



AV in Action

STELLAR AV

NEW SYSTEM ENHANCES THE LUNAR LAUNCH AT APOLLO/SATURN V CENTER

By AVT Staff

Few people get a chance to relive history, but visitors to the Apollo/Saturn V Center at Kennedy Space Center Visitor Complex have the opportunity to experience the tension and excitement of NASA's Apollo 8 lunar launch in the newly refurbished Firing Room Theater.

Electrosonic was contracted by executive producer MAYAD (My Design Inc.) of Orlando, Florida, to design the show control and AV equipment installation, integrate show systems between the control room and supplied lighting and effects systems, and program all new and existing show components.

Visitors to the 100,000 square-foot Apollo/Saturn V Center get an inside look at what it was like to be part of the Apollo firing room during the Dec. 21, 1968 countdown of the first manned vehicle to orbit the moon. The sense of being part of history commences in the bus entry area where Electrosonic

programmed a new countdown and messaging Reader Board that gives visitors information about show times and fun facts about space as music of the era plays on 14 Klipsch CA-525T speakers.

The pre-show film, documenting the struggles and triumphs of the space race, is displayed on a trio of 90x120 inch Da-Lite screens by three Christie LX505 video projectors; new audio gear includes 14 Contractor series 70-volt JBL speakers and four JBL AC2212 point source speakers. A large mural of Apollo 8 blasting off into space has been restored and lighting effects now dissolve clouds over the upper portion of the mural.

When the pre-show ends, the doors in front of the audience slowly open to reveal the Firing Room with streams of blue light slashing through banks of monitors.

The theater, which seats 400, simulates the final three-minute countdown sequence of the Apollo 8 launch. A stage recreates the actual Firing Room with chairs and jackets naming those companies present on the historic day. Large monitors and a countdown clock surround the stage.

A video narrator explains that the audience is about to witness the last minutes leading up to Apollo 8's historic lift off, the most-watched event of its time. Hundreds of colored buttons blink on the consoles recreating the status of the mission. Upper status

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The pre-show film, documenting the struggles and triumphs of the space race

board indicators are illuminated on either side of the audience to reveal Ground Station and rocket status. Three rear-projection screens in front of the audience, fed by three Christie DS+6K-M projectors, come to life with archival footage of the launch. Real audio of the countdown is heard over JBL AM 5215 and six JBL AC2212 point source speakers in the consoles and two EAW SP528 subwoofers synchronized to the clock. The newly added benches give the audience a special "butt-shaker" effect for the blast off.

When the main show concludes, the side doors silently open and visitors exit to the centerpiece of the attraction: a giant floor mounted Saturn V rocket spanning the entire length of the building.

Electrosonic was tasked with removing outdated control products for the Firing Room Theater that ran on discontinued and unsupported Windows platforms. The company installed a new control system integrating existing Allen Bradley PLC equipment with an AMX media controller.

The upgrade also replaced individual single-channel MPEG players with Alcom McBride SD Binloops, which occupy less real estate and feature Compact Flash media storage.

