Alamo Drafthouse, DTLA

The Uniquely Networked Multiplex

Alamo Drafthouse Cinema has, since its inception in 1997, single-mindedly set out to create the ultimate cinematic experience in the back yard of the world capital of the film industry. Its unique bill of fare pairs a memorable culinary experience with the most enriching new release, family, and independent international films, as well as Alamo Drafthouse's signature repertory programming. Now celebrating its 22nd year, Alamo boasts over 40 theatres nationwide committed to presenting the best in food and drink alongside an equal focus on quality on-screen and auditorium presentation. Of these, the jewel in the crown is the newly-equipped 12-screen Alamo Drafthouse Downtown Los Angeles. With its new state-of-the-art QSC audio system and Q-SYS™ integrated audio, video, and control Ecosystem, this latest addition to the Alamo portfolio is one of the most unique and technologically advanced cinemas not only in the U.S., but in the world.

Los Angeles, CA

Photo courtesy of Zane Roessell

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— Mark Louis , Senior Director of Presentation, Alamo Drafthouse

CHALLENGES

Alamo Drafthouse prides itself on exceptional presentation standards, giving rise to its self-styled mission which is as true now as it was in 1997: 'good food, good beer, and good film, all in one place' – and that is why every movie must not only look good, it must above all else sound the best it can for every event or occasion.

Alamo's Senior Director of Presentation Mark Louis was clear that he wanted equally high standards of audio performance for the new DTLA venture, and looked to Fountain Valley, CA integrator Moving Image Technologies (MiT) for an integrated audio and control system from a respected manufacturer that he knew and trusted. "QSC is currently the only equipment manufacturer that meets all of our brand standards for presentation," he reflected. "When considering the most consistent and best sound quality systems, QSC is the only option."

Readily accepting the challenge of implementing an admittedly ambitious technological brief, equipping Alamo Drafthouse DTLA presented MiT with several unusual complications.

1 Limited Available Space

Because the building was not originally designed as a movie theatre, the physical constraints of the space proved exceptionally challenging. With very limited projection booth and mezzanine space and only various small closet spaces available for equipment siting, this meant that sound racks had to be combined where space allowed to supply multiple auditoriums.

2 Sound Isolation

Alamo Drafthouse DTLA is located within an open-air urban center known as the Bloc containing retail stores, restaurants, and entertainment spaces, and consequently, the theatre shares spaces with several retail partners. The sound design therefore required careful consideration of noise levels to isolate sound from other spaces within the Bloc, and not to disturb other adjacent theatres or neighboring stores.

3 AV Customization

Alamo prides itself on presenting not only first run movies, but also second run and alternative content such as public, community, and other special events. Since many of these one-off screenings often arrive in the form of a Digital Cinema Package (DCP) or on Blu-ray disc, the playback environment needed to be as versatile as possible without compromising presentation standards. In addition, Alamo desired a fully functional and compatible audio and video system that would enable streaming services.

Photo courtesy of Zane Roessell

SOLUTIONS

The lack of available spaces in which to locate and install the AV equipment was a fundamental obstacle, but one for which Q-SYS was able to provide an ideal solution. Although options for equipment siting were severely limited, it was the network capability of the Q-SYS Ecosystem and its utilization of standard CAT6 network cabling that provided the breakthrough to lessen the impact of the building's physical constraints.

Consequently, the sound system components are distributed throughout the building wherever space could be found, typically located in small closets near the auditorium entrances, and networked over a standard IT network utilizing the Q-SYS Ecosystem. The DPA-Q amplifiers' high channel density contributed significantly to reducing the overall amplifier count and rack space, with each equipment rack housing sufficient amplifiers to easily supply two to three auditoriums – rather than a more traditional but less flexible one-sound-rack-per-auditorium configuration. This approach also freed up storage space in the facility while still keeping speaker cable runs short and economical.

Breaking away from the conventional arrangement of close proximity between sound and projection equipment necessitated by the Bloc's lack of traditional projection booths, many of the projectors and video equipment components are installed in lifts or cubbies at the rear of the room. MiT took advantage of Q-SYS drag-and-drop control programming to create custom User Control Interfaces (UCIs) that provide theatre staff with easy access to auditorium automation, sound system and projector controls on Q-SYS network touch screens located in convenient areas of the venue.

