Film-Tech

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FILMNOTES

FOR REEL PEOPLE

News and Information for the Theatrical Motion Picture Industry from Eastman Kodak Company

THE FUTURE OF CINEMA

Cinemark, Argentina

Cinemark

Sony's Duncan Clark

Projecting the Future

Boston Light & Sound

Splendor of 70 mm

REFLECTIONS ON SILVER HALIDE

By Sean Lohan
Director of Business Development
Theatrical Distribution
Professional Motion Imaging
Eastman Kodak Company

When I was in the theatrical exhibition business, I remember hearing the first rumblings about electronic cinema. That was about 10 or 12 years ago. The sales pitch was that film was a "mature" technology, more than 100 years old. Electronic projection was a brand new idea that would inevitably catch up with film and save distributors money by cutting costs.

There were only two things wrong with that presumption. One was that the comparison between new and old technologies simply wasn't valid. It turns out that film and hybrid imaging technologies are continuing to evolve at an extraordinarily rapid pace. Two, only death and taxes are inevitable.

My computer, for example, helps me do my job better. Every new computer upgrade runs more powerful programs faster and better.

But, I don't think that analogy applies to electronic projection as much as it does to film. A major reason is that electronic projection is not better than film. The boldest claims say it is as good as or almost as good as film projection. And that is only true in some circumstances. For example, I wouldn't want to manage the cinema where an electronic projector is used to put an anamorphic (2.4:1 aspect ratio) movie on a 50- or 60-foot wide screen. That's important because contemporary audiences have a big appetite for wide-screen movies projected on wall-to-wall screens. I don't know what the future will bring, but today, no video projection system packs as much picture information as film, and that becomes more evident when you project movies on bigger and wider screens.

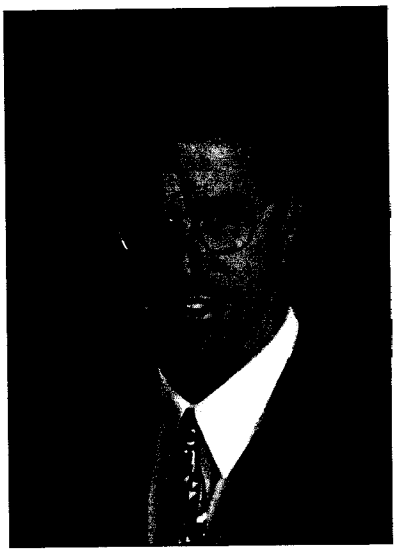
The other major factor is that motion picture technology is evolving at an extraordinary pace. Today's camera films are capable of recording both richer and more subtle details in just about any lighting environment. This provides more creative latitude to tell stories than anyone imagined just a few years ago. There have been complementing advances in print films that now have the capacity to deliver those rich and subtle images on the original negative to motion picture screens.

Our scientists expect us to continue making quantum leaps forward in enhancing the movie-going experience both in capture and delivery systems.

While at AMC, I was aware that Kodak manufactured most of the film used to produce and project movies. As a Kodak employee, I've come to understand that the possibilities for on-going advances in film and hybrid imaging technologies literally boggle the imagination.

One example is *The Prince of Egypt*, the wonderfully entertaining computer-animated movie produced and distributed by Dreamworks, SKG. The details, sharpness and color rendition were, at least in part, due to the digital intermediate technology developed by Kodak. The company earned a 1999 technical Academy Award for developing the laser film recorder used by Dreamworks to transfer computer-generated images onto film. Dreamworks was also among the first distributors to use one of the two new Kodak Vision films for the worldwide distribution of a feature.

There are other impressive advances in film imaging technology on the horizon. Cinesite, a Kodak company, is



now offering a digital intermediate service which provides filmmakers with cutting-edge technology for creating special looks that augment stories. Use of digital intermediate technology will also result in a leap forward in the image quality rendered on release prints.

In order to help theatre managers maximize the potential of film as a delivery system, Kodak has developed a program we call the *ScreenCheck* Experience. This program is designed to help exhibitors provide the best possible movie-going experience for their customers.

At most cinemas, we believe a combination of tweaking projection systems and training staffs can make a big difference in the quality of images projected on the screen. Kodak will also certify screens to let movie-goers know they are seeing films in that cinema the way the director and cinematographer meant for them to be seen. This is an exciting time for all of us to be in this business. Progress is inevitable, but there is more than one path to the future.

For more information, call Sean Lohan at 310-204-7149 or email: slohan@kodak.com

Cover photo: Cinemark, Bahia Blanka, Argentina

BOSTON LIGHT & SOUND: PUTTING THE BEST IMAGE ON THE SCREEN

"It's all my dad's fault," Boston Light & Sound co-founder Chapin Cutler confesses. "He told me that anything worth doing is worth doing well." Cutler and partner Larry Shaw started Boston Light & Sound 21 years ago to fill a niche market of building temporary location screening rooms for films shooting in the Boston area.

