



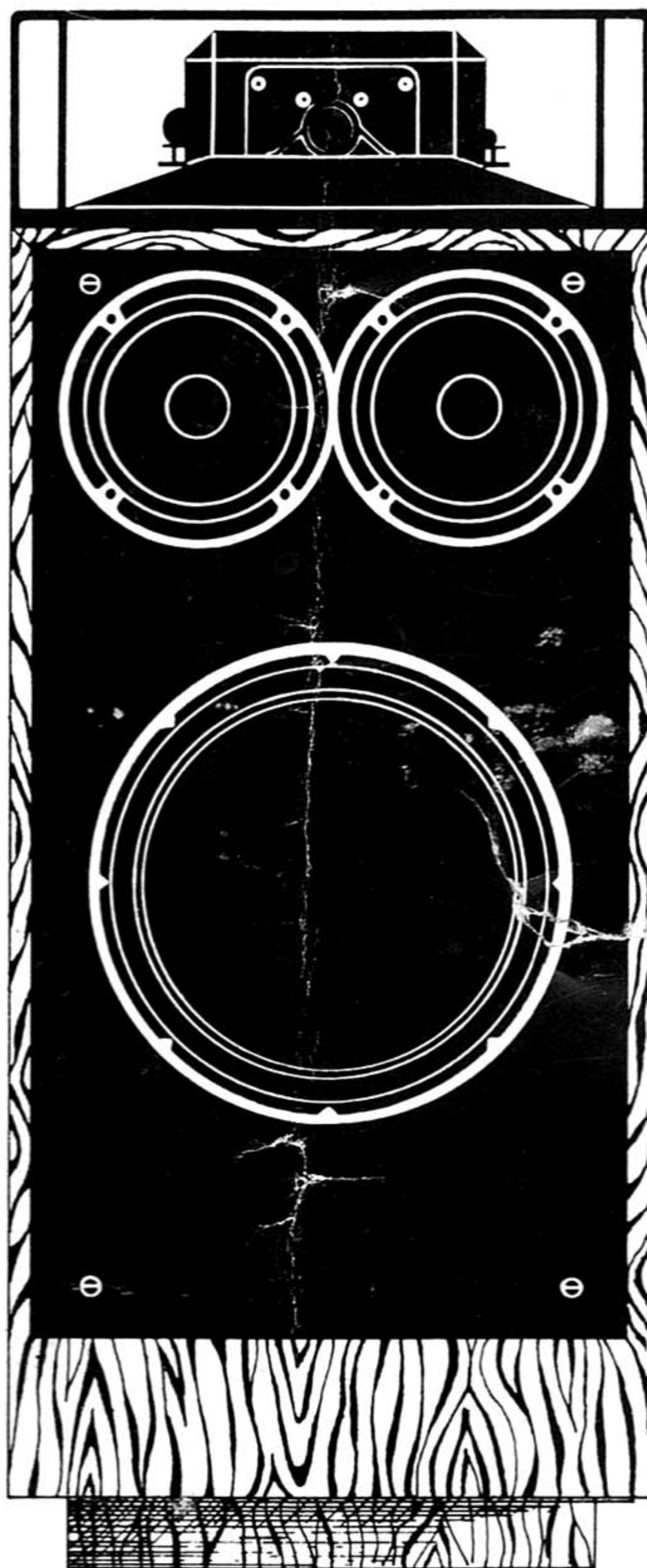
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Model 12B Real-Time Array
Reference Monitor System (R.T.A. 12B)



Instruction Manual



IMPORTANT: Please read instructions completely
before proceeding

Congratulations on your purchase of the Polk Audio Model 12B Real-Time Array. Careful design, frequent and critical testing, and use of only the finest materials and components insure prolonged physical integrity and trouble free operation. To realize the full potential of this extraordinary loudspeaker system, please read and follow all instructions carefully.

If you have any questions or comments please, do not hesitate to call us directly or contact your nearest Polk Audio dealer.

Inspecting For Shipping Damage:

When you unpack your Model 12B, inspect it for shipping damage. Each unit leaves our plant after thorough inspection and in perfect condition. Therefore, any visible or concealed damage must of necessity have occurred in handling after it left the plant. If you obtained a delivery of the speaker directly from a Polk Audio dealer, it should be returned to him for inspection. If you received your speakers via public transportation, report the damage at once to the shipping company and follow the directions for returning the system to the factory.

