Installation Manual
For
Dimension4™ Symphony2
Home Cinema Acoustical Tuning System

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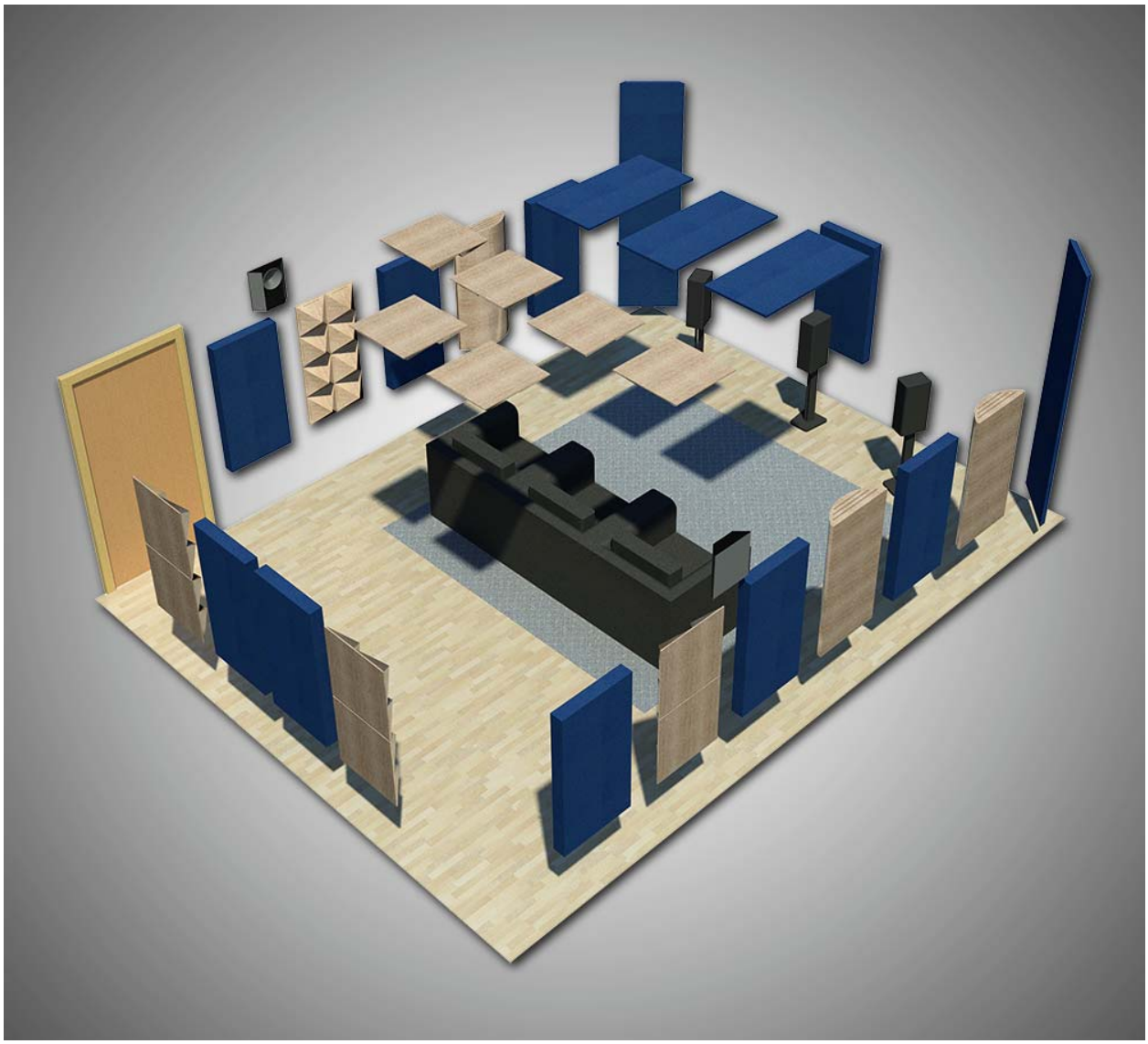
Introduction

Every home cinema is affected by room acoustics. Allow the articulation, tonal balance, and clarity of your loudspeakers to be heard. Don't chance missing important elements within the soundtrack. The Dimension4 Symphony2 system is a high quality, easy-to-install acoustical tuning solution for home cinemas and listening rooms. Based on scientifically-designed building blocks including Absorbers, Diffusers, Bass Filters, and Clouds, Symphony2 is calculated to provide optimum absorption and diffusion and is a full-frequency component solution.

Dimension4 Symphony2 modules can be installed in just a few hours by observing the following simple instructions.



Modules

Symphony2 Absorber:
Construction: A 24” x 48” (60cm x 120cm) module consisting of a fiberglass core, wrapped in fabric, 4” (10cm) thick
Benefits: Provides absorption down to 250Hz

C-Fuser Diffuser:
Construction: A 24” x 24” x 6” (60cm x 60cm x 15cm)
2D diffuser module made of solid wood with a Helmholtz resonator center.
Benefits: Provides horizontal scattering down to 800Hz combined with low frequency absorption

P-Fuser Diffuser:
Construction: A 24” x 24” x 6” (60cm x 60cm x 10cm)
3D diffuser module made of solid wood pyramid cells.
Benefits: Provides hemispherical scattering down to 800Hz combined with low frequency absorption.

Bass Filter / Corner Bass Filter:
Construction: A 24” x 48” (60cm x 120cm) module consisting of a fiberglass core clad in a plastic lining and wrapped in fabric, 4” (10cm) thick.

Corner Bass Filters have mitered edges to accommodate corner mounting.
Benefits: Provides bass absorption from 60 Hz to 250 HZ without affecting higher frequencies

Cloud:
Construction: A 24” x 48” x 1” (60cm x 120cm x 2.5cm)
flat module consisting of a fiberglass wrapped in fabric, with Rotofast Anchors.
Benefits: Provides absorption down to 300Hz

Tools and Materials Required

- Screwdriver (Philips or standard depending on the type of fastener)
- Hammer
- 25 Foot (8m) Measuring Tape
- Pencil
- Masking Tape
- Bubble or Laser Level
- Mirror
- Screws or other appropriate fasteners for your wall surface (E-Z Anchor works well for sheetrock)
- Screw Hooks

Module Placement

Symphony2 systems are suitable for a wide variety of room sizes. The bigger the room, the larger the number of treatment modules.
The following diagrams show sample room layouts for four ranges of room sizes. For best results, you will need to find the first reflection points between the speakers and the listening position. (See instructions later in this manual.)

Room Size (ft^2)	Room Size (m^2)	Kit	Number of Modules
100-200	10-20	150 System	24
200-300	20-30	250 System	29
300-400	30-40	350 System	36
400-500	40-50	450 System	43
500-600	50-60	550 System	51
600-700	60-70	650 System	60

