

Film-Tech

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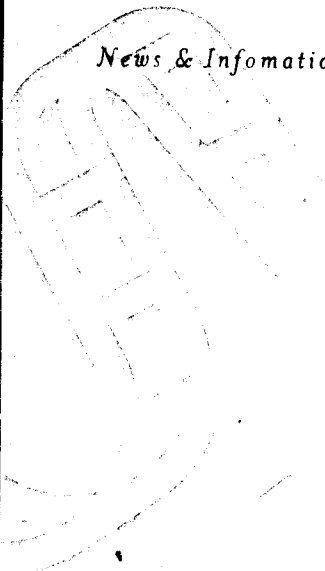
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Cinema

*News & Information for the Entertainment Industry
from Eastman Kodak Company*



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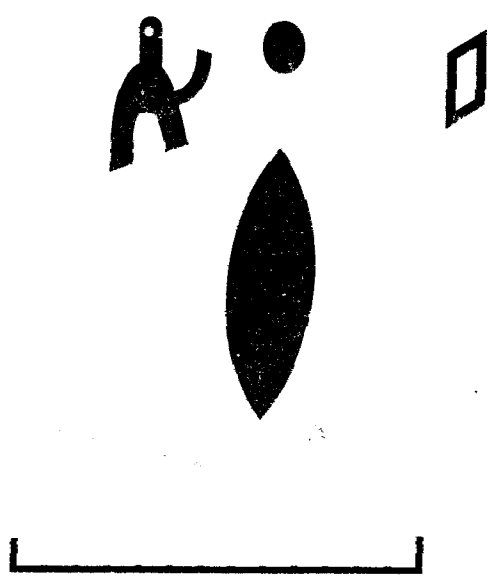
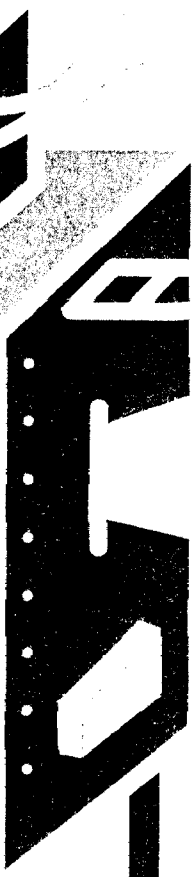
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Cinema Notes: The Start of a New Era

by Sean Lohan

Manager, Cinema Operations, US, Canada and LAR
Entertainment Imaging Division, Eastman Kodak Company



Kodak has published *Film Notes for Reel People* for two decades. Just about everything has changed during those 20 years in the ways that motion pictures are produced, distributed, presented and marketed. Even more radical changes are on the horizon. Some people believe that in the near future, cinemas will be competing with streaming personal videos delivered into homes on the Internet. The technology is almost in place to deliver on that promise. There is no doubt that digital television (DTV) will offer consumers a more diverse menu of motion pictures that will be displayed on larger and wider high-definition screens. At the same time, we believe that the public will still enjoy the social experience that is unique to the cinema. The challenge—for those who manage cinemas—will be to differentiate the experience they offer to attract consumers to "big screen entertainment" by making it "superior" entertainment, and to provide an experience that is unlike any other.

With this issue, we are introducing a new name and a new look for this publication. One thing that won't change is Kodak's commitment to the future of the motion picture industry. *Cinema Notes* will offer interviews and information about all aspects of the future of the motion picture industry. As always, I appreciate your suggestions and comments.

sean.lohan@kodak.com

as Awesome as Ever

On January 1, Disney launched a worldwide release of *Fantasia/2000* on 75 IMAX® screens in major cities on three continents. The film is slated to run exclusively on IMAX® screens for four months with subsequent release in 35 mm format to theatres around the world.

Fantasia/2000 premiered in mid-December on a world tour, including special screenings in New York City, London, Paris, Tokyo and Los Angeles. Kodak sponsored the world tour and is sponsoring the IMAX® showings.

Disney's Dick Cook and Roy Disney with Kodak's Joerg D. Agin at the worldwide premiere of *Fantasia/2000* at Carnegie Hall in New York City. Kodak was the sole sponsor of the premiere tour that traveled to London, Paris, Tokyo and then Los Angeles.



"All of the magic and imagination that we associate with the great Disney movies is there," says Joerg D. Agin, president of Kodak's Entertainment Imaging division. "*Fantasia/2000* is a breathtaking, artistic triumph. The blend of beautiful images and stirring, symphonic sound add up to a compelling package of uplifting entertainment. It is an unforgettable experience. We are proud to be part of this venture with Disney. It is great family entertainment, and a glimpse into what the future of the cinema could be like."

Cinesite, a Kodak subsidiary, worked with Disney filmmakers on the restoration of classic footage from the original *Fantasia*.

"Cinesite used advanced digital imaging technology to repair scratches and remove dirt and other artifacts that accumulated during the past six decades," says Agin. "The result is a gorgeous motion picture that faithfully preserves the original artistry and couples it with the newest imaging technology."

Fantasia/2000 is being released on Kodak Vision and Vision Premier print films, which are designed to make the colors pop and put the best possible image quality on the screen.

Concessions & Beyond

by **Wally Helton**

*VP of Concessions Operations
United Artists Theatre Circuit*

"I haven't figured out yet how to get people to go to the theatre without the movie," jokes Wally Helton. "I suppose as soon as I figure that out I'll be a hero in the industry."

It's no joke that concessions are a huge part of the exhibition business. Helton once worked in a theatre where concessions accounted for 106 percent of the profit. The movies themselves were actually a losing proposition. Though that is an extreme example, it is still a good indicator of the importance of the aspect of exhibition Helton oversees.

Helton has spent years—first at AMC and now at UATC—observing the concession habits of moviegoers.

"Eighty percent of it is popcorn, soda and candy," he says. "Thank goodness Americans are pre-conditioned to want those things when they watch a movie."

But Helton believes the successful exhibitor must go beyond that in fulfilling and creating a desire for more products. There is a science to figuring out how to increase concession offerings in a profitable way.

"Full-fledged cafes," he says, "work in maybe 10 markets in the country. Everywhere else people just aren't interested. Some theatres have banks of deep-fat fryers and they make French fries, Jalapeno Poppers, popcorn shrimp and things like that. We liked the fact that those products sold, but we didn't like the labor intensity that came with deep-fat fryers and risk to the employees."

The answer: vending machines. "We found this product made by Kaiser Aerospace," he says. "They have got 22 patents on these machines. You put your money in and it takes food like chicken strips, chicken sandwiches, cheese burgers, turkey calzones or French fries from frozen to piping hot in a minute and a half. It's not a cheap piece of equipment but neither are fryers and hoods and all that kind of stuff either."

"We also have vending machines that air pop popcorn for people who prefer it that way. This way you relieve a lot of those long lines on Saturday night and cater to many different tastes. We sell ice cream candies and bulk candy out of machines. You've always got to have your core products, but if people can get these other things without too much hassle, you'll just sell more."

