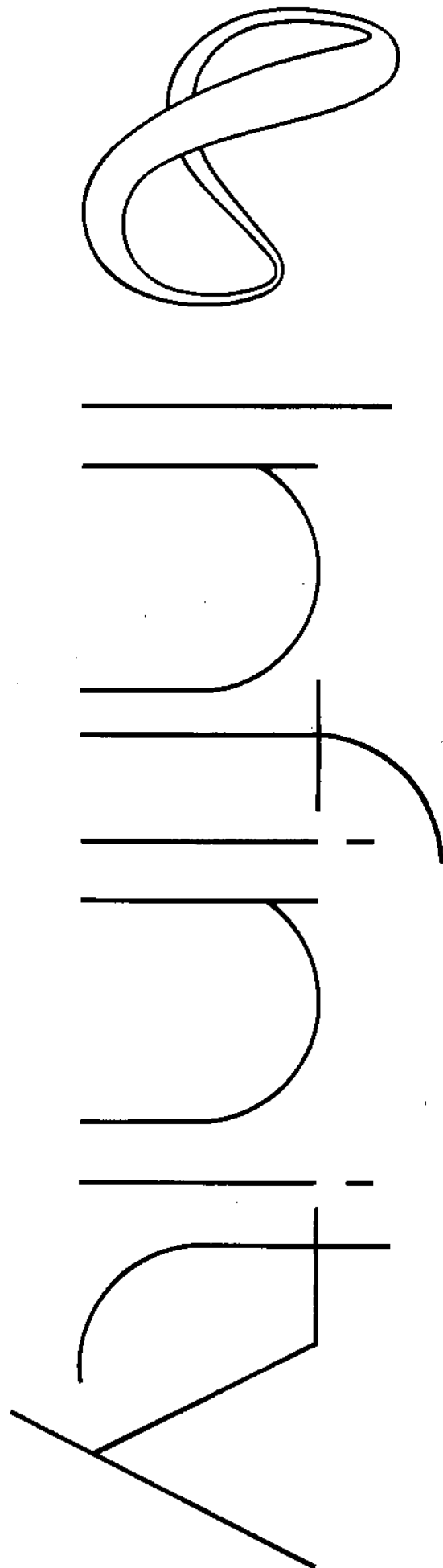


Instruction Manual  
for your new  
Reference Standard 2.5  
Speaker System



## Unpacking

Check your speakers carefully. If they have been damaged in transit, call your dealer and/or whoever delivers the cartons *immediately*.

Keep the original cartons in case of future need. They fold flat, and can be stored against a wall in little space.

RS 2.5 speakers are heavy. It is suggested that you obtain the help of a friend before you start to unpack.

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

## Associated Components

The Reference Standard 2.5 will transduce distortion just as well as music. Choice of associated components and program material is therefore critical.

The system may be used with either one or two stereo amplifiers (or two or four mono amps). The modes of operation are described and diagrammed later, along with suggested minimum power ratings per channel. In all cases each amplifier should be able to deliver its full rated power into a 4-ohm load at all audio frequencies. The RS 2.5 is a low-impedance speaker and damage could result to either the drivers or the amplifier(s) if the amplifiers are unable to deliver the necessary current. Recommendations for suitable amplifiers are available from your Infinity dealer.

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 therefore worthwhile experimenting with different room positions for speakers, and listening to the results.

Each pair of RS 2.5 speakers has a right and a left-hand speaker. Set them up with the tweeters inner most.

For the best stereo image, the tweeters should be two to three meters (seven to ten feet) apart, and not less than the same distance from the normal listening position. Because of the arrangement of the drivers in the RS 2.5, the speaker tends to be front-heavy. As a result the speaker may lean forward when placed on a soft surface, such as a plush carpet. It may then be necessary to place a shim under the front of the speaker to level it.

The position of your speakers primarily affects tonal balance in the bass and lower middle frequencies. If the sound seems bass-heavy, move the speakers farther from corners and walls. If the sound seems bass-light, move the speakers closer to one of these room boundaries. Equivalent changes in tonal balance will result from changing your listening position.

