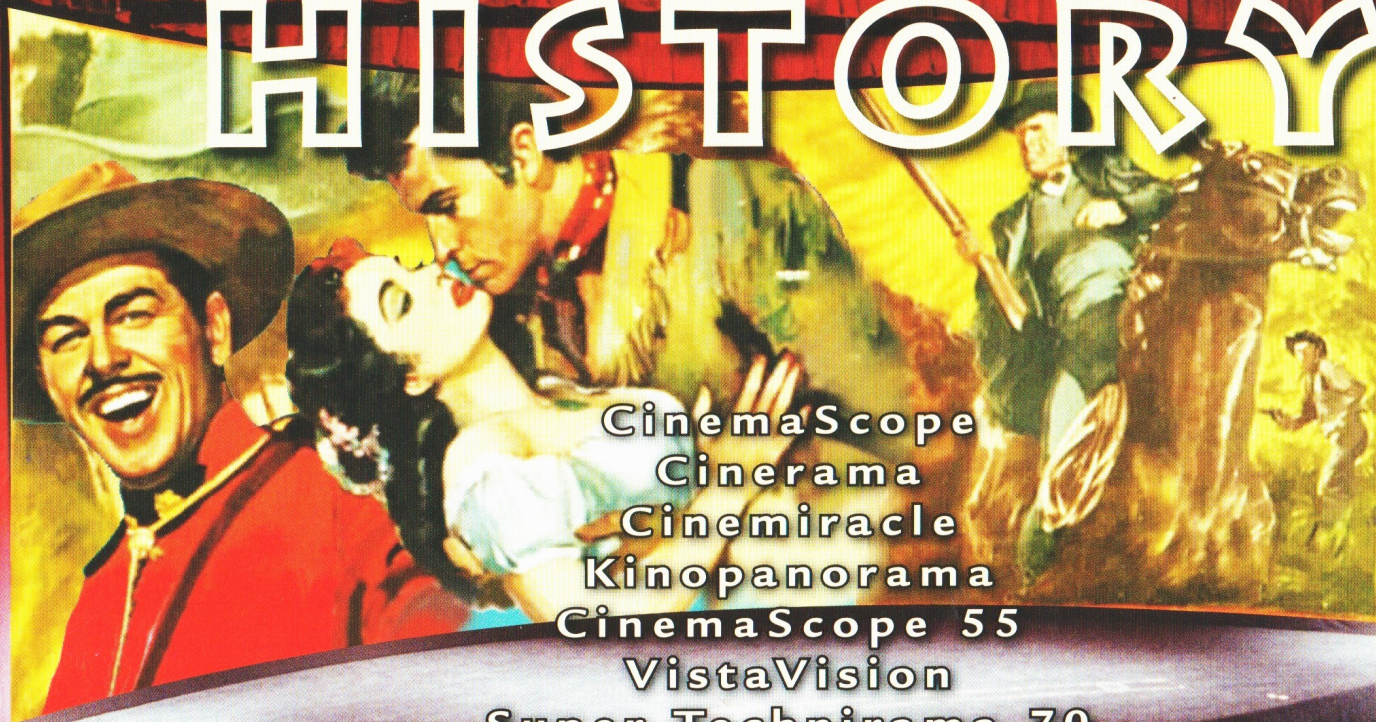


# WIDESCREEN HISTORY



CinemaScope  
Cinerama  
Cinemiracle  
Kinopanorama  
CinemaScope 55  
VistaVision  
Super Technirama 70  
Panavision Super 70mm  
Todd-AO  
MGM Camera 65  
Dimension 150  
Showscan  
Imax/Omnimax

**International 70mm Publishers, The Netherlands**







International 70mm Publishers present:

# WIDESCREEN HISTORY

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# A Summary of Wide Screen Processes

## **Cinerama (1952)**

Cinerama has changed the size of the cinema screen forever! Filmed with three interlocked 35mm cameras, side-by-side, using a special 6-perforations pulldown film frame (normal 35mm frames have 4-perf pulldown). The film speed was changed from normally 24 into 26. Cinerama is projected by three interlocked 35mm projectors, with 6-perf frames pulldown, on an extremely wide and deeply curved screen that captures an angle of view of 146° ! The sound comes from a separate 35mm film with 7 magnetic soundtracks.

## **CinemaScope (1953)**

This process captures with an anamorphic (squeeze) lens 2x a wider field of view than with conventional (spherical) lenses on 35mm film. When projected with the same kind of anamorphic lens the nominal screen ratio is usually specified at 2.35:1 though it has changed over the years in some versions to as much as 2.55:1. CinemaScope was the first widescreen process to achieve world wide commercial success and therefore known as the “granddaddy” of all wide-screen systems. In the beginning CinemaScope prints had four magnetic soundtracks on the 35mm film and no optical sound. With the advent of optical stereo soundtracks, the magnetic sound tracks fell into disuse.

## **VistaVision (1954)**

This is a 35mm double-frame 8-perf picture running horizontally through the camera instead of vertically as is normal. Full-size projection in the 8-perf horizontal mode was only rarely employed and required a special projector to have the film run horizontally through the machine. For general release the VistaVision negatives were optically reduced to conventional 35mm prints, which could be projected at an image between 1.66:1 and 2.00:1, without the need of anamorphic lenses. Paramount's recommended ratio was 1.85:1. These 'normal' reduced 35mm VistaVision prints reached the screen with notably sharper than usual images because of the reduction from the double frame negative. White Christmas was the first of many VistaVision films.

## **Todd-AO (1955)**

Todd-AO was the first of all 'modern' 70mm processes (following on various developments of the late 20s) and had its premiere in 1955. It uses a 65mm camera with 65mm negative film stock and initially ran at 30 fps. Newly developed spherical lenses for the Todd-AO camera added a wide-angle view to the picture without the troublesome lateral distortion that had bothered some CinemaScope productions. The original 'bug-eye' lens developed by American Optical, however, had its own set of distortion problems and was therefore only used for segments of Oklahoma! and Around the World in Eighty Days. Prints were made onto 70mm film stock to have room for 6 magnetic soundtracks and projected without the need of an anamorphic lens. The screen was specified as having a moderate curve, not the deep curve of Cinerama. Beginning with the third Todd-AO production, South Pacific, the frame rate was standardised at 24 fps. In the nineties the use of magnetic soundtracks on film was prohibited and DTS designed a system with an optical time code on the film. A LED reader scans the timecode from the film and sends it to the DTS processor to synchronize the sound, which comes from a CD-ROM, with the images on the screen.

## **CinemaScope 55 (1956)**

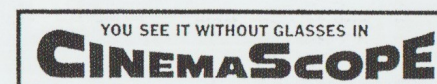
This process used a 55mm (8-perf) negative with an anamorphic lens to record a 'squeezed' image. This was four times the size of a 35mm frame! The original idea was to make positive prints onto 55mm film for projection worldwide, but this never happened and for general release the 55mm negative was printed onto 35mm film and projected with a 2 x anamorphic lens on a wide screen. Rumours said that only one or two theatres gave a special road-show with 55mm wide film, on a special designed 55mm projector. After that the 55mm projection was abandoned. The second film in this CinemaScope 55 process, The King and I, released in 1956, was also printed onto 70mm film for a 1961 re-release and projected without anamorphic lens under the name Grandeur 70.

## **MGM Camera 65 (1957) + Ultra Panavision 70 (1959)**

Before any screening of a Todd-AO 70mm film had taken place, in April 1955, MGM decided to produce all their top productions with 65mm cameras. Lenses for MGM Camera 65 were designed by Panavision. They had developed a totally new optical system in which they had incorporated an anamorphic element and a spherical lens with a slight horizontal squeeze with a compression ratio variable from 1.25x1 to 1.33x1. Thus the system had the widest single-film aspect ratio ever achieved for commercial films projected at 2.75:1. Projection needed the same anamorphic lenses to create this extra-wide screen image. Cameras were rebuilt old Mitchell Realife cameras from the thirties (Billy the Kid, 1930) which were heavy and difficult to handle. So Panavision decided to build their own new cameras and the process was renamed Ultra Panavision 70. 'Ultra' stands for the anamorphic element in the system. The process was introduced in 1962 with Mutiny on the Bounty. Many of the action scenes in How The West Was Won were photographed in Ultra Panavision 70 and then optically converted into 3-strip Cinerama.

## **Technirama (1957) + Super Technirama 70 (1959)**

Faced with a growing demand for prints in various 'squeezed' and 'unsqueezed' formats, in 1956 Technicolor developed a system of their own, called Technirama. A standard 35mm film ran horizontally through the camera with a double frame, the same as in the VistaVision process, but now with anamorphic compression of the double frame. So they realised CinemaScope size projected films with supreme VistaVision quality. Technirama used Delrama optics developed by the Dutch Optical Company "Old Delft". This unique Delrama optical system employed prisms instead of lenses to 'squeeze' the image. In 1959 an improved Technirama process was developed, permitting 'unsqueezed' 70mm prints from the double frame negative, under the name Super Technirama 70.







KINOPANORAMA



VISTAVISION

CINEMIRACLE

### Panavision (1958)

To eliminate some of the distortion problems of the CinemaScope lenses used by 20th Century Fox, Panavision designed their own anamorphic lenses. By 1961 all anamorphic films shot by other companies than 20th Century Fox used the Panavision lenses. 'Official' CinemaScope lenses were last used in 1966 and after that year the majority of anamorphic films have been shot with Panavision lenses.

### Cinemiracle (1958)

Cinemiracle was almost the same as Cinerama except an important difference: the process used mirrors in photography and by projection. The three projectors were located in one booth at the back of the theatre. The left and right projector used mirrors to get their image on the left and right side of the screen. This resulted in a better overlap of the images on the screen. Despite this was a great improvement, the superior process came too late to displace the original Cinerama process from the marketplace. During the release of Cinemiracle's first and only film, Windjammer, Cinerama Inc. being afraid of competition, bought the process! The stereophonic sound was also produced from a separate film with seven channels, five for behind the screen and two for surround sound.

### Kinopanorama (1957)

This was the Russian version of Cinerama. By the end of 1966 there were 73 Kinopanorama installations in the Soviet Union. The system was a blueprint of the Cinemiracle process as the projection was also done with mirrors. The film speed was 24 frames instead of 26. Nine soundtracks on a separate film, that were later repatched to seven for screenings in Cinerama theatres.

### Super Panavision 70 (1959)

After the research for MGM Camera 65 and Ultra Pa-

navision 70 the company started with developing their own new 70mm process. They designed new spherical lenses (without anamorphic elements) and had new cameras build to their own specifications. Panavision lenses were with varying focal lengths, this was the only difference between their system and Todd-AO. Both had six-channel magnetic sound.

### Smell-O-Vision (1960)

This was a 70mm process that distributed scented aromas into the auditorium during the screening. They were activated by electronic signs on the soundtrack. It was the idea of Michael Todd Junior, who contacted a Swiss professor, experienced in air-cleaning systems. Only one film was made in this process: Scent of Mystery, in 1960; later re-released in 1961 as Holiday in Spain, without Smell-O-Vision.

### MCS Superpanorama 70 (1962)

This was the European answer on the many American 70mm processes. The Norwegian engineer Jan Jacobsen designed a light field MCS-70 camera for the German company Modern Cinema Systems. It was first used in 1962 for the German travelogue Flying Clipper (also known as Mediterranean Holiday). The system was in use until 2007.

### SuperCinerama (1963)

Super Cinerama was not a new process but initially the name for purpose-built Cinerama theatres featuring larger wall-to-wall and floor-to-ceiling screens. At the same time, with the involvement of MGM in Cinerama and the release of their two features, the process was improved with help of the Cinemiracle technology. The projection speed changed from 26 into 24 frames per second. Later on the name Super Cinerama was also used when Ultra Panavision 70 films were presented in original Cinerama theatres as Super Cinerama in 70mm on the wide Cinerama screen. The first film to be presented this way was It's A Mad, Mad, Mad, Mad World in 1963.

### Dimension 150 (1966)

This process was developed to compete with other 70mm processes. But it was identical to Todd-AO, except the different spherical camera and projection lenses that were especially developed for D-150. They eliminated distortions on deeply curved screens. The first movie in D-150 was The Bible. Todd-AO was so impressed that they bought themselves into the project. But Dimension 150 didn't do so well and disappeared after their second film made in the process: Patton. However it continued on as a projection format. There were numerous purpose-built D-150 cinemas.

### Imax (1970) + Omnimax (1973)

The introduction of Imax's first film, Tiger Child, at the Expo 1970 in Japan was a great success. It was a completely new process in which the 70mm film runs at 24 fps horizontally through the projector. Each frame is 15 perforations wide, 3 times as large as a normal 70mm frame! The Imax image is projected onto a giant screen and creates images of unsurpassed picture quality! Omnimax provides the same finest picture quality with this horizontal 70mm process but now filmed and projected with a fish-eye lens on a giant dome-screen. Six channel sound comes from a separate film.

### Showscan (1984)

The most important fact of this 70mm unique process was the projection speed at 60 frames per second on special modified projection equipment. This was twice the speed of the original Todd-AO process at 30 fps. Release prints used a separate 6-channel sound track. The speed of 60fps was chosen because it was the highest rate possible on projection equipment at that moment and it completely eliminates optical strobing for the human eye. Showscan films were almost all made for special venue locations and theme parks.

THIS IS CINERAMA



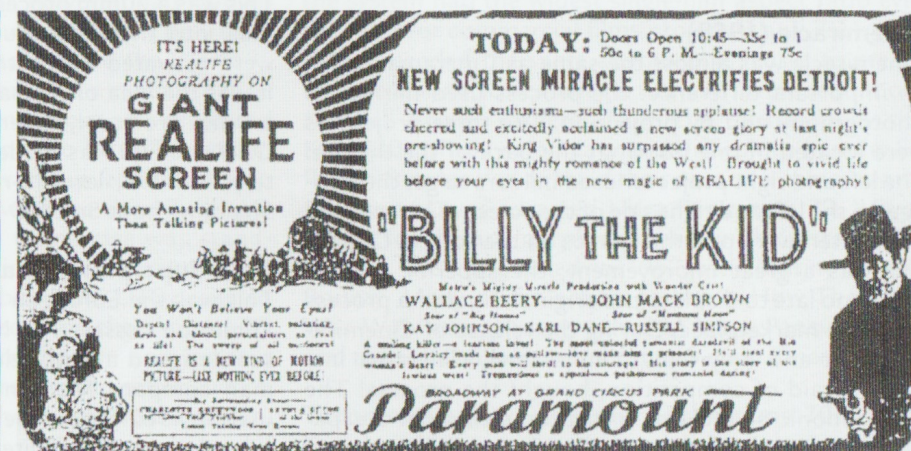


# A little History...

In January 1889 Thomas Alva Edison, an American electrical engineer, appointed William K. L. Dickson, an assistant in his laboratories, to start working on the development of the so-called **Kinetoscope**, a film viewing machine for one person at a time. At first Edison proposed making films on photographic sheets of glass, but Dickson had something else in mind. Dickson, son of English parents, his father was a 'distinguished English painter', had experience in still photography and

70mm stock, which was developed in 1889 by George Eastman for his photo camera. Dickson cut the film in two long narrow pieces which he perforated on both sides for the transport in the camera, so in fact he is the 'inventor' of the 35mm film with four perforations, which was in 1907 established as the standard film gauge by international agreement. Ironically, in 1930 Fox Film Corporation reversed this decision by not dividing its **70mm Grandeur** film format in two pieces

roduced in New York in a music hall on Broadway and it was the first time a film being presented on a screen before a paying audience. At the 1900 Paris Exposition the Lumière brothers showed a picture on a wide screen of 19.2 m in front of a huge audience using a special 75mm wide film. This was the last attempt to create a widescreen image on the screen until the early Twenties. One of the visitors who attended the Lumière première was Georges Méliès, a magician, who became aware of



knew much more about optics than his master! The first public demonstration of this Kinetoscope took place in May 1891 at the Edison Laboratories during a meeting of the Federation of Women's Clubs. They could look through a small hole of an inch wide in the top of the Kinetoscope to see a picture of a gentleman, waving and smiling while he took off his hat. This was known by the public as a 'peepshow'. The next year in 1892 Dickson built the first camera called the Kinetograph to use perforated film. In April 1894 ten Kinetoscope machines were arranged for the first commercial motion picture presentation that took place in New York. Six months later the Kinetoscope was introduced in London with twelve machines. The standard width of film since the introduction of Edison's Kinetoscope has been 35mm wide. Dickson used the flexible film, a

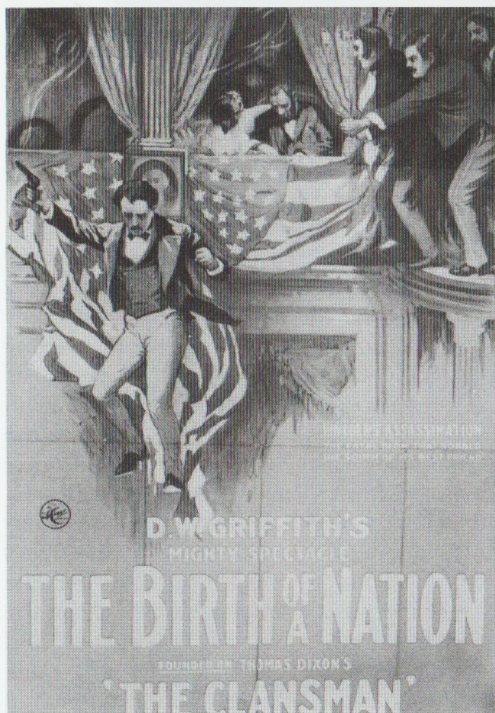
probably because it was exactly twice the width of 35mm film and this meant no wastage of stock for film manufacturers.

The brothers Auguste and Louis Lumière presented their first film on a screen in Paris in March 1895, showing images of workers leaving the Lumière photographic factory in Lyon, France. Twelve months later by the end of 1896, nearly all western countries had their first demonstrations of this new medium. There is no doubt at all that the French Lumière brothers were the most positive force to introduce motion pictures to the western world. In early 1896 the Lumière brothers had their first film projector, called the '**Lumière Cinématographe**' and manufactured in Paris, ready for sale. In April 1896 the Edison Vitascope projector was in-

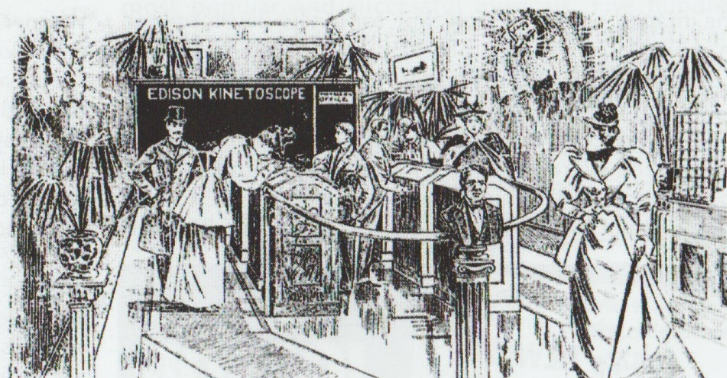
the possibilities of this new medium. He became a pioneer in horror, trick photography, science fiction films and costume dramas and he got international fame with his great classic fantasy **A Trip to the Moon** which he created in 1902!

In 1903 Edwin S. Porter made the first prototype western movie **The Great Train Robbery**. For his film he used some newly developed techniques such as close-ups and the first moving camera. For one of his next films he hired a ham actor called D. W. Griffith, who later became a famous director himself and is most known by his masterpiece **The Birth of a Nation**, a three hours controversial racial film. Despite a storm of protest the film became a huge commercial success.





In June 1905, John P. Harris, a business man in Pittsburgh, USA, tried out something new in entertainment. He bought a small store and re-modelled it as the first **Nickelodeon** movie theatre. The program lasted about 20 minutes and it was open for 16 hours a day. (Nickel = coin of 5 cents and Odeon = Greek for theatre). The success of this new form of entertainment was enormous. That was the beginning of the development of the cinema. Opposite the Nickelodeon mini theatre in Pittsburgh there was a department store owned by Harry Warner. He was astonished to see hundreds of people pay a nickel to visit this new form of entertainment. So he soon thought this could be the business for him too and he organised a meeting with his brothers Sam, Albert and Jack. They decided to open a few movie houses and this was the start of the Warner Brothers Pictures Corporation. And the story continued:



Visitors threw a coin in the Edison machine to watch a film of 15 seconds! The galleries in which these machines were installed, were called **Nickelodeons**, after the American coin "nickel" (= 5 cents).



By the 1920's the public demand for movies skyrocketed and the workload became heavier due to the making of pictures becoming more technically complicated. In

1919 United Artists was founded by D.W.Griffith, Mary Pickford, Charles Chaplin and Douglas Fairbanks. By 1929, the talkies established the future of films as well as of the studios. Musicals were the number one in popularity with colour becoming the vogue. Established studios grew to be large film factories that employed thousands of workers like carpenters, painters, electricians and cameramen. By the end of the thirties, the studio system of producing films had become an expensive and expansive venture. There was a time when fifty to sixty pictures a year were being produced at one major studio!

The competition between the different studios resulted often in trying new innovations, adding more quality and style, different lightning techniques, etc. The studio lots were rapidly taking up major sections of the city and so the large movie factories of Los Angeles became cities in themselves.

**PROGRAMME OFFICIEL**

**Station Balnéaire de SCHÉVENINGUE**

**KURHAUS**

**MARDI, 9 Juin 1896.**

**Deux Concerts par la Musique militaire italienne „Banda rossa di San Severo”**  
sous la direction de Maestro EUGENIO SORRENTINO, du Conservatoire de ...

**Dans la Salle de Théâtre.**

Mardi, 9 juin et puis tous les jours, de 2 heures à 5 heures 1/2, de l'après-midi, et de 8 heures à 10 heures 1/2, du soir.

**LE CINÉMATOGRAPHE LUMIÈRE**

**Programme**

1. L'arroseur.	4. Le repas de bébé.	7. Le jeu de boules.	10. Vue d'une rue à Lyon.
2. Le bassin des Tuileries.	5. Les chèvres au parc de la tête d'or à Lyon.	8. Bains de mer.	11. Sortie de l'usine Lumière.
3. Départ pour la promenade en mer.	6. La partie de cartes.	9. L'arrivée du train.	12. Le défilé du Régiment.

Prix d'entrée pour les abonnés du Kurhaus, 40 cents; pour les non-abonnés du Kurhaus, 50 cents.  
Chaque séance sera de vingt minutes environ.

*First showing of the Cinematographe Lumière in The Netherlands on the 9th of June 1896*

opposite the Nickelodeon theatre was a jewellery store owned by Lewis Selznick. He too decided to enter the movie industry and his sons Myron and David became film producers.



# The Sound of the Motion Pictures

In 1927 **The Jazz Singer** was introduced as the first 'talkie'. Al Jolson sang a few songs and only spoke two sentences, leaving the rest of the film still 'silent'. The success of this first film with sound inspired other talkies to be made. This development added its own set of problems. In no time there were more than one hundred incompatible sound systems, a nightmare for projectionists and theatre owners! But how could you call them 'silent' movies in the first place. Since the early 1900s sound had been with the movies. Even the most simple cinema had a resident pianist, while the grander dream palaces had their own Wurlitzer organ providing musical accompaniment. Back in 1897 the Lumière Brothers engaged a saxophone quartet to accompany the **Cinématographe** at their theatre in Paris. Music was an important branch of the silent film business. It provided not only work for the composers, but also for the musicians who played at each performance and were responsible for the sound effects. Quite often there was a full orchestra playing a musical score especially composed for the movie. At the 1900 Paris Exposition there were at least three competing 'sound film' systems on show. The most successful was the Phono-Cinéma-Théâtre, offering one-minute 'talking' or 'singing' movies of theatrical celebrities like Sarah Bernhardt.

In 1915 with **The Birth of a Nation**, a large group of performers were positioned behind the screen to deliver dialogue in synchronization with the picture and the appropriate sound effects. In the early 1900s Leon Gaumont in France devised a system for synchronizing Edison records with a film and his theatre chain was presenting a sound film every week. But the degree of accuracy in the synchronization between the phonograph and the projector was still a great problem. The projectionist had to adjust the filmspeed constantly. This idea, with several other similar systems, failed to achieve any lasting commercial viability.

By the midtwenties the audiences got tired of all the heavy melodramas and endless caption cards between

the images, so it was high time for a new development. In April 1926 Warner Brothers and Western Electric Company formed the Vitaphone Company to develop a sound-on-disc system for motion pictures. In August 1926 the system was perfected and test screenings were held at the Warner Theatre in New York, but despite a lot of precautions, things did go wrong at these screenings. Finally in the autumn of 1927 Warner Brothers



could release **The Jazz Singer** with Vitaphone Sound on disc. They were very lucky having persuaded singer Al Jolson to star in the movie. For Warner it was more an act of desperation instead of celebrating a new concept for success. But as the gamble paid off, despite Jolson only spoke two sentences, millions of people gathered in the cinemas to hear Al Jolson sing **Toot, Toot, Tootsie, Goodbye**. Even the New York Times praised Jolson, primarily known as a stage artist, now in his first successful role in a movie for turning 'the base metals of vulgarity and sentimentality into pure gold'. For synchronization during the playback the turntable and the projector were mechanically geared together. The success of **The Jazz Singer** saved Warner from a bankruptcy. Among the major studios in Hollywood only

Warner Brothers committed itself to a sound system employing discs. Most of the other studios waited for the development of a less complicated system because the sound-on-disc films had many drawbacks. It was not easy to keep the film and the disc in sync, once the record had begun to pick up the sound, it could not be stopped without fear of ever getting the synchronization back again.

In 1927 such a sound-on-film system was demonstrated for Fox Films. They decided to form a new company with General Electric for the development of this new sound system which was given the name Fox Movietone and started issuing 'silent' newsreel films with music and sound effects tracks. In 1928 Fox Corporation had started with shooting sound pictures outside the studio. As all the tests from Fox were successful other companies began realizing the values of sound films. Uncompleted silent pictures already in work were finished with sound, sometimes only with sound effects and music without dialogue. Fox Movietone became the first system to employ a sound track directly on the film itself. It was a turning point for the 'talkies' and has set the standard for sound films for a long time. The cumbersome sound-on-disc system disappeared soon after the introduction of Fox Movietone sound-on-film. Meanwhile perforated theatre screens were developed to enable the loudspeakers to be placed behind the screen and principles of acoustics began to be employed in designing of the theaters.

By the end of 1928 Warners repeated the success of **The Jazz Singer** with a new Al Jolson movie **The Singing Fool**. In that same year Walt Disney had decided to add sound to an animated cartoon called **Steamboat Willie** starring Mickey Mouse. It opened at the same day as **The Singing Fool** in the Roxy Theatre in New York and was greatly admired by the audience in the early years of the sound film. The novelty of sound caused a renewal of interest in the movies that was very welcome in this time of depression. Despite the success of the Movietone system there were always exhibitors who didn't want to follow the new trend, often because





as they say, it was absurd to remove the magnificent orchestras and fine organs from the average first-class cinema theatres in favour of the cold rasping sound-on-film. Other companies tried to continue the success of the Jolson movies, one of them Columbia, released in 1946 **The Jolson Story**, which was a biography of Al Jolson, played by Larry Parks who was even nominated for an Oscar for his role! Surprisingly this film succeeded in attracting two different kinds of audiences, the elder audience who remembered the phenomenal popularity of Al Jolson in **The Jazz Singer** and the second younger audience who understood Jolson's acknowledged influence on their favourites Bing Crosby and Frank Sinatra. Columbia re-released the movie in 1954 with stereophonic sound and started in July 1969 a big campaign in the United Kingdom, to launch the 70mm version of **The Jolson Story**, being one of their

most popular and successful musicals. Five hundred stars who had been headliners between the Jolson era and 1969 were invited for the gala premiere on August 14, 1969 at the Metropole Theatre in London. Columbia even arranged important London hairdressers to create the Jolson Look in hairstyles and a major boutique chain for a range of Jolson inspired clothes. MCA Records launched a new 'Jolson Story' LP to coincide with the London premiere – and a single with two of the film's big hits: 'My Mammy' and 'Rockabye Your Baby with a Dixie Melody'. In 1949 an inevitable sequel was released **Jolson Sings Again**, which became again a very popular movie.

Another sound 'revolution' started when magnetic recording came into use. Experiments with magnetic recording were done since the first World War but became serious with the development of magnetic tape in Germany. By 1950 magnetic recording for films had become standard although optical sound tracks were still produced for editing. When magnetic striping was introduced, magnetic stripes were placed on each side of the film perforations making it possible to carry four separate sound tracks on a 35mm print, two on each side, while there was still enough place for a single optical track making the print compatible with other optical sound systems. The introduction of the 70mm film in 1955 with its magnetic sound tracks created another revolution in sound and image. Until 1990, 70mm became the premier sound format, with six magnetic tracks that were capable of reproducing excellent sound, offering better frequency response, dynamic range and channel separation than any 35mm analog sound format. But magnetic sound also had it's problems. Striping and sounding of the prints was a time-consuming and expensive process, while the environmental standards didn't make magnetic striping easier.

The introduction of the **DTS Digital sound** solved these problems. DTS was founded in 1991 four years after the introduction of **Dolby Digital** their main competitor. One of DTS most important investors was Steven



Spielberg, who felt that the cinema sound was no longer optimal for use on his projects where he wanted a high quality sound reproduction. His film **Jurassic Park** was the first one with the DTS digital sound. It was distributed within one year after the premiere of Dolby Digital sound with the film **Batman Returns**. For theatrical use an optical time code track is reproduced at one side of the film. An LED reader scans the time code data from the film and sends it to the DTS processor to synchronize the sound, coming from the separate audio CD-Rom, with the projected image. The DTS time code also identifies if the film title matches with the right CD-Rom to guarantee that the film is played with the right soundtrack. DTS is the only process also designed for 70mm projection and 6-track surround sound. The 70mm DTS prints do not have 6-track magnetic striping, so there is no analog backup should the digital sound fail. The 24-bit time code track on the 70mm film is many times wider than the 35mm version, since it can occupy the whole space formerly taken up by the magnetic track. Dolby Digital has not been adapted to the 70mm format.



# Color at the Movies

Around the end of the 19th century, soon after motion pictures had been projected for the first time in front of the public, film makers were looking how to add colour to their moving pictures. Soon, in 1896, hand-coloured films were presented to the public. This was a very difficult task, as each frame in the film had to be coloured by hand using two, three or four colours. Despite the difficult task, for one minute of film nearly 1000 frames had to be coloured, it remained in use for several years, until the demand for many copies made it impossible to meet the needs of multiple copies.

In the 1903 production of **The Great Train Robbery**, the gunshot blast at the end of the film was coloured by hand tinting! In **The Birth of a Nation**, **The White Rose**, **Intolerance** and other productions director D.W. Griffith also used hand-tinted sequences. A newspaper writer describes the tinted print of **Intolerance** as 'blue for the Judean story, sepia for the French, green for the Babylonians and amber for the modern story, while sunny exteriors were yellow, night scenes blue and night battle scenes were red'. Even the Russian director Sergei Eisenstein used hand-tinted colour scenes in the 1925 production of **Potemkin** and others. By 1920 over 80 percent of all Hollywood films were being tinted in some way. In 1946 the Eastman Kodak Company announced they were going to produce a series of ready-tinted positive films in a variety of colours called Sonochrome Tinted Positive films.

In 1917 Herbert Kalmus and Daniel Comstock had developed in their laboratory, an abandoned railroad wagon in Boston, a new process for making 'natural color' films. They experimented with colour exposed on two different films instead of one. Their first 'Technicolor' film, as they called the process, superimposed the two coloured images at the same time onto the screen where they formed the completed colour picture. Although the process consisted of only two colours – red and green – it required a special double projector and the adjusting of the two frames was often a problem.

Finally by 1921 the Technicolor process had been improved. The first movie made with the improved process was **Toll of the Sea** released by Metro Goldwyn Pictures in 1922. The film was a success but the small Technicolor laboratories could not produce enough prints to meet the demand. As the Technicolor company had closed a deal to receive half of the profits of the film, one year later already the expanded laboratories were able to produce enough prints to make the picture available to every cinema. In 1924 four Technicolor cameras were used in Rome Italy, for parts of **Ben Hur**. And in 1926 another four of the then available eleven Technicolor cameras were used for **The Black Pirate** with famous star Douglas Fairbanks. It was a very expensive but successful movie as the fans of the star were excited to see Douglas in colour. The introduction of sound in the movies ruined the career of many stars whose voices were not suitable for the 'talkies'.

The first Technicolor picture with sound was the 1929 Warner Brothers production **On With the Show**. But the Technicolor prints varied in quality and were subject of many critical reviews. Some critics called the Technicolor work the poorest yet seen. The emulsion grain was so visible that it sometimes looked as if it were raining sand. So it looks like the movement to colour was doomed to failure. By 1932 the production of Technicolor prints nearly came to an end. But in 1932, after much research, Technicolor's new three-colour process was completed just in time when the interest in colour films had waned. The problem however was, they needed time for the construction of the new three-colour cameras and when they were ready that same year nobody showed any interest! Luckily, Walt Disney, who had created Mickey Mouse five years earlier, decided to experiment with Technicolor for his cartoon **Flowers and Trees**. This was so successful that Disney signed in 1932 a contract for a series of cartoons in colour. This relationship between Disney and Technicolor remained intact for more than 30 years. All Disney colour films have been produced in Technicolor.



