



STAGE

FULL RANGE RIBBON SPEAKER SYSTEM

OWNER'S MANUAL AND ASSEMBLY INSTRUCTIONS

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APOGEE ACOUSTICS, INC.

STAGE FULL RANGE RIBBON SPEAKER

The "STAGE" is a mid-sized two way dipole, full range ribbon speaker. It provides a truly unique three dimensional musical experience with outstanding sound stage and exceptionally fine acoustical detail.

The use of ribbon transducers across the audio spectrum provide exceptional sonic qualities in the areas of detail, clarity, transparency, and sound stage. The two element woofer and midrange tweeter coupled with seamless internal crossovers, provide precise imaging over a wide listening area. The rise time dynamics are consistent with the fastest amplifiers.

The STAGE features:

- A trapezoidal woofer ribbon providing deep rich transparent bass.
- A unique, narrow tweeter ribbon offering excellent horizontal and vertical dispersion.
- Advanced internal circuitry provides for both a seamless crossover and improved transducer separation.
- A Two Position Switch, "Normal" and "High", for adjusting the sonic characteristics of the speaker.
- Stunning architectural quality that readily fits into the decor of a wide range of listening rooms.

The STAGE stands 37 1/2 inches high, by approximately 26 inches wide and two inches deep. It weighs 60 pounds per speaker. The speaker is available in two colors: Anthracite or Taupe trimmed in either Mahogany or Basswood. Optional is Silver Trim on Taupe or Anthracite Speakers or All White or Black Lacquer Speakers.

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SPEAKER SET-UP

APOGEE speakers' performance is affected by the quality and compatibility of the front end equipment such as the turntable, cartridge, compact disc player, electronics, cable and connections. The room acoustics and the placement of the speakers also have a highly important effect on the quality of the sound. Care in selection of high quality compatible equipment and placement of the speakers within the room will be very rewarding in terms of the sonic quality of your music system.

ASSEMBLY

The STAGE full range ribbon speaker system is packaged in two cartons. Before opening the cartons be sure there are no visible signs of damage and the boxes are placed with PRINTED SIDE UP.

SETTING UP PACKAGED SPEAKERS WITHIN ROOM (See Diagram No. 1)

Clear a 6 ft. x 6 ft. area near the final speaker location to permit assembly of the speakers. Locate the shipping boxes as shown in Diagram No. 1. The right speaker container is oriented on the right side of the room with PRINTED SIDE UP. The left speaker container is oriented in a similar fashion on the left side of the room.

CAUTION — REMOVE ALL OBJECTS FROM SHIRT POCKET SUCH AS PENS, PENCILS AND LIGHTERS. THE MAGNETIC FIELD FROM THE STAGE SPEAKERS IS EXTREMELY STRONG!! DO NOT PLACE MAGNETICALLY ATTRACTED OBJECTS NEAR THE SPEAKERS. REMOVE YOUR WRISTWATCH WHICH MAY BE SUBJECT TO DAMAGE SHOULD YOU APPROACH THE MAGNETS. APOGEE ACOUSTICS, INC. ASSUMES NO LIABILITY SHOULD DAMAGE BE INCURRED TO TELEVISIONS, MONITORS OR WRISTWATCHES.

CAUTION — TELEVISIONS HAVE VARYING SENSITIVITIES TO MAGNETIC FIELDS. CAUTION MUST BE EXERCISED WHEN PLACING SPEAKERS ADJACENT TO TELEVISION. SEE NOTE AT END OF THIS MANUAL.

OPENING OUTER SPEAKER PACKAGING (See Diagram No. 2)

The first box to be opened should have Tools and Owner's Manual designation. Remove cover of STAGE packing box. Remove and read OWNER'S MANUAL before proceeding further. Remove tools and base support brackets which are in the enclosed corrugated sleeve.

