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JAMES LOUDSPEAKER CASE STUDY.



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The cinema ready for lights, camera, action

Southwest Florida Cinema

Zack Clark and his team at C Global, Inc. were tasked with designing and installing a 7.1 cinema for a client in Southwest Florida some years ago. In the present day, the C Global team was summoned again, upgrading the theater to include immersive surround capability. The homeowner dedicated a 433 square foot space off the foyer with an ample equipment room behind the theater that also houses other smart home devices. The C Global team proceeded to acoustically treat the space by reinforcing the walls and applying AcousticBlok

to the floor and wall behind the screen, as well as dense padding to all remaining wall surfaces. With the space prepared, the objective was to create an outstanding audio/video experience that could be used for movies, television and the client's allegiance to their favorite baseball team. After considering the allotted space, available technology and the client's expectations, C Global Inc. decided on a 15.1 cinema design featuring James Loudspeaker Mavericks speakers and subwoofers.

Front Loudspeakers

James Loudspeaker Mavericks speakers have been engineered for ultimate performance cinema applications and offer unprecedented clarity, balance and dynamic capability. C Global chose the MQ84 full-range hybrid LCR/M152 subwoofer combination for the front Left/Center/Right channels. The MQ84 contains an internal 4-way passive crossover, thus each requiring a single channel of amplification to deliver high SPL and magical clarity at frequencies ranging from 50 Hz up to 25 kHz. James Loudspeaker's hybrid horn system allows ultimate control of directionality, evenly covering desired angles while effectively minimizing unwanted reflections and distortion. The MQ84/M152 LCR array represents the cutting edge of cinema loudspeaker technology and delivers the high impact audio clients demand from an ultimate performance theater system.



James Loudspeaker Mavericks front stage cinema speaker system

The M152 subwoofer features a dual 15-inch driver design capable of handling frequencies down to 25 Hz delivering extended, articulate bass. The M152 handles large amounts of power and pairs perfectly with the single-channel, 1000-Watt James Loudspeaker M1000 amplifiers, which the C Global team deployed in a separate rack beside the Bryston tower. Five M1000s were used for the three front and two rear subwoofers.

Customization Saves The Day

Due to the configuration of the room, the C Global team, relying on James Loudspeaker's reputation



Rack of James Loudspeaker M1000 1000-watt subwoofer amplifiers

for customized solutions, ordered the MQ84 center channel speaker and M152 subwoofer stack in a custom form factor in order to reduce overall depth 3-inches. "We simply didn't have that depth in the center speaker location, and to have a vendor capable of accommodating our unique space with a custom solution gives us a tremendous advantage," Clark stated. James Loudspeaker re-engineered the speakers to deliver precisely the same high performance as the conventional version despite the altered cabinet size.



Custom built reduced-depth center channel speakers

Surround Loudspeakers

The James Loudspeaker 806BE, used for the side, rear and ceiling channels in this theater, is a sealed cabinet, in-wall reference loudspeaker featuring advanced, high-output drivers set into an aluminum baffle. The 806BE utilizes James Loudspeaker's renowned Quad Tweeter array, incorporating four 1-inch beryllium dome tweeters precisely offset for wide dispersion and exceptional detail. The Quad Tweeter also delivers high power handling and ultra-low distortion, making it the ultimate high-frequency solution for home cinema.

The Quad Tweeters are mated to a pair of proprietary, high-output 8-inch aluminum cone woofers, delivering an impressive 96dB sensitivity with bass extension down to 45 Hz. The 806BE's cabinet and baffle are crafted from aircraft-grade aluminum for strength and sonic performance—and can be easily installed into 2x4 stud walls. For the rear channels, the C Global team ordered custom towers that reside in the rearmost corners of the theater containing an 806BE atop a 12-inch subwoofer. James Loudspeaker engineers took the requisite dimensions from Zack and created an ideal solution that is visually discreet. In addition to the 806BE's, a set of four wedge-style speakers from the original theater layout is mounted to the rear side walls and on the rear walls at the ceiling for height/surround effect.