## *The Blue of her Eyes – The Scarlet of her Lips*

*Bewitching Queen of Coquettes... carefree charmer... whose beauty blazed in conquest... while the world about her flamed! The private life of the world's most glamorous adventuress... who used men as stepping stones... and made history. Told against an exciting and colorful background... as big as the mighty events through which its drama rolls!... re-created on the Technicolor screen... its breathless beauty will burst upon the world in radiant life... and glorious color!*

## *Pioneer Pictures presents Miriam Hopkins in Becky Sharp.*

*The first full-length production photographed in the gasping grandeur of New Technicolor! A new miracle in motion picture... that promises to create a revolution... as great as that caused by sound!... The producers of "La Cucaracha" are proud to produce and present the first full-length feature filmed in the full glory of New Technicolor!*

The real colour revolution however, started in 1935 when Pioneer Pictures was developing plans for a feature length Technicolor production called **Becky Sharp** an adaptation of the historical novel 'Vanity Fair'. It premiered in the same year at the Radio City Music Hall in New York and was hailed as an innovation. It is historically important as the first full-Technicolor (3-colour) feature. And now there was no doubt that Technicolor was to become a permanent part of the motion picture industry. One of the most spectacular Technicolor productions was the 1939 movie **Gone With the Wind**, produced by David O. Selznick. One of the most famous British Technicolor movies is the 1939 production **Red Shoes**. The word Technicolor has been the word which reminds all filmgoers of movies in colour.



In 1939 the AGFA color system was perfected in Germany and put on the world market after World War II. Two famous German productions with this process were **Die Fledermaus** and **Münchhausen**. In 1945 the Russians took over the process and used it for several of their post-war films. An American company perfected the Agfacolor process under the name AnscoColor



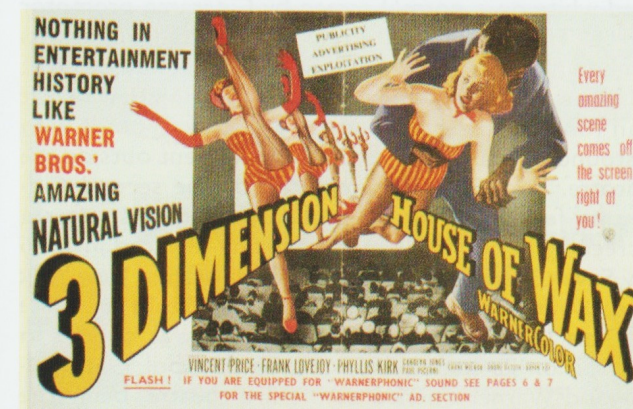
for the USA market. Sovcolor is another copy of the Agfacolor process copied by the Russians. Most Russian colour films continued to be presented in Sovcolor. So was the first Russian Kinopanorama (Cinerama type) presentation called **Great is my Country** (Vaste est mon Pays) that was presented at the 1958 ExpoWorld Fair in Brussels. In 1953 Italy announced colour features filmed in Ferraniacolor. Japan surprised the world after the war with three different colour processes: Konicolor which has been used by MGM, FujiColor and DaieiColor. The Belgium company Gevaert developed his own process Gevacolor - similar to Agfacolor - which was used in many European countries but also in India for a film called **Pamposh** in 1954.

In 1950 the Eastman Kodak company in the United States announced its own new process. EastmanColor.



It had the advantage of needing less light for photographing images as well as being easier to process negative films at a lower cost. Because of its many advantages and easy handling, this new process was used in many 3-D and widescreen films in the fifties. Eastmancolor had a slow start but soon it became a threat to AnscoColor and Technicolor. 20th Century Fox adopted it for most of its CinemaScope pictures like **The Robe**, **How To Marry A Millionaire** and **Women's World**. By

1955 Eastmancolor was the most favourite new colour process and its future was assured. In 1952 Warner Brothers had announced its own colour process under the name WarnerColor, which was in fact Eastmancolor film adapted to Warners standards. After having produced 6 features in colour, they decided to produce their first 3-D film **House of Wax** also in WarnerColor



and with their own new developed stereophonic sound on a separate film with four magnetic tracks which ran in sync with the picture. **House of Wax** proved to be financial one of the best 3-D films, grossing over five million US dollars in its first year. Soon Warner announced that they would make the majority of their films in their own colour system. **House of Wax** was reissued in 1971 in 70mm with four magnetic sound tracks. The Pathé Laboratories in Paris decided to re-name the Eastmancolor process as Pathécolor, an old French name from the early days of the hand-painting pictures. After having produced many colour prints of EastmanColor films for theatrical release, the tag line for Pathécolor was changed into 'Eastman Color by Pathé'. Within a period of 65 years, from the early hand-painted film of Edison to the advances of Technicolor and EastmanColor, the motion picture industry has been constantly moving ahead with ever-increasing improvements to bring the audience the most beautiful images on the cinema screens.



# Cinerama 1952

'Secret of the film that pulls you out of your seat!' was the headline from the review in the Daily Express newspaper from 8 October 1952 (\*). And that was indeed the common feeling after the premiere of **This Is Cinerama** in New York's Broadway Theatre on September 30, 1952. But the audience needed a lot of patience: an introduction of thirteen minutes (!) in black and white on a normal screen by Cinerama promotor Lowell Thomas before the real show started and he was spreading his arms while speaking his famous words: "**Ladies and Gentlemen..... THIS IS CINERAMA**". It ran for 2½ years on Broadway to packed houses with astounding giant queues on the pavement outside the theatre. In 1955 it was replaced by the second Cinerama feature **Cinerama Holiday** which was, after a screening period of 14 months, being replaced in 1956 by **Seven Wonders of the World** that ran in New York for 18 months. Six months after the World premiere of **This Is Cinerama** a second theatre was opened in Detroit on 23 March 1953 and on 29 April 1953 Hollywood Warner opened as the 3rd theatre, being the first on the westcoast. Hundreds of reviews appeared in newspapers and magazines, all singing the praises of the new Cinerama movie wonder! Sadly, Fred Waller, inventor of the Cinerama process died within two years of its premiere at the age of 67, just a few days after receiving an Academy Award for his Cinerama!

Two years after the Broadway start, the London Casino had the European premiere on 30 September 1954 of **This Is Cinerama**. It ran there for a period of 16 months, while **Cinerama Holiday** ran in London for 2 years and **Seven Wonders of the World** during 20 months. London was the only city with three Cinerama theatres: the Casino opening in 1954, the Coliseum opening in July 1963 with the European premiere of **The Wonderful World of the Brothers Grimm** and the Royalty Cinerama Theatre opening in November 1963. On the 2nd November 1962 the London Casino had the honour of hosting the World premiere of **How the West Was Won**, the last but also the most favorite and successful 3-strip Cinerama feature film. It has won

three Academy Awards for best film editing, best original screenplay and best sound recording and became the top-grossing movie of the year 1963. It ran at the Warner Hollywood for 93 weeks.

In 1962, 85 theatres were operating the 3 projector Cinerama equipment and five years later there were 170 world-wide! But the complexity of the Cinerama process and especially the expensive screening in the Cinerama theatres was becoming a problem as public interest was diminishing. The re-building and opening of a Cinerama theatre was an expensive way to proceed: theatre owners were not so pleased by the removal of a large number of seats in the best part of the auditorium for the large curved screen. And the adding of the 3 projection booths in the auditorium plus all the technical equipment was an expensive business. To operate a Cinerama theatre needed at least one couple of 5 operators (3 projectionists, one sound control engineer and a picture control technician in the auditorium) and sometimes the double number for relief of the others. On the production side they had the problem that the very heavy 3-strip cameras were not suitable for every kind of filming. In **How the West Was Won** some action scenes were taken with 65mm cameras and optically converted into 3-strip. A real challenge to the simplicity of the 65mm cameras. There have been manufactured a total of 7 original 35mm 3-strip Cinerama cameras.

And so from 1963 Cinerama was slowly forced to drop the 3-strip projector format in favour of the single screen 70mm projection. **It's a Mad, Mad, Mad, Mad World** was the first film in **Ultra Panavision 70** released as **Super Cinerama** in 1963, the start of the one lens Cinerama films. A total of five films in Ultra Panavision were released with optical corrected prints suitable for projection on the deep curved Cinerama screen. Also some Super Technirama 70 films were presented as Super Cinerama films, like **Circus World** (The Magnificent Showman) and **Custer of the West**. These corrected prints could not be used in theatres without Cinerama screens so they had a limited release. This at last led

to the abandoning of the 3-strip Cinerama installations with their large curved screens in favour of the 70mm equipment and slightly curved screens. The Cinerama screen was designed by Fred Waller to completely catch the human peripheral vision. So he created a deeply curved screen with 146° degree consisting of hundreds of vertical louvers to overcome reflecting of images from the other side of the screen. Todd-AO 70mm requires a slightly curved screen, not deeply because they had not the problem of reflection. So in fact a 70mm Todd-AO print should not be screened on a Cinerama deeply curved screen! In an effort to duplicate the Cinerama success of the fifties, in 1972 a 70mm version of the 3-strip **This Is Cinerama** was released with minor success.

In 1964 a unique Cinerama project in England had been started called **Itinerama** which was nothing else than Cinerama in a huge circus tent! The whole project looked like an enormous travelling circus and was carried around the country in a fleet of 38 vehicles! No wonder, because a circus company called Bertram Mills was involved in the project. The large tent with central heating, had a seating capacity for 1500 people. The huge curved screen measured 109 feet wide which was larger than the Casino Cinerama in London. It was a normal screen, not a louvered Cinerama screen. Visitors said that the performance on the large screen was much more impressive than in the London Casino. The projection box was positioned outside the tent on a large steel framework. It had the 3 Cinerama projectors and one sound machine in the same very small booth and with mirrors, projected onto the screen like Cinemiracle. However despite all the touring plans through England after three years the show closed suddenly probably because of financial problems. In 1961 France had also a Cinerama tent project with seating for 3000 people, a kind of giant dome tent construction without supporting masts, inflated by 8 blowers and a curved screen of 450 sq meter. This tent was already destroyed after one month by a heavy storm and the owners went bankrupt!



Another remarkable project was realised in 1996: vintage prints of **This Is Cinerama** and **How The West Was Won** played for more than a year in the New Neon Theatre in Dayton, Ohio, USA. It was an initiative by Larry Smith, manager of the theatre and John Harvey, long time Cinerama expert, who owned a complete Cinerama installation at his home in Dayton, plus vintage

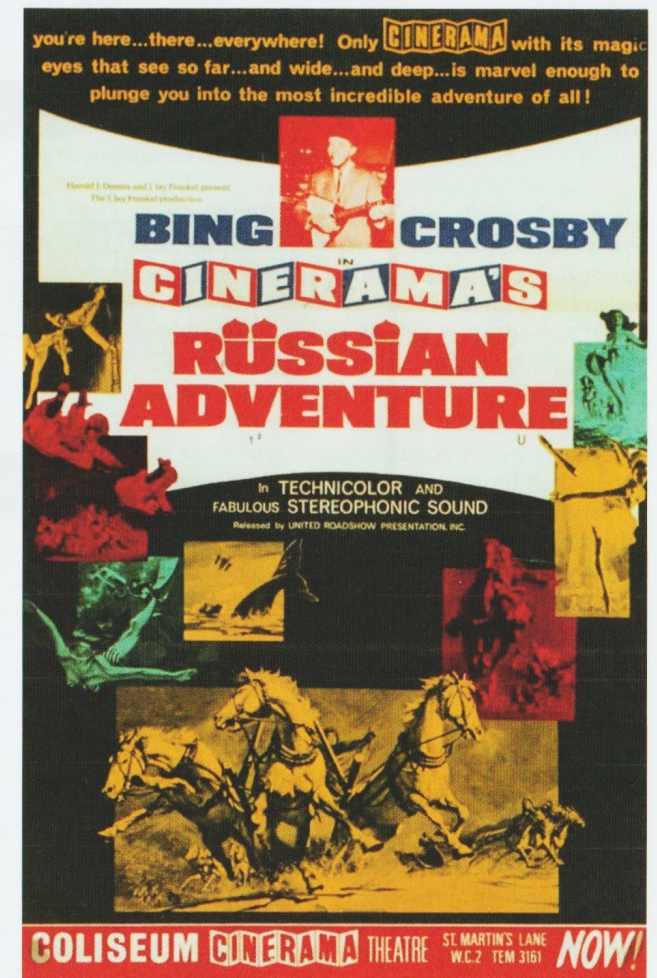


prints of **This Is Cinerama** and **How The West Was Won**. The idea was to screen them for a few months, but after some time because of many full houses, due to much radio and TV attention, they decided to expand the screenings as long as possible. So it finally lasted from August 29, 1996 until September 21, 1997. Mr Harvey provided his private Cinerama equipment and the two vintage prints for this project and he also did the job of starting the 3 projectors on his own! He had modified the operation of the 3 projectors so it could be done by one person instead of the former five engineers needed.

**This Is Cinerama** the first 3-strip film, made its debut in September 1952. Twenty years later, in 1972 the last 3-strip Cinerama screenings took place in July in the Empire Cinerama in Paris and finally in October at the Scala Cinerama Theatre in Rotterdam. However on the 16th of June 1993, another twenty years later, a real Cinerama Theatre with 3 projection booths opened its doors in Bradford, UK, as part of the National Media Museum and is still showing Cinerama films till today. In April 2012 this Pictureville Cinema celebrated the 60th Anniversary of Cinerama with a special Cinerama Widescreen Festival. In April 1999 the Seattle Cinerama opened after a rebuilding as a real State-of-the-Art cinema, including the restoration of the original Cinerama process. The theatre closed in August 2010 for another round of renovations and the installation of a new digital projection and sound system. On the 4th of October 2002, the Cinerama Dome in Hollywood had finally installed original Cinerama projection equipment and they started as the third Cinerama theatre in the world. Till then they could only screen 35mm and 70 mm films. To celebrate the reopening they screened new restored prints of *This Is Cinerama* and *How The West Was*

Won. So to this day there are only 3 Cinerama Theatres in the whole world.

(\*) see **The Cinerama Story**, published in April 2012, by International 70mm Publishers in The Netherlands.





# Cinemiracle

When National Theatres announced the development of a "seamless Cinerama" in 1957 there was not much excitement, despite the fact that **Cinemiracle** has some improvements, the most important that the three projectors were in one booth rather than in three separate booths. In November 1957 the process was demon-

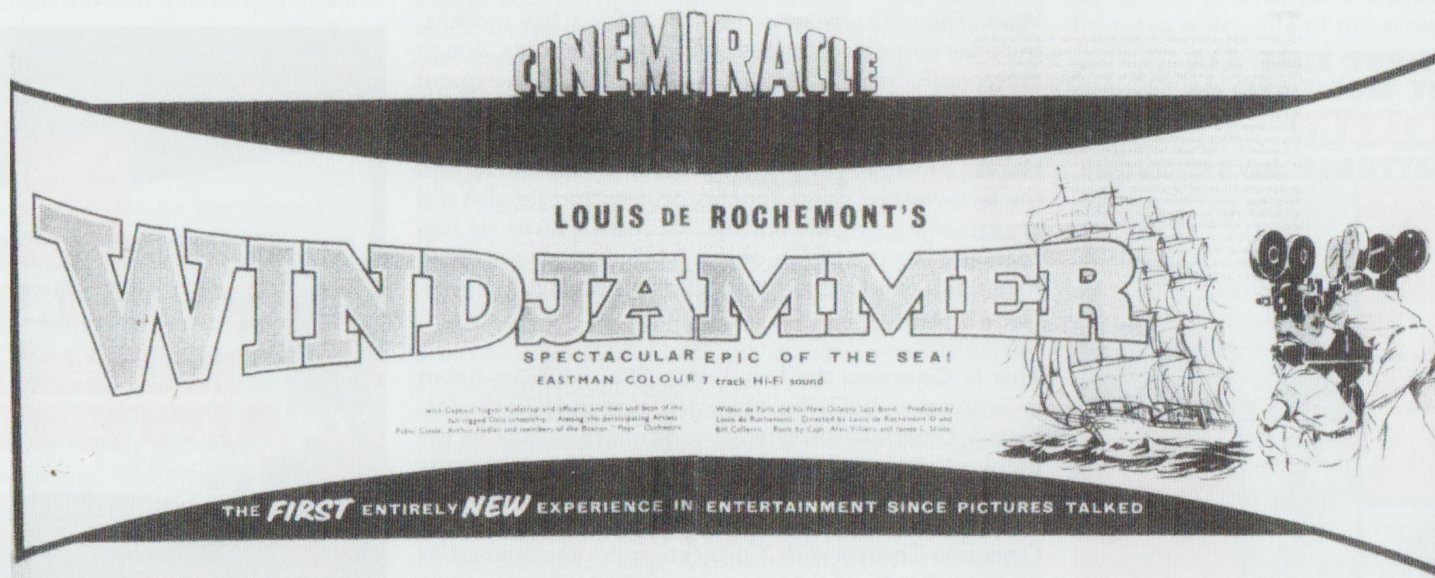
strated to the press in a special screening with shots of a car rushing down the streets of San Francisco, a fire truck rushing through Philadelphia and some scenes filmed aboard a Norwegian sailing vessel. When documentary producer Louis de Rochemont, who had previously been involved with **Cinerama Holiday**, saw the miscellaneous shots of the training ship, he got the idea of producing the entire film aboard the Norwegian ship and so they decided to run the new Cinemiracle picture under the title of **Windjammer**.

**Cinemiracle** was a triple 35mm camera arrangement and a triple projection system in a single booth, nearly identical with Cinerama, only different in the way of filming and projection. The system uses a special three-

lens triple 35mm Mitchell camera in which the use of mirrors makes it possible to create a large panoramic image. The three projectors, electrically interlocked with a seven channel sound machine, were all in the main booth at the back of the auditorium, so no need to build three separate booths. The center projector

throws the middle picture directly onto the screen, while the left and right projector throw their image on the screen via mirrors in front of the projector. It was essential of course that the left and right image overlapped the center image to complete the image on the screen. The use of mirrors also overcame the Cinerama problem of the visible joining lines and the double light intensity where the three panels overlapped each other. To further reduce the problem of vignetting of the overlap areas Cinemiracle also used in the printing process a special printer head attachment. There was also a 35mm projector necessary for the prologue.

The **Cinemiracle** screen was made of conventional seamless material and was less curved than that of Cinerama. In fact the complete system was an improvement of the Cinerama system. In the souvenir brochure of **Windjammer** we read: "**Cinemiracle** gives National Theatres an opportunity for immediate growth. Our program calls for the production of 16 pictures during the next 5½ years"! However the only **Cinemiracle**



film that has ever been made, Louis de Rochemont's **Windjammer** premiered at Grauman's Chinese Theatre in Hollywood on 8 April 1958 and had its European debut already five weeks later on 13 May 1958 at the Odeon Tottenham Court Road in London. It ran at the Chinese for 37 weeks, was then moved over to the Fox Theatre in L.A. where it ran for another 15 weeks, makes it a total of 52 weeks, while in London at the Odeon with 1862 seats, it ran for a relatively short time of only 24 weeks. As there was no follow up the Cinemiracle installation was then removed from the Odeon theatre. Cinerama, still being afraid of rivalry, bought the process in January 1962 including all the cameras, projectors, negatives and 45 prints of **Windjammer**. They released the film later as a Cinerama production.

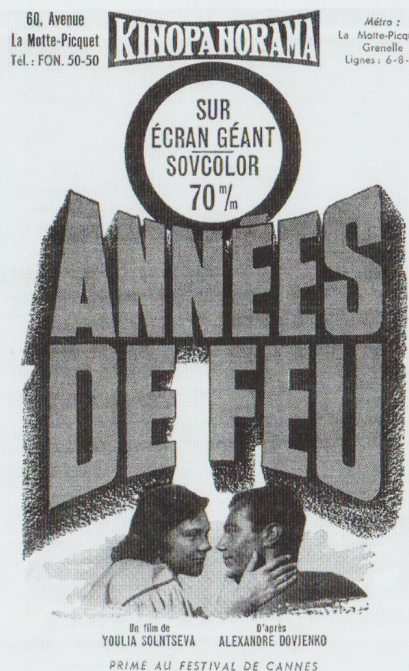


# Kinopanorama

**Kinopanorama** was the Russian version of the three-strip Cinerama widescreen system. The first film made in this process **Great is my Country** (Shuroka Strana Moya Rodnaya) French title **Vaste est Mon Pays** premiered on February 28, 1958 at the specially built and designed Mir (Peace) theatre in Moscow. The theatre had 1220 seats and a giant curved screen of 30.6 meters wide. 120 loudspeakers all around were feed by the 9-channel sound track from which 5 tracks served the speakers behind the screen and 4 the surround in the auditorium. The Russians had seen the 3-strip Cinerama in Damascus on an exposition in 1954 and this was probably the inspiration for developing their own 3-strip system between 1955 and 1957.

**Great is my Country** was also screened abroad in 1958 at the World Fair in Brussels in a special built Russian theatre and in New York during the Soviet Exhibition in 1959. The film contained an airplane trip through the Caucasus Mountains, speedboat trips, electric train rides and a dangerous river trip down the rapids on a log raft. The quality of the images was disappointing: general over-exposure, resulting in washed-out colors, uneven exposure among the three panels and frequent visibility of the margins between the three panels! Variety's review of **Great is my Country** said: "They may have been ahead with the sputniks, they are certainly behind when it comes to widescreen quality! Photographically the film contains some very exciting sequences, but the overall impact suffers from the inadequacy of the process. It remains a puzzle why the Soviets would present such a technically inferior product to the Americans, whom they are trying to impress with the very opposite!" However, another reviewer wrote: "Whatever the inadequacies of the first Kinopanorama film – it does provide the best trip on film today through the USSR". The 2nd film in the process **The Enchanted Mirror**, received better comments and a special prize at the World Fair 1958 in Brussels. In 1962 an improved Kinopanorama camera, the PSO-1960, was used for **Opasniye Povoroty**, the ninth Kinopanorama film. A total of seven Kinopanorama cinemas were built or renovated in the

Soviet Union. In 1959 a special Kinopanorama theatre opened in Paris, with 868 (very comfortable) seats and a curved screen of 22 metres wide and 98 speakers all around the auditorium. The projection and other technical equipment came from the Brussels 1958 World Fair. The projection team comprised 3 couples of two projectionists. The first Kinopanorama movie screened in Paris **Deux Heures en URSS** was a great success, it attracted one million visitors in one year. In 1962 a 70mm projector was added to the 3 screen equipment. The first 70mm film screened here was **Années de Feu** (**The Flaming Years**). In 1991 Gaumont took over the cinema, however in 2002 the Gaumont Kinopanorama closed forever.



Kinopanorama features some improvements compared with the Cinerama three-lens camera and three-strip film system, including interchangeable optics of the three lenses with various focal lengths of 27, 35, 50, 75

and 100mm. The camera also features a through-the-lens viewfinder, an optical advantage that is not present in the two American systems, which enables the cinematographer to accurately frame the scenes being photographed. The speed of film transport is 25 frames per second as opposed to 24 or 26 in the Cinerama + Cinemiracle systems. This speed may, however, be adjusted to either 24 or 26 frames per second when Kinopanorama films are exhibited in cinemas equipped with Cinerama projection. In some countries like Cuba, Greece, Norway and Sweden Kinopanorama was presented as Soviet Cinerama. No more than a dozen films were produced in Kinopanorama.

In 1993, John Steven Lasher from Fifth Continent Movie Classics in Australia purchased a Russian Kinopanorama 3-strip camera with the help of the Russian Consulate in Sydney. This improved camera was known as the second generation model PSO number six, from 1961 and it was the last camera built for the process. Two Russians, who had discovered the old camera, motors and lenses, were invited to come over to Australia. Before travelling they had shot about 3 minutes of test footage in Moscow with the restored Kinopanorama camera. This short film, titled Chastity, Truth and Kinopanorama has been screened in March 1977 at the Bradford Widescreen Weekend in England. After arriving in Australia in December 1993 they shot a test film called **Bounty**, which was screened in 1995 in Bradford. Fifth Continent Australia who have the rights to produce and screen new Kinopanorama films, have also produced in 1999 under a joint project agreement with Vision 146 (France) a two reel restoration of the 1961 Kinopanorama film **Opasniye Povoroty** (**Joyful Racing Corners**), the first dramatic production, a story about motor cycle racing in the former Soviet Republic of Estonia. These two restoration reels of appr. 16 minutes printed on Kodak polyester stock from the original Sovcolor camera negative, have been screened at the New Neon Movies theatre in Dayton, Ohio, in the Cinerama Dome in Hollywood and at the Bradford Widescreen Weekend in the United Kingdom.



# Abel Gance, Kevin Brownlow and Polyvison

In 1927 **Abel Gance** introduced his Polyvision system, a panoramic triptych of three interlocked 35mm cameras and projectors for the three panel screening of his film **Napoléon**. While the main film is shown on the middle screen in the normal size, scenes of special importance may be supplemented by images on each side of the middle screen. Two types of triple images were used – the first was a single panoramic image filling the entire three screens (giving a Cinerama effect) and the second was a series of three separate images complementing or counterpointing each other. Gance used the triple cameras and triple projectors which were developed by the French technician André Debrie. Originally Gance had planned to tell the life story of Napoléon Bonaparte, the emperor, in six films, but after five years of preparation and nearly one year of shooting and no more funding, he had only produced one film of eight hours long, which had to be drastically cut for public presentation.

Finally the original **Napoléon** ran between five and six hours and is considered being one of the longest major films ever to be shown commercially. It opened at the Paris Opera House on April 7, 1927. The audience was on its feet at the end and cheering. Among the visitors was a young army officer, Charles de Gaulle, who never forgot the film! However, when Abel Gance realised that the triptych process would not be adapted by others, in a deed of despair he destroyed a greater part of the Polyvision sequences! Had he known he would visit London in 1954 to see Cinerama! Abel Gance made more than fifty films during his life, starting in 1911 at the age of 22 with **La Digue** (Pour sauver la Hollande). He became famous in 1919 by his film statement against World War I: **J'accuse**. From this film he made a complete remake in 1938 with sound. In 1937 he made a film about the life and lovers of Beethoven: **Un grand amour de Beethoven** and in 1939 a comic opera called **Louise**, which was shot in a studio with the original all-star cast of the Paris Opera House. He is also known as a master of cinematic novelties such as multiscreen images, extreme close-ups, hand-held cameras and cameras tracked on dollies, on a galloping horse and even



*Abel Gance, with sunglasses and his crew on a sleigh*



on a sleigh, as well as rapid and even frenzied editing and also experiments with sound and color.

It was bad luck that just some months after the premiere of **Napoléon** in Paris the publicity and attention for the talking picture revolution **The Jazz Singer** consigned the innovations of **Napoléon** to the background. However, forty years later in 1967 the French president Charles de Gaulle provided Abel Gance (born in 1889, so 78 years old ) with the money to make a new version for the Bicentennial Celebration of Napoléon's birthday. In twelve weeks time British filmproducer/ archivist **Kevin Brownlow** (1938) succeeded in producing a four hour version with the help of Abel Gance. His fascination for the film started already in 1954 when Brownlow as a boy of sixteen acquired a 20 minute 9.5mm filmreel of **Napoléon**. It changed his life, since then he became a passionate collector of other prints of the film, the most valuable of his discoveries was a complete 17.5mm print of the film on 17 reels! This print was later blown up to 35mm by the British National Film Archive. In 1954 he was very lucky to meet with Abel Gance who was visiting London to see **Cinerama**! Since then they became friends and Kevin Brownlow worked more than 20 years on the recovering of the film. Abel Gance died on 10 November 1981 at the age of 92.

The first screening of a restored version of **Napoléon** took place in London in 1980. In 1981 there was a (full house) performance of a 235 minutes version at Radio City Music Hall in New York presented by Francis Ford Coppola and restoration specialist Robert A. Harris, they had acquired the US distribution rights. It was accompanied by a new musical score from Carmine Ford Coppola, the father of Francis Coppola. In July 2007 the Los Angeles County Museum of Art presented a 70mm version of this 235 minutes silent, tinted **Napoléon**, reconstructed by Kevin Brownlow, the same version that ran in 1981 in New York. On this 70mm print the orchestral score by Carmine Coppola was recorded in stereo and transferred onto the print. Brownlow con-



tinued in his search for undiscovered footage and so his final reconstruction with new footage and a total length of 330 minutes (70 minutes longer than the Paris premiere version) was screened four days in the USA in March 2012 in Oakland with a dinner intermission (!) and in Europe in different places on special occasions, recently at the Royal Festival Hall in London on November 30, 2013. There it was accompanied by the Philharmonia Orchestra directed by composer Carl Davis with his own original score for the film. The final triptych scenes were projected by three 35mm projectors! A climax of the film in which the French army marches into Italy across three screens, with images tinted in the red, white and blue, colors of France's flag as Napoléon had a vision of a unified Europe. In 2011 Mr Brownlow received an Academy Award as recognition for his work on preserving and restoring classics from the silent

era. He has also produced a number of films himself and written many books about Charlie Chaplin, Abel Gance, David Lean and others.

EMPIRE - THEATRE ABEL GANCE  
**CINERAMA**  
 SOIRÉE LUNDI 23 SEPT. 1963  
 FAUTEUIL D'ORCHESTRE J 19  
 Prix, la place : NF 10..  
 Timbre en compte avec le Trésor  
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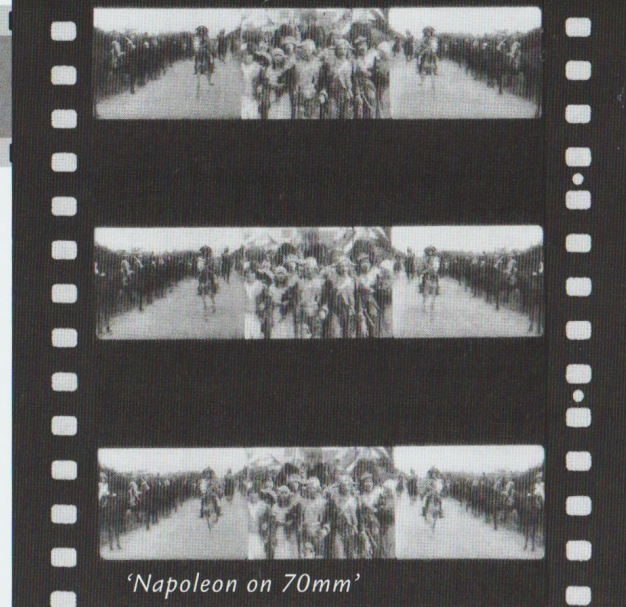
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 Written by William Faulkner • Harry Kurnitz • Harold Jack Bloom  
 Produced and Directed by HOWARD HAWKS • Presented by WARNER BROS.  
 Music Composed and Conducted by Academy Award Winner DIMITRI TIOMKIN





# 2012: The Return of Cinerama: 'In the Picture'

In the early fifties a revolutionary '**This is Cinerama**' premiered on the evening of September 30, 1952 in the Broadway Theatre in New York, causing gigantic queues on the pavement before the theatre!

Exactly 60 years later on September 30, 2012 a new 3-strip Cinerama travelogue '**In the Picture**' premiered at the ArcLight Cinerama Dome on Sunset Boulevard in Hollywood. It was the fulfilment of a dream for Cinerama addict **David Strohmaier** from Los Angeles, since he started the research on a Cinerama documentary. Already at the age of six David's father took him to the Ambassador Cinerama Theatre in St Louis to see '**Seven Wonders of the World**', some years later followed by a visit to '**How the West Was Won**'. These cinema visits as a young boy were the start of his admiration for Cinerama! He started in 1997 with the research and spent the next five years (!) supported by his wife to locate film prints, cameras and projectors. This all resulted in 2002 with his documentary '**Cinerama Adventure**' a very interesting video film of 96 minutes, about the history of Cinerama.. The making of this documentary introduced him to all aspects of the Cinerama heritage and so he also got involved in the restoration of old Cinerama films. But it took ten years before his dream, to make a new Cinerama film became reality with the support of John Sittig from ArcLight Cinemas and Pacific Theatres, owners of Cinerama, who wanted to organise something special for Cinerama's 60th Anniversary in September 2012.

However, as you can imagine, it was very difficult to find and restore an original camera that had been stored for fifty years and now had to be renovated to produce a new film. In 1962 the original cameras were used for the last time with the filming of '**How the West Was Won**'. It required a lot of work to modify an old Cinerama camera, but thanks to the cooperation of a lot of enthusiastic people all with their own knowledge, among them cinematographers John Hora, ASC and Douglas Knapp, SOC, all wanting to be part of this unique historical project, that finally started in January 2012

under the inspiring leadership of director/editor David Strohmaier.

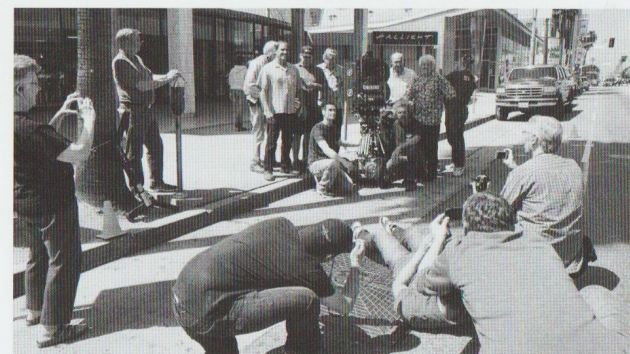
'**In the Picture**' had its European premiere on April 27, 2013, half a year after the Hollywood premiere, during the Widescreen Festival Weekend in Bradford, UK in the Pictureville Cinerama, which is part of the National Media Museum and the only theatre in Europe with facilities to screen original Cinerama films.

