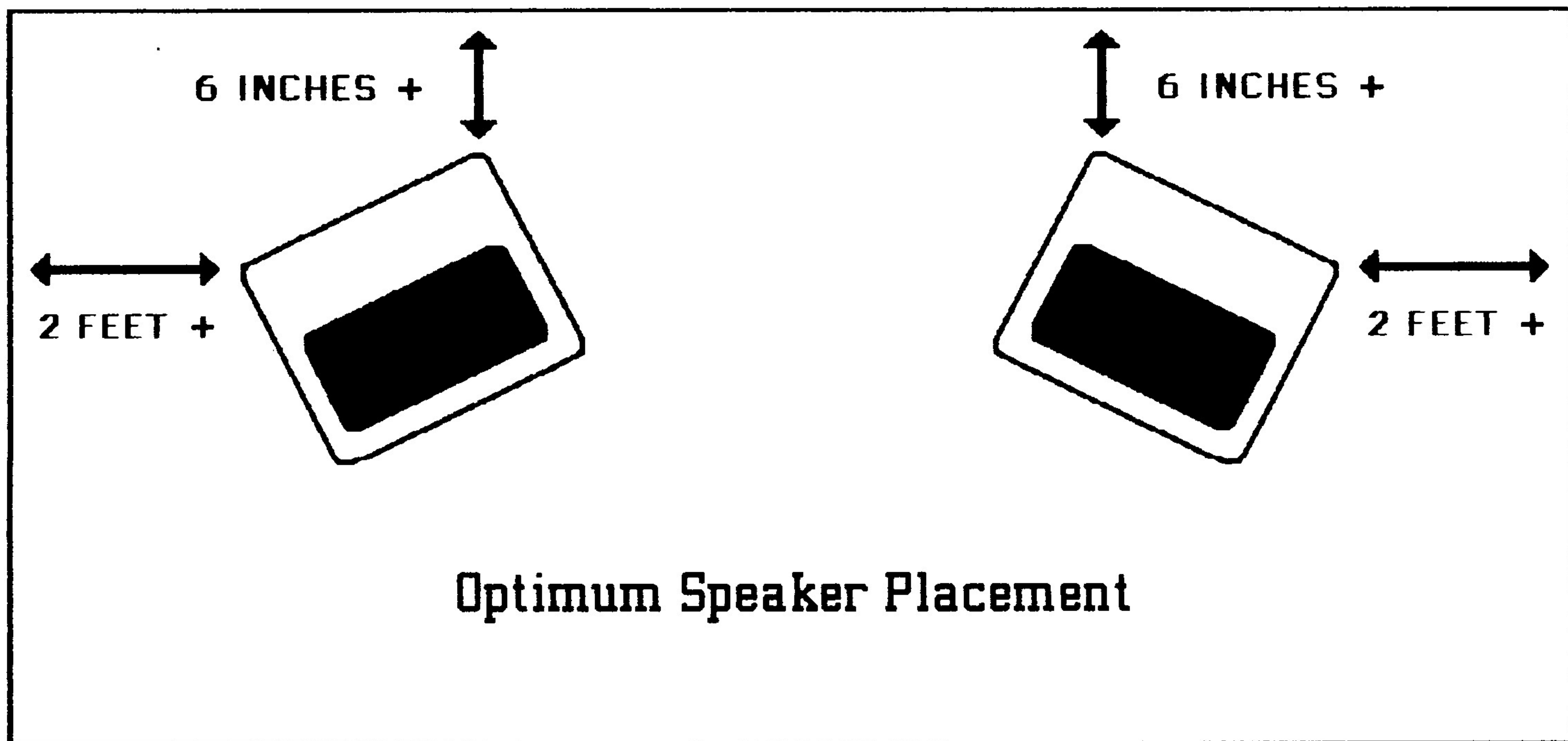


Optimum Placement Distances

Side Walls - Two feet or more. Speakers do not need to be the same distance from their side walls.

Rear Wall - Six inches or more and tilted-in if necessary.

Height - Set directly on the floor.



Speaker Placement Notes

The Vandersteen Audio Model 1B requires a break-in period of fifty hours of use at a medium loudness level. All fine tuning should be repeated after this break-in period has elapsed.

- a. When the speakers are tilted-in, both speakers should be tilted-in the same amount.
- b. Do not place furniture or plants in front of the speakers.