To obtain the low coloration and excellent stereo imaging of which the RS 2.5 speakers are capable, it is essential to 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, use your tone controls (or the optional Crossover/Equalizer unit) rather than speaker position to alter the balance.

## Connecting the system

There are two primary modes of operation described here.

1. Basic.
2. Passive bi-amplification.

Also described are three additional modes which may be utilized using the optional Crossover/Equalizer.

3. Passive with Crossover/Equalizer.
4. Passive bi-amplification with Crossover/Equalizer.
5. Active bi-amplification.

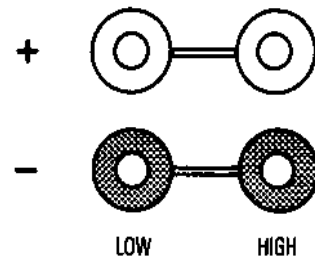
**MAKE SURE THE AMPLIFIERS ARE SWITCHED OFF** before making connections. It is recommended that the speaker be initially set up in Mode 1 Basic, in order that you gain familiarity with the sound of the speaker itself and the effects of its controls.

Connect your amplifier(s) to the speakers using only heavy-gauge (14 or better), two-conductor wire with polarity coding. This coding may take the form of color, or 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 (sometimes coded "+", colored red or, rarely, marked "hot").

Before switching on, check carefully to make sure that no stray or frayed strands of wire are shorting between "+" and "-" at either the amplifier or speaker terminals.

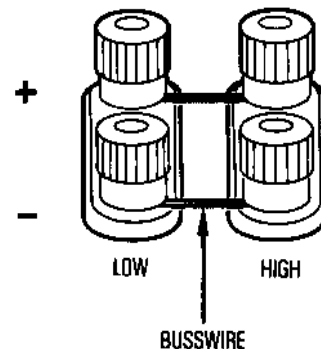
On the back of your speakers, at the bottom, are the input connectors.

Figure 1



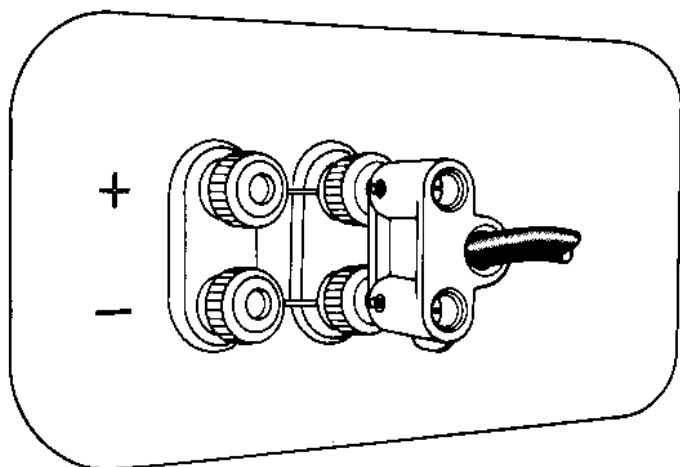
Note that the two red terminals are tied together with a short length of heavy buss wire, as are the black terminals. These tie the bass drivers in parallel with the midrange-high frequency drivers, and allow use of the speaker in a Single Amp Mode (Mode 1, or optional Mode 3). *WHEN THE INPUTS ARE TIED WITH BUSS WIRE, AS DESCRIBED, WE SHALL REFER TO THE SPEAKER AS HAVING ITS INPUTS "JUMPERED."*

Figure 2



Connection to the amplifier is made across either pair of terminals, either by wrapping the bare wire around the terminal posts or using dual banana plugs, as shown.

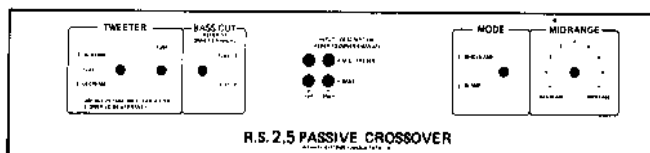
Figure 3.



## Setting the controls on the crossover

The controls for the RS 2.5 passive crossover are located on the top of the speaker, between the two vertical oak rails. (See Figure 4.)

