

## Hearst Castle / Large Format Technical Information



The 8/70 format, or 8 Perf, uses 65mm negative stock run vertically through the camera, 8 perforations high, (24fps) which makes the image a 1.34:1 format ratio, which is then printed and released in 70mm, with Seven Channel Stereo Surround sound.

Conventional theatrical 70mm films, i.e., "Spartacus" and "Lawrence of Arabia", (which there are very few being made today mostly for specialized destination films and not in wide release), are photographed on a 65mm format (5 Perf), which is a 65mm negative traveling vertically through the camera but only 5 perforations high which gives the wide screen ratio of 2:35:1; the same ratio as today's "squeezed" 35mm anamorphic prints but without the 70mm print resolution.

The most popular large format production format is 15/70, which is also a 65mm negative, but runs horizontally through the camera at 15 perforations wide, (24fps) again printed to 70mm print film. This is what's commonly known as an IMAX<sup>®</sup> film, although in today's world a 15/70 film is not necessarily only an IMAX<sup>®</sup> film. Without proper licensing you can't use the brand name IMAX<sup>®</sup>, so many films are called "Giant Screen" films or other similar terms. They are still 15/70 films but can't use the IMAX brand. The Los Angeles based IWERKS<sup>®</sup> company also now makes a 15/70 camera along with the majority of the 8/70 cameras available. IMAX has no 870 cameras, so if you need to use a combination of both formats, which sometimes happens, then you have to make a rental deal with both companies.

Part of the reason that the 8/70 format was chosen was that this film is a "destination" film and plays in its own specially designed theater and is not out on the LF circuit where most films play in both 15/70. An 8/70 film can be blown up to 15/70 and played on the larger screens, but again, most of the time 8/70 films are designed for destination films. When a combination of cameras are used, the 8/70's provide a good 2nd unit and/or higher speed camera for a 15/70 film. The 8/70 cameras can run up to 60fps, while the 15/70 cameras have a top speed of 36fps. A 1000' roll of 8/70 runs approx 5 1/2 minutes as opposed to 15/70 in which a 1000' roll runs though in 3 1/3 minutes, so there is a big cost savings. There is also a 10 Perf vertical format, though it is not used much in the entertainment world. All of the above formats are projected at 24fps.

"Hearst Castle: Building the Dream"





IWERKS 870 Camera (8 perf 65mm)



IMAX MSM 9802 (15 perf 65mm)



Matt with ARRI 765 Camera (5 perf 65mm)

Hearst Castle : Building the Dream was photographed exclusively on Eastman EXR 5298 Negative, (with 65mm stocks, Kodak numbers them the same as 35mm films, i.e.the "52" is the usual designation for 35mm films) and was printed on Kodak print stock. IWERKS® 8/70 cameras were the primary cameras used on the film, as well as additional camera support equipment from Otto Nemenz International, in Los Angeles.

In the print world film stock is a critical factor. In the D.I. / Telecine transfer world you can adjust the color and contrast of any film stock to help get the look and feel that your are trying to create, but in the print world, and especially the LARGE FORMAT print world, with film stock choice, the look is created by the film stocks you choose, and of course by the way the film is photographed creatively. There were several reasons I choose EASTMAN EXR 5298. One, it has more color saturation and a warmer balance than 5279, or Vision 500, and has good blacks and great detail in the shadow areas. Also since this is a period film I wanted a different feel and this stock with its rich colors and good blacks turned out to hold up amazingly well, in fact no one knows that the film was shot with a high speed stock. Two, I knew we were going to be in many different and rapidly changing locations, many that I'd never have the chance to see before we arrived there, so the higher 500 ISO speed of 5298 really helped. The interiors of some of the castles in Europe are very dark and I didn't know in certain situations if I'd be allowed to use much, or any lighting equipment to do a given shot, and with the slower lenses used on large format films, I'd need all that I could get from this film. Additionally I needed to employ the various filters that I choose for the period look, which cost more stop loss (the lenses widest apertures are already a slow T/3.5 to a T 4.5) and the 5298 really came through. It's a sharp film with really good color rendition, good saturation, good strong blacks and it handles the period colors (late 1800's through early 1900's) really well. Vision 500 is also a great film stock, but again it has a different feel, and one that would be right for other films.

The print looks great and really helps tell the story, as the look and texture of this film stock really played well for the period feel I was after. Also with this era of film, you might start thinking about some type of diffusion on the lens to help set the feel as well, but traditionally large format audiences are used to a very sharp and clear image, so I had to create the look I was after with the lighting, film stock and shooting at the correct time of day. Fortunately the producers also helped us to achieve what I was after with good scheduling and planning, and we were in Europe in the fall which is a great time of year to shoot there, so that really helped. Sometimes when shooting in exterior locations I would have 4 and 5 filters in at one time for the various enhancements that I decided would be the look for this film, and it worked out very nicely. I was also very happy with the combination of production design, wardrobe colors, filters and film stock that we achieved.

The lenses used on this project were Zeiss Distagon lenses which IWERKS re-barreled in their own housings to fit the 870 mount. Lens sizes varied from 30mm up to 1200mm, which in 35mm terms would be equivalent to roughly 15mm to 600mm.

