



The five main projection surfaces, shaped like dolphin tails, were designed by Michael Hotopp. They are aluminum, painted with Screen-Gloss.

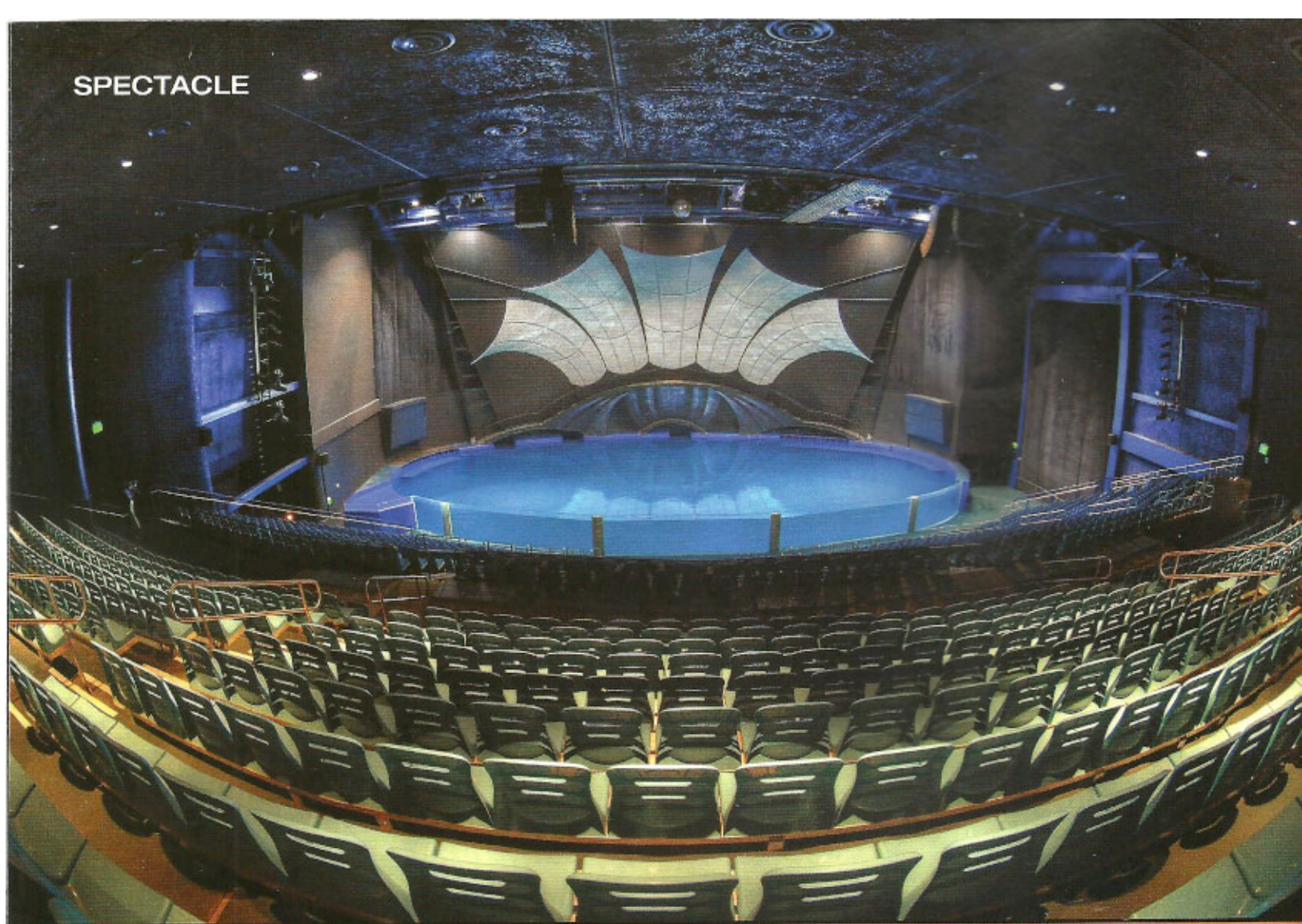
The "stage" of *AT&T Dolphin Tales* is a pool the size of the stage at Radio City Music Hall. The environment is salt water and the nine Atlantic bottlenose dolphins who star have very specific rehearsal and dressing room requirements. The building trades, show designers, Emmy award-winning producers and directors, and the client were joined at the table by veterinarians, life-support specialists, and animal trainers, all voicing their requirements. The needs of the animals and the requirements for providing them with the highest quality care must always come before the needs of the creative team. All these creative challenges were met, however, and, after a three-year

development period, *AT&T Dolphin Tales* opened to the public on April 2 in a new wing of the Georgia Aquarium in downtown Atlanta.