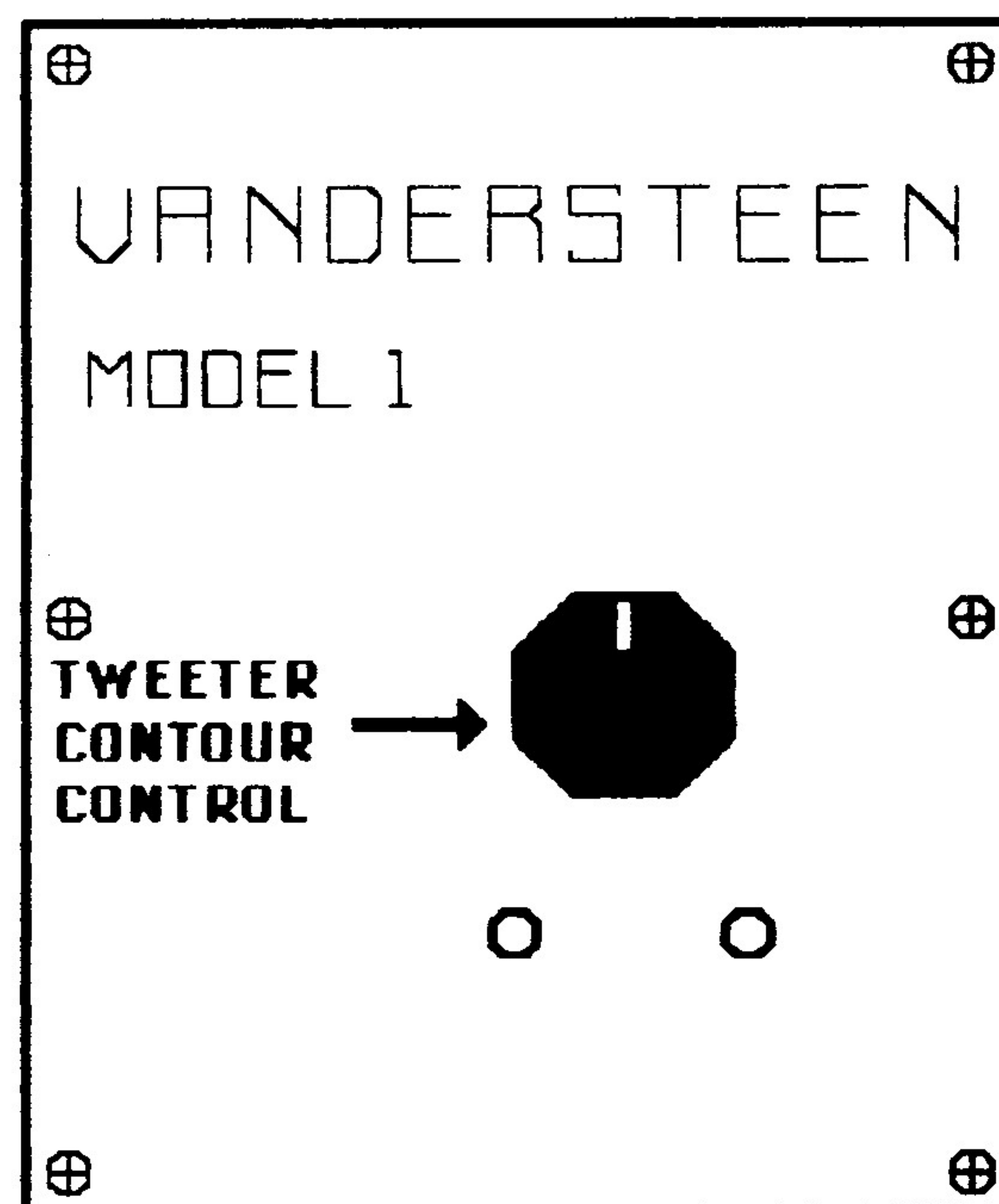
- c. If the imaging is poor, move the speakers farther away from the side walls or mount sound absorbing material on the walls just ahead of the speakers to deaden the reflections.
- d. Try different degrees of tilt-in to determine which produces the best results in your room.

Because all rooms and situations differ, these placement directions and tips should be considered only as starting points. Some experimentation may be necessary to determine optimum positioning in your room as changes as small as one inch can be audible. Modifications to the suggested placement may improve the sound in your room.

The Contour Control

A tweeter contour control is located on the aluminum dress plate at the rear of the Model 1B. This control adjusts the tweeter level over a limited range. The contour control should be left in its center position until the break-in period is completed. After the break-in period, the control may be used to compensate for a bright or dull room that could not be corrected with speaker placement or other non-active means.

For best results, do not change the tweeter contour control and speaker placement at the same time. After adjusting either the contour control or speaker placement, carefully listen for the sonic differences the adjustment has made before making any other changes to the speakers.



Powering

Overview

The Model 1B is should be used with amplifiers in the 20 to 100 watt range. This range covers the best sounding amplifiers available at this time and provides ample power for realistic listening levels. Amplifiers with less than 20 watts may not be able to recreate actual music levels while amplifiers with more than 100 watts must be used with caution to prevent speaker damage.

