

Bold architectural lighting adds luminosity to Zankel Hall.

# UNDERGROUND GLOW

By Vilma Barr

A welcome addition to New York City's cultural scene, Judy and Arthur Zankel Hall opened on September 12, 2003. Nestled beneath the world-famous Carnegie Hall, this new recital space, clad in sycamore wood, was designed by Polshek Partnership Architects LLP. Auerbach•Glasow, a San Francisco-based lighting design and consulting company, handled the architectural lighting, with the New York/San Francisco-based firm of Auerbach•Pollock•Friedlander serving as theater consultants.

Back in 1891, when Carnegie Hall first opened its doors, there was a mid-size recital hall in the underground space. Over the past 113 years, this room has had various incarnations, most recently as a movie theater. To enlarge and return the space to its original intent, the solution was to blast out the bedrock beneath the building that houses Carnegie Hall.

The result was the creation of Zankel Hall, named in honor of Carnegie Hall vice chairman Arthur Zankel and his wife, Judy, who donated the \$72 million needed for the construction. The new auditorium is flexible – the number of seats varies depending upon its configuration (644 maximum capacity). An elliptical wall encircles the space, separating the lobby areas from the audience chamber.

From the entry lobby (illuminated with recessed pinhole MR16s from Prescolite), the lower level of Zankel Hall is accessed via elevator or escalators leading to the mezzanine and

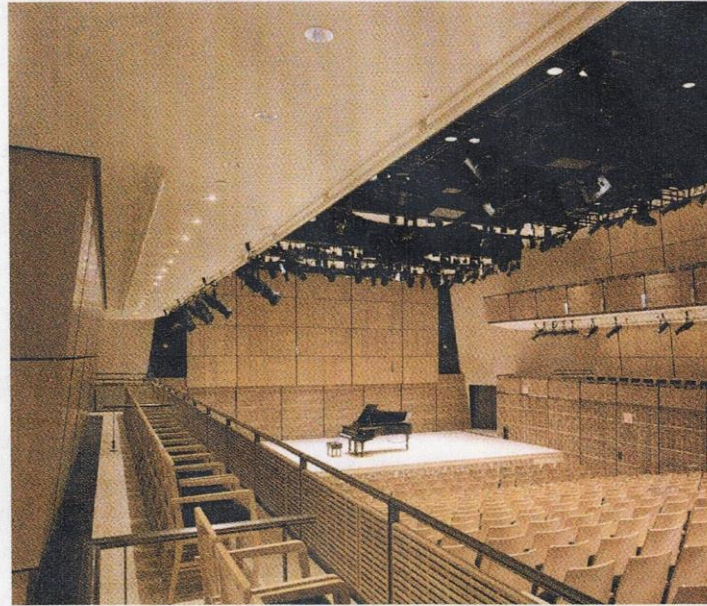


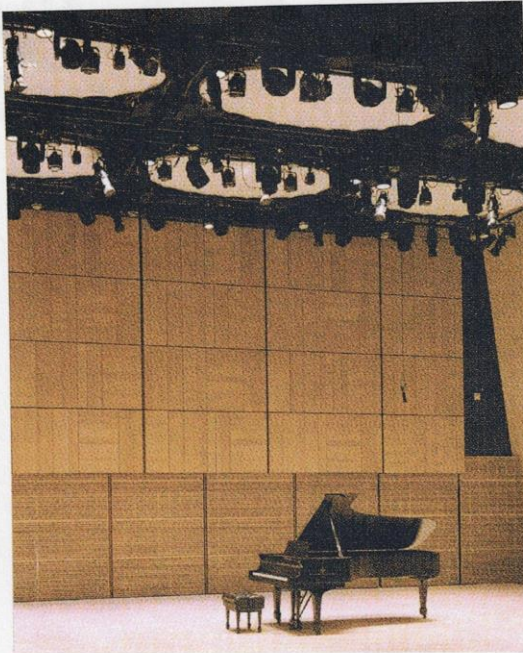
PHOTO CREDIT: JUDY AND ARTHUR ZANKEL HALL, CARNEGIE HALL. © 2003 JEFF GOLD



parterre lobbies. On the escalator, visitors are greeted by a wall that glows from a dimmable T8 fluorescent fixture. A technique is used that embeds custom frosted glass lenses

Top: A view from the parterre box.  
Below: The theater as seen from the stage.





