

Paramount Importance: The 1932 Paramount Theatre In Boston Finds New Splendor

By Ellen Lampert-Greaux

Romantic is the notion of renovating a vintage movie palace, its walls reverberating with images of stars from the past and the voices of the greats.

In reality, such a project can be challenging for the architects, consultants, and acousticians, as they face these ghosts of the past in order to create a technically modern theatre. A case in point is The Paramount Theatre in Boston, renovated as part of the Emerson College Paramount Center and its performing arts campus. Five years in the making, The Paramount opened last winter, and 2010-11 is its first official season.

"The whole building was in disrepair after being empty for many years," says Steven Friedlander, principal-in-charge at Auerbach Pollock Friedlander (APF) for the Emerson College Paramount Center and the firm's New York office. "Very little historic fabric was intact. Some of the reliefs remained, but most of the murals were damaged and falling off." Donald Guyton, senior associate in the New York office, who served as project manager, adds, "Elkus Manfredi Architects did extensive research into the original building, which opened in 1932, and other Paramount Theatres across the country from the same era."

For Elkus Manfredi, Howard Elkus was the partner-in-charge, Ross Cameron was the project architect, and Robert Koup was the design architect through design development. This is the second historic renovation project for this team at Emerson College. The first was the Cutler Majestic Theatre, just a few blocks away. "The college is committed to developing its downtown campus, and the Paramount property was perfectly located near its other facilities," notes Cameron. "The college is using both theatres as the base for a performance series designed to attract artists that would otherwise not be able to perform in Boston."

This time, one of the biggest challenges was redefining the shape of the room. "The original Paramount Theatre was a fairly narrow room and could not be expanded beyond the original footprint, requiring a creative approach to the stage and audience area design," says Friedlander. Major changes were required to convert the original 1,700-seat movie theatre into a 596-seat proscenium theatre. The new seats

by Irwin Seating Company (Rialto with Cascade end standards) are upholstered in a Dijon-mustard tone in keeping with the warm look of the room.

"In order to provide a stage with appropriate depth and fly loft-height for live performances, the original stage area was demolished, and the new stage was expanded toward the house," Friedlander points out. "The balcony and rear of the theatre were reconfigured to improve sightlines, and the proscenium zone, including cheek walls and forestage ceiling, was rebuilt to join the remaining side walls and ceiling of the house."

ACOUSTICS

Robert Berens, supervisory consultant for **Acentech**, based in Cambridge, MA, notes that the main acoustical challenge was the room's geometry, since it was originally very long with a shallow stage. "When the stage was pulled forward into the house to create full stage house and orchestra pit, the volume of the room changed, and the front-to-back dimensions changed, but not the side-to-side or floor-to-ceiling distances," he says. "The room is much more intimate now."

A large, open grillwork—called "the fan"—that was flat to the ceiling in the original theatre has been brought down as far as possible and canted to serve as an acoustic eyebrow over the proscenium and provide reinforcement for natural voices. "We would have dropped it even further, but there were many historical considerations," says Berens. "This was a historically informed renovation, not an actual restoration. We met early on with Auerbach Pollock Friedlander to discuss the architectural desires and constraints of the project. For



the architects and consultants, the issue was how to carve out pilasters with false fronts for the speakers. Their flexibility was limited due to the historic renovation aspects.”

Berens discovered that the building was so far gone that it was hard to tell what the acoustics were like originally. “In the renovation, we focused more on the natural spoken voice for theatrical, not musical, productions and a lot of modeling on the electro-acoustics in the theatre, for both the natural and amplified speaking voice,” explains Berens, who uses CATT-Acoustic, an architectural acoustics program, for modeling and ray tracing. “We played with the balcony fronts to avoid both slap back from the stage to the balcony front and from the center cluster back to the stage. There are hard surfaces all the way around, less reverberant with a full house. The people act as absorbers. With such a big, high volume, we didn’t want to fuzz up the side walls; we knew the audience would provide enough absorption.”

