MAGNEPAN INCORPORATED

Magneplanar DWM Bass Panel Instruction Manual

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1. Introduction/General Description

The Magneplanar DWM Bass Panel is a dipole, thin-film planar/magnetic woofer which is a derivative of the MG 20.7 DiPlanar bass panel technology. The DWM Bass panel has one diaphragm which is driven by two separate amplifiers (typically the front left and right channels). When two Bass Panels are used, one of the voice-grids is not used. A built-in crossover provides a high-pass output for use with “small” Magneplanars.

2. Carton Contents

1 - DWM Bass Panel with base
1 - Magnepan “Shaped” Pink Noise CD Test Disk
2 - 2 ohm, 25 watt resistors
1 - Hex Wrench
1 - Speaker Logo
1 - Owner's Manual
2 - 1/4-20 x 1" Truss Head Machine Screws
Packaging Instruction Sheet

3. Packaging

Save all packaging. The DWM Bass Panel can be shipped safely only in the original packaging. Should you discard it, packaging is available from Magnepan.

4. Installation and Hookup

Remove the 1/4-20" screws from the bottom of the Bass Panel. Discard screws. Install the base with the 2 screws in the Literature Kit. It may be necessary to realign the dowel nut in the speaker before installing the base and screws.

Connect the speaker wire from the amplifier to the amplifier input on the DWM, observing polarity. Connect the “small” Magneplanar to the output of the DWM, observing polarity. (Note- There are no left or right inputs or outputs on the DWM Bass Panel.)

If 2 Bass Panels are used for a 2-channel setup, one set of connections is used for each Bass Panel.

5. Placement

As a general rule, dipole speakers produce the deepest and most linear bass and midbass when positioned approximately 4-6 feet from the front wall or 1/3 of the way into a room. This rule may conflict with the necessity to have correct time alignment with the "small" Maggies. Since rooms vary greatly, these setup instructions are principles of operation and specific and detailed instructions are not possible. Magnepan and our dealers can provide advice on the specifics of your room.

It is generally understood that placement of subwoofers is very flexible. While subwoofers do offer more latitude in placement due to the long wavelengths at low frequencies, technically, there is an ideal place in a given room for optimum subwoofer performance. The DWM is a woofer, not a subwoofer. And the superior performance of the DWM, as compared to a subwoofer, is due in part, to extremely wide bandwidth (flat to 5 kHz). The DWM can seamlessly cross over at a higher frequency to any of the limited bandwidth "Maggie" models. However, the higher crossover points require proper time alignment to achieve the most seamless blend between the DWM Bass Panel and the limited bandwidth Magneplanar. Therefore, the DWM should be equi-distance from the listener to the limited bandwidth Magneplanar. Minor adjustments from that position are often necessary for "fine tuning" as described under "Phasing" below.

The DWM should be oriented so it is perpendicular to the side wall and playing down the length of the room as shown in Fig. 1 below.

The DWM Bass Panel will give the lowest frequency response if a boundary is used to reduce dipole cancellation of bass frequencies. A placement along a wall or next to a cabinet or piece of furniture will reduce dipole cancellation.

If two DMWs are used, the midbass response may be improved and smoothed by placing the bass panels at different distances relative to the listener.