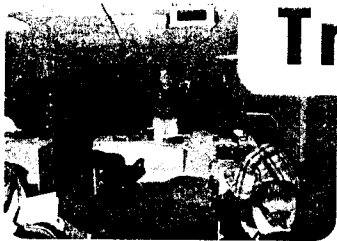
The machines, says Helton, have helped bring up revenues but good training of employees is also a major factor in a successful concession business. He credits McDonald's training program as the inspiration for his own.

"The people working at the concession stands have to understand the customers' wants and needs," he says.

"There are so many circuits that say you have to upsell and you have to suggestive sell and beat the customer into submission," he adds, "and I just don't think that's always the best way. You can gently remind the customer of better values, but on Saturday night when the lines are 10 deep, it's best to give the customer what they want and let them move on. I used to do a little math exercise during the training program. If you take an extra 10 to 15 seconds every transaction—hold up two cups and say, 'for a quarter more you get this' and do your whole spiel—after four transactions you've taken an extra minute. You could have gotten another entire transaction in that minute that might bring in, say, three dollars. Even if you hit that quarter up-sell all four times, you have a dollar, but if you miss a transaction you lose three dollars. I'll take three dollars over one any time."

As for the king of movie concessions, the popcorn, Helton has some strong ideas.

"We have three rules about popcorn," he says. "You've got to hear it, see it and smell it. We need to be popping corn when you're walking through the lobby. It's like being a baker in a mall. If you're not baking cookies, your sales go down. If they see that you're bringing bags of popcorn out of the back room you're not going to sell nearly as much as you will if they see it popping and overflowing out of a kettle right in front of their noses."



Training Center for Projectionists



Hands-on training for projection booth personnel is provided at the Kodak training center in Los Angeles, Calif.

The Kodak training center in Los Angeles, Calif., is providing hands-on training for projection booth personnel. Students participating in training programs work with 35 mm film projectors in simulated routine and troubleshooting situations.

"It allows them to learn how to deal with any number of contingencies at a time when there isn't a roomful of paying customers waiting for the show," says Jim Ferguson, training center manager for Kodak's Cinema Operations Group.

"Often, people who work in the booth just don't get exposed to some important aspects of their job," he adds. "A lot of people we train have been projectionists for some time, but weren't clear about some of the things they are supposed to deal with every day."

Ferguson compiled the following as a "top 10" list of frequently misunderstood topics:

1. Persistence of vision. How do all those individual frames of film add up to a moving picture? Why must they be run at a certain speed? What does the projector do to make the illusion work?
2. Emulsion and base. Why does film have an emulsion side and a base side? How can you tell which is which? When is it important to distinguish the two?
3. What are the A and B chains? Why is it important to know how each affects the audio presentation?
4. What is the difference between analog and digital audio? Why is it important to have audio balanced for analog sound even when a digital format is being used?
5. What are the different digital formats?
6. How much light should be reflected off the screen? How do you measure light on the screen? How does this affect the presentation of the movie to the audience?
7. What are the most important things to keep in mind when changing a projector bulb? Why is it important to wear protective gear when changing the bulb?
8. What do "scope" and "flat" mean? What should the projectionist do to make certain that audiences see films in the proper format?
9. What are red LED readers and why is the industry moving from traditional exciter lamps to these new kinds of bulbs?
10. Why does maintenance and cleanliness play such an important role in booth operation?

For information about training programs for projectionists contact

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Kodak

March 2000

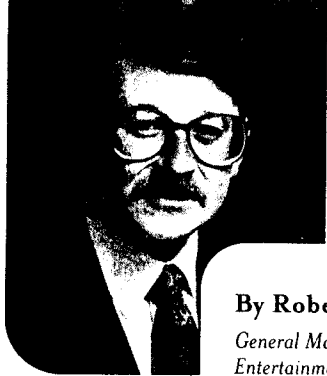
The Future of Cinema

LEADERS OF THE ENTERTAINMENT INDUSTRY
SHARE THEIR VIEWS OF TOMORROW

The Future as Seen by...

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Imagine This...*

By Robert Mayson

*General Manager, Cinema Operations Group
Entertainment Imaging Division, Eastman Kodak Company*

Someday...selected movie trailers, based on your personal preferences, will be streamed to you automatically as you browse the Internet. With them will come special offers, showtimes, the ability to buy e-tickets for pre-reserved seats in VIP areas or in-theatre 'sky-boxes', and to pre-order food delivered to your seat.

Cinemas will offer valet parking, comfortable tiered seating, with in-theatre speakers supplemented with in-seat inputs for personal headphones. Seats will be on moveable platforms—and there will be other in-theatre effects—to heighten the experience.

There will be post-show areas where you will be able to enhance, extend and even personalize the entertainment experience. You'll be able to order merchandise, view related movie content, manipulate and enjoy pictures of your own.

But, at the center of it all will be a great movie experience—pictures that are big, bright, immersive. Film will play a key role in that, and there will be other technologies involved, also. But, no one

will come to the theatre for the technology —they will come for the story, told in a way that no other venue can replicate. We at Kodak will continue to provide the highest quality tools to enable filmmakers to tell their stories in that way.

As we move into the second century of the motion picture, this publication collects the thoughts and viewpoints of some of those involved in this industry today. And, while there is healthy disagreement in some of these views, there is at least one point on which everyone agrees: The art of filmmaking —and the business of exhibition—have an exciting and hopeful future.

Studio Distributors on the Future of Cinema

DUNCAN CLARK

*Head of International Distribution Division,
Sony Pictures Entertainment*



"There are big chunks of the world where there isn't a sophisticated infrastructure for cinema, but this is changing because more screens are being built and new markets are being developed. As the exhibition trade continues to improve the condition of cinemas throughout the

world, there will indeed be significant growth (in the theatrical exhibition business). 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 the United States. If one looks at the U.S. as a model for how good it can be (in countries throughout the world), we have a very exciting future ahead of us."

JAMES GIANOPULOS

*Head of International Theatrical Distribution,
Twentieth Century Fox*

"The kind of theatres that are bringing in new audiences around the world have proper seating, projection, presentation and sound. If you provide a great environment, people are going to reward you. The movie-going experience is an affordable way to get away from the day-to-day world and into a wonderful fantasy environment."



RICHARD W. COOK

Chairman, Walt Disney Motion Picture Group



"I think it (Electronic Cinema) is coming, and will be a part of our future. I don't think anyone can say today exactly when this will happen or what part it will play, because there are still questions to be answered. There will undoubtedly be other technological breakthroughs that

will influence our ability to improve the presentation of movies. People all over the world share a craving for entertainment and communal experiences. Movies are a sociological and cultural phenomenon. They touch us on an emotional level, and when a filmmaker succeeds, there is nothing comparable to that communal experience. I think the future (of theatrical motion picture exhibition) has never looked brighter."