100-200 ft2 (10-20 m2) Room
Using Dimension4 Symphony2 150 System

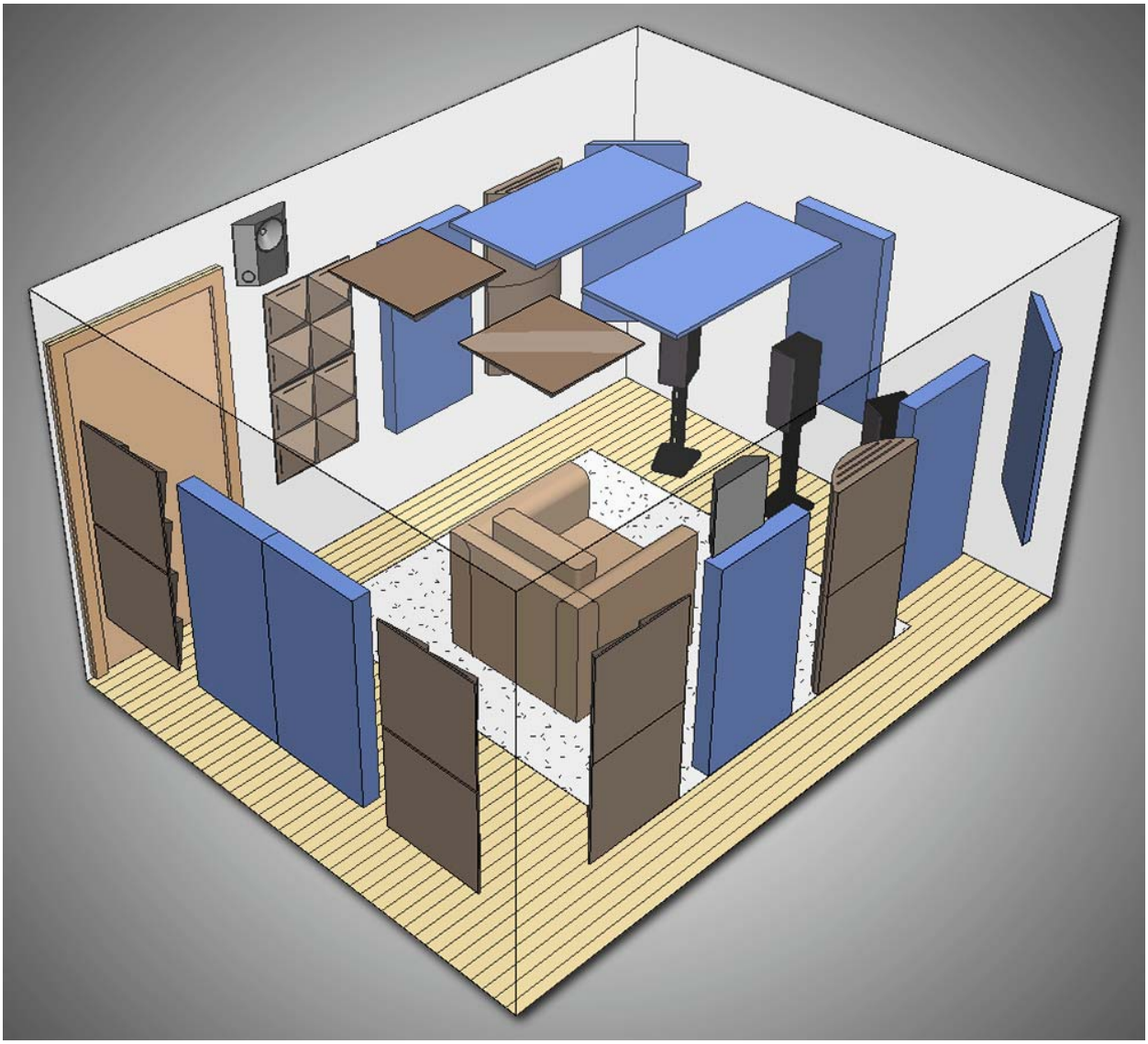


Fig 1

Dimension4 Symphony2 150

5 Absorbers
4 C-Fusers
10 P-Fusers
1 Bass Filter
2 Corner Bass Filter
2 Clouds

200-300 ft2 (20-30 m2) Room
Using Dimension4 Symphony2 250 System

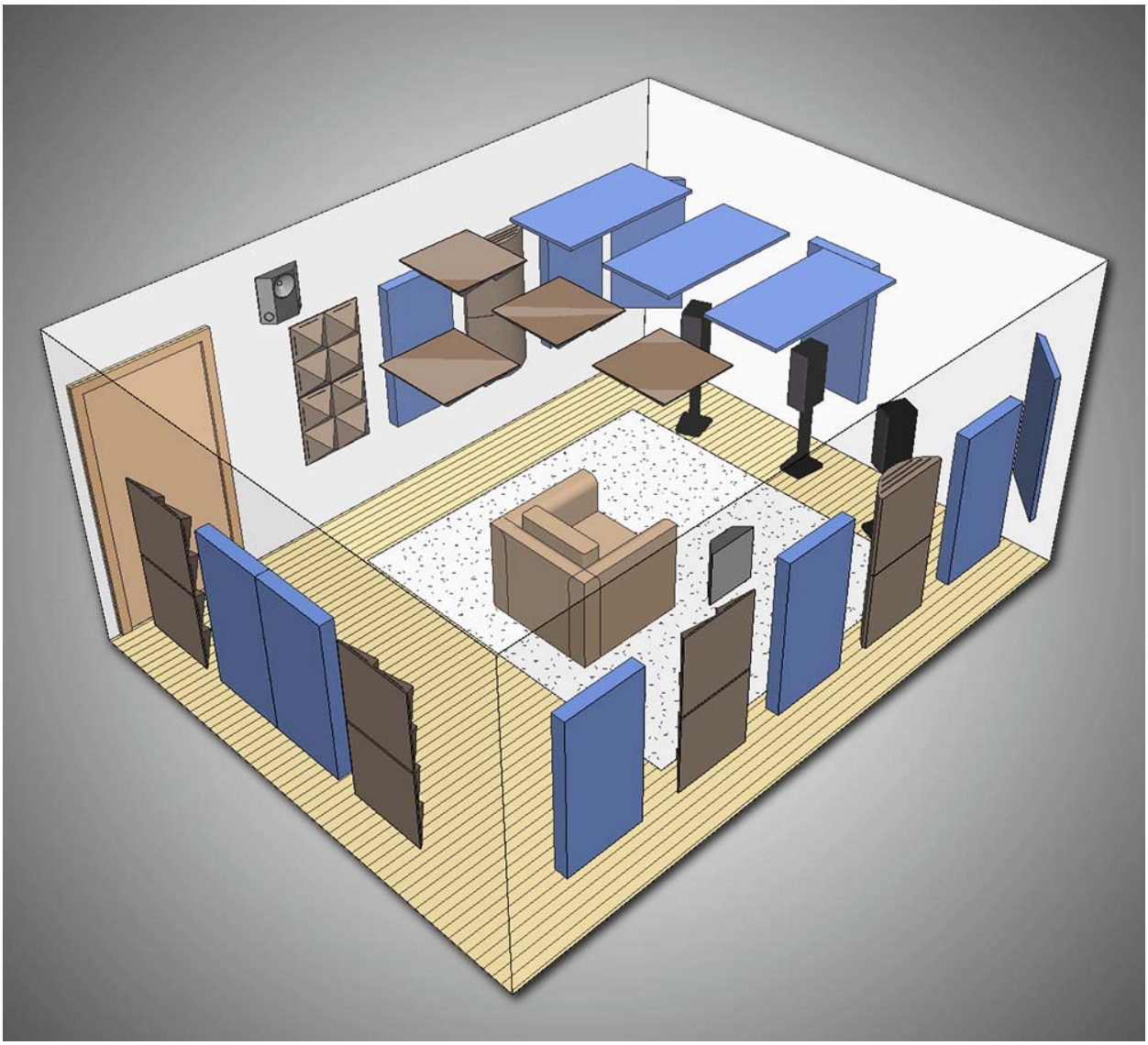


Fig 2

Dimension4 Symphony2 250

7 Absorbers
4 C-Fusers
12 P-Fusers
1 Bass Filter
2 Corner Bass Filter
3 Clouds

300-400 ft2 (30-40 m2) Room
Using Dimension4 Symphony2 350 System

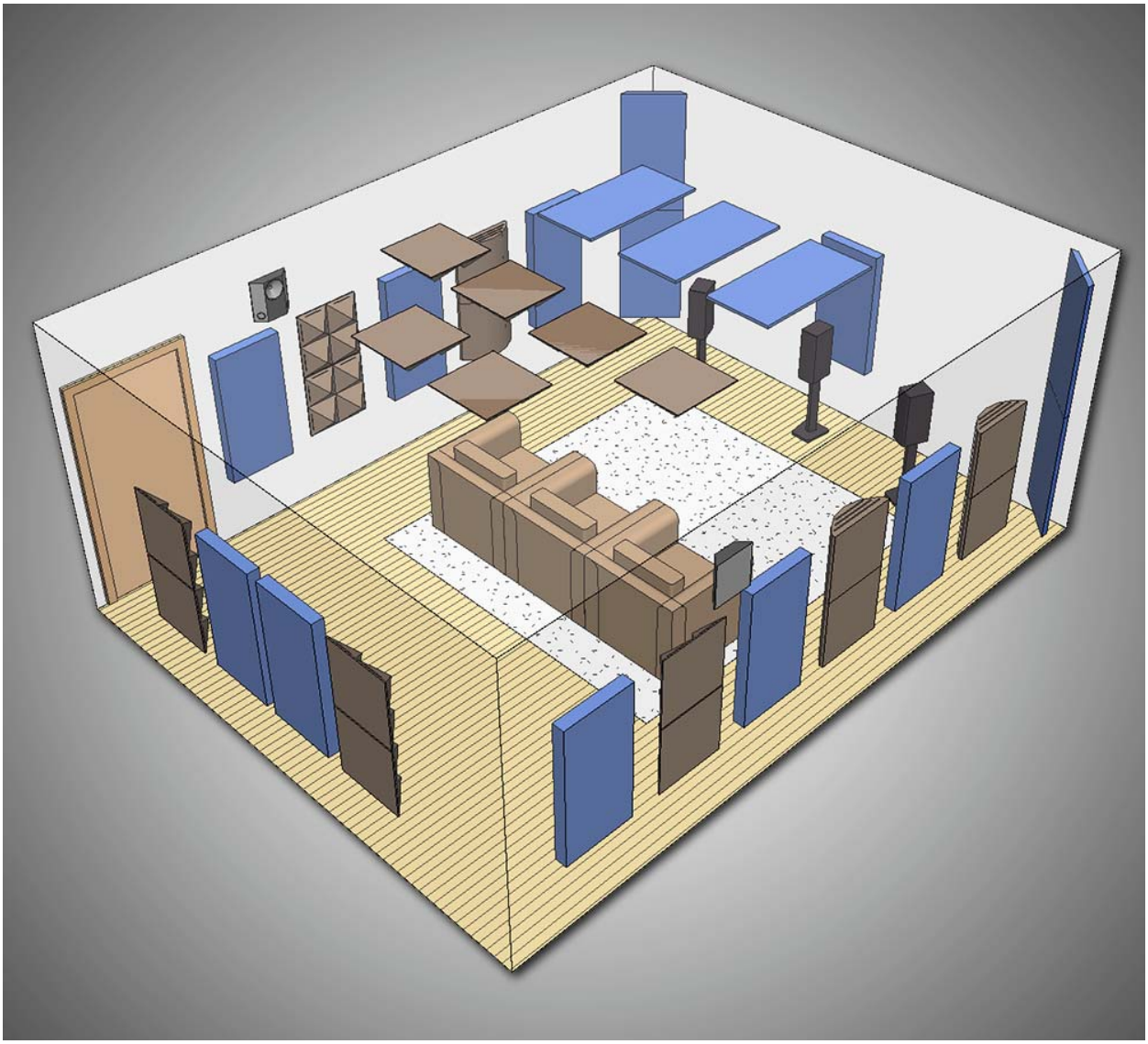


Fig 3

Dimension4 Symphony2 350

8 Absorbers
6 C-Fusers
14 P-Fusers
1 Bass Filter
4 Corner Bass Filters
3 Clouds

400-500 ft2 (40-50 m2) Room