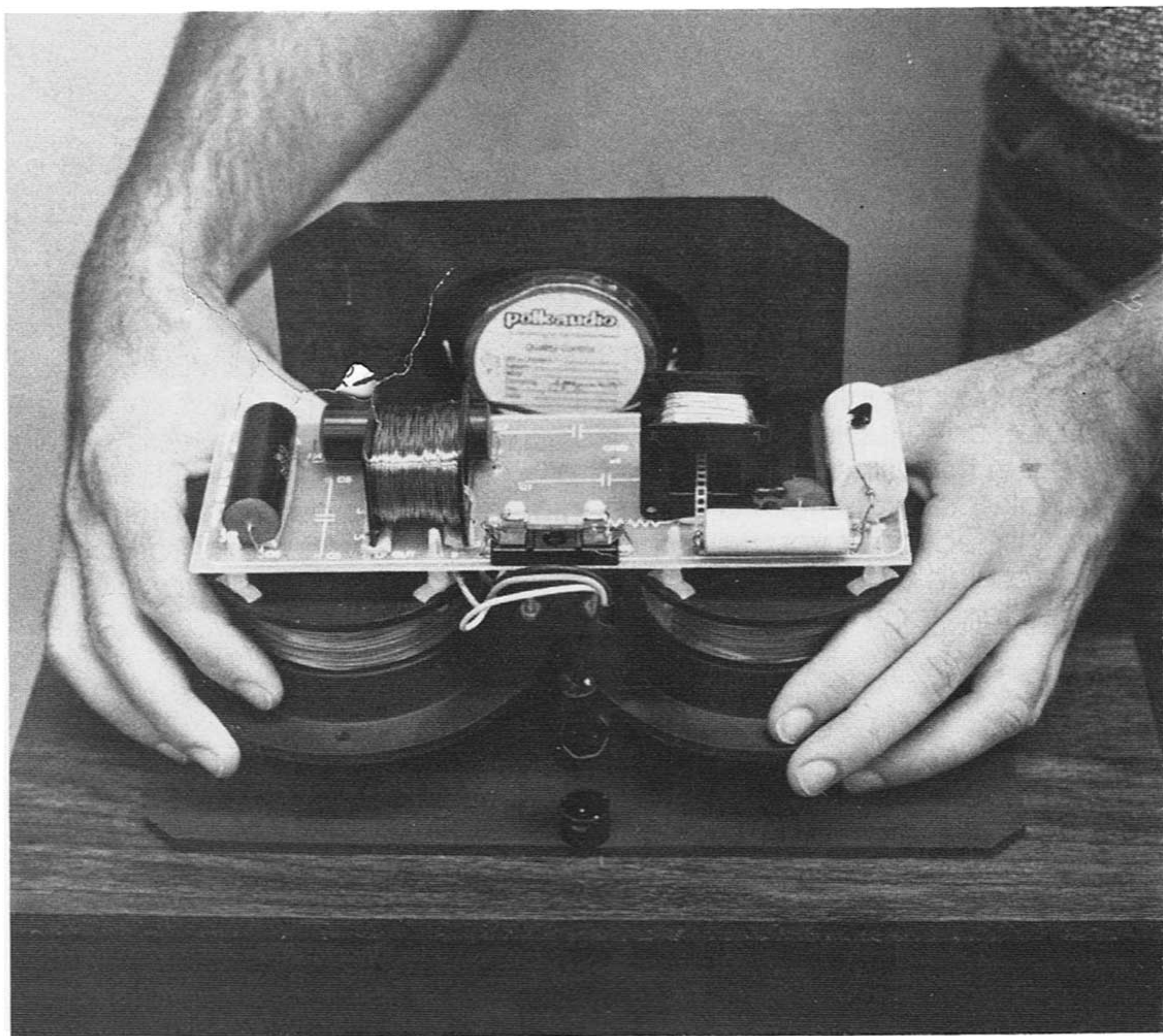
Assembly Instructions:

You should have: 2 Large Boxes (Low Frequency Cabinets) one should be marked left channel, the other should be marked right channel.