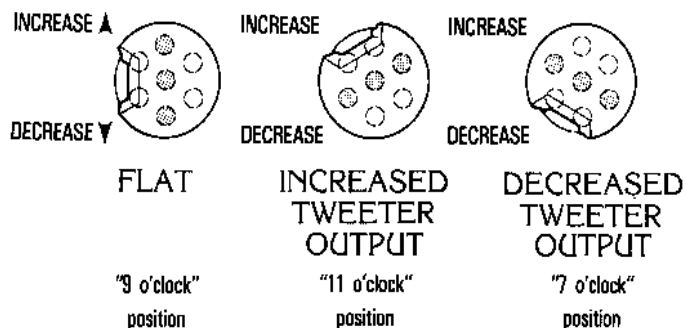
Figure 4



The type and amount of furnishing in the listening room affects the tonal balance perceived by the ear, particularly in the middle and high frequencies. When you have found the best position for your speakers, the TWEETER level switch should be adjusted if the sound seems "bright" or "dull." Generally, rooms with heavy upholstered furniture and draperies will require more output from the tweeters than lightly furnished, reflective rooms.

## Tweeter Level Adjustment

To adjust tweeter level, unplug the flat black disc from the level selector. It will pull straight out. Turn the plug to the desired position and plug back in.



The TWEETER FUSE will protect the tweeters from overload conditions. Should it blow, replace it with one of the spare fuses supplied with the speaker, or use an AGC 2A only. A larger or slower fuse will void the warranty.

The MODE switch moves the crossover points of the bass and midrange drivers, allowing the use of the active Crossover/Equalizer in bi-amplification mode. **CAUTION: TO AVOID DAMAGE TO SPEAKERS, DO NOT PLACE THIS SWITCH IN THE BI-AMP POSITION UNLESS THE CROSSOVER/EQUALIZER IS BEING USED IN THIS SET-UP AND IS SWITCHED TO THE BI-CH (BI-CHANNEL) POSITION.**

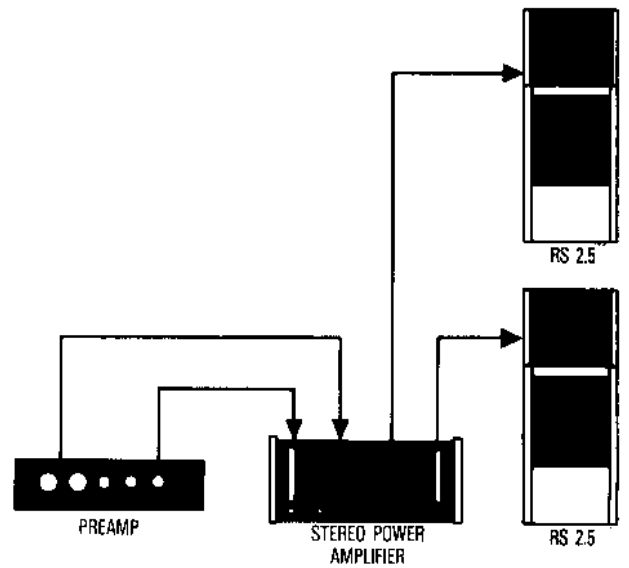
The MIDRANGE control varies the energy output of the midrange driver. This affects how "forward" or "distant" the sound image will be. Adjust this control in small increments, listening to a variety of recorded material.