Using Dimension4 Symphony2 450 System

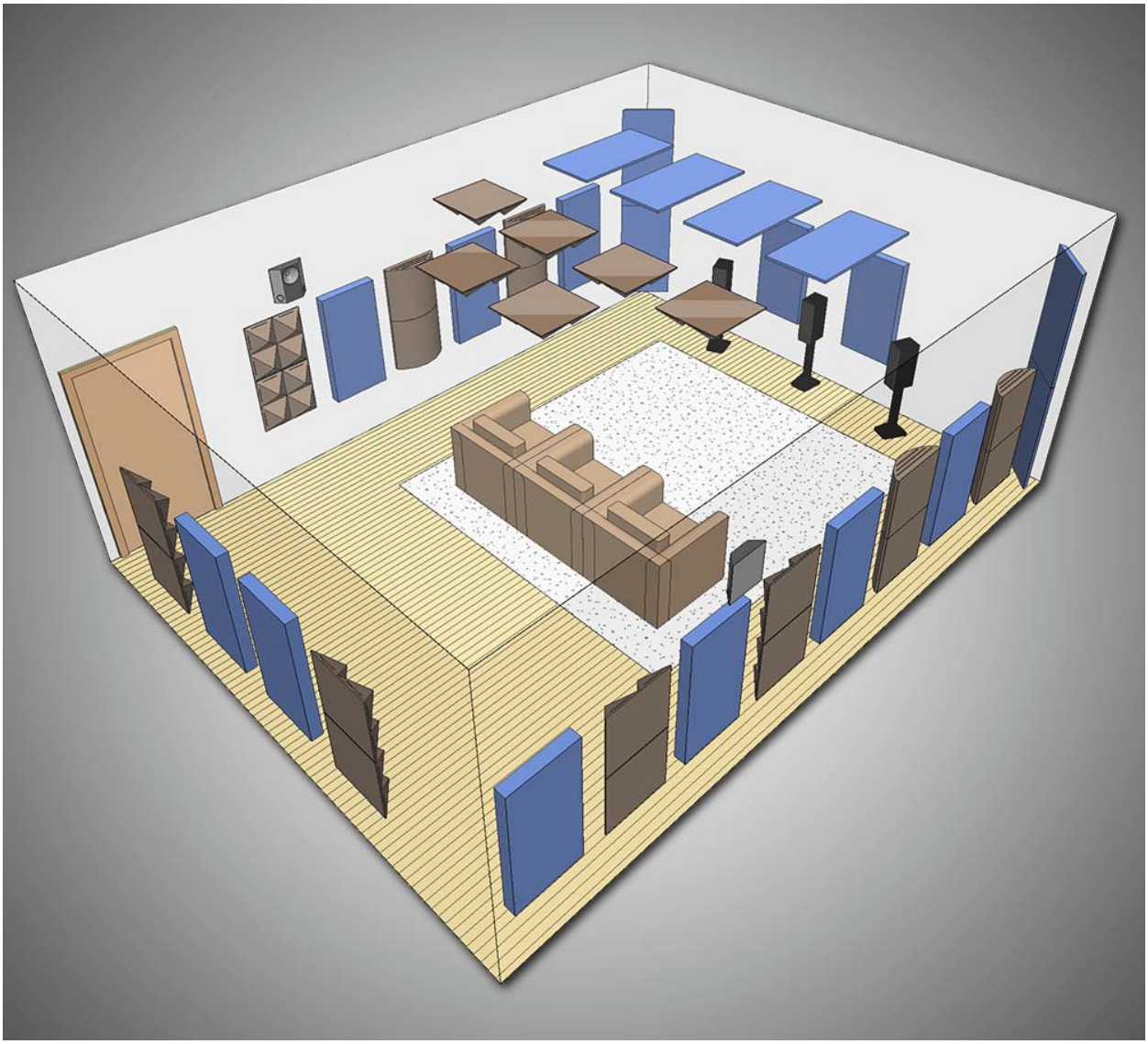


Fig 4

Dimension4 Symphony2 450

9 Absorbers
8 C-Fusers
16 P-Fusers
2 Bass Filters
4 Corner Bass Filters
4 Clouds

500-600 ft2 (50-60 m2) Room
Using Dimension4 Symphony2 550 System

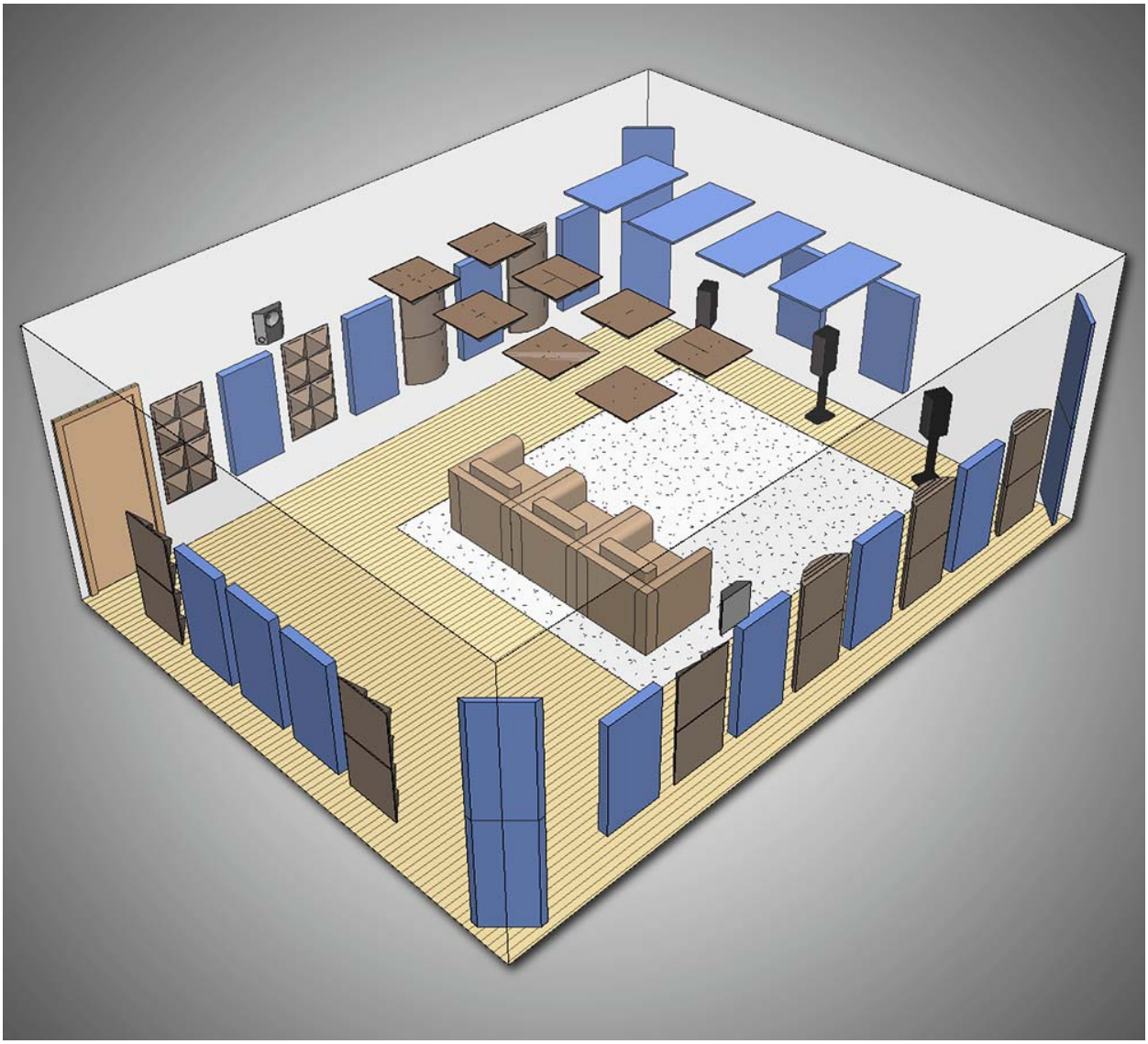


Fig 5

Dimension4 Symphony2 550

11 Absorbers
10 C-Fusers
18 P-Fusers
2 Bass Filters
6 Corner Bass Filters
4 Clouds

600-700 ft2 (60-70 m2) Room
Using Dimension4 Symphony2 650 System

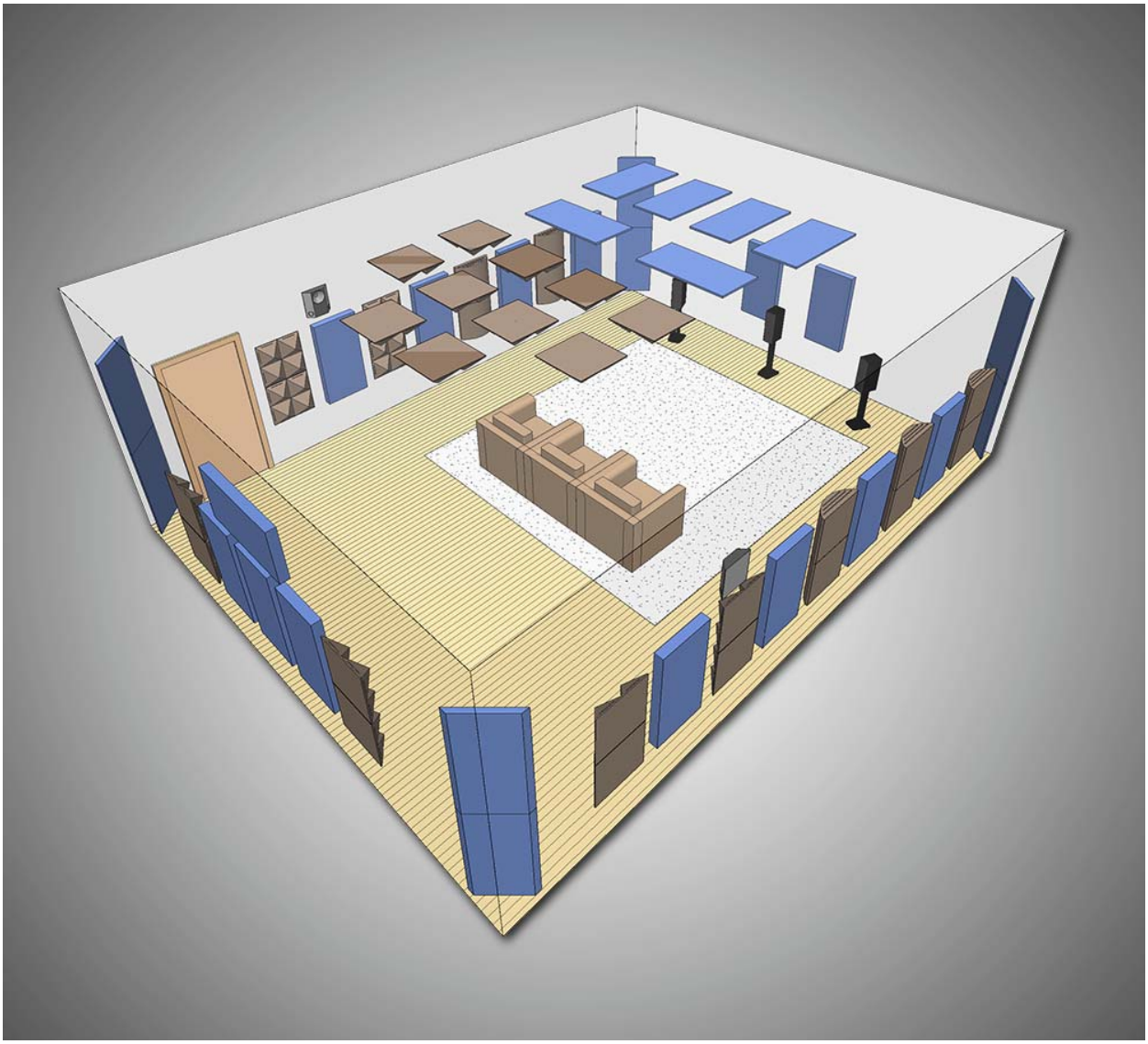


Fig 6

Dimension4 Symphony2 650

12 Absorbers
10 C-Fusers
22 P-Fusers
2 Bass Filters
8 Corner Bass Filters
6 Clouds

Placement Guidelines:

First Reflection Points

The treatment layout shown in fig 1through 4 gives you great control over the acoustic reflections in your room. For further enhancement, ensure that you have placed Absorbers or Diffusers at all the first reflection points on the side and back walls. You can find these by simply using a mirror as shown in fig 7. Sit at the main listening position and have someone walk up and down the left wall holding the mirror flat against it. Mark an X at the point where you can see the left speaker in the mirror. Repeat for the right wall and back wall. (You should be able to see both speakers at the first reflection point on the back wall.) Later on, you will be covering these *X*'s with Absorbers.