1 Smaller Box (contains 2 High Frequency Modules and 2 Top Grilles)

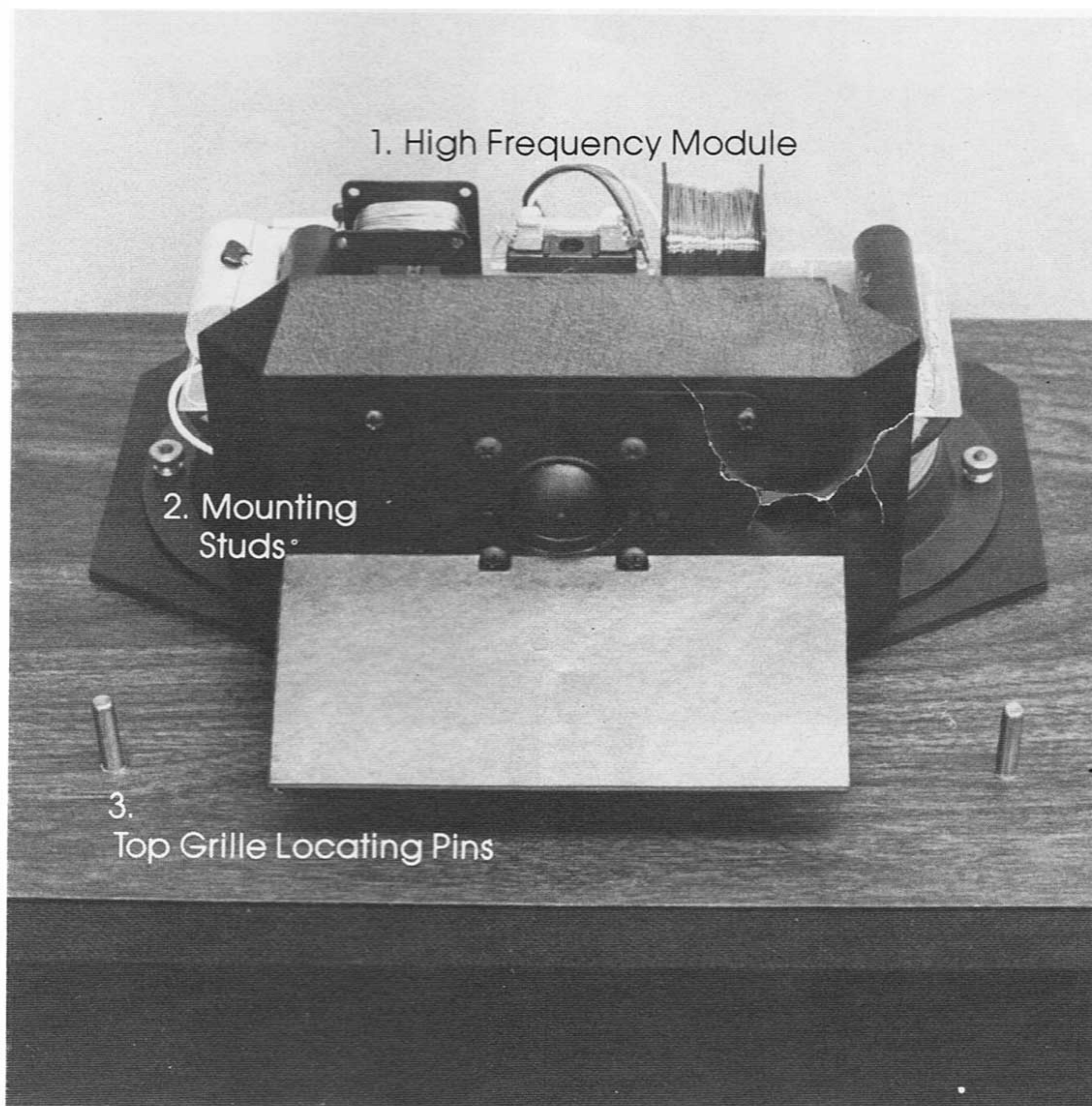
1. Remove the Low Frequency Cabinets from their boxes. This may be done easily by first opening the **bottom** of the box. Then, by turning the open side down, the box may be lifted off the speaker. (Note how the cardboard inserts are folded for future repacking.)
2. Your 12B's have mirror imaged Low Frequency Cabinets. Place the cabinet marked left on the left as viewed from your listening chair and vice versa for the right channel cabinet.
3. Open the box containing the High Frequency Modules (H.F.M.) from the **top**. Remove the cardboard cover and the first Top Grille. Undo the nuts holding the first H.F.M. and lift out. Remove the flat cardboard holding the second H.F.M. (upside down) and unbolt it. Remove the second Top Grille. Be very careful while handling the High Frequency Modules not to damage the tweeter domes.