Principal photography for 'In the Picture' was done between January and April 2012 in Los Angeles because of the small budget, which didn't allow them to travel outside the city. Film scenes include the Griffith Park Observatory, overlooking the 'City of Angels' from the hills, the Hollywood Heritage Museum, a merry-go-round at Griffith Park and driving around the boulevards of Los Angeles. The story follows a middle aged couple (Stanley and Paula Livingstone) showing a younger couple (Elizabeth Dominiguez and Matthew Brewbaker) around Los Angeles and meanwhile talking about their memories of Cinerama.

The final images of the film were shot on board the brigantine 'Exy Johnson' a sailing vessel made available by the TopSail Youth Program Organisation. They spend two days on board this ship and another day on a sister vessel to shoot images of the two couples on the 'Exy Johnson'. These were the ultimate shots of the film as they reminded us of the classic Cinemiracle film '**Windjammer**' from 1958! For David Strohmaier this was a heavy kind of improvisation, because he had no chance to storyboard these scenes, as he had no idea how it all would work nor had he any experience filming on a sailing vessel! But despite all these problems the images were really touching! The last days of shooting were in the Cinerama Dome and they were very lucky to meet with famous film star **Debbie Reynolds**, who played Aunt Lillith in '**How the West Was Won**' in 1962. She was born on 1 April 1932, so is already 81 year on this planet! After filming Debbie in the lobby, with fans all around her, the crew finally went inside the Dome's

auditorium to shoot some scenes of the two star couples from the film watching their own acting projected on the giant Cinerama screen.

The processing of '**In the Picture**' was done by FotoKem laboratories in Burbank, just north of Los Angeles. The crew was able to screen the dailies in the Cinerama Dome during the time of production together with people from FotoKem. These were often chaotic days having to solve all the problems of sharpness and misframing. Strohmaier had also set up a digital video camera to shoot the projected dailies from the screen, as this was the only way for him to watch the scenes at home and to work out the difficult editorial decisions. But the resulting new 3-strip Cinerama film with a screening time of 26 minutes was amazing and a great accomplishment for David Strohmaier and his enthusiastic team!

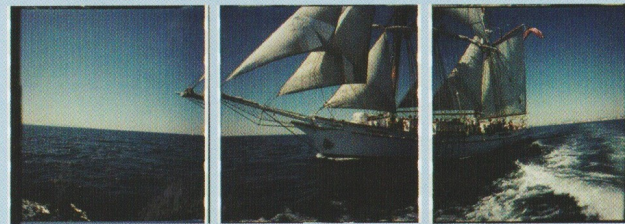


Pictures by Tom March and Dave Strohmaier





Pictures by Tom March and Dave Strohmaier





# CinemaScope and

Anamorphic lenses on a camera compress and distort the image in width, while in projection with the same type of anamorphic lens, the image is 'spread out', giving the image a wider aspect ratio than the ordinary motion picture image ratio of 1.33:1 (\*). Already in 1862 the first anamorphosis theory was patented in Britain while the Zeiss Company in Germany filed a patent in 1898. And in 1930 an invention called 'Anamorphosa' was introduced in New York that produces a widescreen image on a screen using ordinary film, but film producers were not interested, they were too busy with the new 'talkies' sound films! Prof. Henri Chretien



Prof Henri Chretien

demonstrated his anamorphic lens in 1931 and 1935. Paramount Pictures took an option on the lens and shot a number of test reels, but then decided to stop further developments. In 1937 Chretien exhibited his lens in a widescreen presentation at the Paris Exhibition, but nobody was interested in any further developments.

After the premiere and huge success of Cinerama in 1952, the film companies were thinking how to regain the public interest back and so they revived one of their dormant attractions 3-D films. Despite nearly sixty

stereoscopic films had been produced from 1952 until 1955, the audience soon got tired of wearing polarized spectacles and so 3-D was abandoned again, in favour of the wide screen. In December 1952, within two months after the premiere of Cinerama, 20th Century Fox signed a contract with the French professor Henri Chretien for the rights of his anamorphic Hypergonar lenses. **CinemaScope** as Fox called their new baby, was their answer to Cinerama. They immediately put different productions on stage, starting with **How to Marry a Millionaire** (1953) and **The Robe** (1953). Although **How to Marry** was finished before **The Robe**, Fox decided to have the CinemaScope process premiered with the more spectacular production **The Robe**. For the sound they looked again at Cinerama who had 6 stereophonic soundtracks on a separate film, but they choose a system for their stereophonic sound directly put on film with 4 magnetic tracks. As they were not sure the CinemaScope process would be accepted by the exhibitors they shot a couple of their first anamorphic movies also in regular 35mm without scope. Meanwhile MGM obtained their own anamorphic lenses and they followed soon with **Knights of the Round Table** (1953). They had announced **Kiss Me Kate** as their first CinemaScope movie, but filmed it in 3-D because the anamorphic lenses were not yet available at the time of shooting. As a precaution they filmed it, also as Fox did, for normal flat screen. The CinemaScope film **How to Marry A Millionaire** was preceded by a short of the Twentieth Century Fox Symphony Orchestra conducted by Alfred Newman playing his own composition "Street scene". According to the newspaper: 'You see the whole orchestra. That is possible in CinemaScope and that's why it has been screened!' Peter Stuyvesant, the cigarette manufacturer in The Netherlands, made a lot of beautiful commercial shorts of 2 or 3 minutes filmed in CinemaScope: The Empire State Building, Vacation on the Cote d'Azur, Springtime in the Netherlands, Famous cities of Europe: Brussels, Famous cities of Europe: Rome, Paris, etc.

CinemaScope was a huge success like Cinerama and a

lot of theatre owners decided to invest in new widescreens, anamorphic projection lenses and new stereophonic sound systems. Fox was an innovator in sound as well in picture quality, they were the only studio recording dialogue on the set with 3 microphones over the actors. They started doing this with **The Robe** and



continued doing this in the fifties on most of their CinemaScope productions. The following year 1954 most major studios decided to produce CinemaScope films with the exception of Paramount who was developing VistaVision. As there was now a great demand for anamorphic lenses Fox contacted Bausch and Lomb to produce the new lenses for them. Within 2½ years af-



# ...CinemaScope 55

20th Century-Fox presents  
THE BIG-TIME, GRAND-TIME, GREAT-TIME  
SHOW OF ALL TIME IN  
**CINEMASCOPE**  
THE NEW DIMENSIONAL MARVEL YOU SEE WITHOUT GLASSES!



Only CinemaScope surrounds you with the world's most beautiful women in such wonderful and glamorous entertainment... transports you from gay intimacy to breathtaking panorama... from swank Manhattan penthouses and fashion shows to ski slopes and the great outdoors.

Only CinemaScope can bring you such an extravaganza of glitter, romance and uproarious laughter. Here is the wonderful love story of three fascinating females who pooled their beauty in the funniest plot against the opposite sex ever devised.

20th CENTURY FOX presents  
**MARILYN MONROE · BETTY GRABLE · LAUREN BACALL**  
in  
**How To Succeed in Business Without Really Trying**  
TECHNICOLOR

Produced by HUNNALLY JOHNSON  
Directed by JEAN NEGULESCO  
Screenplay by HUNNALLY JOHNSON  
Based on book by Dan Glaz and John Chance and Lawrence Sanders

Starring  
DAVID WAYNE  
RORY CALHOUN  
CAMERON MITCHELL  
and ALAN BARRY · FRED CLARK and  
**WILLIAM POWELL**

ter its introduction 16 000 of the 20 000 cinemas in the US and Canada were equipped for CinemaScope. Especially drive-in cinemas were in favour of the large widescreen projection. The first CinemaScope films were made to be shown with an aspect ratio of 2.55 :1. This was later reduced to 2.35:1 to make room for the optical soundtrack (next to the magnetic tracks). The gamble with CinemaScope had been a success, at the end of 1954 there were 75 films in CinemaScope completed.

## CINEMASCOPE 55

When CinemaScope found it's way, exhibitors started complaining about the image being too grainy, especially in theaters where it was presented on large screens. So Richard Zanuck from Fox ordered his engineering staff to look for a way of improving the image but stay with the 35mm format for exhibitors. They started with old Fox Grandeur 70mm cameras from the thirties and rebuilt them as 55mm cameras. Therefore the system in the beginning was referred to as '4x35' because the 55mm negative 6 perf was 4 times larger than a 35mm frame. The 55mm film was especially produced for Fox by the Eastman Kodak company. The stereophonic sound was four track magnetic on the film and the process was renamed as **CinemaScope 55**. Just as was done with **Oklahoma!** (1955) that was filmed simultaneously in 70mm and on 35mm CinemaScope, 20<sup>th</sup> Century Fox decided to film **Carousel** (1956) as well with the new 55mm cameras as with 35mm CinemaScope cameras to be sure they could go on if there might be problems with the old revamped Mitchell Grandeur cameras. However seeing the high quality of the first reduction prints from the 55mm negative on 35mm, they decided to close down the 35mm filming. And when **Carousel** was completed it was only released in 35mm scope, because the image of the 55mm negative printed on 35mm was much sharper and superior to normal 35mm CinemaScope. And so they decided to reduce the large area negative onto standard 35mm film so no more conversion of projectors would be necessary. The second film produced in the CinemaScope 55 process **The King and I** (1956) was released in 55mm only on a few locations and in 35mm CinemaScope for normal release. After these two productions Fox abandoned the process in favour of Todd-AO 70mm. The 55mm cameras were again put on the shelves and never used again. Rumours say that Michael Todd was interested in the process and that two test reels of **Oklahoma!** were filmed with CinemaScope 55 cameras. In 1961 **The King and I** was re-released again but now optically printed on 70mm film with 6 track stereophonic sound under the banner of Grandeur 70.

(\*) The Aspect ratio describes the size of the projected image related to width (1.33) and height (1).

Hang Uw zorgen aan de Eiffeltoren en geniet  
met  
**Jane Russell**  
in de  
**MULTI MILLION \$ MUSICAL**  
naar Anita Loos  
**"Gentlemen Marry Brunettes"**  
Songs! Songs! Songs!  
"GENTLEMEN MARRY BRUNETTES"  
"YOU'RE DRIVING ME CRAZY"  
"MISS ANNABELLE LEE"  
"HAVE YOU MET MISS JONES"  
"MY FUNNY VALENTINE"  
"I'VE GOT FIVE DOLLARS"  
"I WANNA BE LOVED BY YOU"  
"DADDY"  
"AIN'T MISBEHAVIN'"



**Alan Young · Scott Brady · Rudy Vallee**  
regie: RICHARD SALE **CINEMASCOPE** Technicolor  
Productie: Richard Sale en Robert Waterfield  
Released thru United Artists • Nova Film



# The Widescreen Revolution: CinemaScope

Over a century ago, motion picture standards for photography and presentation basically were set and have only been altered significantly on two occasions: first by **the innovation of sound** in the late Twenties, and second by the “**widescreen**” revolution that began in the early Fifties and continues to this very day.

To recap, in January 1953, Fox licensed Professor Henri Chretien's Hypergonar lens, which he had developed in France during the latter part of the Twenties. During photography, this cylindrical, “anamorphic” lens would record almost twice as much horizontal information as its spherical counterpart. By optically compressing or “squeezing” the horizontal image by a factor of two, the anamorphic lens was able to record its wider image on the same 35mm filmstock while employing the same motion picture cameras that were already being used by the major studios. To project the widescreen image, existing theatres merely needed to equip their projectors with a similar cylindrical lens that would unsqueeze the image and spread the picture across an appropriately wider screen. Fox called its new process “CinemaScope” and sought to make it a new industry standard.

Almost overnight, other studios, especially those with a large backlog of unreleased spherical films, panicked and began to look for other ways to jump on the widescreen bandwagon. Many of these studios simply chose to mask off the top and bottom of the 1.37:1 photographed image during projection, creating the illusion of a wider image. The resulting, and competing, aspect ratios used by the various studios were 1.66:1 (Paramount, RKO, Republic), 1.75:1 (MGM, Disney, Warner Bros.), and 1.85:1 (Universal, Columbia, Allied Artists). Once they had released their inventory backlog, these studios began to establish this type of widescreen process as a standard by instructing their cinematographers to compose images so that no important action would be lost during projection. By 1956, the studios had decided unofficially upon 1.85:1 as the standard for this masked widescreen method.

Another approach to widescreen photography and projection occurred in 1954, when Panavision and Superscope developed lenses for optical printers which made it possible to make anamorphic prints from spherical negatives. The Superscope system, which had a brief spurt of popularity in the mid-Fifties, transformed entire spherical features into anamorphic. The Superscope system was used under such names as Superama and Megascopes until 1963, when it was supplanted by the introduction of Techniscope by Technicolor.

Techniscope was conceptually the same as Superscope, except that cameras using this process needed to be modified to pull down two perfs rather than the customary four. This yielded a 2.35:1 aspect ratio image that was then optically stretched and squeezed in the printing process.

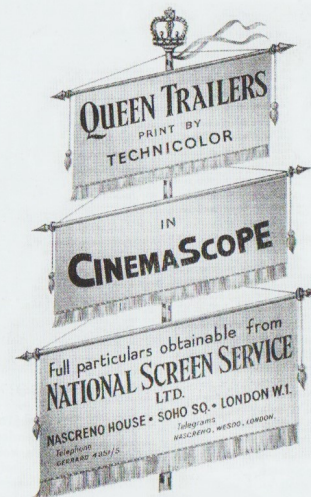
In the early Eighties Superscope was revived as “Super 35”. Because of the many cost-saving and photographic advantages of this system - spherical lenses need less light and have greater depth of field than their anamorphic counterparts - both Super 35, and its counterpart Super 16, are widely used today in feature film and television production.

## Challenging the CinemaScope Standard

Soon after the introduction of CinemaScope in 1952, many anamorphic challengers began to appear on the horizon. When it set up CinemaScope as a new standard, 20th Century-Fox thought it had covered all legal bases. Fox intended to own the use of the process and license it to other companies. Unfortunately, Fox soon discovered its rights were limited to the patents it had obtained from Professor Chretien and H. Sidney Newcomer, an American who had also been experimenting with anamorphic lenses in the Twenties. CinemaScope's other basic design patents were considered to be in the public domain. So, as soon as the principles behind CinemaScope were published, a number of competing manufacturers began to announce anamorphic lens systems. One of the challengers, interestingly enough,

was Professor Ernst Abbe of France, the original developer of the anamorphic lens.

Around this time, Fox's most serious challenger was Warner Bros.. Some believe that Fox beat Warners in the race for Chretien's patent. According to one account in



Daily Variety, Jack Warner had seen a private screening of CinemaScope long before it was publicly introduced, and had attempted unsuccessfully to purchase a one half interest in the process. Rebuffed, Warner was determined to develop his own process and, to that end, solicited bids from several American and European optical companies, finally making a deal with Germany's Zeiss Optical Company for a system that he would initially call “WarnerSuperScope”. The announcement of this newcomer caused yet another panic among motion picture exhibitors, who were already upset by the seemingly unending stream of technological changes that were being foisted upon them. At the insistence of these exhibitors, Warner shortened the name of the Zeiss process to “WarnerScope”.

WarnerScope did not meet with success. Although Warners originally had planned to use the Zeiss lenses



on *Rear Guard* and the Judy Garland/James Mason remake of *A Star is Born* (1954), the lenses were not ready in time. Instead, on *Rear Guard*, which began shooting in July 1953, Warners used a lens system called "Vistarama", that had been developed by the Simpson Optical Company for Carl Dudley. By September, when the Zeiss lenses finally arrived at Warners, the studio tested them by shooting footage of the Hollywood Premiere of *The Robe* which it planned to use for a sequence in *A Star is Born*. When Warners reviewed the footage, however, it found, much to its dismay, that the Zeiss lenses had poor resolution and were unsuitable for feature production. As a result, Warners chose to shoot *A Star is Born* in spherical three-strip Technicolor.

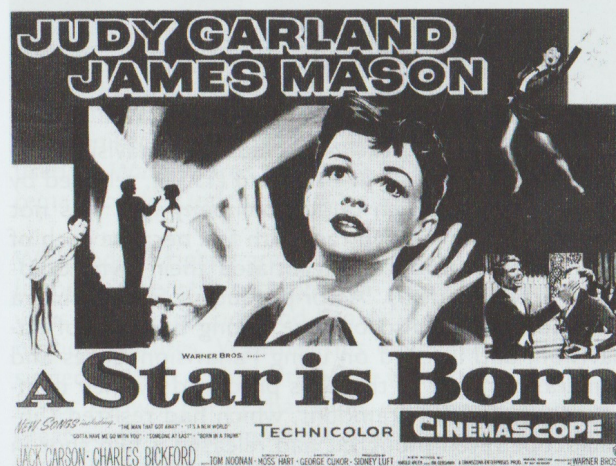
According to the late film historian Ron Haver (who spearheaded the restoration of *Star!* (1968) in the early Eighties), when *A Star is Born* was being restored, the only version that could be located of a scene in which Judy Garland is seen working as a carhop was one that was shot with the WarnerScope Zeiss lenses. Curiously, in the late Fifties, Warners would revive the WarnerScope name for three features that actually were shot in the Superscope/Super 35 format.

While the production costs were rising on *A Star is Born*, Warners' treasurer, Albert Warner, who was impressed by the grosses from *The Robe*, convinced Harry Warner to go over Jack's head to arrange with Fox to use CinemaScope. Jack Warner was finally convinced by the test CinemaScope footage shot by Milton Krasner, ASC, and decided to scrap the first ten days of shooting and start over.

As a part of the new CinemaScope deal, Warners agreed to release the Vistarama *Rear Guard*, now called *The Command*, as a "CinemaScope" picture. When the picture opened, critics noticed that the images were not as sharp as those shot in conventional CinemaScope. Some critics even noticed that the image was darker near the edges of the screen, an attribute noticed during the test screenings of Vistarama in 1953.

### Foreign Rivals

Outside of the United States, various foreign film companies began to develop CinemaScope-compatible anamorphic lens systems. The quality of these systems was somewhat uneven. One of the most significant systems was developed in France by Prof. Abbe, father of the anamorphic lens, and was called CinePanoramic. CinePanoramic was the basis of the French Dyaliscope and FranScope processes as well as other processes used on the Italian "sword 'n' sandal" epics of the early Sixties.



An American company, Republic Pictures, arriving late to the widescreen party, purchased rights to CinePanoramic, and called it "Naturama". An interesting aspect of these anamorphic lenses, which were a separate unit, was that each anamorphic lens was collimated to work with a specific prime lens and camera. The Naturama system, as recently seen on a rare 16mm print of *Lisbon* (1956), the second Republic film to use the process, appeared to have less of a problem with anamorphic "mumps" than CinemaScope. Mumps occur when anamorphosis decreases as the lens is focused closer. This moniker came from the fact that actors' faces, when photographed in close-up and then projected, appeared noticeably fatter, as though they had mumps.

As a result, directors using CinemaScope were forced into staging scenes with wider shots, seriously limiting their editorial choices.

Republic's Naturama lenses had a concave distortion, which was most noticeable in pan shots, and was apparent in every focal length of lens. By contrast, CinemaScope and Panavision lenses only caused concave distortion in their shortest focal lengths. Although Republic offered to license Naturama to other film companies, it found no takers. Ultimately, Republic amortized its investment by shooting the rest of its films with Naturama lenses.

### CinemaScope in Black + White

One confusing name appearing on films of the Fifties is RegalScope, which is really a pseudonym for low-budget, black and white CinemaScope. Originally, Fox only licensed CinemaScope for "A" pictures shot in color. Yet, once the process had been established, some filmmakers wanted to use the CinemaScope lenses on dramatic pictures about subjects that were better suited to black and white photography. In early 1955, two pictures, *Trial* and Nicolas Ray's *Rebel Without a Cause*, started principle photography in black and white CinemaScope. When Fox found out, it objected. As a result, *Trial* was shot with spherical lenses, while the producers of *Rebel Without a Cause* elected to shoot the teen drama in color.

MGM was particularly rankled by Fox's absurd prohibition on black and white. For a while, MGM toyed with the idea of shooting pictures in color and releasing them in black and white. Finally, in the Spring of 1956, MGM put *The Power and the Prize* (1956) into production on black and white negative under the photographic supervision of George Folsey, ASC. This time, Fox did not object.

Having established the CinemaScope standard, Fox quietly began to modify its strict anti-black and white attitude. Fox made a deal with independent producer Rob-



ert L. Lippert for a series of anamorphic low budget "B" films. To distinguish these low budget films from higher class color CinemaScope productions, Fox coined the name "RegalScope" after Lippert's production company, Regal Films. Of course, Regal's films were photographed with Bausch + Lomb CinemaScope lenses. Curiously, the first released Regal film, **Stagecoach to Fury** (1956), bore a CinemaScope logo, though the size of the logo was much smaller and less prominent than it had been on "A" pictures. Around the same time, Fox began to break its own color barrier. Without fanfare, it began production on a black and white "A" picture titled *Teenage Rebel*.

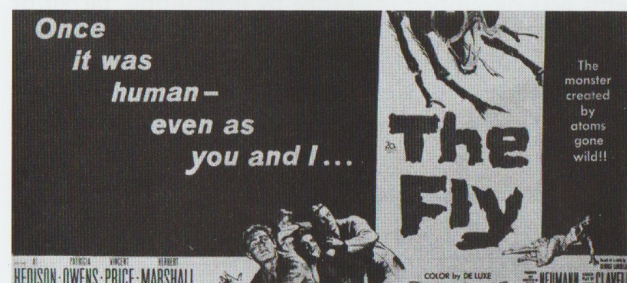
The most famous "almost" Regal film was **The Fly** (1958), which Fox plucked from the Regal program when it decided to jump on the late Fifties sci-fi bandwagon. One year later, when Fox negotiated a new "B" picture contract with Regal, Regal changed its name to Associated Producers and its pictures were then officially advertised as being shot in CinemaScope. As Associated Producers moved into the Sixties, however, its used the anamorphic process less and less.

### Panavision's Better Quality Lenses

In 1953, Panavision was founded by Robert E. Gottschalk, who had become interested in anamorphic lenses while he investigated wide-angle lenses for underwater use. Panavision first developed a set of variable squeeze projection lenses. The high quality of these lenses, in comparison with Fox's Bausch + Lomb lenses, greatly impressed MGM's research director Douglas Shearer. Shearer joined with Gottschalk in developing a line of high resolution 35mm and 65mm anamorphic lenses. These lenses also eliminated the "mumps" problem so that they could maintain a 2x squeeze ratio throughout the range of focal distances.

MGM was one of the first studios to use the new Panavision lenses on **Torpedo Run** (1958), **Party Girl** (1958), and **Green Mansions** (1959). Due to MGM's contractual arrangement with Fox, however, these

films were advertised as being shot in CinemaScope. At Gottschalk's insistence, the films also bore the separate credit: "Photographic Lenses by Panavision". As one might expect, many film historians have been confused by these dual credits.



The first film to give exclusive credit to Panavision was Frank Capra's **A Hole in the Head** (1959), released by United Artists, a distribution company that was not bound to a blanket contract with Fox because each of its individual producers negotiated their own equipment licensing deals. Actor-producers Frank Sinatra and John Wayne also became strong boosters of Panavision, and insisted on using Panavision lenses and cameras on most of the films produced by their companies. By 1960, Paramount, which had resisted CinemaScope (even though it had released a film shot in Technirama) also began filming in Panavision.

Although Panavision shot tests for George Stevens' **The Diary of Anne Frank** (1959), Fox resisted using the obviously better lenses, most likely at the behest of its president Spyros Skouras, who had been CinemaScope's biggest booster. It wasn't until 1966, four years after Spyros was deposed after the **Cleopatra** debacle, that several of Fox's top flight directors of photography began to shoot in Panavision. Charles Lang, Jr., ASC, used the sharper lenses on **How to Steal a Million** and **The Flim-Flam Man**. Joe MacDonald, ASC, used them on **The Sand Pebbles** and **A Guide for the Married Man**.

That summer, Fox filmed its last CinemaScope pictures,

to be released the following spring, **In Like Flint** and **Caprice**, the latter photographed by Leon Shamroy, ASC, who had started it all on **The Robe** and makes a cameo appearance in the film. Some sources at Panavision claim that **Von Ryan's Express** was shot with Panavision lenses at the insistence of Frank Sinatra. Yet, while this may have been true for some scenes, there are others in which the anamorphic mumps and other aberrations associated with CinemaScope lenses are quite obvious.

In the late Sixties, Panavision modified the Mitchell BNC to make it a reflex camera which Gottschalk named the PSR (Panavision Silenced Reflex). By 1970, Panavision dominated 35mm anamorphic photography throughout the world. With the development of the lighter and more compact Panaflex camera, which was first used by Vilmos Zsigmond, ASC, on Steven Spielberg's **Sugarland Express**, and a line of high quality spherical lenses, Panavision solidified its position as the industry leader.



### Later Anamorphic Systems

From the early Seventies on, several companies have joined the anamorphic fray by developing lenses for use



with Arriflex cameras. In 1971, Todd-AO licensed a line of Japanese designed anamorphic lenses, primarily for use with Arriflex cameras, which it marketed under the name "Todd-AO 35". The Japanese lenses were used on the Academy Award winning documentary **The Man Who Skied Down Everest** (1976), although the crew that lugged the bulky 35mm cameras and anamorphic lenses up the world's highest mountain might well have wished for lighter 16mm equipment.



In 1976, an Italian company, Technovision, introduced a line of Cooke spherical lenses that had been modified for 35mm anamorphic photography. The Cooke

anamorphics were particularly popular with Vittorio Storaro, ASC, who used them on **Apocalypse Now** (1989), **The Last Emperor** (1988), and the 35mm portions of **Little Buddha** (1994).

In 1981, widescreen buff and equipment developer Joe Dunton also came out with a line of anamorphic lenses which were used by Dino De Laurentiis, who housed Dunton's American headquarters at his North Carolina studio, on films he produced such as **Tai-Pai** (1986) and **Maximum Overdrive** (1986). Other films using Dunton's lenses were **Invaders from Mars** (1986), **The Sandlot** (1992), and **Rob Roy** (1995).

In 1989, Germany's Isco Optic developed a line of anamorphic lenses especially for Arriflex, which were given the moniker "Arriscope". The Arriscope lenses were first used by Warner Bros. on **Body Snatchers**, the second remake of the Don Siegel sci-fi thriller.

With today's tightly-grained film stocks and high resolution anamorphic and spherical lenses, there are many ways to produce rich and beautiful widescreen 35mm motion pictures. Whether this might have been envisioned in 1953 at the birth of the widescreen revolution is not known. For at that time, each method involved great compromises in image quality: the CinemaScope lenses had mumps and masked spherical images wasted a significant part of the photographed image. As soon as these techniques were launched, industry technicians began to seek ways of improving image quality. Through their efforts, the movie going public has greatly benefited. Yet, on a parallel plane with the optical improvements in 35mm photography just discussed, some studios chose instead to improve image quality for their premiere pictures by going to a larger negative.

\* \* \*

Reprinted with permission from **Camera Operator**, Winter 1993 (formerly **Operating Cameraman**) magazine.

\* \* \*

**Rick Mitchell** was a film and sound editor and film



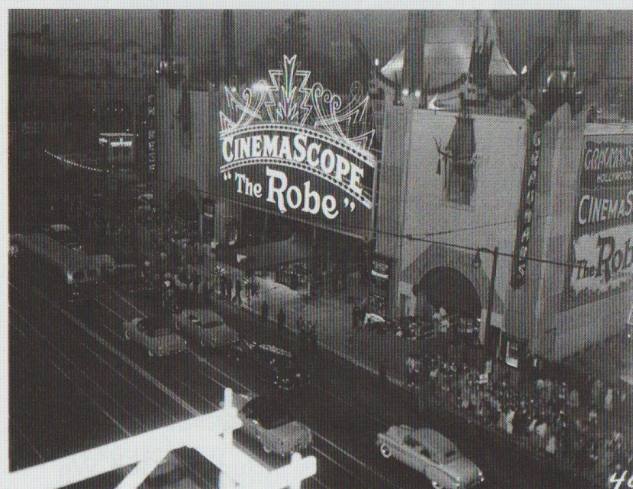
historian. His film editing credits include **In God We Trust**, **Legion of Iron**, **Breathing Fire**, and **Mind, Body and Soul**. While his sound editing credits are lengthy, Rick would only take screen credit on a show if it was an anamorphic film. He had an encyclopedic knowledge of movie history, particularly the widescreen developments of the 1950s and '60s. After his death in 2011, his research writings, studies and monographs went to the Margaret Herrick Library of the Motion Picture Academy and his sizeable collection of rare 16mm and Super 8mm anamorphic films has gone to the Academy film archives.



# The Original Cinemascope Engagements of "The Robe"

Presented here is a list of the original CinemaScope engagements of 20th Century-Fox's "The Robe" for the 50 most-populated and top advertising markets in the United States and Canada.

09-16-1953	New York, New York - Roxy	13 w
09-23-1953	Chicago, Illinois - State-Lake	16 w
09-24-1953	Los Angeles, California - Chinese	13 w
09-24-1953	Philadelphia, Pennsylvania - Fox	13 w
09-29-1953	Kansas City, Missouri - Orpheum	13 w
09-29-1953	Pittsburgh, Pennsylvania - Harris	12 w
09-29-1953	San Francisco, California - Fox	9 w
09-29-1953	Seattle, Washington - 5th Avenue	9 w
09-30-1953	Dallas, Texas - Palace	5 w



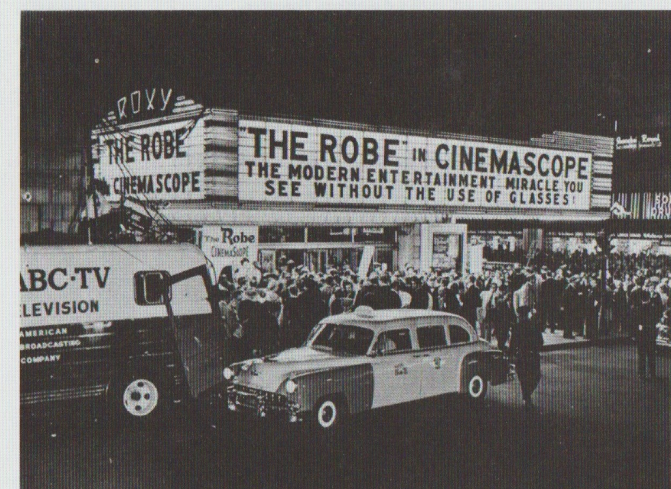
10-01-1953	Atlanta, Georgia - Fox	4 w
10-01-1953	Detroit, Michigan - Fox	13 w
10-01-1953	Washington, D C - Capitol	5 w
10-02-1953	Buffalo, New York - Buffalo	8 w
10-02-1953	Salt Lake City, Utah - Lyric	4 w
10-02-1953	Salt Lake City, Utah - Villa	8 w
10-06-1953	Boston, Mass. - Memorial	12 w
10-07-1953	Indianapolis, Indiana - Indiana	8 w
10-07-1953	Memphis, Tennessee - Malco	5 w
10-07-1953	New Orleans, Louisiana - Saenger	4 w

10-07-1953	San Antonio, TX - Majestic	4 w
10-08-1953	Cleveland, Ohio - Hippodrome	11 w
10-08-1953	Houston, Texas - Metropolitan	5 w
10-08-1953	Minneapolis, Min. - Radio City	7 w
10-08-1953	Portland, Oregon - Orpheum	8 w
10-15-1953	Cincinnati, Ohio - Albee	11 w
10-15-1953	Denver, Colorado - Denver	6 w
10-20-1953	Baltimore, Maryland - New	11 w
10-21-1953	Rochester, New York - Palace	6 w
10-21-1953	San Diego, California - California	6 w
10-22-1953	Toronto, Ontario - Imperial	8 w
10-23-1953	St-Louis, Missouri - St-Louis	10 w
10-28-1953	Phoenix, Arizona - Fox	5 w
10-28-1953	Sacramento, California - Senator	3 w
10-29-1953	Charlotte, N. Carolina - Carolina	4 w
10-29-1953	Milwaukee, Wisconsin - Wisconsin	8 w
10-29-1953	Montreal, Quebec - Palace	7 w
10-29-1953	Vancouver, B.C. - Capitol	5 w
10-29-1953	Winnipeg, Manitoba - Capitol	4 w
10-30-1953	Tucson, Arizona - Fox	3 w
11-05-1953	Louisville, Kentucky - Rialto	5 w
11-06-1953	San Jose, California - California	3 w
11-11-1953	Columbus, Ohio - Broad	5 w
11-11-1953	New Haven, Connecticut - Poli	4 w
11-11-1953	Toledo, Ohio - Paramount	5 w
11-17-1953	Miami, Florida - Miami	3 w
11-17-1953	Miami (Coral Gables), Fl. - Miracle	3 w
11-17-1953	Miami (Miami Beach), Fl. - Carib	3 w
11-18-1953	Calgary, Alberta - Capitol	3 w
11-19-1953	Hartford, Connecticut - Poli	3 w
11-24-1953	Tampa, Florida - Palace	3 w
12-02-1953	Albuquerque, New Mex. - Sunshine	3 w
01-12-1954	Las Vegas, Nevada - El Portal	2 w
03-12-1954	Honolulu, Hawaii - Kuhio	3 w

This article was compiled by referencing regional newspaper promotion and various articles in Boxoffice and Variety.