C-Fuser

Place C-fuser modules interleaved with the absorbers on the side walls as shown in figs 1 through 6. Note that the C-Fuser modules should be oriented so that the cylinder is vertical with the bass absorber vents at the top and bottom. Feel free to experiment with the C-Fuser placements by listening to the quality of the soundstage and tonal response. The mounting brackets are interchangeable with the other diffusers, so it's easy to move these around after you have fastened the brackets to the walls.

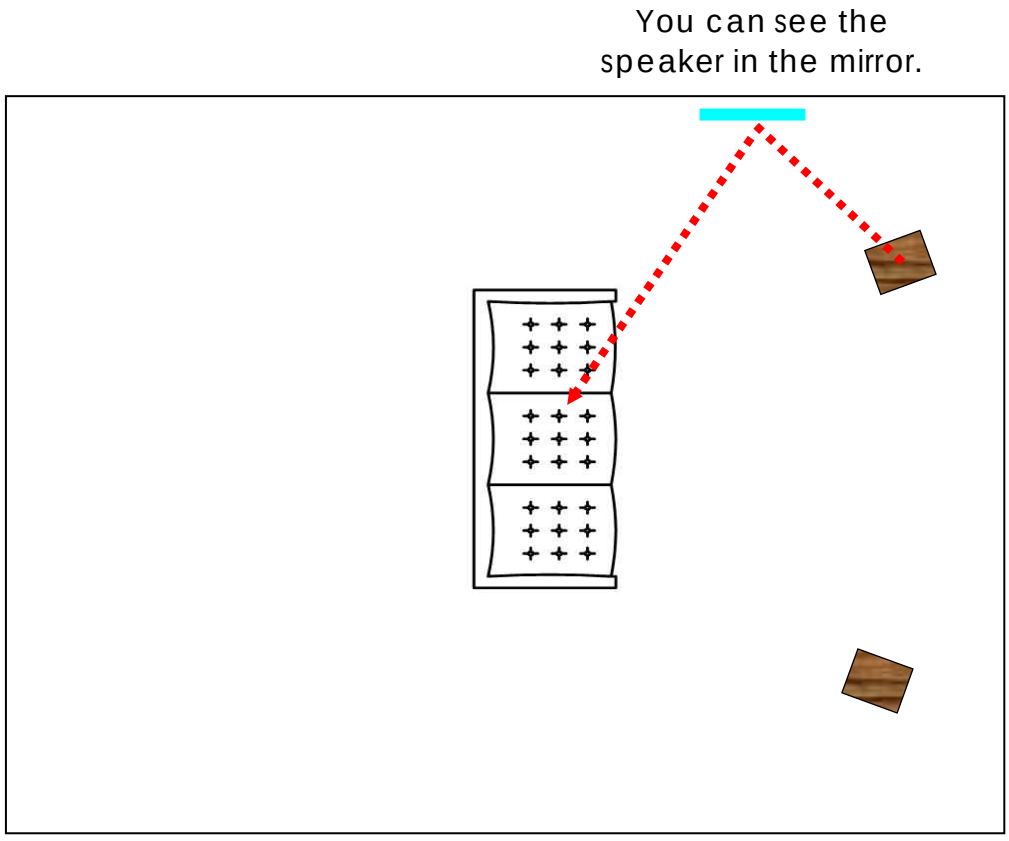


Fig 7 First Reflection Point

P-Fuser

Place 3D Diffuser Modules towards the back portions of the room on the side walls and the back wall as shown in fig 1 through 6. Also place 3D diffusers on the ceiling at locations behind the main listening position. Feel free to experiment with the P-Fuser placements by listening to the quality of the soundstage and tonal response. The mounting brackets are interchangeable with the other diffuser modules, so it's easy to move these around after you have fastened the brackets to the walls.

Bass Filter / Corner Bass Filter

The Bass Filter is a mid to low frequency absorption device with an effective bandwidth down to 60 Hz. Bass Filters should be placed at the first reflection points of the front speakers off the front wall. Corner Bass Filters should be placed in the front corners of the room (angled between the front/side walls) near the floor.

Cloud

The floating Cloud is our solution to unwanted reflections from the ceiling. Research has shown that ceiling reflections are detrimental to good sound reproduction.

We recommend hanging Clouds at the first reflection points for the front speakers as shown in Fig 8.

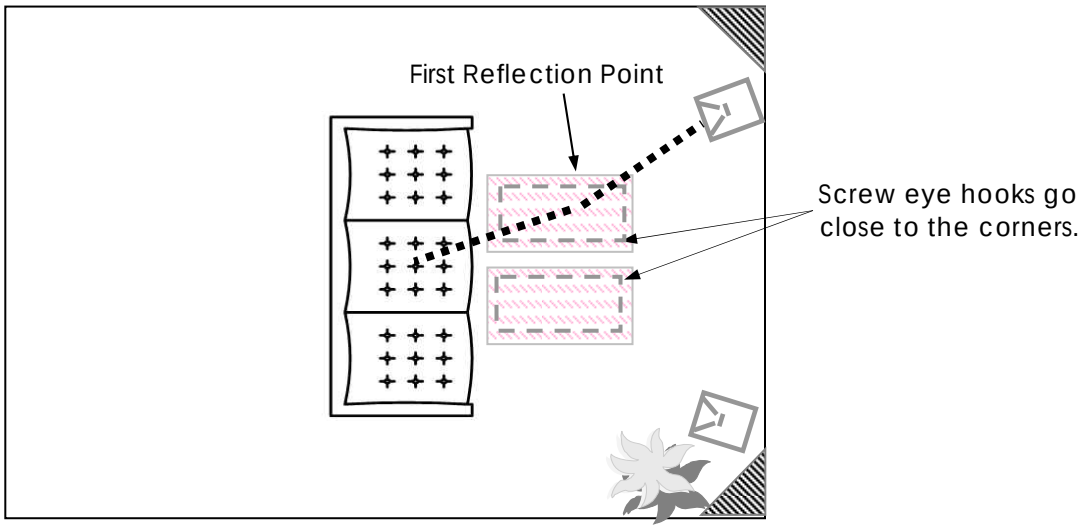


Fig 8 Ceiling First Reflection

Optional Special Products

SpringTrap®

A spring-loaded bass trap, the SpringTrap is our solution to very low frequency room resonance buildup in the range of 40 to 100Hz. This unique patented design, which received the Mix Magazine Certified Hit award, was presented as a research paper at AES in Amsterdam 2003. It consists of a triple-ported resonator system, activated by a large spring-loaded pistonic diaphragm.

The SpringTrap should be placed in an inconspicuous area standing in the corners of the room or horizontally in a corner on the floor. Experiment with the placement of the SpringTrap. Since it is a triangular device, you should have no trouble finding areas to place it.

Play bass-heavy program material and listen to the bass sound pressure at all the corners of the room. The louder the sound pressure, the stronger the standing wave resonance at that location, and the more effective the SpringTrap will be.

The SpringTrap is not included in the Dimension4 Symphony2 system. It is available as an optional module.

Absorber and Bass Filter Module Installation

Now that you've located the exact recommended placement for each module, you can move on to the actual installation. Absorbers and Bass Filters are hung from the walls using the supplied impale clips (fig 9). There are 4 per Absorber or Bass Filter. Please contact MSR immediately if any of the impale clips are missing.

