



Inside Dra

Left: The Draï's DJ booth is a two-tier set up with the DJ console on one side, and on its upper tier, space is also shared by the VJ and LD. Above: The club opens onto the pool area.

Building an immersive club experience on the Vegas Strip

By: Lous M. Brill

As new hotel/casinos continue to open along the Las Vegas Strip, so do nightclubs with the best and brightest hardware, DJs, and live entertainment. The Cromwell, on the corner of Las Vegas and Flamingo Blvds.), which recently opened its doors, is the home of Draï's, a 65,000-sq.-ft. venue offering both a nightclub and a beach club with its own rooftop pool; not the least of its attractions is its rooftop views of the Vegas cityscape. The nightclub is on the 11th floor of the Cromwell.

Victor Draï, the entertainment impresario, is the club's

designer and namesake; he envisioned a high-energy space for dancing, drinking, and dining. Draï's is essentially a two-level circular room with an open wall between the indoor club area and the roof deck/outdoor pool area, which is surrounded by live palm trees, lounging area, and cabanas. The audio system was created by Chicago-based Sound Investment Audio, with lighting and video by SJ Lighting Inc., of Agoura Hills, California.

Sound Investment Audio is a design/build company that creates custom design sound, lighting, and video systems

All photos:



A party at Drai's in full swing.

for nightclubs, churches, theatres, lounges, and restaurants. In preparing the audio design for Drai's, managing partner Todd Konecny noted how the design is a balance between club's physical space and its environmental embrace. "It's the architecture of the room that defines the speaker configurations," he says, "and that is determined by floor audience flow patterns, the arrangements of guests and VIP tables, and the discerning performance preferences of the club owner and operators as to what kind of sound they want the club to have. Sometimes they want the speakers visible, sometimes not. Sometimes you start off with the idea of visually imposing speaker placements and then discover they can't fit into the desired space, so you reconfigure the system with smaller speakers that will give you an equivalent sound."

Konecny notes that Funktion-One was selected "because their loudspeaker systems have excellent directional control, allowing sound to be focused where it's needed, and are able to minimize out-of-venue environmental impact. The results present a high performance, high-fidelity sound system." Using a layered approach, Funktion-One speakers were strategically deployed throughout the main gathering areas, including the dance floor, guest tables, and VIP seating.

"Part of the client's audio directive was to not have the audio system visually apparent," Konecny says, "so the sound system was either located in the ceiling above the guests' primary sightlines or, in the case of the DJ booth, hidden in plain sight within the booth. We began by

centering the main overhead speakers to flank the DJ booth. The main system was a four-point configuration ceiling installation, each with four unique crossover bands, thus speakers were placed at each room corner all pointing towards the center of the room.

"As for the DJ booth, we specified five Funktion-One (F1) BR221 double 21" subwoofers all aimed at facing the dance floor. These speakers were selected for their compact size and ability to produce a deep, strong, sub-bass sound coverage with plenty of low-frequency extension. Above those speakers, we also used a pair of F1 F315 speakers with 15" triple mid-bass drivers. Collectively, that area acted as a central acoustical point of the nightclub."

Sound is focused in two main areas: the dance floor and VIP seating. "In terms of the dance floor, with the speakers in higher-than-normal overhead locations," Konecny says, "we used high-directivity speakers, giving us a narrow audio coverage, as opposed to a wide audio spread, allowing us to deliver enough sound pressure to the dance floor without incurring any unwanted sound reverberations in the room."

For the overhead mezzanine, the site of VIP seating, Konecny says, "The sound was proportionally reduced in scale." This system uses somewhat smaller speakers (F1 F88s) arranged in increasingly larger concentric circles, with specific sound coverage directed at each VIP table. Depending on their distance from the DJ booth, the sound from those speakers are time-delayed using BSS London

digital system processors, so that their sound is supported by the main audio system. "In effect, the smaller speakers provide added clarity where necessary, which results in a blended acoustical presence that is immersive and sounds like its coming from the DJ booth," Konecny says.