## Modes of Operation of the RS 2.5 System

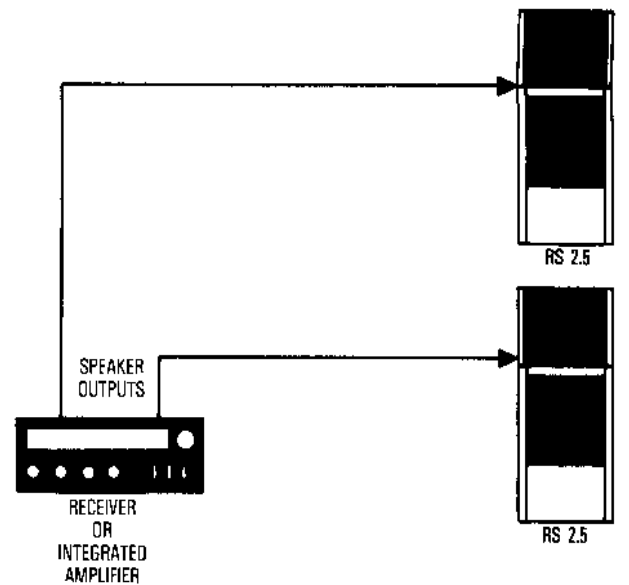
MODE	ADVANTAGES	DISADVANTAGES	EQUIPMENT REQUIRED
1a Basic with Separates.	Simplicity. Separates can give high power & quality.	One Amp doing all the work. Reduced flexibility	1 Stereo Amp or 2 Mono Amps.
1b Basic with Receiver or Integrated Amp.	Simplicity.	One Amp doing all the work. Reduced flexibility. Receiver or integrated Amp may not be of sufficient power & quality.	Receiver or integrated Amp.
2a Passive Bi-amplification with Identical Amplifiers.	Reduced crosstalk. Increased headroom & power. Increased definition. Lower distortion.	Reduced flexibility.	2 Stereo Amps or 4 Mono Amps.
2b Passive Bi-amplification with non-identical Amplifiers.	Reduced crosstalk. Increased headroom & power. Increased definition. Lower distortion.	Reduced flexibility. Reduced coherence.	2 Stereo Amps or 4 Mono Amps.
3a Crossover/Equalizer and Separates.	Increased flexibility. Separates can give high power & quality.	One Amp doing all the work.	1 Stereo Amp or 2 Mono Amps.
3b Crossover/Equalizer and Receiver or Integrated Amp.	Increased flexibility.	One Amp doing all the work. Receiver or integrated Amp may not be of sufficient power & quality.	Receiver or integrated Amp.
4 Passive Bi-amplification with Crossover/Equalizer.	Reduced crosstalk. Increased headroom & power. Increased definition. Lower distortion. Increased flexibility.	Complexity. Reduced coherence if non-identical Amps are used.	2 Stereo Amps or 4 Mono Amps.
5 Active Bi-amplification.	Lowest crosstalk. Maximum headroom & power. Maximum definition. Lowest distortion. Maximum flexibility.	Complexity.	2 Stereo Amps or 4 Mono Amps. (For the most homogeneous, seamless sound, use identical amplifiers.)

### Mode 1a—Basic with Separates

SPEAKER MODE SETTING	SPEAKER INPUTS	CROSSOVER/EQUALIZER MODE SETTING
Single-Amp.	Jumpered	Not used.
Single-Amp.	Jumpered.	Not used.
Single-Amp.	Not Jumpered	Not used
Single-Amp.	Not Jumpered	Not used
Single-Amp.	Jumpered.	EQ
Single-Amp.	Jumpered.	EQ
Single-Amp.	Not jumpered.	EQ
Bi-Amp.	Not Jumpered.	BI-CH