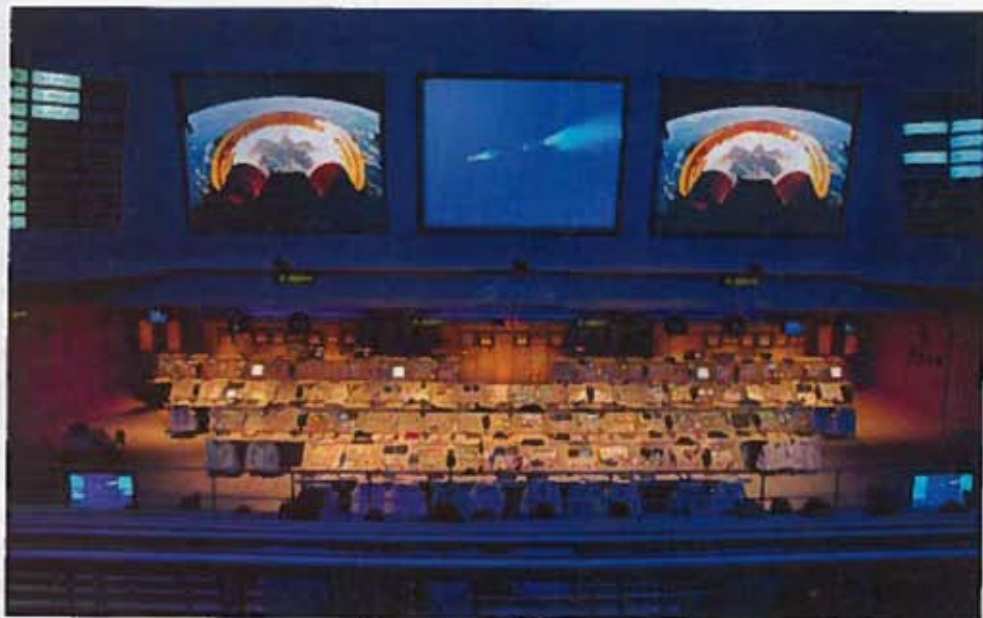
Control room equipment was reduced from six racks to three. Equipment was chosen to match gear in other Kennedy Space Center Visitor Complex installations to minimize the need for replacement spares and technician training. It included Alcom McBride SD Binloops, Crown CTs series amplifiers, NION nX audio processing, AMX NI series control gear, Christie video projectors, and JBL and EAW speakers.

New media was installed to improve the transitions between the pre-show area and the main show theater. Automated announcements were incorporated to improve show quality and intelligibility while visitors move around the facility.

Using the show timing extracted from the previous show control system, the new AMX software was programmed using multiple timelines to automate audio control, media playback control, lighting triggers, console simulation lighting triggers, and physical effects triggers for the blast shield and new bench-shaker effects. The AMX system also acts as the watchdog, which monitors the projector and monitor status, building power and UPS

KEY ELEMENTS / / / FOR THE END USER MAINTENANCE:

The Firing Room Theater has taken out a maintenance contract with Electrosonic. The company provides solutions including on-site staff, priority repair, preventative maintenance, and projector lamp replacement.



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status. The fire alarm and show stop systems were maintained on the main PLC with two-way communications to the AMX.

LCD monitors provide ingenious continuous open-captioning playback. On the pre-show area's monitor, which is hung behind the center projection screen with only the lower-third visible, the captioning text is played on a video channel through the monitor in a standard two-line format.

In the theater, two 16:9 captioned monitors are mounted in the front handrails. The video on the screen duplicates the center video projection with captioning visible in a window under the image for an intriguing and space-efficient solution.

Throughout the project, Electrosonic was faced with a number of technical challenges. "Some of the equipment was a little hard to find," says project manager Dee Rowat. "We had to find very small black-and-white monitors that could slide into the consoles onstage. The large hanging TVs are no longer available because the CRT glass is now out of production."

Many of the 50 9-inch CRT monitors used in the theater were in poor shape and needed to be replaced, she adds. "Finding manufacturers and available stock was a purchasing and project management challenge. Then identify-

Equipment List (partial)

- Alcom McBride SD Binloops
- AMX NI series control gear
- Christie LX505 video projectors
- Christie DS+6K-M projectors
- JBL Contractor Series speakers (70-volt)
- Crown CTs Series amplifiers
- EAW SP528 subwoofers
- Da-Lite 90x120-inch screens
- JBL AC2212 point source speakers
- Klipsch CA-525T speakers
- NION nX audio processing

ing the worst of the remaining monitors and adjusting them to match the new ones was time consuming."

The existing subwoofers were installed in such a way that they shook components off of the small CRT monitors in the control consoles. Chris Hartwell, part of Electrosonic's project team, adds, "There was considerable maintenance expense to keep the monitors running. The new subwoofer installation used fewer drivers and physically isolated the boxes from the suspended floor in the console space to avoid direct vibration to the CRTs and their internal components. Not only is the low frequency better controlled, it makes more of an impact on the audience.