



INSTALLATION SPOTLIGHT: THREE MONKEYS RESTAURANT, SACRAMENTO, CALIF.

Three Monkeys Restaurant's historical architectural features, such as exposed brick walls, made it a challenge for Proud Audio-Visual to install a multi-zone audio system that would integrate paging and DirecTV audio and video.

Sound Preservation

Three Monkeys Restaurant is housed in a 150-year-old building in downtown Sacramento, Calif., where many buildings date back as far as the 1850s. In order to create land for a levee for the Sacramento River, 12ft. of landfill was added to the area in the 1860s where the building sits, which means the current basement used to be on street level. In addition, many of the exposed brick walls in the Three Monkeys building are original. But Three Monkeys is a modern restaurant aiming to entertain as well as feed its clientele. Therefore, the restaurant wanted a multizone audio system that would integrate paging and DirecTV audio and video.

Bill Proud, principal of Proud Audio-Visual Solutions in Citrus Heights, Calif., was charged with designing an AV system that could seamlessly integrate into the building without defiling its historic look. For the design-build firm, balancing the demands of the technology and the architects was the project's greatest challenge.

With brick walls, of course, there is no easy way to hide large flatscreens. The eight Panasonic TH-42PH10UK 42in. plasma screens throughout the restaurant play both DirecTV pro-

gramming and custom inhouse ads that were developed by a local production team and inserted into programming via TVPOS ADS-100SB ad servers. Proud says he chose the Panasonic plasmas because of their stated 10,000:1 contrast ratio and because their 1366x768 resolution can play 720p programming natively in its full glory.

Proud Audio-Visual also helped the restaurant devise a system to insert inhouse advertising on those screens. If a commercial has already played on the televisions, TVPOS ad servers detect it as a commercial and interrupt the DirecTV signal to insert an inhouse commercial. (TVPOS officials say this technology does not present any legal issues because the ad servers merely switch the programming to avoid broadcast commercials rather than altering the signals.) To produce the inhouse content, local production company Pacific Crest Media, in Loomis, Calif., shot HD footage of the restaurant's entrees rotating on a platter. (Although the footage for the inhouse spots was shot in HD, the TVPOS servers only supported standard-definition video at press time. That is

expected to change with the next generation of the servers.)

The restaurant also has a 40in. Samsung 400PX LCD screen in the lobby that displays the output of GuestBridge, a software program that keeps a running list of the guests' names who are waiting for a table and their prospective wait times. Another 400PX hangs in the restaurant's adjoining Monkey Express store, a separate area within the building that sells ready-made sandwiches. Via Cat-5 cables running from the restaurant's office upstairs, this screen shows a PowerPoint file that details menu items for the store. Proud says he chose the two Samsung screens for the display of computer output because of the better anti-burn-in protection of LCD technology.

Loudspeakers are more easily hidden than large flatscreens, so Proud took great care in choosing appropriate loudspeakers for the restaurant's various areas. Most of the audio zones have open, 20ft. ceilings with no acoustical dampening. This meant Proud needed a solution that could overcome the acoustic properties of the cavernous area while remaining visually unobtrusive.

He chose SoundTube RS500i-BK hanging open-ceiling loudspeakers for the main dining area, the bar dining area, the sushi bar, the lobby, and the Monkey Express store. Two 8in. SoundTube RS800i-BK hanging loudspeakers cover the bar dining area. In the main dining area, only three 5in. loudspeakers were needed to serve the space. They hang down from the 20ft. ceiling about 4ft., and Proud credits their even coverage to the SoundTube units' 110-degree dispersion.

"By mounting them up at 16ft., you're talking about covering a very wide area," Proud says. "You can walk around that room, and the coverage is very even. You don't get any hot spots or anything like that."

In rooms with T-bar ceilings, Proud specified and installed various Tannoy ceiling loudspeakers. He says he chose Tannoy loudspeakers because their dual-concentric design creates a smooth frequency response.

"A lot of phase distortion occurs right at the crossover point," Proud says. "That's the tricky part of getting a good loudspeaker to perform well—to have a very good crossover where the midrange rolls off and the tweeter picks up, and not have a lot of distortion there."

With the Tannoy dual concentrics, the tweeter physically sits in the center of the midrange driver, which, according to Proud, ensures that the two are time-aligned. "I call it mechanically time-aligned," he says.

The bar/lobby area has seven Tannoy CMS501 dual-concentric BM 5in. ceiling loudspeakers. Architects wanted the loudspeaker grilles to match

the ceilings in the restaurant, and the lobby area's brass ceiling required some searching for the right paint. The general contractor was surprised Proud found a suitable match for the brass color.

Other areas that have Tannoy loudspeakers are the kitchen and restrooms, which have five CVS4 4in. ceiling loudspeakers; the lobby entrance, with one Di6 loudspeaker; the outside patio, with two i6 AW loudspeakers; and the sushi bar, with five CMS401e 4in. ceiling loudspeakers. The CMS401e mounts to the ceiling on a swivel, so employees can rotate the loudspeakers to focus the coverage on customer seating areas rather than on the sushi chefs.

The loudspeaker amplifiers are in the upstairs office. Two 40RU Middle Atlantic ERK-4025 racks house a Crest Audio CM 2208 8-channel amplifier, 10 DirecTV receivers (six for television and four for XM Satellite Radio), TVPOS ad-insertion servers, a Crestron AV2 control processor, and a Biamp AudiaFlex DSP/matrix mixer. The management controls the restaurant's AV system via a Crestron TPMC-8X Isys i/O 8.4in. wireless touchpanel. In order to achieve a flat response from the loudspeaker system, Proud Audio-Visual staff took a spectrum analyzer to each room, and then they set the parametric EQs for each zone individually via the AudiaFlex DSP. They also added leveling to the DirecTV feeds to counteract the jump in volume that often happens when a TV program goes to commercial.

Two more Tannoy loudspeakers are installed in the Capitol Room—a private dining room with an audiovisual system that is completely separate from the zoned system. Again, the architects were concerned about preserving the aesthetics of the wood ceiling in this room, so ceiling loudspeakers were out of the question. Thus, two Tannoy Arena loudspeakers—usually used in home theater installations—are attached to the mounts for the room's two 42in. Panasonic plasmas. Proud designed a special bracket that would mount the Arena loudspeakers to a Chief Manufacturing PWR-2051B swing-arm mount and had it custom fabricated.

Because the Capitol Room was designed to host corporate and political meetings, Proud Audio-Visual specified and installed a system for inputting computer video (such as PowerPoint presentations) to the room's plasmas. The room has a Creston control system that is controlled over Ethernet via a web-based browser from the room's resident PC, which sits in a credenza. There's also a VGA connection in case a customer wants to connect a laptop to feed the plasmas, and an Altinex MX2100AV matrix switch that automatically switches the default video source from the resident PC to the customer's laptop.

—Trevor Boyer

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Auralex Acoustics introduced the first "green" acoustical foam product on the market, Eco-Friendly StudioFoam, at Winter NAMM 2008. StudioFoam brand products now include soy components, reducing petroleum-based chemical usage by up to 60 percent and lessening dependence on fossil fuels, including foreign crude oil. This greener formula helps reduce global warming emissions, yet retains the longevity and acoustical properties that Auralex is known for.

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