

Magneplanar 20.7 Instruction Manual

Quick Step-Up Instructions

The 20.7 has exceptional phase characteristics that are accomplished without the use of compensation networks. To realize the optimum phasing, the 20.7 should be angled inward as shown in the diagrams below. (Do not place parallel to the front wall.) Depending upon the acoustics of your room, the imaging and sound stage may be better with the tweeters on the inside for listening only in the "sweet spot". For a larger audience or listening off to one side, tweeters on the outside will keep the image centered for those listening off-axis.

Your 20.7s have been shipped with the tweeter jumpers removed.

You must install a resistor or jumper for the operation of the tweeters. Most listening rooms will have the smoothest response when using the enclosed 1 ohm resistor for the tweeter. Rooms that are large and/or overly-damped may require the enclosed jumper for smooth response.

Especially, during the break-in period, experiment with the 1 ohm resistors on the midrange. The addition of the midrange resistor will provide a "warmer" balance.

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1. Introduction

Congratulations on your purchase. The Magneplanar 20.7 loudspeaker was conceived and designed by perfectionists, for perfectionists. Due to the elegant simplicity and ruggedness of the design, the Magneplanar 20.7 loudspeaker will give many years of trouble-free service.

2. General Description

The 20.7 is a 3-way, full-range ribbon design with a quasi-ribbon bass and quasi-ribbon midrange, and true-ribbon tweeter.

3. Carton Contents

- 1 pair 20.7 loudspeakers
- 2 each ribbon tweeters with screws
- 4 each feet
- 4 each handles
- 8 each foot bolts
- 4 each wooden handles
- 4 each 1 ohm resistors
- 2 each 5 amp fast-blow fuses
- 2 each 2 1/2 amp fast-blow fuses
- 4 each tweeter end covers
- 2 each jumpers
- 2 each Magneplanar logos
- 1 each ball point Hex driver

4. Packaging

Save all packaging. If you need to transport the speakers, they can be shipped safely only in the original packaging. You may never have to return your loudspeakers, but should the occasion arise, they should not be shipped in any packaging but the original. Should you discard it, packaging is available.

5. Assembly

- A. Remove speakers and feet from carton.
- B. We suggest the assistance of a second person will facilitate the installation of the feet. Place the speaker on its side edge.
- C. Note that one end of the foot is longer than the other end. Place the longer end toward the front of the speaker. Carefully align the foot on the backside of the panel so the holes in the foot line up with the bolts in the panel. Using your fingers, insert a bolt through the center hole until the bolt engages with the nut in the panel. Do not use a screwdriver until the bolt has engaged the threads. Care must be taken to avoid cross-threading the bolts.
- D. Repeat the same procedure for top hole.
- E. Tighten all the bolts securely.
- F. Four handles can be installed on the back of the speakers to facilitate moving the speakers. The holes on the speaker panel are located 26 inches from the bottom.

6. Tweeter Installation

- A. Install the tweeter with the serial number at the bottom.
- B. The panel has been pre-drilled for the tweeter screws. Align the tweeter slots with the panel holes. This may be more convenient if the speaker is laying on a table.
- C. Attach the connectors at both ends of the tweeter and remove the protective strip. Install tweeter end covers over the terminals.
- D. Note-- The tweeter ribbon is fragile. Tweeter protector strips should always be installed to protect against any situation that would cause a change in air pressure such as shipping. Do not vacuum the front grille.

7. Hookup

The features unique, high current connectors which provide optimum contact area with the speaker cables up to 10 gauge (or for banana connectors). Banana plug connectors can be used and locked in place with the set screws. Spade lug adapters are available from your Magneplanar dealer for spade connectors that are incompatible with the Magneplanar high current connector.

8. **Caution**

The terminal plate states a maximum fuse value of 5 amps Type 3AG ("normal" or "fast blow") for the midrange and 2 1/2 amps for the tweeter. The bass section does not require fusing protection. This fuse value should never be increased or bypassed. Do not use slow-blow fuses. BURNED OUT MIDRANGE OR TWEETERS ARE NOT COVERED UNDER THE WARRANTY.

9. **Speaker Placement**

Proper speaker placement and room acoustics can have a greater effect on a music system than upgrading one of the components in the system. Unfortunately, there is no definitive guideline which will cover all possible listening rooms. Some experimentation is required for locating the optimum position. The following are a few general guidelines:

10. **Bass Response**

Play a CD with repetitive bass. Try the speakers in several possible locations in the room. Begin experimenting with the speakers about 3 feet from the front wall. Try moving the speakers forward or backward in increments of 6 to 12 inches. One position in the room should be noticeably better than others. Also experiment with your listening location to avoid standing waves.

Due to standing waves, dips and peaks in the bass and midbass are a fact of life. Each room has its sonic signature depending upon the size, shape and construction. One solution is electronic equalization to deal with room aberrations. Many of the newer receivers and processors incorporate a microphone and automatic EQ that will correct frequency imbalances. However, this approach has drawbacks and is not well accepted by most audiophiles. There is another and better solution.

Multiple subwoofers are commonly used to smooth room bass response. Although an expensive solution, this technique has been proven to be superior to EQ of a single subwoofer. Using the same fundamentals of acoustics, Magnepan has a solution which can fine-tune the bass and midbass of our floor-standing models--- the Maggie Woofer (DWM and DW 1).