Both were experienced projectionists; Cutler and Shaw had wanted to tackle the especially challenging requirements associated with screening films for the filmmakers. Their first project was *The Brinks Job*, directed by William Friedkin. Today, there are 25 employees and the firm's reach extends to some of the largest film venues in the world. They also developed special projection equipment and accessories for a tour by the rock group REM. The latter was designed to allow film images to rotate 180 degrees projecting gigantic images throughout enormous venues. Boston Light & Sound also oversees projection at World's Fairs and other non-traditional venues.

"It goes back to the first theatre I worked at as a projectionist," Cutler explains. "When I was the low guy on the totem pole who had to work Thanksgiving Day, it felt great that I was participating in giving the audience an experience they wouldn't have any other way. Both Larry and I took pride in hitting the cues so they're perfect; hitting the lights so they went down and came up just when they should; opening the curtain at just the right moment. In the good old days they used to call it showmanship. Our business is an extension of that experience."

When they set up dailies rooms for location productions, they provide the client with the very best images the film can produce. "'Good enough' is never good enough," he says. "That's why we take the position that we will meet or exceed SMPTE standards in terms of screen illumination and image stability with any location dailies room. Meeting SMPTE standards is an absolute minimum to us under any circumstance."

Though Cutler is all too aware that some exhibitors don't share his zeal, he believes that most could significantly improve their presentations without a significant investment. Cutler, who recently oversaw projection for the Sundance Film Festival, recalls that his crew transformed a sub-par theatre in surprisingly short order.

"We spent four hours, and I would put the picture presentation up against any Westwood premiere," he says. "It was stable. It was bright. Suddenly the theatre was presenting a top-quality image and it really didn't cost that much money.

Cutler's Advice

"Don't let the film drag on the floor. Use white gloves to do splices. Keep rollers clean and lined up and get rid of the ones that have nicks. It's really not magic," he continues. "It can be as simple as using a little bit of Windex cleaner on both sides of the glass. Exhibitors need to use the best equipment they can and keep it maintained. They need an operator who knows the equipment and isn't loaded down with so many responsibilities that none can get done perfectly. You can increase your audience size because more people are willing to go out to the movies when they know it's something special—something completely different from what they can get at home. I think if companies put together cinemas with that kind of quality in mind, it could make a difference in the patterns by which distributors book and audiences see movies.

"Look at the Sony Lincoln Square in New York," he points out. "That's an example of a theatre that does it right. People come there from all over the city rather than going to see the same movie in their own neighborhood. In Boston, people go out of their way to see movies at the [GCC] Framingham theatres. Some exhibitors are beginning to realize that quality means business."

Cutler recalls one of the moments that make it all worthwhile. He presented a section from Alfred Hitchcock's classic, *North by Northwest*, on a gigantic screen in front of 4,000 people for an event where the original score was replaced by a live orchestral accompaniment.

Chapin Cutler and Larry Shaw, principals of Boston Light & Sound, Inc., with a Kinoton FP-38E fully electronic 35 mm and 16 mm projector.

"Sitting behind that audience watching them respond to these characters and their predicament, and seeing the audience so completely engrossed in the film, I felt that I was making a contribution. We take pride in bringing something to people they might not otherwise have experienced."

What film holds the record for winning the most Academy Awards (8)—without receiving the Best Picture Oscar? Answer, page 12.

HOW *KODAK* SEES THE FUTURE OF THE CINEMA

The experiment was conducted by a major motion picture studio at a cinema in Schenectady, N.Y. A new video projector filled a motion picture screen with live images of a Broadway show. A leading industry magazine predicted: "With this successful experiment, the technical arrangements are virtually complete for projecting on normal-sized motion picture screens... [Electronic cinema] will be a regular feature in large theatres before the New Year."

The date was July 1930. RKO was the studio. The content of the presentation was vaudeville. The article predicting the inevitability of video cinema was published by *The Theater Guild Magazine*. Maybe the timing was wrong. The depression was probably a formidable financial barrier for RKO and exhibitors were already burdened with the cost of converting to sound.

The movie-going experience had also taken a quantum leap forward. Sound added a new dimension to movies, enhancing the visual experience. Silent movies were photographed and projected at the rate of 18 frames per second. In order to play back high-quality audio, "talkies" had to be produced and projected at 24 frames per second. That meant the audience was absorbing 33 percent more visual information.

The images stopped flickering. Without fanfare, the movie-going experience became more engaging.

The moral is that the success rate of enticing new technologies is meager. J.B. Priestley, the English novelist and social commentator, had it right in 1927 when he wrote: "Solemn prophecy... is obviously a futile proceeding, except in so far as it makes our descendents laugh." Just ask people who bought a Beta format video system.

"This is a great time to be in the motion picture industry," observes Richard P. Aschman, president, Kodak's Professional Motion Imaging. "Thousands of screens are being built in many markets around the world. The overarching trend is toward enhancing the entertainment value of the movie-going experience. The public wants bigger screens and exhibitors are responding. Comfor-table stadium seating is also becoming an expectation along with digital stereo sound."