For the dolphins, it's a short swim from their new exhibit to the performance space, an indoor aquatic stadium with a capacity of 1,800 people. It houses the new, separate-admission show, a 25-minute convergence of musical drama with live animal behaviors, media, and theatrical effects. The show's lead human, the StarSpinner, is an adventurer and storyteller searching for his lost ship. He shares a journey through time and sea, a battle between good and evil—the dolphins are the good guys—and a lesson about the important connections between

humans and animals.

Georgia Aquarium first opened in 2005. It is the legacy project of Home Depot co-founder Bernie Marcus, and is ranked as the world's largest aquarium in terms of its facility size, amount of water (approximately 10 million gallons of water) and the size of its collection. Considering its scale and entertainment components, the term "indoor marine life park" might be a better label. David Kimmel is president and COO. AT&T also sponsors another theatrical attraction at the facility—*Deepto's Undersea 3D Wondershow*—and provides the aquarium with wireless network coverage. Atlanta-based AirTran Airways provided a different kind of support, unveiling on March 31 the



The performance space is an indoor aquatic stadium with a capacity of 1,800.

Dolphin 1 aircraft, a custom Boeing 737-700 decked out with dolphin graphics promoting the aquarium's newest exhibit.

Show producer Bettina Buckley, a principal of the firm WOW!Works, brought the creatives together at the beginning of the process, lighting designer David Agress, effects designer Tylor Wymer, audiovisual specialist Electrosonic, and production designer Michael Hotopp. Their work was in collaboration with architects PGAV Destinations and owner/representative Hecory International, Inc.

Lighting the water

"This was no ordinary lighting-design situation," says David Agress. "If I thought something would take four hours, it would take two weeks.

Supposedly, we worked 5pm to midnight, but we didn't know whether we could actually work on a given night when we got in, because the dolphins might be feeding or in need of quiet time, or there might be trainers in the pool. We needed time, and they needed time. To the aquarium people, our equipment seemed quite intrusive. It was a case of worlds colliding—but a happy collision." Lily Fossner and Rick Pettit were the associate lighting designers; Rodd McLaughlin was the lighting programmer. Magnum Companies supported the project as the lighting integrator.

The StarSpinner and other humans move around by way of a series of upper and lower bridge structures, designed by Hotopp. The dolphins and trainers get most of the real

estate—the big pool. "I really wanted to light the water itself and make it change color," says Agress. "That was a year-long discussion." The solution: underwater "bunkers," with windows located 12' below the surface, which allow light to project into the deep pool using 18 Martin Professional MAC 2000 XB and 25 MAC III units and four programmable Martin Atomic strobes, in a palette of blues and greens. "It became a great position," notes the lighting designer. "The strobes really paid off. Everybody liked the shafts of light in the water. In the storm sequence, when the fountains churn the water, we light the foam from underneath. That was really a happy surprise." The in-pool lighting is complemented by washes from above. "Once you see the layered lighting, the depth of the pool reveals

itself," he adds, "and, when the dolphins come up, you realize how far up they have come. We also put in spotting lights for the swimmers."

Catwalk tracks for moving lights were custom-developed to minimize the chance of foreign objects in the pool, and to light the fountains from above. "For the safety of both dolphins and humans, foreign objects must be kept out of the pools. If anything falls in the pool, or goes missing, it stops everything," says Agress. "Dolphin safety is a top priority. They have to regularly count the LEDs on the actor's cape with this in mind." Fabricated by Atlanta-based Infinite Dimensions, the catwalk tracks allow the moving lights to slide into position over the pool for straight-down and 270° shots, then slide back. "The lights lock into place at the end of the tracks so they keep their focus, and they can be serviced without any danger to the pool or the dolphins," the designer adds.

Originally, the catwalks were to be placed 22' to 30' above the pool, but, to accommodate the AV system, were moved to a height of 44'. "The idea of low-watt, smaller fixtures went out the window—we had to cut through the distance," says Agress. He designed a system that relies heavily on 170 ETC Source Four fixtures, mostly PARs and Lekos, with custom gobos; ETC power distribution; an ETC Sensor dimming system; and 14 ETC Net3 nodes. "We needed a single source light to create big shadows, and used Cooper floods, aka the 'Home Depot yard light.' It's probably the least expensive piece of gear. The pool has an acrylic front that goes down 8' below the surface, and that is front-lit to show the dolphins. The actor lighting is pretty traditional. There were moments when we could only have downlight or sidelight. I always include a mirror ball, just as I did for Disney shows in the '90s—it makes everyone go 'Ooooh.' For everything on stage we used stainless-steel-jacketed marine

grade equipment and a cruise ship trick of coating the inside of the light with Vaseline. Every three months, the maintenance staff takes everything apart to clean. The lenses must be wiped down weekly for salt buildup."

