

Corner Bass Trap™



*The First Membrane Corner
Bass Trap From The Acoustical
Industry's Leading Innovator*

Small rooms often exhibit poor low frequency response with significant emphasis at modal resonances. They also have limited space to make acoustical improvements. Porous surface absorption is ineffective at these modal frequencies because the air motion near walls and in corners is essentially zero for these long wavelengths. RPG® solved this dilemma by developing a unique membrane system that converts the high sound pressure fluctuations typically found in corners into selective absorption in the modal frequency range.



The Sound of Innovation

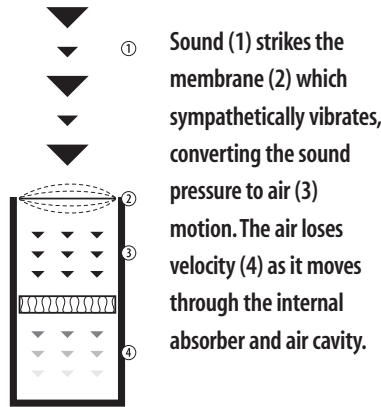
Problem and Solution

Problem

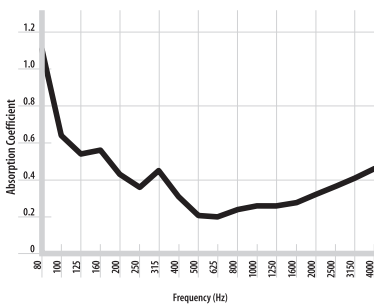
Small rooms like Project Studios often suffer from low frequency modal problems. Absorption at these frequencies requires a high absorption efficiency and significant surface area. Since small rooms do not offer the needed space, the absorption efficiency must be optimized.

Solution

RPG® solved this problem by optimizing the absorption efficiency using a unique internally damped membrane absorber that provides ideal absorption in the modal frequency range. Now you absorb more bass in less space!

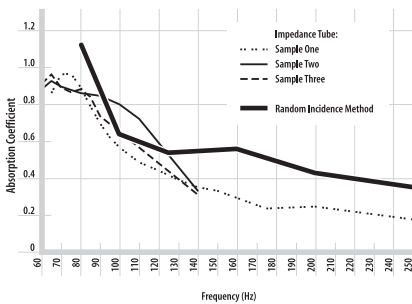


Performance Specifications



◀ Absorption

Surface or corner applied porous materials lose efficiency at low frequencies, because the particle velocity or air movement associated with long wavelengths is low. The sound pressure, conversely, is at its maximum. The internally damped membrane in the Corner Bass Trap exploits this high pressure by converting the pressure fluctuations into air motion. As the membrane sympathetically vibrates over a selective low frequency range, determined by its mass and stiffness, it pushes air through an internal porous layer producing low frequency absorption. This innovative approach makes it possible for the Corner Bass Trap to absorb the fundamental and higher harmonic modes that are often problematic in small rooms.



Impedance Tube Testing ▲

Random Incidence absorption coefficient testing has been standardized by ASTM using the C423 reverberation room method. The frequency range is 125 Hz to 4,000 Hz. In the United States, most NVLAP certified reverberation chambers are not accurate below 100 Hz. Therefore, RPG® also measures its bass traps in compliance with ASTM C384 using a 2' x 2' impedance tube which is accurate down to 60 Hz. The graph illustrates the plane wave impedance tube absorption coefficients for three different samples of the Corner Bass Trap. The random incidence absorption coefficient for 72ft² or 18 Corner Bass Traps in a Type A mounting on the floor of the chamber is also shown. The compliance (reciprocal of stiffness) of each Corner Bass Trap membrane is deliberately made slightly different to randomly distribute the resonance frequency over roughly a 10 Hz frequency range. This is evident in the graph by the fact that Sample 1 is about 7 Hz higher than Samples 2 and 3. The plane wave impedance tube data support the general low frequency absorption characteristic of the random incidence data and also indicate the resonance maxima. RPG® has also developed an in-house transfer function measurement system to verify the resonance maxima of its low frequency membrane absorbers.

Installation

The Corner Bass Trap can be mounted in any 90° corner between two walls or a wall and a ceiling. It can be attached directly to the surfaces using the supplied hook and loop or metal screw fasteners. If there is no 90° corner available, or if the corner is not suitable, the Corner Bass Trap can be stacked in a free standing configuration.