Cinema Operations

Aschman has named Robert Mayson general manager of a new Cinema Operations group as part of the Professional Motion Imaging division. The new group is charged with responsibility for working with exhibitors to enhance the movie-going experience. Mayson is assembling a team that will focus the company's world-class imaging technology on improving the quality of pictures and audio seen and heard in cinemas.

"We believe relatively simple practices and training can improve the brightness of images projected on movie screens by an average of 50 percent," says Mayson. "That would bring it up to SMPTE standards. We are working with exhibitors to diagnose and correct problems. It can be as simple as changing a bulb in a lamphouse or teaching people how to properly clean lenses."

Mayson notes that Kodak has historically provided technology support for the production, postproduction and distribution segments of the motion picture industry. As a result, he says, the evolution of motion picture and hybrid digital film imaging technologies developed by Kodak have been customer-driven.

"Our scientists don't just decide it's time to invent a new film," Mayson says. Cinematographers and directors tell us they need a film with certain imaging characteristics. We recently developed two color print films. Maybe a movie has pivotal scenes staged in a shadowy setting, and the director wants to trigger emotions by giving the audience a glimpse of images in the darkest parts of the frame. They can now choose the print film which is designed to deliver that look to screens."

Mayson notes that Kodak recently introduced a sound film used in audio postproduction. The new audio film is designed to reduce "noise" on the soundtrack when projected. It will also reduce the failure rate of digital audio tracks, which causes films to default to the analog track in some cinemas.

New Technology

"The most intriguing breakthrough on the near horizon is the evolution of digital intermediate film technology being driven by Kodak," Mayson says. "It was used in prototype form in *Pleasantville*. Nearly the entire movie was digitized, and images were desaturated and manipulated to create a look and mood integral to the story. Cinesite (a Kodak company) digitized the film

and also recorded the processed digital pictures onto film using the advanced laser technology, which recently earned Kodak kudos from the Academy of Motion Picture Arts and Sciences for scientific and technical achievement.

"This is potentially a revolutionary extension of the art of filmmaking," says Dean Cundey, ASC, whose cinematography credits include *Who Framed Roger Rabbit?, Jurassic Park* and *Apollo 13.* "We'll be able to enhance images in exciting ways. We can change the color of the sky as a scene evolves to make it darker and more ominous. We can alter any part of a frame just like we do with commercials today."

What about the impressive demonstrations of digital projection at ShoWest and other sites? "The quality of the images we have seen with some of these demonstrations is impressive," Mayson admits. "But, it is a tech- nology demonstration, and not even a full scale one at that. A real full-screen demonstration would pit the best video projection can do at various compression rates against the best film images we can put on the screen in the near future. *Oklahoma!* was produced in 65 mm format at 30 frames a second in 1955. If we made a 70 mm release print of that 44-year-old film, and projected it on a 60- or 80-foot screen with today's technology, it would knock your socks off. Digital projection couldn't come close to that standard.

"The unrealized goal of the electronics companies selling digital projection technology is to emulate the quality of the film-look of today. We don't think that's good enough. The art and science of filmmaking are constantly evolving and advances in technology are essentially free, because you can load the newest film in the oldest projector. As long as the projector is properly maintained, you get all the benefits without new costs."

What About Digital Projection?

What about the business case for digital projection? Even if technically possible, it may not be financially viable. "I don't know of a studio that believes there's a business case today," Mayson responds. "Right now, you have a technology demonstration with prototype equipment and no real price tag for hardware or infrastructure for converting film images and delivering them via satellite. We don't know what it will cost to maintain and operate hardware in cinemas. To make it practical, you'll have to compress images and audio data during satellite transmissions. A computer and software are needed to decompress images and audio content at individual cinemas. Can you do that and still retain the subtleties in pictures and sound that are integral to the stories? Directors and producers will be asking that question.

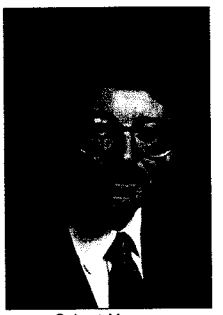
"What about costs for the infrastructure? These include the conversion of film images to digital format, creating, implementing and maintaining compression software and hardware, satellite distribution, installing satellite dishes and file servers needed to store films at individual cinemas. Will air-conditioned, clean room environments be a requirement for maintaining file servers? What about the installation of cabling to distribute movies from the server to individual projectors? Have all those cost considerations been factored into the economic scenario for implementing electronic cinema? Who pays those costs?"

What About Piracy?

"Is there a proven, foolproof encryption system that guarantees that original quality movies won't literally be pulled out of the air? Tell that to people with "unclonable" digital cell phones that have already been cloned.

"How about standards? Will there be one standard so any motion picture distributed in digital format will be compatible with all digital projectors, or will movies be distributed in multiple formats? Who will make that decision and enforce standards? What if there are dramatic breakthroughs in digital technology which quickly obsolete older digital projectors? Who pays for those upgrades, and will some exhibitors get left behind?

"Let's not trivialize the complexities related to installing, maintaining, operating and providing content for digital projectors," he says. "That could be an expensive mistake."