FIGURE 1 — MOUNTING HIGH FREQUENCY MODULE: HOLD BY COILS



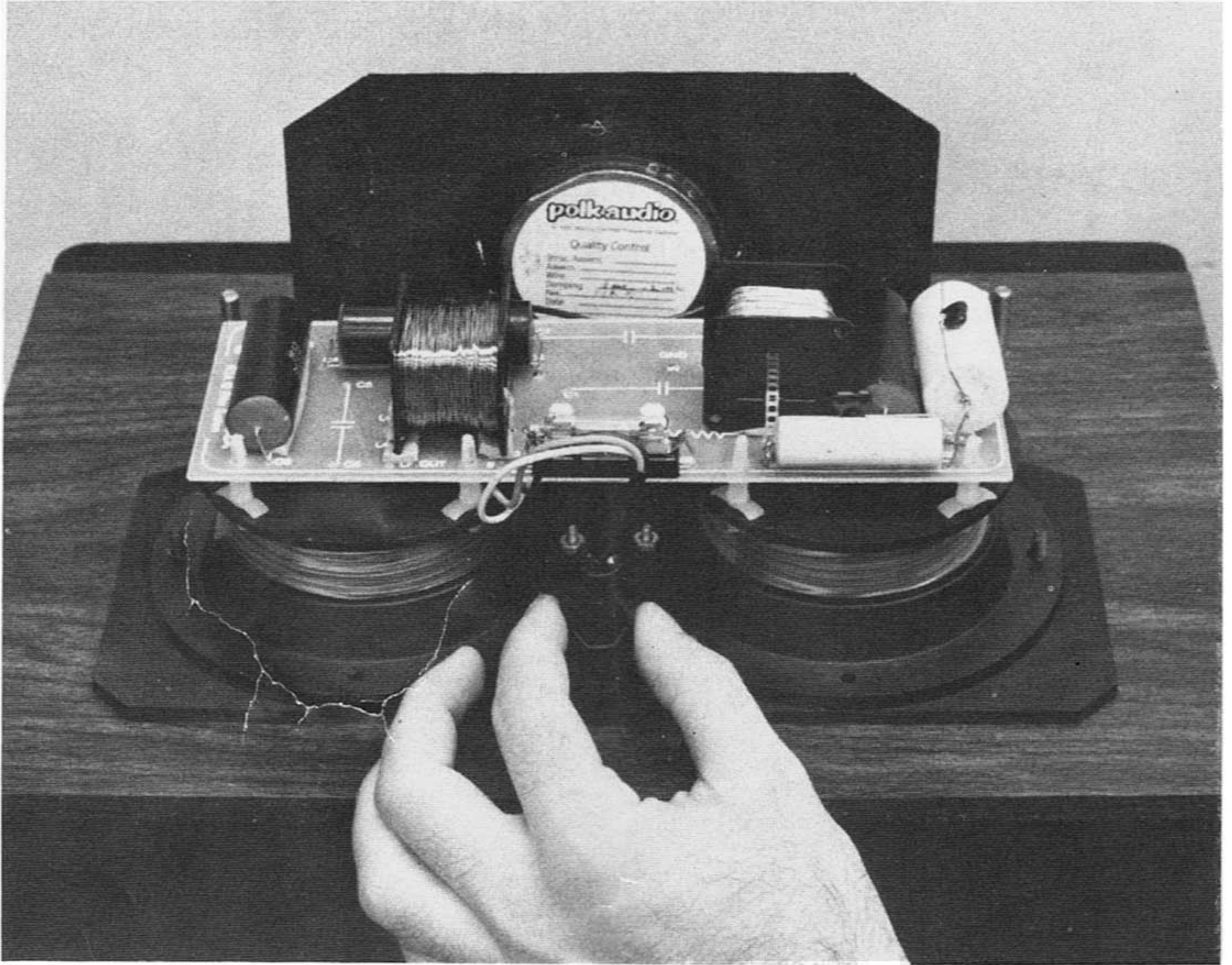
4. The High Frequency Modules are identical and can be placed on either cabinet. Place the modules on the cabinets so that the outermost hole on each side fits over the threaded stud. Replace the thumb-nuts finger tight. Do not overtighten.