Stage detail.

into finely detailed wood that is then enclosed within a specially designed box. "We had a lot of conversation with the architects about the translucency and finish of the glass," says Larry French, senior design principal with Auerbach•Glasow. A clear glass known generically as "water white" (no green tint to the glass) with added texture for an even appearance was selected.

Opposite the escalator is a double-height illuminated glass wall that offers even more luminosity to both levels of the lobby. The panels are backlit with TIR Light Pipe and illuminated from the bottom using ETC Source Four® theatrical fixtures. "Re-lamping and maintenance of the Source Fours is done through an access hatch at the bottom of the wall," French explains.

"There were two main challenges to lighting the lobbies," he adds. "The first is that this is a subterranean space. And since it was carved out of city bedrock, the space between the floors is very compact." This restricted overhead space meant that French had little or no ceiling depth anywhere in the lower lobbies to accommodate

Right: End stage configuration.

recessed fixtures. "We had to think of light coming from other places. In fact, much of the lighting comes from the walls themselves. And because the light seems to surround the visitors, it offsets the perception that they are actually below street level," he notes.

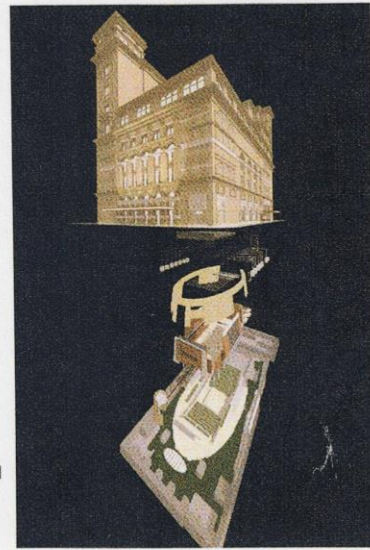
The heart of Zankel Hall is the Judith Aron Auditorium, named for the late executive director of Carnegie Hall. It is a column-free space with a sophisticated system of lifts and chair wagon platforms that offers the option of a traditional end-stage, mid-stage, or flat-floor configuration. A series of movable lighting trusses overhead allows

access and flexibility to both stage and house lighting. General distribution is accomplished by T4 incandescent downlights from Kurt Versen, mounted in the trusses and dimmed in selected groups to allow variation for the many stage and floor formations.

A secondary system of Versen PAR38 metal halide fixtures, also truss-mounted, is used for rehearsal and general work lighting. The warm wood walls at the rear and sides of the balcony and side

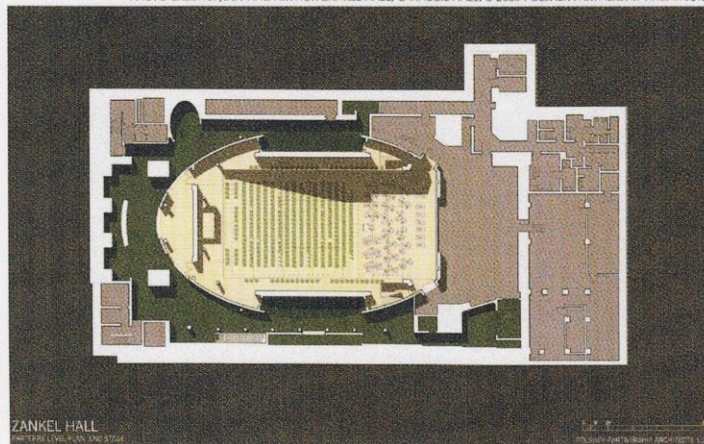
seating areas are washed by recessed MR16s – the same technique was employed for ambient lighting above and below the balconies.

Decorative custom-fabricated sconces by Shaper Lighting sparkle along the balcony fronts. Their rectangular glass fins are edge-lit by dimmable, white LEDs from Osram Sylvania. "We wanted to create something very small and delicate with glass fins that appear to glow mysteriously, so the viewer doesn't really know how the light got in there. The source is actually



Axonometric.