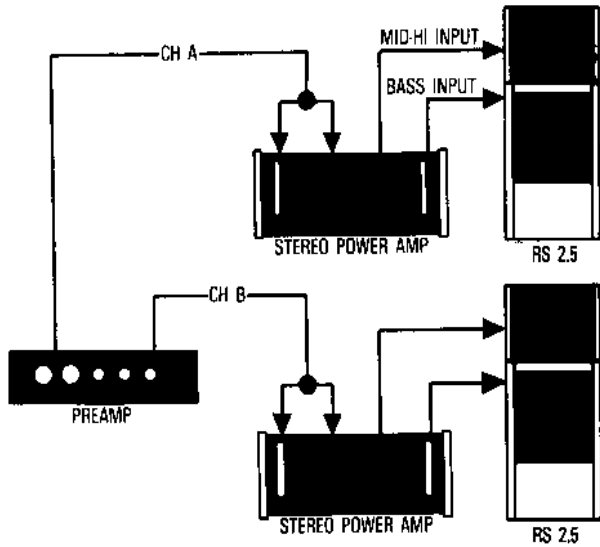


### Mode 1b—Basic With Receiver or Integrated Amp



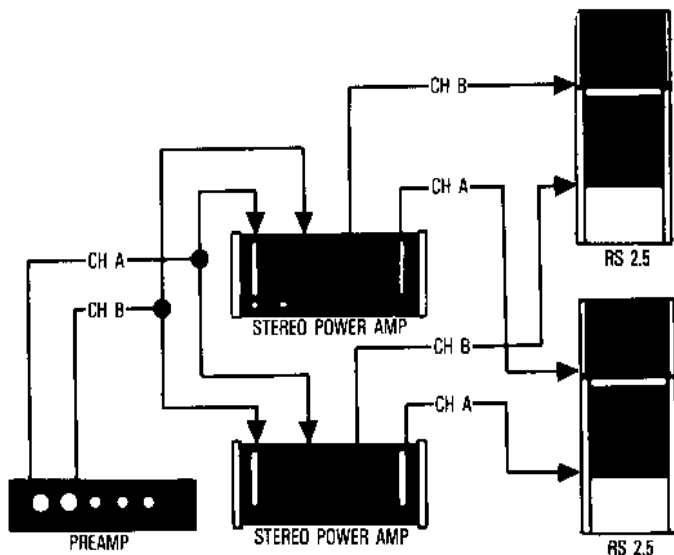
Use an amplifier with a minimum of 100 watts "rms" per channel. Speaker inputs jumpered, speaker MODE switch on SINGLE AMP. The electronic Crossover/Equalizer is not used in this mode.

**Mode 2a—Passive Biamplication with Identical Amplifiers**



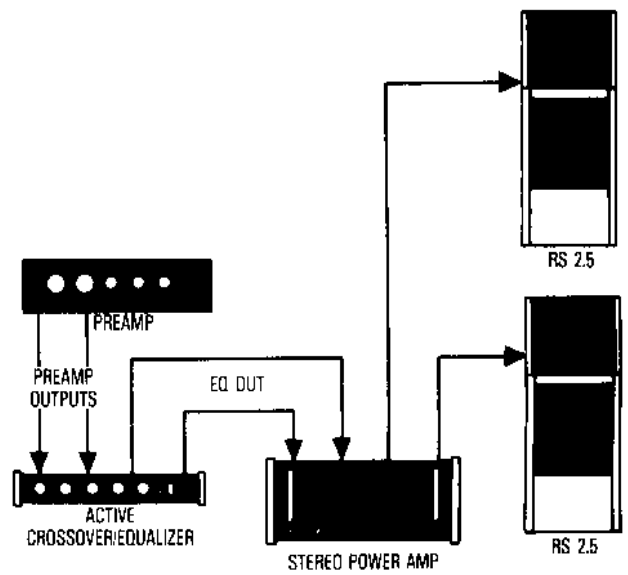
Requires 2 identical stereo, or 4 mono, amplifiers with minimum power of 100 watts rms per channel. Speaker inputs not jumpered, speaker MODE switch on SINGLE AMP. The active electronic Crossover/Equalizer is not used in this mode.