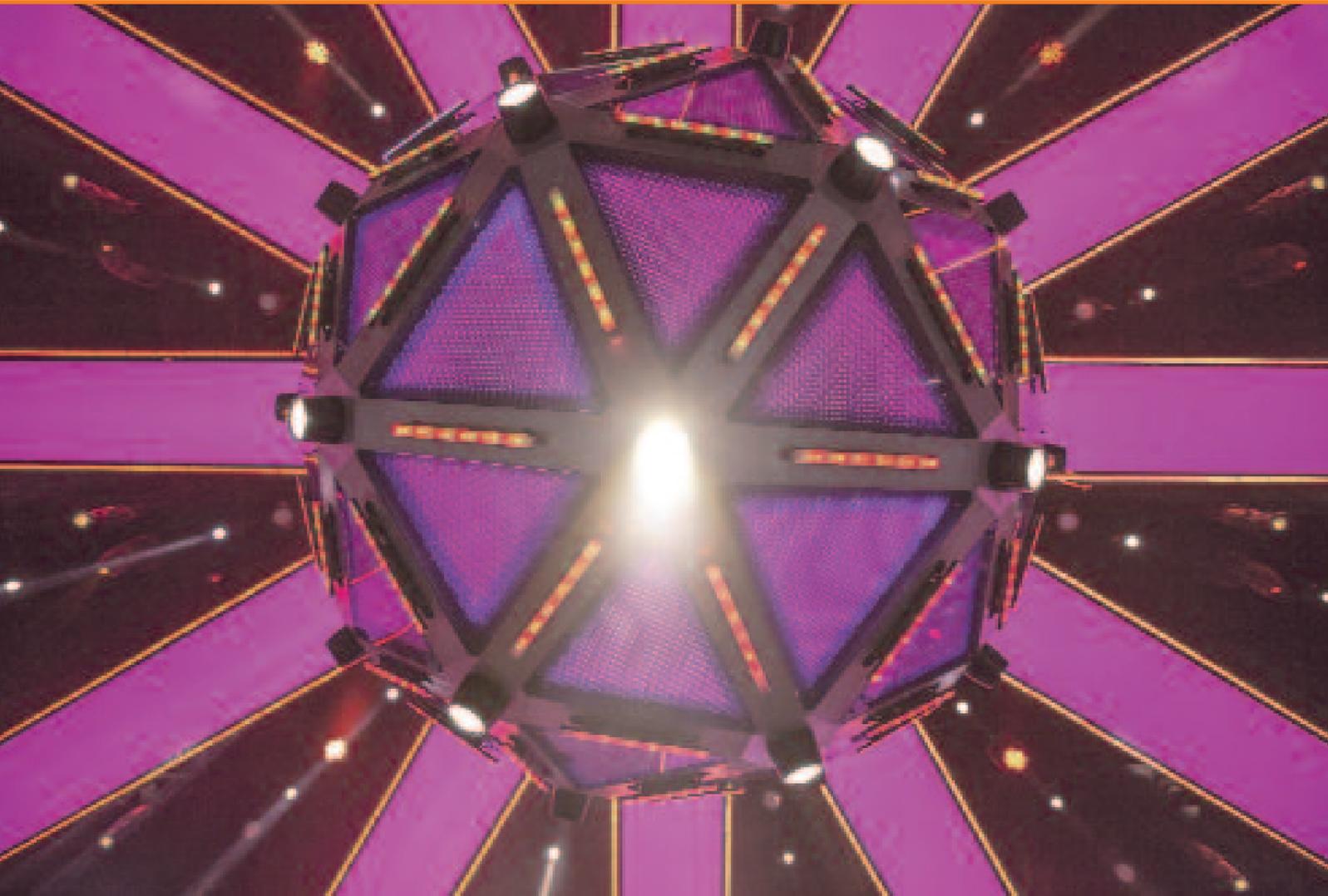
The dance floor DJ booth is a two-tier setup, with the DJ console on one side, with the upper tier shared by the VJ and lighting board operator. This close proximity allows them to see the audience dancing and to more easily interact with the DJ. DJ gear includes six Pioneer CDJ 2000 units, two Pioneer DJ mixers (DJM 900 and a DJM 1000) and a pair of Allen & Heath DJ mixers. The front-of-house mixing console is a Yamaha LS9. Live sound is amplified by several Shure wireless microphone systems. The DJ console also incorporates a live sound console,