More information is available on the Magnepan website to describe how the Maggie Woofers can be used to give you smooth bass and midbass in the most difficult of rooms.

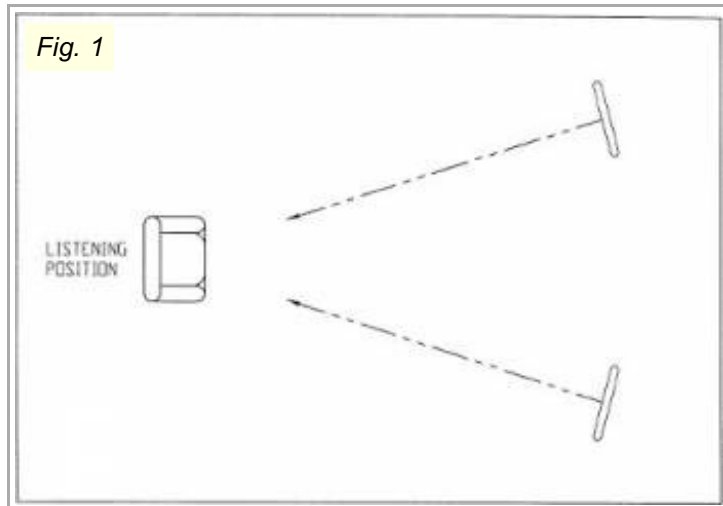
11. **Left/Right**

The 20.7ss are matched pairs and mirror-imaged. The tweeters are located in the narrow fabric section.

12. Stereo Width and Imaging

Once you have located the best position for the speakers and your chair for bass performance, separate the speakers by 50-60% of the distance from your chair to the speakers. For example, if your chair is 10 feet from the speakers, move the speakers 5-6 feet apart. Now, move the speakers apart in increments of 3 or 4 inches at a time, listening carefully at each position. At some point you will start to hear two separate speakers instead of a stage effect or continuous image. When this occurs, your speakers are too far apart. Begin moving the speakers back in small increments until you notice a point at which you achieve one cohesive sound stage.

Depending upon the acoustics of your room, the imaging and sound stage may be better with the tweeters on the inside for listening only in the "sweet spot". For a larger audience or listening off to one side, tweeters on the outside will keep the image centered for those listening off-axis.



13. Phasing

The Magneplanar 20.7 has superior phase characteristics. We suggest you resist the tendency to place the speakers so they are parallel to the front wall. Angle the speakers as shown in Figure 1.

Once you have located the ideal speaker position, a mark is helpful for quickly replacing the speakers. A small tack, yarn woven into the carpet, or piece of tape can be placed on the carpet so your ideal listening spot can be easily relocated when the speakers (or chair) are moved for cleaning, etc. In the event your ideal listening spot is inconvenient from the standpoint of the room layout and decor, simply slide the speakers wherever they look best. For background listening the speakers can be placed close to the wall and it will make little difference.

The entire placement procedure may seem like a great deal of work, but is necessary in the setup of any high quality system. The time and effort expended should be necessary only once, and will repay the owner with countless hours of musical enjoyment.

14. Room Acoustics

The judicious use of damping material can improve the sound. Acoustical damping can be achieved with household items or wall hangings. A word of caution--when audiophiles discover the effectiveness of damping material, they sometimes overdo it (on the premise that if a little is good, more is better). Before making a permanent change to your room, experiment with the positioning of the damping material. Usually a portion of one or two parallel walls should have some damping. However, it is a trial-and-error process.

An over-damped room will provide very precise imaging, but the sound will seem "dead." An under-damped room may heighten the illusion of being in a concert hall, but the imaging will seem imprecise with all the instruments mixed together. "Hardness" or over-bright sound is usually the result of a room with hard surfaces (glass, hard paneling, etc.). Moderation is the key.

Diffusers are also helpful to improve the acoustics of a room. Contact your Magneplan dealer for more information on the proper use of diffusers.

15. **Optional Tweeter or Midrange Attenuation**

To attenuate the tweeter or midrange, remove the jumper(s) and install a resistor.

The 1 ohm resistor is the standard tweeter and midrange resistor values. Other tweeter and midrange resistor values are available from your Magneplanar dealer.

In addition to the tweeter resistor, installing the 1 ohm midrange resistor will also provide a "warmer" balance.

16. **Specifications**

- System Description: 3-Way, full-range, ribbon speaker with quasi-ribbon midrange and quasi-ribbon bass and true ribbon tweeter.
- Frequency Response: 25Hz–40 kHz
- Sensitivity: 86 dB, 500Hz, 1 meter, 2.83V
- Impedance: Nominal 4 Ohms
- Dimensions: 29 W x 79 H x 2 1/2 D inches
- Warranty: LIMITED. 5 years to original owner. 1 year on ribbon tweeter.
- Shipping Weight: 350 lbs.

* Because there are no universally accepted methods for loudspeaker measurements, frequency response specifications may be stated by most manufacturers without reference to measurement techniques and/or specific locations in rooms. Magneplanar loudspeaker frequency response specifications are average performance levels that may reasonably be expected in normal installations.

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