JEFF BLAKE

President, Worldwide Distribution, Columbia Pictures Entertainment



"The spread of high-quality multiplexes to new markets around the world is a key to our future... It is important for people to have choices. You have got to have enough screens to play the full menu of pictures that are in release. The public wants all the films they hear about

accessible, so they can make their own decisions. When we give them that option, more people go to see films more regularly. People also want to go to theatres that offer an attractive and comfortable environment. I think the best years are still ahead of us. I am very excited about the future of this industry."

WAYNE LEWELLEN

President, Distribution, Paramount Pictures Motion Picture Group



"I believe that as long as we do a good job of providing good films, most people will choose to see them in the cinema. Part of it is the experience. A lot of people don't want to wait to see a hot film. They want to see it and talk about it. That's why multiplexes are important... They are creating additional shelf space so good films can stay in the market until audiences find them. We understand why some exhibitors want additional revenues from advertising, but we believe trailers can be a more important source of revenue. You have a captive audience of fans, and you can show them compelling images of what is on your other screens."

"Everyone asks me about digital projection. I think this technology will evolve and eventually, it will become a factor. Personally, I don't think what I have seen so far is good enough to replace film on first class screens. Some people believe digital technology will provide an effective way to deal with piracy. If that proves to be true, it will become an important factor."

Filmmakers

on the Future of Cinema



ALLEN DAVIAU *ASC, Cinematographer*

"If the digital projection technologies advance to a point where they are affordable and dependable, they will co-exist with film projection for some time to come. The projectors are too expensive at this time. Everybody has a grand plan on how to get these projection technologies into theatres, but I haven't heard anyone raise their hand and volunteer to pay for them, except somebody who wanted to finance it all by selling commercials in theatres.

"Another question is 'How will they get the movies to the projectors?' Successfully getting the film into electronic format and then sending those disks out adds a lot of time at the end of the process. I think putting it up on satellite is too great a gift to the pirates."



JOHN MCNAUGHTON *Director*

"When I was in college 30 years ago, I might have been the first person to say film is dead. Well, film is not dead. I think there is something special about light shining through a transparency to project an image. I liken it to an artist applying oil paints to a canvas—done by a master, it is beautiful in its own unique way. I think the question of when we will have digital projection is mainly an economic one. Will there be a transition period when some theatres will be digital and some film? It's impossible to know the answers."



STEVEN SPIELBERG *Director*

"Arts stimulate something inside of us. I'm going to direct all my films on film until they close the last lab down."

RICHARD DONNER *Director*

"There are a lot of questions right now about showing movies with some kind of digital technology. I have seen demonstrations of digital projection and if they can actually get that quality on the screen in theatres on a widespread basis that would be great. But what I'm hoping for is something even better than that. As far as I know, nobody has worked out the details on any of this. I really hope to see something that will give audiences what they're used to seeing and then some. So far I haven't seen that.

"I do think people will want to go out to movies forever even if they've got the greatest home entertainment system. Some movies need to be shared with an audience. As long as theatres keep up with the standards you have at home and then some—there's that 'and then some' again—I think they'll always be around."



JOHN BAILEY *ASC, Cinematographer*



"We Americans are gadget-oriented. It's one of the reasons why we are so incredibly successful in the world. We embrace change very quickly. The downside is that we can be quickly seduced by technology and become so involved with the mechanics and techniques that we don't really think of the creative potential for

using these tools in ways that are not so obvious. Digital technology and computer generated imagery at the production end and satellite delivery to the theatres at the exhibition end are not necessarily the promised land. Let's not lose sight of the fact that we are talking about tools and techniques. These tools will be used by the business end of the industry in a manner that is directly proportional to their marketability and cost-effectiveness, but don't make the error of thinking that because we are looking at a new and flexible technology, it will prevail. Advances in technology are ancillary. Advances in presenting the stories of our lives are primary."

PETER RAYMONT *Producer-Director,*

and a founding member of The Canadian Independent Film Caucus.

"As we're seeing, more international co-productions are inevitable. The world is getting smaller. Hopefully these projects will help us see what draws us together as a civilization. As we move into the next millennium, I think you're going to see more and more people trying to understand, and looking for programming that helps unify the world. There seems to be a growing philosophy that public education and knowledge of our history and interconnectedness is important to the quality of life, and that filmmaking can play a crucial role in propagating that."

LASZLO KOVACS *ASC, Cinematographer*



"A cinematographer doesn't decide to backlight a scene or conceal an actor's eyes in shadows because we think it's a pretty picture. Light is a primary form of visual interpretation. It is how we help the audience sense moods and feelings. You can make the audience feel danger before they see it. This is an art form. Talent is

not going to be replaced by a computer...though people with taste and talent will learn how to use computers as an extension of their art."

STEVEN POSTER *ASC, Cinematographer*



"One of the things I have learned is to beware of technolust. It seems that every 10 years someone comes along with a new technology that is purported to be cheaper, and 'it almost looks like film'. I think that misses the point. Motion pictures are a story-telling medium. Each one of us who is fortunate enough to play

a role in this industry has a responsibility to be vigilant gatekeepers protecting the audience's experience and future of our art and craft.

I don't think that the future of the movie experience is a medium that might be as good as tomorrow's television. We need to be better. We need to learn how to produce, distribute and present motion pictures with images that can tell more compelling stories. This theatrical experience shouldn't be accessible in our homes. People want to gather in a darkened auditorium and share an experience that is unique. The history of our industry teaches us that the movie experience isn't a destination. It is a journey which never ends."

VILMOS ZSIGMOND *ASC, Cinematographer*



"I was fortunate when I went to film school in Hungary. I had an amazing teacher named Gyorgy Illés who became a prominent filmmaker. He taught us to study all forms of art including painting, architecture, sculpting and music. He also taught us that successful movies must be more than entertainment. They must have

something to say. I have seen an amazing progression of technology over the years. Faster and better films. Better lenses. Lighter and more compact cameras with electronic shutters and computer controls. Digital postproduction. The evolution of all of these tools has given us more freedom to express ourselves. But, I have never yet seen any technology which could replace the artistry of a talented filmmaker."

Guilds & Technology Futurists

on the Future of Cinema



THOM MOUNT

President, Producers Guild of America

"I'm generally leery of people who pretend they know with absolute certainty what the future will bring. But, I do have a strong feeling that digital delivery systems for the cinema will evolve faster than most people expect. I think we are looking at a 10 to 15 year timeframe in this country and Western Europe.

"I'm optimistic about the future. Hollywood ceased being a place on the map decades ago. It is really a state of mind more than a place. I believe there will be room for more diversity in the types of films being made and where they are made. Every film doesn't require a \$100 million budget, 4,000 release prints and a big first weekend to succeed. In the age of the Internet, word of mouth can be potent. Everything else may change, but one thing will always be the same: people who are passionate and persevere in their work will make the great movies, and audiences will find those films. My advice to young filmmakers is to learn how to make films which touch people."



