

FILM'S LAST STAND?

Digital Projection, Digital Production & 3D Transform the Giant-Screen Cinema Industry



By James Hyder

Forty years ago, in 1967, Imax Corporation was founded by filmmakers Graeme Ferguson and Roman Kroitor along with businessman Robert Kerr and engineer Bill Shaw. Today there are 287 IMAX theaters around the world. An additional 130 large-format film theaters operate with other brands of projection systems.

In 2007, Imax and the industry it spawned face challenges as serious as any they have ever confronted. They can be summed up in two words: digital projection.

If 4K (4096x2160 pixels) projectors become the standard for 35mm replacement, most industry observers feel that matching the high-end 15/70 film projection system of the average IMAX theater will require no less than 8K, the equivalent of four 4K images. By comparison, an IMAX frame is ten times larger than a standard 35mm frame.

The equivalent of a large-format film image can now be created with multiple digital projectors. In fact, this is already being done. Two IMAX theaters in Europe, the Tycho Brahe Planetarium in Copenhagen and La Géode in Paris, each use six Barco 1.4K projectors to nearly fill their dome screens. Although both continue to show film, Paris is now showing a digital version of a new film that was produced and released on 15/70 film. The digital system can also project in 3D, which has been impractical on dome screens.

Imax has said that its own digital system, to be unveiled in 2009, will consist of two Sony 4K projectors and proprietary software and hardware developed for the DMR process that will provide higher quality images than other digital systems.

But this highlights a major change coming to Imax's position in the industry. Even after certain initial patents expired and competitors entered the market in the late 1980s, Imax maintained its primary position, its name synonymous with the experience of ultra-high-quality films on six-story-tall screens.

A boom in new theaters began in the 1990s as Imax, by then a publicly held company, began marketing its film projectors to multiplex theater chains. The Walt Disney Company was the first to respond, with *Fantasia/2000*. In 2002 Imax announced that it had developed a process for converting 35mm Hollywood movies to its format by digitally reducing film grain and enhancing picture quality. Since then, 21 films have been given the IMAX DMR® (for Digital Remastering) treatment, the latest being *Harry Potter and the Order of the Phoenix*, which opened in July. Many of these films have been extremely successful in IMAX theaters, including this year's *300* and *Spider-Man 3*, both of which broke box-office records.

In digital projection, Imax has little to offer that is uniquely its own, and it will be competing with some

of the largest electronics companies in the world. After being a big fish in a small pond, it is about to become a small fish in a very big pond.

Imax has some advantages even here, not the least of which are its brand recognition, and its relationships with the installed base of IMAX theaters and with Warner Bros. Pictures, the largest provider of DMR films. But one has to wonder if they will provide enough of a competitive edge when so many other companies will be able to offer similar systems, possibly at lower prices. Christie, Barco, and other manufacturers may not choose to actively court the minuscule giant-screen theater market, but if they do, there is little doubt they will be able to give Imax a run for its money.

Imax is initially aiming its digital system squarely at its commercial customers, many of which currently use the low-cost IMAX MPX® system that is designed to be placed in existing multiplex houses. These are the smallest IMAX screens and may provide an acceptable venue for a 6K digital image, the expected resolution of the IMAX digital system. But such a picture would probably be inadequate on the world's largest IMAX screens — up to 80 feet tall and 120 feet wide. Those screens are so gargantuan that even tiling them with four 4K images might not be enough to match or exceed the resolution and brilliance of a 15/70 film image.

Many theaters, particularly in the institutional segment, will probably continue to use their film projectors for as long as possible. But as the conversion to digital progresses in both conventional and large-format theaters, giant-screen filmmakers, distributors, and theaters will all face new pressures. As fewer 35mm and 70mm film prints are made, film stock will become more expensive, as will processing and other film services. This will increase the impetus to go digital.

Film will continue to be used for image capture for some time: digital cameras are not yet as good or as simple to use as film cameras. But rising print costs and a decrease in the number of titles printed to film could bring about a tipping point that accelerates the spread of digital projection in giant-screen theaters. The only question is when, and how quickly the transition will take.

The next few years will be a time of change for Imax and the entire large-format film industry. The transition to digital may be painful for some, and it may see the end of a film presentation format that was unparalleled in its brilliance and clarity. With luck, its replacement will be even better. But who will provide that system is, at this moment, anyone's guess. . . .

James Hyder is editor and publisher of LF Examiner (www.LFexaminer.com), the only business newsletter dedicated to covering the large-format film industry. He has been involved in the industry since 1984, including 12 years at the Smithsonian's National Air and Space Museum in Washington, DC. He can be reached at editor@LFexaminer.com.

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