

DESIGN PROFILE

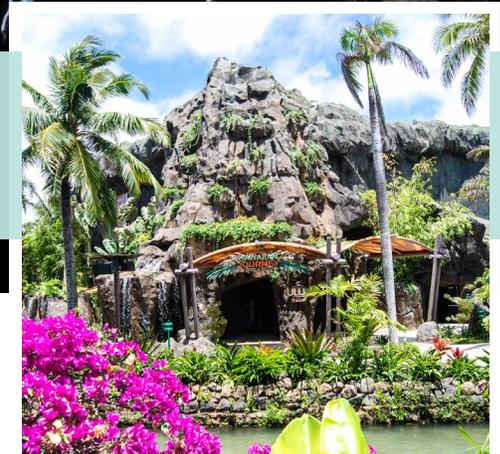


Polynesian Cultural Center's Digital 4D Theater

AV Design of New Theater Brings the Beauty of Hawaii to Life

The Polynesian Cultural Center (PCC) in Laie, Hawaii, enables visitors to explore all of the Polynesian cultures in the South Pacific. Set on 42 acres on the North Shore of Oahu, PCC has welcomed over 37 million guests since opening, becoming Hawaii's number-one paid attraction. To celebrate its 50th anniversary, PCC upgraded its aging film-based IMAX theater, which was more than 20 years old, with a new digital 4D theater. Electrosonic's Design Consulting team provided the audio-visual system design for the theater complex, and Electrosonic ultimately completed the AV integration and installation.

The theater's entrance features black-light illumination and artwork which create the impression of being inside a large volcanic chamber. Once guests are seated, the new 14-minute production written and directed by David Warner, "Hawaiian Journey," takes them on a



breathtaking flight through the islands as they explore the beauty of Hawaii through the eyes of the first Hawaiians.

Electrosonic designed a new digital AV system, featuring a 4K projector, a 4K media server and a 40x74-foot projection screen. Whereas the former IMAX film-based system had high operational costs from lamps for the 15,000-watt projector, the IMAX maintenance agreement and the shipping and replacement of films, the new digital 4K projection system is more economical and efficient with no significant operational costs other than lamp replacement, and doesn't even require a projectionist.

Electrosonic's design features a new 7.1 surround sound system comprising five screen speakers, two theatrical subwoofers and 11 surround speakers.



Digital 4D Theater

Eminent Technology rotary low frequency elements were also included in the design to extend the sound system's range down to 5Hz. Needless to say the sound systems performance was able to match the huge scale imagery on screen. An assistive-listening headset system also allows simultaneous playback of the signature film's narration in eight languages, and a show control system ensures the show runs smoothly.

Technifex of Valencia, California, designed the 252 motion-base seats from the ground up to fit into the rake and rise of the theater. The new high-back, special-effects seating was custom engineered with forward and backward motion, two headrest speakers

in each seat, additional low-end speakers for vibration sensations, and water mist and scent spray effects. Six subwoofer speakers in the theater generate sounds down to 2Hz to create realistic rumblings evocative of an erupting volcano.

One of PCC's goals was for the theater to serve as a true multi-purpose facility. To achieve that end, MLD filled in the screen pit and built a stage platform in front of the screen. Electrosonic's design includes AV system connections to accommodate a presenter on stage giving PowerPoint presentations from a laptop or iPad projected through the projector.

Lava Tubes Leading to the Theater



Exterior

