

The Restaurant as a Performance Space:

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Systems Integrator Tunes Kahunaville for Singing, Dancing and Entertainment

MILWAUKEE, WI, June 1, 2005 — The Kahunaville Restaurant & Bar in the Kalahari Resort at Wisconsin Dells offers upscale, but informal dining, combined with Las Vegas-style entertainment; bartenders toss and catch glasses and bottles while mixing your favorite drink.

"With juggling bartenders, dancing and singing waitresses, a DJ, and a dance floor, this was not going to be your average restaurant," says Scott Leonard, one of the principals of Professional Audio Designs (www.proaudiodesigns.com). "So we took a different approach to the sound design."

Professional Audio Designs coordinated house background/foreground music, video, and dance floor music into a truly seamless sound environment. "We treated this venue like a performance space," says Leonard.



Major manufacturers' equipment woven together in Leonard's system design are: over 60 Community loudspeakers throughout the restaurant with EAW loudspeakers on the dance floor, powered by eight QSC CX Series amplifiers and running on a Biamp AudiaFLEX digital audio platform and Peak Audio's CobraNet system for digital audio distribution over an Ethernet network. A Crestron system and touchpanels provide system integration and interface. Sanyo video projectors, a Draper motorized screen, and Philips plasmas are the main components of the restaurant's video entertainment system, with all projectors and plasmas individually addressable.

Sound Masking

In a crowded bar, sound masking can turn overhead music into a muffled bass thump with occasional nasty highs, and almost no vocals in between; or, as Leonard puts it, "boom and sizzle." The mid-frequencies, where vocals and most of the music live, are *masked* by the patrons' voices that inhabit the same frequency range.

To combat this well-known, but often unaddressed acoustic phenomenon, Leonard and Robb Peters (Kahunaville project manager from concept to commissioning) programmed four specific time-of-day and event-based EQ presets into the restaurant sound system. The presets change not only overall system volume, but the EQ curve as well, boosting the frequencies that are noise-masked so that patrons experience full-range music reproduction while maintaining voice intelligibility. All pre-sets are selectable from a Crestron TPS-3000 touchpanel located at the DJ position.

House sound is shaped through Community loudspeakers throughout the restaurant: 26 I/O8T's around the front bar and lower dining areas; six R.5SUB-T subwoofer systems around the bar area in three groups of two each; 21 I/O5T's located in the upper-dining, private dining, and entry area; and CLOUD6 ceiling speakers for back office spaces and the restaurant entry way. The Community I/O8T's and I/O5T's have a 90 0 horizontal x 50 0 vertical dispersion pattern.

"The speaker layout of the I/O8's supported by the six Community subs allows bartenders to take drink orders without the customers shouting," says Peters, "and the system reduces ear fatigue that comes from a long shift behind the bar.... The results predicted in our EASE model of the space for the Community I/O's translated very well into the finished system. As a systems designer, I can say that I really appreciate Community's 'honest' audio data."

Bar/restaurant systems design is not part of Professional Audio Designs' core business. But for Leonard, the project offered an opportunity to do something right that he'd seen done wrong countless times in countless chain restaurants and bars. "I'm sure some people, including venue owners, would say that it was overkill to design a room with selectable EQing and delays," he says, "but you can *hear* the difference. And the customers know the difference. It's not at all esoteric."



Kahunaville, Kalahari Resort (Wisconsin Dells).

Professional Audio Designs (Milwaukee , WI) created a networked, zoned A/V environment with multiple selectable EQ and delay presets for audio in this performance-oriented bar/restaurant. Over 60 loudspeakers from Community provide extremely flexible coverage for this space. Digital audio distribution is over an Ethernet network via Biamp AudiaFLEX digital audio platform and Peak Audio's CobraNet system. A Crestron system and touchpanels provide system integration and easy access to all audio presets and video sourcing.

[Read the complete article](#) in PDF format as it appeared in the May 2005 issue of *Systems Contractor News*

For more press information on this project, contact: Steve Goodwin at sgoodwin@loudspeakers.net

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