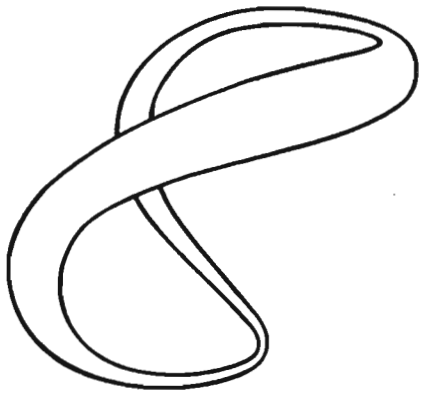
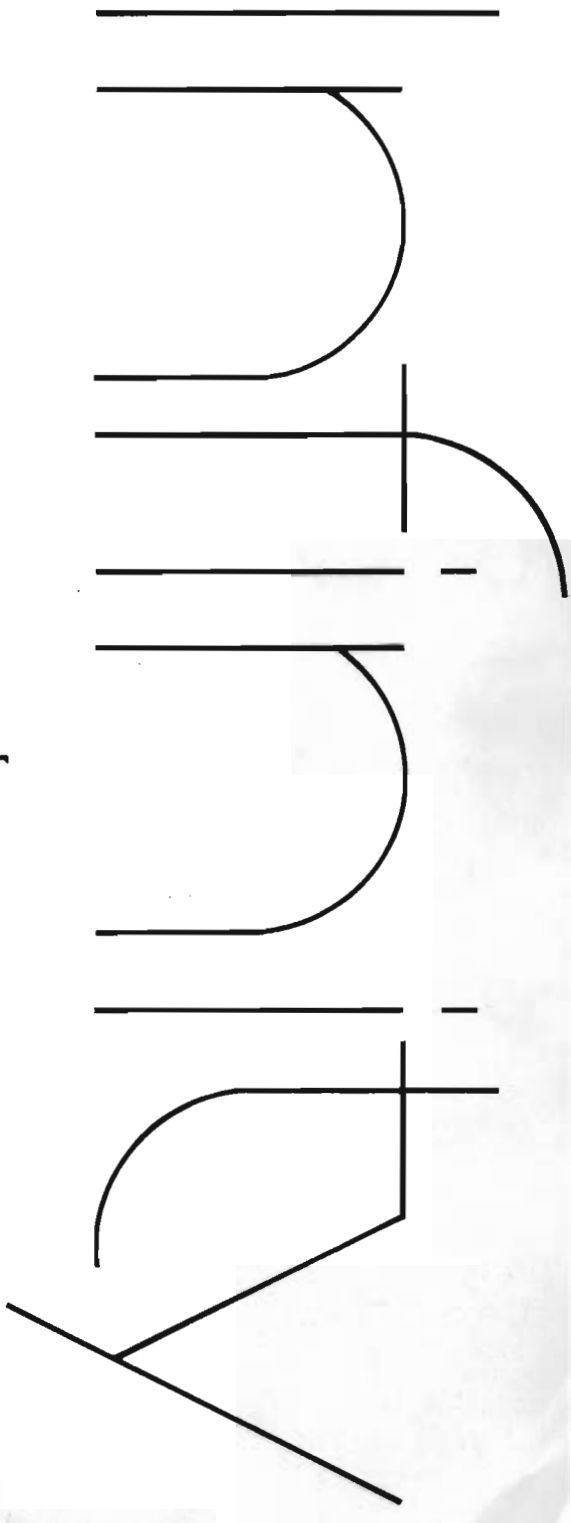


OWNER'S MANUAL
for your
RS_e, RS_a, RS_b, RS 1.5
or Reference Studio Monitor
Infinity Speaker



Unpacking

Check your speakers carefully. If they have been damaged in transit, call your dealer and/or whoever delivered them immediately. Keep the original cartons in case of future need. They fold flat, and can easily be stored, taking little space.

Be careful that the staples in the cartons do not scratch your speakers.

Associated Components

Your Infinity speaker will reproduce distortion just as well as music. Therefore, choice of associated components and program material is critical.

Note: over-driving a low power amplifier may result in distortion with powerful ultra high-frequency energy which can damage your speaker and void the warranty.