Also found in the lighting rig are six Martin Professional MAC 700 Wash units, two Strong Super Trouper II followspots, four Cooper outdoor floor lights, two Ultratec Radiance

lav.' We auditioned every color we could make; the lavender is magic."

A credible storm

As a Florida resident of long standing, special effects designer Tylor Wymer, of WOW!Works, drew on personal experience and observation to create convincing storm turbulence for the show's battle sequence. The wind effect is delivered by 35 CITC

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—David Agress

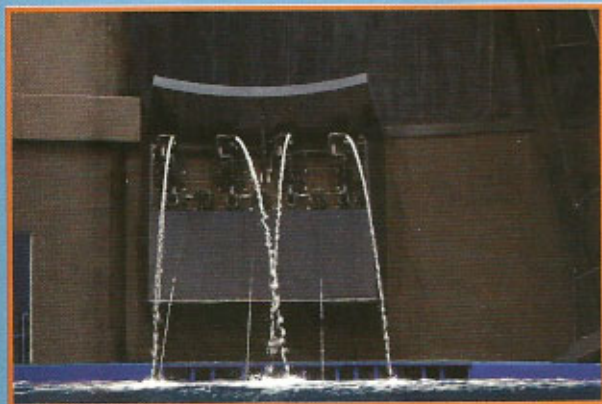
Hazers, and a Leprecon dimmer rack.

The grandMA lighting console controls all show lighting and house lighting in tandem with the grandMA light running the effects and standing by as a backup. "It is a strong console and user-friendly," says Agress. "The Martin units are reliable, and, when it comes to ETC, there's nobody better for a permanent install. I wanted to make sure the equipment I put in was tried and true."

In lighting the dolphins, says Agress, "All the jumps are followspotted, supplemented by some moving lights. The show is pretty structured, and the dolphins play where they are supposed to—except that, with jumps, you never know where they are going to come up. Because we rehearsed for six months under show conditions, the followspot operators became very precise. They have a view of the bottom of the pool and can see where the dolphins are coming up. We used light lavender—I call it 'diet

Hurricane 2 wind machines hung from the catwalks 40' from the audience. Wymer conducted multiple tests to determine how the audience would experience the wind, dividing the seating area into seven design vectors. "The wind moves around at different angles and heights—behind, to the side, and the front," he says. "It is constantly moving like a real storm, with variations in timing to keep it from being too regular." At the time of testing, the seats hadn't yet been installed, so Wymer devised a method using roughly 1,000 pieces of color-coded surveyors' tape to stake out the seating positions and assess the wind coverage. "Each vector had its own color of tape, and I could see by the way the tape was moving which vector to fill in," he notes. The HVAC system is also pressed into service, helping usher in a cold front by changing the amount of chill in the air at the same time the wind machines kick in.

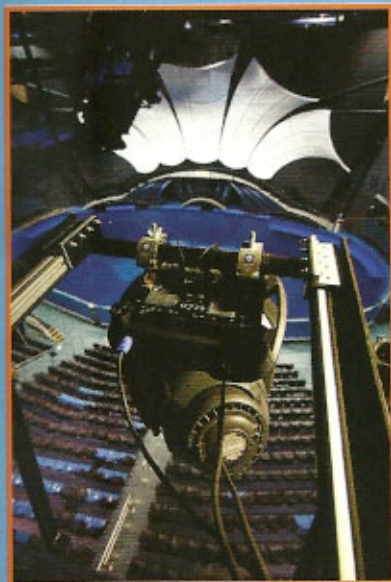
Naturally, all effects and show



The water canyons.



The area under the pool.



A moving light hung in place.

behind glass, and to use non-powered loudspeakers. "The speakers and antennae are on the catwalks," he says. "The consoles, projectors, amplifiers, and everything else are in the booth." The booth extends across the entire back wall of the theatre, about 30' above stage level, and is split into three areas: The largest, center, section holds the projection booth and two followspot positions; lighting control and audio control are on the ends. The amplifiers are in a separate area off the audio booth. The booth contains an Avid VENUE D-Show Profile console

"Moving 3,000lbs of water per second displaces all the air in the theatre and creates humidity that can be felt about 15 rows in before the wind machines and chiller come on—like a real storm. There's nothing like playing God."