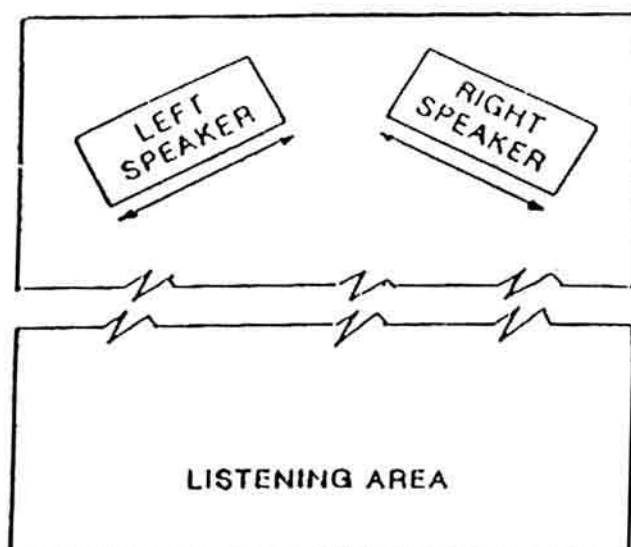
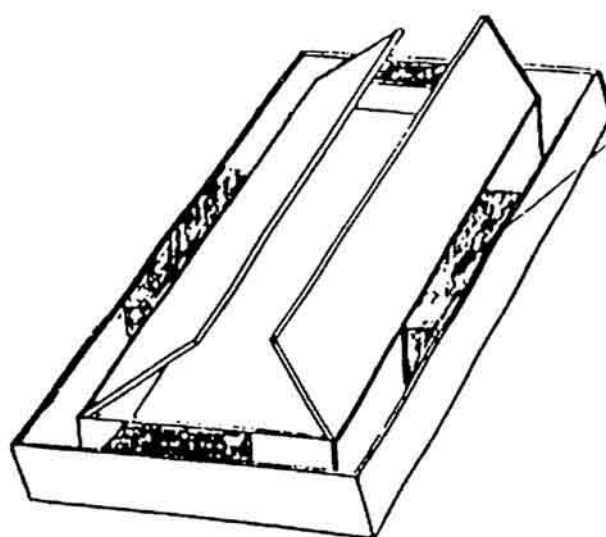


DIAGRAM NO. 1

1. PLACE THE BOXED SPEAKERS AS SHOWN IN DIAGRAM NO. 1 ABOUT 3 - 4 FEET FROM THE BACK WALL.

POSITION THE BOXES SO THAT THE LONG SIDE RUNS IN THE SAME DIRECTION AS THE ARROWS.



SUPPORT BLOCKS

2. CUT TAPE AND OPEN RIGHT SPEAKER BOX. SET COVER ASIDE FOR FUTURE USE.

DIAGRAM NO. 2

ATTACHMENT OF BASE SUPPORT BRACES TO SPEAKER (See Diagram No. 3)

Remove speakers from box with foam and place on top of other speaker box.

The base support braces and spike plates are attached to the back of the speaker by means of three screws for each brace as shown in Diagram No. 3.

1. Align the three holes of each brace and plate with the three holes located at the bottom area of the back of the speaker.
2. Using the screws from the plastic tool bag, screw the braces to the speaker. (A Phillips Head Screw-driver is required). Tighten the screws so that the braces are firmly attached to the speaker. DO NOT OVER TORQUE SCREWS AS THIS WILL STRIP THE SPEAKER WOOD.
3. Screw in the leveler spikes to the back hole of the brace. The leveler should be approximately level with the base of the speaker.