The volume control setting is little or no indication of the power output into the speakers. A low-power amplifier (if misused) can damage a high-fidelity speaker system. ***Turn up the volume only as far as the sound remains clear and undistorted.***

With high-powered amplifiers, it is essential to take care to avoid acoustic feedback or non-musical input signals. The speakers should not be connected when the system is being wired up, and the amplifier volume controls should be at zero when a pickup is being lowered onto or raised from a record, or when program input changes are made.

Positioning

Room acoustics vary widely, and even small changes in position will affect the sound. To obtain the best results, it is worthwhile experimenting with different room positions for your speakers, and listening to the results.

For the best stereo image, the speakers should be no less than 2 to 3 meters (7 to 10 feet apart). This should be considered a basic starting point.

If your room is larger than average, and your listening position is farther from the opposing wall, a wider placement of the speakers may be desireable: around 4 meters (12-15 feet). Angle the speakers in slightly toward your listening position.

The distance between the two speakers should be about the same as the distance between the speakers and the listener. Think of it as an equilateral triangle.

The proximity of your speakers to corners and walls can affect tonal balance in the bass and lower middle frequencies.

To obtain the lower coloration and excellent stereo imaging of which your Infinity speakers are capable, position them at least 2/3 to one meter (two to three feet) from walls and corners. If the sound is bass-light under these conditions, move the speaker slightly closer to one of these boundaries.

By choice or necessity, you may be placing your Infinity loudspeakers on a shelf directly against the wall. Although this is *not* optimum as you will sacrifice the *depth* of image that is characteristic of Infinity speakers. Remember to angle them in slightly, towards your listening position.

Also, if you must mount the speakers higher than ear level, place a shim under the rear of the cabinets, to angle the front plane of the speakers slightly down.

If the speakers are mounted near the floor, a shim should be used to tilt the frontal plane of the speaker backwards, with the sound directed slightly upward.

Note that the average living room has a much happier balance of acoustic properties than the typical demonstration room in a store. In most homes, carpets, drapes and furniture generally balance window areas and walls, producing a relatively optimal acoustic environment.

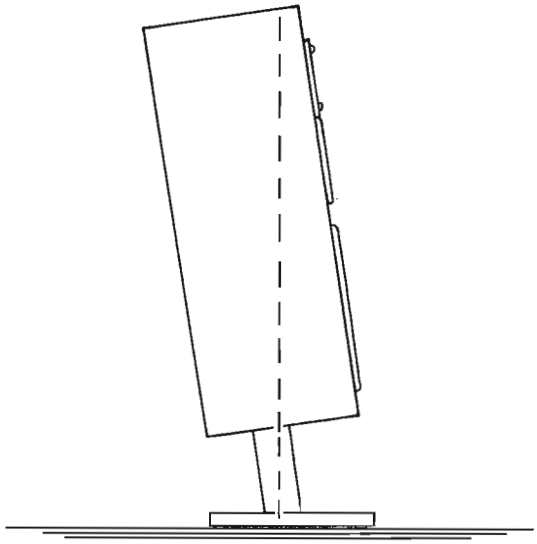
Where extremes exist: i.e. heavily draped and carpeted (dead sound) or wide expanses of glass in mirrored walls, picture windows, sliding glass doors, or metal table surfaces, (hard, bright sound) you can compensate for the room's acoustics by using speakers' tweeter and/or midrange controls.

Stands

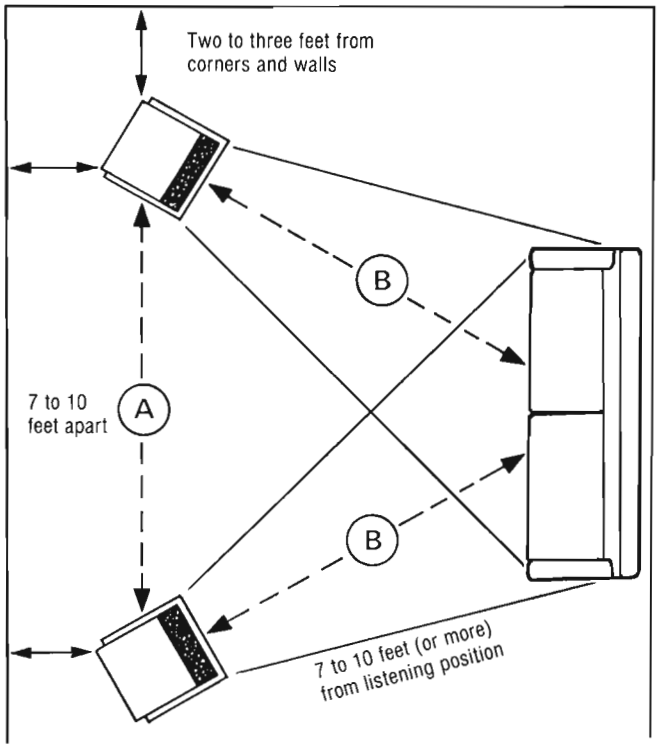
No "bookshelf" type loudspeaker should rest flat on the floor surface—especially if that floor is carpeted. Bass will be exaggerated when close to room boundaries.