Once the decorative proscenium arch was reconstructed and the art deco recreated, the central cluster couldn’t dangle in front of the artwork on the proscenium. The coordination of where the speakers are hung was between APF and the architects, who provided data to fit the cluster into the acoustic model of the room. “As a result, the cluster is very high up,” says Berens, “and when not needed, it can be retracted behind ‘the fan’ and pretty much disappears.”

The theatre is part of Emerson’s Paramount Center, which includes the old adjoining Arcade building (its façade was kept; the rest is new steel from the ground up). “The complex includes a beautiful new black box, film screening room, dorms, sound production facilities, rehearsal spaces, and a nice gem of a theatre as part of the deal,” says Berens.

The biggest challenge for Berens was the issue of sound isolation. “All these spaces are right next to each other—set shops, sound stages, rehearsal spaces, restaurant, dorms—so there are floating floors and double wall construction where possible,” he points out. “Fortunately The Paramount is pretty much a standalone, although we couldn’t isolate it from the subway noise. The theatre is pretty far from the sidewalk, which helps shield it. You hear the subway more in the black box.”

ADDING NEW TECHNOLOGY

“The configuration of the side box seating areas allows the balcony rail lighting position to seem recessed into the curve at the front of the balcony,” says Guyton. “The rail is not fully enclosed, but there is an architectural shelf on the orchestra level that technicians can stand and work on. It is large enough to shield lighting, sound, cameras, monitors,

etc. from the view of orchestra level audience members.” High Output in Canton, MA supplied the new ETC lighting system, including an ETC Ion 2000 console and a 2x20 fader wing, 166 ETC 2.4kW Sensor+ dimmers, Pathway Connectivity DMX repeaters, Linksys Ethernet switches, and Union Connector company switches.

Lighting positions were integrated into the large crown molding at the rear corners of the house, and ceiling lighting ports were coordinated to work with the design of the ceiling mural. Front fill speakers were integrated into the design of the architecture of the permanent orchestra pit rail. Box booms, exposed on the side walls, are located in the least obtrusive places and painted to blend with the pilasters. These positions also have concealed fall protection systems built into their structure in the attic above. The proscenium valance was recreated directly from photographs of the original.

“The original stage house was demolished and replaced in order to utilize the maximum footprint available, increase the height, and achieve the structural requirements for contemporary theatre use,” explains Guyton. “While we were unable to expand the original footprint of the theatre, and the wing space on stage right is limited, the new fly tower height is excellent. A trap room with a stage floor trap system was added to create small and large openings for stage effects.”

In order to address the challenges of working within the footprint of the original theatre while coordinating the new stage with other program elements in the building and keeping within the college’s budget, both manual counterweight and motorized variable speed rigging sets were installed. “This arrangement complements the college’s pedagogical needs, providing students with the opportunity to learn a variety of rigging techniques and systems,” notes Friedlander.

A total of 15 motorized, variable-speed Vortek hoists from Daktronics, designed with various weight capacities and speeds, meet various needs. The house curtain can operate at 120’ per minute, and the dedicated first electric batten has a much higher weight capacity than the other hoist sets. There are 27 manual counterweight line sets, as well as a traditional pin rail for hemp rigging and cable management. SECOA provided the rigging as well as a 1,000lb.-capacity main loudspeaker hoist, a Vortek hoist for the main drape, and a Vortek 2,000lb.-capacity hoist for the first electric.

“The Paramount Center audio-video system includes sound reinforcement and effects playback, assistive listening for the hearing impaired, production intercom, modulated and production video, film and digital projection, and show program monitor/paging/audience recall systems,” explains Daniel Mei, sound, video, and communications system designer for the

Paramount project and a senior associate in APF's New York office. "The main goals were to ensure that the technology did not compete with the architectural design or historic elements and for each system to be simple enough for students to operate but still sophisticated enough to meet the needs of Emerson's technical staff and touring show requirements."