VICTOR J. KEMPER

President, American Society of Cinematographers (ASC)

"The possibilities for the future are infinite. I've heard the doomsayers predict the demise of film. I'm not worried about that because no other image capture medium gives us nearly as much creative latitude for telling stories as film. I think digital technology is a wonderful tool that we can use to manipulate images to create looks and effects in postproduction, but it will still take the sensibilities and experience of a cinematographer... I love film, but I have no problem with digital projection, as long there aren't creative compromises. The Academy of Motion Picture Arts and Sciences honored ASC on our 80th anniversary last year. As part of their program, they screened many classic films, including *Lawrence of Arabia*. You could hear the entire audience gasp when they saw those beautiful images fill the screen. That should be our goal for the future of the cinema, and we shouldn't settle for anything less."



DOUGLAS TRUMBULL

Director, Visual Effects Artist, Inventor

"We are working with production designers and art directors who are now building sets in computer space. Directors and cinematographers will be able to shoot on virtual sets in real-time and be able to perfect the composite in post, giving them the freedom to concentrate on lighting foreground props and performances. The cinematographer will be able to pan and tilt the camera, dolly, and move dynamically. The actors will see themselves in virtual environments in real-time. It will open storylines, save time and trim millions of dollars in costs. You will be able to go from shot to shot and scene to scene without making physical moves. You will record metadata while you are shooting, including all details about motion, lighting and how you exposed the film, so you can repeat set-ups without setup time..."

"This technology is not for every film, and it is not going to change the art. I have come to understand that technology is just another tool... I was in my early 20s when I worked with Stanley Kubrick on *2001*. After that, I became dedicated to making immersive films in large formats. We envisioned Showscan* as a new narrative form, not a movie ride. I'm happy with what I see happening with IMAX*. It is evolving into a subjective form of cinema, not unlike the great 70 mm epic, yet it requires a different language than 35 mm cinema, but that is what makes filmmaking so interesting. I think film is the greatest story-telling medium man has invented, and it is constantly evolving into a more and more immersive and involving experience."



DENNIS MUREN

ASC, Visual Effects Artist

"I believe as long as we give the public great films, the cinema will be a social experience which will attract audiences. We need a boost like the one the industry got with the inventions of sound and color. Maybe it will be 3-D, if we can somehow get rid of those glasses. The IMAX® 3-D films I've seen really make a strong impression. It was like seeing *King Kong* when I was a kid..."

"It is human nature in our society to think that new technology has the answer to every problem. But, when you come right down to it, many filmmakers want to make big movies on big sets and at real locations with real actors, because that is how they see their stories being told."

MICHAEL FRIEND

Director, Archives, Academy of Motion Picture Arts & Sciences

Film is the best medium we have, so far, for preserving moving images. That alone, makes it the medium of choice for preservationists. There is also a cultural obligation to conserve films as art in their original medium in order to retain inherent aesthetic properties associated with the image capture medium.



RICHARD EDLUND

ASC, Visual Effects Artist

"I knew when I went to work on the original *Stars Wars* that George (Lucas) was a uniquely talented filmmaker. We had to invent and build everything from scratch. Originally, I thought it was going to be a great film for teenagers. Then, I heard that George had signed Alec Guinness to play Obi-Wan Kenobi. That's when I realized it was going to be a giant hit. Since the performances of the Greek tragedies, and I'm sure before that, there has always been something in the soul of man that craves getting together and enjoying story-telling as a spectacle. It really came home to me when I saw (the original) *Star Wars* with an audience that was booing and hissing Darth Vader and cheering the heroes. That kind of magic takes place in virtually every successful movie. As long as we remember that, movies will succeed."

Digital & Intermediate Technologists

DEAN CUNDEY

ASC, Cinematographer

"Digital intermediate technology will become a natural extension of cinematography. We will convert films to digital format and use computers to manipulate images to create period looks and flashbacks... You can make the sky look incredibly blue if a scene is supposed to occur in Hawaii. We will have very subtle control over the images. It will also cut production costs, because instead of taking the time to set up a very complex shot, I'll know I can create that look for less money in postproduction. There will be fewer restrictions on our imagination."



GLENN KENNEL

Director of Technology, Entertainment Imaging Division, Eastman Kodak Company

"We have made remarkable progress during the past 10 years. We have developed hybrid technologies which provide gateways linking the film and digital worlds. That has allowed the creative community to do the unthinkable. They are telling stories which would have been impractical or impossible just a few years ago. We can now also create digital masters as a single source for distributing movies in film and all video formats."



"The next big challenge is the development of universal standards for distributing and projecting motion pictures. We are determined to do what is necessary to ensure that the images projected on cinema screens are an accurate representation of the filmmaker's vision. This will take full participation by people representing all segments of the industry who have a stake in the outcome. We also need to develop workable technology for all aspects of asset protection, since there will be many opportunities for distributing content in different forms, from the cinema to the Internet."

"Once standards are established, a viable business case is still needed. We need to work together to determine who pays, and what will it cost to implement and maintain this use of digital technology during the short and long term."

Laboratories

on the Future of Cinema

BOB BEITCHER

President, CFI Labs

"We have never been more excited about the future of film than we are today. In part, it's because we are dealing with a new generation of cinematographers and other filmmakers who are determined to push the capabilities of the medium to a totally new and exciting level. They are accomplishing things in image capture and image processing which would have been well beyond reach just several years ago. We believe they are creating a new visual language that speaks to a broader audience for filmed entertainment."

"We view digital as one more dynamic tool in the production and post-production kit... As costs for film scanning and recording come down, digital intermediate technology will add a powerful new creative tool to the filmmaking team. We see anything that enhances the creative process and stimulates the film audience as a positive step... Like other film labs, we are watching and learning about the possibilities of digital cinema."

"CFI is the world's leading supplier of laboratory services for large format films. We believe there are tremendous growth opportunities in large format for telling spectacular stories on big screens with stunning image and audio quality. The global market has reached a point where the Walt Disney Company chose to release *Fantasia 2000* in IMAX* format for four months prior to its traditional theatrical release. In addition, James Cameron has announced that he plans a large format film about the exploration of Mars..."

"It's unfortunate that this far, proponents of digital cinema have won a lot of mind-share in the consumer press with exaggerated claims about cost-savings and enhanced presentation. The cost of film prints is substantially overstated and the time frame for a digital film jukebox coming soon to your local megaplex is highly compressed. We need to do a better job of informing our customers, the press and consumers."



on the Future of Cinema

RON JARVIS

Former President, Technicolor

"I still can't figure out why exhibitors would spend all that money building great theatres with stadium seating and use obsolete projectors. It wouldn't take a lot to make film presentation much better. I've seen experimental film projectors with rock-steady images that could make a big difference. One thing you hear is that it is too late, because digital projectors are here. The truth is that it is hard to tell what will happen with digital projection. The financial arguments aren't accurate, because proponents have inflated the real cost of film prints. In the meantime, we owe it to the artists who make films, and to the public, to do everything we can to put the best possible images on the screen. Some people say the public doesn't care, but I don't believe that. You can probably tell that I feel very passionate about this industry. Cinematographers and other filmmakers put so much blood, sweat and tears into their work. I believe they deserve to see great results on the screen."