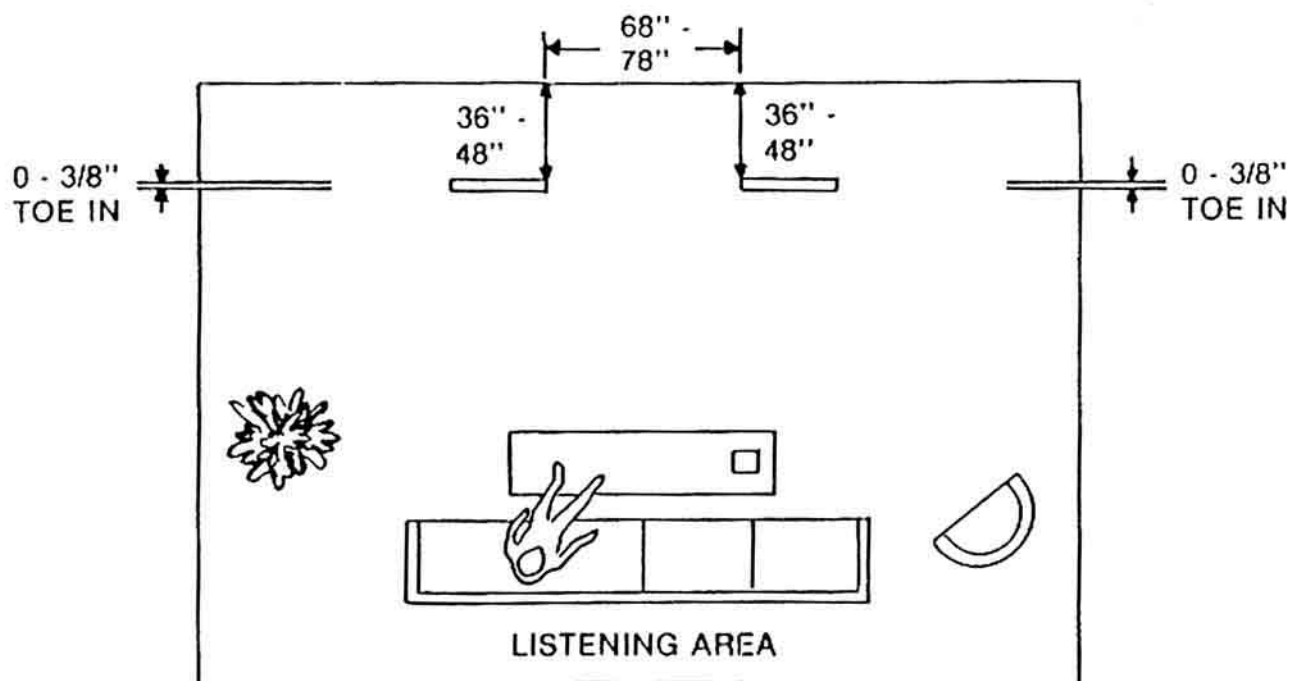
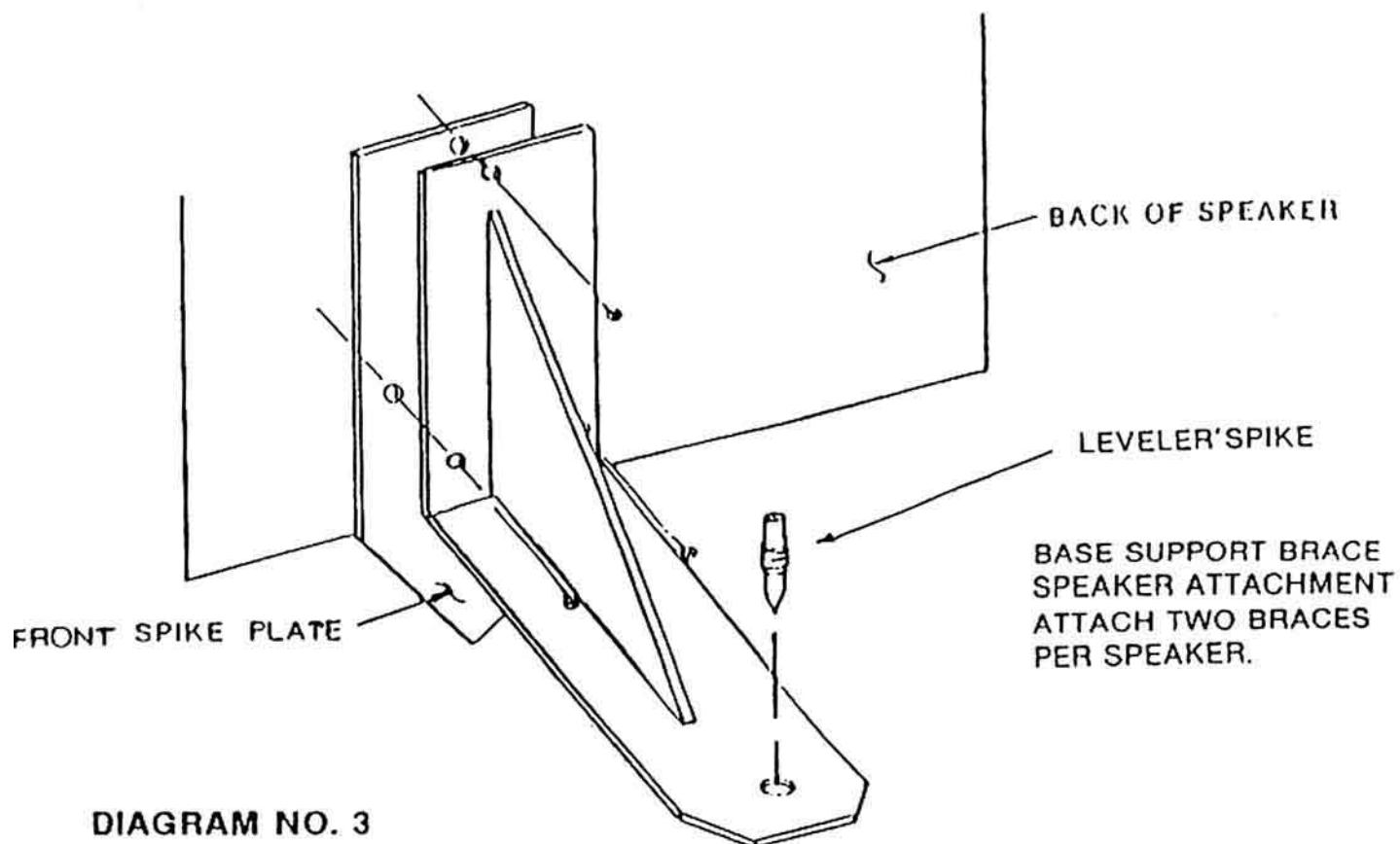
CAUTION -- BEFORE PROCEEDING BE SURE TO CHECK THAT ALL SCREWS ARE TIGHT AND SECURE.