Loudspeakers are integrated into the architecture and either motorized for storage above the ceiling or hidden within the proscenium wall and front edge of the stage. Steerable column loudspeakers and small subwoofers within the proscenium wall provide coverage for speech and basic pre-recorded music playback. A traditional motorized center array can be lowered into the theatre to supplement the column loudspeakers for more demanding full-range music applications. Additional infrastructure allows left-right side loudspeaker arrays to be brought in by touring productions or added in the future.

An extensive wiring infrastructure within each performance space allows multiple audio, video, and control signals to be routed from the stage to multiple sound mix and stage management positions. Tie-lines are provided between each of three performance spaces to accommodate multi-venue productions and for smaller spaces to be used as patron overflow or to support space for larger shows in the Paramount. "It was also important for the video and communication systems to provide the capability to tie all three spaces together to meet expanding back-of-house communication and production management needs to allow the users to monitor intercom, program audio, paging, and video feeds between any of the performance spaces," says Mei.

The loudspeaker systems were modeled using the EASE software platform. "Once the room was modeled and loudspeaker positions were selected, we could identify potential issues with audience coverage and aiming and make the necessary adjustments for the acoustician to evaluate," Mei explains. The sound system includes Renkus-Heinz Iconyx IC-24A digitally steerable column loudspeakers; a Meyer Sound CQ-1 and CQ-2 center cluster array; Meyer Sound UMS-1P subwoofers; Meyer Sound MM-4 stage edge system; a MediaMatrix Nion N6 with CAB-4N signal processing; and QSC RMX-850 and RMX-2450 power amplifiers.

The wiring infrastructure throughout the Paramount Center provides fiber optic and CAT6 cabling runs to key locations within each venue. This allows for connection of current and future technologies and formats via proper signal conversion boxes. Empty conduit trunks are routed between the equipment rack rooms, control rooms, and stage areas to allow

additional cabling to be pulled in the future, if required.

HISTORIC PRESERVATION

Friedlander notes that the importance of preservation and finding suitable ways to reuse historic theatres is, well, paramount. "These buildings provide a strong sense of permanence within our cities, and their continued use helps knit communities together," he says. "It is clear that audiences do appreciate the historic aspects of these buildings, which often engender an added sense of memorable importance to the performance. When seeing the renovated Paramount, older patrons have remarked about their wonderful memories of visits to the theatre when it was a movie house."

He adds that sensitivity to the historic nature of these projects is only half the work. "In order to support modern productions, a theatre must have modern theatrical systems and appropriate structural and electrical infrastructure to support them," he says. "This work includes development of efficient load-in solutions and appropriate patron amenities, both of which can be challenging within the context of a historic building. It is essential that we work closely with the architect and local preservation officials to incorporate the appropriate technology for modern theatres. If we don't, we risk creating a historical theatre museum rather than a true living, breathing, and functioning theatre."

Paramount Theatre Gear

Theatrical Lighting System

Provided by High Output, Inc.

- 2 ETC Sensor SR48+ dimmer racks*:
 - 2 ETC Sensor CEM+ control electronics modules
 - 166 ETC 2.4kW sensor dimmers
 - 1 24 ETC single pole DMX controlled relay panel (Controlling cue lights and work lights)
 - 1 ETC 24 circuit emergency lighting transfer system:
 - 1 ETC Unison architectural system (house and work lighting control)
 - 1 ETC 48-port custom Ethernet patch panel
 - 2 Linksys 24-port PoE gigabit Ethernet switches
 - 1 ETC 4-Port ACN/DMX/RDM Gateway with video remote
 - 1 Pathway Connectivity 6-port DMX Repeater
 - 1 Powerware Rack UPS Switch
 - 1 ETC Portable 11-way custom cue light system
 - 1 ETC Ion 2000 with 2x20 Fader wing
 - 1 ETC Radio focus remote transmitter and receiver
-

- 6 ETC 2-port portable DMX nodes (shared with black box theatre)
 - 2 Union Connector 400-Amp 3-phase company switches
- *Dimmer racks serve front-of-house positions and architectural lighting only. Onstage dimming is provided with portable touring dimmers. Power, conduit routes, and dimmer room area are provided to allow the installation of a permanent system.