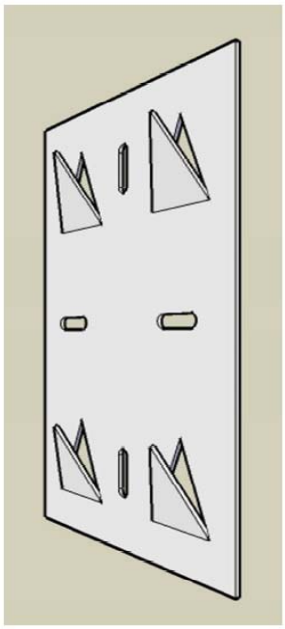
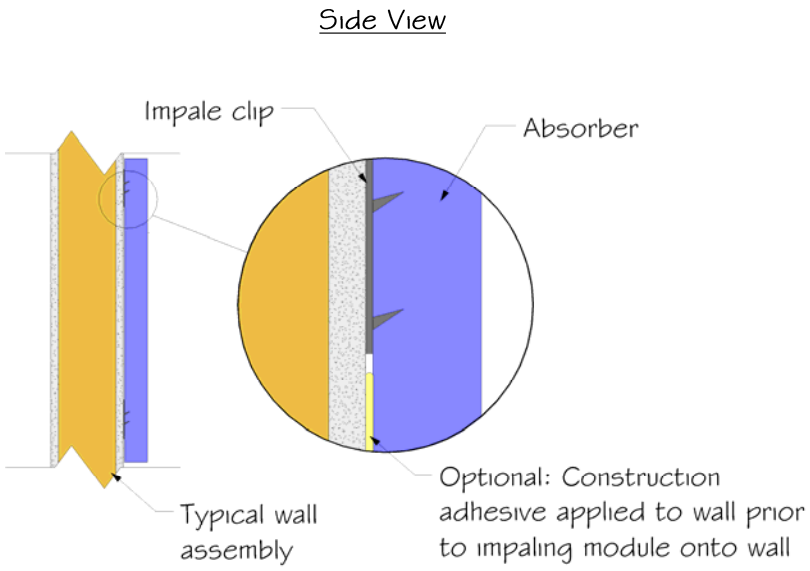
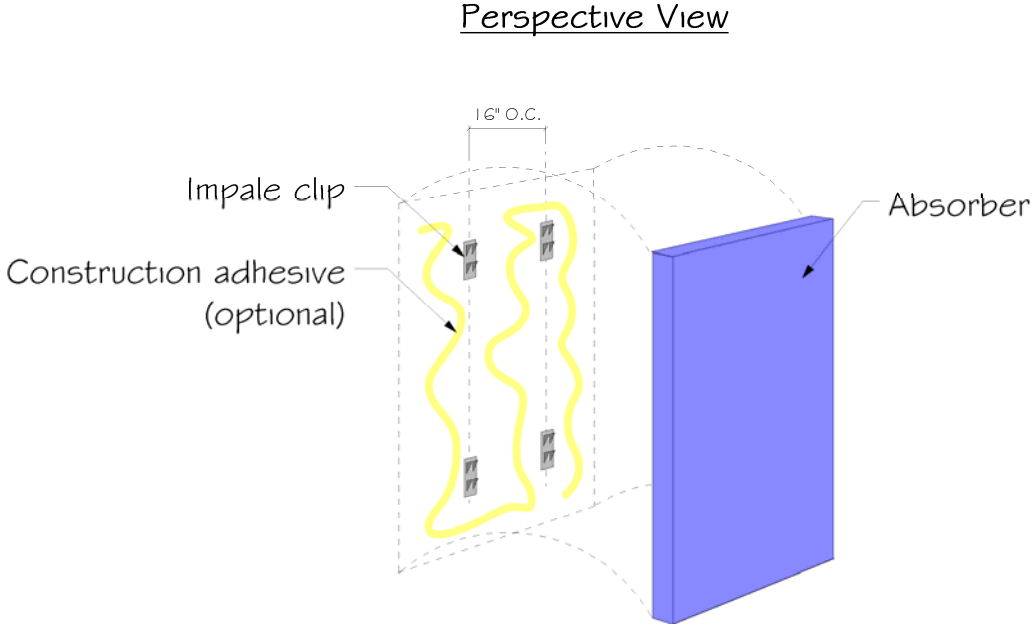
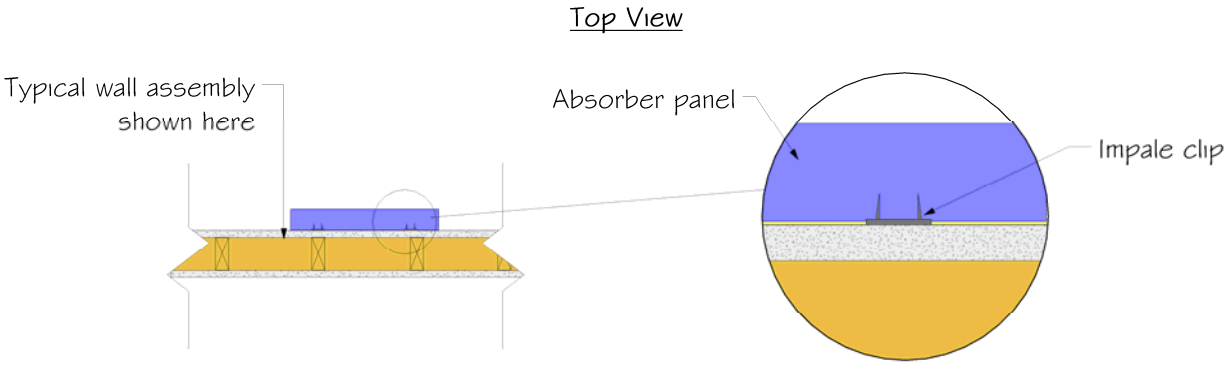