The Model 1B will perform well with

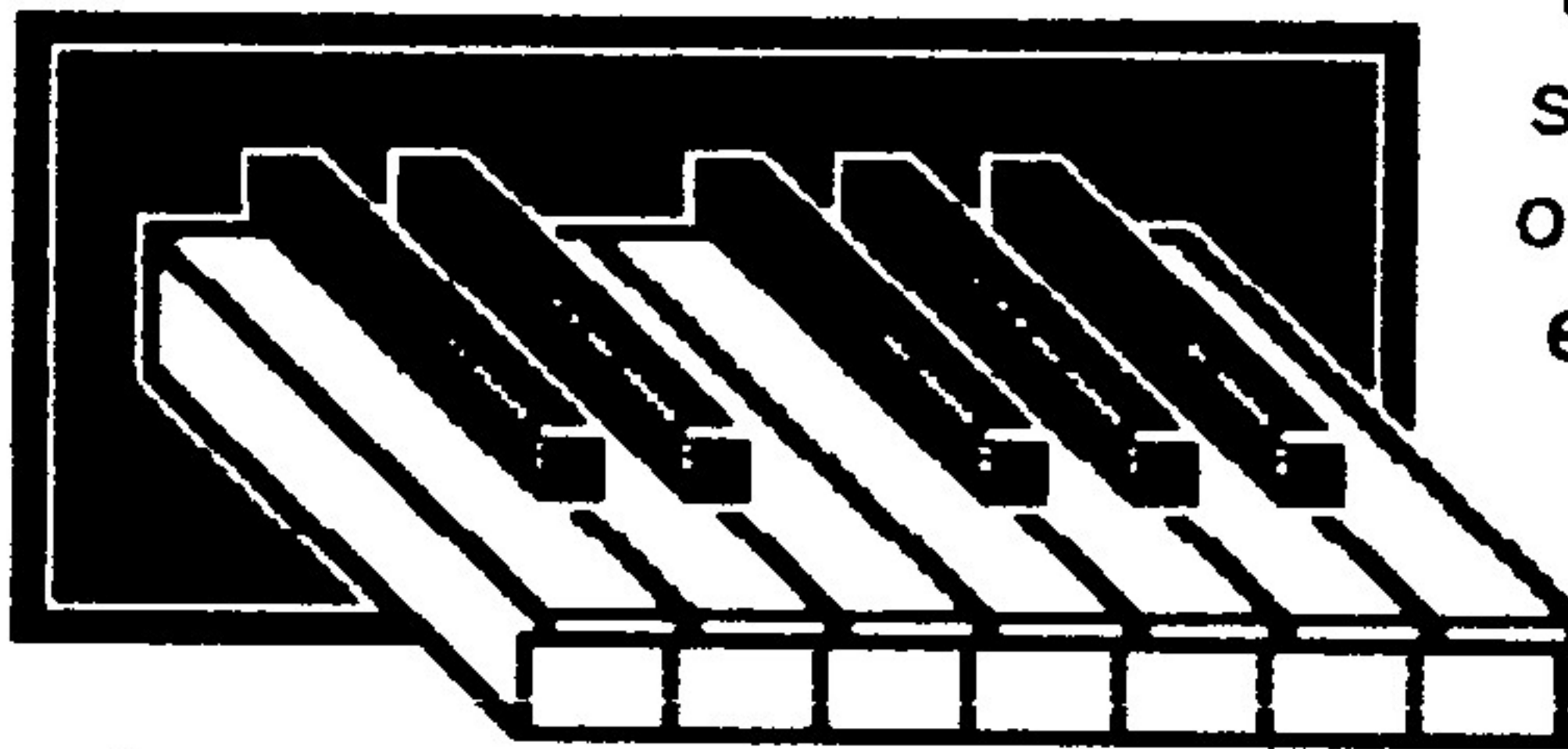
a tube or transistor amplifier, revealing either's musical potential. The stable impedance of the Model 1B prevents load induced amplifier problems, opening up the power choices to include high quality receivers and integrated amplifiers.

The following sections contain information concerning amplifier interface with the Model 1B. Please review them to maximize your systems musicality and protect your speakers.

Basics

Any amplifier can damage any speaker regardless of the amplifier's power rating or the speaker's power handling capability. Damage occurs when the amplifier attempts to deliver more power than it is able to, and is forced into a dangerous form of distortion known as clipping.

Some amplifiers will also emit DC,



or near DC pulses when overdriven. These low frequency pulses can be several times the rated power of the amplifier and can easily damage woofers and crossovers.

Obviously, not only should an amplifier within the power range of the Model 1B be used, care must be taken to learn the limits of that amplifier.

Amplifier Choices

To drive the Model 1B, a tube or transistor amplifier rated at 20 to 100 watts per channel into an 8 ohm load should be used. The amplifier can be a quality receiver, integrated amplifier or separate amplifier.

The Model 1B is a very revealing speaker, easily capable of showing the subtle differences between amplifiers that are used with it. The stability of the amplifier to be used should be considered, as it will affect the current capability and therefore, the dynamics

and realism of the music. A stable transistor amplifier will be able to deliver twice the wattage into a 4 ohm load as it does into an 8 ohm load, and amplifiers with this ability should perform well with the Model 1B.

The Model 1B incorporates a self resetting protection circuit that will attenuate the bass if the speaker is subjected to a large overload. Should this circuit engage, immediately reduce the volume level to prevent possible speaker damage.

Caution - Most receivers, integrated amplifiers, and preamplifier-amplifier combinations will reach their maximum power output with the volume control turned about 180 degrees (one half revolution).

Recognizing Amplifier Clipping

Clipping occurs when an amplifier is driven past its power capability and begins to square off and distort the musical waveforms. This type of distortion sends an abnormally high percentage of the amplifier's power to the tweeters of the speakers connected to it. Tweeters use very fine wire in their voice coils and are unable to dissipate the extreme heat generated by this sudden surge of power. Some amplifiers will also produce DC or very low frequency pulses when overdriven. These pulses can damage woofers and crossovers..

Most receivers, integrated amplifiers, and preamplifier-amplifier combinations will clip when the volume



control is turned approximately 180 degrees (one half revolution).

Additional gain potential is designed into electronics to permit the use of low output sources and this accounts for the remaining one half revolution or so of control movement. With normal level sources this second 180 degrees of control movement is not needed.

Some of the warning signs of amplifier clipping are a strained sound with loss of detail, a bright midrange and high-end, and a lack of definition and control in the bass. If these are heard, the volume level should be immediately reduced to bring the power output within the amplifier's capabilities.

Power Versus Time

As current from the amplifier passes through the voice coils of a speaker, the wire that makes up those voice coils is heated much like the wire in a toaster. Modern day speakers, such as the Model 1B, use voice coils designed to dissipate a considerable amount of heat with the use of ferrofluid cooling and other techniques, but still there is a limit to the current and resultant heat they can handle. Because the voice coils get hotter the longer the power is passing through them, a volume level that is safe for ten minutes may cause damage if continued for half an hour.