## This is Cinerama, playtime dates comparison by June, 1959

New York, Broadway Theatre	09-23-1952	35 w
New York, Warner Theatre	06-05-1953	123 w
Detroit, Music Hall	03-23-1953	100 w
Hollywood, Wamer	04-25-1953	133 w
Chicago, Palace	07-29-1952	98 w
Philadelphia, Boyd	10-15-1953	72 w
Washington, Wamer	11-05-1953	99 w
Pittsburgh, Wamer	12-08-1953	63 w
San Francisco, Orpheum	12-25-1953	84 w
Boston, RKO Boston	12-30-1953	87 w
London, Casino	09-30-1954	
Montreal, Imperial	12-27-1954	



Tokyo, Imperial	01-07-1955	
Milan, Manzoni	04-19-1955	
Paris, Empire	05-17-1955	
Rome, Sistina	06-28-1955	
Seattle, Paramount	08-22-1956	33 w
Marseille, Abc	01-12-1957	
Sydney, Plaza	09-17-1958	
Madrid, Teatro Albeniz	12-11-1958	
Barcelona, Teatro Nuevo	12-11-1958	
Rotterdam, Scala Cinerama	07-14-1960	



by Michael Coate

**Tonight THE NEW ENTERTAINMENT ERA IS HERE!**

# The Robe

TECHNICOLOR YOU SEE IT WITHOUT GLASSES

**20th Century-Fox presents**

**TONIGHT**

With 1 performance at 8:15 P.M.  
• BOWS DOWN AT 7:30 •  
ALL SEATS TONIGHT ONLY • \$1.00  
FOR ALL DAY • \$1.00

**After Premiere Tonight..**  
REGULAR CONTINUOUS  
ENGAGEMENT  
STARTS **THURSDAY!**  
OPEN MON. THROUGH SAT. AT  
8:45 A.M.  
Feature at 1:00, 1:30, 2:00, 4:30,  
7:00, 9:15.

**PALACE**

**PRICE POLICY**  
SPECIAL SHOPPERS' EARLY MATINEE  
MON. THRU SAT.—8:45 A.M. to 10:30 A.M.  
ADULTS ..... \$1.00 • CHILDREN ..... 50¢  
MON. THRU FRI.—10:30 A.M. to 5:00 P.M.  
ADULTS ..... \$1.25 • AFTER 5 P.M.—\$1.50  
ADULTS, AFTER 10:30 A.M. SATURDAY  
AND ALL DAY SUNDAY ..... \$1.50  
CHILDREN, ANY TIME (EXCEPT SHOPPERS'  
MATINEE) ..... 50¢  
THESE PRICES EFFECTIVE STARTING THURSDAY  
• SEATS NOT RESERVED •

20th Century-Fox presents A Cinemascope Production **The Robe** Starring **RICHARD BURTON • JEAN SIMMONS • VICTOR MATURE • MICHAEL RENNIE**  
Produced by **FRANK ROSS** with Joy Robinson • Dean Jagger • Boris Thurner • Richard Boone • Boris St. John • Jeff Morrow • Ernest Thesiger  
Screen Play by **PHILIP DUNNE** From the Novel by **LLOYD C. DOUGLAS** Adaptation by **Gino Kaus** Directed by **HENRY KOSTER**

GREATEST GUEST LIST OF STARS, CELEBRITIES AND CIVIC LEADERS! THEATRE FORECOURT TRANSFORMED TO CASTLE COURTYARD! PATHWAY OF SHIELDS! KNIGHTS IN ARMOR! QUEEN GUINEVERE AND LADIES IN WAITING FROM ROSE BOWL PARADE! NBC NETWORK BROADCAST DIRECTLY FROM THEATRE!

**TONIGHT INVITATIONAL PREMIERE**

**EIGHT THIRTY O'CLOCK**

**EGYPTIAN THEATRE • HOLLYWOOD**

**M-G-M PROUDLY PRESENTS ITS FIRST GREAT PRODUCTION IN CINEMASCOPE**

**Knights of the Round Table**

**ROBERT TAYLOR • AVA GARDNER • MEL FERRER**

**ANNE CRAWFORD • STANLEY BAKER**

Screen Play by **TALBOT JENNINGS • JAN LUSTIG** and **NOEL LAUGLEY** Based on the Thomas Malory's "LE MOYNE D'ARTUR"  
Directed by **RICHARD THORPE** • Produced by **PANDRO S. BERMAN** in High Fidelity

**EXTRA!**  
The MGM Concert Hall proudly presents the overture to "THE MERRY WIVES OF WINDSOR" with the MGM Symphony Orchestra, Johnny Green conducting.

**Star List includes—**

Richard Anderson Edward Arnold Lucille Ball and Desi Arnaz Barbara Bates Marge & Gower Champion Cyd Charisse and Tony Martin Wendell Corey Joan Crawford Robert Cummings	Tony Curtis and Janet Leigh William Demarest Vic Damone Marylin Erskine John Ericson Rhonda Fleming Zsa Zsa Gabor Robert Horton Kathleen Hughes Grace Kelly Angela Lansbury	Piper Laurie Joel McCrea and Frances Dee Marjorie Main James Mason Marlyn Maxwell Ann Miller Connie Moore George Murphy J. Carroll Naish Maureen O'Hara	Michael O'Shea and Virginia Mayo Jane Powell Tyrone Power and Linda Christian Mala Powers Byron Palmer Edmund Purdon Debbie Reynolds Edward G. Robinson Barbara Ruick Shelley Stewart	Betta St. John Rita Tamberlyn Ursula Thielis Tamara Toumanova Dany Thomas Vera-Ellen Chris Warfield Clifton Webb Maureen Wilcox Chill Willis Esther Williams Shelley Winters
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**ACROSS THE GIANT Cinemascope SCREEN SWEEPS THE SPLENDOR AND EXCITEMENT OF THE AGE OF CHIVALRY!**

**Knights of the Round Table**

**ROBERT TAYLOR • AVA GARDNER • MEL FERRER**

**ANNE CRAWFORD • STANLEY BAKER**

Screen Play by **TALBOT JENNINGS • JAN LUSTIG** and **NOEL LAUGLEY** Based on the Thomas Malory's "LE MOYNE D'ARTUR"  
Directed by **RICHARD THORPE** • Produced by **PANDRO S. BERMAN** in High Fidelity

**REGULAR ENGAGEMENT STARTS Tomorrow**

**NO MATINEE PERFORMANCE TODAY DUE TO PREMIERE PREPARATIONS**

**EXTRA!**  
The MGM Concert Hall proudly presents the overture to "THE MERRY WIVES OF WINDSOR" with the MGM Symphony Orchestra, Johnny Green conducting.

**"... THE SPECTACLE HITS YOU FOR SIX...  
I AM STILL RECOVERING FROM THE IMPACT."** Reg Whitley,  
"Daily Mirror."

**"... STAND UP AND CHEER FOR THIS ONE."** Peter Burnup,  
"News of the World."

**PANORAMIC SCENE AFTER PANORAMIC SCENE—**

**ALL THE MIGHT OF THE UNCONQUERABLES**

**AND THEIR SEVEN DAYS OF DARING!**

**WARNER BROS. FIRST PRODUCTION IN**

# CINEMASCOPE

## THE COMMAND

**COMING SHORTLY**

STARRING **GUY MADISON • JOAN WELDON • JAMES WHITMORE • CARL DENTON • ROY • HARVEY LEMMON • RUSSELL ROOFS**

SCREEN PLAY BY **DAVID TOLSON** DIRECTED BY **DAVID BUTLER**

**20th Century-Fox brings you a world of entertainment in**

**CINEMASCOPE**

**THESE ARE THE MOVIES YOU WANT TO SEE**

**THERE'S NO BUSINESS LIKE SHOW BUSINESS**  
STARRING **ETHEL BERGEY • JUDITH O'CONNOR • JAMES HANCOCK • CAROL SHELLEY • JIMMY DALL • BOB HOPE**  
CINEMASCOPE

**CARMEN JONES**  
STARRING **HARRY BELAFONTE • GENEVIEVE BUDENKOPF • PEARL BAILEY • OLIVER NILES • JOE JOHNS**  
CINEMASCOPE

**DESIREE**  
STARRING **WARREN WATSON • JEAN SIMMONS • MARY GREEN • MICHAEL RENNIE**  
CINEMASCOPE

**PRINCE OF PEAS**  
STARRING **RICHARD NORTON • BARBARA BURGESS • TONY MARTIN • JIMMY DALL • BOB HOPE**  
CINEMASCOPE

**THE RACERS**  
STARRING **EDITH GEORGE • PETER LIND • ROBERT HANCOCK • BOB HOPE • JIMMY DALL • BOB HOPE**  
CINEMASCOPE

**WHITE FEATHER**  
STARRING **ROBERT HANCOCK • JIMMY DALL • BOB HOPE • JIMMY DALL • BOB HOPE**  
CINEMASCOPE

**CINEMASCOPE**  
In the wonder of High-Fidelity STEREOGRAPHIC SOUND

**THE PICTURE THAT'S THE TALK OF THE NATION!**

Here it is, the famous M-G-M Musical of seven kidnapped belles, courted and kissed right down to the shotgun wedding!

*Glorious in*

# CINEMASCOPE

*and Blushing COLOR!*

**M-G-M's "SEVEN BRIDES FOR SEVEN BROTHERS"**

**LOVE-MAKING SONGS!**  
"When You're in Love"  
"Bless Your Beautiful Hide"  
"Sweet Caroline"  
"Wonderful, Wonderful Day"

**and more songs!**  
"Sobbin' Women"  
"Spring, Spring, Spring"  
"Love Bird"  
"Lament"

STARRING **JANE POWELL • HOWARD KEEL**

Screen Play by **JEFF RICHARDS • RUSS TAMBLYN • TOMMY RALL**

Directed by **ALBERT HACKETT • FRANCES GOODRICH** and **DOROTHY KINGSLEY**

Music by **JOHNNY MERCER** • Lyrics by **GENE DE PAUL** • Choreography by **MICHAEL KIDD**

Color by **ANSCO** • Directed by **STANLEY DONEN** • Produced by **JACK CUMMINGS**

**JANET LEIGH • JACK LEMMON • BETTY GARRET**

**MY SISTER EILEEN**

**ROBERT FOSSE • KATHARINE**

**CINEMASCOPE**



# The First Anamorphic Movies in France (a chronology) by Alain Dorange

## Hypergonar Movies from Henri Chretien (Aspect Ratio 2.66:1)

- 1929 **La vie merveilleuse de Jeanne d'Arc**, fille de Lorraine (Saint Jean the maid). Directed by Marco De Gastyne.
- 1930 **Construire un feu** (To build a fire). Directed by Claude Autant Lara.
- 1931 **Une visite aux merveilles de l'Exposition Coloniale Internationale de Paris** (A visit to the marvels of the International Colonial Exhibition). Short directed by Benoit et Pierre Levent. This movie was inclusive of vertical anamorphic sequences as well as horizontal ones on a cross shape screen.
- 1931 **La femme et le Rossignol** (The woman and the Nightingale). Directed by Andre Hugon.
- 1937 **Phenomenes Electriques** (Electric Phenomenous). Cartoon directed by Paul Grimault.
- **Panoramas au fil de l'eau** (Panoramas by the river) Film directed by Jean Tedesco.

Those two movies were each projected by means of two projectors and a third one for the soundtrack. The two projectors (a kind of Cinerama) were giving a complete picture with an aspect ratio of 6.00:1 and projected on a giant screen of 60m wide by 10m high. This was demonstrated at the front of the Palace of Light during the EXPO 1937 in Paris.

- 1949 **Lancement du navire Laurent Saint Clair aux chantiers de La Ciotat** (Launching of the SS Laurent Saint Clair at La Ciotat shipyards). Movie sponsored by those shipyards.
- 1951 The professor **Henri Chretien** did some demonstrations of the Hypergonar at the Congres Technique International in Turin (Italy).

## The beginnings of Cinemascope

The Cinemascope trade name started in the USA and actually there were two movies premiering more or less at the same time: The documentary **Aloha Nui** shot in Vistarama and shown at the Hollywood Paramount in the afternoon of September 16<sup>th</sup> 1953 and the feature **The Robe** at the Roxy Theatre NY in the evening of the same day. At the Roxy the curved screen was 24m wide

by 9.5m high and with 1.2m deep at the center of the curve.

June 18<sup>th</sup> 1953: 20<sup>th</sup> Century Fox are presenting some demos at the theatre LE REX in Paris.

December 4<sup>th</sup> 1953: **La Tunique** (The Robe) is having the first engagement in Paris at the two theatres **Le Rex** and **Le Normandie** on flat screen. Aspect Ratio of 2.55:1 with magnetic sound. Before this feature a short was screened called **Horizons Nouveaux** (New Horizons) directed by Marcel Ichac. This was the first French Cinemascope movie and was later also shown at the Festival de Cannes 1954. Between 1954 and 1955 only four French movies were shot in Cinemascope with magnetic sound and then similar French anamorphic lenses: **Oasis** from Ives Allegret, **Fortune carrée** (Square Fortune) from Bernard Borderie, **Frou Frou** from Augusto Genina and **Lola Montes** from Max Ophuls.

After December 1953, 18 theatres were redesigned to accommodate the screen and the surround speakers. By the end of February 1954, 77 more theatres were equipped. However there was a gradually lack of interest from the public for the magnetic sound and the studios added an optical soundtrack so the aspect ratio was reduced from 2.55:1 to 2.35:1 to accommodate this soundtrack. In the year 1970, the aspect ratio changed again to 2.39:1 and is now the "standard" until today. In 1967, The Fox Studios shoot their last movie in Cinemascope with the feature **I like Flint** and moved to the Panavision lenses. The company started in 1953 and Panavision is today pretty much the worldwide standard.

## Cinepanoramic (June 1953 to 1955)

The original developer was professor Ernst Abbe (France). Cinepanoramic was using a cylindrical anamorphic lens plus a corrective lens to avoid the "mumps" coming from the anamorphic one. Cinepanoramic was a better concept and was used a bit for the next French processes "**Dyaliscope**" and "**Franscope**" as for some Italian such as "**Total Vision**".

The major Cinepanoramic movies were the following:

January 15<sup>th</sup>, 1954: **Marseilles** Short demonstrated at the Gaumont Palace (Paris) with an aspect ratio of 2.55:1 so was similar to the ratio of Cinemascope.

February 22<sup>nd</sup>, 1954: **Le French Can Can du Moulin Rouge**. First featured in Cinemapanoramic and shown at the Gaumont Palace and Le Marignan (Paris).

June 4<sup>th</sup>, 1954: **Les Victoires du Cinema Francais** (The victories of the French cinema). This short was taken during the French Film Award Ceremony, September 7<sup>th</sup>, 1954: **L'Or des Pharaons** (Gold of the Pharaohs). This was a short feature. Republic Pictures Corporation (USA) purchased the rights from Cinepanoramic and called the process: **Naturama**. Their first movie was: **The Maverick Queen** (1956).

## Dyaliscope (October 1954)

This process was using only one monobloc lens : spherical plus cylindrical and a third one in between for the focusing. This lens was designed by Andre Fougerat and sold by the company **Satec** in France. One of the first French movies using the Dyaliscope lens was : **Les Quatre Cents Coups** (The 400 blows). Film "Nouvelle Vague" from Francois Truffaut. This movie was presented at the Festival de Cannes in 1959 and won the Prize for Best Screenplay.

## Franscope (March 1956)

Lens developed by Jean Dicop with the concept to adjust permanently the spherical lens to infinity and focus with the anamorphic lens. One of the first movies was: **L'Eau Vive** (The Girl and the River) from Francois Villiers (1959). The song from this movie was composed by the famous French composer and singer, Guy Beart.

## Technovision (1954)

Technovision was a French company starting in the early 50's and specialised in Anamorphic Lenses. The company was formed by Henryk Chrosicki and more than 1000 movies have been using the Technovision anamorphic lens. In the year 2004, Technovision was bought by Panavision.



# BRITAIN SEES CINEMASCOPE

## 2,000 Applaud First London Demonstration

**Y**ESTERDAY, CinemaScope came to London.

An audience of 2,000 personalities from the Industry, the Press, the Arts, Professions and Public Life cheered and applauded a demonstration at the Odeon, Tottenham Court Road.

They saw scenes taken in the London streets, shots of the Coronation, which were punctuated by frequent bursts of applause, panoramic

MR. PATTINSON added that CinemaScope could be fitted into any size theatre, whether large or small, wide or narrow.

He told the audience that members of the trade would be able to see further demonstrations later this week at the Century Theatre in their Soho Square offices. Equipment was being put in there to demonstrate the value of the process in small theatres.

After the three part presentation Professor Henri Chretien, inventor of the CinemaScope lens and Spyros Skouras spoke to the audience from the stage and emphasised that yesterday's demonstration was the result of six-months high speed work dating from the acquisition of the lens by 20th-Century Fox last December.

First firm orders for installations were received by the 20th-Fox sales chief following the demonstration.

This morning a second demonstration will be given to the largest aggregation of British exhibitors gathered together at one time.

Over 2,000 invitations have been issued and the response has been phenomenal.

To-morrow there will be a third demonstration, after which, as Mr. Pattinson indicated, smaller presentations will be given regularly at the Century Theatre.

This week's showings are being presented on a screen 57 ft. by 22 ft. high. At its centre point it has a depth of three feet and there is a slight tilt to compensate the projection throw from the back of the circle.

Among the praise showered on Spyros Skouras, Murray Silverstone, W. J. Kupper and other

views of New York, air scenes and excerpts from "How to Marry a Millionaire," "Gentlemen Prefer Blondes," and "The Robe."

Introducing the demonstration, J. Pattinson, general sales manager of 20th Century-Fox, announced that exhibitors could now apply for CinemaScope installations at their Soho Square office, giving details of their sound system. "They will be treated on the basis of first come, first served," he said.

members of the 20th-Fox organisation after yesterday's demonstrations were favourable comments on many diverse aspects of the presentation.

Features to which tribute was particularly paid were the panoramic sweep, especially in exterior scenes, the effectiveness of the depth illusion, the even brilliance over the entire screen and most of all the full effect of the stereophonic sound, demonstrated to a British audience for the very first time.

FOR CINEMA—  
FOR STUDIO—  
FOR TELEVISION

**PHILIPS**

PROJECTION AND  
SOUND EQUIPMENT

**16 mm.  
35 mm.  
70 mm.**  
for Todd-AO

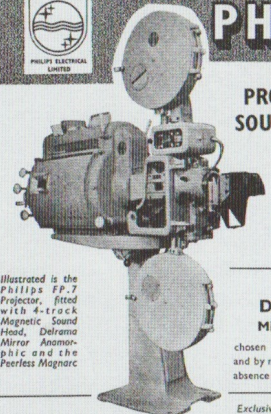
The  
**DELRAMA**  
Mirror Anamorphic

chosen for the Technirama Camera  
and by many exhibitors because of the  
absence of distortion and aberrations

Exclusive Distributors for Great Britain  
and Eire for Philips Electrical Ltd.:

**J. FRANK BROCKLISS LTD.**  
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Illustrated is the  
Philips FP.7  
Projector, fitted  
with 4-track  
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and the  
Peerless Magnaric



M-G-M's LOVE-MAKING MUSICAL  
in  
**CINEMASCOPE**

**SEVEN BRIDES**  
FOR SEVEN BROTHERS

Starring  
**JANE POWELL · HOWARD KEEL**

With JEFF RICHARDS · RUSS TAMBLYN · TOMMY RALL · ALBERT HACKETT & FRANCES CRODRICK and DOROTHY KINGSLEY

Music by ROBERT ALTON. Lyrics by NORMAN KRASNA and NORMAN PANAMA. Book by NORMAN KRASNA and NORMAN PANAMA. Screenplay by NORMAN KRASNA and NORMAN PANAMA. Directed by STANLEY DONEN. Produced by JACK CUMMINGS.

Color by ANSCO



**CINEMASCOPE**

SPECIAL!  
New FRANK  
SINATRA  
Sings the  
Romantic  
Hit of the  
Year in  
"3 Coins  
in the  
Fountain"

The love drama behind the  
love song that's sweeping  
the nation... of three won-  
derful American girls who  
tossed three coins into the  
fountain as the Romans do  
...and fell in love... dan-  
gerously, wickedly, rap-  
tulously; as women do!

**3 Coins  
in the  
Fountain**  
COLOR by DELUXE

Starring  
**Clifton WEBB · Dorothy McGUIRE · Jean PETERS · Louis JOURDAN · Maggie McNAMARA**

Music by ROSSANO BRAZZI. Screenplay by ROSSANO BRAZZI. Directed by JEAN NEGULESCO. Screenplay by JOHN PATRICK.



India!...  
De geheimen van de fakirs, de woeste jantiers,  
van Kutrarn Khan, de weidse panorama's en intieme  
scènes... EEN BELEVENIS

**CINEMASCOPE**

**King of the  
Khyber Rifles**

TYRONE · TERRY · MICHAEL  
**POWER · MOORE · RENNIE**

Directed by  
**WILLIAM W. WYLLIE**

Color by  
**TECHNICOLOR**

Het wonder van STEREOFONISCH geluid via 4 magnetische geluidsbakken




Verbluffende slow met enorme rapid!  
marispende! marischelike!  
een fast-programma!

**BETTY GRABLE**  
**JACK LEMMON**

**MARGE & GOWER  
CHAMPION**

**THREE FOR THE SHOW**

Starring  
**MYRON MCCORMICK**

Color by  
**TECHNICOLOR**

**CINEMASCOPE**

with PERSPECTA Soundtrack geluid



20th Century-Fox  
presents

**The Robe**  
TECHNICOLOR

The First Motion Picture In  
**CINEMASCOPE**

The Modern Miracle You See Without Glasses!

Starring  
**LAURENCE OLIVIER · JUDY HAYES · VICTOR BARRYMORE · MICHAEL REDGREN**

Screenplay by  
**WILLIAM WYLLIE · ROBERT ALTON · NORMAN KRASNA · NORMAN PANAMA · NORMAN KRASNA · NORMAN PANAMA · NORMAN KRASNA · NORMAN PANAMA**

Directed by  
**JOHN CRISTOFANO**





# VistaVision

With the successful introduction of **CinemaScope** by 20th Century Fox, Paramount Pictures decided that it was time for them to develop their own process. They were impressed by the larger screen of CinemaScope but they were not enthusiastic about anamorphic lenses with poor depth of field, visible high grain and sometimes poor focus. Then they felt back on an old double frame 35mm horizontal widescreen system from 1928, called **Panoramico Alberini**. After different experiments a new camera was developed - the Paramount Lazy 8 Camera with horizontal film transport, exposing a frame of eight perforations wide (twice the size of a normal frame with four perforations). The large negative was optically reduced and printed on normal 35mm film resulting in a much sharper, more colourful and less grainy image on the screen. **VistaVision** was Paramount's answer to CinemaScope. To promote the new process Paramount explained four reasons why VistaVision would be good for any theatre, large or small: 'VistaVision can be shown in any aspect ratio from 1.33:1 to 2:1. VistaVision does not require the purchase of any additional equipment. VistaVision will not reduce the seating capacity of the theatre. VistaVision will permit the patrons to see more and gain more enjoyment'.

**White Christmas** was the first film presented in **VistaVision**, it premiered at the Radio City Music Hall in New York on April 27, 1954 with a unique horizontal 35mm print and a special projector resulting in a large image with an aspect ratio 2:1. The Radio City Music Hall opened in New York on 27 December 1932 as one of the largest theatres in the world, with a seating capacity of 5945. Since its opening it has been equipped with a gigantic screen measuring 70 x 40 feet (21.5 m x 12.2 m), which it claims being one of the largest indoor cinema screens in the world! During renovations in 1979 a small number of seats was removed, leaving a capacity of 5882 seats.

In a review the Independent Film Journal said: "The VistaVision system possesses a clarity of color and definition that is extremely impressive". The second film

**Strategic Air Command** (1955) had aerial scenes which were breathtaking and the sharpness of the image was much clearer than in any CinemaScope or even conventional 35mm film. Other monumental productions in the VistaVision process were **War and Peace** and **The Ten Commandments** both released in 1956. Soon other companies used the process: MGM for **High Society** (1956), United Artists with **The Pride and the Passion** (1957), Warner Brothers with **The Searchers**. Paramounts **To Catch a Thief** (1955) directed by Alfred Hitchcock, with famous stars Grace Kelly and Gary Grant, won an Oscar for the process and for the 'best color photography'. Another famous Alfred Hitchcock VistaVision movie **Vertigo** from 1958 was re-released in the nineties on 70mm. The VistaVision process did not use any stereo sound, it used only Perspecta Sound, a single optical track on the film.



The British company Kershaws of Leeds, a famous 35mm film projector manufacturer who made the Kalee projectors, was persuaded by Paramount to make **VistaVision** projectors with their horizontal configuration. They made several, but had tremendous difficulty trying to get cinemas to buy them and it lost them a lot of money! According to the cinema trade papers only

two theatres were equipped for horizontal VistaVision projection in New York and Los Angeles. Probably only four VistaVision films have been presented there in the horizontal 2:1 format: **White Christmas**, **Strategic Air Command**, **To Catch A Thief** and **The Far Horizons**. Paramount offered three different types of prints to cinema exhibitors: a horizontal double frame 35mm print, a regular 35mm print and a SuperScope anamorphic print with an aspect ratio 2:1 for which a special variable anamorphic projection lens was required. By the end of 1955 Paramount ran a full page advertisement in Variety announcing that seven new VistaVision films would be shown with horizontal projection in an effort to promote the process. But as there is no source



available to confirm this it probably never happened also because the horizontal projection didn't add any spectacular item like CinemaScope did. In 1956 the Rank Organisation in England became interested in the VistaVision process and soon started using the process for different films. With the announcement of the introduction of 70mm projectors exhibitors were not eager



for buying another heavy projector and so the interest in horizontal projection faded away. With the perfection of the Panavision lenses Paramount decided in 1961 to stop with VistaVision movies. With its simplicity of operation and clarity of image VistaVision will be remembered as one of the finer processes of the wide film era. Nowadays VistaVision cameras are still used for special effects and special high quality scenes for Imax and other film projects.

A NEW HIGH IN THE MOVIE SKY...



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and **LOUIS ARMSTRONG AND HIS BAND** · Music and Lyrics by **COLE PORTER**  
Screen Play by JOHN PATRICK · Based on a Play by Philip Barry · Music Supervised and Adapted by JOHNNY GREEN and SAUL CHAPLIN  
Color by TECHNICOLOR · Directed by CHARLES WALTERS · An M-G-M Picture

The name **Super-VistaVision** was introduced in 1989 by Paramount, when they had the 8-perf VistaVision negative of **The Ten Commandments** printed up to a full frame on 70mm film.

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MR. CECIL B. DEMILLE · NINA FUCH  
MARTHA SCOTT · JUDITH ANDERSON · VINCENT PRICE  
Produced by JULES B. ZWEIG  
Screened by the studio  
ADRIANA MACARELLI · JACK GARRETT · JOHN L. LARUE, JR. · FRANK W. PRIDE  
Based upon the HOLY SCRIPTURES and other ancient and modern sources  
Produced by Robert Emmett Dolan, Inc.



Nina Foch as BETHSAI



Edward G. Robinson as DATHAN

John Carradine as AARON  
Oliver Dring as MIRIAM  
Douglas Dumville as JANNES  
Harry Wilson as PENTACH  
Edward Franz as SETHO  
Lawrence Dalton as HUR BEN CALIR  
Ian Keith as RAMSES I  
Fisher Brown as PRINCESS THARIS  
Wendell Smith as KING OF ETHIOPIA  
Julia Faye as ELISHA  
H.B. Warner as AMBASSADOR  
Donald Curtis as MERED

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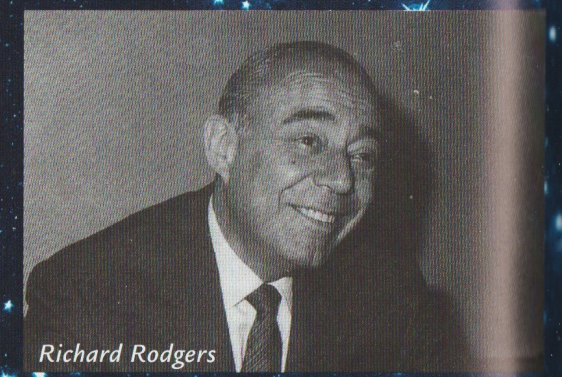
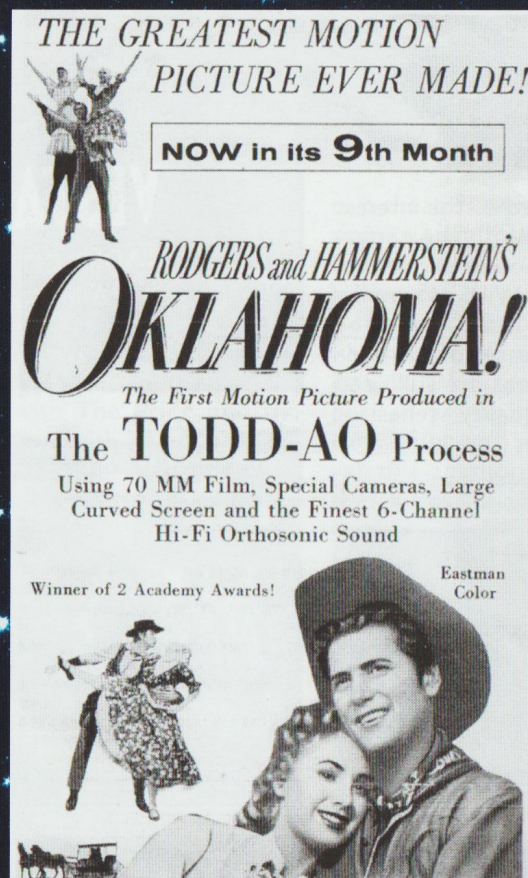
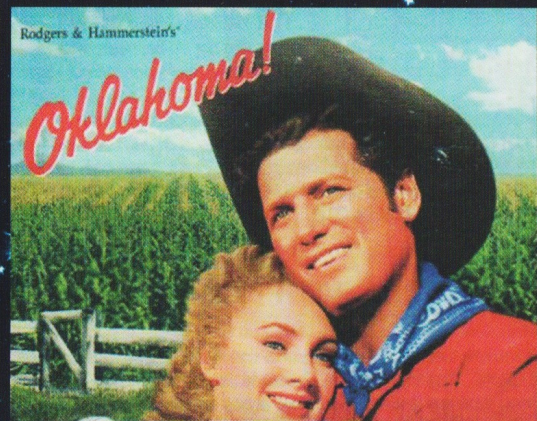
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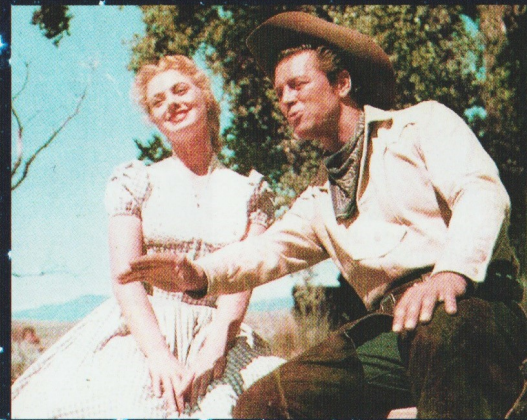
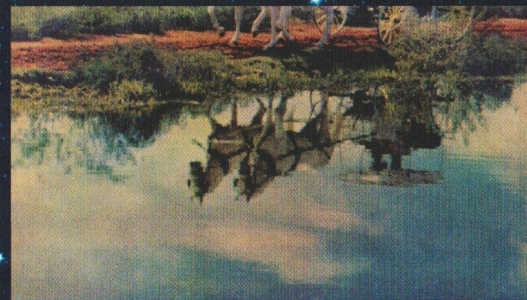
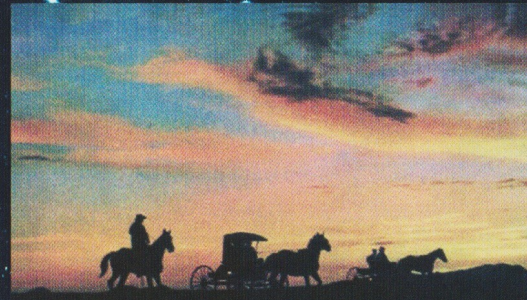
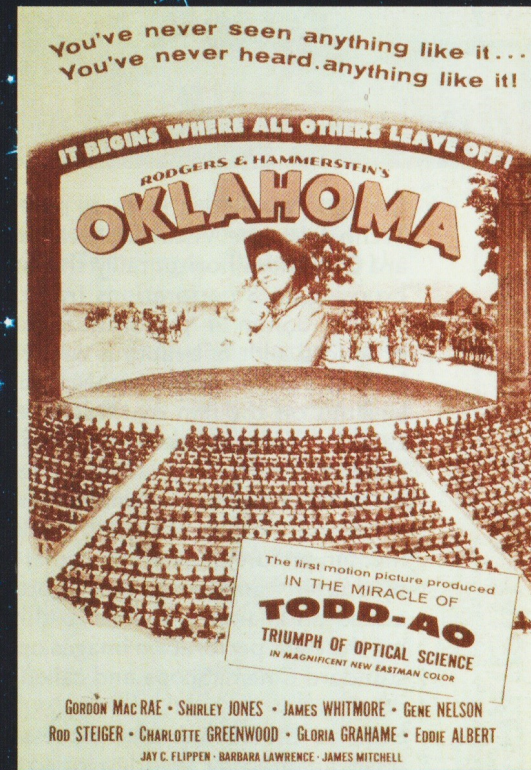




Richard Rodgers







Oscar Hammerstein II

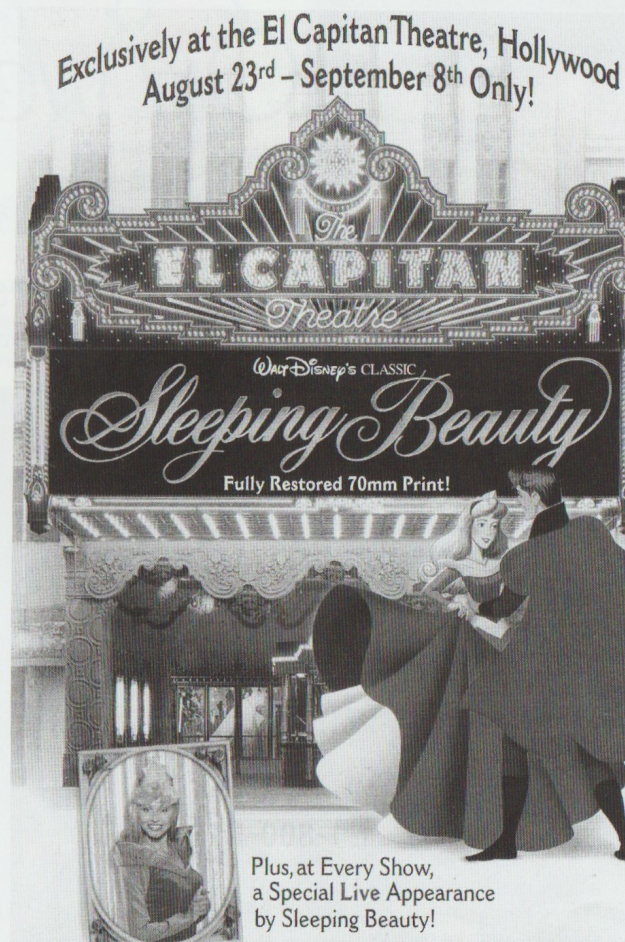


# Technirama and Super Technirama 70

In 1954 Paramount Pictures developed together with Technicolor the VistaVision camera running a standard 35mm film horizontally through the camera while exposing an 8-perforations frame, twice the size of a normal 35mm 4 perforation frame. Although they produced a lot of beautiful VistaVision prints for Paramount, Technicolor was always looking for more possibilities on the film market. When widescreen vogue came into prominence and 70mm films seem to be the future providing huge income to its backers, they wanted to develop their own anamorphic process and so the VistaVision format came in sight. It was a real improvement in picture quality on normal 35mm film rendered by double frame horizontal photography. Technicolor added an anamorphic lens to this format, thus making the eight perforation images optically convertible to standard CinemaScope and called it **Technirama**.

