

## Park Avenue Tunnel Art Installation Uses Audinate's Dante

By SCN Staff On October 01, 2013

The famed Park Avenue Tunnel in midtown Manhattan has been closed to pedestrians for nearly 180 years. Over three weekends this August that changed. A dramatic art installation took over and the city closed traffic for the first time to make way for "Voice Tunnel," an incandescent, echoing and interactive art show from artist Rafael Lozano-Hemmer.

Lozano-Hemmer's vision was to stimulate the senses through light and sound to create a "concert of voices" as participants walked through the 1,394-foot cavern, with each visitor contributing a unique spoken word message. And from reports, it was an anything goes experience.



The artist achieved his goal through assistance from WorldStage, the audio, video and lighting rental company. WorldStage ultimately delivered a comprehensive, synchronized audio and lighting experience, with Audinate's Dante network supporting long-distance, low-cost signal distribution for 78 discrete audio channels across 150 loudspeakers.

Visitors entering the tunnel at 33rd Street were invited to deliver short messages into a silver intercom positioned before the halfway point. These messages were repeated across clusters of four loudspeakers arranged at six-foot intervals along the remaining length of the tunnel. Custom software, written especially for the event by Lozano-Hemmer's team, captured and processed the messages from a single computer before re-injecting them into the Dante network using a Focusrite Rednet PCIe card.

The amplification triggered 300 spotlights that complemented the intensity of the voice behind the message. The lighting modulation patterns tracked the position of their specifically related messages, all the way through the tunnel until they played over the final loudspeaker cluster.

According to Kate Brown, audio engineer at WorldStage, using Dante easily met the challenges of supporting high discrete channel counts over long distances. The Dante network consisted of 1.5 miles of single and multimode fiber, and the minimal infrastructure requirements and low cable count also helped WorldStage keep overall costs in check. Brown notes that the savings in infrastructure and cable count translated to savings in the number of specialists required to set up the show, pointing to the safety and environmental benefits (including lighter trucking requirements) of using fiber instead of copper.

Importantly, WorldStage leveraged off-the-shelf Cisco switches to further simplify installation. WorldStage's video and lighting departments already had large stocks of Cisco SRW and SG Series switches, as well as fiber optics and the necessary modules to connect the switches.

"Dante is the only solution that would allow us to put this number of high-quality outputs onto a flexible infrastructure from a single computer," said Brown. "And because Dante uses off-the-shelf switches and standard cabling, the expenditure was minimal. In fact, the only 'buy in' for infrastructure was a bit more single-mode fiber—a no-brainer decision as it will be returned to our