In addition we used specialized support equipment from Otto Nemenz International, in Hollywood. Otto's sub-rented us all the support gear that I'm used to, Arri 6 filter 6X6 matte boxes, wireless remote follow focus units, special filters, etc., to supplement the IWERKS system, and it all worked great together. We started out carrying the new lightweight body as a back-up body since we were going halfway around the world, but it quickly became the body of choice as we found it more able to act like a 35mm camera because of its lighter weight.

We treated the film making process as much like a regular film as possible, i.e., camera movement and staging. Director Bruce Neibaur (Mysteries of Egypt) and I have worked together for many years under a wide variety of conditions and styles, from documentaries to feature films and this film reflects that range of styles. My not having any LF film experience prior to this film and Bruce only having directed the opening sequence for "The Great American West," we watched every LF film we could before hand, traveling to Montreal and New York to do so. Luckily Destination Cinema and Richard James believed in us and hired us for our respective dramatic film making skills, thinking that if we could do it in 35mm we could adapt to the different technical requirements of 70mm. But I also think that our experience in 35mm, and the lack of it in Large Format, was also an advantage because we just concentrated on telling the story the best way we could visually, as with any film we had worked on together prior to this one.

Strobing and other effects are greatly increased as the image gets bigger and obviously 65mm has less depth of field than 35mm. This makes the lighting requirements different as well, as you generally need more light for an exposure that has a good depth of field. In the viewing of the LF films we saw on our travels, we also saw every "rule" broken in all of the films we watched, so you just have to know when you can get away with it and when you can't. Sometimes when we were doing a set-up that was borderline, we shot an alternative just in case, but it turned out the almost every time that we ended up using the one we originally planned on. (870, by the way is a little more forgiving in terms of strobing during a panning shot, etc., than 1570, the 15 Perf horizontal format.)

The audiences that view Large Format films are the same sophisticated viewers who expect the same high quality that they see in "regular" theaters, and they are now looking to "LF" for different types of films as well as the traditional documentaries. That's what we tried to move towards here, and I have to give great credit to Bruce for understanding that concept, as well as writing a story that would let us do that. To me this was getting closer to doing a regular film, its just that it's six stories high, and your senses can't handle as much regular cutting and interplay like a regular film, so you do have to think about those things when you design the images and the movement within them.

The average large format film is around 40 minutes long and because the screen is so large and there is so much to look at, your senses can be overloaded after time. But a carefully constructed film can help reduce this visual "overload." We tried to integrate the story with the movement to keep it interesting and staged the shots to tell the story as our primary goal. It's a great format for staging large scenes and having the action and scenes change during the shots. Bruce was very good at letting the story unfold and tying it into something interesting that evolved visually, all the while supporting the story and the locations, which were of course, pretty amazing.

Rick Gordon of RPG Productions Inc., in Burbank, CA., handled all of the post production lab duties serving as a liaison between us and CFI Hollywood where the processing and printing was handled. Rick is a veteran of many large format films. He watched the dailies and communicated to us long distance over the phone what was going on, as we couldn't see anything until we returned from Europe. Lets just say we relied on Rick's judgments and experience as we were obviously always interested to hear how it was looking back home.

When we returned to the United States, we immediately continued shooting at Hearst Castle in San Simeon, CA., but we were still too far away to ever see a 70mm print projected, so we finally flew to IWERKS in Burbank one weekend to see some limited dailies. It was pretty amazing and wonderful to finally see the images on a large screen after all that time. In the end the first answer print that I saw was a 2nd answer print, and I was blown away. Rick supervises the processing, the timing, and the negative cutting, and even helped with the technical set up of the correct screen illumination in the new theater and has such a great eye for timing that I was really satisfied. By the 3rd answer print we were there, and that makes a difference when you're dealing with cost of 70mm prints.

"Hearst Castle : Building The Dream"  
American/European Crew

Director of Photography/Europe and US: Matthew Williams (US)  
1st AD/Europe: David Tomblin (UK)  
1st AD/US: Allan Anapol (US)  
Focus Fuller/Europe and US: Robin Tams (US)  
Clapper/Loader/Camera Assistant/Europe: Bob Brock (UK)  
Camera Assistant/US: Doug Elmer (US)  
Camera Grip/Europe: David Wrist (UK)  
Camera Grip/Europe: Tony Rowland (UK)  
Crane Tech/Europe: Fred Harris (UK)  
Camera Grip/Europe: Achim Schafer (Germany)  
Crane Technician/Europe: Fred Harris (Germany)  
Key Grip/Crane Tech/US: Tom Streich (US)  
Gaffer/France: Jean-Claude Basselet (France)  
Grip/France: Dominique Legueux (France)  
Grip/France: Guy Briard (France)  
Key Grip/Europe: Mark Ellis (UK)  
Grip/US: Dave Starkey (US)  
Gaffer/England: Mickey Page (UK)  
Gaffer/US: Dennis Petersen (US)  
Electrician/US: Fritz Lindbeck (US)  
Production Designer/Europe: Michael Buchanan (UK)  
Art Director/US Production: John Uibel (US)  
Art Director/Europe Production: Stephan Overbeck (Germany)  
Helicopter Footage/Scotland: Matthew Williams (US)  
Helicopter Footage/US: Jack Tankard (US)  
Helicopter Footage/US: George Griner (US)