**Mode 2b—Passive Biamplication with Non-Identical Amplifiers**

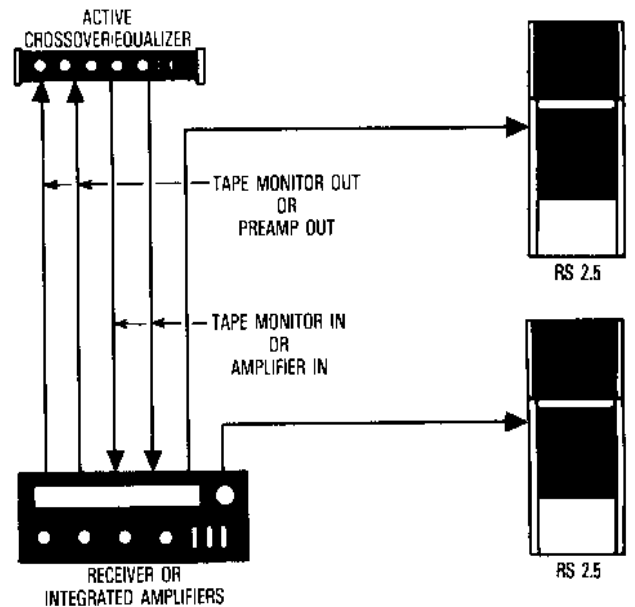


Notice that both amplifiers receive input from both stereo channels, but the bottom amplifier drives only the bass units, and the top amplifier drives the mid-high units. With this arrangement, use the amplifier with the greater current drive capabilities for the bass channels. Speaker inputs not jumpered, speaker MODE switch on SINGLE AMP. The Crossover/Equalizer is not used in this mode.

**Mode 3a—Basic With Crossover/Equalizer and Separates**



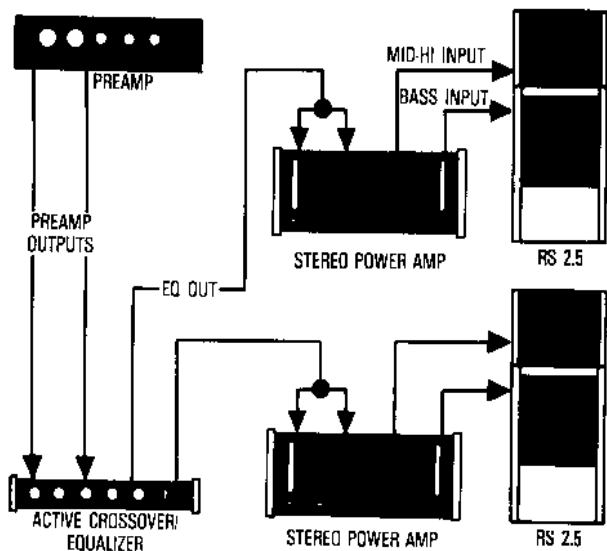
**Mode 3b—Basic with Crossover/Equalizer and Receiver or Integrated Amp**



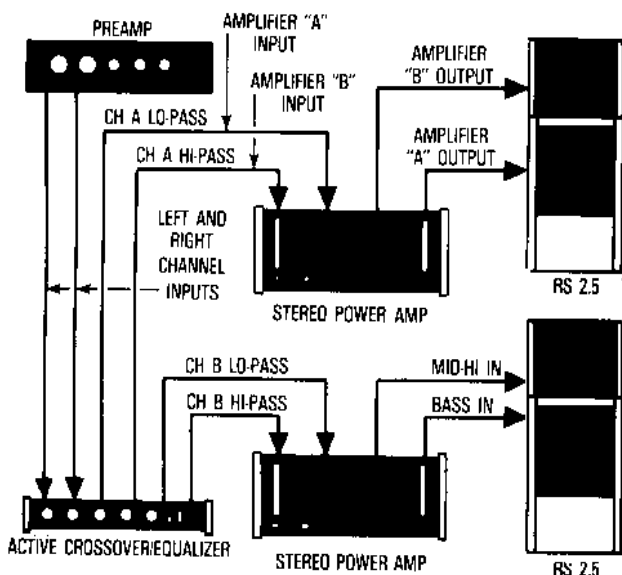
Use an amplifier with a minimum of 100 watts per channel. Speaker inputs jumpered, speaker MODE switch on SINGLE AMP. Allows use of the RS 2.5 active Crossover/Equalizer for room contouring. Crossover/Equalizer MODE switch on EQ.

## Mode 4—Passive Bi-Amplification with Crossover/Equalizer

Mode 4 is the same as mode 2 left, with the exception of including the active Crossover/Equalizer in the signal path between the preamp and power amps. Speaker inputs not jumpered, Crossover/Equalizer MODE switch on EQ. Speaker MODE switch on SINGLE AMP.



## Mode 5—Active Bi-Amplification



Because the highs are separated from the lows *before* they reach the power amplifiers, the power amps are not asked to do as much work. More definition, more headroom, and more flexibility result. Less amplifier power is needed. Speaker inputs NOT jumpered, speaker MODE switch on BI-AMP, active crossover MODE switch on BI-CH. Identical amplifiers will produce sound of greater homogeneity than non-identical amplifiers.