which receives output from the DJ mixer along with mics' output; thus, when the announcer introduces live acts or when acts are performing, DJs can adjust the sound coverage accordingly. Overall, the club's acoustical presence is managed by a Full Fat Audio amplification system whose full power output is over 160,000W.

Drai's unique room design, with its facing outdoor pool deck, is also noted by Konecny. The side-by-side placement of nightclub to pool deck created an interesting acoustical situation, in that the wall opposite the DJ booth is fully open to the outdoor pool deck. That open space, he says, "was both a blessing and a challenge. In some ways, the open space was preferable because that way you don't get audio reflections back into the room, which decreases the perceived sound quality.



Video displays are a central part of the Drai's immersive club experience.



The Drai's disco ball incorporates 80 triangular segments that include 12" RGB LED Philips Color Kinetics iCove QLX LED strips as perimeter lighting around each triangle. At each triangular intersection is an Eurolite pinspot and filling in the interior space of each triangle is a small 10mm SMD LED video tile.

"On the other hand, when you're in a sealed acoustic space with a strong audio presence, there is the benefit of 'room gain,' which adds a certain increase in audio volume that the guests enjoy. The absence of that final wall was noted and compensated for in our final audio system configuration by adding subwoofers to the rear floor area in the region of the transition space, thereby taking advantage of the omnidirectional nature of low frequencies."

Lighting

Stephen Lieberman has designed and installed lighting for over 200 nightclubs around the United States. In regard to Drai's, Lieberman says he was responsible for designing and installing all the club lighting, video special effects, and architectural lighting.

Video plays a central part in the club, with about 7,000 sq. ft. of screens in use. Drai's, Lieberman says, "was designed as a very immersive entertainment experience that begins when guests enter the nightclub. We took 7mm LED screens, custom-manufactured by AG Light and Sound, and set them up behind the DJ booth in a 270°



The ceiling-hung 80-sided octacontagon disco ball in front of the DJ booth, with overhead LED video tile spokes.

panoramic configuration encircling the back half of the night club." The screens allow the VJ or LD to present any visual effect, from one image across the entire panorama to multiple images that can combine the overhead Radiant screens and the back wall fascia images.

Also, says Lieberman, "Above them, is the chandelier disco ball. No matter where the club guests are—either on the dance floor, sitting at their tables, or by the VIP mezzanine—everyone has a complete view of the entire performing space. The audience also has an immediate connection to the club's energy, either from the music, the action on the dance floor, or from the club's surrounding

light show."

Lieberman adds, "We have an even distribution of lighting fixtures, with Eurolite LED pinspots; Elation Professional beam washes, LED Proton strobes, Platinum Spot 5R; and Lasertainment lasers, all carefully placed throughout the ceiling. [See gear list later in the story.] Some of the lighting is fixed in place and directed against the dance floor, the guest table spaces, and the DJ spaces, and some is movable. All the lighting is programmable, so we can direct any segment of our lighting schemes anywhere we want to. Part of the joy of having movable lighting is being able to reposition and refocus it

on an as-needed basis, depending on what club action is going on. For example, when the club entertainment switches from the DJ to a live performance, the DJ area turns into a stage space, and we have specific lighting fixtures to take up sidelighting, backlighting, and fill and key lighting—all directed for that particular performing moment.”

The central octacontagon look

A central component is the previously mentioned chandelier disco ball, which acts as a visual anchor, unifying all the club lighting into a singular presentation experience. It is not a conventional disco ball, but a 21st-century visual interpretation with several LED layers embedded throughout its geometric structure. For starters, typical reflecting mirror segments are out. Secondly, rather than a rounded sphere, it is an 8' circular, 80-sided polygon known as an “octacontagon,” composed of several overlapping LED lighting effects and fixtures.