Rigging System

Provided by SECOA, Inc.

- 26 SECOA 1,500lb. capacity counterweight linesets
- 1 Vortek 16,000lb. capacity motorized variable speed main drape
- 1 Vortek 2,000lb. capacity motorized electric
- 13 Vortek 1,600lb. capacity motorized variable speed linesets
- 1 SECOA 1,000lb. capacity main loudspeaker hoist
- 1 SECOA Fire Curtain
- 1 1-ton grid mounted chain hoist and trolley

Loudspeaker System

- Renkus-Heinz Iconyx IC-24A Digitally Steerable Column Loudspeakers
- Meyer Sound CQ-1, CQ-2 Center Loudspeaker Array
- Meyer Sound UMS-1P Subwoofers
- Meyer Sound MM-4 Stage Edge System
- Media Matrix Nion N6 with CAB-4N Signal Processing
- QSC RMX-850, RMX-2450 Power Amplifiers

Digital Mixing Console And Sound Playback Sources

- Yamaha M7CL-48 digital mixing console
- ADK Pro Audio DAW computer with Stage Research SFX sound playback software
- Layla audio interface
- Sonic Core A16 Ultra AD/DA converter
- Whirlwind 56-channel 1x3 onstage passive microphone splitter system
- Tannoy Reveal 5A digital console monitor loudspeakers
- Tascam CD-01U Pro player and CD-RW900 CD recorder

Wireless Microphone Systems:

- Shure UR4D receivers and UR1 bodypack transmitters
- Countryman E6iOW6TSL headworn microphones
- Shure UR2/Beta 58 handheld transmitters
- Active antenna system and accessories

Equipment Racks & Accessories:

- Middle Atlantic Equipment Racks
- CT Marketing flight cases
- ADC, Leviton and Hubbell copper and fiber patch bays
- Custom loudspeaker patch panel

Assistive Listening System for the Hearing Impaired:

- Sennheiser MKE-44P program monitor microphone
- Listen Technologies LT-800-216 wide-band wireless FM assistive listening system with antenna and Receivers

Production Intercom and Program Monitor/Paging/Audience Recall Systems

- Clear-Com RM-704 4-channel remote stations and PS-704 power supply
- Clear-Com HB-702 and HB-704 headset stations
- Clear-Com RS-601 and RS602 beltpacks with CC-95 headsets
- Clear-Com KB-702 and KB-701 portable stations with HS-6 handsets
- TOA MP-032B monitor panel
- Roland AR-200 message repeater
- QSC CX-602V power amplifiers
- JBL Control 26CT, Control 24CT, EAW SM53 program/page loudspeakers
- Atlas AT-35 volume controls
- Custom rolling stage manager's desk with production intercom, program video and cue light control stations
- Custom portable stage manager control stations
- Custom house manager control panel with lobby volume control and intercom station

Production Video System:

- Panasonic WV-CP480 color cameras with Panasonic and JVC lenses
- Cantronic Systems IR50M60 IR illuminator
- Burst Electronics SG-2 black burst generator
- Extron MDA-5V video distribution amps
- JVC SR-MV50US combo DVD/VHS recorder/player
- Extron System 7SC switcher with SCP-250 controller
- Extron MTP-T-15HD computer laptop input plates
- Marshall Electronics V-R82DP-2C stage manager desk and portable video monitors
- Tote Vision LCD-1411TR rack room video monitor
- Blonder-Tongue modulators, amplifiers, combiners and taps
- Canare video patch panels
- Harkness Translite Super 2 front-rear projection screen, 24'-10.75" W x 14'-0" H