The system design with its unified brand approach facilitated Mark Louis' sharp focus on audio quality. "Even more than video, audio can be the most inconsistent aspect of a theatre," he affirmed. "If you allow for a variety of equipment from multiple brands, the quality will suffer."

All twelve screens are equipped with QSC 3-way screen channel loudspeakers, SB-2180 subwoofers, and either SR-8200, SR-SR-1020 or SR-1290 surround loudspeakers – depending on room size. Every loudspeaker is powered by a DPA-Q four or eight channel network amplifier as part of the Q-SYS Ecosystem.

Thanks to a commonality of system components across the theaters, every room sounds the same, and as a further guarantee of quality, the Alamo complex is "QSC Certified."

Several touch panel interfaces are conveniently located in the food order entry areas and drink station server areas at the entrances to the auditoriums, allowing user-friendly remote access. There are also touch panels in the manager's office and TMS/control area.

With an eye to the future, MiT's Q-SYS system design addressed the client's need for flexibility, and purposefully catered for expandability to adapt to Alamo's growing business needs. Increasing flexibility meant equipping the theatre for playback of alternate content which can provide an additional revenue stream, and more importantly, accommodating future technical changes in the cinema industry.

Photo courtesy of Zane Roessell

EQUIPMENT LIST

QSC Equipment List

Model	Pcs Used	Description	
Core 510c	4	Q-SYS Unified Core Audio, Video & Control Processor, Network I/O 256 x 256	
DCIO-H	12	Digital Cinema Input/Output	
TSC-7w	16	7" Network Touch Screen Controller	
NS-1124P	12	24-port Network Switch	
NS-1108P	2	10-port Network Switch	
DPA4.2Q	10	4-channel Q-SYS Network Amplifier, 700 W/ch at 4Ω	
DPA8.4Qn	12	8-channel Q-SYS Network Amplifier, 500 W/ch at 4Ω	
DPA8.4Q	2	8-channel Q-SYS Network Amplifier, 500 W/ch at 4Ω	
SC-223	24	3-way 2 x 15" Screen Channel Loudspeaker	
SC-2150	12	3-way 2 x 15" Screen Channel Loudspeaker	
SB-2180	14	Dual 18" Cinema Subwoofer	
SR-8200	72	2-way 8" Cinema Surround Loudspeaker	
SR-1020	16	2-way 10" Cinema Surround Loudspeaker	
SR-1290	4	2-way High Output Co-axial 12" Cinema Surround Loudspeaker	
AD-S4T	4	2-way 4.5" Surface Mount Loudspeaker	

RESULTS

The key to MiT's success in overcoming the theatre's physical constraints was that Q-SYS combines audio, video and control processing in a single piece of hardware, resulting in a greatly consolidated equipment package that is quicker (and less costly) to install. As the facility did not have enough room for processors in each room, the Q-SYS Core processors – which can easily accommodate multiple rooms on a single Core – provided the only solution that could operate outside of a traditional projection booth concept.

Ease of use was a key consideration for the staff at Alamo Drafthouse. The easy accessibility and intuitive user interface of the Q-SYS TSC series touch panels prompted Louis to conclude: "Q-SYS offers the most intuitive and user-friendly system control that we've ever worked with."

The QSC Cinema team's support network provided Alamo and MiT with invaluable technical assistance and counsel on planning the layout of the audio system, as well as through continued involvement with the project, with further assurance of infrastructure and equipment reliability well into the future.

Photo courtesy of Zane Roessell

ABOUT QSC

Founded over five decades ago, QSC is a globally-recognized leader in the design, engineering and manufacture of award-winning high-performance loudspeakers, digital mixers, power amplifiers, audio processors, digital cinema solutions, and the Q-SYS™ software-based audio, video and control platform. Offering reliable, scalable and flexible solutions for professional installed, portable, production, corporate and cinema applications, QSC puts customers first with its highly-acclaimed sales, service, and support networks worldwide.

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