We advise using speaker stands. Infinity has designed stands (available through Infinity dealers) that create optimum height and angle for your Infinity speaker.

Your speaker will perform best in a vertical position, with the bottom of the cabinet 6" to 24" above the floor. If you use a 6" stand, choose one that angles the speaker slightly backwards so that the front plane of the speaker is directed upward toward your usual listening location. A 12" stand requires less tilt to accomplish the same effect. At 18" to 24" above the floor, the speakers can be mounted parallel to the floor for optimum dispersion.



Place speakers on stand, slightly tilted back and 6 to 12 inches off of floor.



Placement of speakers.

1. Angle them in slightly.
2. Distance between speakers (A) should be roughly equal to the distance from speakers to listening area (B), for ideal stereo imaging.

Horizontal Mounting

If space or decor consideration require that you mount the speaker horizontally, its EMIT tweeter should be realigned to maintain its exceptional distribution of high frequencies.

Remove the grille and frame by pulling straight out. Remove the four (4) ¼ " hexagonal bolts on the *outer* circle of the EMIT tweeter. (*Don't lose them.*) Turn the tweeter 90° (one quarter turn—so that the word "EMIT" reads properly.) Then re-insert the tweeter, and replace the hexagonal bolts. Your speaker will now provide proper dispersion at all frequencies.

Correct alignment of EMIT tweeter.

When speaker is used horizontally. Realign EMIT 90°, as described in this manual, to maintain proper high frequency dispersion in horizontal use.

Connecting The System

Make sure the amplifiers are switched off before making connections.

Connect your amplifiers to the speakers using only 16 gauge (or larger) two-conductor wire with polarity coding. This coding may be by color, or by a thin ridge or stripe on the insulation of one conductor. It is important that the speakers be connected "in phase." Use the polarity coding to make sure that the "+" (red) terminal of each speaker is connected to its amplifier's "+" output. (It is sometimes coded "+", colored red, or occasionally, marked "hot").

Before switching on, check carefully to make sure that *no* stray or frayed strands of wire are touching *both* the "+" and "–" terminals at either the speaker or amplifier connections, as this will cause a short.

Correct ("in-phase") connection:
Plus (red) goes to plus. (This wire is usually ridged on its side.) Minus (white) goes to minus.

Incorrect ("out-of-phase") connection:
Plus-to-minus, and minus-to-plus. Results in distorted, "out-of-phase" sound.

Understanding "Min/Max" Power Ratings

A word about power ratings:

The recommended power ratings are arrived at in the Infinity listening room and at the volume which we feel to be appropriate for musical reproduction.

Your needs may be different.

If you intend to use your speakers for background music, or at moderate levels in a small room, an amplifier or receiver with less than the recommended minimum power rating can be used. But it is important to be aware of potential damage to tweeters that exists when a low-powered amplifier or receiver is played at volumes beyond its normal limits.

At some, loud, "peak" listening level all amplifiers will "clip" off the peaks of the musical signals. When this happens, the resulting harsh distortion may contain a considerable amount of super sonic energy, which is routed to the tweeters. This high energy can destroy your tweeters.

It is easier to damage any speaker with a low-powered amplifier than with a high-powered one. With a low-powered amplifier, we urge great discretion rather than high volume.

