



## ORTHODOX WORSHIP

# YOUNG ISRAEL

New 550-seat worship auditorium serves as an orthodox schul and offers a pristine natural acoustic setting where all of the speech is unamplified yet is intelligible to over 500 people. Unlike conventional approaches that utilize audio systems to assure that all congregants hear services, special attention was required for various design elements for ceiling design, the center bima and achieving low background noise levels from heating, ventilation and air conditioning (HVAC) systems.

The ceiling design serves a very important acoustical function and carries equal importance in supporting the visual aesthetics design of the Sanctuary interior. Strong collaboration between acousticians and the architectural team achieved appropriate shaping which helps direct sound energy to the worshipers in a way in which spoken words can wash over the congregation and be intelligible. Visually, people feel part of something larger than themselves and acoustically are connected with worship leaders, each other and a greater presence. Speech amplification is accomplished by a large Plexiglas element suspended above the center bima where the speaker is facing forward with his back to a majority of the congregation. The Plexiglas panel helps capture the words and, essentially, reflect them towards the congregation.

The absence of noise from HVAC systems is another key ingredient for strong natural acoustic environments. Particularly in a large room with no sound reinforcement, low background noise is essential for supporting intelligibility of the spoken word. Through strong collaboration between the acoustics consultant and mechanical engineer with input from the architect, a solution was devised to incorporate HVAC elements in the ceiling design. Supply air outlets were integrated into the ceiling. This open-ended duct distribution system blows air out horizontally for the needed air distribution throughout the room to assure the physical comfort of congregation members but also does so with a minimal audible impact on the people seated in the congregation.

### CLIENT

Young Israel of Greater Cleveland

### LOCATION

Beachwood, OH

### PROJECT TYPE

New Construction

### COMPLETE

2003

### COST

\$2.5 M

### SEAT COUNT

550

### ARCHITECT

G. Herschman

### CONTACT

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### SCOPE

Acoustics