FIGURE 2 — FRONT VIEW



5. Look at the connector at the back of the High Frequency Module. It has three ridges to guide it into the socket on the cabinet. Rotate the connector to align the ridges correctly and press gently into the socket until it locks into place. (To remove, squeeze the ridged sides of the connector hard and lift. Do not attempt to force it.)

FIGURE 3 — SQUEEZE TO RELEASE LOCKING ON CONNECTOR



6. Fit the Top Grille over the locating pins on top of the cabinet.
7. Connect rear terminals of speaker to amplifier. Red speaker terminal to amplifier plus (Red) terminal and Black terminal to amplifier minus (Black) terminals. It is essential that both speakers be connected in the same manner (in phase). If you notice a loss of low frequency response or lack of stereo image the speakers may be connected out of phase. Check this carefully!

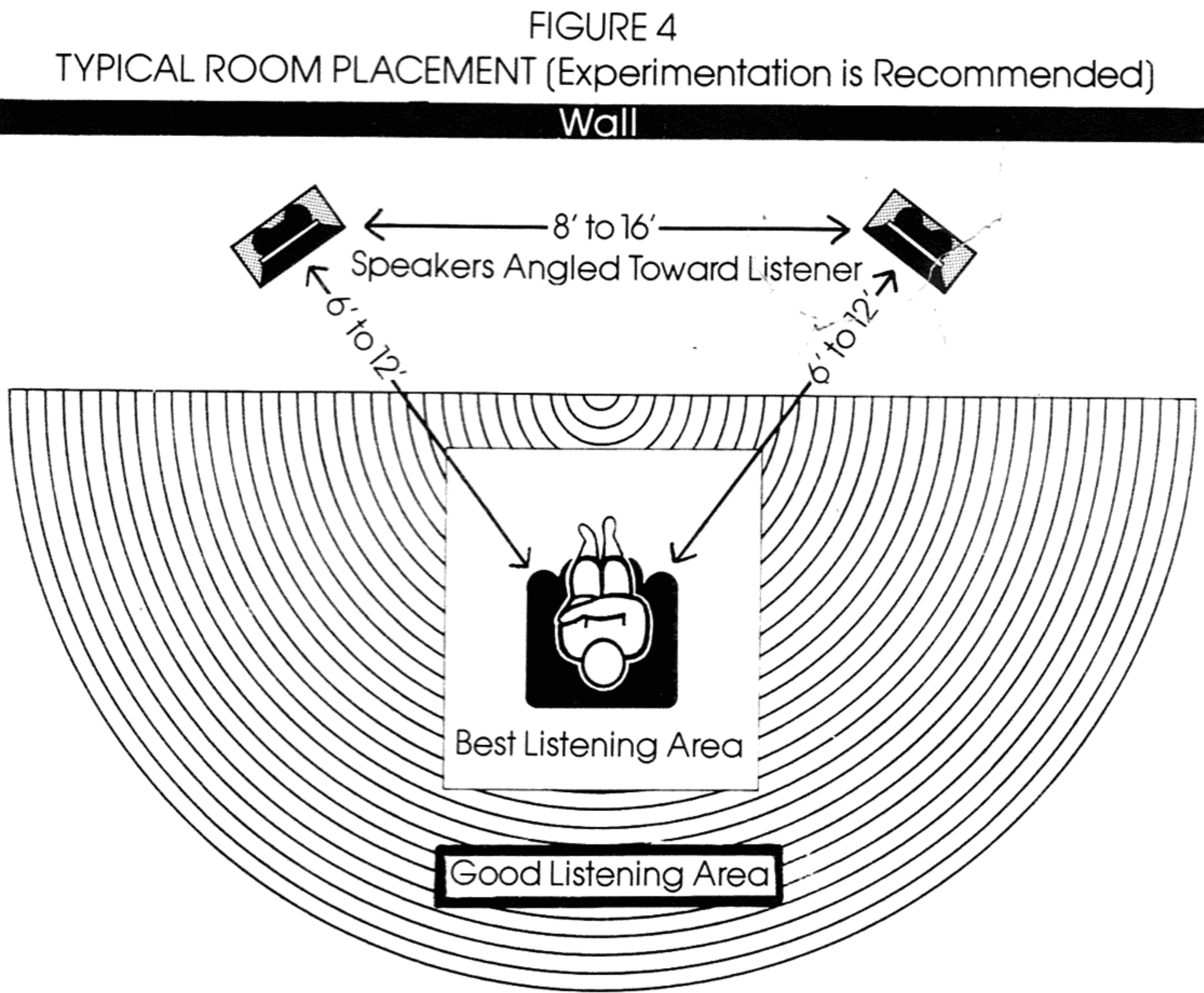
Speaker Hookup Wire:

We recommend that you minimally use #16 gauge wire to connect speakers to the amplifier. This will ensure that the full power and damping capabilities of your amplifier will be available to the speakers. Heavier gauge wire will represent an additional improvement especially on long runs.

For the **best** performance we recommend the use of special speaker cables particularly those of the low-inductance transmission line type such as Polk Audio SoundCables.

Room Placement:

The decision on where to place the speakers is a matter of personal preference as well as acoustics. Although the RTA 12B is unusually free of room dependent acoustical effects, careful positioning will enhance their performance.



Both stereo imaging and sonic balance can be influenced by room position. Best sonic balance will usually occur when the speakers are placed far from the corners and at least 3 feet from other walls. Placement near or in corners will emphasize bass response, while placement close to or against walls will emphasize lower midrange.

Listening position is not particularly critical. Good balance and image should be apparent within a full 180 degree arc in front of the speakers. However, as with any fine loudspeaker there will be one listening position that will demonstrate the full capabilities of the system. Start with a position about 8 feet from the speakers. Angle the speakers inward to precisely face the listener, as in Fig. 4. Some experimentation will be necessary, but the rewards will be great. Once properly set up the RTA 12B can offer an astonishing sonic realism.

Listening Levels and Amplifier Power:

The Model 12B is a highly efficient system and will easily achieve high listening levels with moderate amounts of power. However it will perform best with the reserve of power offered by large amplifiers so long as this power is not abused.

When properly set up, the Model 12B will handle the full output of large amplifiers on program material. However the greatest chance of damage to any speaker occurs when the amplifier, regardless of size, is overdriven. Generally this occurs only with small or moderate powered amplifiers. Surprisingly, the possibility of damage is usually greater with small amplifiers than with large ones.

In most cases when audible distortion is heard at high levels it is caused by the overdriven amplifier and not by the speaker. It is absolutely critical to understand that regardless of amplifier size or speaker power rating, when you turn the volume control past the point where distortion becomes audible you are risking damage to both the speaker and amplifier. A blown tweeter fuse is usually a symptom of an overdriven amplifier. A larger amp able to deliver more clean power will enable the speakers to go louder without blowing the fuse.

To see how this may happen, consider that the amplifier is a device which allows a controlled amount of power to flow from the AC wall outlet to the speaker. If the volume control is advanced too far the amp may lose control of the flow and dump much of the power of the AC outlet into your loudspeaker. The power rating of an amplifier is a measure of how much clean power it will safely produce. However, many amplifiers are able to produce distorted power several times greater than their rated power.