A Word About Tone Controls

The tone controls on your electronic components (preamplifiers, receivers, et al) should be used with utmost discretion—like a fine chef uses spices—delicately. This is true in all cases, bass, treble and where available, mid-range controls. Excessive boost can create severe power demands on your power amplifier, particularly in the bass. Maximum bass boost can create a demand for literally hundreds of *undistorted* watts in the bass region, whereas, in the "flat" position, or with the tone controls switched out of the system, your average listening level may be impressively and realistically loud at less than 1 watt. The remaining power capacity required is in reserve for power peaks on sharp transients and powerful crescendos.

Your Infinity speaker will deliver unusually even response in actual home listening environments well in excess of its conservative laboratory specifications.

NOMINAL IMPEDANCE refers to how much current is required, on the average, from an amplifier for a given voltage at its output terminals. A high impedance speaker will require less current than a low impedance speaker. Impedance is not an indication of quality or accuracy in a loudspeaker. Unless you listen to loud sustained organ music or choral works played at concert level, an amplifier rated at 8 ohms will have no difficulty driving a 4 ohm speaker.

Tube amplifiers will put out the same power from their 4 ohms, 8 or 16 ohm taps. For your RSa, RSb, Reference Studio Monitor or RS 1.5, select 4 ohms.

Solid state amplifiers, properly designed and constructed will generally put out more power at 4 ohms. Ask your dealer about the actual power and reliability of your prospective amplifier or receiver at this impedance.

Setting Controls On The Passive Crossover

The passive crossover controls for mid and high frequencies are located on the rear of the RSa, RSb and RS 1.5 speakers next to the input terminals. Those for the Reference Studio Monitor are located at the front and are accessible by removing the grille.

The TWEETER FUSE will protect the tweeters from most overload conditions. Should it blow, replace it with one of the spare fuses supplied with the speaker, or use an AGC 1¼A Amp fuse only. A larger or slower fuse will void the warranty.

MIDRANGE CONTROL varies the energy output of the midrange driver. This affects how "forward" or "distant" the sound image will appear to be. Adjust this control in small increments, listening to a variety of recorded material.

Feedback

If, after taking care in positioning your speakers, you find the bass response is "boomy" or lacking in "tightness," or you hear a rumble when playing records, or you notice excessive movement of the woofer cones, the cause may be acoustic feedback. This means that vibrations from the speakers are reaching the turntable. Because of the exceptionally low frequency response of Infinity speakers, isolating the turntable from these vibrations is an important consideration.

In general, make sure the turntable is placed on a heavy, solid support, as far away as possible from the speakers. Some combinations of turntable, tonearm, and cartridge are much more apt than others to encounter feedback. If you continue to experience difficulties after some experimenting with placement, ask your Infinity dealer for assistance.

In Case Of Trouble In Your Stereo System

Note that you can use your stereo's two channels of information for simple trouble-shooting. If the sound quality is distorted, listen to each speaker separately to check if the fault is present in both. If it is, then the trouble is likely to be elsewhere in your system. If the fault is in one channel only, reverse the outputs from your amplifier to the speakers (right-to-left and left-to-right). If the distortion moves to the other channel, the fault is not in the speaker. (This technique may also be used to locate a fault between signal source and preamp/receiver and between preamp and power amp (s).)

If, however, the distortion does not shift to the other speaker, you may be able to find the source of the problem and correct it. Try, following closely the trouble-shooting procedure outlined below.

Then, if you have been unsuccessful in locating the specific sources of trouble, or if you have located it but have been unable to correct it, make these inquiries in a-b-c order:

a. Consult the Infinity dealer from whom you purchased the system. Infinity dealers are audio specialists and can help solve most problems. But if your dealer cannot help . . .

b. Get the name and address of the authorized Infinity service facility nearest you by (in the U.S.) phoning toll-free 800-423-5244 or, from California, 800-382-3372 or by (in other countries) writing or calling the national distributor of Infinity products. You may be instructed to take or send the problem part to a service facility or the factory, for service under the terms of the warranty.

NOTE: DO NOT SHIP ANY PARTS OR WHOLE SPEAKERS FOR SERVICE WITHOUT PRIOR APPROVAL ("RETURN AUTHORIZATION"), AND DO NOT SHIP ANY PARTS OR WHOLE SPEAKERS WITHOUT ENCLOSING A COPY OF YOUR ORIGINAL BILL OF SALE.