TECHNICOLOR

JACK NAPOR

President, WRS Labs

"The removal or reduction of technical barriers, which permits greater concentration on the artistic aspects of production, continues to occur in all aspects of filmmaking. It all begins with the vast improvements in color negative and print films which are giving the creative community much more flexibility to tell their stories. I believe film will continue to be the most practical origination medium for most productions where longevity and long

range value of the finished asset is considered. Film continues to provide the best image quality, by far. It also provides the best and most cost effective information storage capabilities measured in centuries rather than a couple of decades.

"Electronic or digital projection will happen. The vendors will try to convince audiences and the industry that it is equal to or better than film simply because it is new technology. I think that during the foreseeable future, electronic cinema will be most successful in smaller theatres which will also create new markets for films with limited market appeal."

CYRIL DRABINSKY

President, Deluxe Laboratories

"There is a lot of concern in the exhibition industry in the U.S. because of rumblings about the number of screens being over-built. When you combine that with the price of renting films, people start worrying about their bottom lines and start looking for ways to cut costs and increase revenues. E-cinema seems like a seductively easy solution. One of the problems is that there is no business case today. I think the annual cost for film prints in the U.S. market is less than \$600 million. If you replaced every film projector in the United States, it would take eight to 10 years for electronic cinema to break even, and that presumes you can get the cost per screen down to \$100,000. That doesn't account for building and maintaining an infrastructure, or for obsolescence of technology and equipment."

"At the same time, we have had some very exciting breakthroughs in technology that give cinematographers and directors much more creative latitude to control the looks of the films they create by altering the contrast in chemical processes. There is a lot of excitement about that in the creative community, because it provides more freedom for directors and cinematographers to tell their stories. I think you'll see the use of hybrid film technology also become a more important creative tool, and we intend to be a player in that arena."

"People ask me if we are concerned about digital cinema. The answer is no, because if and when that happens, we are going to be in the middle of it. No one understands this part of the business the way we do. I have great confidence in the future of the cinema. People want to get out of the house and experience great films in great environments at an affordable price. We just can't take them for granted. We have to work together to put the best possible images on screens, so audiences get the best possible experience."



DELUXE LABORATORIES

Exhibitors

on the Future of Cinema

FRANK STRYJEWSKI

President, General Cinema Corporation



"With all due respect for the grand palaces of yesteryear, I believe today's new theatres are far better places to experience movies. However, the megaplexes we have been building since the mid-1990s are much more costly. The question is how do we make them more profitable? We are searching for ways to entertain customers

and make additional profits to offset increased construction and operating costs. At General Cinema, we refer to that search as 'differentiation inside the box.'

"We need to be creative in this quest without forgetting that the most important thing to our guests is the movie itself. Exhibitors make a big difference in the way audiences experience films.

"Electronic cinema is worth pursuing in order to discover if there are economic efficiencies to be gained in the way movies are delivered. I believe electronic cinema might also provide an opportunity to bring other types of programming to theatres during times of day when movie-going is not popular. It should also allow us to program trailers more efficiently and allow us to run revenue-generating screen advertisements in a more targeted way. All of these could help improve the financial results of our theatres.

"While we are keeping an open mind toward electronic cinema, we remain sensitive to the fact that this is both a business and an art form. We are always reminding our managers that we are the curators of the modern art form. That is why I believe the success or failure of electronic cinema will be driven by the filmmakers. They have to be comfortable with this change. It has to be the artists who can confirm that a transformation to electronic cinema is something that makes sense.

"I believe our industry will experiment and find ways to successfully implement electronic cinemas. The only cautionary note I would add is, if the transition to electronic cinema means we will be too much like an in-home entertainment experience, it would be a dreadful mistake."

PAUL JOHNSON

CEO, Hoyts Cinemas

"As we move into the next millennium exhibitors are competing with very sophisticated advances in the home entertainment environment. People will have the opportunity to watch high definition and plasma screens at home. Television screens are getting larger. Sound is better. There is a new generation that looks to the PC and Internet for entertainment. Our research shows that small auditoriums with smaller screens are more closely associated with what the audience can get at home.

"We've made important investments in stadium seating, bigger screens and better sound. Some exhibitors are creating "theatre-ettes" within the multiplex, which offer more amenities for a higher ticket price. We are introducing a new cinema concept called 'La Premiere.'

"We have reserved a stylish seating area within the larger auditorium with two levels of extra-comfortable seats. People who pay more to be in that section can visit a private lounge before and after the show. Alcoholic beverages and cappuccino are available.

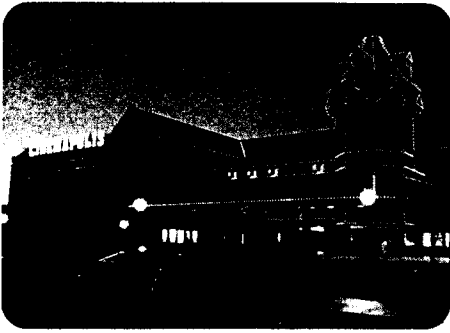
"We currently offer 'La Premiere' service in the U.K. and Australia. We've found that people are willing to pay a premium price to see movies on the largest screen possible. They also like the ambience of sharing the film with a large audience.

"We make sure that our theatres are built to high standards for comfort and presentation. I think in the future you will see more restaurants, coffee shops, magazine and bookstores included as parts of multiplexes. These are big but important investments that exhibitors simply have to make. I have seen examples where exhibitors try to take shortcuts or scrimp on the infrastructure and audiences have subsequently fallen away."



BRUCE SANBORN

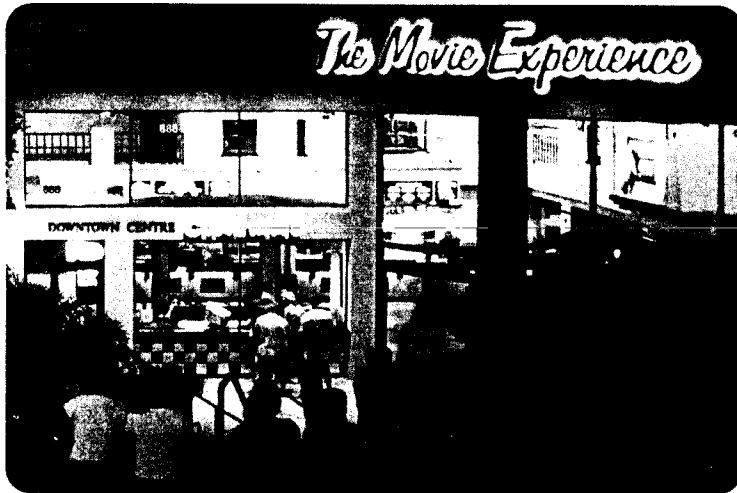
President, The Movie Experience



The Movie Experience (SoCal Cinemas) is a family-owned circuit in Southern California.