Robert Mayson

Mayson says that Kodak has a deep commitment to the future, built on the foundation of 110 years in the industry. Kodak is investing heavily in research and development for exploring and advancing all aspects of film, digital and hybrid imaging technologies designed to satisfy the future needs of the industry.

What are the plans for the Cinema Operations group? "We have lots of ideas to partner with exhibitors to maximize the quality of projection. We will identify screens with the *ScreenCheck* Experience logo so the public knows where they can see movies the way they're meant to be seen. In the longer term, we will work with exhibitors to identify their goals for the future, and we will develop and implement the film, digital and hybrid imaging technologies, products and services that are needed for the long haul."

Send your comments to rmayson@kodak.com

SONY'S DUNCAN CLARK TAPS AN EMERGING (AND POTENTIALLY HUGE) MARKET

Duncan Clark began working as head of the international marketing wing of Columbia Pictures in New York in 1987 after spending many successful years in the world of film publicity and advertising in England. In 1996, he took over the international distribution division of what was by then Sony Pictures Entertainment.

Clark oversees a massive organization that markets and distributes Sony product into more than 60 countries. His responsibility is growing as non-U.S. revenues continue to increase every year.

"International audiences form such a big slice of the pie now," he says, "and we get involved in the process of handling a film in the early stages of production. I really thrive on working with filmmakers to try to match the efforts they put into making a film when it comes time for the international release. They, in a sense, are handing their "baby" over to us and we want and need them to be comfortable and confident about its care."

Q: Do you see the international "slice of the pie" continuing to grow?

A: If you look at the simple statistics of the population of the planet, there are about 260 million people in the U.S. and 5-3/4 billion on the planet. Right there arithmetically we should be much bigger. Obviously, there are big chunks of the world without a sophisticated infrastructure for cinema, but this is changing with the increase in building new screens and the development of new markets. When one looks at the populations of South America, Europe and Asia, (taking into account the development foundation emerging as new theatres are being built), then we become a very important part of the equation. I guess it's the "good news/bad news" position.

Q: How do you mean?

A: The good news is that what we do is in sharp focus, and the bad news is that what we do is in sharp focus. I'm kind of joking here... bottom line we get more attention than we ever did in the past ... from all sides of the business. Overall that's simply great.

Q: Do you see that trend continuing?

A: Yes. The ambition is in place from all sides. There is a tremendous growth prospect over the next five to 10 years.

Q: So, you're saying if exhibitors put the venues there, then the market will be there?

A: As far back as 1982-83, we were looking at the international marketplace as a potentially enormous business. At that time, the reality was that the retail position just wasn't in place. For example, in England in 1985 there were some very big hit movies going through the market, but the number of admissions per year had dipped to an all-time low of about 50 million. There had been no development of new cinemas for years at that point. That began to change in 1986 with the introduction of modern multiplexes. Now with the industry almost completely re-engineered, the number of admissions is approaching 160 million a year... and we think those numbers will grow. There are many other markets which have only begun this process.

Q: Don't audiences in different countries prefer different films?

A: Most TV shows and movies that are big here are big everywhere. The ones that are absolute disasters here are disasters there. It's more true than not. However, if something is geared to a very specific cultural market, it will probably not travel well. I could present a wonderfully crafted movie that happens to have as its backdrop that very English game of cricket. Most of the audience simply would not understand it nor appreciate it. Therefore, it simply won't succeed. The same is generally true internationally for movies about subjects specifically American.

Q: Has any Sony movie recently surprised you by doing more business internationally than you'd expected?

A: A nice surprise for me recently was *As Good As It Gets.* I loved it when I first saw it—great writing, great performances—and I thought we'd do some good business. But I was a little concerned that it was a little too literate and a little too sophisticated in its writing to really become a major hit in the international market place. Jack Nicholson is a big star, and Jim Brooks has great credentials as a director and writer, but I had some concerns. Months later, I was in South America during its release and visited theatres where it was playing. What a pleasant surprise to be sitting in a theatre in Bogota, Caracas and Sao Paulo sharing with the audience their real enjoyment of this film! How gratifying. The movie ended up doing about $170

Continued on page 7

BALLANTYNE OF OMAHA: PROJECTING THE FUTURE

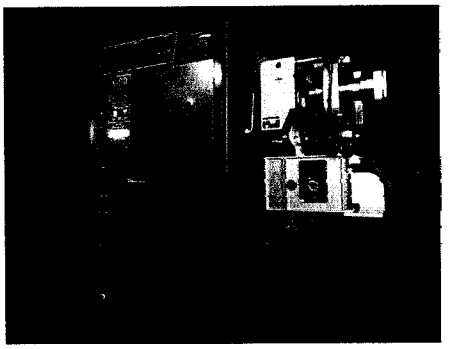
When an exhibitor buys a projector, he wants it to outlive his grandchildren," says Ballantyne of Omaha's Senior Vice President Ray Boegner. For Boegner, that requirement is not entirely unreasonable. Ballantyne, makers of the Simplex and Century projectors, shares the ever-growing cinema market with very few competitors in great part, Boegner declares, because of the quality of the machines they produce.

