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## As Good As It Gets

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**ATC (Acoustic Technology Company) has designed, built, and installed a custom sound reinforcement system at the Walt Disney Concert Hall in downtown Los Angeles. Although best known as a manufacturer of studio reference monitors, ATC has produced a number of custom sound reinforcement solutions for concert hall and nightclub environments, in this case designing a stage-based setup to overcome imaging problems with the hall's flown sound system.**

“The sound that was coming out of the speakers that were suspended high above the stage was not matching the sound that was emanating from the stage,” explains independent consultant/sound designer, Fred Vogler. The solution recommended by ATC's founder and technical director, Billy Woodman, and endorsed by the hall's acoustician, Yasuhisa Toyota, of Nagata Acoustics in Tokyo, was an onstage, high-quality speaker system.

Ben Lilly, ATC's R&D/transducer engineer, observes that the acoustic design of the 2,265-seat Walt Disney Concert Hall is based on the fact that the acoustic source is positioned on the stage. “We wanted to design a system that would blend as seamlessly as possible with the performers,” he explains. “The only way to do this is to have the electro-acoustic and the acoustic sources in the same place.”

The entire system is fully active, powered by ATC's P4 studio monitor amplifiers, and driven by six sends from the front-of-house console – left and right front, side, and rear – an arrangement that provides the hall's audio team the flexibility to



balance levels in all seating areas. The mid/high cabinets can be angled vertically and horizontally, allowing the hall's audio team to further optimize audience coverage for different events. Constructed of Douglas Fir to blend with the interior of the Frank Gehry-designed concert hall, and with design inspired by the venue's imposing pipe organ, the two ATC units can be easily moved and set up by two people in just ten minutes.

To be successful, it was vital that ATC's SL drive units normally found in the company's studio monitors were utilized throughout. "There is no room here for PA drivers, due to their inherent distortion," comments Lilly. "Because the hall has such good acoustics, the quality of the components is vital because there are very few room anomalies to mask deficiencies of the individual components. The hall actually amplifies problems within the loudspeaker."

Lilly reports that it was also essential to build a system with a very flat on- and off-axis frequency response. "After measuring the acoustics of the hall we found it to have an extremely flat magnitude response and even RT versus frequency."

In finding a speaker manufacturer capable of providing a solution, says Vogler, "We had to look for something with natural quality sound. The ATCs are perfect. They sound more natural and more true than any speaker I know. And Billy's a fantastic engineer, and visited the concert hall, so everything fell into place."

Noted Bob Polley, operations director for ATC, "We see the Disney Concert Hall live sound installation as well as The Living Room, in New York City and several exclusive clubs in London as the harbingers of change in the installed live sound market. Sound designers and engineers with studio training are moving into the live sound performance arena. So naturally, they gravitate to high performance, top quality gear for live sound reproduction. ATC has the technology, the products and the engineering expertise to provide customized loudspeakers for live sound



venues.”

Vogler concludes, “I knew ATC was the only company that could fulfill the criteria for a bespoke, studio-quality loudspeaker system for the reinforcement of live performance at the concert hall.” Vogler, who has known the company’s founder and technical director, Billy Woodman, for 12 years, recommended the manufacturer after initial trials at the hall using his own ATC SCM50 monitors.

Vogler is sound designer and lead mixer at the Hollywood Bowl and is also a member of the four-person “Sound Council” that includes the Walt Disney Concert Hall’s head of audio/video, Kevin Wapner, in addition to the Los

Angeles Philharmonic’s Gail Samuel and Paul Geller. The foursome guides the development of the acoustic and electro-acoustic systems at the Walt Disney Concert Hall, a \$272 million complex that opened in October 2003.

The entire system was pre-wired by Charlie Bolois and his Vertigo Recording Services team, using a 32-way snake to carry the high-level signal from the eight amplifiers positioned below the stage and wiring six individual sends from the FOH desk. Following a day of listening to pre-recorded music, the seamless integration of speakers and live performers was confirmed with the help of a 12-piece jazz ensemble hired for the occasion.

“Everyone is very pleased with both the appearance and the sound quality,” reports Lilly. Following additional listening tests, he says, “the calendar of events is looking pretty exciting and the system will really start to prove itself.”

On November 16, the ATC sound reinforcement system was introduced for the first time to jazz lovers at the Ornette Coleman, Charlie Haden concert. “The concert went extremely well,” says Fred Vogler. The house was alive with jazz! In fact, at times, it was hard to distinguish between what was amplified and what wasn’t. The

acoustic/electro acoustic synthesis worked like a charm.”

ATC's drivers are manufactured in-house to exacting tolerances and are legendary for their many design innovations, such as the innovative SL magnet system and the company's renowned Soft Dome midrange driver, which achieves exceptionally broad and even dispersion to produce a flat response anywhere in the room. Situated in Aston Down in rural Gloucestershire, England, ATC was established in London in 1974 by acoustics engineer and musician Bill Woodman.

TransAudio Group, founded by industry veteran Brad Lunde, has quickly become the premier U.S. importer/distributor for high-end audio. Success hinges on specialized service to the Recording Industry far beyond the norm. TransAudio Recording's product lines include AEA ribbon microphones (USA), ATC Loudspeakers (UK), Brauner (Germany), Drawmer (UK), Geoffrey Daking & Co. (USA), George Massenburg Labs (GML) (USA), Soundelux (USA), SoundField (UK), and Z-Systems (USA).

ATC is distributed in the U.S. by the TransAudio Group

[www.transaudiogroup.com](http://www.transaudiogroup.com)

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