"You must provide an atmosphere where the movie-goer will not just observe the movie, but feel like they're in the movie. In the old days, the nearest theatre playing the same movie was 20 miles away. People pretty much had to go to the closest theatre if they wanted to see a particular movie. Today, there are more screens closer to their homes. Therefore, it is more important than ever before for a theatre to distinguish itself. In 1985, we launched our theme 'The Movie Experience' with this philosophy: It is our responsibility to present the film the way the filmmaker intended.

"But, the biggest change facing theatre owners is that the delivery system of our future theatres could very well be the same system for the home. Thus, as the release window continues to shrink, we may face our biggest challenge ever. Exhibition needs to move forward with open minds and cautious optimism, never forgetting that our guests visit our theatres looking for a totally different experience than at home."



The Movie Experience theatre in San Luis Obispo, California.

on the future
of cinema

Equipment Manufacturers

on the Future of Cinema

RAY BOEGNER

Senior Vice President, Ballantyne of Omaha
(Strong Projectors)

"We sold about 3,000 35 mm film projectors last year, which is more than any single year in our history. About two-thirds of those were domestic sales and most were in new buildings.

"If digital cinema comes to fruition, we intend to be a player, but I don't see any revolutionary changes happening overnight. There are over 100,000 screens showing films right now throughout the world. The cost to replace all that equipment would be astronomical.

"Look at the cost of the projector head alone—it's at least a \$100,000 investment and that doesn't include the light source, sound automation, or storage device. I'd hate to be the guy who tells the CEO of a 2,000 to 3,000 screen circuit, we're talking about \$150,000 investment per screen. Most exhibitors I've talked to don't expect anything to change very quickly, especially if they're expected to contribute anything to the cost."

ROD STERLING

Senior Director of Engineering, Hughes/JVC

"It's inevitable that there will be some form of electronic presentation in two to five years, maybe less. Audiences already had a chance to see what our technology can do last summer with *Star Wars: The Phantom Menace* and *An Ideal Husband*. They both enjoyed a successful month-long run in selected theatres using our proprietary Image Light Amplifier technology. I think that in a couple of years there will be economically-viable projection and display models out there ready to co-exist side-by-side with film projectors.

"That said, I don't think I'll be around to see the last film projector yanked out of a theatre. I believe there will be a transition with both film and digital presentations. The transition will be driven by software—what movies are available in the new format—more than hardware. Not all studios will switch the same way or at the same time. Even when they do, they'll still have to deal with countries where they'll need some film support for a longer time. Theatres will need to be able to provide both technologies together because it could be a while before you have enough software to fill up a whole multiplex.

"We are listening to the industry and trying to remain flexible. We can't lock into any one standard. In order to make the economics of research and development work and get the price down, we have to do more than just sell our products to movie theatres and at the consumer level. When you look at making a key component like the liquid crystal ILA, many thousands of those must be made to cover the costs. There's no way that there is a large enough market to just sell equipment to cinemas. So, we want to make sure we have equipment that will be effective in theatres and in people's homes simultaneously.

"We've been developing projection technology now for eight years and we're not by any sense done developing the projector. Last summer, we showed some people that the basic concept is there and now it's time to get the rest of the system in place. We want our next generation of equipment to be flexible enough so that if something changes, we're not caught making round pegs when everyone needs square ones."



JOE DELGADO

Director of Sales, Christie Projectors

"If you'd asked me a few months ago what I thought about E-Cinema, I'd have compared it to a very nice concept car at the car show—it looks great in controlled demos with engineers all over the place, but we don't know how practical it would be in real-life situations. Well, since then we've seen *Toy Story*, *Tarzan*, *Star Wars* and other films projected digitally in theatres throughout the country and Canada. Today, I think E-Cinema will be an integral part of the future. I would have to liken E-Cinema to a car that has won races and proven itself and is ready to go into production.

"Today, Christie's main focus is still on film. Film projectors are what we still ship to cinemas today. What's going to happen over the next year or two, I don't know yet. Several months ago, we purchased the Canadian firm, Electrohome, which manufactures electronic projection systems. We have also been involved in providing the lighting consoles for many of the electronic projection systems in use in theatres today. We will be ready to be a part of this exciting new development whether it takes one year or three years to take off. But one thing is sure, this technology has arrived and it will be a significant factor in the future of motion picture exhibition and distribution.

"The basic concept of E-Cinema has been extremely appealing to exhibitors. It gives them freedom to show the same film on multiple screens without additional prints, or risking damage by interlocking single prints between several projectors. It makes it a lot easier for one person to deal with a whole megaplex rather than having to hire projectionists to set up and tear down and thread film. It allows for the theatre to run like your home entertainment center, at the push of a button.

"Obviously, distributors like it because they're not printing and shipping thousands of bulky film prints. But I think on both sides there was skepticism that the systems could translate into a system that worked 14 hours a day, seven days a week. We've seen that it does now and the momentum is growing more than I would have imagined just a few months ago. The exhibitors I talk to and people throughout the industry are starting to see E-Cinema as a major force in the future of cinema and they're really pumped up about it."



Christie Projectors currently provides film projectors to cinemas and recently purchased a firm that manufactures electronic projection systems.



*Vittore Nicelli,
President
Cinemeccanica*

VITTORE NICELLI

President, Cinemeccanica

"I do not think home entertainment and the Internet are going to diminish the attendance in movie theatres. I think people want to go out of their homes to the newest theatre to see a movie with many other people. I see a trend toward creating bigger and bigger lobbies with a lot more services beyond the traditional concession counter.

"Exhibitors are making lobbies a place where people want to spend time before and after seeing the film. A movie complex near Strasbourg, in France, has a 1,000 square-meter foyer containing cafes, live entertainment, a full bar with a TV set and other amenities. Other complexes offer video games and Internet cafes. As long as the movie-going experience offers something you can't find at home, it's going to thrive.

"As for electronic cinema, there is the issue of equipment cost, which at the moment is much higher than the

continued on page 14

Industry Service Providers

on the Future of Cinema

Vittore Nicelli

continued from previous page

traditional mechanical projector. There are questions about obsolescence... traditional projectors have a life of 30 to 40 years. Predictions are that exhibitors who invest in first generation electronic projectors will write them off in three to four years or less. I'm sure others are raising the unanswered questions about compression, encryption, delivery, and the biggest of all, who pays? I don't think these issues can be resolved in one or two years. My guess is that we will see some experimental installations of E-cinema during the next 18 to 24 months, however we are at least three to five years from electronic projectors becoming a commercial product.

"Cinemecanica intends to provide for our customers' needs when they decide that digital projection is the right investment. We are also working with our customers to improve film image and sound presentations because that is what the public expects."

LINDA CARPENTER

Vice President, Media and Entertainment, Qwest Communications

"The convergence of digital technology promises to broaden and diversify the entertainment marketplace in unprecedented ways. The most profound aspect of the changes that are underway may be in the business model. The technology is evolutionary, it is the business model which may be revolutionary. Picture this scene inside a movie theatre, in the not too distant future. The consumer purchases a movie ticket by swiping a 'smart card'. The consumer using the smart card will receive significant discounts on entertainment content. In exchange for those discounts, the consumer may agree to provide basic transactional information, which may include demographic data, geographic location, age and gender.