FEATURES

- Pressure zone membrane absorber
- Corner mounting
- High bass absorption efficiency
- Stackable
- Wall or free standing mounting
- Lightweight
- Portable
- Modular

BENEFITS

- The proprietary internally damped membrane converts any available corner into a highly absorptive low frequency absorber
- The Corner Bass Trap provides useful low frequency absorption in wall-wall and wall-ceiling corners that are often unused and available for acoustical treatment
- Corner mounting means you will not have to sacrifice space for equipment
- The Corner Bass Trap is modular and more can be added as needed. The modules simply stack on top of one another and offer unlimited opportunity for experimentation and modification
- If a 90° corner is not available or if the existing corners in the room are not right angles, the Corner Bass Trap can be installed as a stackable free standing column
- The lightweight and portable Corner Bass Trap can be shuttled between rooms and venues as needed

APPLICATIONS

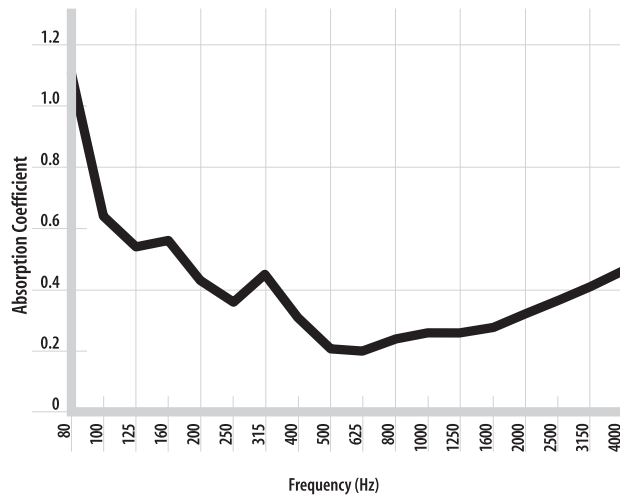
All critical listening rooms, including recording studios, broadcast studios, vocal booths, home theaters, quality control rooms, CD mastering, film mix and dubbing stages, and music practice rooms

SPECIFICATIONS

- Size:
23-5/8" (H) x 23-5/8" (W) x 12-1/4" (D)
- Extends 17" from the corner along the mounting wall
- Weight: 15 lbs.
- Shipping weight: Quantity 2: 40 lbs.
- Standard fabric: Guilford of Maine FR701 #298
- Custom fabrics available
- Free standing spacers included

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Absorption Coefficients



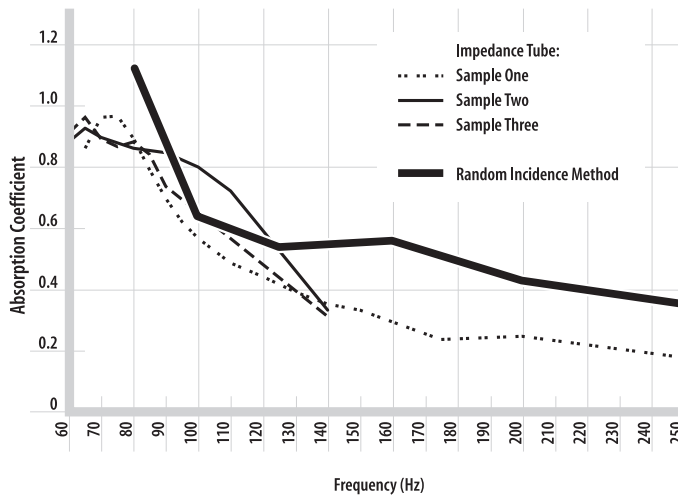
Hz	Absorption Coefficient
80	1.12
100	0.64
125	0.54
160	0.56
200	0.43
250	0.36
315	0.45
400	0.31
500	0.21
630	0.20
800	0.24
1000	0.26
1250	0.26
1600	0.28
2000	0.32
2500	0.37
3150	0.41
4000	0.46



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Impedance Tube Testing



Hz	Sample One	Sample Two	Sample Three	Random Incidence Method
60		0.88	0.91	
65	0.86	0.93	0.96	
70	0.96	0.90	0.89	
75	0.97		0.87	
80	0.89	0.86	0.88	1.12
85	0.79		0.84	
90	0.70	0.85	0.74	
95	0.62			
100	0.57	0.80		0.64
110	0.49	0.72		
120	0.44			
125				0.54
130	0.39			
140	0.35	0.33	0.31	
150	0.33			
160				0.56
175	0.24			
200	0.25			0.43
250	0.18			0.36



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