

Digital Cinema: The Industry and Kodak



More than 4000 of the world's first-run screens have 2K digital projection capability today. That is somewhat remarkable given that exhibition is a large, well-established, and complex industry, with more than 100,000 screens worldwide - and there were no digital cinema-grade screens just a few years ago.

While film continues to be the predominant exhibition medium - by some accounts, this will be the biggest summer ever, with several releases of more than 10,000 film prints per title - digital cinema is gaining acceptance, and Kodak is actively participating in its deployment with a range of technology, systems and service solutions.

The growth of digital cinema is being fueled by several factors. The price of the systems has come down and business plans are being offered that make the system affordable on a shared-cost basis between exhibitors and distributors. Exhibitors have tested the technology and have confidence in it. Audiences like what they are seeing. And, most importantly, content is available.

The majority of today's major movies start with capturing on film, leading to a digital intermediate (DI). That's a starting point for digital prints. After the DI is made, the data needs to be compressed, encrypted, and 'packaged' to create a digital distribution master, which is duplicated and sent to theatres, where it is decrypted for projection. Major studios are releasing 90% of their titles in both film and digital prints. Smaller distributors are following their lead.

Digital projection offers the additional opportunity to present alternative content in 2D or 3D. Some believe that digital 3D is the 'killer app', and it may be. 3D movies released to date have delivered about three times the box office

results on a per-screen basis as their 2D counterparts; they tend to play in theaters longer; they command a higher ticket price; and, they provide a unique cinema experience. Studios have taken notice; there is more 3D content coming.

Today, most digital movies are delivered to the theater on hard drive. Decryption keys also need to be generated and sent. A typical 2-hour movie takes about forty minutes to load into the server from a hard drive; it can take 16 hours to be received via satellite. Digital distribution is a complex process and it's not 'free' (as some had predicted), but it's becoming well understood and more widely used.

Connectivity

A key advantage of digital is, its technology is 'connective'. The ability to 'interconnect' theatrical functions, to automate processes,

and to link multiple operations adds flexibility and efficiencies to the digital installations that are not possible with an analog system.

This new connectivity is at the heart of the Kodak Digital Cinema offering. With the Kodak Theatre Management System (TMS), digital movies can be received, loaded, migrated to the proper screen, staged, combined with the proper keys, trailers and pre-show content and played - all automatically and all driven by the cinema's ticketing system.

The pre-show network can also be connected and managed automatically, as can the lights, drapes, and audio in each auditorium - for a seamless presentation. The health of each component of the system can also be monitored and problems diagnosed and corrected automatically. All of that creates new efficiencies and potential revenue sources for exhibitors.

Beyond the TMS, Kodak is delivering a fully integrated, DCI-compliant system, including a content player that handles MPEG or JPEG compression and can play 2D or 3D content. Expectations are high for digital 3D screen growth in 2007, with more than 1000 screens projected worldwide by year-end, largely by market-leader REAL D. Kodak has a worldwide alliance with REAL D and is their agent in Asia and Australia.

Globally, Kodak has pre-show and digital cinema systems installed in 2000 screens in 200 sites, including 80 showing feature movies, managed by 20 exhibition chains, in six countries. Kodak's ongoing commitment to film remains strong, but the company is fully involved in digital cinema as well. Building on a century of success in motion picture innovation, Kodak continues to demonstrate leadership and gain success as the evolution towards digital cinema continues.