"Smart card orders may directly connect fulfillment houses with the consumer, for instance consumers could have the option in the theatre lobby to purchase related consumer products, the soundtrack or have the DVD shipped directly to their homes when it's released. Later, the home video and pay-per-view windows may automatically store the content locally for viewing on demand, using the Internet to distribute directly to the most appropriate consumer electronics device, the home television set, computer monitor, game console or wrist watch. This is an evolutionary process. Through the information that resides within these intelligent networks, content providers will know what consumer's desire on a very individual basis. We are entering a world that is both immediately global and completely individual. It is customized mass distribution. We are building a nervous system that connects consumers to producers as never before."

GERALD NASH

President, Sigma Design (consultants in theatre and screen design and projection engineering)

"Periodically various pundits predict the demise of the motion picture theatre and inevitably they have all been proven wrong. The cinema is not about to disappear. Going to the movies is one of our last 'tribal rites.' By nature we are social creatures and 'hard wired' to gather with others. We congregate in stadiums, arenas, concert halls, theatres, and cinemas...we thrive on the shared experience. I use the term tribal rite to describe our tendency to gather in our 'caves,' with our own kind. The storytelling process is culturally and deeply imbedded in our psyche...we are entranced and relish in re-living and sharing in the human story. The 100-year-old plus movie industry is here to stay... the forms, methods and technologies will, however, change, evolve, and grow."

SIGMADESIGNGROUP





A Future Without Boundaries

By Joerg D. Agin
*President, Entertainment Imaging Division,
Eastman Kodak Company*

We currently live in an increasingly digital world. We already have smart cars, and people who are paid to be futurists predict that we will soon wear clothing which will diagnose early signs of illness and tell us when we have reached our daily limit of calories.

Digital television is already becoming a reality. Broadband is becoming more widespread. New industry alliances are giving content owners more access to the home. Increasingly, we will be able to choose entertainment or information programs from file servers filled with vast libraries. We will see movies at home on flat panel screens which hang on walls like pictures.

The images and sound will be pristine. The TV set will be as interactive as the telephone. We will be able to play a computer game tied into the movie, research old episodes or back stories about movies characters while we are watching the film. We will be able to click on products we see in films or commercials and place instant orders for delivery.

If the changes taking place in the music industry are any indication—this is coming more quickly than we can imagine.

There are already filmmakers streaming movies on the Internet. Image and audio quality are still pretty shaky, but that will be resolved. Every filmmaker will be a potential distributor.

What does all of this portend for the future of the cinema? What will it take to bring people to cinemas in the digital TV future? I believe they will come if we give them good reasons to make that decision. Baseball is free on TV, but tens of millions of people still pay to see games in person, because the experience is unique. We believe people will go to movies because they want to get out of the house, and because it is a communal experience.

Film will be the primary medium for projecting large screen movies for long into the future. We also believe that during the foreseeable future, the vast majority of movies will be produced on film, because there is a tactile difference in the quality of images that touch audiences on an emotional level. And, we think that hybrid technology will become more and more

prevalent in all aspects of post-production, because it provides creative and practical advantages. Digital technologies and services will also play an ever-widening role.

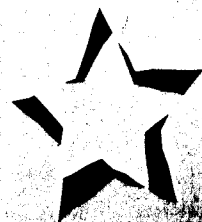
At Kodak, we intend to work with the industry to drive film, digital and hybrid technologies to levels that exceed the expectations of the most creative filmmakers and the most demanding audiences. The future of the cinema is not solely in the hands of scientists and engineers—it's in the hands of artists and business people and, above all, in the hands of those who can tell an exciting story with sound and motion and light. Technology is a tool to help talented people tell their stories.

THE DIFFERENCE

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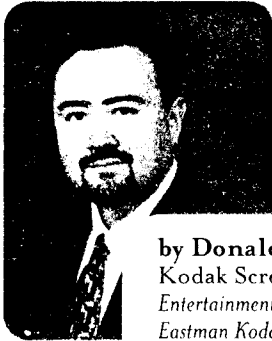
Kodak
SCREENCHECK
EXPERIENCE



Red Readers

A Personal

FILE



by **Donald F. Lane**
*Kodak ScreenCheck Experience Manager,
Entertainment Imaging Division
Eastman Kodak Company*

In the very short period since their introduction, almost 50 percent of all theatres in the U.S. have converted from traditional exciter lamps to the new red L.E.D. (light emitting diode) readers. The rapid acceptance of the new readers is helping to facilitate a conversion from traditional silver analog soundtracks to silverless cyan dyetracks.

Why do we need analog sound tracks on film during the digital audio age? After all, a high percentage of exhibitors already have digital audio capabilities. Nevertheless, there is still a need for analog sound tracks for exhibitors who haven't converted to digital sound, and also as a backup. Those of us who have worked in projection booths understand the importance of having an analog back-up track when the digital audio drops out.

The conventional audio track involves a complex laboratory process, but labs are experienced in doing it. A digital track will someday be easier and less costly to produce.

However, it will take a while for the transition to digital audio to be completed. During that interim, we need sound tracks that can be read by either exciter or red L.E.D. lamps. That compromise is high magenta tracks, which are already being provided on over 30 percent of feature release prints, including those from Warner Bros., Fox and Artisan Entertainment.

The red L.E.D. readers can read silver, high magenta and cyan dyetracks.

While film labs are the main beneficiaries, there is also a big benefit for exhibitors. The red L.E.D. lamps last around five times longer than exciter lamps. Conversion kits for installing red L.E.D. lamps are available from various vendors.

For more information, contact me at donald.f.lane@kodak.com.

Christie's Reference Console Delivers Light to Mega Screens

Theatres across the country are getting brighter and more evenly lit pictures onto their screens with Christie Projectors' Reference Consoles and the improvement often uses lower wattage than required previously.

"It's not really a question of how many kilowatts you use," says Joe Delgado, director of sales for Christie, "but more importantly, the efficiency.

"We started modifying our design about four years ago when the mega-screen renaissance was getting underway," he continues. "New theatres were being built with 60- and 70-foot sheets and larger, often with a very short throw. At that time, nobody could get enough light on those screens with existing technology. We devoted a lot of resources to R&D to develop a solution. As a result, our systems are able to make efficient use of light and provide the flattest field available."

Christie's Reference Console

Delgado explains that the issue of the flat field—or the evenness of drop-off from the brightest portion at the center of the screen to the sides and corners—is most noticeable on those screens that are more than 50 or 60 feet. "With the Reference reflectors," he says, "theatres with 70-foot sheets (with high-quality screen, lens, port glass) have gotten 16 foot lamberts in the center and no more than the 20 percent drop-off recommended by SMPTE (Society of Motion Picture and Television Engineers).