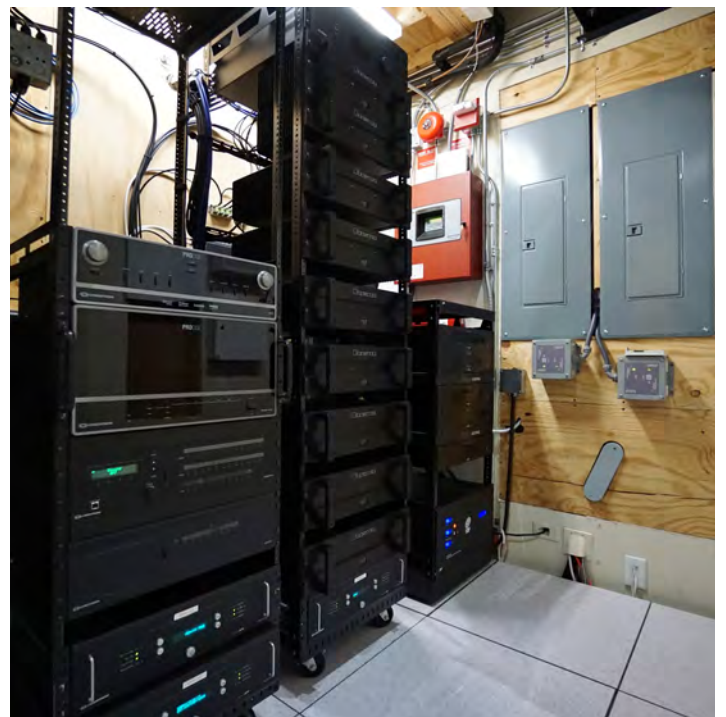
Electronics

As the centerpiece for the cinema processing, C Global Inc. selected the Bryston SP4 15.1 cinema processor, offering all of the immersive (and conventional) surround formats along with Dirac room calibration. The SP4 was then mated to an array of Bryston's award-winning Cubed Series amplifiers: two 3B³s (2-channel mode) powering four James Loudspeaker wedge speakers from the original cinema design, four two-channel 4B³s powering James Loudspeaker 806BE reference in-wall speakers and three mono 7B³s powering James Loudspeaker MQ84 LCRs, encompassing the 15-channels of



Rear, side (behind décor panels) and height channel speakers

output in this theater design. Bryston's Cubed Series amplifiers offer the lowest noise and distortion specifications of any Bryston amplifier generation, revealing more nuance and subtlety to music and movie content than ever before. With dramatically less distortion at the input stage, improved common mode and EMI/RFI noise rejection and a scant 500mW standby power consumption along with elegant aluminum dress panels, Cubed Series amplifiers represent the finest, most powerful solutions to date from Bryston.





Rear of the rack shows attention to detail

The Bryston processor and amplifiers were installed into a Middle Atlantic rack with thermal management to keep the venerable stack of electronics nice and cool. Clark commented, "We chose Bryston for this job based upon referrals from industry professionals who understood the scope of the project and our desire to deliver the best performance and

reliability to the customer." The amplifiers receive AC power through a 60-amp Torus Power AVR 2B, with each bank switchable via the Crestron control system. Other noteworthy electronics include a Kaleidescape movie server and a Digital Projection Insight Laser 4K/3D projector aimed at a curved Stewart screen. "The room calibration aspect of the Bryston SP4 was vital to achieving the results we wanted from this theater, and after calibration the results were astonishing," said Clark, who also credited the video calibration capability of the projector as critical to the success of this cinema.

Other Noteworthy Design Elements

Control of the theater is managed using Crestron a TSW-902 remote docked in a Fortress Seating console. The Crestron remote is removable as well for ease of operation from any theater seat. All of the interconnects, power cables and speaker wires were cut to custom length and hand-terminated to create the neatest, most reliable finished product. Theater seating is by [Fortress](#) and [Epic Sky Technology](#)



Removable user interface embedded within the seating

provided a replica of the solar system including specific constellations in the ceiling. The C Global team is quite adept with fabrication and made custom HVAC registers that also house LED lighting used for both ambience and as "work lights." They also manufactured the hush box for the sizable projector and laser light show hardware, which is used to entertain guests as the projector is warming up.



Projector hush box with service access

Home Sweet Home

The Southwest Florida residence also includes 14 zones of whole-house entertainment featuring James Loudspeaker QX Series architectural speakers and PowerPipe subwoofers.



James Loudspeaker in-ceiling speakers



James Loudspeaker landscape subwoofer

There are outdoor entertainment speakers from James Loudspeaker as well serving the patio and Tiki Bar. The whole-house entertainment speakers are driven by multi-zone amplifiers from Crestron. The home also features a high-performance turntable and 2-channel music system for when the audiophile mood strikes, as well as underwater speakers in the pool.

"Our client loves the system and appreciates the performance of the theater as well as the whole-house entertainment system," Clark said. "Credit to truly premium audio/video manufacturers such as Bryston and James Loudspeaker for providing products and services that helped us deliver the best results possible."



The C Global, Inc. team