To prevent damage to the Model 1B,

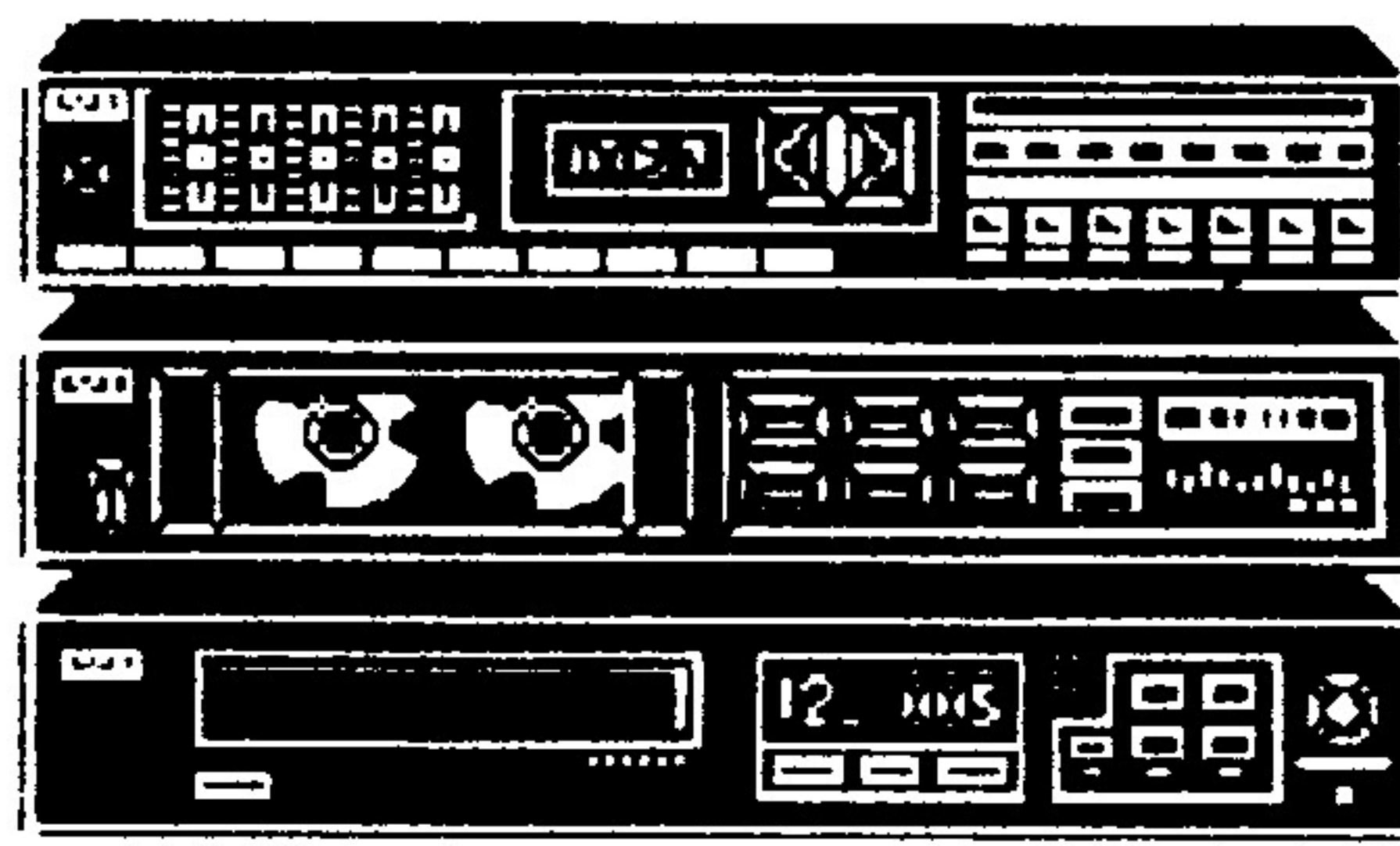
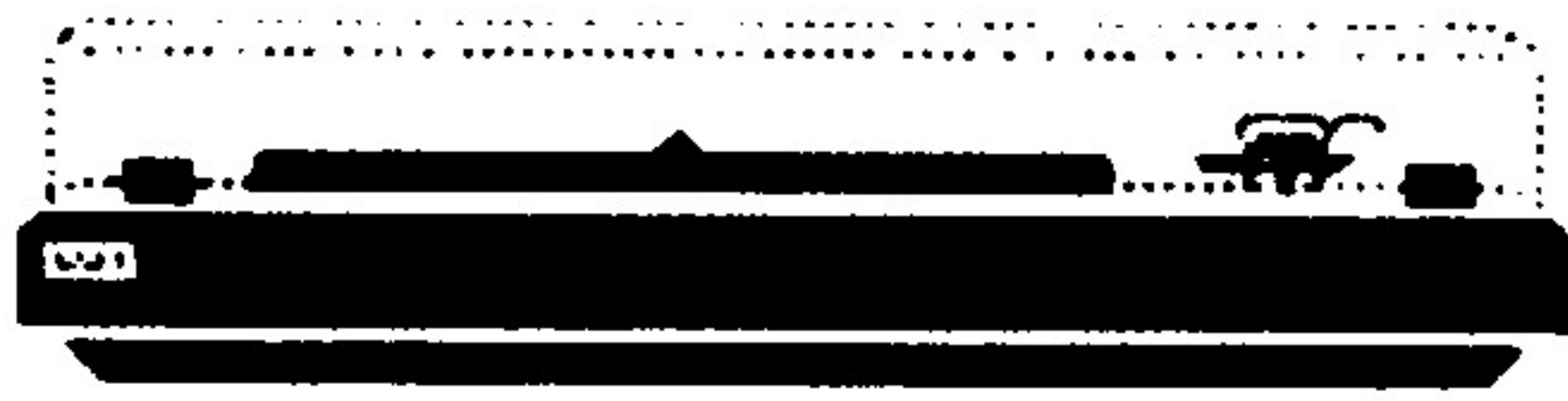
care should be taken when listening to your system at a high volume level for an extended period of time. There is normally no problem with classical or jazz music due to the many level changes, however rock, and especially electronic music are often high intensity throughout with no substantial breaks to allow the speakers to cool.