Troubleshooting Chart:

Problem

Solution

- | | |
|--|---|
| 1. No sound from speaker | 1a. Check rear connections and amplifier connections. |
| 2. No high frequency output | 2a. Check fuse on H.F.M. It should be .75 amp fast-blo. If problem persists return only the H.F.M. to your dealer for service.
2b. Check connector at rear of H.F.M. Press down firmly, check alignment. |
| 3. Sonic image is offset or too diffuse. | 3a. Make sure you have one left speaker and one right speaker.
3b. Make sure you have them on the correct sides. |
| 4. Bottoming of drivers (clacking) or excessive cone motion. | 4a. Make certain that loudness-contour control is off.
4b. Check for warped record.
4c. Use low frequency filter on amp or preamp.
4d. Increase tracking force or effective mass of tonearm.
4e. Use sturdier mounting for turntable. |
| 5. Unnatural bass emphasis | 5a. Place speakers farther from walls or corners.
5b. Reduce bass control on amp.
5c. Make certain loudness-contour is off. |
| 6. Howling occurs at high volumes (Acoustic Feedback) | 6a. Place turntable farther from speakers.
6b. Sturdier mounting for turntable. (see also 5a, b, and c) |
| 7. Breakup or distortion on forceful recordings (especially horns, female vocals, piano, etc.) | 7a. If this occurs at all listening levels, check the stylus carefully for dirt. If problem persists, increase tracking force. For best results, tracking force should be |

8. Distortion at very high listening levels.
9. High frequency fuse blows repeatedly.

set at the **maximum** recommended for that cartridge. Be sure to use several different records when checking cartridge set-up.

- 8a. Listen at lower levels.
- 8b. Purchase a larger amplifier.
- 9a. Amplifier too small for listening level (see section on "Listening Levels and Amplifier Power".) reduce volume setting.
- 9b. Fuse should be .75 amp fast-blo. **REPLACEMENT WITH ANY OTHER SIZE FUSE VOIDS WARRANTY.**
- 9c. Have amplifier checked for proper operation.

Physical Specifications:

Dimensions (with H.F.M.)
(without H.F.M.)

37 $\frac{1}{4}$ "h x 15 $\frac{7}{8}$ "w x 10 $\frac{7}{8}$ "d
31 $\frac{3}{4}$ "h x 15 $\frac{7}{8}$ "w x 10 $\frac{7}{8}$ "d

Shipping Weight
High Frequency Modules
(box of 2)
Low Frequency Modules → each

20 lbs.

65 lbs.

Driver Compliment

2 x MW 7500 Mid L.F.
1 x HF 1000 H.F.
1 x D-1200-A Passive

D.C. Resistance

4 ohms

Fuse

$\frac{3}{4}$ amp, 3AG fast-blo, H.F. only

Enclosure Type

Passive Radiator

Crossover Type
High Pass
Low Pass — One

4th order Gaussian; 2KHz
2nd order, frequency compensated; 600 Hz

Low Pass — Two

2nd order, impedance compensated; 2KHz

Technical Assistance:

It is our pleasure to offer the assistance of our technical staff any time you have a question or observation. Even if your question has nothing to do with loudspeakers we will be happy to help you with any aspect of your system set-up. Call your local Polk Audio dealer or call us directly.

Service:

If for any reason you wish to have service work performed on your speaker you may either contact your nearest authorized Polk Audio dealer or return it to the factory.

If you wish to return your Model 12B to the factory for servicing, please write first describing your problem and requesting permission to return your speaker. You will receive a prompt reply by mail instructing you fully as to how this is to be done. Our address is:

Polk Audio, Inc.
Warranty Service
1205 South Carey Street
Baltimore, Md. 21230

Limited Five-Year Warranty

Each Model 12B Loudspeaker is warranted to the original purchaser to be free from defects in materials or workmanship for a period of 5 years from the date of purchase.

Defective units must be shipped prepaid insured to an Authorized Warranty Service Station or to the factory. If upon examination at the factory or Authorized Warranty Service Station it is determined that the unit was defective in materials or workmanship, the Authorized Warranty Service Station or Polk Audio will, at its discretion, repair or replace the unit at no cost to the consumer and return it via prepaid freight.

This warranty does not cover damage due to commercial use, or voltage inputs in excess of the rated maximum of the unit, or other abuse. It will be void if unauthorized service has been done on the unit or if the serial number tag is removed or defaced.

This warranty is in lieu of all other warranties, expressed or implied.