"Any Simplex ever made," he says, "could be modified to today's standards with a small amount of machine work at most."

In addition to the 35 mm workhorses, Ballantyne also manufactures specialty film projectors used for Iwerks and Megasystems and a VistaVision machine that runs at 48 fps. The company manufactured nearly 3,000 projectors last year.

Ballantyne began as a theatre supply company and went into the drive-in speaker business in the '50s. "Since then we've grown through acquisitions," says Boegner. "We started acquiring companies in the '70s. The first was Strong Electric—now called Strong International, though it is a division of Ballantyne of Omaha. We bought Simplex in 1982 and then the cinema products division of ORC six years ago."

Projector manufacture is a growth business, he explains, in part because of the international expansion happening at many circuits. "Twenty-five percent of our business is outside the U.S.," he says, "with our largest export base being Canada followed by Mexico. The U.K. has been very strong and the rest of Europe and South America have been growing. Asia has fallen off a little because of the economy, but we expect it to pick up pretty soon."



Strong International's Simplex projector and X-90 console.

Boegner explains that many of the peripheral changes that have affected projectors are the result of the bigger screen presentations that are becoming so popular throughout the world. "People used to ask 'how many screens can I fit into that building,'" he says. "Now, they ask, 'how big of a screen can I put in that space?'

"I think audiences everywhere are getting more demanding and rightfully so. They want to be comfortable, and they want wall-to-wall screens. Exhibitors are putting a lot of money into these buildings and they have a potential to make a lot of money, but only if they offer audiences something that's a lot better than they can get sitting at home watching TV."

Toward that end, he says that Ballantyne is aggressively seeking ways to make sure that projectors run as smoothly showing on 60-foot screens as they do on 30- or 40- foot screens. "As screens get bigger," Boegner explains, "the focal length on projector lenses must get smaller. The standard flat lens for a 35 mm film projector 10 years ago was 60 mm. Today it's 35 mm, because screens are nearly twice as big." He explains that film projector technology has kept pace with expectations for higher performance.

"When you have bigger screens you are projecting larger images which magnifies imperfections," he explains. "You have to get more light through the film without burning or buckling it. We have an ongoing R&D program that does work on lens turrets, gate modification, reflector designs, heat filters and other things that are affected by the trend toward bigger screens.

"There are constantly things we're doing to help exhibitors adapt projectors to the changing needs of the marketplace," he says, "but the basics of the machines don't change. That's among the many strengths of film projectors. There is no planned obsolescence.

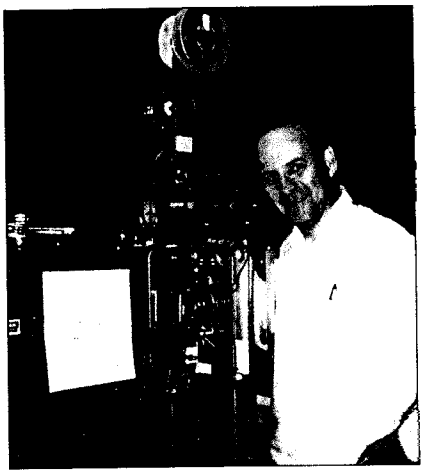
SONY'S DUNCAN CLARK

Continued from page 7

million dollars internationally. We inside the entire organization are all very proud of that.

Q: It sounds like you're pretty optimistic about the future of this business.

A: Oh, yes. As cinemas throughout the world continue to improve, there will indeed be significant growth. Audiences in the U.S. have enjoyed the big screens, auditoriums, comfortable seating, state-of-the-art sound and projection facilities for many years. No market comes close to the kind of cinema-going frequency and sophistication of this market. If one looks at the U.S. as a model for how good it can be, no other country is close ... yet. "Yet" is the important word here... we have a very exciting future ahead of us.



John P. Pytlak
Senior Technical Specialist
Worldwide Technical Services
Eastman Kodak Company
e-mail: jppytlak@kodak.com

"In the Splendor of 70 mm": Part 2

As good as theatres and movie sound are getting today, something is often missing. The "Roadshow" films of the '50s and '60s had it. The "event" films of the '70s and '80s had it. It isn't digital sound—although the premiere of *Oklahoma!* sounded very good with the six-channel analog magnetic sound and tube amplifiers of its day. It isn't a bigger screen—today's 75- and 80-foot wide screens even surpass the famed huge screen at Radio City Music Hall. It isn't a big lamp—today's 6000-watt xenon arc lamphouses produce more light than most of the carbon-eating monsters of the past. It isn't a lack of good movies—every era has its blockbusters, and we've been fortunate to have a lot lately. In case you haven't guessed, what's often missing today is "The Splendor of 70 mm."

Recent Trend to Larger Screens and Closer Viewing Distance

Recent trends in theatre design have emphasized larger wall-to-wall screens with the audience sitting closer to the screen, so it fills their field of view. Every new megaplex boasts one or more screens wider than 50 feet, with some over 70 feet wide! Wider screens and closer seating layouts mean that the distance from the projector to the screen is decreasing, requiring very short focal length projection lenses with very shallow depth of focus, magnifying any projector unsteadiness or focus problems.