ORIENTING SPEAKER TO UPRIGHT POSITION

Be sure hands are clean before proceeding. Lift carefully and place the speakers close to the final location to minimize need for final placement adjustment.

PLACING SPEAKER IN ROOM (See Diagram No. 4)

Move speaker to the nominal right and left positions in the room as shown in Diagram No. 4. NOTE: The woofer ribbons should be closest to their respective side walls and the midrange ribbons should be approximately six feet apart. Final placement will depend on room dimensions, seating proximity to the center stage of the speakers and general room acoustics.



**NOTE: THIS DIAGRAM SHOWS RECOMMENDED STARTING
SPEAKER LOCATIONS BEFORE POSITIONING ADJUSTMENT.**

DIAGRAM NO. 4

SPEAKER PLACEMENT

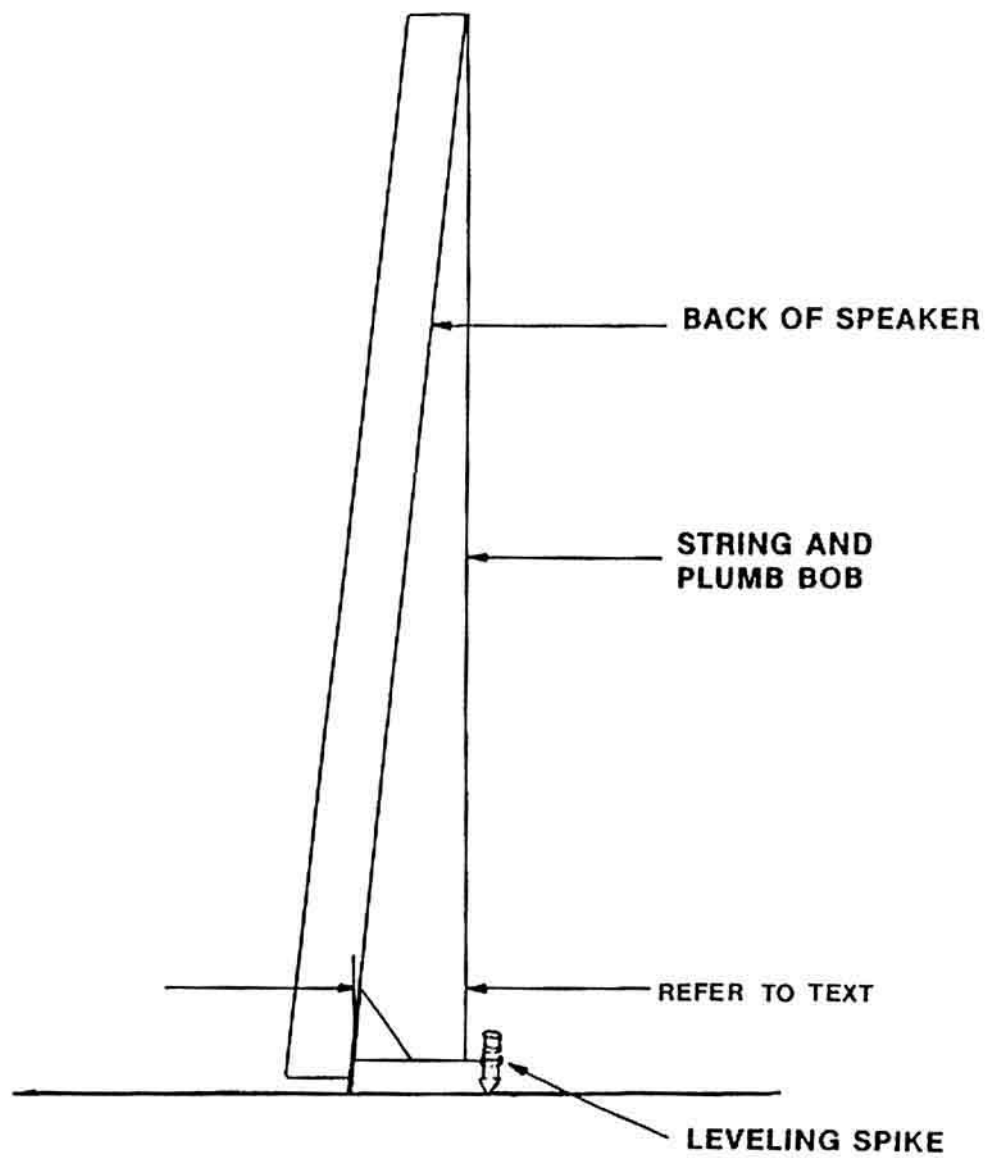
The STAGE ribbon loudspeakers are dipoles and require care and consideration in their placement. Every listening room has varying room anomalies, therefore, experimentation with speaker placement is well advised in order to achieve optimum results for your music enjoyment.

Outlined below are parameters which should be followed, although room size and other variables must be considered:

SPEAKER LOCATION WITHIN THE LISTENING ROOM

- . Place STAGE speakers three to four feet from the rear wall (See Diagram No. 4). Apogee personnel strongly recommend accurate measurement using a tape measure or similar tool when installing speakers.
- . Rear wall should have no damping material or very light damping material. Experimentation with degree of damping is advised. Our own experience has taught us that too much damping can cause upper midrange and tweeter suck-out resulting in a somewhat lifeless quality. Corner treatment with acoustical damping material can work well depending on room characteristics. It can also help to eliminate corner loading of excessive bass energy should your room be inherent of this characteristic.
- . Separation should be placed with virtually no toe-in. Should you insist on a gentle toe-in, this should not exceed more than 3/8 inch. The STAGE has exceptional dispersion and focus; stage and imaging is at its best with no toe-in or very gentle toe-in. Never place the STAGE in a position in which the speakers touch the side walls. Allow them to breathe by maintaining at least a distance of eight inches from the side walls. This figure will change, however, with respect to room size.
- . Placement of speakers on carpeting as opposed to bare floors is preferable. Adjust the leveling spikes to provide a tilt-back in accordance with the listening distance as outlined in the table below. Adjust the leveling spikes to the proper displacement as shown in Diagram No. 7. To verify the tilt-back angle, use the enclosed plumb bob.