## 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 case may be acoustic feedback. This means that vibrations from the speakers are reaching the turntable. Because of the extended low-frequency response of the RS 2.5, isolating the turntable from these vibrations calls for considerable care.

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, tone arm, and cartridge are much more apt than others to encounter feedback. If you continue to experience difficulties with placement, ask your Infinity dealer for assistance.



## In case of trouble

Note that you can use your stereo system's two channels of information for simple trouble-shooting. If the sound quality from your RS 2.5 is distorted, listen to each speaker 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, start making 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 unsatisfactory 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 (A "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, 7945 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

Before you consult the dealer, service facility, or factory service department, these are the tests you can make, to locate and solve any problem in your RS 2.5 system.

**NOTE BEFORE REMOVING ANY DRIVERS:**

*Tweeters are secured to the enclosure with two black hexagonal-head screws, midrange drivers with four, and woofers with eight. Do not loosen or remove any screws of any other type.*

Remove the grilles by pulling them straight out.

*If either the rear or front tweeter is not working.*

Step 1: Check the fuse, and replace it if necessary, with only the same type of fuse. If the problem is not with the fuse, connect the system in mode 1a or 1b (see earlier section with wiring diagrams).

Step 2: Remove the tweeter, leaving wires connected, and look through the slots at the etched voice-coil (thin silver lines) and diaphragm (thin plastic film). Look for punctures, broken lines, or lines coming loose. If you find damage, call your dealer for instructions. If you find no damage, check to see if wires are connected. If they are loose, 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 3. Interchange the non-operating tweeter with an operating one. If the problem follows the tweeter, then that tweeter is defective; call your dealer for instructions. If the problem stays at the same location, call your dealer and describe the problem.

*If either of the two midrange drivers are not working.*

The procedure for locating a defect in the midrange circuit is essentially the same as the procedure used on the tweeters, with the exception that there is no fuse for the midrange drivers. Connect in Mode 1 and start at step 2, above.

*If the woofer is apparently not working properly.*

The Infinity-Watkins dual-voice-coil woofer is big and heavy. Use caution. Be especially careful not to disconnect accidentally any of the four wires attached to the two voice coils.

Step 1: With tape, "flag" the wires that are connected to the terminals on the woofer that have a red mark (positive). Note which wire goes to the terminal identified by the two-ohm ( $2\Omega$ ) impedance designation, and which goes to the other. Disconnect all wires from the woofer.

Step 2: Disable your other RS 2.5 by disconnecting it from your amplifier (unless it is a tube amp, in which case leave it hooked up), making sure the loose wire ends do not short. Disconnect the amplifier wires from the rear of the affected speaker and connect those wires to one set of voice-coil terminals on the suspect woofer. With the amplifier level (volume) control low, listen to a record with pronounced low bass. If you hear sound reproduced (not necessarily bass), and if that sound is undistorted, without scraping, rattling or rubbing noises—that voice coil is operating. If there is no sound or the sound is distorted, that voice coil may have been damaged.

Step 3. Disconnect the pair of wires and reconnect them to the other pair of terminals on the woofer. Test the other voice coil in the woofer by the same listening process as above.

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

*If the sound from your RS 2.5 system still seems distorted, but all drivers and voice coils are apparently operating properly, and you have ascertained that the problem is not in your amplifier, preamp or turntable, there may be a fault in the passive crossover on the back of the affected speaker. Call your dealer for advice.*

## The optional active crossover/equalizer unit

The electronic active Crossover/Equalizer comes as part of the larger RS 4.5 system, and can be purchased separately for use with the RS 2.5 system. With it, the user can compensate for room acoustics and speaker position. Modes 3, 4, & 5 in the wiring diagrams illustrate various schemes of use. Check with your Infinity dealer.

## Care of your RS 2.5 speaker system

The cabinet of the 2.5 is made of oiled choice oak hardwood 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 the preparation may drift onto the drivers and/or diaphragms.

The natural water-repellancy of the oil making 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 details in this Infinity publication and others are subject to change without notice.