If you are using an amplifier capable of 50 watts or more per channel and listen to high intensity music at high volume levels, you should give your speakers a rest every 20 minutes or so by reducing the volume to allow the voice coils time to cool.

Associated Equipment

System Precautions

- a. Always reduce the volume level before cuing a record, changing the input source, or cleaning the stylus.
- b. Do not turn the preamplifier on or off while the amplifier is on.
- c. Do not unplug the input cables from the amplifier with the amplifier on and connected to the speakers.



Overview

The Vandersteen Audio Model 1B is designed to produce excellent results with modest associated equipment, yet reveal the full musical capabilities of state of the art sources and electronics. The Model 1B should be used with high quality music sources, such as records and compact discs, which are able to

recreate the dynamics and emotion of the original musical performance.

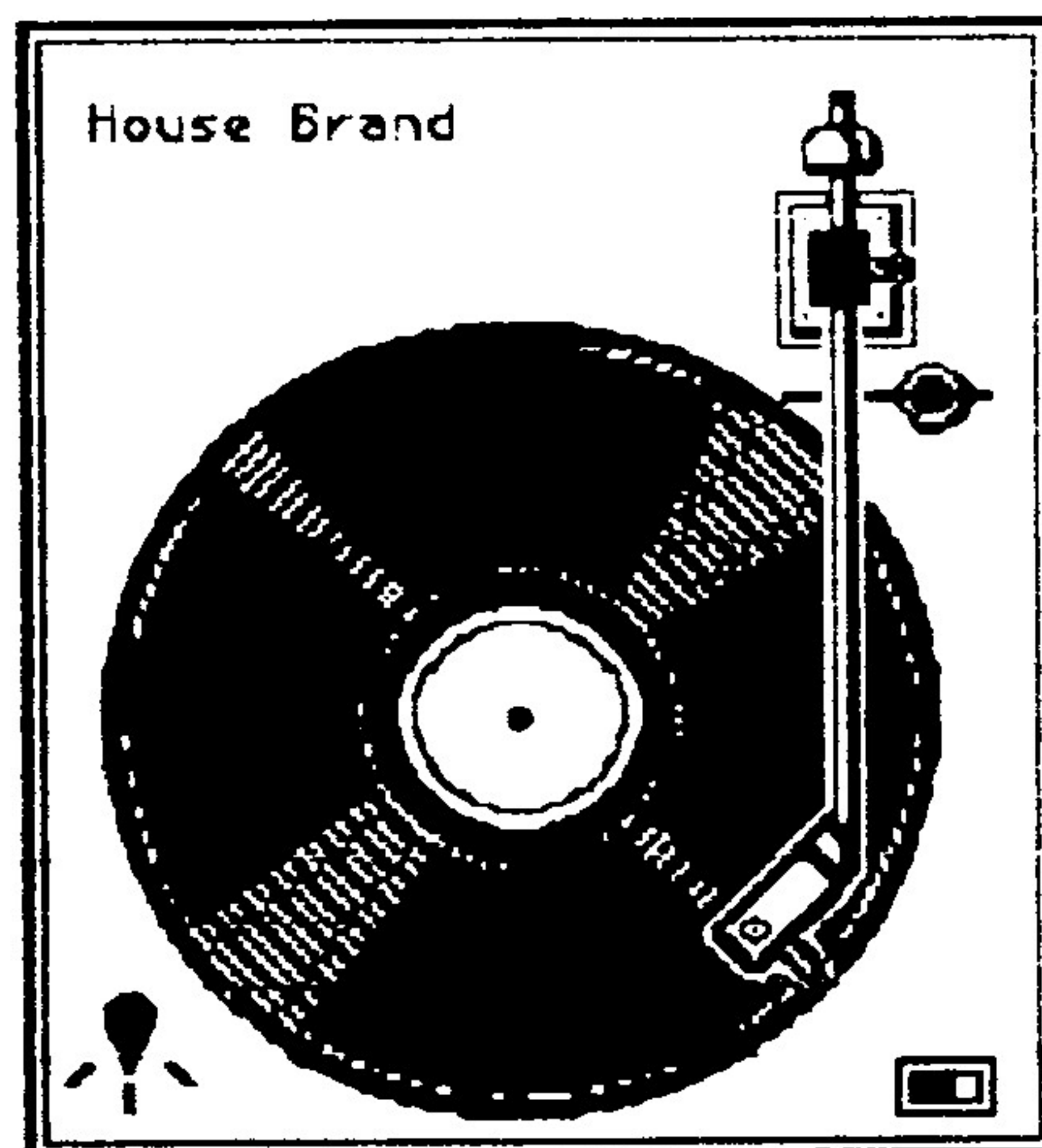
The following sections address the system components including sources, amplification systems and connecting cables, that will normally be used with the Model 1B and offers some suggestions for improving performance.