Low Screen Luminance Is a Problem, But So Is Heat

Unfortunately, recent surveys have shown that most of these huge screens also have unacceptably low screen luminance. Industry standard (SMPTE 196) specifies 16 footlamberts screen luminance, with an allowed range of 12 to 22 footlamberts. Even with a very large 6000-watt xenon lamp and curved gain screen, a 35 mm projector can adequately illuminate a screen up to about 25 x 60 feet. Increasing power, reducing heat filtration or "hot-spotting" might get a bit more light, but at greater risk for heat damage to a 35 mm print. At these power levels, heat-related "focus flutter" becomes a serious issue that degrades sharpness. You can only put so much energy through a piece of film smaller than a postage-stamp! Bigger xenon lamps are not the answer, as focus flutter and the risk of heat damage increase dramatically as power increases.

"70 mm prints produce a significant improvement in the quality of the film image on large screens."

Advantages of 70 mm Prints for Big Screens

One reason 70 mm looks better on a big screen is that a 70 mm print allows "spreading out" the energy of the lamphouse over a much larger area of film. A 70 mm frame is 0.870 x 1.912 inches, almost three times larger than a 35 mm "scope" frame of 0.690 x 0.825 inches, and over four times larger than a 1.85:1 "flat" 35 mm frame of 0.446 x 0.825 inches. This means that for a given size lamp, the risk of heat damage to the film is much less. There is significantly less heat-related "focus flutter," so the image on the screen is much sharper.

Because the image on a 70 mm print is so much larger, a longer focal length projection lens is used. Assuming a common image height on the screen, the focal length of the lens used for 70 mm will be twice that of the equivalent lens used for 35 mm 1.85:1 "flat." The "depth of focus" is much greater, further reducing the effect of "focus flutter" to improve sharpness.

Steadiness is improved because the magnification of the image is less. Annoying jump and weave are significantly reduced.

By spreading out the heat energy across a larger film area, using longer focal length lenses having greater depth of focus, and reducing unsteadiness, 70 mm prints produce a significant improvement in the quality of the film image on large screens.

Brighter Is Better

Brighter is better. Low screen luminance produces dim, lifeless pictures, with murky shadows and dull colors. The larger image area of a 70 mm print allows increasing the amount of light on the screen. Using the best of today's technology (large efficient lamps, heat

What person is the all-time Oscar champ? Answer, page 12.

filtration, multicoated lenses and port glass, curved gain screens), it's very difficult to consistently achieve the SMPTE aim of 16 footlamberts on a 25 x 60 foot screen with a 35 mm print. It is impossible to do it on a 35-foot high screen, short of burning the film to a crisp. By spreading the energy out over a larger area of film, much higher levels of light can be obtained with 70 mm, allowing even the largest of today's huge screens to be uniformly lit to meet the SMPTE standard of 16 footlamberts.

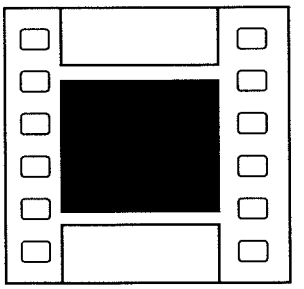
"Death by Digital"

Until 1990, 70 mm was the premier sound format. The six magnetic tracks were capable of excellent sound, offering better frequency response, signal-to-noise, dynamic range and channel separation than any 35 mm analog sound format. But magnetic sound had its problems. Striping and sounding prints was time-consuming and expensive, adding greatly to the cost of a 70 mm print. Striping costs continued to increase, due to the added cost of meeting more stringent environmental standards for the solvents used. Magnetic tracks were easily damaged. Maintenance and alignment of the magnetic heads and "penthouse" in the theatre were problematic. The advent of digital sound for 35 mm prints in the early '90s made many distributors and exhibitors question the need for the much more expensive 70 mm prints, since magnetic sound no longer offered an advantage.

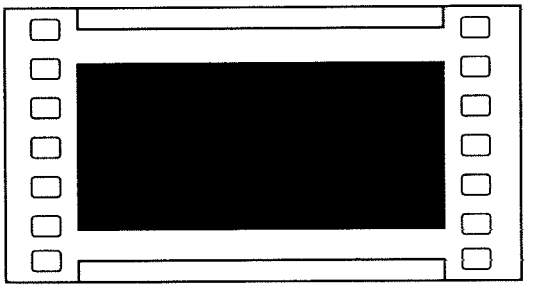
The ever decreasing availability of 70 mm prints has led many theatre circuits to leave 70 mm capability out of their building plans, even for their "flagship" houses with huge screens and auditorium capacities exceeding 500 people. In older theatres having existing 35/70 mm projectors, the 70 mm capability has often not been maintained. It is ironic that fewer and fewer theatres are able to show 70 mm when the need to present high-quality film images on huge screens is greater than ever.

A 70 mm Rebirth?