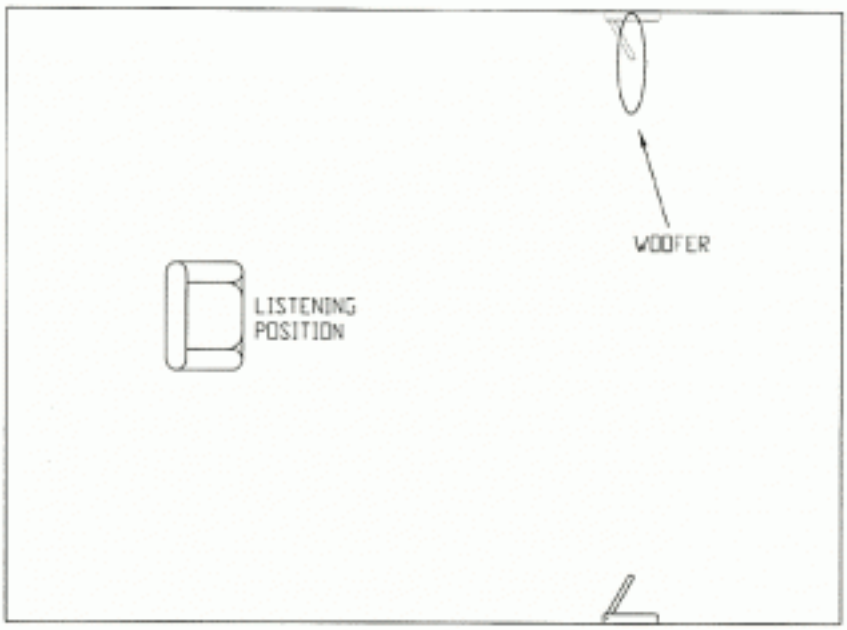

FIG. 1

6. Phasing

The Magnepan Pink Noise CD Test Disk included with your DWM can be used to determine if the DWM is in ACOUSTICAL phase with your limited bandwidth Magneplanar. The test CD has a 9 db peak at 80-100 Hz that draws attention to the frequencies which will be depressed in an out-of-phase condition. Place the DWM next to your limited bandwidth Magneplanar and change the phase. (It is much easier to detect an out-of-phase condition when the "small" speaker is physically next to the woofer.) Since the DWM is a dipole woofer, the easiest way to determine if the DWM is in-phase is by simply turning the woofer around (180 degrees). The speakers are in-phase when the peak is the loudest.

The high output of the DWM is in positive polarity with respect to the bass. In this particular case, do not think that the plus output of the DWM must go to the plus terminal of the "small" speaker. Depending upon the "small" speaker to be used with the DWM, it may be necessary to operate the "small" speaker with the phase reversed for smooth frequency response through the crossover region. If you are uncertain if the acoustical phase is correct, a technique which can help is by leaning over and positioning your head between the

Magneplanar Bass Panel and the “small” Magneplanar as shown in Fig. 2 below. The left and right ears are equi-distance to the respective speakers. High frequencies will appear to be up and low frequencies will appear to be down. Midbass frequencies, if in phase, will appear to be in the middle (and louder).

Depending upon the location of the DWM with respect to the limited bandwidth Magneplanar, the DWM might be 90 degrees out of phase with the “small” Magneplanar and changing the phase does not make a noticeable difference in the loudness of the pink noise peak. It may be necessary to move the DWM with respect to the Magneplanar to achieve a better acoustical in-phase condition.

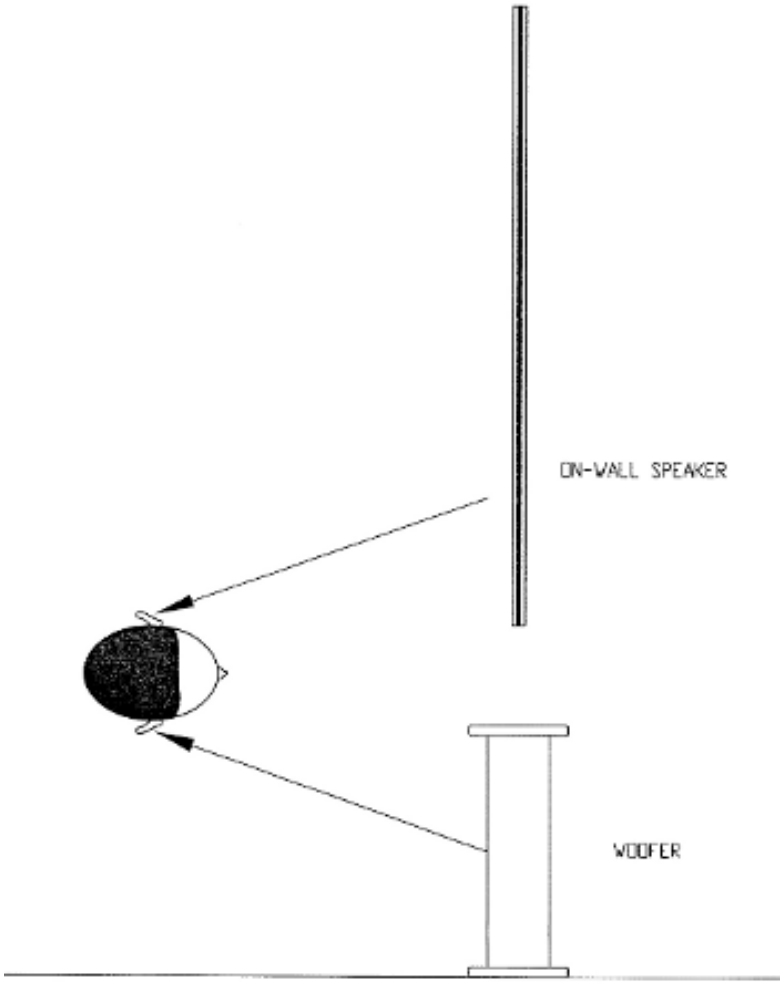

FIG. 2

7. Bass Attenuation

If it is necessary to reduce the output of the DWM, remove the Bass Attenuator jumper and insert a 25 watt (or higher wattage) resistor. Typically, 1-4 ohms is sufficient for most installations where bass reduction is needed. If a large amplifier and/or high power bass levels are used, four 2 ohm, 25 watt resistors can be used in a series/parallel combination that will provide a 100 watt rating at 2 ohms. Caution--Depending upon how loud the system is played, the resistor could become hot and cause a painful burn.