Turntable

The turntable is considered by many listeners to be the most musical and natural sounding music source for stereo systems. The availability and diversity of records ensures that turntables will continue to be the preferred music choice for some time.

The extended bass response of the Model 1B can create problems for some turntables that will negatively affect the sound quality. The vibrations produced by the speakers cause the record or tonearm to vibrate, resulting in at least a loss of

information, and at worst, a howling feedback that can overload the amplifier and damage the speakers.



The turntable must be able to cope with both the air borne and surface borne vibrations produced by the stereo system. Most modern turntables are excellent at resisting these vibrations, but some precautions should be observed to maximize their resistance. These precautions will allow your turntable to retrieve more information off the record

and result in more musical and more detailed sound.

Turntable Notes

- a. Follow the turntable manufacturer's instructions.
- b. Set the turntable on a stable platform and consider the use of an isolation base.
- c. Keep cartridge to arm, and arm to turntable connections tight.
- d. Verify that any suspension on the turntable can move freely and without binding.
- e. Remove the dust cover to determine if the sound is improved or worsened.
- f. Move the turntable to a new location if feedback is still suspected and the preceding suggestions have not improved the situation.

Compact Disc

The compact disc (CD) has grown in popularity during the past few years with those who appreciate its detailed and dynamic sound presentation.

The disc is read with a laser, thus the CD is less affected by vibration than a turntable, however some problems may still be encountered. If



you feel that information is being lost or that the sound from your compact disc is below its potential, verify that the

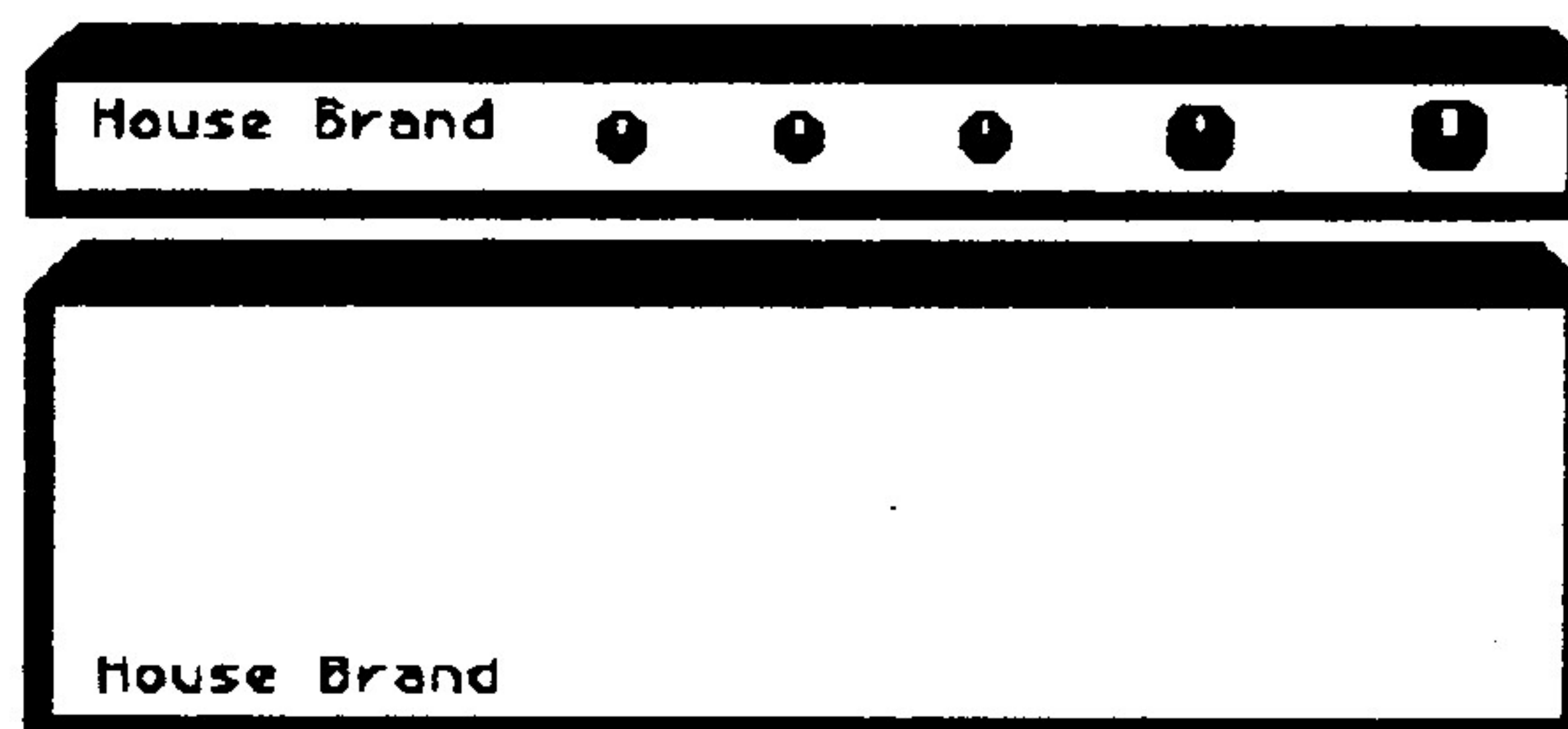
CD is on a stable platform and/or set on an isolation base.