The disco ball is composed of 80 triangular segments, with each segment side covered with 12" Philips Color Kinetics iCove QLX lighting strips. Forty-two Eurolite LED pinspots are attached to each of the ball's triangular intersecting points. Filling in the interior space of each triangle is a 10mm SMD LED video tile, for a total of 80. Directly behind the ball, on a separate circular platform, is a surrounding downlighting system composed of 12 Elation Professional Platinum Beam 5R Extremes.

Above the disco ball is a circular series of 12 Radiant LED video screens (with varying lengths from 29' to 48' across the ceiling) which extend outwards like wheel spokes, connecting up with the panoramic video wall screens. The overall image effect, says Lieberman, creates a singular unifying visual design.

Essentially, Drai's lighting is presented in a series of layers, each separate but each able to be combined, creating any number of one-of-a-kind looks. One layer emanates from the Philip Color Kinetics iColor Cove EC components, which are used as accent edge lighting among the various LED video displays within the club. Used as an illuminated “outline identifier,” the iCove Color modules outline the polygon shape of the disco ball, all the edges of the Radiant ceiling LED video screens, and as edge identifiers of all the fascia LED video screens.

“Additional lighting layers emanate from different spaces around the nightclub,” says Lieberman, “and were installed within the ceiling in between the Radiant LED video panels. The negative space in between each Radiant panel forms a ‘pie wedge,’ and within each wedge area we placed three major lighting fixture types, including a balance of LED pinspots, light washes, and beam fixtures, all proportionally spaced out throughout the ceiling all around the nightclub. On top of that, we also had four

Lasertainment laser projectors, Proton LED strobes, and, for experiential atmospherics, a Kryogenifex CO2 system, a haze and smoke dispenser, and a confetti system, all in play for each show night. Each visual system is a stand-alone effect layer. At the lighting operator's discretion, each is operated separately or combined together. The lighting console allows the LD to switch between the lighting fixtures, the edge lighting, or the video, all following the ebb and flow of each night's party.”

The full lighting gear package includes 28 Elation Professional Platinum Spot 5R Pros, 30 Elational Platinum Beam R5 Extremes, 24 Elation Rayzor Q12 LED Zooms, 32 Elation Protron LED strobes, 72 LED pinspots, 56 Elation CuePix WW LED blinders, 1,144 Philips Color Kinetics iColor Cove QLX LED strips. The chandelier includes 120 Color Kinetics iColor Cove LED EC strips, 42 LED pinspots, 80 pieces of 10mm video tile. The club features 3,244 sq. ft. of LED video panels.

As mentioned earlier, the DJ booth is a control command space that consolidates the DJ, LD, and VJ into a central area where all the console operators are able to work with each other in close proximity, notes Lieberman: “We find that kind of collaboration creates a better performance presence to the audience.”

Managing the club's visuals is done through an MA Lighting grandMA2 console, which controls the video screen, all LED lighting, intelligent lighting, lasers, and atmospherics (smoke, haze, confetti, etc.). Complementing that is Madrix software, which controls all LED pixel-mapping for disco ball video tiles, ceiling video spokes, back-wall video screens, and iColor Cove edge lighting.

Each nightclub show, says Drai's lighting director, Jeff Novak, “has a ‘beat’ to it, which is in a syncopation between the audience, the music, and the lighting and visuals. This all begins when the audience first arrives. My style is to slowly increase the visuals and let it all build up to the headliner's entrance. Despite all the visual layers we have for an evening's presentation, it all adds up to a single goal, to provide the best possible entertainment for each night's show.”

Clubbing special effects at Drai's even goes beyond the pale. For big spenders there's always the Roof Is On Fire package which is a guest-dedicated fireworks package, which come complete with a detonator; once pushed, a fireworks show bursts and blossoms over the Cromwell, resulting in a Vegas moment that's priceless 🎆

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