What will it take to bring "The Splendor of 70 mm" back to today's theatres? The first step has already been taken. The great success of the dozen or so 70 mm engagements of "*Titanic*" last year again clearly showed that movie audiences prefer the quality of 70 mm presentation on large screens. One theatre in Toronto ran a 70 mm print of "*Titanic*" most of the summer to sell-out business, months after it had played out in 35 mm engagements. DTS™ digital sound is now available for 70 mm prints, eliminating the cost and hassle of magnetic sound while offering the superior quality of digital sound. If the theatre already has an existing DTS processor, 70 mm prints only require an additional time-code reader head for the wider film. (70 mm uses the same DTS disks as 35 mm prints.)



35 mm Anamorphic print Image area
.825 inches x .690 inches



70 mm print image area
1.912 inches x .870 inches

What About 70 mm Print Availability?

Even though the cost and hassles of magnetic sound are a thing of the past, 70 mm prints are still more expensive than 35 mm prints. So what can exhibitors do to convince distributors to supply 70 mm prints? Some savvy European exhibitors actually pay for their own 70 mm prints, knowing that 70 mm will significantly increase business. Others may prefer to negotiate having 70 mm prints in their booking contracts, as a "win-win" for both distributor and exhibitor. First, let distributors know that you are fully equipped to properly play 70 mm with digital sound. Show them that you can get a brighter, sharper, steadier image that draws big audiences to your 70 mm theatre. It really helps to have 70 mm capability in your largest auditorium, so you can point out that the print is being shown to the largest possible audience, rather than needing several 35 mm prints for smaller houses. It also helps to have one smaller auditorium equipped for 70 mm, so you can assure the distributor that they won't be stuck with a "homeless" 70 mm print as the booking completes its run in a smaller house. Cooperate with the distributor in publicizing and promoting the 70 mm presentation at your theatre. You might even dig out that "Presented in the Splendor of 70 mm" banner! Finally, take good care of the print, so the quality shines on your screen, and those that follow.

The Time Is Now!

Look at the 1999 release schedule. The big pictures of the year certainly deserve "The Splendor of 70 mm." Before it can happen, 70 mm equipment must be in your theatre, and 70 mm prints must be made. Now is the time to find those 70 mm gates and "tune up" that Simplex 35/70 mm or Cinemeccanica V8 projector, or to take those Norelco DP70 and Century JJ projectors out of storage. Now is the time to upgrade to digital sound. Now is the time to convince distributors that 70 mm presents the best picture quality to appreciative audiences in large auditoriums, measured in increased boxoffice. "Size **Does** Matter," especially when filling "megascreens" in the "megaplex" with high-quality 70 mm film images.

As always, your questions and comments are welcome.

CINEMARK BRINGS MOVIE EXPERIENCE TO NEW MARKETS

The Dallas-based Cinemark International is becoming a global exhibition company. During the past five years, Cinemark has expanded from the Southwestern U.S. into new markets throughout the American hemisphere, including many which have never seen a modern multiplex.

"As the U.S. becomes a mature marketplace, we have been finding growth opportunities in other countries that are under-developed," says Tim Warner, president of Cinemark International.

While other U.S.-based circuits are expanding in Europe and Asia, Cinemark has mainly extended its reach north and south with several new complexes in Canada and a significant push into Central and South America.

"Our first ventures into the international market were into Mexico and Chile," Warner says. "We are committed to providing first class projection, seating and sound despite the fact that many of the communities where we are now operating have never experienced anything like a modern multiplex. We build to the same quality standard we are committed to in U.S. theatres with the same type of sound and projection equipment, seating and similar décor. That includes stadium seating, all digital sound, wall-to-wall screens and lounge chair comfort the way we do in U.S. circuits.

"That's the right strategy, because once we stake a claim in a new market, we don't want someone to come in behind us with a more competitive environment," he explains. "Once people experience a really great presentation in a modern multiplex they won't go back. That's why our slogan is: *The best seat in town.*"

Cinemark's Tinseltown USA in Plano, Texas has 20 screens.

Warner explains that the accessibility of such theatres has brought audiences back in communities where the people had lost the movie-going habit.

"It can take three to six months from the time we open until people start to rediscover the movie theatre as an out-of-home entertainment option," says Warner. "In a lot of the markets we're going into, it's the first modern multiplex in these countries, so we really need to market the cinema-going experience aggressively."

Warner does report some differences between the U.S. and South American approach to theatre building. "Theatres," he says, "are more likely to be a part of a mall or an entertainment center in South America than to be free-standing or the anchor to a mall as they are in the U.S. Also, in these markets it makes sense to develop complexes with fewer screens and a larger seating capacity. You don't have the same number of films released in the international markerplace as in the U.S., but there is more of a demand for seats and people want really large screens in big rooms."

The biggest difference between countries within the region, says Warner, is in concessions. "In some countries they put sugar on popcorn instead of salt, and there are certain items that are extremely popular in only one country," he says. "Every country in Central and South America prefers a different type of coffee."