—Tyler Wymer

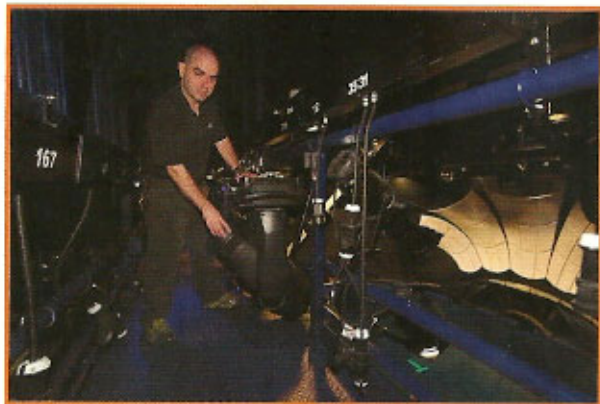
with mix rack and a Pro Tools HD system. There are seven Christie S+20K video projectors, and a Christie Autostack for auto projector monitoring.

Content and tech design evolved side by side. "All the content is CGI, edge-blended," says Coe. "The five tails have complex curves and gaps between them. The vinyl rolldrop screen is 28' by 50'. We did a raft of projection studies with 3D Studio Max. It's a big set, roughly 100' wide and 40' high, and the projectors throw 60K lumens. Once we knew what could be achieved, we provided the media producer, Hotopp Associates, with a projection pixel map so they would have a frame of reference. We did small-scale tests at our Burbank office to see how the content looked on a mockup of the screen. We needed a media server that could do layering and masking, and also run ads for the aquarium, and we selected the Green Hippo Hippotizer HD v3—there are three running on SMPTE time code from the main show controller [Medialon

Manager V5]."

Coe recalls how the team influenced catwalk design: "We are people who have spent half our lives on catwalks; PGAV said, 'Sketch out what you'd like, and we will put it into the architectural package.' The result is one of the best—clear and logical, good head height, very open—with lighting raceways, speakers, and antennae hanging below, and with access to the rolltop screen. None of the gear impedes on catwalk access; you can work up there safely. It should get a catwalk award. It's nice to have theatrical people involved with architecture at an early stage.

"The initial decision to go with a non-powered speaker system led me to L-Acoustics and their line arrays," continues Coe. "The KUDO line had the perfect tone, and I thought it would be just right for this show." The original musical score was written and composed by Tim Williams, and recorded by a 61-piece orchestra at Sony Pictures Studios. The setup is multichannel surround: L-Acoustics Kudo left and right arrays, ARCS



On the catwalk.



A close-up view of the speaker hang.

center cluster, 12XT surround speakers, 115XT HIQ monitors over the pool, and SB28 subwoofer arrays. The show was mixed in the theatre on the Avid console. "There are about 20 channels of music and sound effects in a SMPTE time-coded show, mixed in with live microphone channels," says Coe. "The console handles some automation of repetitive tasks and preset switching for the different actors. The final mix decisions are manual. The console can be taken out into the auditorium for mixing or special events."

Coe specified Sennheiser RF microphones and in-ear monitoring with waterproof covers for the actors; models include the SK512 body pack transmitter, EM3532 receiver, SKM5200 handheld, ASA3000 active wideband antenna splitter, A500CP circular polarized antenna, EK2000 in-ear monitor, ME5004 capsule cardioid condenser, HSP-2 head mic, MKE1-4-3 subminiature lavalier, MKE 2-4 lavalier, E914 condenser mic, E865 super cardioid condenser wired mic, A1031 passive wideband omnidirectional remote UHF, and the E835 cardioid dynamic unit. Special Projects Aqua Series waterproof RF system headsets are used for the trainers. Assisted listening is via a Listen Technologies IR system. CCTV show monitoring is via a Panasonic WV-MW964 network PTZ dome camera, Panasonic WJ-ND200

network hard drive recorder, and Bittree WECO series video patch bays. Backstage paging and show relay are supplied by a Clear-Com Encore wired and Clear-Com Tempest wireless intercom system.

Others involved in the project include: directors Roy Luthringer and Gary Paben; writer Colette Piceau, of *It Ain't Shakespeare*; technical director Tim Pendleton; scenic associate Mark Copans; media and

properties designer Cully Long; and costume designers Greg Brown and Darin Cooper.

"This was very much a collaborative process," says Bettina Buckley. "Many discussions and work sessions occurred between the show team with the architects, project manager, general contractor Brasfield & Gorrie and the dolphin team. It was a great team, and I think the end results speak for themselves." 📷