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an LED on a piece of flexible circuit board backing," French explains. "An interesting part of the detailing is how the glass fins are designed to come out of the fixture when the LEDs need replacing sometime in the future," he adds.

The theatrical lighting system is hung on trusses in plain view of the audience, with black fixtures that provide contrast to the blond wood interior.

Lighting designer Alan Adelman, who has frequently worked at Carnegie Hall, served as a consultant for the project. He was involved in the design of a flexible lighting system that can be adapted to a wide range of musical performances.

Included in the theatrical lighting package are more than 100 ETC Source Four® ellipsoidals, three of which are mounted in City Theatrical's AutoYokes® with Autolris. For stage effects, the designers specified one dozen L&E MiniStrips, two Robert Juliat IVANHOE followspots with DMX control, and two ETC Portable Two Port Net2 Ethernet Nodes to augment the existing lighting control system.

In addition, there are automated lighting fixtures: a rig of VARI-LITE® luminaires including 15 VL1000 ellipsoidal reflector spotlights with tungsten lamps and shutters as well as 27 VL5B fixtures.

All of the lighting circuits are on a central dimming system that includes ETC Sensor dimmers and an ETC Unison processor. The system – located in an architectural dimmer room tucked beneath a stairway – is hooked into the theatrical lighting system, which also features ETC dimming and control.

Zankel Hall has received excellent reviews for its innovative theatrical presentations as well as its architecture and lighting. "Its flexibility and advanced technology will allow us to stretch existing boundaries," says Robert Harth, who is Carnegie Hall's executive and artistic director. "In many ways, Zankel Hall is the physical embodiment of our programmatic vision for the future."

## RESOURCES

Project: Judy and Arthur Zankel Hall at Carnegie Hall  
Location: New York City  
Architecture: Polshek Partnership Architects LLP, New York City  
James Stewart Polshek, FAIA, design partner; Richard M. Olcott, FAIA, design partner; Joseph L. Fleischer, FAIA, management partner  
Acoustics: Jaffe Holden Acoustics, Inc., Norwalk, Conn., Christopher Jaffe, principal  
Mechanical/Electrical: Flack & Kurtz Consulting Engineers, New York City  
Structural: Robert Silman and Associates, PC, New York City  
Construction Manager: Tishman Construction Corp., New York City

### Lighting Design

Theater: Auerbach•Pollock•Friedlander, New York and San Francisco  
Architectural: Auerbach•Glasow, San Francisco  
Len Auerbach, IALD, LC, senior design principal; Larry French, principal in charge and principal designer, IALD, LC; Grace Gavin, associate systems coordinator

### Theater House Lighting

Custom decorative sconces: Shaper Lighting, with LEDs and dimmable drivers by Osram Sylvania

### Downlights

T4 halogen cylinder downlights: Kurt Versen  
MR16 low-voltage downlights: Prescolite

### Worklights

Ceramic metal halide downlights: Kurt Versen

### Back-of-House Theater Lighting

#### Dressing Rooms

Incandescent downlights with decorative glass: Louis Poulsen  
Incandescent mirror strip lights: Starfire  
Incandescent Fresnel lens shower lights: Lightolier

#### Control Booth

Recessed 2-circuit track with MR16 low voltage cylinder heads: Lightolier  
Compact fluorescent downlights: Kurt Versen

### Architectural Lighting

#### Lobbies

Decorative custom light pipe system: TIR Systems, utilizing ETC Source Four® ellipsoidal spotlights  
Low-voltage picture lights: Nessen

#### Downlights and Accent Lighting

Custom incandescent cove wall grazing system: Edison Price  
Custom trough MR16 low-voltage track system: Litelab  
MR16 low-voltage downlights, eyelid wall washers, and pinholes: Prescolite

#### Linear Sources

Fluorescent striplights: Crownlite, with Hi-lume dimmable ballasts by Lutron  
Low-voltage xenon strip lights: Starfire

#### Public Restrooms

Fluorescent linear uplights: Lightolier  
Staggered fluorescent strip lights: Starfire

### Façade

Recessed incandescent downlights: Kurt Versen  
Asymmetric throw halogen uplights: Insight  
Incandescent marquee lights: Starfire

Photography: Jeff Goldberg/Esto