Cinemark continues its domestic expansion as well, not just in terms of the number of screens, but also in what it can offer customers. "Adding more entertainment besides the main feature is a part of bringing people out of their homes and into the theatre," says Warner. "In the U.S., in conjunction with large multiplex complexes, we're putting in some IMAX screens. For 1999 we have three scheduled in Rochester, N.Y., Tulsa, and Dallas. We intend to build more domestically and internationally. Cinemark is looking beyond traditional cinemas, and creating entertainment environments."

In the past five years Cinemark has added to its number of screens 177 in Mexico, 112 in Brazil, 83 in Chile, eight in Costa Rica, 50 in Argentina, 16 in Ecuador, 17 in El Salvador and 12 in Peru. In addition, the company has 2300 screens in the U.S. and 24 in Canada and plans for growth in all these markets is ongoing.

Who was nominated for an Oscar as producer, director, actor and screenwriter in a single year for a single movie? Answer, page 12.

YOU'VE GOT MAIL USHERS IN NEW ERA OF ANALOG SOUND

With the distribution of more than 3,000 prints of *You've Got Mail*, Warner Bros. took a significant technological step toward the future of sound in the cinema. The dark, wavy lines in the optical soundtrack area near the edge of the film were a "high magenta" color instead of the usual black. The good news was that no one noticed.

"There wasn't a single complaint about audio quality," says Dolby Labs President Ioan Allen. "That's great news because we provided exhibitors with information packages explaining that we were taking a transitional step towards eliminating the use of silver soundtracks on motion picture film. We gave them a hotline number they could call if they noticed any problems with audio quality. We didn't receive a single call."

The use of the "high-magenta" track is a transitional step towards a conversion to a more efficient and environmentally friendly lab process for putting sound on film. Since *The Jazz Singer* popularized sound in the 1920s, lab processes for recording analog sound on film have remained relatively unchanged. Audio information is contained in an optically recorded track on the edge of the film. The "silver" audio track and image areas on the film are processed by labs in separate steps. The analog sound recorded on print film is "read" by a tungsten bulb in the film projector. That process has worked for more than 70 years.

Dolby Laboratories, along with Kodak and major film labs, have led a four-year effort to replace the silver track with a cyan dye track. That requires replacing the tungsten bulbs with red-sensitive LED (light-emitting diodes) readers that can "read" cyan dye tracks without any loss in audio quality. Some say audio is even improved.

Black optical soundtracks, left, were replaced with "high-magenta" tracks, right.

The LED readers cost more than tungsten bulbs, but they last longer. Most exhibitors are choosing the red LED readers when it is time to replace worn-out tungsten bulbs.

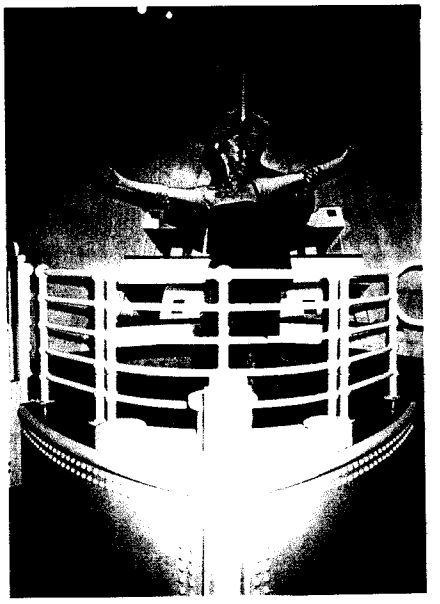
"The transition to cyan dye tracks will eliminate the sometimes difficult and cumbersome step of redeveloping the analog soundtrack," says Kodak's Frank Ricotta. "The elimination of the soundtrack redeveloping step will reduce waste and increase productivity in the laboratory, while providing environmental benefits such as reduced chemical and water usage. The elimination of a silver-containing soundtrack will also facilitate the recycling of used prints."

Ricotta explains that while many exhibitors have provided thousands of theatres with digital sound capability, many thousands of theatres continue to rely on analog sound reproduction. In addition, the analog soundtrack provides a high-quality backup should any failure occur with the digital sound reproduction.

"This is a bridge to a conversion to cyan dye tracks," says Allen. "It provides excellent sound quality with either tungsten or LED audio readers. We believe the industry will standardize on cyan dye tracks when the conversion to LED readers is completed."

Ricotta credits Warner Bros. executive Barry Reardon with being on the cutting edge of the transition. The studio previously released some 100 prints of *City of Angels*, with the "high-magenta" track. The information package concerning the transition that accompanied the 3,000 plus release prints of *You've Got Mail* contained contact phone numbers at Dolby Labs, Technicolor and Warner Bros.

"We've proven that we can handle a major release with "high-magenta" soundtracks without a single problem in the lab or in cinemas," says Jean Pierre Gagnon, technical control supervisor of printing and processing at Technicolor.



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Titanic Official Movie Tour

Visitors to the *Titanic Official Movie Tour* have the opportunity to be pictured in the memorable bow scene from the movie thanks to Kodak's Entertainment Photo System. The pictures are captured digitally with souvenir prints available in minutes. Currently in Europe, the tour is a fascinating insight into how the movie was made.

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1017 N. Las Palmas, 2nd Floor
Los Angeles, California 90038
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