That would have been almost impossible before we introduced the Reference Console."

Delgado says that Christie's proprietary heat filters reflect the infrared light and focus white light through the aperture plate. "You have to have the right system of reflector and heat filter in place to get the light needed on the screen and control the heat getting to the film," he says. "You can light a cigarette on a 2,000 kilowatt lamp and you can easily burn aluminum with a 4,000

kilowatt lamp. All that energy must be handled properly or the film will be destroyed."

Currently, Reference Consoles can be found in top-quality premiere theatres such as Disney's El Capitan and the American Cinematheque's Egyptian theatre. Both are in the heart of Hollywood on Hollywood Blvd. and both offer the *Kodak ScreenCheck Experience* which assures audiences of a properly-illuminated screen.

London Odeon Cinema Flagship Theatres Certified By *Kodak*

Odeon Cinemas has announced that its flagship theatres in London at Leicester Square and West End have been certified for the *Kodak ScreenCheck Experience*. The single screen theatres are located about 100 yards apart in the heart of London. They are frequent sites for world premieres and royal command performances.

"We have always been fanatical about the quality of presentations on our screens," says Paul Schofield, Odeon Cinemas Technical Executive. "We believe that the presentation is part of the magic of experiencing a movie. We particularly like this program because the public recognizes and trusts the Kodak name and logo. This certification assures discerning movie-goers that these theatres are great places to see films."

Denis Kelly, Kodak's Cinema Operations Manager in Europe, explains that Kodak technicians evaluate audio and visual presentation quality based on some 120 standards for excellence including screen brightness and lines of sight. If necessary, they diagnose problems and make recommendations for bringing screens up to par. The company also provides training for projection booth personnel. When a screen has been certified, the exhibitor can use trailers, advertising and lobby displays provided by Kodak.

"The certification of these screens is an important step in our mission to educate the public and work with exhibitors to help them deliver the best possible motion picture experience to their customers," says

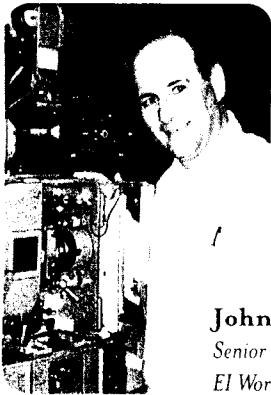


Left: London's Odeon Cinema, Leicester Square
Right: Nigel Woodland, (left) chief projectionist at Odeon Leicester Square in London with Glenn Seaton, ScreenCheck Experience Manager for the Cinema Operations Group in Europe during the certification process.

Kelly. "We believe it is important for audiences to experience movies the way they are intended to be seen and heard with all of the subtleties in picture and audio quality. It sets the right mood and draws audiences deeper into the film. We believe that the public will learn to look for the *Kodak ScreenCheck Experience* logo in ads and in theatre lobbies when they are deciding where they want to see films."

Kelly stresses that the certification program is a continuing process. Kodak technicians re-certify screens at periodic intervals to ensure that they consistently meet or exceed standards. Training for projection booth personnel is also on-going. Glenn Seaton, *Kodak ScreenCheck Experience* manager for the Cinema Operations Group in Europe, is working with the chain's training facility to keep projectionists performances at a high level.

For additional information visit the *Kodak ScreenCheck Experience* website at www.kodak.com/go/screencheck.



John P. Pytlak

Senior Technical Specialist

El Worldwide Technical Services, Eastman Kodak Company

What's Your Screen Luminance?

If you ask most projectionists or theatre managers whether their screens have the proper screen luminance, they'll reply that they are "on standard" or "it looks okay," and quickly try to change the subject. When you ask what "on standard" is, they usually answer with a question "Isn't the standard 16 foot-something's or other?" and sheepishly add "maybe we're a bit low on a few of the screens," as they furtively look to see if you have a meter to measure it. Boldly asking when the screens were last measured, the reply might be, "When the service technician was here last summer," or "When the theatre was built." Ask, "Do you own a meter to check screen luminance?" and the answer might be "Why do we need one, when the service tech checks it several times a year?"

Why Measuring Screen Luminance is Important

The above scenario plays out in too many theatres. All too many screens are poorly illuminated. The importance of proper screen luminance is not fully appreciated and the infrequent measurement is left to "the experts." Theatre personnel are familiar with some of the terminology, but often don't fully understand what it means or why it is so important. They rarely have access to an accurate photometer for measuring screen luminance, which should be done routinely on a regular basis and especially after maintenance such as changing a xenon lamp or adjusting lamphouse alignment.

What is Screen Luminance?

Simply put, screen luminance is the amount of light reflected from the screen, as seen by the audience. Every theatre should have a copy of standard ANSI/SMPTE 196M, "Indoor Theatre and Review Room Projection – Screen Luminance and Viewing Conditions." It specifies the "screen luminance level, luminance distribution, and spectral distribution (color temperature) of the projection light...to achieve the tone scale, contrast, and pictorial quality of the projected print that will be of the quality intended during its production." Most people remember the figure of 16 footlamberts, which is the nominal aim screen luminance. But ANSI/SMPTE 196M specifies much more and describes the measurement procedure.

First, the standard specifies the operating conditions for measuring screen luminance: the projector should be in normal operation with the shutter running, lens at normal focus position, and with no film in the gate. Measurements should be made for all formats (e.g., scope and flat).

The standard specifies a spot photometer with an acceptance angle of two degrees or less, the spectral luminance response of the standard observer, a capacity for integrating over the shutter flicker. In other words, the meter should measure *reflected* light from a small portion of the screen as the human eye would, and not be fooled by the 48 or 72 cycle flicker of the shutter.

The standard specifies that the primary screen luminance measurement should

be taken from the center of the seating area at approximately the eye level of a seated person. Additional measurements should be taken from the center and from each end of the middle row in the theatre. For theatres with wide viewing angles or stadium seating, even more measurements are recommended.

The nominal screen luminance at the center of the screen should ideally be 16 footlamberts (55 cd/m²). The standard allows a range of 12 to 22 footlamberts (41 to 75 cd/m²) for theatres. Luminance at the sides of the screen should be between 75 to 90 percent of the center luminance, and never less than 10 footlamberts (34 cd/m²).

Obtaining Copies of SMPTE Standards

Copies of standards like ANSI/SMPTE 196M and test films can be ordered from the Society of Motion Picture and Television Engineers. The web site is <http://www.smpete.org/stds/index.html>

Screen Luminance Meters

In the next issue, we'll discuss the professional screen luminance meters that are available, including the Minolta Luminance Meter LS-100, the SpectraCine CineSpot Spotmeter Model SC-600, and the Ultra Stereo Labs PSA-200 Projection Screen Analyzer. We'll also look at how less expensive meters or even an adjustable camera can be used to check if screen luminance is correct.

For more information, contact me at john.pytlak@kodak.com

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Ask for Jim Ferguson
Kodak ScreenCheck Training Manager
or e-mail to james.ferguson@kodak.com

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