Fig 9 Impale Clip

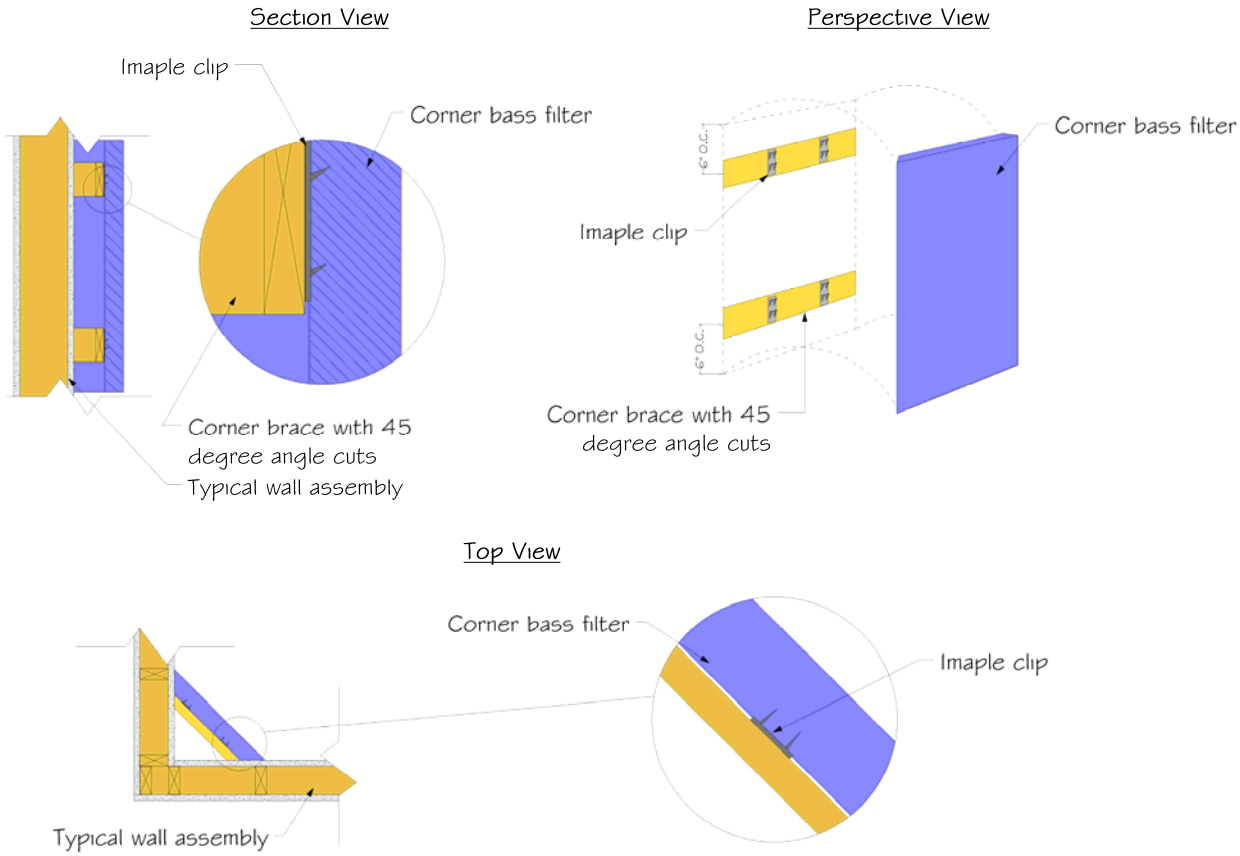






Absorbers and Bass Filters

- Position the Absorbers based on the diagrams and instructions from the preceding pages.
- Mark the first reflection points as described earlier.
- Determine the exact location on the wall for each Absorber.
    - For the Front, Left and Right walls, the top edge of the Absorber should usually be 72 inches (183cm) from the floor, putting the bottom edge at 24 inches (60cm). The middle of the module should line up with the first reflection point as marked on the wall.
    - For the back wall, the top edge of the Absorber should usually be 78 inches (198cm) from the floor, putting the bottom edge at 30 inches (76cm)
- Attach four impale clips to the wall per Absorber using screws into studs, wallboard inserts and screws, or other appropriate fasteners. The cleats should point up toward the ceiling. The impale clips should go roughly 4 inches (10 cm) inside each corner of the Absorber to avoid interfering with the edge of the fabric wrap. For more permanent installations, you may choose to cover the area behind the Absorber with construction adhesive to reduce the potential for rattles.
- Lift the Absorber up and over the impale clips and drop it on the cleats, applying gentle downward pressure until the module is caught securely. Note that the Absorber will travel down about ½ inch (1cm) from where it started. You should therefore press it against the impale clips about ½ inch (1cm) above where you want it to end up. Use a bubble or laser level to make sure the Absorber hangs straight.



Corner Bass Filters

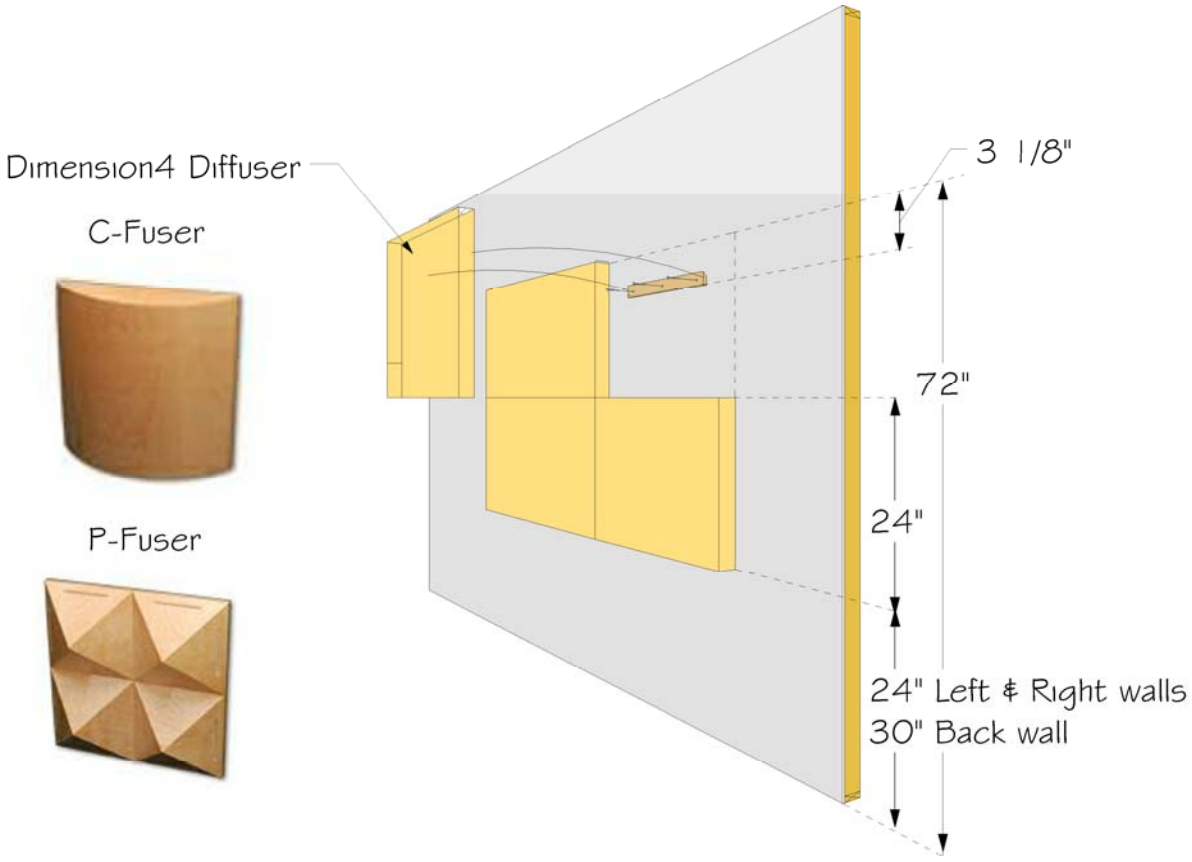
- Position the Corner Bass Filters based on the diagrams and instructions from the preceding pages.
- In order to hang each Corner Bass Filters in the corners of the room, you will need to use two corner braces supplied with the system as shown below. These braces will span the corner, the impale clips will attach to them, and the Corner Bass Filter will hang from the impale clips. Install one brace centered at 36 inches (90cm) from the floor. Install the second brace centered at 60 inches (150cm) from the floor. Drive fasteners into the lateral walls that the brace spans.
- Attach two impale clips to the top brace and two to the bottom using screws. The cleats should point toward the ceiling as shown in fig 9. The position of the impale clips along the brace does not really matter.
- Lift the Corner Bass Filter up and over the impale clips and drop it on the cleats, applying gentle downward pressure until the module is caught securely. Note that the Corner Bass Filter will travel down about ½ inch (1cm) from where it started. You should therefore press it against the impale clips about ½ inch (1cm) above where you want it to end up. Use a bubble or laser levels to make sure the Corner Bass Filter hangs straight.

Diffuser Module Installation

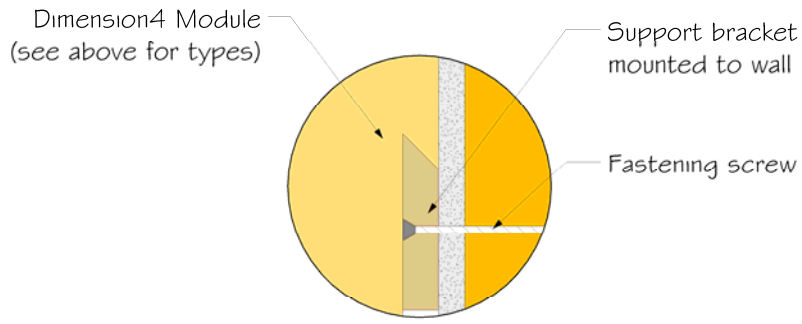
Diffuser modules are hung from the walls using the supplied mounting bracket. One bracket per module. Please contact MSR immediately if any of the brackets are missing. See the instruction below for the individual modules.