Basic to the **Technirama** process is a unique mirror-prism anamorphic lens developed by the Dutch Optical Company 'Old Delft'. This revolutionary design, called the **Delrama** anamorphic system, squeezes the image with 50 per cent in shooting, as against CinemaScope 100 per cent. In printing also an additional squeeze of 50 per cent is accomplished. The Delrama optical company in The Netherlands has made these anamorphic lenses also for 8 and 16 mm based on the same principles. **Technirama** is noted for its very sharp images and depth of focus just as in the VistaVision process and is especially good in outdoor movies. The name Technirama is a combination from the words Technicolor and Delrama. The versatility of the process and its large double frame photography is that it can present standard, anamorphic or 'road-show' widescreen prints all from the same original negative. This gives the 35mm **Technirama** the same stature as VistaVision and Todd-AO. The images of Technirama and Todd-AO were of nearly identical quality because there was a difference of only 10% in the camera negative. In the meantime the Technicolor company had designed their own lightweight cameras with horizontal 8 perf movement, coming from the Mitchell Camera Company.

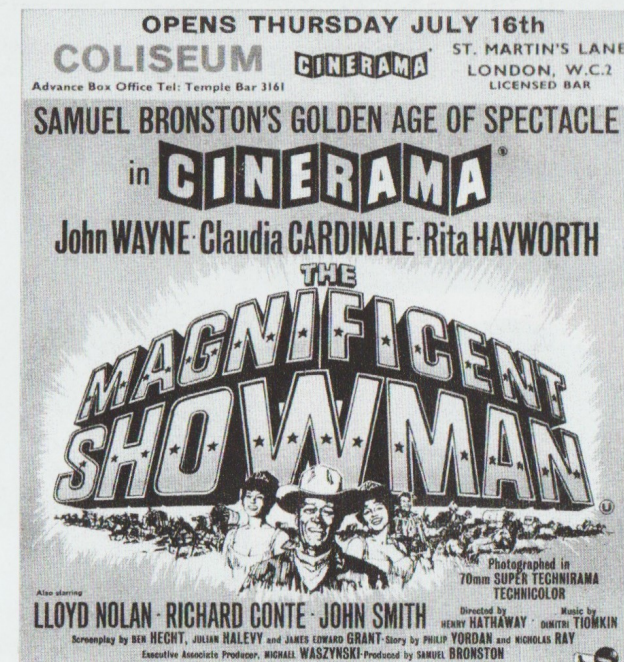
A promotional short called **The Curtain Rises on Technirama** (1956) was made with a variety of beautiful winter scenes to introduce the process to the industry. Although standard 35mm anamorphic was the principal release format, Technicolor had also made a few horizontal 8 perf prints, but these Technirama prints had a very limited use mainly again by the fact that a special projector was required that couldn't run normal 35mm prints. The same story as with VistaVision horizontal prints. The first Technirama movie was **The**



**Monte Carlo Story** (1956), it premiered in 1956 in Turin, Italy, using an Italian projector for a horizontal 8 perf Technirama print. The British made Kalee horizontal projector from the Kershaws company was the great loser in this process because cinema owners did not want to buy this special expensive equipment for only one film.

## Super Technirama 70

Although the Technirama anamorphic process proved to be very successful, it was widely used all over the world, the largest share of fame came when Technicolor combined the Technirama double frame filming with making prints on 70mm film. They simply decompressed the negative and so they had their own **Super Technirama 70** process with high quality images that could compete with Todd-AO. While Todd-AO 65mm cameras were still only in limited numbers available, one of the great advantages of this process was that





Technicolor had enough cameras and lens units in stock so any producer who had the idea of going on 70mm, could immediately start with Technirama and decide later if he wanted 70mm prints! And if a producer wanted also anamorphic 35mm prints, he could have

**Sleeping Beauty** (1959), as Disney also wanted to give it the added status of a 70mm 'roadshow'. The first live action feature was the Biblical epic **Solomon and Sheba** (1959). The decision to make 70mm prints for these movies was in both cases made when the filming

Another famous movie in this Technicolor anamorphic process was **Spartacus** (1960) which was the first with the complete Super Technirama 70 credits on the screen.

Famous European producer Samuel Bronston was a fan of the Technirama process and he released most of his epics in Super Technirama 70 like **El Cid** and **King of Kings** in 1961, **55 Days at Peking** in 1963, **Circus World** (The Magnificent Showman) in 1964. The last film using the Super Technirama 70 process **Custer of the West** (1967) was also presented in Super Cinerama in Cinerama theatres as was **Circus World**. The Amsterdam EYE Film Institute has most of the Samuel Bronston films as 70mm vintage prints in their Archive.

### Techniscope

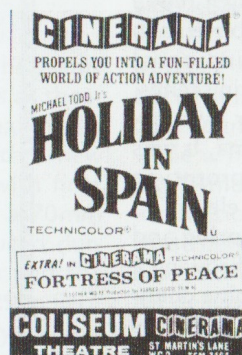
In 1961 the Italian branch of Technicolor in Rome developed another new scope format without the use of expensive anamorphic lenses. They called the format **Techniscope**.

This format used non-anamorphic lenses on standard 35mm cameras, but they divided the normal four perf frame into two equal parts, each with two perforations, which reduced the cost of the film stock with 50%. With spherical lenses and 2 perf frame images the camera aperture was 2.35x1, which was transformed in the Technicolor lab to normal anamorphic scope prints on 35mm with 4 perf frame. In many cases the images were sharper because of the use of spherical lenses unlike when filmed with anamorphic lenses on the cameras.

It was a budget-conscious process, as the camera needs only half of the normal quantity of film, while the laboratory work was only slightly more expensive than normal. The Techniscope process was mostly used in Europe, it was very popular among European producers with smaller budgets from 1960 until 1980 and more than 250 movies were produced with this reduced frame process. The first film in this format was the Italian production **The Pharaoh's Woman** (1960).



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it very simple. Seeing the possibilities of the Technirama 70mm process, many producers of 35mm Technirama films soon changed their policy with many expensive productions to become a '70mm roadshow', thus adding more status to their film and hopefully more dollars. A 70mm roadshow became an event with reserved seating and advanced admission tickets. The first Technirama film using 70mm prints was the Disney cartoon

was already finished, shortly before the general release so both films carry only the normal Technirama logo in the credits on the screen. In advertisements and other promotional material the new **Super Technirama 70** process was announced. Twenty six productions have employed the Super Technirama process, while only 18 features were shot in Todd-AO, although the latter was of course the basis for several identical processes.



# Cinéorama, Circarama + Circlorama

The first circular motion picture presentation dates back to 1900 when Raoul Grimoin-Sanson presented his Cinéorama at the Paris World Exposition. The system used ten synchronised 70mm projectors to throw a 360° panoramic image on a huge circular screen. The audience was seated on the large floor above the projection room with the screen around them, simulating they were in a large basket of a giant balloon! The hand-coloured film, called **A Balloon Trip Around the World**, was indeed filmed from a balloon, taking the audience on an aerial voyage above the large capitals of Europe. The unique Cinéorama process was only shown in public at the Paris Exposition of 1900 along with another widescreen presentation by the Lumiere Brothers. It was closed after three days because the projection booth in the middle with the ten projectors became too hot with a great risk of fire.



In July 1955 the Walt Disney Corporation developed the **Circarama** system, to be installed in Disneyland. Eleven Kodak 16mm cameras were interlocked to produce 11

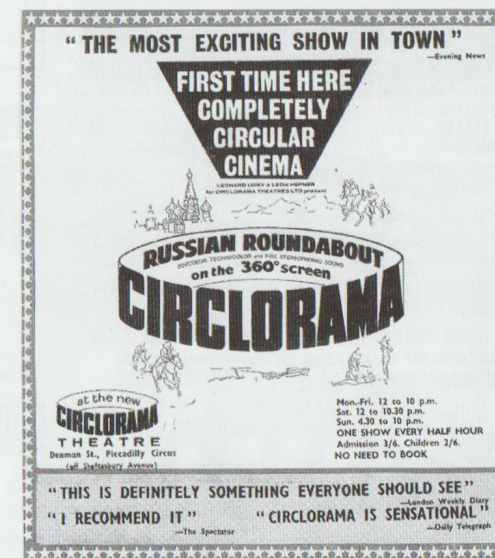
films covering the entire 360° horizon and eleven synchronized projectors produced an image of 2.4 metres high on a 12 metres circular screen around the standing visitors. Each projector was set up to throw its images through the gap between two pictures onto the opposite screen. The spectators are finding themselves in the center of a circular screen, while the action flows all around them in every direction. They feel themselves part of the movement when the scene is taken from a moving vehicle. The Circarama system was also introduced in April 1958 at the World Fair in Brussels. The Circarama filming unit spent many months criss-crossing the United States to get spectacular views of life in the US in 1957 to have a completely new film ready for the 1958 Exposition in Belgium, with spoken comment in four languages: English, French, German and Dutch. By 1963 the Circarama system had been simplified by taking 9 films and 9 projectors instead of eleven.

In 1957 the Russians had developed a similar system, called **Krugorama** Panorama. In the beginning it made use of 22 screens in two rows of 11 screens above each other. The upper screens showing the sky and aerial scenes while the lower screens showed the main scenes. As usual the Soviets developed in 1959 their own circular projection system and called it Circlorama. It was clear that the Disney Circarama served as prototype for the Soviets! However the Russians used eleven 35 mm cameras to produce the film **A Path of Spring** and eleven 35mm projectors (Philips FP20) were throwing a 360 degrees image on a circular screen. The nine channel sound came from a separate 35mm film and was reproduced by at least 50 speakers around the auditorium.

In May 1963 a Russian travelogue called **Russian Roundabout** was premiering in a Circlorama theatre at Piccadilly Circus in London. A circular screen in eleven parts surrounded the audience and eleven 35mm Philips projectors FP20's throw their images through small portholes between the screens on the opposite side of the circular screen. All projectors are electrically

synchronized and all are started from a master control by one engineer. A nine-channel magnetic sound system feeded the fifty speakers situated behind the screens, and in the ceiling. At least four projectionists were needed as every man was responsible for three projectors. The only British film made for this system was called **Circlorama Cavalcade**. It was the second film in this theatre in London and showed scenes from London and abroad, it was completely produced in England. For this film the 35mm projectors were replaced by 16mm machines.

In 1958 during the Photokina Film Exhibition in Cologne, Germany, a very simple but unique format called **Cinetarium** was demonstrated. It used one 35mm film projecting a panoramic image onto the bottom of a large mirror ball hanging from the ceiling, with the result

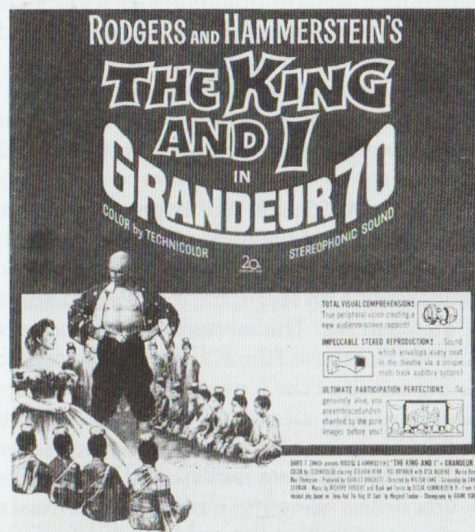


that a 360° image was thrown from the mirror ball on a circular screen of 12 meters in diameter. Only one demonstration short film has been produced in this system, which was only screened after the exhibition with little success in one theatre in Hamburg, Germany.



# Grandeur 70

The days of the first 70mm film go back to 1914 and to 1923 in Italy when a 5 perforation 70mm film was used in the screening of a commercial feature. In 1929



Fox and MGM were looking how to improve the grainy picture quality of their black and white movies as theatres and screens became larger in the second half of the twenties. They tried to solve the problem with a new 70mm wide film to obtain clearer pictures with finer grain. Finally the Fox Grandeur system using a 70mm wide film, 4 perforation frames, was introduced during a full programme of wide film newsreels and the musical comedy **Fox Movietone Follies of 1929** in September 1929 in their flagship house, the **Roxy** in New York City. The Roxy was the largest cinema ever built with a seating capacity of 6214, a staff of 300 people including 16 projectionists and 110 musicians. When it opened on 11 March 1927 the total building costs had risen to 12 million dollar! They had new hand built Super-Simplex 70mm projectors. Builders installed a 42 by 20 feet screen at night. This was a new type of screen made of woven cotton cloth with a thin layer of ground glass spread on top. In 1957 the seating capacity was reduced with 345 seats to 5869, despite this renova-

tion, the Roxy closed on 29 March 1960. During a press presentation of the process a witness described it as follows: "An ordinary sized motion picture was first projected .... Then the entire screen was suddenly filled with another picture, gargantuan in size, with the life-like figures of a dozen chorus girls singing their songs, accompanied by an invisible orchestra. There was a spontaneous burst of applause from the audience."

The **Grandeur 70** system gave a high quality of picture with aspect ratio 2 : 1. The oversized sound track, three times as wide as on 35mm, was on one side of the 70mm film and produced for those days a high quality of sound. The system got so popular that a few more theaters were equipped for 70mm and more Fox films in Grandeur 70 were produced: the musical **Happy Days** opened at the Roxy in February 1930, followed by the epic western introducing John Wayne in his first role: **The Big Trail** in 1930 filmed on 70mm as well as with the conventional 35mm cameras and **Niagara Falls**, with spectacular shots and **Song of My Heart** both in 1930. The 70mm cameras were developed by the Mitchell Camera Corporation. According to George Mitchell from that company, they had a number of fifteen Grandeur 70 cameras completed and in active use, while a hundred more are in process of manufacturing. (American Cinematographer, February 1930). The International Projector Corporation, manufacturer of these new 70mm Super-Simplex projectors reported to have more than one thousand of these machines ready for delivery!

MGM also bought a few of these 70mm Mitchell cameras and renamed the system **Realife**. They produced only two films in 70mm: **Billy The Kid**, 1930 (also shot simultaneously in 35mm) and **The Great Meadow** 1931. The Realife 70mm widescreen films were showed in no more than 10 theatres. For projection in other cinemas Realife optically reduced the 70mm film onto standard 35mm film which was projected with a special lens that enlarged the image on the screen. After the second film MGM abandoned the system. An independent produc-

er Roland West bought another Mitchell 70mm camera and produced only one feature **The Bat Whispers** in 1930 in 70mm Wide Film, as he renamed it, and simultaneously in 35mm. The fact that these 70mm processes required new cameras, new printing machines, larger studio sets and increased lighting caused a lot of prob-

## Columbia to launch 70mm 'Jolson Story'

COLUMBIA PICTURES is preparing a big campaign to launch the 70mm, version of one of its most popular and successful musicals, 'The Jolson Story', making it a top screen occasion.

On August 14 'The Jolson Story' will be premiered at the Metropole Theatre, Victoria, with a gala show-business first-night. Five hundred stars who have been headliners between the Jolson era and the present day, have been invited.

Columbia is currently arranging important tie-ups with one of London's leading hairdressers who will create the Jolson Unisex Look in hairstyles, and with a major boutique chain for a range of London-inspired mod clothes. Tie-ups with a large lingerie firm have already been confirmed to introduce a new 'Thirties' Look which includes the re-

introduction of seamed stockings.

MCA records share Columbia's conviction that 'The Jolson Story' in 70mm, will be a big commercial success. They are launching a new 'Jolson Story' LP to coincide with the London premiere—and a single with two of the film's big hits on it, 'Mammy' and 'Rock-a-Bye Your Baby'. Both will be given priority exploitation and a full-scale programme of publicity and air exposures.

On July 13, a special screening of 'The Jolson Story' in 70mm, for top magazines, radio, television, record reviewers and disc-jockeys will be held at the Columbia Theatre, Shaftesbury Avenue.

'The Jolson Story' stars Larry Parks, Evelyn Kves, William Demarest and Bill Goodwin. Directed by Alfred E. Green and produced by Sidney Skolsky it is in Technicolor.

lems. Even cinema owners were not keen to install new projectors and new screens, as they already had been confronted with expensive installations for the upcoming sound film. All this and the upcoming economic recession put an end to these expensive experiments. It was the doom of the 70mm process in 1931, despite the audiences being very impressed by the wide Grandeur films! Everything went back to the 35mm film until the fifties. Fortunately most of the wide screen films had also been shot on 35mm film. In 1970 the name **Grandeur 70** was re-introduced for one time only with the 70mm print of a re-release of the musical **The King and I** (1956) originally filmed in CinemaScope 55.

For in-dept information see the publication "Wide Screen Movies" by Robert E. Carr and R.M. Hayes



# The Splendour of 70mm and Todd-AO

Michael Todd was a true showman, who had been involved in a lot of entertainment business, like stage shows, state fairs, night clubs and other live entertainment. Since he had been invited for a demonstration of the Cinerama process in December 1950 he was so impressed that he joined the company and got immediately involved in supervising the filming of the European part of **This Is Cinerama** together with his son Michael Jr. Six months after the premiere of the first Cinerama



*Michael Todd and Michael Todd Jr*

film in 1952 in New York, Todd left the Cinerama company despite the huge success. He sold his shares because he was disappointed as the board of directors didn't want to listen to him when he was talking about the shortcomings of the 3-panel projection. His dream was to develop a process with the same effect as Cinerama but with a less complicated projection system. He contacted Dr Brian O'Brien a famous optical engineer from American Optical Company and explained what he wanted: a single camera process that would project a large high quality picture on a curved wide screen. So Dr O'Brien, with his team started develop-

ing new lenses for a 65mm camera, knowing that the old Mitchell 65mm cameras from the thirties were still somewhere stored in a warehouse. In 1930 they were used by Warner Brothers for **Kismet**, by United Artists for **The Bat Whispers** and by MGM for **Billy The Kid**. But the wide film processes were not a great success at that time, because the cost of conversion for a new screen and new projectors could not be afforded by most cinema owners after they had just installed new sound film equipment. So the old 65mm cameras were stored for more than 20 years until 1953 when Dr O'Brien and his team started developing the new **Todd-AO** process. AO comes from American Optical and Todd from Mike Todd. However, they still needed nearly two years to develop the revolutionary new 70mm process.

Mike Todd knew that he would get only one chance to prove that his new process would become a success. So he started assembling a group of talented business men for his project. Among them Joseph Schenk and George Skouras, both from United Artists, with producer Arthur Hornblow and top director Fred Zinnemann from England, forming the Magna Theatre Corporation. Todd's aim was to produce one film per year as a roadshow in a first-run theatre with reserved seats in every major city in North America and later abroad. The first film in Todd-AO must be a success as there was only one movie to prove it. Todd wanted a real Broadway hit and that was in his opinion the famous musical **Oklahoma!** Till then Rodgers and Hammerstein had turned down all offers to produce **Oklahoma!** as a movie, but they were so impressed by a test screening with the Todd-AO process that they finally gave their permission. They sold the rights for one million dollar and 40% of the box-office gross.

In May 1954 American Optical Company had a set of four new Todd-AO lenses ready for use with two 'old' revamped 1930 Mitchell cameras and they started filming test shots. During these tests they found that a steadier projected image could be achieved by increas-

ing the frame rate from 24 per second to a new rate of 30 frames per second. In July 1954 **Oklahoma!** finally went into production at the MGM studios with a budget of four million dollars. Most of the outdoor filming was done in Arizona because that looked more like Oklahoma at the beginning of the century. While the success of the Todd-AO 70mm process was uncertain the film was simultaneously filmed with 35mm CinemaScope cameras at the normal frame rate of 24 fps.

On 13 October 1955 the World premiere took place in the Rivoli Theatre in New York. This was the day of truth for Mike Todd and the gamble had paid off. It was a great success! As on stage, the movie **Oklahoma!** also became a smash hit. The stereophonic sound from six magnetic tracks on the 70mm film was exciting to hear, the opening scene of the 'corn as high as an elephant's eye' 'giving way to a clear blue sky', was breathtaking, as was said in a review. To record the 6 track sound on a 70mm film the prints were first striped with oxide, dried and then recorded using the 6 track sound master supplied by the studio. Todd mentioned his film a 'show' and not just a 'movie' and refused to let popcorn be sold at any Todd-AO presentation. The first year the 70mm film was only shown on a 'roadshow' basis with seat reservation at raised admission prices.

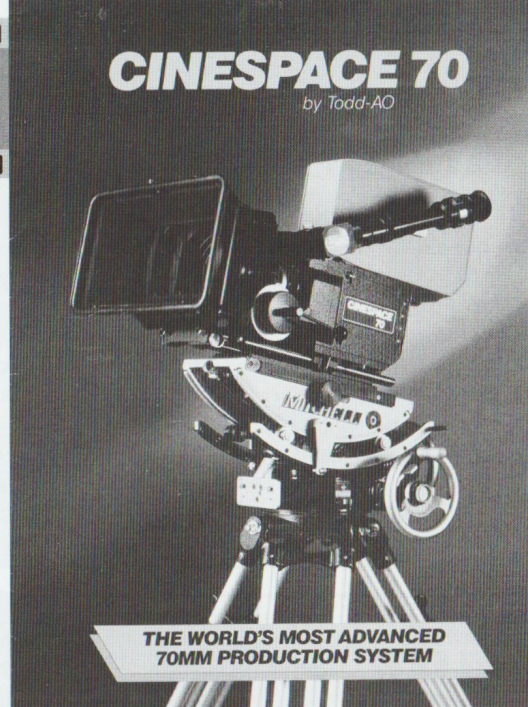
In London **Oklahoma!** premiered in November 1956 in the 35mm CinemaScope version because at that time there were no theatres equipped for 70mm projection. The first 70mm theatre in Europe was the Dominion in London opening on 21 April 1958 with the 3rd Todd-AO production **South Pacific**. The 70mm screenings were so successful that this movie ran in the Dominion for more than five years. At the end of next year 1959, two more cinemas in London were equipped for 70mm: The Empire for screenings of **Ben-Hur** and the Metropole for the 70mm version of **Oklahoma!**. After the success of the first openings in large cities, a 70mm short subject, called **The Miracle of Todd-AO** was added to the program. It included a roller coaster ride similar to the one in **This Is Cinerama**. Mike Todd



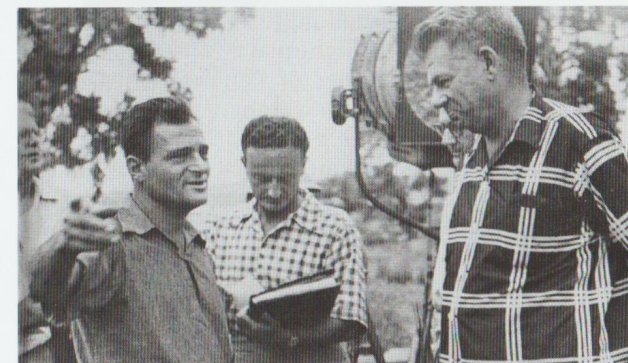
had it made because he wanted to show the possibilities of his Todd-AO process. After one year the 35mm CinemaScope version of Oklahoma! was distributed at smaller theatres as a regular film with regular admission prices.

While American Optical was responsible for the overall design of the process, they subcontracted the camera work to the Mitchell Camera Corporation. There were only eight BFC 65mm cameras ever manufactured by the Mitchell Company! The development of the special projector was done by the well-known Philips Electrical Company of Holland. With a lot of experience in the construction of 35mm projectors they succeeded in producing a revolutionary new projector in six months time that would run both 35mm and 70mm film, enabling a cinema exhibitor to screen motion pictures in both formats by a simple changeover. In 1963 the Philips Company was awarded with an Oscar for the design of this multi purpose projector DP 70 that could handle both 35mm and 70mm film. Till today there are still cinemas who have these DP70 running after 50 years! One of them is the new EYE film theatre in Amsterdam.

The second movie in Todd-AO, Mike Todd's **Around The World In 80 Days**, was an even greater hit than Oklahoma!. This film was shot in two versions: one in 65mm - 30 fps for the 70mm release and the other in 65mm - 24 fps to be printed down to Technicolor 35mm release prints. To finance his film Todd had to



sell the rights of the Todd-AO process to 20th Century Fox. The result of this deal was that Fox did not allow Todd to screen 70mm Todd-AO prints without paying royalties to them! But Todd didn't bother about 70mm because he could produce 35mm CinemaScope prints from the 65mm 24 fps negative and that gave him, especially in Europe, much more possibilities as cinema owners didn't have to install expensive 70mm equipment to show his film. Nevertheless Todd made movie history with this film: Shirley MacLaine, David Niven, Mexican actor Cantinflas and Robert Newton were accompanied by 50 other famous stars. On October 17, 1956, the 70mm version of Around the World pre-



*Mike Todd, Fred Zinnemann en Oscar Hammerstein II on the set of Oklahoma!*

miered at the Rivoli Theatre in New York. With a total of 157 shooting days the film had cost Todd 6 million US dollar at the time of release.

Another unique feature of this film: there were no credits at the beginning of the movie but a surprising animated title cartoon designed by Saul Bass screened at the end of the film showing all the actors at work. After this movie the frame rate was reduced to normal 24 fps since they had developed a system to print 35mm CinemaScope reduction copies directly from the original 65mm negative. On the evening of the Oscar night, March 27, 1957, the film received five Oscars. The performance ended in a triumph as Mike Todd entered the stage of the Pantages Theatre in Los Angeles to accept the Oscar for the Best Picture of 1956. One year later in March 1958 Mike Todd was killed in a crash with his private plane 'The Lucky Liz'. He was on his way to New York to be honoured as 'Showman of the Year'. The showbusiness had lost a great, truly extraordinary showman and his promise of the things to come. His wife Elizabeth Taylor stayed at home because of sickness. Indeed a Lucky Liz!

## "THE MIRACLE OF TODD-AO"

A Prologue that presents all that the eye can see through the TODD-AO wide angle lens!



JOIN in the super-charged excitement of a thrill-packed roller coaster ride.



FLY high through the majestic canyons of the towering Grand Teton Mountains.



With skis on your feet you sweep through breathtaking slopes in Sun Valley, Idaho.



CHILL your senses on the thrilling police motorcycle chase over San Francisco's hills.



# MGM Camera 65 + Super Panavision 70 + Ultra Panavision 70

Panavision was established in 1954 when there was a strong demand for new high quality anamorphic projection lenses. The founder of Panavision Robert E. Gottschalk brought together a team of technicians who developed an anamorphic projection lens with better quality than the original CinemaScope lenses. In a few years 35 000 of these lenses were sold. Panavision is a company, based in Woodland Hills, California, known world-wide for its cameras and lenses. You won't find a wider range of high quality anamorphic lenses or cameras anywhere.

When **Oklahoma!** went in production in July 1954, the Todd-AO company rented Stage 2 at MGM Studios for checking the daily rushes. MGM being afraid to miss the 70mm boat decided to develop their own 70mm process and to produce all of their top productions with 65mm cameras. So in early 1955 they asked Panavision to develop anamorphic camera lenses for MGM's new widescreen process. These lenses had a 1x1.33 squeeze ratio, resulting in an aspect ratio to a colossal 2.75:1 (Todd-AO aspect ratio is 2.20:1). The process became known as **MGM Camera 65**. For their first 65mm production MGM choose **Raintree County** with Elizabeth Taylor and Montgomery Clift, released in 1957. They had planned to release it in 70mm, but all 70mm cinemas then in existence were occupied with showings of the Todd-AO feature **Around the World in 80 Days**. MGM decided against acquiring additional 70mm projectors at that time, so **Raintree County** was released as a 35mm anamorphic print reduced from the 65mm original. The second motion picture to use the MGM Camera 65 process was the biblical epic **Ben-Hur: A Tale of the Christ** released in 1959. Ben-Hur was very popular by both audiences and critics and was awarded with eleven Academy Awards, a record to this day. After these two epic movies Panavision decided to completely reconstruct the heavy old-fashioned Mitchell Cameras into new improved lighter and easier to handle Panavision cameras. They re-named the anamorphic **MGM Camera 65** process **Ultra Panavision 70**. Camera 65 and Ultra Panavision were essentially the

same format, although Camera 65 originally started with a squeeze of 1x1.33, creating an aspect ratio of 2.94:1, later reduced into a squeeze of 1x1.25, giving an aspect ratio of 2.76:1.

Famous films in this new process were **Mutiny on the Bounty** (1962) and **It's a Mad, Mad, Mad, Mad World** (1962) that was also advertised as Super Cinerama when screened in Cinerama theatres. **The Fall of the Roman Empire** and **The Battle of the Bulge** followed in 1964. Ultra Panavision 70 was also used in some parts of **How The West Was Won** (1962) and optically converted into 3-panel Cinerama.



In 1959, after the success of the Camera 65/ Ultra Panavision 70 process, Panavision developed a complete range of new non-anamorphic 65mm cameras and lenses under the name of **Super Panavision 70**. It was identical to the Todd-AO process except for the lenses. The Panavision lenses were made with varying focal lengths, while the four Todd-AO lenses had fixed focal lengths, ranging from the huge wide angle 128 degree lens, called the 'bug-eye' down to the 64 - 48 and 37 degree fixed focus lenses. The new Panavision process was used for a lot of famous movies like **The Big Fisherman** (1959) - **Exodus** (1960) - **West Side Story** (1961) - **Lawrence of Arabia** (1962) - **My Fair Lady** (1964) - **2001, A Space Odyssey** (1968) - **Ryan's Daughter** (1970), etc.

In 1964 Panavision developed an optical printing process to produce 70mm release prints from anamorphic 35mm films. Now it was no longer necessary to film with 65mm cameras, to produce a 70mm release print. The 70mm print could easily be optically printed directly from the original 35mm anamorphic negative. These are the so-called 70mm 'blow-up' prints and despite Panavision's president stating that the process was not meant to replace the Ultra and Super Panavision 70 processes, this was in fact the start of the decline of the original 65/70mm processes. Famous 'blow-ups' from 35mm to 70mm were **The Cardinal** (1963), **Doctor Zhivago** (1965) and **The Great Race** (1965). The first Panavision anamorphic 35mm film was **Jailhouse**

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Rather late in 1989 The German Arriflex Company entered the world of 65mm cameras with new super lightweight modern cameras. These **Arri 765** as they call the new cameras, were used only for a few films. First the famous German short film **Tour Eiffel** from director Veith Helmer, produced in 1994. Partly in Bernardo Bertolucci's **Little Buddha** in Bhutan (1993) and in Ron Howard's **Far and Away**. Tom Tykwer German director used the ARRI 65 camera for a part of his film **The International** (2008) that was shot in Istanbul.