DIAGRAM NO. 7



STAGE TILT-BACK

<u>LISTENING DISTANCE TO SPEAKER</u>	<u>DISTANCE OF SPEAKER TO REAR WALL</u>	
	<u>4 FEET</u>	<u>3 FEET</u>
6 FEET		6 1/2 INCHES*
8 FEET		5 1/2 INCHES*
10 FEET	5 INCHES	4 1/2 INCHES*
12 FEET	5 INCHES	4 1/2 INCHES*
14 FEET	4 1/2 INCHES	4 INCHES*
16 FEET	4 1/2 INCHES	4 INCHES*

* Distance from bottom of speaker to plumb bob.

TWO POSITION SWITCH

A two position switch, located on the speaker nameplate, is available for control of the sonic characteristics of the speaker. The switch adjusts the upper midrange and tweeter regions of the speaker to provide for two speaker settings: "Normal" and "High". These settings may be used to better balance the overall characteristics of your audio system for differences in room and/or the audio chain.

ELECTRICAL CONNECTIONS

There are two recommended amplifier configurations for driving the speakers. The STAGE may be operated utilizing a single stereo amplifier or operated in a power bi-amplified mode. A high quality amplifier with a nominal rating of 50 to 100 watts is recommended. More or less power may be utilized depending on the size of the room, damping, construction and desired sonic amplitude levels. DO NOT EXCEED A 200 WATT AMPLIFIER RATING.