If there is no authorized service facility near you, or in the highly unlikely case that the service facility cannot solve the problem . . .

c. Write or phone the service department at Infinity Systems (address: Infinity Customer Service, 7930 Deering Avenue, Canoga Park, California 91304; phone numbers: same as above). Describe the difficulty as specifically as possible. The service department will advise you whether to send a part or a speaker to them, prepaid, or what other action you should take.

Trouble-Shooting The Speaker

Before consulting your dealer, Infinity service facility or factory service department, there are tests you can make, to locate and solve possible problems in your RS system.

If a tweeter is apparently not working:

Step 1. Check the fuse and replace it if necessary, with only the same type of fuse. If that doesn't solve the problem:

Step 2. Remove the grille (pull it straight out by grasping the two corners of the grille frame at the top) then visually check the four slots of the EMIT, looking through the four slots to check the etched voice-coil (the thin silver lines on the plastic film diaphragm). Look for punctures, broken lines, or lines coming loose. If you find this damage, call your dealer for instructions. If you find no damage:

Step 3. Remove the tweeter and check to see that the wires are connected. If they are loose, simply re-connect them and put the tweeter back in place. If the connections are tight and the unit is still not operating, go on to step 4.

(NOTE BEFORE REMOVING ANY DRIVERS: EMIT tweeters are secured to the speaker enclosure with four black hexagonal-head screws; midrange drivers with four; 10" woofers with four; and 12" woofers with eight. Do not loosen or remove any screws of any other type.)

Step 4. With tape, mark (or "flag") the wire that is hooked to the "+" terminal, then disconnect both wires. Interchange the non-operating tweeter with the one from the other cabinet. If the problem follows the tweeter, then that tweeter is defective; call your dealer for instructions. If the problem stays in the same location, call your dealer and describe the problem.

If a midrange unit is apparently not working:

Step 1. Remove the midrange driver from the enclosure. Check to see if both wires are firmly attached. If not, re-connect them and re-install the unit back into the enclosure. If the connections are tight, go on to . . .

Step 2. With tape, "flag" or mark the wire that goes to the terminal on the midrange unit marked with a red dot or a "+". Disconnect the unit, and interchange it with the midrange unit from the other speaker. If the problem follows the unit, then the unit is defective. Call your dealer for instructions. If, however, the problem stays in the same location, call your dealer and describe the problem.

If a woofer is apparently not working:

The Infinity woofer is big and heavy. Use caution. Lay the speaker cabinet on its back on a soft clean cloth before removing the woofer. Be especially careful not to accidentally disconnect any of the wires attached to the voice coils.

Step 1. With tape, "flag" or mark the wires that are attached to the terminal(s) on the woofer that have a red mark (positive). Disconnect all wires from the woofer.

Step 2. Disable your other speaker by disconnecting it from your amplifier (unless it is a tube amp, in which case leave it hooked up), making sure that the loose ends do not touch, or "short" together. Disconnect the amplifier wires from the rear of the affected speaker and connect those wires to the voice coil terminals on the suspect woofer.

With the amplifier level (volume) control low, listen to a record with pronounced deep bass. If you hear sound reproduced (not necessarily bass), and that sound is *un*distorted (without scraping, rattling, or rubbing noises) that voice coil is operating. If there is no sound, or if that sound is *distorted,* that voice coil may have been damaged.

Report your findings to your Infinity dealer, and follow their instructions.

If the sound from your speaker system still seems to be distorted, but all drivers seem to be operating properly, and you have ascertained that the problem is not in your stereo amplifier, preamp, or turntable, the problem may lie in the passive crossover inside the affected speaker. Call your dealer for advice.

Care Of Your Speaker System

The outside of your cabinets are oiled, choice oak hardwoods and veneers. Should the lustrous finish need polishing, you can use a soft, clean cloth and any fine furniture oil. Spray-on finishes are *not* recommended due to the possibility that some of preparation may drift onto the drivers and/or diaphragms.

The natural water-repellency of the oil makes the finish resistant to most household stains. Simply wipe clean with a clean, damp cloth.

The grille material may be cleaned by vacuuming.

Infinity strives always to update and improve existing products, as well as create new ones. So the specifications and construction detail in this Infinity publication and others are subject to change without notice.