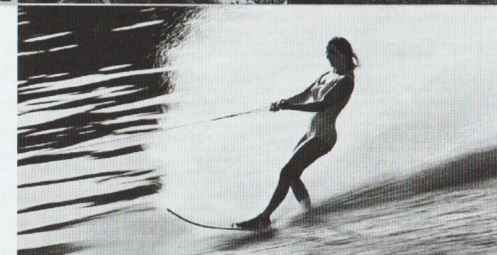
# NICOLE KIDMAN

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"IT'S A MAD, MAD, MAD, MAD WORLD"

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A black and white movie poster for '2001: A Space Odyssey'. The central image shows a massive, complex space station with a large circular hub and several long, curved arms extending outwards. A rocket is launching from the station, leaving a long, bright trail of fire and smoke. In the background, the Earth is visible as a large, dark sphere with a bright horizon line. The title '2001 a space odyssey' is written in a large, stylized font at the top. Below the title, the text 'CINERAMA' is visible, followed by 'A Super Panaramor and Matorator'. The MGM logo is in the bottom left corner. The overall tone is dramatic and futuristic.



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[illegible]

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**MUTINY ON THE BOUNTY**  
THE NEW 16-34 PRESENTATION  
FILMED IN PARED TANTU  
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SCREENPLAY BY  
DIRECTED BY  
CHARLES LEIDERER  
MUSIC BY  
BONISLAI KAPALIN



**Behind the Great Wall**, (La Muraglia Cinese) was an Italian 35mm widescreen travelogue about China, filmed in Totalscope, DeLuxe Color with Stereophonic sound and the new wonder of AromaRama scents! It premiered at the DeMille Theatre in New York on 2 December 1959. The film was accompanied by a range of 72 scents, including incense, smoke, oranges, spices, etc. circulating through the ventilating system of the cinema. So sometimes a mixture of scents stayed in the auditorium. The film was rather successful even as it was mostly screened without the addition of smells.

Hardly one month later on the 12th of January 1960, Michael Todd Junior's first feature film *Scent of Mystery* premiered in Chicago's Cinestage Theatre. A 70mm Technicolor thriller with beautiful Spanish scenery produced in Todd-70 and advertised as "**in Glorious Smell-O-Vision**" as the first feature 'smellie'. In this process, a Swiss invention, the thirty scents – pipe tobacco, baking bread, perfume, garlic, oil paint, wine, boot polish, gun smoke, ocean breeze, etc. – were distributed through pipe lines to every individual cinema seat by signals from the 'smell-track' of the film. The Cinestage Theatre with 1100 seats, had been set up as a full-scale testing location for the system. A short film with this process, originally created to clean the air in large auditoriums with aromas, was screened already in 1939 on the World Fair in New York by the Swiss company Scentovision. Todd Junior contracted the company to use their process for his film and in the meantime he had created his own 70mm process Todd-70, which was only slightly different from his father's Todd-AO process, except the spectacular 8-channel sound system, because he didn't want to do business with a company who had removed him and his father out of their business. Todd Jr's film had a short prologue called **The Tale of Old Whiff**, demonstrating the aromas of Smell-O-Vision. Time newspaper wrote: "... most of the visitors will probably agree that the smell they liked best, was the one that they got during the intermission: fresh air!" Variety added: "... the new dimension will be nothing more than a passing whiff, the accompanying

odors do not add or detract anything from the basic enjoyment of a motion picture." Scent of Mystery was re-titled **Holiday in Spain** and shown at Cinerama Theatres without odors, leaving audiences unaware of the original purpose of the film.

The Soviets had developed in 1958 their own 70mm process called Sovscope 70 which used cameras with 70mm negative film with an aspect ratio of 2.21:1. The first 70mm film with Sovscope cameras was **Povest' Plamennykh Let** (The Story of Flaming Years) in 1960. (See page 42-45 Sovscope).

In 1966 a group of engineers in East Germany designed the **DEFA 70** Reflex camera. Lenses were supplied by the Carl Zeiss company in Jena. The universal 70mm projectors Pyron UP 700 were made by Pentacon in the East German city Dresden. The first completed DEFA 70 mm film with 6 channel stereo sound was the comedy **Hauptmann Florian von der Mühle** (Captain Florian of the Mill) (1968). Next year 1969 another 70mm film was launched with more success: **Du bist min - Ein Deutsches Tagesbuch** (You are mine - A German Diary) a documentary film about a young woman telling her life story from a child on. With beautiful aerial photography from mountains, castles and cities above East Germany. Another famous DEFA 70 film is the German/Russian coproduction **GOYA**, about the life and loves of the famous painter. A total of ten East German 70 mm films were made, seven feature films and three documentaries.

**Super Panorama MCS 70** was a German/Norwegian 65mm camera process developed in 1961 by Norwegian Jan Jacobsen and built by Modern Cinema Systems in Munich, Germany. It was similar to Todd-AO, except their own lighter cameras, with release prints onto 70mm with an aspect ratio of 2.21:1. The first film produced with these 65mm cameras was the German movie **Flying Clipper - Traumreise unter Weissen Segeln** (1962). It was released in 1964 in the USA under the name **Mediterranean Holiday**. Other famous Eu-

ropean productions filmed with these 65mm camera system were: **Onkel Toms Hutte** (Uncle Tom's Cabin, 1965) and the famous Indian story of **Old Shatterhand** (1964) both being a German coproduction with France, Italy and Yugoslavia. The last film in this process was filmed in 2007 in Norway, it was an experimental short film: **Tanakh Bibelen Al-Quran**. In 1964 the special MCS70 cameras were also used for the aerial scenes of **The Sound of Music** replacing the heavy old Todd-AO cameras in favour of the light construction of the German 65mm cameras.

**Dimension 150** was created by Dr. Richard Vetter in 1964 to achieve a 150 degree image onto a large highly reflective screen with a 120° curvature near to Cinerama. The screen had been coated to prevent cross-reflections. The base of this 70mm process was a new wide angle lens, with various factors to correct and enlarge images projected onto a large curved screen. Any other 35mm or 70mm format could be shown on the Dimension-150 installation. Only two films have been produced with this process: **The Bible.....In the Beginning** (1966) and **Patton, Lust for Glory** (1970).

In 1984 Douglas Trumbull introduced his **Showscan** process with modified Panavision cameras to create a higher frame rate of 60 fps. instead of normal 24 fps. The idea behind the process was to produce a flicker-free high resolution image on the screen with the higher frame speed. It was a great pity that the system was only used for 70mm short films in special venue theatres in theme parks, mostly because of the high cost of filming with 60 fps.

Another high speed frame projection process was developed in 2002 by Robert C. Weisgerber called **Super Dimension 70 (SDS-70)**. It used a special high speed 48 fps 65mm camera, the images were projected with 96 fps creating a 'super' high definition image on the screen totally eliminating flicker! Because each frame was being projected twice it required a special SDS 70 projector. Only a demo short was produced for this system.



# DP70: A Story of the Todd-AO Projector

by Thomas Hauerslev

The birth of the DP70 projector dates back to October 1952 and the development of the Todd-AO process. Michael Todd, not satisfied with technical limitations of Cinerama, formed a company with the purpose to develop a new wide screen process which was named Todd-AO. For Todd-AO a new projector was required. In September 1953 Magna Theatre Corporation approached Philips Cinema's Chief Designer Mr. Jan Jacob Kotte in Eindhoven, Holland, who built the new multi purpose projector, suitable for all 70mm and 35mm formats, in only nine months. It was a revolutionary projector and so versatile it could show any film format except horizontal double frame VistaVision. Jan Kotte worked day and night with his colleagues and even went as far as installing a home-office with a large drawing board, which was unheard of in 1953.

All projector mechanisms were made in Holland in a series of one hundred at a time. Other projector parts like spool boxes were also made in the United States by American Optical Company. In the fall of 1954, the first prototypes were sent to the US, and were installed in Todd-AO's test cinemas in Southbridge, Buffalo and in California. The first batch of machines, numbered 601 to 700, were sent to equip the first 40-50 cinemas for the North American premiere of "Oklahoma!" in October 1955. Some of the first machines were even marked "Property of the Michael Todd Company, Inc".

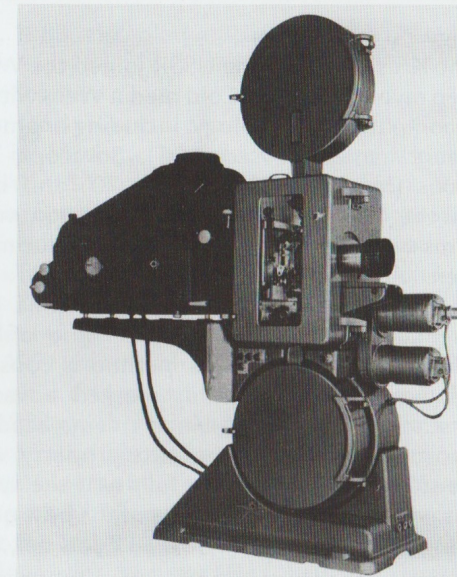
Usually there were two machines in a projection room. A left and a right projector, but in some cases three and four machines were needed, like at the Rivoli in New York, which had two projection rooms – upstairs and downstairs, each equipped with three machines. The DP70 was used for all Todd-AO presentations in the years to come, and by Oscar Night, in March 1963, there were 525 DP70 installations in 39 countries. Not only cinemas had the DP70. Studios like 20th Century-Fox, MGM, Warner Bros and Paramount Pictures in Hollywood had the DP70 in their main screening rooms. Filmmuseums in Amsterdam, Oslo, Stockholm, Paris, Bradford, and Hollywood also have the DP70 in-

stalled for 70mm presentations.

The DP70 was truly a remarkable 70mm projector, and on Monday April 8, 1963 Fred Pfeiff, technical manager of Norelco, received a Class 2 Oscar plaque on behalf of the Philips company. Philips originally named the new machine the EL4000/01 in their catalogue, but it quickly became the DP70. The "DP" is short for "Double Projector" and the "70" meant it was designed specifically as a 70mm projector. In the United States it simply became the "Todd-AO Projector, Catalogue # 3070". Later the name was changed to "Universal 70/35" and finally from 1963, it became the "Norelco AAll". "AA" was short for "Academy Award" and "II" meant "Version 2" because of the many new changes and improvements. Jan Kotte nicknamed the projector the "Dollar Princess" because he knew Philips made a considerable amount of money developing it for Magna Theatre Corporation.

All through the 1960's and until recently, the DP70 was faithfully projecting movies in many prestige cinemas all over the world. It is not known precisely how many machines were made, but Kinton estimates at least 1500. When 70mm cinemas started to close, many machines were scrapped and sold as old iron, and there were even stories about some Australian machines ending their life as boat anchors in Sydney Harbour. Many machines were transferred to other cinemas and some even went to private collectors.

Today, when most cinemas have converted to digital presentations, there is less need for the DP70 – or any other film projector – and most of the machines are now redundant, with notable exceptions such as the Schauburg in Karlsruhe, the EYE museum in Amsterdam and other 70mm venues. The DP70 was the Rolls-Royce of 70mm projectors, an outstanding machine, easy to work with, gentle to film and a beautiful piece of 1950's art, and probably the most successful part of the Todd-AO process.



*Cinema manager Orla Nielsen of Biffen Cinema, Aalborg in Denmark and editor of in70mm.com, Thomas Hauerslev next to DP70 serial number 2170. Biffen Cinema has 3 auditoriums all equipped with two famous DP 70 Philips 35/70mm projectors. The largest screen is 4.25 x 10 m and that auditorium has also a 4K Digital projection unit.*



# USSR international coproductions in 35/70mm Sovscope

## Technology

During the Krushchev era the USSR joined the Western widescreen revolution - and Cold media War - with their own but compatible technology, including anamorphic 35mm (here named Sovscope-35), Sovscope 70mm productions (here named Sovscope-70) and blow-ups. Until the 1970s all Soviet single-lens 35mm widescreen films were 1:2.35 anamorphic, without masked widescreen. According to Victor Komar (of NIFKI, Research Cinema Institute) "Nonanamorphic widescreen cinematography with an aspect ratio of 1:65:1 to 1:85:1 is not practiced. This method is considered artistically inferior and without marked advantages over the standard method... Since cinema studios as well as most of the theatres are state property, we can carry out standardization more fully and the types of systems used are restricted to those of the best quality" (Cinematography in the USSR. SMPTE Journal, March 1964).

## Output

The disputed and questionable first Soviet 70mm feature **Poema o more** (Poem of the Sea, 1958) was followed by a worldrecord of 70mm films. The 2009 Berlinale publication 70mm Bigger than Life lists some 175 Soviet 70mm productions excluding (at least one hundred) blow-ups, but an accurate unravelling between Soviet 70mm productions and blow-ups is still a major challenge while the Soviet information on www.in70mm.com remains basic. Half of these films were produced since 1975, a moment when 70mm was more popular than ever while Western 70mm production was already in decline. Obviously the 70mm industry could not survive without the USSR infrastructure and (except Stereo-70) ended in 1989 when also many 35mm productions became unsuccessful.

Sovscope-35 was introduced for **Ilya Muromets** (The Sword and the Dragon, 1956). The website Widescreenmuseum.com lists less than 200 Sovscope-35 and Sovscope-70 films but confuses both. The encyclopedia Wide Screen Movies by Robert Carr + R.M. Hayes in 1988 mentions only twelve Sovscope-35 films and

Daniel Sherlock excludes Sovscope in his detailed corrections to Carr + Hayes on Film-tech.com/warehouse/tips/WSMC20.pdf.

According to Agnes Surkova in 2012 "By the end of the 50s widescreen films in the West, made up more than 50 percent of the cinema repertoire; however in the USSR this number could barely measure up to the mark of 5-7 percent" (Sight and Angle in the Cinema of Latvia, Widescreen in the 1950 and 1960s. Kinokultura.com/specials/13/surkova.shtml). The largest Soviet studio Mosfilm nevertheless released until 1989 over 500 features in Sovscope-35 and other Soviet studios produced further anamorphic films. Until 1962 ten Sovscope-35 features were produced and according to the Sovexportfilm sales company "In 1969 the USSR produced 132 feature films and 1.100 short, chronicle-documentary, popular science and educational films... About half of all the films currently produced in our country are for the widescreen" (Learn all about the Soviet Cinema. 1970).

## Widescreen cinemas

"By the beginning of 1963 in the USSR there were about 2.700 motion-picture theatres equipped for wide-screen projection with anamorphic lens and stereophonic sound," according to Komar. "In 1970 there were 157.000 filmprojection installations in the USSR including 24.000 in towns and cities and 133.000 in the countryside... Over 45.000 cinema houses in the towns and villages of the Soviet Union are equipped for showing widescreen films... About 350 motion picture houses have been built in many Soviet towns and cities for showing 70mm films" (Learn all about the Soviet Cinema) and hundreds more would follow.

All Sovscope-70 productions were also released in Sovscope-35, many anamorphic and some flat (spherical) films were blown-up to 70mm and initially all large screen films were simultaneously also released flat and in narrow gauge. "The USSR has a great number of rural, school and mobile projection units showing 16mm color and black-and-white motion pictures. This is the reason why every picture produced is printed

both on 35mm and 16mm film" (Lloyd Thompson, Progress Committee Report for 1959. SMPTE Journal, May 1960). In the 1970s "rural cinemas have now been brought up to the technical level of urban cinemas. Thus, widescreen films can be shown in 90 percent of the urban cinemas and 80 percent of the rural cinemas" (Mikhail Alexandrov, 13 Million Viewers a Day. Soviet Film, August 1976) and this development strongly stimulated cinema attendance. "During recent years the admission for every widescreen film in the USSR has been 15% more than that for a normal-format film and each 70mm show is attracting a 20% bigger audience than the average show of widescreen or normal 35mm film.... By the beginning of the year 1973 85.000 projection units had been converted to widescreen anamorphic presentation and the process is still in progress" (Trusko and Komar, The Soviet Motion Picture Industry. American Cinematographer, August 1974).

## International coproductions

Several dozens of Sovscope-35 and Sovscope-70 films were international coproductions. Early joint productions already appeared 1928-1929 between Mezhrabpom studio in Moscow and Prometheus studio in Berlin as "with the meagre means at its disposal, the Soviet cinema tried to expand its cultural ties with other countries" (The First Joint Films. Soviet Film, February 1971). The first large screen coproduction was **Khozhdienie za tri moray** (Journey beyond Three Seas, 1957). This Sovscope-35 film was coproduced with India, a country whose films were extremely popular in the USSR. "Since then there has been an increasing number of joint productions with foreign studios. Feature, documentary and popular science films have been or are being made in conjunction with studios in the People's Republic of China and Finland, Bulgaria and India, Czechoslovakia and France, Poland and the German Democratic Republic" (Joint Productions. Soviet Film, April 1959).

Large screen coproduction partners outside Europe included Africa (Egypt), America (Colombia, Cuba,



Mexico, Nicaragua, USA) and Asia (Afghanistan, China, India, Japan, Mongolia, North Korea, Syria, Turkey, Vietnam). Studios in four of the fifteen Soviet republics were involved. About forty of these features were produced by Mosfilm studio in Moscow and about twenty films by six other studio's in Russia (Gorky studio, Lenfilm), Ukraine (Dovzhenko studio, Odessa studio), Uzbekistan (Uzbekfilm) and Tajikistan (Tadjikfilm). Since the 1970s the Sovinfil company "arranges joint film productions, maintains business contacts with foreign firms and offers services to foreign film studios making location shots in the Soviet Union" (Marina Istiushina, Co-productions, a Sound Proposition. Soviet Film, October 1976). During the Perestroika the coproductions' quantity increased and the quality diminished, with much criticism. "Until recently the Soviet Union made few joint productions with other countries (3-4 a year). But in 1988 almost one in every three Soviet films was a coproduction. When this information was published it provoked a stormy debate in newspapers and magazines. Does the Soviet film industry need coproductions?" (Boris Berman, Controversy over Coproductions. Soviet Film, September 1988).

### Credits

Here follows a survey of Soviet feature international coproductions shot in Sovscope and other large image systems, arranged under their Soviet company, with Russian titles mentioned first, including minority coproductions. It is based on company credits and disregards actual co-financing. The website Mosfilm.ru once included their entire chronological filmography since 1926 of some 3000 features, including widescreen information and summaries in their characteristic ideological style. This information now only survives scattered on internet and has Mosfilm replaced by a selection and without widescreen information (but with online viewing). The multi-language publications of the international sales company Sovexportfilm until 1990 included the annual Catalogue of Soviet Feature Films and the promotion monthly Soviet Film, both with non-Mosfilm features too and though inconsistent they

are sources for Sovscope and coproduction credits. Widescreen credits did not appear on-screen (except on some Western release prints) but the printed catalogues included the Russian credit 'Shiroko-ekrann' (wide-screen) for 35mm anamorphic films and its name Sovscope only appeared in French language (!) credits besides the other translations Widescreen, Breitwand, Cinemascope etc. The printed credit 'Shiroko-format' (wide-format) was used for 70mm productions and blow-ups, but here blown-ups will be identified separately. The name Sovscope-70 did not exist in USSR and only appears later in Western literature.

Most Soviet large screen coproductions were shot in Sovscope-35 and Sovscope-70, with exceptions like 65mm MCS Superpanorama for **Tretya molodost** (Nights of Farewell) etc, 35mm Panavision for **Waterloo** etc, or shot flat and released anamorphic too after masked widescreen became accepted, in Russian printed credits called 'Kashe' (Caché, Kaschiert etc).

### Studio's

The studio's Dovzhenko, Odessa, Tadjikfilm and Uzbekfilm coproduced incidental widescreen features in Sovscope-35. Dovzhenko studio in Kiev coproduced with Yugoslavia the WW2 film **Svadba** (The Wedding, 1975). Odessa studio in Odessa coproduced with France the Alexandre Dumas adaptation **Uznik samka If** (The Prisoner of the Castle If, 1988). Tadjikfilm in Dushanbe coproduced with Syria the 1001 night fairytale **Novye skazki Shakherezady** (New Fairy Tales of Sheherazade, 1988). Uzbekfilm in Tashkent coproduced at least five Sovscope-35 features, with Yugoslavia the Turkmenistan 1920s political drama **Lubov i yarost** (Love and Fury, 1979), with India the 1001 night fairytale **Priklyuchenia Ali-Baba i 40 razboinikov** (The Adventures of Ali-Baba and the 40 Thieves, 1980), and drama **Legenda o lyubvi** (Sohni mahiwal. Legend of Love, 1985, also blown-up), and with Nicaragua the South American political drama **Okhota na drakona** (Hunting the Dragon, 1985). With Afghanistan (and Mosfilm) they coproduced the 1980s drama about a Soviet surgeon in Afghanistan **Zharkoye leto v Kabule** (Hot Summer in

Kabul, 1983, also blown-up).

### Gorky Studio

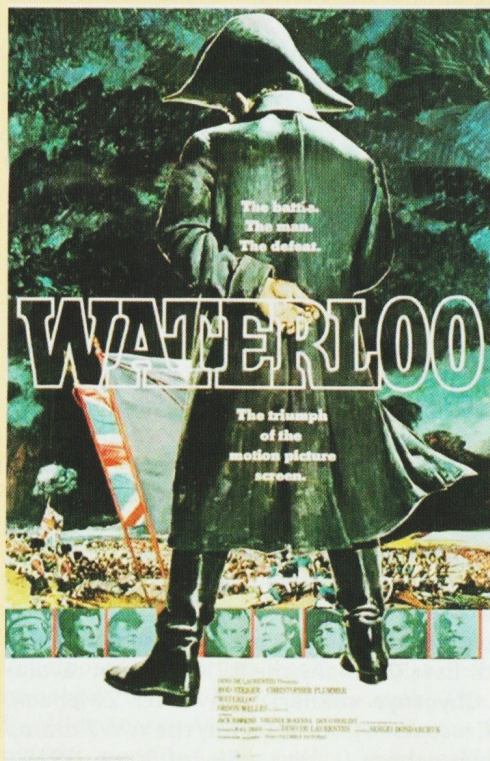
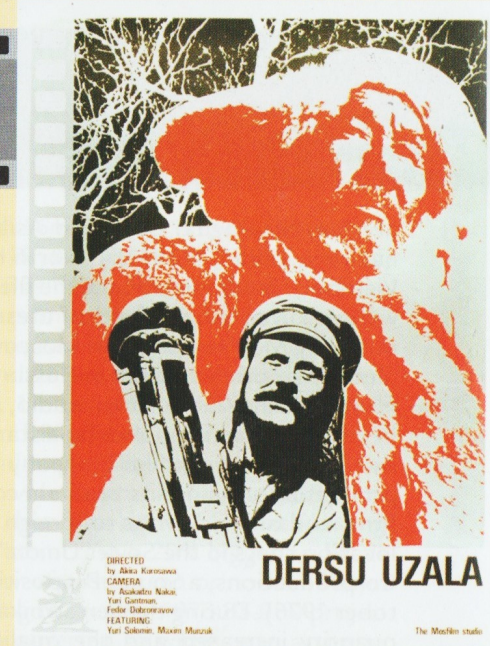
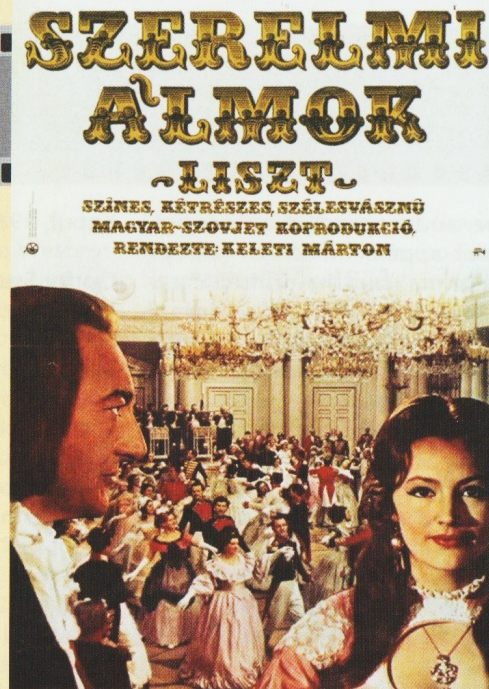
Maxim Gorky Central Studio of Films for Children and Youth in Moscow realized one international coproduction in Sovscope-70, the red western **Vooruzheni ochen opasen** (Armed and Very Dangerous, 1977), with Czechoslovakia-Romania. They coproduced probably six features in Sovscope-35, with Poland the WW2 drama **Zosia** (1967), with Bulgaria the WW2 drama **Ukradennyi poezd** (Otkradnatiy vlak. The Stolen Train, 1971), and with Sweden the 1920s social drama **Chelovek s drugoi storony** (The Man from the Other Side, 1972) with Bibi Andersson. With East Germany they produced three Sovscope-35 features, in 1981 a two-part biography of tsar Peter the Great **Yunost Petra** (The Youth of Peter the Great) and **V nachale slavnih del** (At the Inception of Glorious Deeds, both possibly also blown-up), and the 1945 postwar German drama **Alexandr Malenki** (Alexander the Small, 1982).

### Lenfilm Studio

Lenfilm studio in St. Petersburg coproduced several large screen features, including some biographies in Sovscope-70 and even 65mm. Instead of Soviet 70mm negative they shot two biographical coproductions in 65mm MCS Superpanorama, with France the Marius Petipa biography **Tretya molodost** (La Nuit des Adieux. Nights of Farewell, 1966) and with Hungary the Franz Liszt biography **Ferents List** (Szerelmi almok, Liszt. Dreams of Love, 1971, see poster). They coproduced with East Germany-Yugoslavia-Bulgaria the painter's biography **Goya, ili tyazhkiy put poznaniya** (Goya - oder der arge Weg der Erkenntnis, 1971, shot in DEFA-70 and Sovscope-70) and with Cuba the Mexican revolution drama **Vsadnik bez golovi** (The Headless Horseman, 1973, shot in Sovscope-70).

They coproduced several features released in Sovscope-35, with East Germany the 1918 Russian revolution drama **Chyornye sukhari** (Schwarzer Zwieback. Black Dried Crust, 1971), with Norway the WW2 drama **Pod kamennym nebom** (Under a Sky of Stone, 1975),







with Finland the Finnish 1917 independence story **Doverie** (Trust, 1976, also blown-up) and with UK-East Germany-Cuba-France (and Mosfilm) the biography **Anna Pavlova** (1983, shot in Super-35, also blown-up). They coproduced with USA the fairytale **Sinyaya ptitsa** (The Blue Bird, 1976, shot in Panavision and Sovscope-35, also blown-up) with Elizabeth Taylor and directed by George Cukor, and with France the drama **Taksi-blyuz** (Taxi Blues, 1990, anamorphic?, also blown-up).

#### Mosfilm Studio Sovscope-70

Mosfilm studio in Moscow coproduced eight Sovscope-70 features. With Egypt they coproduced **Lyudi na Nile** (An-nas wan-Nil. People on the Nile, 1968) about the Aswan dam construction by Egypt and USSR. With France they coproduced the Anton Chekhov biography **Syuzhet dlya nebolshogo rasskaza** (Amour de Tchekhov. Chekhov's Love Lika, 1969, see poster) with Marina Vlady, with East Germany **Goroda i gody** (Cities and Years, 1973) situated in Germany and Russia during WW1, Revolution and Civil War, and with Japan **Dersu Uzala** (1975, see poster) about Siberian taiga expeditions between 1902-1907, with another Academy Award for a Soviet 70mm film after **Voyna i mir** (War and Peace).

They coproduced several WW2 dramas in Sovscope-70, with East Germany-Poland-Italy the multi-part epic **Osvobozhdenie** (Liberation, 1968-1971, see poster) as the Soviet answer to **The Longest Day**, with Bulgaria-Hungary-East Germany-Poland-Romania-Czechoslovakia **Soldaty svobody** (Soldiers of Freedom, 1977), with Czechoslovakia-East Germany **Front v tylu vruga** (Behind Enemy Lines, 1982) and with Czechoslovakia-East Germany-Vietnam **Bitva za Moskvu** (The Battle of Moscow, 1985).

#### Mosfilm Studio Sovscope-35

Mosfilm coproduced some thirty features which were shot and/or released in Sovscope-35 unless otherwise mentioned. Their first international coproduction was **Khozhdzenie za tri moray** (Pardesi. Journey

beyond Three Seas, 1957) with India, about a Russian merchant's 15th century travels to India, with famous Hindi actress Nargis. With China they produced **V yedinom stroyu** (Feng cong dong fang lai. The United Ranks, 1959) about Soviet and Chinese cooperation in constructing a power station in China. **Lenin v Polshe** (Lenin in Poland, 1965) produced with Poland dealt with Lenin's stay in a Polish village in 1914. Miklos Jancso directed the Hungarian coproduction **Zvyozdy i soldaty** (Csillagosok, katonák. The Red and the White, 1967, shot in Agascope) about heroic Red Army soldiers in the Civil War. With Italy they produced **Krasnaya palatka** (La tenda rossa. **Kolonie Lanfieri** (Lanfieri Colony, 1969, see poster) with Czechoslovakia was based on A. Green's story about an island's inhabitants. The Red Tent, 1969, also blown-up, see poster) about Nobile's fatal 1928 North Pole expedition, with Peter Finch. **Waterloo** (1970, shot in Panavision, also blown-up, see poster) was produced with Italy, about Napoleon's final defeat, with Rod Steiger. **Poema o krylyakh** (Poem of Wings, 1979, also blown-up) produced with Cuba-East Germany-France was a biography of aircraft designer Andrei Tupolev. **Krasnye kolokola** (Red Bells. Mexico in Flames, 1982-1983, also blown-up, see poster) with Mexico-Italy depicted in two parts the Mexican revolution of 1910 and the events of October 1917 through the eyes of American journalist John Reed, with Franco Nero. **Anna Pavlova** (1983, shot in Super-35, also blown-up), with UK-East Germany-Cuba-France (and Lenfilm) was a biography of the ballerina, with Martin Scorsese.

Until 1990 at least 26 further 35mm Mosfilm coproductions were released (but not all shot) anamorphic and some also blown-up.

#### Aftermath

Not everything was released in the West but well known English titles include **The Red and the White**, **Liberation**, **The Red Tent**, **Waterloo**, **Goya**, **Dersu Uzala** and **The Blue Bird**. From **Liberation** only parts 1-2 and 5 reached the Netherlands. After the USSR collapse the Amsterdam Sovexportfilm agency was suddenly de-

serted and its remaining filmcollection was adopted by the Amsterdam filmmuseum. From various sources they store the 70mm print **Lebedino ozero** (Swan Lake, 1969), over 200 Soviet anamorphic features and shorts until the 1980s and three Russian anamorphic films since 2003.

Since 1990 not only 70mm disappeared but also Russian anamorphic films diminished. The Russian wide-screen forum <http://fenixclub.com/index.php?showtopic=97355> reports only about a dozen anamorphic features since 1990 including the coproduction **Nemoi svidetel** (Silent witness, with Germany-UK-USA) but more large screen coproductions exist like the anamorphic **Mongol** (2007, with Germany-Kazakhstan) and even the Academy Award winning Imax animated short **Starik i more** (The Old Man and the Sea, 1999, with Canada-Japan).

Thanks to Polina Boykova and Iryna G. Vorobyov

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Posters (source EYE Film Institute Netherlands):  
**Osvobozhdenie** (Liberation). Spanish: Liberacion  
**Krasnaya palatka**. English: The Red Tent  
**Syuzhet dlya nebolshogo rasskaza**. English: Chekhov's Love Lika  
**Waterloo**. English  
**Ferents List** (Dreams of Love). Hungarian: Szerelmi Almok, Liszt  
**Dersu Uzala**. English  
**Krasnye kolokola** (Red Bells. Mexico in Flames). German: Mexiko in Flammen  
**Kolonie Lanfieri** (Lanfieri Colony). Russian



# 70mm: Recent History

In 1987 the Todd-AO Company tried to give the 70mm filming a new impulse by introducing a new range of 65mm cameras under the trade name of **CineSpace 70**. They had organised a special meeting on August 10, of the American Society of Cinematographers in the excellent screening room of the Glen Glenn Studios in Hollywood. The 70mm presentation started with two reels of **Oklahoma!** filmed in 1954 by the Todd-AO Com-

pany of which the cinematographic visuals are still superior to any other recent theatrical releases. He received an enthusiast support from the gathering of top cinematographers and film industry technical experts. But nothing happened in the years thereafter, no producer decided to use the 65mm cameras. Since then Todd-AO has become a much admired independent facility for post-production work (the step in moviemaking when voices, music and special effects are put on the sound track). They have won an Academy Award for their work on **Out of Africa**.

