# HighTones
## DIFFUSERS

HIGHTONES DIFFUSERS COMBINE THE BEAUTY OF NATURAL WOOD WITH THE SCIENCE OF QUADRATIC THEORY TO CREATE SOUND DIFFUSING WALL FINISHES THAT PRODUCE A SUPERIOR ACOUSTIC ENVIRONMENT.

Acoustical reflection is often desirable in critical listening environments versus the absorption and deadening of sound energy. Higher frequency sound reinforcement through early reflections off of the walls adds brilliance to music and improves speech intelligibility. Higher frequency sound is easily absorbed by common materials such as curtains, fabric covered chairs, and people's clothing. Designing the room to create a scattering of high frequency sound reflections across the listening space is preferable and often required to prevent unwanted flutter echo.

**HighTones Wood Diffusers** are manufactured from 4" wide hardwood planks that are grooved in a sequence of sound scattering wells of varying depths. The planks are installed side by side so the sequence of wells repeats itself across a wide area.



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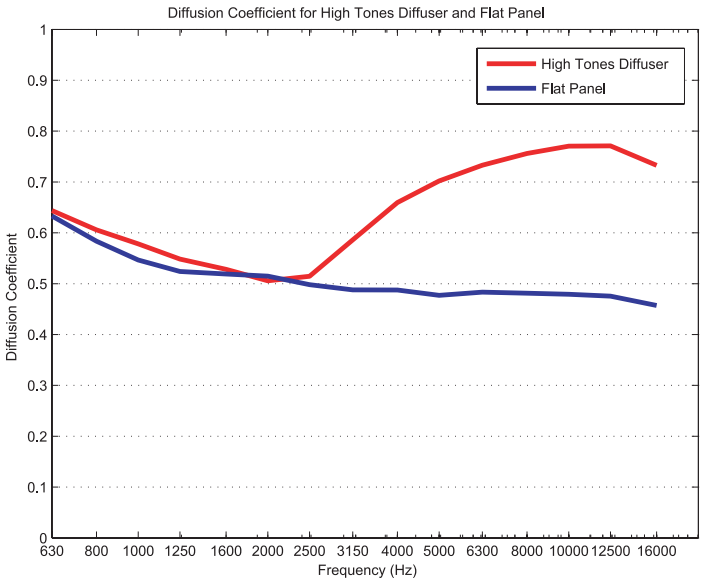
# HighTones / Diffusers

## DESCRIPTION

- Hardwood diffuser used to produce a diffuse scattering of high frequency sound and control unwanted flutter echo
- Grooved channels in the surface are a sequence of 7 elevations based on quadratic theory and the work of German acoustician M.R. Schroeder
- Optional slotted back for adding sound absorption
- 4" wide in varying lengths
- Typical length is a maximum 96" depending on the wood species selected
- Custom shapes available

## ACOUSTICAL PERFORMANCE

Unlike sound absorption testing (ASTM C423) and sound transmission control testing (ASTM E90), a test for sound diffusion does not exist in the American Society for Testing of Materials (ASTM) standards. The Audio Engineering Society has documented a test for diffusion characteristics. This information document, AES-4id2001, was used to test HighTones Diffusers. The results indicate that sound diffusion begins to occur at approximately 3150 Hz and continues in higher frequencies throughout the audible spectrum.




## COMPOSITION

- 1" thick hardwood (type and finish selected by designer)

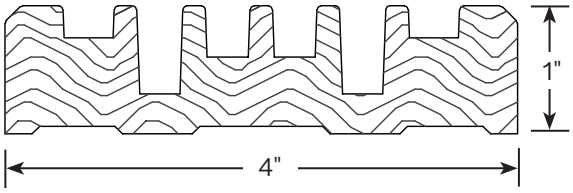
## APPLICATIONS

- Auditoriums
- Lecture Halls
- Music performance and rehearsal spaces
- Any critical listening environment that requires high frequency clarity and acoustical brilliance without unwanted flutter echo

## MOUNTING

- Attach with finish nails into wood furring behind each panel

## CROSS SECTION




**Wood Notes**: The beauty of wood is that it varies in color, grain pattern, and overall appearance and texture. Wood products are hydroscopic and therefore will shrink and expand with changes in humidity.

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