AMPLIFIER TO SPEAKER WIRING

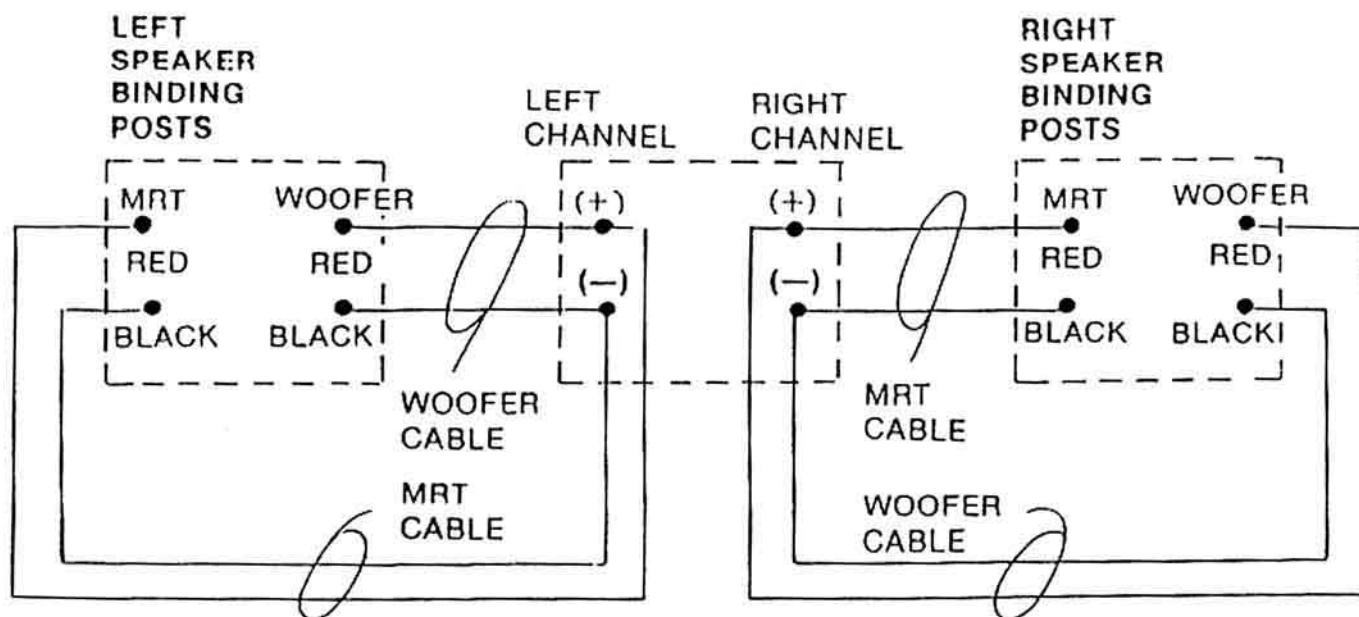
Single Stereo Amplifier Operation

Connect the high end of the amplifier drive to the RED binding post and the low end to the BLACK binding post. Use the shorting bar which APOGEE provides and connect the two RED Binding posts together. Similarly, use the shorting bars to connect the BLACK binding posts together. The shorting bars are readily installed on the binding posts by the following Procedure. Push the long fingers of the bar onto a binding post (do not put finger into the binding post hole). Then slide the shorting bar so that the short fingers engage the adjacent binding post to be shorted. Be certain to slide the shorting bar to insure full contact with the short finger when the binding post is torqued down.

The amplifier's left channel output should be connected to the left speaker binding posts and the right channel amplifier output should be connected to the right speaker binding posts.

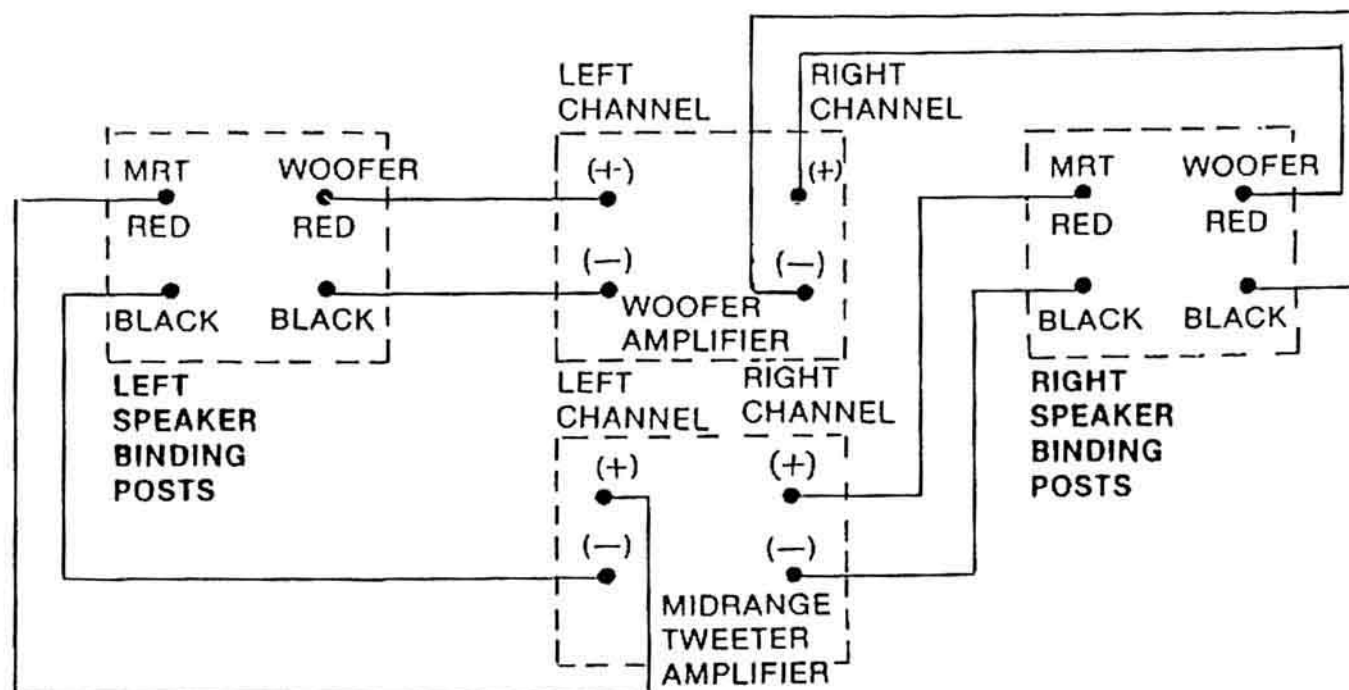
Bi-Wiring Single Stereo Amplifier Operation (See Diagram No. 5)

