

## THE QUADRATIC DIFFUSER

Acoustics First<sup>®</sup> Quadratic Diffusers (Model Q) provide balanced sound throughout a performance space and help reduce excessive sound concentration or “hot spots”. A true Quadratic Residue Diffuser is designed so that the reflected sound waves are harmonically dissociated from the source waves and spread over time to create a more neutral listening space.

Borrowing a feature from the patented Art Diffusor<sup>®</sup> design, the well bottoms of the Acoustics First<sup>®</sup> Quadratics are angled at 10 – degrees to extend the unit’s range and scatter higher frequencies that would otherwise reflect in a straight line-of-sight path, back into the room.

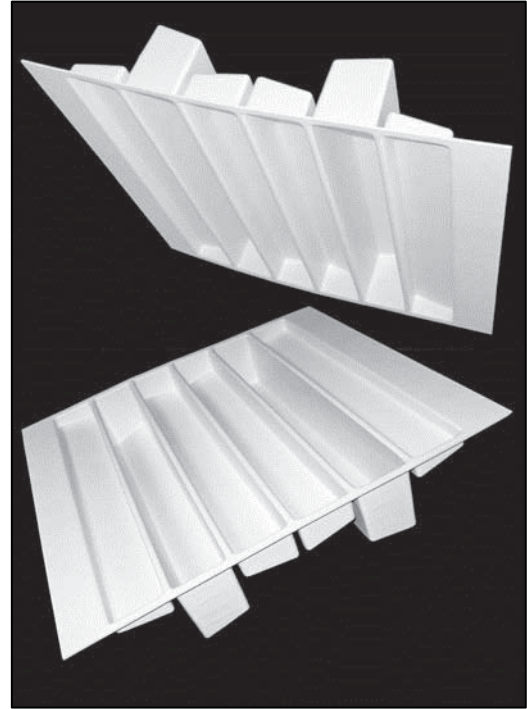
### CONSTRUCTION:

**Model Q:** 1 Dimensional / Quadratic Residue Diffuser  
**Size:** 23-5/8 x 23-5/8”  
**Depth:** 4”  
**Weight:** 3.75 pounds  
**Mount:** Drop into T-Bar grid or wall recessed.  
**Material:** Thermoplastic (White)  
**Bandwidth:** 600 Hz to 4 kHz  
**Fire Rating:** Class 1 (A) per ASTM E84  
**NRC:** 0.30

### Installation:

Quadratic Diffuser Ceiling Panels may be installed into heavy-duty 15/16" face lay-in ceiling grid systems. They may be flush-mounted recessed, or installed on a wall surface with suitable surrounding trim.

Although it is a one-dimensional diffuser and produces a directional hemispheric polar response, the units may be oriented in any direction and, by alternating 90 degree rotation, will provide two-dimensional diffusion outside of the near field.



**Applications:** Recording & Broadcast Studios · Live Music Venues · Practice/Rehearsal Rooms · Theaters & Auditoriums · Houses of Worship · Home Entertainment Rooms & more!

The Quadratic Diffuser – Performance							
Test	125 Hz	250 Hz	500Hz	1000 Hz	2000 Hz	4000 Hz	NRC
Type E400	0.35	0.40	0.45	0.30	0.14	0.19	0.30
Type E400 w/insulation	0.38	0.39	0.45	0.31	0.13	0.16	0.30

*\*Note: Diffusion data available upon request*