

# AV DESIGN PROJECT PROFILE



## Typhoon Theatre at the Maritime Experiential Museum in Singapore

### Take a Plunge Into a 360° Immersive Typhoon Adventure

Visitors to the Maritime Experiential Museum at Resorts World Sentosa, Singapore can get an up-close look at a shipwreck in the Typhoon Theatre where the Design Consulting team at Electrosonic designed the audio, video and control equipment to help simulate an amazing historical journey. The company was hired by Sunray Woodcraft Construction and worked under the general guidance of museum designers Ralph Appelbaum Associates. Super 78 created the content for the attraction.

The experience begins with a pre-show set on the pier in China's Guangzhou harbor where the shutters of a harbormaster's hut part to reveal a screen displaying the



ship's crew at work. Electrosonic designed a DLP rear-screen projector with mirror bounce to achieve the short throw required for the compact space, plus a pair of line arrays and subwoofers.

The centerpiece of the museum is the multimedia Typhoon Theatre where visitors 'board' the Arabia-bound sailing ship, experience the storm it encountered, and sink in the sea as the theatre floor descends. The 15.5-meter diameter circular space seats about 150 visitors in bench seating bolted to a floor whose hydraulic lift platform is activated when the ship sinks. A curved-wall surface measuring 23 meters on an arc with a radius of 7.5 meters is the display area for a 4K projection system designed



by Electrosonic to be equipped with a fish-eye lens to fill the 180-degree space. Electrosonic additionally specified four moving-head projectors to cover the back of the theatre wall screen surface with effects projections, effectively creating a 360-degree experience.

The theatre's dramatic video presentation lasts about 4.5 minutes. Then the floor drops as the ship sinks and visitors follow a continuing image display that reveals an underwater landscape. The sinking of the ship uncovers the full height of the 10-meter projection surface that originally stood at 6 meters at the start of the show. After the show, visitors exit through doors leading to a wide hallway, which houses the Shipwreck Approach exhibit with a full-scale aquarium, reproduction ship and chalice.

"The main challenge of the Typhoon Theatre was to try and create a smooth transition from the projection screen's appearance at entry to the full height underwater setup at the end of the show," says Electrosonic design consultant, Andrew Johnson. "Electrosonic provided a show control system that is capable of synchronizing lighting, audio and special effects with the projected media, which helps to seamlessly immerse the audience in what they would feel to be a sinking ship."

A 13-channel audio system designed by Electrosonic plays a key role in setting the scene and giving visitors the sensation of the storm. Five speakers are mounted atop the wall screen pointing down, five are mounted on the front platform angled up and bouncing off the screen and four are placed on the catwalks for left and right surround.

Electrosonic designed the overall AV system to be fit for flexibility, expandability and growth. All Electrosonic AV racks are located in one main control room, but the system incorporates extra video and audio storage space on the servers. The AV show controller is expandable, and extra rack spaces were accounted for in the design to accommodate future equipment.