Preparing the Diffuser mounting bracket locations

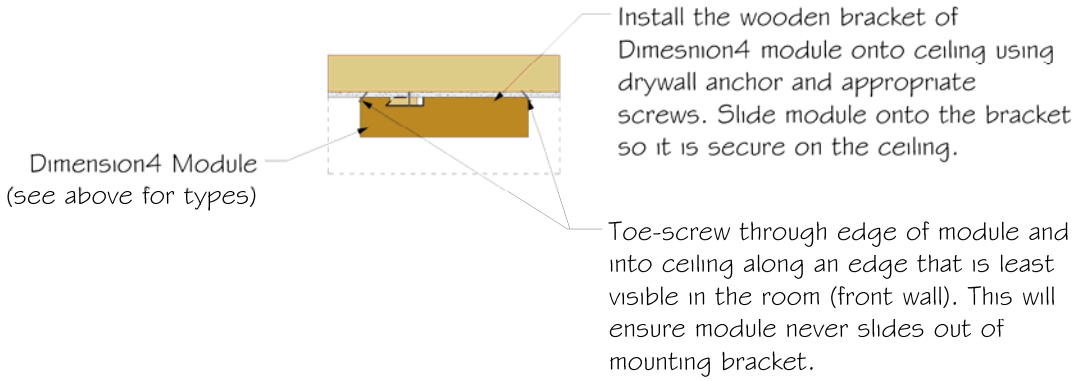
The mounting brackets will typically be at the same heights throughout the room. We recommend using a laser level to mark the heights of all the brackets so as to ensure a level installation. Note that some ceilings and floors are not flat and you may need to compensate for the differences.



Section View



Ceiling Module Installation Details

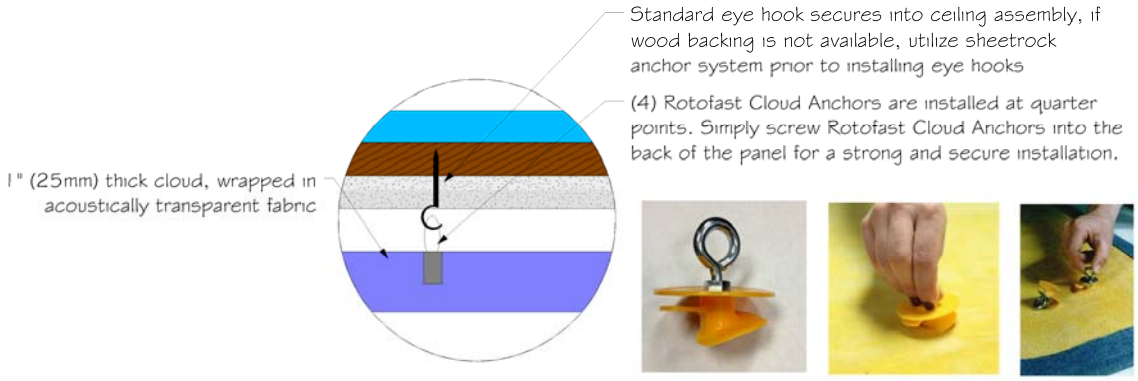


Diffusers

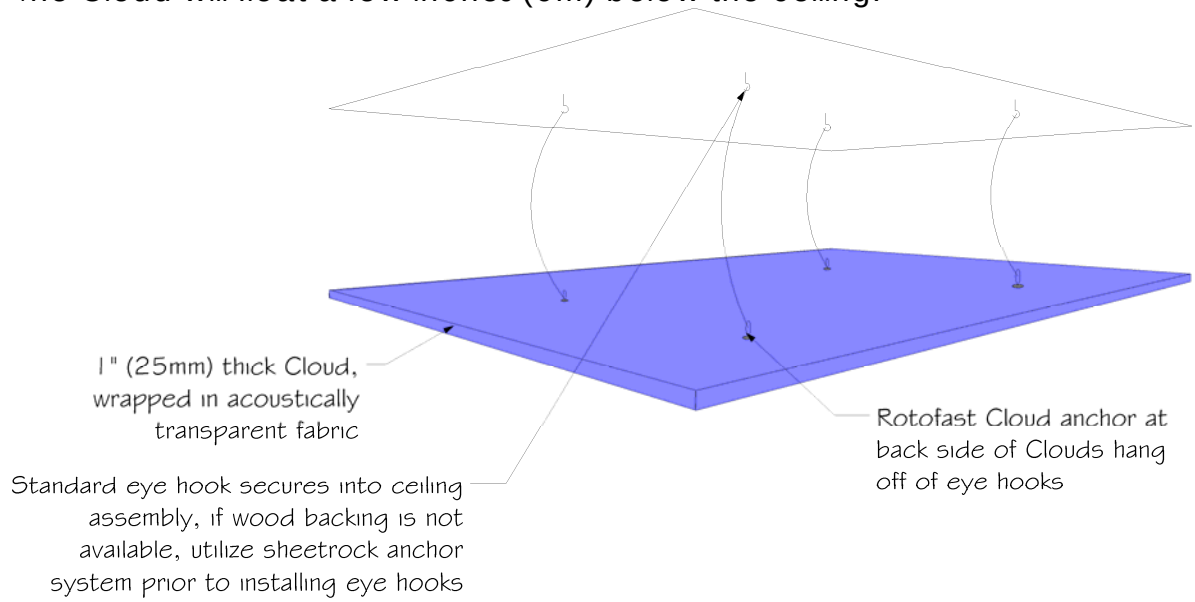
- Position the Diffuser Modules based on the diagrams and instructions from the preceding pages.
- Determine the exact location on the wall for each Diffuser Module. They are usually placed in vertical pairs.
    - For the left and right walls, the top edge of the top module should be 72 inches (183cm) from the floor. The bottom edge of the bottom module should be about 24 inches (60cm) from the floor. The middle of the panel pair should line up with the first reflection point as marked on the wall.
    - For the back wall, the top edge of the top module should usually be 78 inches (198cm) from the floor, putting the bottom edge of the bottom module at 30 inches (76cm)
- Attach one mounting bracket to the wall per Diffuser Module using screws into studs, wallboard inserts and screws, or other appropriate fasteners. The thin flange of the mounting bracket should point toward the ceiling (see section view diagram). The lower edge of the top bracket is 3 1/8 inches (8cm) down from the top of the module.
- Lift the Diffuser Module up and over the mounting bracket and drop it into the recess on the back of the module, applying gentle downward pressure until the module is caught securely. Note that the Diffuser Module will travel down about 1/4 inch (6mm) from where it started. Use a bubble or laser level to make sure the Diffuser Module hangs straight.

Clouds

- Clouds are hung using Eye Hooks. You will need to supply a total of 4 screw eye hooks per module (not included).
- Position the Clouds based on the diagrams and instructions from the preceding pages, or as supplied by your acoustical consultant.
- Mark the first reflection points as described earlier.
- Determine the exact location on the ceiling for each Cloud. The center of each module should line up with one of the first reflection points as marked on the ceiling.
- Screw 4 Rotofast Anchors into the back of the module. The Anchors should go 4 inches (10 cm) inside each corner of the Cloud to avoid interfering with the edge of the fabric wrap.



- Install the drywall anchors (if necessary) and screw eye hooks into the ceiling. Make sure that you secure the eye hooks in joists or use wallboard inserts.
- Suspend the Cloud by looping the Rotofast Anchors to the screw eye hooks.
- The Cloud will float a few inches (cm) below the ceiling.



Care Instructions

The fabric surfaces may be cleaned with mild, water-free solvents or water-based cleaning agents or foam. The wood surfaces may be cleaned with a lightly dampened cloth, or will oil soap.

Spares

If any mounting hardware, module parts, or extra printed material are needed, please call MSR.

Shipping Weight & Dimensions

Domestic (U.S.A)

Item	Units	Weight (lbs)	Box Dimensions (in)		
	Per Box	Per Box	L	W	H
P-Fuser	1	22	25	6	25
C-Fuser	1	22	25	6	25
Absorber	1	51	52	28	6
Bass Filter	1	56	52	28	6
Corner Bass Filter	1	56	52	28	6
Cloud	4	51	52	28	6

International

Item	Units	Weight (Kg)	Box Dimensions (cm)		
	Per Box	Per Box	L	W	H
P-Fuser	1	10	64	16	64
C-Fuser	1	10	64	16	64
Absorber	2	23	132	72	16
Bass Filter	2	26	132	72	16
Corner Bass Filter	2	26	132	72	16
Cloud	4	23	132	72	16

Warranty

All Dimension4 Symphony2 modules are warrantied to be free of manufacturing defects for a period of 12 months from the date of purchase.

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