8. Midbass Attenuation

In the event there is too much lower midrange/upper midbass from the DWM Bass Panel, a 1.4 mh iron-core inductor may be installed in the Attenuator terminals for a faster roll-off rate. Use an inductor with low resistance to maintain maximum output of the lowest frequencies.

9. Better bass for full-range Maggies

Put a big speaker in a small room, too much bass. Put a small speaker in big room, too little bass. Everyone knows that. In general, it is true. There is no one-size-fits-all.

Most of the area of any full-range Maggie is devoted to bass reproduction. (In the case of the 20.7, 76% of the total radiating area is devoted to bass.) The Magneplanar Bass Panel offers you the flexibility to add bass diaphragm area to fit the needs of your room. 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. Some sound rooms are "hostile" to dipoles and it is difficult to generate bass or midbass. From the $600 pair MMG to the 20.7, the Maggie Bass Panel can get the bass/midbass "just right."

The DWM should be equi-distance from the listener (but, 12 inches closer to the listener) for floor-standing models to achieve proper phase. Imagine stretching a string from your listening seat to your full-range Maggies (but, 12 inches shorter), drawing an arch on the floor would be the possible positions

for the Bass Panel. Each position of the Bass Panel in the room will give a different frequency response characteristic. This response characteristic becomes one of your means of contouring the overall response of your system. Placing the DWM against a side wall or cabinet will increase the coupling and result in both lower bass response and different midbass response. The same effect can be achieved by placing the DWM next to the floor-standing model for mutual bass coupling. Angling the Bass Panel slightly away from the listener will increase the roll-off of higher frequencies, if desired.

If two Bass Panels are used and there is a midbass peak, the peak can be reduced by placing the two Bass Panels at different distances relative to the listener. For example, one Bass Panel 12 inches ahead of the left/right speakers and the other 12 inches further than the left/right speakers.

Amplifier connection-- If your amplifier doubles in power from 8 ohms to 4 ohmns (or nearly doubles), it is a high-current design. Most amplifiers of this design can be safely connected in parallel with the DWM--especially if a resistor is used on the DWM for bass attenuation. If the amplifier used on the floor-standing models is not a high-current design, a separate amplifier can be used to drive the DWM.

Level and crossover slope-- If you have a room that is deficient in bass/midbass, or has a midbass hole in the response, you may find that the full output of the DWM is desired. However, the addition of bass and midbass is analogous to adding seasoning to food. Just a little too much seasoning can ruin the meal. If would be a typical scenario if you find it necessary to attenuate the output of the DWM after extended listening.

If the Bass Panel is adding too much output in the lower midrange or upper bass, a 1.4 mh inductor (with low DCR) can be installed in the Attenuation terminals for a faster roll-off rate. Inductors are available from Magnepan.

Since a power resistor will mostly be needed to attenuate the DWM output, large gauge speaker wire for the DWM is not needed or recommended. Save

your money, because there is no sonic advantage to large gauge speaker wire in this application.

10. Service and Shipping

In the unlikely event you should need service for your DWM Woofer, we recommend you return it through your dealer. He is experienced in providing service and can assist you if the speaker must be returned to the factory. If you determine you need to return it directly to Magnepan, ship the speaker freight prepaid to:

Magnepan, Incorporated
1645 Ninth St.
White Bear Lake, MN 55110
1-800-474-1646

Include a note describing the nature of the problem. *Please include your name, address, and a **daytime** telephone number.*

11. Specifications

System Description:	Planar-magnetic dipole bass panel.
Frequency Response:	40-200 Hz*
Recommended Power:	See F.A.Q. on web site www.magnepan.com
Sensitivity:	86 dB @2.83V/1 Meter/50 Hz
Impedance:	4 Ohms
Dimensions:	19.25H x 22.5W x 1.25D (inches)
Warranty:	Limited 3-year to original owner
Weight:	19 lbs.

*Bass response will vary depending upon placement near walls, cabinet or furniture.