On December 15, 1988, Columbia Pictures president Dawn Steel gathered with filmmakers Martin Scorsese and Steven Spielberg in the New York Ziegfeld Theatre for the premiere of the fully restored 222 minute director's cut version of **Lawrence of Arabia** (1962) in 'glorious' Super Panavision 70 (mm). According to Richard A. Harris, who headed the restoration team, producer Sam Spiegel had the film cut shortly after its opening in December 1962, from 222 to 202 minutes on request of the exhibitors. In 1971 the film was cut again to 187 minutes for a re-issue. The search and restoration took two years to complete. The restoration of Lawrence was soon followed by some other 70mm restorations like **Spartacus** in 1991 and **My Fair Lady** in 1994.

In 1989 Arriflex unveiled a new 65mm camera and lens system, the Arri 765 at a meeting of the American Society of Cinematographers in Hollywood. The president of the Arriflex Company, Volker Bahnmann told his audience: "Interest is growing in Hollywood in the superior image that 65mm origination provides. Producers have seen that grosses are higher in 70mm release theaters, that their special effects are usually produced on 65mm and that 65mm will enhance and preserve their filmed investment for the widest possible use in the future. But until now they had to pass on the format, because the available camera technology did not provide the production efficiencies they have come to expect in shooting 35mm." (See American Cinematographer August 1989).

After a period without any significant 70mm releases, 1991 was the year director/producer Ron Howard and his Director of Photography Mikael Salomon decided to shoot their epic **Far and Away** with 65mm cameras. They used five new Panavision Super 70 (65mm) cameras and two Arriflex 765 (65mm) cameras. Filming started in Ireland and continued in the state of Montana, USA, that used to represent the state of Oklahoma in



EYE Film Institute Amsterdam

1893. The only time DOP Mikael Salomon used 35mm cameras was for the Oklahoma land rush sequence to eliminate the risk of damaging the expensive 65mm cameras. Salomon described it as follows: "Filming with sixty five millimeter is a wider piece of film and the negative area that we have at our disposal is about four times bigger than the normal thirty-five millimeter, which gives you much better definition and clarity and less grain and you can do wide shots without losing any details. If the original film is shot with 65mm cameras, then you maintain that quality all the way through the process and through the different stages in the laboratory and all the way to the screen in the cinema. On May 22, 1992, 164 seventy millimeter prints were released and a total of 1500 35mm prints nationwide. Producer Ron Howard said that the film was be-

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pany (in 65mm at 30 frames per second), followed by some test shots made with the new Cinespace 70 cameras which gave an impressive demonstration of the possibilities of the new cameras. The presentation was introduced by Dr. Richard Vetter, at that time technical director of United Artists Communication, assisted by Buzz Knudson, president of the Todd-AO Company and Doug Fries and Lee Parker, producer of the demo films. After the presentation Knudson said, that the Todd-AO Company had decided to bring back the kind of quality of the Oklahoma! footage from 1955,



ing viewed as a test case for 65mm production, which had been dormant since the late sixties. David Lean's **Ryan's Daughter** was the last epic to use 65mm cameras in 1970. In 1993, we saw the premiere of **Baraka**, the documentary film for which Ron Fricke and Mark Magidson had travelled 5 years all around the world with Todd~AO 65mm cameras.

Although the 70mm screenings of **Far and Away** got much publicity and were successful, nothing happened to continue this success. In 1993 Italian Director of Photography Vittorio Storaro could convince his director Bernardo Bertolucci to use the new 65mm Arriflex cameras for his upcoming production of **Little Buddha**. Vittorio Storaro was a great fan of the 70mm film. However, they used the 65mm cameras only for those parts of the film which were shot in the Kingdom of Bhutan in the Himalaya Mountains. The rest of the production in Seattle, etc. was shot with 35mm Cinemascope cameras. But again this was no breakthrough for 70mm!

**Baraka** actually started production before principal photography started on **Far and Away** (1992). **Baraka** was filmed using the Todd~AO cameras (Cinespace APR 65) for about 5 years. It had been filmed in nearly 30 countries around the world and is called a cinematic and visual "masterpiece". It was not until 1996 that 65mm photography was used again. Famous British actor/director Kenneth Branagh decided with his director of photography Alex Thomson BSC, to film the project of his life **Hamlet** in 70mm Panavision. Alex Thomson said: "I was delighted when I was asked to film Kenneth's **Hamlet**. And I was overjoyed to learn it was going to be filmed on 65mm - an inspiring choice. Filming in 65mm gives the clearest and sharpest possible images. Compared with 35mm, each frame shows every detail about four times more clearly and it gives, by far, the finest possible motion picture image quality for feature films. Simply stunning!" And Alex continues: "We are using new Panavision cameras and their System 65 lenses, ranging from 24mm to 400mm. I made a decision right at the start, that we won't use any filters.



We are aiming for the finest possible image quality and we are using every means to achieve it, including the best possible choice of format and film. Why should we waste all that effort by degrading the image with diffusion? Alex Thomson had also been chosen by David Lean to photograph **Nostromo** on 65mm - but this film was never made because of the sudden death of Lean in 1991 at the age of 83 years. In the meantime Warner Bros had re-released **2001, A Space Odyssey** with new 70mm prints.

In 1995 Digital Theater Systems (now Datasat Digital Entertainment) introduced their DTS digital sound for 70mm prints. With the DTS timecode printed directly on 70mm print thus adding digital sound to 70mm, magnetic striping becomes unnecessary resulting in a considerable costs savings for 70mm release prints. A time code reader must be installed on the projector sending the signals to the playback unit with the CD-Rom containing the complete soundtrack. The re-release of the restored **My Fair Lady** in 70mm in 1995 was the first to have the new DTS 70mm time code instead of 6 track magnetic sound. In 2002, there was an unexpected revival in Hollywood towards 70mm film presentation: - not with magnetic sound - but with DTS Digital sound. For the first time since years new 70mm prints of **Lawrence of Arabia**, **Patton** and **Hello**

**Dolly** were screened in Los Angeles and in other large cities throughout the USA. Even the original 3-film-strip process **Cinerama**, from the fifties, was back for the first time in the Cinerama Dome in Los Angeles and in the new Cinerama Theatre in Seattle with restored prints of **This is Cinerama** and **How The West Was Won!** In Europe, only "Pictureville Cinerama Theatre" part of the National Media Museum in Bradford, U.K, has been equipped for showing the original Cinerama 3-strip movies since 1993.

A unique event took place during the **59th Berlinale Filmfestival** in February 2009. Although it was a small part of the festival, in ten days a total of twenty-two 70mm films were screened during a **70mm Retrospective**. No faded prints, no blow-ups, but a lot of new prints from original 70mm films. For the first time not only the well known epics from the USA were to be seen, but also some famous Russian and East German masterpieces from the sixties. While the new prints from the USA had their DTS digital sound, the vintage prints from the Soviet Union and the former East German Republic had the old magnetic soundtracks. Thanks to the superb quality of ORWO color and Sovcolor these prints were not at all or minimally faded and in a surprisingly good condition. It was one of the very few times that Russian prints were loaned outside Russia. It looked as a remarkable coincidence that the official part of this Berlinale in 2009, with new films, started on the opening day (out of competition) with the latest film of German director **Tom Tykwer: The International**. Remarkable, because in one of his many interviews Mr Tykwer (born in 1965) stated that he had used an Arri 65mm camera for different scenes of his film, because he liked 70mm films since he was a boy. Only because of financial possibilities he was limited to use the 65 mm cameras for only 10 percent of his film. But it was clear that the beautiful panorama views of Istanbul in his film were taken with the Arri 765 camera on 65mm film. He said that he had also shot some close ups on 65mm, but on the other hand he had also used a VistaVision double frame camera to photograph the



shooting scenes in the New York Guggenheim museum. The rotunda of the Guggenheim Museum was rebuilt in the Babelsberg Studios near Berlin. Maybe this director is the man for a new impulse of the 70mm film. The screening of a new restored 70mm print of **Flying Clipper** was one of the big events of this Retrospective as was a new print of **West Side Story**. The 70mm Retrospective was presented at the old (GDR) Kino International at the Karl Marx Allee and at the new Cinestar 8 at Potsdamer Platz in Berlin. It was really amazing to see how much publicity this event had caused in Newspapers and Magazines: Film Dienst, a compact German magazine even wrote 27 pages about the importance of 70mm filming in East and West Europe and the future in relation to Blu-ray with a lot of illustrations. Even Daily Variety of Friday January, 23, 2009 wrote in a 500 words piece: "Berlinale offers 70mm Retrospective" ("It's a reminder that, at their biggest, the movies provided a sensory experience that even the most costly home setup can't hope to match.") The director of this Retrospective, Rainer Rother from the Deutsche Kinemathek, was interviewed and explained the difficulty of getting the prints they wanted: "We wanted to show only perfect or near-perfect prints", he told Variety reporter Shane Danielsen, "and that, to us, was by far the most important thing. And then we wanted to make a selection from as wide a number of genres and countries as possible". The Berlinale received a lot of publicity and attracted many visitors from abroad; it was great being in Berlin during this important unequalled Retrospective: **70mm – Bigger than Life**, as was the sub-title of the event. It is a real pity that this unique 70mm Festival was a one and only event. **It should be repeated somewhere, someday!**

After the first complete restoration of the 70mm original **Lawrence of Arabia** in 1989 by famous restoration experts Richard A. Harris and James C. Katz, more restorations followed in the years thereafter: **Spartacus** in 1991; **My Fair Lady** in 1995; **Patton** in 2001; **Lord Jim** in 2002; **Ryan's Daughter** in 2003; **2001, A Space Odyssey** in 2004; **Hello Dolly**; **West Side Story** and **Flying**

**Clipper** all in 2009 and **The Sound of Music** in 2010. This year 2014 will hopefully see a restored version of **Oklahoma!**

Finally it could be mentioned that several 70mm films are digitised and screened on 4K including **Lawrence of Arabia** and the short **Sky Over Holland**, which was shot in 1967 in original MCS Superpanorama 70. The other famous short in MCS 70 was the Swiss documen-

no, but perhaps in the future!" And on the question how long do you think 65mm will be with us his answer was: "As resolutions continue to improve with digital, it may be as soon as 2- 3 years that they will be comparable to **and** 65mm negative".

Since then different directors decided to use the Panavision Camera 65 with Kodak 65mm film for parts of their production. Especially Christopher Nolan looks being a 65mm fan, with parts of **Inception** in 2010 and **The Tree of Life** in 2011 using a mixture of 35mm, 65mm and 70mm Imax (see Thomas Hauerslev's site **in70mm.com**). In 2012: **The Dark Knight Rises** and **Snow White and the Huntsman** were both partly filmed in 65mm. Surprisingly in 2012 director Paul Thomas Anderson presented us a complete new 70mm film **The Master**. A number of sixteen 70mm prints were released and in some cases Anderson financed the 70mm equipment for cinemas that had abandoned their 70mm facilities in earlier days. It premiered in August 2012 in famous 70mm theatres like the AERO in Santa Monica, California, the CASTRO Theatre in San Francisco and in the Ziegfeld Theatre in New York all with new 70mm prints. In Europe it premiered in 70mm at the Venice Film Festival 2012 on the first of September; in Germany at the well-known Schauburg Theatre in Karlsruhe on October 7, at the Odeon in London on 16 November and in Amsterdam in the new EYE Film Institute 70mm cinema on 24 January 2013. In an interview Anderson said: "I would love to shoot in 70mm again. There's still much more we could do with it. I was sorry to hear Fuji will stop manufacturing 65mm film stock, but maybe film will become like vinyl records: popular among connoisseurs. I'd like to think there's always going to be someone out there with a basement and some chemicals and wherever they are, we will try to find them!" In 2013, last scenes of the landing of the space capsule on earth in the film **Gravity**, were filmed in 65mm. And in January 2014 the first Todd-AO film **Oklahoma!** from 1955 will be digitally restored from the original negatives on 4K DCP by FotoKem, no 70mm prints are announced.

Written and Directed by  
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tary **Fortress of Peace** (1964) both produced by John and Douwes Fernhout from The Netherlands. More 65mm productions announced this decade but still unreleased, include the Panavision 65mm short **EMFV in 65mm: Movies for Your Ears**, from 2003 about the "creation and evolution of the universe" according to producer James Tavella and the Australian low-budget feature **As Wonderland Goes By**, from 2012. In 2007 Ron Fricke and Mark Magidson, producers of **Baraka**, started with 65mm cameras for another journey around the world for their new documentary film **Samsara** which premiered in 2012 in 4K digital projection, not any 70mm prints were produced. Asking Mr. Magidson in January 2014, if he was considering making another 70mm movie, his answer was: "At this time



# Cleopatra - The Real Star Was The 65mm Camera

It was in the late summer of 1958 that Spyros Skouras, Greek born president of 20th Century Fox, was very worried about the falling revenues of his company. Television and many independent producers of successful motion pictures were casting a growing shadow over Hollywood and his own company in particular. Despite the fact that Fox also had a large interest in many hundreds of cinemas, in gramophone record companies and in many TV stations, this did not prevent the profits of the company from continually falling. Something had to be done, they needed a success like **Gone with the Wind**, but that was not easy. Sitting in his office, Skouras' mind went back to other successful films from other companies which had a budget of more than five million dollars but had yielded double that already on the American home market alone. Like the epics of the late fifties such as **The Robe**, **The Ten Commandments**, **Ben-Hur**, **Spartacus**, etc. These were all great classical stories, many based on biblical episodes.

But seeing the plans and productions of other companies, it was obvious that Fox could not start another biblical epic. Suddenly the name of 'Cleopatra' went through his mind. To be honest, this was not an original idea: in 1912 the first **Cleopatra** film was made with Helen Gardner as leading lady. And as soon as 1917 another version followed with America's first 'vamp' Theda Bara as Cleopatra, followed by Claudette Colbert in 1934 and Vivien Leigh in 1945. Skouras called independent producer Walter Wanger and together they spoke about a 'remake' of the 1917 version. A few years before 1958 Wanger had, by a lucky coincidence, acquired the rights of an Italian novel called "Cleopatra, Woman and Queen". He was obsessed by the story and saw the enormous possibilities of bringing to the screen the luxury and the exuberance of ancient Egypt together with the culture and civilisation of the Roman Empire from those days. From the outset it was clear to him that only one person could play the role of Cleopatra: Elizabeth Taylor. But Spyros Skouras had completely different ideas, he only wanted to make a 'modern' version of the old Cleopatra film with an estimated budget

of around 2 million dollars. And he also had other stars in mind to play the leading role, such as Joanne Woodward, Suzy Parker and Joan Collins, all under contract with Fox and therefore easy to get, at a reasonable pay. Wanger in the meantime contacted Taylor who reacted enthusiastically to the idea of playing the role, but she wanted to consult her then husband Michael Todd. But Mike died when his private airplane crashed and so time went by.

Meanwhile Fox tried to push other famous actresses on the stage like Sophia Loren, Gina Lollobrigida, Audrey Hepburn, etc. And for the role of Caesar: Gary Grant and Burt Lancaster or Kirk Douglas as Marcus Antonius. Audrey Hepburn was enthusiast about the idea, but her company didn't want to let her go. And so Wanger saw again his chance to negotiate with Taylor, and he had in mind that she should play opposite Laurence Olivier as Caesar and Richard Burton as Marcus Antonius. So he went to London where Liz was playing the leading part in 'Suddenly, Last Summer' a fascinating movie. She asked more than a million dollars for the role of Cleopatra, which left Wanger perplexed, as this was nearly the complete budget for the whole production! Fox refused to agree to that amount. In the meantime they had the deeper feeling that the budget ought to be larger and so they decided to set aside the sum of 8 million dollars. As director they recruited Rouben Mamoulian, but they still had not decided who would play the role of Cleopatra. When Wanger phoned Liz to tell her that she could not get the role because of the exceptional salary she wanted, she started crying, because she had so looked forward to playing the role! So new negotiations were started, which finally ended in a contract for \$750,000 plus 7.5% of the gross proceeds of the film and payment of all travel and hotel expenses. Some time later her payment was raised above a million dollars and 10% of the gross proceeds, when these proceeds went above 10 million dollars. In the meantime Fox decided, on the grounds of financial support from the British government being available when British technicians and British actors were involved in the

production, to start at the Shepperton Studios, near London in England. When Wanger arrived in London, he learned that Laurence Olivier had refused to play Caesar and that Liz was in hospital with pneumonia.

Needless to say that he was not in a jolly mood to start his work. But because of the British climate and because Lloyd's did not want to insure the whole production nor the ill-health of Liz Taylor, Fox decided shortly thereafter that the whole production should be moved to Italy. But before that could be done there were still a lot of problems to solve. There was a heavy conflict with an Italian producer Santi who wanted to make his own version of 'Cleopatra', which was seen by Fox as a dangerous rival, so they bought him out for one and a half million dollars. Meanwhile Wanger has again proposed Burton for the role of Marcus Antonius and Rex Harrison for Caesar. But Skouras did not agree with those British top actors because he thought that they would not attract large audiences. After days of negotiations, intrigues and outbreaks of anger and more, Burton and Harrison finally got their parts. However, at the day of the premiere, Harrison was not portrayed on the theatre posters. He brought an action against Fox, which he won and all the posters had to be changed: at the head of the recumbent Cleopatra there now appeared Caesar - Rex, who tenderly touches her arm, while Marcus Antonius - Burton, looks jealously from over her back!

But back to London: in May 1960 already 2 million dollars had been spent before one inch of film had been produced. At last Fox decided to do some takes in Egypt, the government of this country had made 10 000 soldiers available for the mass scenes, despite their objections against Elizabeth Taylor, who married a Jewish husband and who had also not hidden her sympathy for Israël. At the end of September, when at last the first take for the cameras was done, Liz caught a cold and some time after that, in November, she had to visit hospital because of an infection. The miserable weather complicated the problems and the insurance only covered a small part of the astronomic damage ex-





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No. 1,442  
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**What's On**  
IN LONDON  
JULY 12, 1963  
58 PAGES  
1/-

## C-DAY in LONDON

ON JULY 31  
20th CENTURY-FOX  
IS PROUD TO PRESENT  
THE FILM THE  
WHOLE WORLD IS  
WAITING TO SEE.

**Dominion** TOTTENHAM COURT RD. W.1.



20th Century Fox presents ELIZABETH TAYLOR in Joseph L. Mankiewicz' "CLEOPATRA" starring RICHARD BURTON... CASTING: Pamela Brown, George Cole, Roma Cooper, Cesare Danova, Kenneth Haigh, Roddy McDowall... PRODUCED BY Walter Rappaport... DIRECTED BY Joseph L. Mankiewicz... SCREENPLAY BY Joseph L. Mankiewicz... EDITOR: Richard MacDonagh and Sidney Bachman... MUSIC BY Alex North... DANCE: The Dancers... © 1963 20th Century Fox



20th CENTURY-FOX PRESENTS  
ELIZABETH TAYLOR  
JOSEPH L. MANKIEWICZ  
**CLEOPATRA**



RICHARD BURTON REX HARRISON  
TODD-AO  
JULIUS CAESAR

CAST: PAMELA BROWN, GEORGE COLE, HUMF CRONIN, CESARE DANOVA, KENNETH HAIGH, RODDY McDOWALL... PRODUCED BY: JOSEPH L. MANKIEWICZ... DIRECTED BY: JOSEPH L. MANKIEWICZ... SCREENPLAY BY: JOSEPH L. MANKIEWICZ... EDITOR: RICHARD MACDONAGH AND SIDNEY BACHMAN... MUSIC BY: ALEX NORTH... DANCE: THE DANCERS... © 1963 20th Century Fox



penses. Every day's delay cost more than 50 000 dollars and director Rouben Mamoulian had enough of it at last and decided to send in his resignation. In his place the famous Joseph L. Mankiewicz was recruited; he had worked before as a director with Miss Taylor. He completely changed the screenplay and showed Skouras a better plan. In sixteen months nearly 7 million dollars were spent for only twelve minutes of film. Mankiewicz agreed with Walter Wanger that it was a disaster to finish **Cleopatra** in Great Britain and he got in trouble with Skouras who wanted again to remove Wanger as producer. But after some time, everything was settled again and they decided to start in April (1961) with inside shootings and after that with shooting on location in Egypt. Meanwhile Liz had recuperated well enough to start and win a lawsuit against a British newspaper that had written that the shooting had constantly been delayed by her illness. When the new screenplay was finally ready and everybody was in a good mood for the start of the shooting, fate struck again: Liz Taylor was taken to hospital with a serious illness of her respiratory organs. The doctors gave her only one hour to live and decided to operate her at once. While the whole world anxiously waited, the results proved good and Liz was soon fully recovered. Skouras, who was getting more and more nervous every day, at last approved that the production of **Cleopatra** could move to Italy, after the demolition of the existing half a million dollars worth of scenery. In Cinecittà, the large film city near Rome, preparations speedily got under way, while scriptwriter Ronald MacDougal wrote, for 100.000 dollars, a new script, based on the screenplay of Joseph L. Mankiewicz. A large residence was rented on the beach of Anzio for the sum of 150.000 dollars, ready for the battle of Actium to take place. Thousands of Italian extras were hired, together with hundreds of negro dancers from all over the world and the world's best stuntmen to do the dangerous scenes. Negotiations with Harrison and Burton were completed: the former got 10.000 dollars a week plus expenses, compensation and other important allowances, whilst Burton got in total 300.000 dollars.

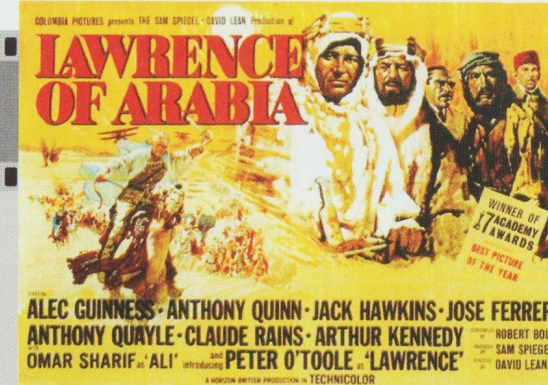
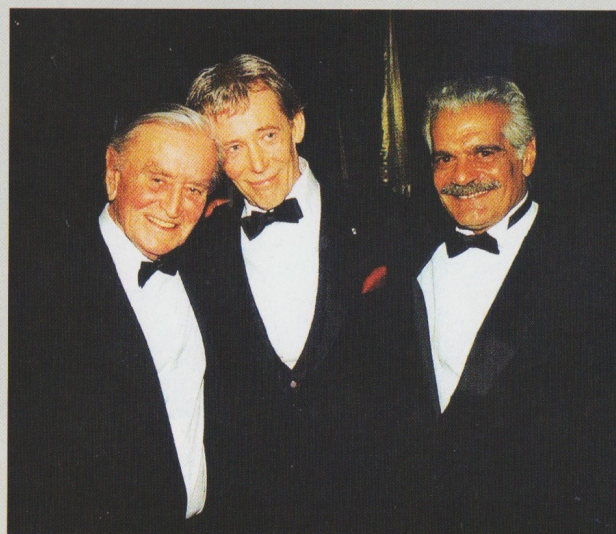


And so the first shooting day in Italy arrived, on September 25, 1961. Elizabeth Taylor appeared for the first time before the cameras in Italy. And although not all the scenery was ready, they got on with filming, as every delay cost a lot of money. But the problems were not completely gone – it seemed as if the rain had followed them from Great Britain: it often rains in Rome. And more and more rumours were disturbing the silence around Elizabeth and husband Eddie Fisher and her three children, who were with her in Italy. Rumours abound that Liz would divorce from her husband because she had fallen in love with her opposite number, Richard Burton. Despite all the denials, the “paparazzi” were everywhere around the set. And when Louella Parsons wrote in her column in an American film magazine that there would be a divorce between Eddie and Liz, journalists and photographers followed Burton and Taylor everywhere outside the set and this went on for months, with stories and pictures in the newspapers everyday. Finally the filmmakers got used to it and realised that all the stories around Liz Taylor and the film were useful unpaid publicity. No motion picture has been so often in the news before even the first official press conference was organised. It certainly stimulated people to go and see the film when it was finished, fulfilling the optimistic hopes of Darryl F. Zanuck, with his eternal cigar, who had replaced Spyros Skouras as president of 20th Century Fox, after his many mistakes. But nevertheless the shooting went on for months without great problems until the last days of March 1963. And, thanks to a lot of time consuming problems with the filming on location in Italy and later in Egypt, the total production cost came to some 40 million dollars. Without any doubt **Cleopatra** became a very impressive epic. But the *real star* of the picture was the **65mm camera** of **Leon Shamroy**, Director of Photography, who created dead sharp photography in the massed crowd scenes. The sharpness which was one of the advantages of the **Todd-AO** process, according to the late Mike Todd, was finally exploited in **Cleopatra** with excellent 65mm photography !



# Sir David Lean, Master of Epics

According to the book about David's life: 'An Intimate Portrait' written by his last wife Sandra Lean in 2001, Gregory Peck stated at the presentation of Lean's Lifetime Achievement Award in Hollywood on the evening of 8 March, 1990: "He is a dreamer and adventurer who says to us: see the world through my eyes." In an interview on CBC in March 1965 David Lean himself, spoke the following historic words: "I consider myself an entertainer. I like a good strong story, I like a beginning, a middle and an end... I like to be excited, when I go to the movies!" Nothing would better prove the way he was thinking and working than these phrases. He does not imitate the thoughts and stories of others but he makes them himself. He was the ultimate filmmaker, who made a total of sixteen films, many became famous and they have garnered fifty-six Academy Award nominations, resulting in a record number of twenty-seven Oscars! **The Bridge On The River Kwai** (1957) shot in the jungle of Ceylon, won seven Oscars, for Best Director David Lean, Best Picture for producer Sam Spiegel, Best Actor for Alec Guinness and for Best Screenplay, Best Cinematography, Best Musical Score and for Best Film Editing. It took months to build the wooden railway bridge with the aid of 45 elephants and many workers at a cost of 250 000 American dollars and seconds to destroy. Filming started in October 1956 and lasted eight months. It was Lean's first epic film in CinemaScope. The premiere was in December 1957 and the first release grossed thirty million dollars. The film was re-released in 1964.

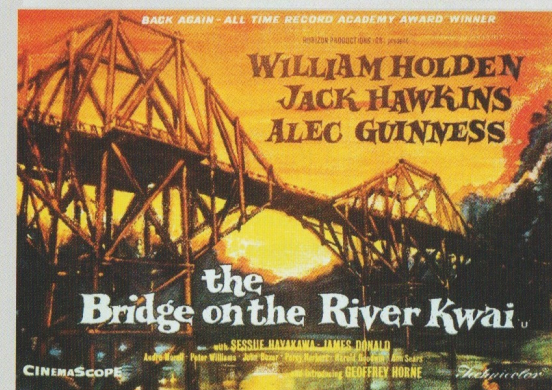


FROM THE MOST ACCLAIMED NOVEL OF OUR TIME!



METRO-GOLDWYN-MAYER PRESENTS A CARLO PONTI PRODUCTION  
DAVID LEAN'S FILM OF BORIS PASTERNAK'S  
**DOCTOR ZHIVAGO**

GERALDINE CHAPLIN · JULIE CHRISTIE · TOM COURTENAY  
ALEC GUINNESS · SIOBHAN MCKENNA · RALPH RICHARDSON  
OMAR SHARIF (AS ZHIVAGO) · ROD STEIGER · RITA TUSHINGHAM  
DIRECTED BY DAVID LEAN · PRODUCED BY ROBERT BOLT





His greatest story is undoubtedly **Lawrence of Arabia** (1962), also winner of seven Oscars, a film which is still one of his most admired movies, every year somewhere screened even till today. In 1989 a completely restored version was re-released with new 70mm prints. Nowadays the film is also looking great on 4K digital screenings, for those of you who haven't the possibility of seeing it in 70mm. Before starting with Lawrence, Lean had refused different offers to direct films till he got interested in doing Ghandi, but after reading the script of his favourite writer Robert Bolt he cancelled the idea and at the same time he was approached by producer Sam Spiegel to do the story of Colonel Lawrence, the controversial military figure who led the Arab revolt against Turkey. Lean spent three months reading everything he could get about the life of Lawrence and was finally convinced of making that film. The story would be for the most part an adaptation of T. E. Lawrence's own memoirs *Seven Pillars of Wisdom*. In February 1960 Spiegel acquired the filmrights of this autobiography and preparations could start. The exotic music for the film, played by the complete London Philharmonic Orchestra, was recorded at the Shepperton Studios in London. In 1963, after the reception of his Oscar for Best Director in Santa Monica, California, he got involved for a short period, on a suggestion of Fred Zinnemann, as second director for **The Greatest Story Ever Told**, filmed in Ultra Panavision, to help director George Stevens out of problems with budgetting and getting the film finished. Then Lean started reading the novel about Zhivago from the Russian poet Boris Pasternak. Lean described the story as very simple: "A man is married to one woman and in love with another. I was deeply touched by the story, in tears, really!"

For **Doctor Zhivago** (1965), who won 5 Oscars, Lean and his art director travelled thousand of miles looking for locations, finally they choose to construct the city of Moscow in Spain! It was filmed in 35mm Panavision. In 1987 when Lean was invited for the Moscow Film Festival he was asked by the officials of the festival to show any of his films, but when he mentioned Doctor

Zhivago they refused that and so David cancelled his visit.

**Ryan's Daughter** (1970) received 2 Oscars, one for the famous Director of Cinematography Freddie Young who won his third Oscar with this film, after Lawrence



and Doctor Zhivago. And the 2nd for John Mills as Best Supporting Actor. **Ryan's Daughter** was filmed in Ireland in Super Panavision 70. Lean had the fictional village of the film built from scratch, as that was cheaper and much easier than looking for an existing village that had to be rebuilt according to Lean's wishes. Said Lean: "If you own your own village you can keep the 'tourists' out and run it like a studio." Together with his screenwriter he had decided that this should not be an epic, but something of a more intimate and emotional story. It opened at New York's Ziegfeld Theatre on November 9, 1970. The newspaper critics were bad and they completely condemned the film. Life magazine wrote: "How could a man who made **Brief Encounter** (1945), come up with a piece of shit like **Ryan's Daughter**?" Composer Maurice Jarre said about Lean after the premiere: "David was almost killed, not by the reviews themselves, but by the vindictiveness of some of the critics." Even at a luncheon in New York where Lean was invited by the

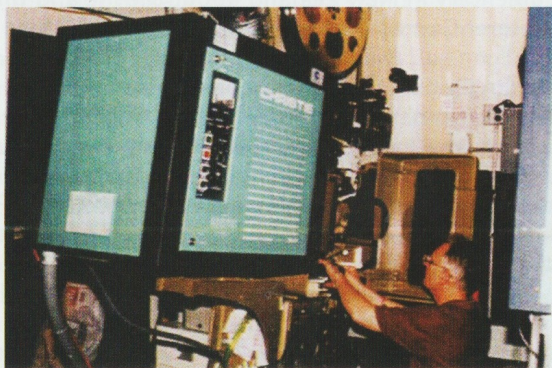
Society of Film Critics, reviewers criticized the film in front of the director, until Lean decided to leave while saying: "You people obviously won't be happy until I make a film in sixteen millimeter and black-and-white." It took fourteen years before Lean decided to make another movie. In the meantime Lean turned his full attention to his love for travelling. He travelled through all the continents and made repeated trips to Kenya where he was photographing animals for nearly a year. David Lean has once said about himself: "If I wanted to do an autobiography I would write it myself as a book with a lot of photographs". In 1979 he made a television documentary in New Zealand about the life and times of explorer Captain James Cook. Because of his love for Africa Lean had thoughts in the summer of 1982 of doing a film **Out of Africa** based on a novel about the life of Danish woman Karin Blixen, who moved from Denmark to Kenya and fell in love with a British adventurer and idealist. But Lean could not figure out how to do it and in the meantime the film was made by Sydney Pollack in 1985. Critics called the film "a David Lean - style picture!"

Finally in 1985 Lean at the age of seventy-five made his last film **A Passage to India**, based on a novel about the delicate balance between the English and the native people of India. During a dinner that Lean had with Alec Guinness and his wife in London, he persuaded him to accept again a role in his film. The film has won 2 Oscars, one for French composer Maurice Jarre for Best Musical Score, his third Oscar for composing the music for a Lean film and the other for Best Supporting Actress Peggy Ashcroft. Lean had a complicated love life and has been married six times, meeting his last wife Sandra in London in 1985. At the 1988 Cannes Film Festival, the British Film Industry and the British Academy held a banquet in honour of David Lean, he was able to attend and enjoyed it very much! He was born on the 25th of March 1908 in Croydon, UK and he passed away the 16th of April 1991 in London...



# A lost profession and a boothless cinema

A popcorn boy pushing the button of the digital projector hanging from the ceiling of a boothless cinema. Will that be the future of our movie palaces? In many cases in small auditoriums, yes, but also in many cases, absolutely not! This is an end of an era of film, but it is also the beginning of a **new period of digital presentation**. It is quite amazing that the basic 35mm film format was so long with us for more than a century, now the digital presentation takes over and will bring us greater possibilities for the presentation of film. One of the advantages of digital projection makes it much easier to show movies all around the world.



Chief projectionist Paul Rayton in the projection room of The Egyptian Theatre working on the DP 70 Norelco.