The wide dynamic range available from a

CD necessitates that some extra care be taken with the volume control setting.

Control and Amplification

Whether you choose to use a receiver, integrated amplifier, or separate preamplifier and power amplifier, the equipment you select should be high quality, stable, and versatile enough to cover your current and future needs. The amplifier section should meet the criteria covered in "Powering Your Speakers", and the control, or preamplifier, section should be as sonically neutral as possible.



If allowed by the manufacturer, the preamplifier in a separates type of

system should be left on constantly. This will allow its circuitry to fully stabilize and reach optimum performance.

The amplifier should not be left on unless

some precautions are taken to prevent the damage to the speakers that could occur should the amplifier experience a catastrophic type of failure.

Electronics Notes

- a. Do not use tone controls to modify the sound except as an absolute last resort.
- b. Most electronics sound better when set on a stable platform or isolation base.
- c. Always allow room around the amplifier for needed air circulation.



Connecting and Speaker Cables

The cables used to connect the electronics to each other and the speakers to the amplifier should be considered an integral part of the music system. Each make and model of cable has a different sound, thus system problems are often blamed on components when a cable is actually responsible.

The Vandersteen Audio Model 1B is easily able to pass the amount of information necessary to hear an audible difference between cables. These differences exist in both interconnect and speaker cables and can manifest themselves as:

- A gain or loss of detail.
- A shift or change in the

perceived frequency response.

- A harshness or softness to the high-end.
- A change in the control or extension of the bass response.
- A veiling of the midrange or high-end.
- A change in the dynamic impact of the system.
- A gain or loss of overall musicality.

Before making judgement on any cable, use it in your system for at least two weeks straight to allow the dielectric to fully form and optimize the cable.

Cable Notes

- Speaker cables should be as equal in length as possible.
- Keep all connections clean and tight.
- Allow two weeks for the dielectric to form before judging a cable's performance.
- Do not use longer speaker cables than are necessary.

Maintenance

The appearance and performance of the Model 1B can be enhanced by observing a few precautions and performing some simple maintenance.

The input jacks on the Model 1B and the banana plugs should be cleaned periodically with alcohol or a solution made specifically for cleaning electrical contacts. A cotton swab with a small amount of cleaning solution on it can be used to clean inside the input jacks. Other connection points in the system should be cleaned as per the equipment manufacturer's recommendations.

The grill cloth on the Model 1B can be vacuumed using a brush attachment that will not snag the cloth.

The top should be treated as a piece of fine furniture. The wood veneers are oiled at the factory and can be maintained with a light application of Watco oil or similar product.

Care must be taken that glasses or other objects that could mar the finish are not placed on top of the speaker. The speakers should not be exposed to excessive direct sunlight which can damage the fit and finish of the veneer.

In Closing

This manual has dealt with the capabilities and limitations of the Model 1B. As with any piece of precision equipment, these capabilities and limitations must be considered when using your speakers to ensure their optimum performance and reliability. You should review this manual with anyone who will be allowed to use your stereo system to insure that they will exercise proper care and judgement.

Should you have questions regarding

the interface or performance of the Model 1B, you should first consult your dealer. He has been selected to be a Vandersteen Audio Dealer due to his expertise regarding stereo equipment and its use. If your dealer is unable to answer your questions, write to Vandersteen Audio and we will attempt to address your concerns. When writing, please include a list of your associated equipment. Vandersteen Audio can also be contacted by phone during normal business hours.

Vandersteen Audio

116 West 4th St.
Hanford, CA 93230

(209) 582-0324

Service & Packing

Service

Should your Vandersteen Audio Model 1B's require service, please follow these procedures.

- Contact your dealer and make arrangements to validate the problem.
- Determine if the speaker can be repaired by the dealer or requires