The bi-wired configuration affords significant sonic benefits. Two sets of speaker cables are required. Connect the first cable set from the high end of the amplifier drive to the right RED binding post. The low end of the amplifier is connected to the right BLACK binding post. The second cable set is connected in a similar fashion from the same amplifier terminals to the right speaker's left binding post. No shorting bars should be used. The wiring arrangement provides a separate cable set for the operation of the woofer and the operation of the midrange tweeter. WE STRONGLY RECOMMEND BI-WIRING FOR OPTIMIZATION OF THE STAGE SPEAKERS.



BI-WIRED STEREO AMPLIFIER OPERATION

DIAGRAM NO. 5



POWER BI-AMPLIFIED OPERATION

DIAGRAM NO. 6

The amplifier's left channel output should be connected to the left speaker binding posts and the right channel amplifier output should be connected to the right speaker binding posts (Refer to Diagram No. 5).

Power Bi-Amp Operation (See Diagram No. 6)

Two stereo amplifiers or a dual set of mono-amplifiers are required. Connect high end of the woofer amplifier to speaker RED binding post (right side) and low end of woofer amplifier output to speaker BLACK binding post (right side). No shorting bars should be used. The amplifier's left channel output connects to the left speaker and the amplifier's right channel output connects to the right speaker.

The midrange tweeter amplifier connects to the speaker Binding Post on the left side of the nameplate. The high end output is connected to the speaker RED binding post and the low end amplifier output is connected to the speaker BLACK binding post. The amplifier's left channel output connects to the left speaker and the right channel output drives the right speaker (Refer to Diagram No. 6).

GENERAL CAUTIONARY NOTES

1. Do not turn power on to amplifier and/or amplifiers before double checking to verify the correctness of all system wiring. Be sure all connections are clean and tightly secured.
2. System volume control should be set low and slowly increased to desired listening levels.
3. Do not use vacuum cleaners to clean the speaker.
4. Front covers may be cleaned by using a sponge or damp cloth with a mild detergent.
5. Grill guard may be cleaned by gentle use of a feather duster or soft cloth.
6. Keep any objects containing steel away from the speaker to avoid damage due to magnetic attraction.

ATTENTION

POSITIONING LOUDSPEAKERS NEAR VIDEO EQUIPMENT OR MAGNETIC SENSITIVE STORAGE MEDIA.

Almost all loudspeakers manufactured today use very powerful magnets. Care must be taken when positioning your loudspeakers near video monitors, television sets, VCR tapes, floppy disks, etc. An improper installation may result in irreparable damage to your magnetic sensitive equipment.

Experimentation is the only way to determine where to position your loudspeakers. Video monitors and televisions have different sensitivity levels to external magnetic fields and are usually the most sensitive devices overall when magnetic fields are present. Storage devices such as VCR tapes and floppy disks are usually more tolerant. When you determine the desired placement of your loudspeakers relative to your video equipment, etc., you should start with the loudspeakers approximately three feet away from your monitor. Tune a stable picture on your monitor with as much solid background color as possible. If the speaker is too close to the monitor you will notice the color start to bleed or change tone. If the color is fine you may move the speaker closer until you do see picture distortion. When you have reached this point, move the speaker at least six inches farther away from the monitor. Repeat this procedure for the other loudspeaker as well, and be sure the video picture is undisturbed. When you have determined the safe distance from each loudspeaker to the video monitor, you may use this as a guide for positioning your VCR, tapes, etc. as well.

Please be sure you have carried out your positioning carefully. Every installation is unique and the above guidelines are meant to assist you only. You have the responsibility to determine the final safe positioning of your loudspeakers relative to any other magnetic sensitive device.