I think that the larger cinemas will always need a booth to house their digital projector, computer, their sound equipment and eventually their special film projector. There will also be a lot of theatres who keep their 35/70mm projectors in excellent condition to show archive prints. Like the beautiful Egyptian Theatre on Hollywood Boulevard, the home of the American Cinematheque; like the National Film Theatre (NFT 1) on London's South Bank, home of the British Film Institute and the unique Bradford Pictureville Theatre, the only theatre in Europe with 3-strip Cinerama projection equipment. And last but not least the new Amsterdam EYE museum with four cinemas all digital equipped but also in every booth their **35/70mm equipment** in

perfect condition for their regular screenings of 35 and 70mm films from their own archive and in one auditorium a restored cinema organ to accompany their silent films often in combination with a small orchestra and a grand piano! Just like the "old" days! But it is a pity that so many projectionists have or will lose their job as not every cinema keeps their film projector alongside the digital equipment, so a lot of professional knowledge will be lost in the near future, hopefully not at the Archive Theatres all over the world. But despite digital images in the highest resolution, despite digital sound, for a lot of us that 'movie feeling' has gone. But when our generation is no more on earth, our children will surely not miss that! New technology was sorely needed to replace **that old fashioned film strip**!

## Nigel Wolland (London):

I think we have to accept that our industry is not what it was, the advent of digital cinema changed all that. The only place film will be shown in the future are in the places you mention, the BFI London, National Media Museum Bradford, Amsterdam Eye Museum and Hollywood Egyptian, and similar venues where they still have the equipment, knowledge and expertise, caring for and handling film. I was so fortunate that my time in the industry was when we were proud to work in cinemas and call ourselves **projectionists**.

## Mark Lyndon (London):

To restart the production of film, which has now almost ceased, will prove prohibitively expensive. **Heritage Cinema** will survive, for a time, on the projection of existing prints, which must deteriorate over time. The rest, for film, is silence...

## Duncan McGregor (Projection Manager and Programmer, Widescreen Weekend, Bradford):

Pictureville Cinema at the National Media Museum in Bradford, was one of the first cinemas to adopt digital cinema in the UK when the initial trials started, (our installation was completed 18th June 2006) and I sensed almost immediately that the future of film was going to



Tom March from Calgary, Cinerama Aficionado, played an important role in the realisation of the new Cinerama film *In The Picture*, as he did in the realisation of this publication! This is what he said about his adoration for Cinerama:

"I purchased what I think was my very first movie ticket to see **How The West Was Won** at the Eglinton Theater in Toronto. That was 1963. I was 17 years old and the technology I saw was a life altering experience. Incredible dye-transfer Technicolor in front of three brilliant carbon arcs on a huge curved screen that barely fit in the theater with only inches to spare and full spectrum sound coming from everywhere! I went back again and again to see **West** and **The Wonderful World of The Brothers Grimm**. Then it was gone. The Eglinton converted to 70mm and screened titles like **It's a Mad, Mad, Mad, Mad World** and **2001, A Space Odyssey**, all presented "In Cinerama", they said. I went on for the next 30 years or so, looking to find what had happened to the Real Cinerama. Today, amazingly, I can still see it at the Bradford Pictureville Theatre and marvel that it takes five guys up there to make it all happen!"

be very limited. It also made me realise that you have to adapt to new technology and changing processes very quickly, or you get left behind. I do believe that Digital Cinema has a great deal to offer, but it is also crucial that cinemas maintain a strong degree of technical capability to face the many challenges which digital poses. I grew up watching film for the majority of my life and loved it and I certainly loved showing celluloid in its magnificent range of formats and methods of projec-



tion. I still feel lucky to be handling film stock in my job (albeit to a much lesser degree) as well as working with digital, but accept the fact things have now changed dramatically. However, **I believe a projectionist is still very much needed in the booth** - it is not a simple case of push and play, as in my opinion showmanship is still required or the whole cinema going experience is dissipated. Film will still exist - but for how long? I doubt film printing in any format will exist by the end of 2014, but whenever that day comes, it will mark the end of an era which has existed for nearly 120 years. Seek film out and enjoy it whilst the medium is available in the few cinemas still capable of handling and presenting it well, and whilst prints remain in existence.

**Thomas Hauerslev** (Copenhagen, [in70mm.com](http://in70mm.com)):

Seeing a classic film *in 70mm* is a totally different experience compared to the standard of 2013, where nearly everything in cinemas is projected digitally. Digital looks and sounds perfect every time, but it is a very sterile type of performance and it lacks the small hints of human interference, which I think is so desirable when going to the cinema. An example is when the projectionist is working with the focus or adjusting the image up or down. It is nice to know someone is up there making sure you have a good time. A digital version of **"War and Peace"** would be a flawless "plastic" experience, too easy, or too artificial. It is not the real thing for me. Would you go to the theatre or the opera to see a digitally projected performance, which was exactly the same as last night, or the night before? People are part of the show.

**Ramon Lamarca Marques** (London):

I think that there will eventually be very few cinemas left that can project film, like there are now very few that can project nitrate prints. With the arrival of 4K even on home cinema, it is certain that more and more films will be released on this format digitally and reprints of films in **35mm will eventually disappear**, they have almost disappeared now. I think it will, sadly, be relegated to very specialised institutions.

**Jan-Hein Bal** (Dutch stills librarian in **EYE Amsterdam**, projectionist and widescreen historian):

The **Future**: Digital cinemas will continue. 70mm prints and projection will diminish but **their films will live on forever**, transferred to other formats and media. Gradually more 70mm productions will become available digital, from youtube to projection quality which is an exciting prospect.

**Paul H. Rayton** (chief projectionist of **The Egyptian** on Hollywood Boulevard, home of the **American Cinematheque**):

I can already see the effects of the "digital revolution" - it's more like a "digital tsunami" - creeping in to my location, where we screen a mix of (mostly) classic films, but also including some present-day shows. Quite true that the profession of "projectionist" will be lost. It's been happening at an accelerating pace for the last 4 years or so, and now is basically almost extinguished, with the exception of the named locations and several others, nationally and worldwide, which will continue to present film as "film" for as long as prints are available. The available expertise will become exasperated living off welfare checks and/or move on to something else, and there will be few people left who know what to do with that strip of celluloid. I recently read that a local arthouse cinema chain here in Los Angeles intends to build some three new cinemas in the near future. In the old days, that might have foretold new projectionist jobs, but now? Nowadays, in those modern times, all that it will mean is maybe one more technician to check that the servers and technology are working as expected - no "projectionists" at all in any of the places. Very sad to see, I had a good run, but I'm glad I can retire while at least people mostly still know what real "film" is (or was).

I myself have a vast amount of background and experience, in many areas of the "technical" aspects of movie (esp. "film") projection. I worked with film in both theatrical and actual film lab (processing) positions, so my own range of experiences is wider than most. But like

myself, many others of my "vintage" are growing older every day and when we fully retire, our vast experience will no longer be available.

**Bill Lawrence** (Executive Director Reel Solutions and Founder **Widescreen Weekend**, Bradford, UK):

The change of technologies is always an interesting time and a regular occurrence in last 100 years, from the shift from steam engines to diesel; from vinyl to CD; from video cassettes to DVDs. In most cases the driver is to a better quality of experience in some cases it is economic. In all cases it is one-way. And yet there are still steam trains running on private and commercial lines throughout the world, there are still markets for vinyl records and they still get pressed. I wonder if there will be a similar market for 35mm film exhibition in specialist centres throughout the world, and not just the state museums. 35mm moving images provided a cultural shift in the world for nearly all cultures and made it a smaller planet. It has a glorious heritage, much like steam locomotive travel, it made the 20th Century and thus our modern world. To lose sight of this fantastic achievement from what now seems a bizarre and clunky mechanism is something that future generations should understand and not just from seeing machines settled in glass cases or corners of galleries. The quality of 35mm filmmaking from most of its history is a fantastic artistic and technical achievement that is yet to be surpassed by modern digital techniques. Without doubt, digital provides easier ways of creating special effects, but I have yet to see something that gives me the same sense of awe and wonder as the great effects from the genius of Willis O'Brien and Ray Harryhausen, or the glorious cinematography of Jack Cardiff and Freddie Francis, to name just four of thousands.

The world moves on, but I hope we have the respect we should for the achievements of our ancestors, and the achievement of 35mm (**and 65mm, of course**) by filmmakers and projectionists. It should not be forgotten. While filmmakers live on into the digital age, I worry that the skills of projectionists in creating the magic of cinema will be forgotten!



# Imax + Omnimax

The Imax Systems Corporation, based in Toronto, Canada and founded in 1967, leases their Imax/Omnimax motion picture projection systems to specially designed theatres worldwide. In 1970 Imax© premiered in Japan in the Fuji Pavilion at the Expo 70 in Osaka with the film **Tiger Child**. In 1971 the first permanent Imax system was installed at Ontario Place's Cinesphere in Toronto. With revolutionary new projectors, lenses and new auditorium geometry Imax quickly gained a reputation for the highest quality in film projection. Due to the high price of equipment and the limitation of film length, the process was primarily suited to theme parks and world fair expos. Most Imax films are documentaries between twenty and forty minutes long. It was such a success since it was introduced, that the number of Imax installations throughout the world has steadily grown since that time.

## Imax 15/70

The original Imax 70mm system uses 70mm film in a new unique horizontal 15 perforation frame (commonly known as 15/70). The projection system was developed by four Canadian engineers. Each frame is 15 perforations wide and three times larger as the standard 70mm film 5 perf frame. Because of the rapid acceleration of the 15 perf frames a normal projector was out of the question, it would tear the film into pieces. So the developers were looking for another projection process which they found in Australia, the 'rolling loop' projection system. It moves the film horizontally in a smooth, wave-like motion while the film is held firmly against the rear element of the projection lens by air pressure. As a result, the picture and focus steadiness are far above normal standards. The six channel sound is on a separate magnetic coated 35mm film. The camera employs 65mm film stock, also moving horizontally with 15 perf wide frames.

## Omnimax

In August 1973 Imax opened their second theatre, the Omnimax Dome, in San Diego, California at the Reuben H. Fleet Science Center and Space Theatre. Omnimax is

nearly the same process as Imax also filmed with 65mm cameras but this time with an extremely wide angle lens and projection with a 'fish-eye' lens onto a dome screen, in this manner creating an 180° viewing experience. The first Omnimax film was **Garden Isle** (1973) and the second **Cosmos** (1974). As Omnimax films run on the same projector they were often released in Imax flat screen theatres with the problem of bent horizons. As most theatres are known as Imax, Omnimax was renamed in 1994 as Imax Dome. In 1998 there were over 170 Imax theatres in 24 countries worldwide. In 2003 the Imax Corporation intensified their efforts to expand throughout the Continent, having unveiled plans to focus on European cities with one million or more people. By the end of 2008 resulting in 300 sites in 40 countries. In 2013 that number increased to nearly 730 theatres in 54 countries, more than doubling in five years time! The Imax "MPX theatre configuration" was developed to allow conventional multiplex operators the ability to convert two small 35mm auditoriums into one Imax auditorium with one large screen. Nowadays Imax sells in some cases the projection equipment to the cinema owner and receive a percentage of the ticket sales.

## Magic Carpet and the Futuroscope Park

The Osaka World Expo in 1990 saw the premiere of **Imax Magic Carpet**. The system uses two Imax 70mm projectors and two screens, one in front and one beneath the audience. "Viewers will feel they are floating in space - like the flying magic carpet of Arabian Nights", said the producer of the film, Roman Kroitor. The bottom screen is under a transparent floor with additional speakers placed to simulate sound from below. The seats are fixed above the glass floor so the audience can see movie images of butterflies filmed in Florida and Mexico coming towards them and passing under their feet. The **Futuroscope** Park in Poitiers, France, obtained the system in 1992 after the Japan Expo and is at the moment the only place in the world with **Imax Magic Carpet (Le Tapis Magique)**. The butterfly film, 'Flowers in the Sky' was shown in the Futuroscope Park from

1992 till 2003. Since April 2004 they show a new movie called '**Voyageurs du Ciel et de la Mer**' ('Travellers by Air and by Sea', about birds, whales, dolphins, etc.). It is a unique experience and the Futuroscope Park is the only place in the world where you can find this type of Imax theatre. To this day the original Imax technology is still being used with two 'rolling loop' projectors and 70mm film on two giant screens measuring over 7500 ft² each.

In 1983 the Vienna department in the south west of France decided to create a theme park with hotels and a conference centre to boost the local economy around the city of Poitiers, about 300 km south of Paris. Nowadays it is only 1½ hour by TGV Atlantique High speed train to the special Futuroscope TGV station. The Futuroscope Park (Parc du Futuroscope) opened in May 1987 with the first Imax theatre in France and has now six different Imax attractions: Kinémax (1987) (15/70 mm - 2D), Omnimax (1990) (15/70 mm - 2D), Tapis Magique (1992) (2 x 15/70 mm), Solido (1993) (15/70 mm - 3D), Imax 3D (1996) (15/70 mm - 3D) and Imax 3D Dynamique.

## Imax Solido

In 1986 Imax launched its first 3D installation at the Expo'86 in Vancouver, Canada. The process, called Imax Solido uses dual 15/70mm films simultaneously projected with twin projectors and the use of somewhat bulky shuttered glasses by the audience. Over the years Imax has refined their 3D process by offering polarized images viewed using lightweight passive eyewear. Since 1986 Imax has also developed their own Imax HD with 48 frames per second. Imax MPX theatre configuration was developed to allow conventional multiplex operators converting two small 35mm auditoriums into one Imax auditorium with a large screen. At the Expo 90 in Osaka, another 3D system was introduced: Imax Solido with projection combined in one twin-headed projector. Visitors see the 3D images through remote controlled LCD glasses which switch from left to right images in sync with the projection.



### Imax HD

Imax HD with 48 frames per second, instead of the usual 24 fps, was introduced in the Canadian Pavilion at the World Fair 1992 in the famous Spanish town of Seville with the film **Momentum**. The double speed of the film transport offers a higher quality image on the screen and reduces the flickering of the images the so called 'strobing'. However the double speed also means higher production costs because each film reel lasts half as long as normal Imax films and the higher speed causes more "wear-and-tear" on the prints and projectors. All this resulted in the failure of the Imax HD system, but not before many theatres had been equipped to project at 48 frames.

### Imax DMR

In 2002 Imax's DMR process (Digital Media Remastering) had been developed. A post-production process creating a possibility for conventional 35mm films, mostly large Hollywood productions to be upgraded to IMAX format for screening in Imax venues. The first two films presented with the DMR process in Imax theatres were: **Star Wars: Episode II** (2002) and **Apollo 13** (1995). Both films had to be reduced in their screening time from the original length, because of the limited projection facilities. Soon Imax started updating the system and enlarged the capacity of the platters, allowing a maximum running time of 165 minutes. The DMR blowup process was praised in general by the press, as DMR screenings are mostly superior to the same films projected in 35mm. Many filmmakers however, mention the fact that a DMR blowup does not have the same high quality as a film photographed in the original 70mm Imax format.

### Imax Digital

The production of the special Imax 70mm 'rolling loop' projectors is costly and they are not easy to produce in large numbers on a fast production line. So in 2008 Imax introduced a digital projection system called Imax Digital Format (IDF). This system uses two projectors side by side that can present either 2D or 3D images.

Imax Digital 3D uses two Christie DLP Cinema projectors to continuously overlay the left and right eye images. A disadvantage of digital Imax however is again the much lower resolution compared to traditional Imax 70mm film.

A 4K digital camera with the same high resolution as original Imax film cameras was announced in 2011. In the documentary **Born to be Wild** (2011) such a camera was tested for the first time, but finally only 10% of the film was shot with that system. According to Imax they have no intentions of replacing all the higher resolution 70mm film cameras with new digital cameras but they can be used in scenes that require a lightweight or relatively small 3D camera in order to film it without any problems. The camera is now ready and placed in service.

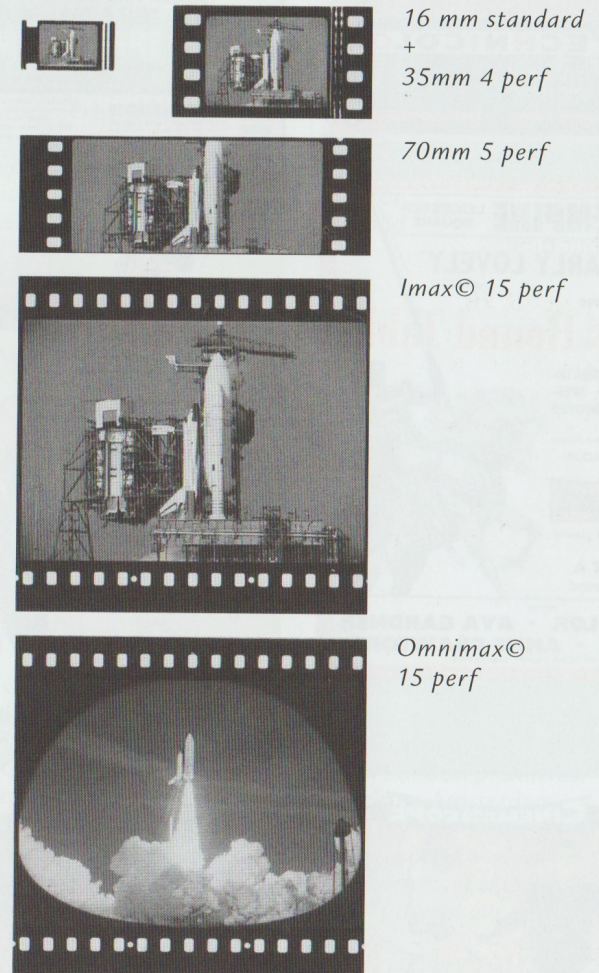
In April 2012, Imax started testing a new 4K laser-projection system. Like the film and digital systems, it also uses two projectors and is based on patents licensed from the Eastman Kodak Company. The laser projector will be available to exhibitors by the end of 2013. Due to the recent success of the companies' digital projection Imax has been moving slowly but strong forward especially in Russia and China, because it makes distribution of Imax films easier and less expensive. However the company has announced that they are renovating some selected locations around the world to present both original 70mm films as well as digital presentations.

Milestones: Imax was the first company that was allowed to bring their cameras aboard the NASA Space Shuttles. One of the most popular space films is '**The Dream is Alive**' released in 1985. In 1995, French director Jean-Jacques Annaud directed **Wings of Courage**, the first dramatic picture shot for Imax. A lot of these short films have earned an Academy Award nomination for the Oscar. But **The Old Man and the Sea** (1999) is the only Imax short that really won an Oscar.

### Recent Feature films

Some directors, however, prefer shooting parts of their 'normal' digital movie with Imax 70mm film cameras

because of the higher image quality especially against the loss of quality of 3D images. **The Dark Knight** (2008) from director Christopher Nolan was the first feature film to use the Imax camera, his film contains nearly 30 minutes of Imax images. And **The Dark Knight Rises** (2012) has even more than an hour of these high quality images. Nolan understood the importance of high quality images on the screen.





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# Acknowledgements

*We are deeply grateful to everyone who assisted in putting this publication together:*

**Jan-Hein Bal** (1949) is stills librarian at the Amsterdam filmmuseum EYE Film Institute. He is also an independent cinema projectionist and author of the Amsterdam 70mm cinema history website [www.70mm.nl](http://www.70mm.nl). As co-editor he was a valuable source of information and inspiration. Contact: [janheinbal@eyefilm.nl](mailto:janheinbal@eyefilm.nl) and [acjh.bal@planet.nl](mailto:acjh.bal@planet.nl)

**Michael Coate** is an entertainment industry journalist living in Los Angeles. He was the Research Editor for Widescreen Review Magazine from 1997 to 2004 and has written extensively about roadshows and large-format exhibition.

**Alain Dorange** is a Cinerama and 70mm fan, born in France, educated in England and now living in Malaysia with his family. He is also a great musical lover and has a lot of knowledge about film history in Asia.

**Thomas Hauerslev**, MBKS, is a former projectionist and now working as a technical assistant in Denmark. Spends a lot of spare time to his famous not-for-profit website "in70mm.com", a dedicated site about his love for large format films. He has taken part in organising 70mm and Cinerama screenings in Czech Republic, Denmark, Germany and the United Kingdom.

**Terry Ladlow**, was again the indispensable proof reader for this publication. Being a retired head master, he plays on famous cinema organs and on the piano to accompany silent films. He often composes his own music for silent classics. He has also video recorded over a hundred cinemas in the UK, some can be found in the BFI Archive in London.

**Bob Lindner** is a graphic designer, with his own studio, living in Arnhem. He designs also board games and websites. He did again the fantastic design for this publication. Without his work this publication had been a complete failure. [www.bob-lindner.nl](http://www.bob-lindner.nl)

**Tom March** is a real Cinerama Aficionado, living in Calgary, Canada. Without his assistance in the realisation of this publication and providing pictures, especially from the new Cinerama film *In the Picture*, some chapters had been impossible to publish.

**Rick Mitchell** † was a well-known film historian and writer in Los Angeles. He passed away in 2011.

**Paul Rayton** (1942) is the well-known chief projectionist of Hollywood's famous classic Egyptian Theatre, built in 1922, home of the American Cinematheque in Los Angeles.

**Nigel Wolland**, MBE, FBKS, entered the cinema industry in 1955. He retired in 2006 after 25 years as Chief Engineer at the Odeon Cinema Leicester Square in London. In 2007 he was awarded an MBE from Her Majesty the Queen for 'Services to the Film Industry'. He is also Vice Chairman and Treasurer of the Projected Picture Trust and UK Representative of International 70mm Publishers in the Netherlands.

\* \* \* \* \*

**Widescreen History:** © 2014 Johan C.M. Wolthuis, International 70mm Publishers. Johan Wolthuis (1940) was founder and publisher of the '70mm Association Newsletter' from December 1988 till December 1995 when Thomas Hauerslev took over 'the job'. In 1996 Johan founded International 70mm Publishers, which have published '70mm Promotion' in 1996, '70mm Super Definition Cinema' in 1999, 'Digital + 65mm, History of 70mm' in 2010, 'The Cinerama Story' in 2012 and this last publication 'Widescreen History' in January 2014.

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David Lean, An Intimate Portrait' by Sarah Lean + Barry Chattington.

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"Introduction to 3-D" by H. DeWurst

The Kinematograph Yearbook

The Evolution of Widescreen" by Harper Cossar

John Belton, Widescreen Worldwide.

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**The Cinema Museum** / Ronald Grant Archive in London, ads from London premières.

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*From the start on, it was clear that a limitless amount of material existed and we spend a lot of time on research. Although everything has been done to prevent errors, it is impossible to produce this complicated publication without any mistake. Please accept our apologies in case of.*

*Johan C.M. Wolthuis, editor and publisher, Arnhem, The Netherlands, January 2014.*



## Those were the days my friends...

As a boy of 14, my mother took me to a beautiful cinema in my hometown in 1954, for a screening of the German operetta **Das Land des Lächelns** with opera singers Martha Eggerth and Jan Kiepura. That day she laid the basis of my love for film and musicals. But it was also the beginning of a 'dangerous' kind of cinema addiction, that year I went 38 times to local cinemas, including 15 CinemaScope and 2 VistaVision films. In 1956, even 52 times with the number of CinemaScope films rising to 26 and 5 Vistavision films. But the next year 1957, something remarkable happened: in June I visited Scheveningen, the seaside resort of The Hague and discovered that the Philips Company had a two weeks public demonstration, in a special equipped cinema, of their new DP 70 projector! They screened one reel of **Oklahoma!** and **The Miracle of Todd-AO** on a large wall-to-wall, slightly curved screen in 70mm with 30 fps. I was completely surprised by what I saw there! One month later I saw the complete musical, however only in the 35mm Scope version. And that same year 1957 Michael Todd had rented a cinema in Amsterdam for showing his movie **Around the World in 80 Days** for one year exclusively. It had a wall-to-wall screen, and despite it was a 35mm print, it looked great! Next year was the year of the World Expo 1958 in Brussels, with a lot of unique never before seen film attractions: in one week I saw **Circarama**: 11 x 16mm projectors; the Russian **Kinopanorama** 3 x 35mm film with **Vaste est mon Pays** (Great is my Country); and in a special built Cinerama Theatre: **This Is Cinerama** and **Seven Wonders of the World**. I was completely surprised by all these unique screenings which I had never seen before. Next year I only went 15 times to the cinema because I was in military service. But in 1960, it all started again: in the new Scala Cinerama theatre in Rotterdam I saw **This is Cinerama** and some days later **The Miracle of Todd-AO** in a cinema that had just installed the new DP 70 projectors. In another 70mm cinema in The Hague: **Can-Can**, **Ben-Hur** and for the 3<sup>rd</sup> time **The Miracle of Todd-AO**. The end of this remarkable cinema year ended around Christmas

in Paris with the 6<sup>th</sup> Todd-AO film **The Alamo**. In 1961, I visited a lot of 70mm films all over the country: **Can-Can**, **Spartacus**, **Porgy and Bess**, **South Pacific** and the Russian **Story of Flaming Years**. During a trip to London in Astoria: **Exodus** and in Casino Cinerama: **Search for Paradise** and in Rotterdam **Seven Wonders of the World** and **Cinerama Holiday**. Wow, six 70mm films and three Cinerama travelogues in one year. In July 1972, I visited for the last time the Cinerama Theatre in Rotterdam, watching **Seven Wonders of the World**, in October it was closed forever.

Let's make a large jump to the year 2010: I visited **FotoKem** in Los Angeles where Andrew Oran, vice president, showed the restoration of **The Sound of Music**. First some images of a new 70mm print and then the digital 4K version. And I was surprised about the quality of the digital images. In the meantime I have seen a lot of 2K and 4K screenings, in the new EYE 70mm cinema in Amsterdam a 4K screening of **Lawrence of Arabia**, and I must admit, it looked great. Some colors were a little overdone, especially the white of the wrap of Prince Feisal (Alec Guinness). But I am convinced that will improve in the future. On another day I enjoyed a complete different performance: Charlie Chaplin's silent movie from 1928, **The Circus**, accompanied by a grand piano, a beautiful restored cinema organ and three musicians in the large auditorium of EYE in Amsterdam. And nowadays you can visit your local cinema and watch a beautiful ballet directly from Moscow or an Opera from Italy.

It's a pity for our generation that *analog* film and its wonderful side aspects will disappear, but everything in this world changes and it is really amazing that film running through a projector was among us for more than a hundred years! The next generation will not be aware of it, they are used to all forms of digital information. **There is enough to see in this new digital world, let us be happy with that.**

Johan C. M. Wolthuis, Arnhem, January 2014.

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# Producer Mark Magidson about *Samsara* (filmed with 65mm cameras)

All three of the films Ron Fricke and I have made, have been photographed in 70mm (65mm negative), a process that has become more and more difficult as time has gone by for our kind of filmmaking due to security issues and the need to move film stock in and out of so many locations without it being X-rayed. We have employed this rarely used format because we have no actors or dialogue in our films, image is the main character. 70mm brings an unsurpassed emotional impact to the viewing experience. There is a beauty, immediacy, and level of detail within imagery captured in this venerable wide-screen format that is unique, and

time. There are many reasons for this, but the bottom line is we believe a digital output from the high resolution scan of our film negative yields the best possible viewing experience. It is a combination of using a 50-year-old camera system and cutting-edge digital technology that works for our kind of filmmaking. When we produced the *Baraka* Blu-ray in 2008, we were amazed at the level of detail that we obtained by undertaking an arduous, frame-by-frame, high-resolution scanning process at 8K resolution on Fotokem's renowned Bigfoot scanner. The 8K file for the whole film came in at a massive size, in excess of 30 Terabytes.

Dropping the output down to Blu-ray resolution, we were able to retain a level of detail that was beyond our wildest expectations, and the *Baraka* Blu-ray has been widely regarded as a reference-point disc for home viewing. It became clear that the benefits of capturing high-resolution imagery on the large 65mm negative were embedded in the digital file.

Using this approach in *Samsara*, but this time outputting to DCP for theatrical exhibition, was a great way to go for us, and the conversion of theaters to digital, and now 4K projection has been timely. We were also able to refine the imagery in the digital realm in a way we could not have done in film. We are not an effects film but we were able to do things like remove unwanted artifacts in shots that otherwise would have been rendered NG, such as a pixelated bird here or there in our time-lapse shots, negative scratches, or smooth bumps in some of the aerials. There are other benefits. Every theater gets a perfect first generation viewing "print". The reality of theatrical distribution is that film prints are inevitably scratched or damaged, get dirty, and experience widely variable projection conditions. Because there is not a mechanical component to film passing through a gate the image has a steadiness digitally that we do not get with film projection. Portraits, "eyeballs", as we call them, are such an important component of the content in *Samsara*. The resolution and fine detail from the scanned 65mm negative combined with the perfectly steady projection via DCP provides stunning intimacy.

Having produced three 70mm films over the last 25 years, two of them feature length, it is a new experience to bring *Samsara* out this way. I know there are many film lovers and purists, we are among them. I would simply say have a look at *Samsara* if you can on a big screen with a good bright digitally projected image and see what you think for yourself.

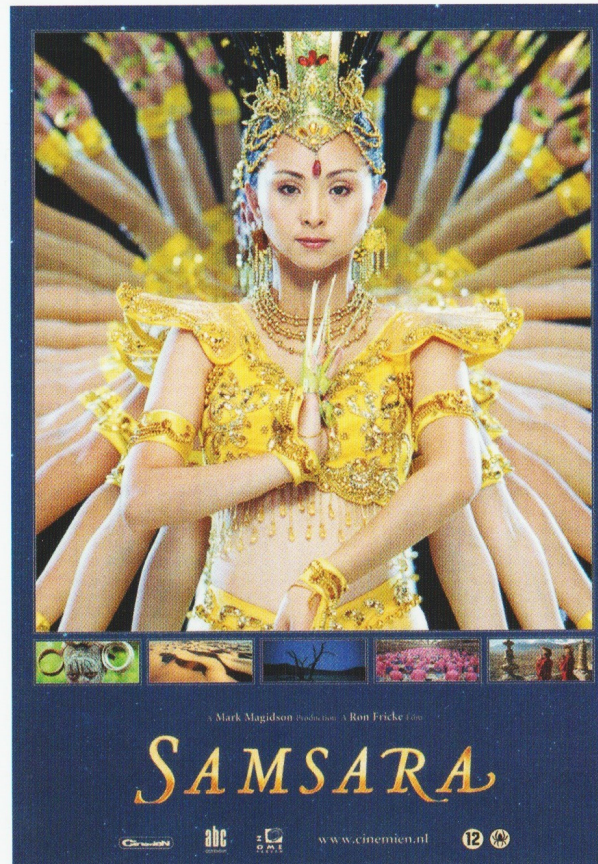
Mark Magidson - Producer/Co-writer/Co-editor of *Samsara*, August 23, 2012



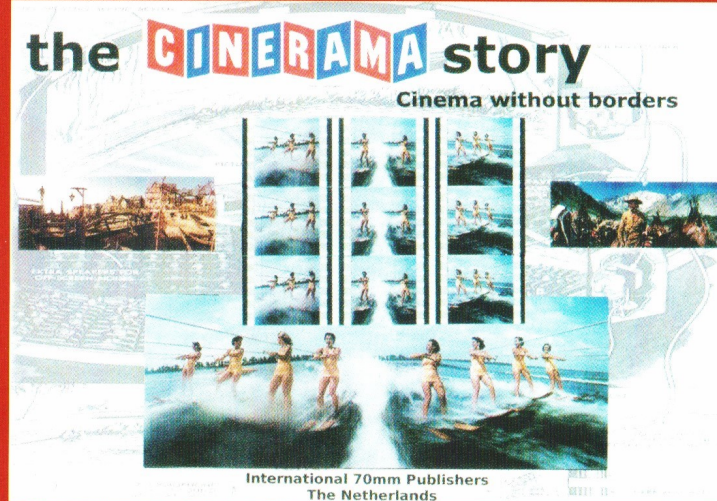
Producer Mark Magidson (right), buying 70mm posters from publisher Johan Wolthuis

there is still no form of image capture that compares to 65mm negative. In addition there have been significant advances in film stocks with finer grain structure since the time we filmed *Baraka* 20 years ago. When you're going to 25 countries, you need to bring back the imagery in a format that is going to stand the test of time. All the outputs, from theatrical DCP, 35mm film prints, Blu-ray, DVD, and other digital formats will flow downstream from that foundation.

We have chosen to output *Samsara* to DCP for digital projection rather than creating 70mm film prints this







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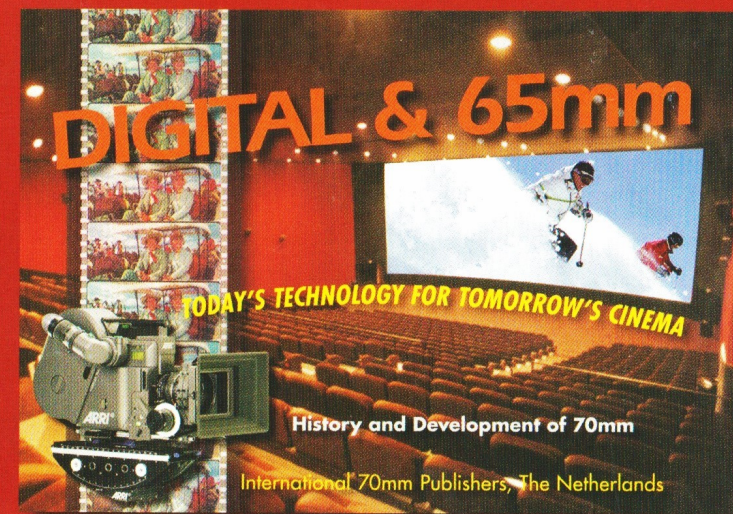
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