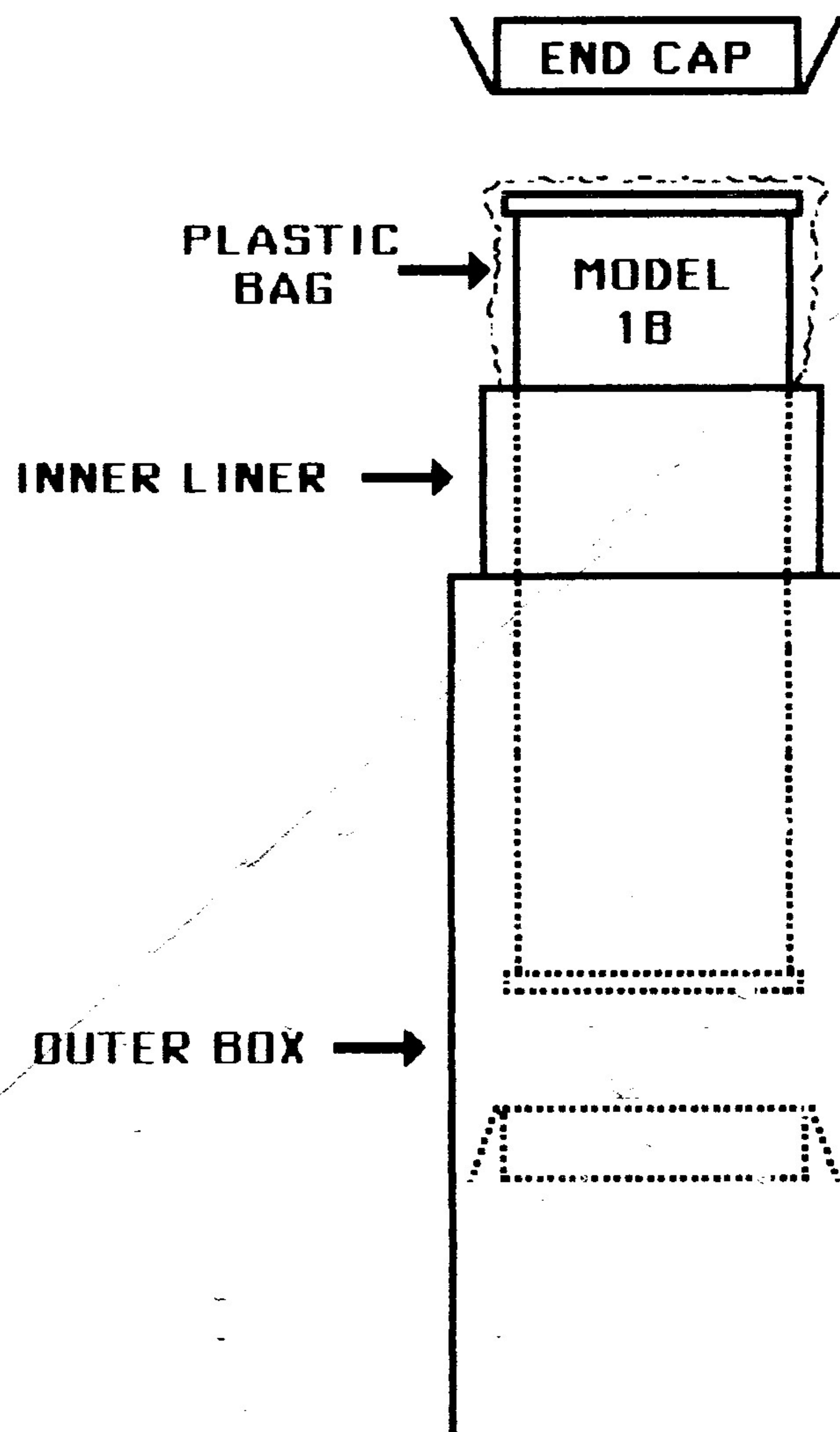
return to the factory.

- Should the speaker require return; contact Vandersteen Audio, describe the problem and request a return authorization form with shipping instructions.
- With authorization, return the speaker to Vandersteen Audio packed in the original box.

Packing the Model 1B

To prevent physical or cosmetic damage, the Model 1B should always be packed in its original box prior to any transportation or shipment. Please follow these instructions when packing the Model 1B.

1. Turn the speaker upside-down on a carpeted surface.
2. Pull the plastic bag down over the speaker.
3. Slide the inner liner over the speaker and fit one of the end caps into the end with the open area facing away from the speaker.
4. Holding the flaps out, slide the outer box over the inner liner all the way to the floor.
5. Carefully turn the box right side up.
6. Close the plastic bag, then place the remaining end cap into the inner liner as was done in step 3.
7. Close the flaps on the outer box and seal the box with strong tape.



Limited One Year Warranty

VANDERSTEEN AUDIO loudspeakers are warranted to be free from defects in materials or workmanship, SUBJECT TO THE FOLLOWING CONDITIONS, for one (1) year from the date of purchase by the original purchaser,

THIS WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS AND LIMITATIONS

This warranty is void and inapplicable if the loudspeakers have:

- a. not been used in accordance with the instructions contained in the operation manual.
- b. been subject to misuse or abuse, one example of which would be burned voice coils.
- c. been modified, repaired, or tampered with by anyone not specifically authorized to do so by Vandersteen Audio
- d. been subject to inputs in excess of the maximum rating, or inputs from an unstable or clipped amplifier.
- e. been damaged by accident, neglect, or transportation.

The speakers must be packed in the original packing and returned to VANDERSTEEN AUDIO via insured freight by the customer at his or her own expense. A returned product must be accompanied by a return authorization form, (available from VANDERSTEEN AUDIO or an authorized dealer upon request) which includes a written description of the defect and proof of the date of purchase.

VANDERSTEEN AUDIO reserves the right to modify the design of any product without any obligation to previous purchasers and to change the prices or specifications without notice or obligation to anyone

IF A VANDERSTEEN AUDIO LOUDSPEAKER FAILS TO MEET THE ABOVE WARRANTY AND THE ABOVE CONDITIONS HAVE BEEN MET, THEN THE PURCHASER'S SOLE REMEDY SHALL BE TO RETURN THE PRODUCT TO VANDERSTEEN AUDIO WHERE THE DEFECT WILL BE REPAIRED WITHOUT CHARGE FOR PARTS OR LABOR.

ANY IMPLIED WARRANTIES RELATING TO THE ABOVE PRODUCT SHALL BE LIMITED TO THE DURATION OF THE ABOVE WARRANTY. THIS WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO PURCHASER.

Some states do not allow limitations on how long an implied warranty lasts, or an exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply. This warranty gives you specific legal rights, you may also have other rights in your state.

A Personal Note

I have been doing volunteer work for several years with elderly people with severe hearing losses, and I have seen the frustration and anger that are brought on by these losses. We now know that many of these people developed their hearing problems because of exposure to high noise levels when younger.

Many home and portable stereo systems are capable of volume levels potentially damaging to your hearing. Please use common sense, and listen to your music at safe volume levels now so you will still have the ability to hear and enjoy your music in the future.

