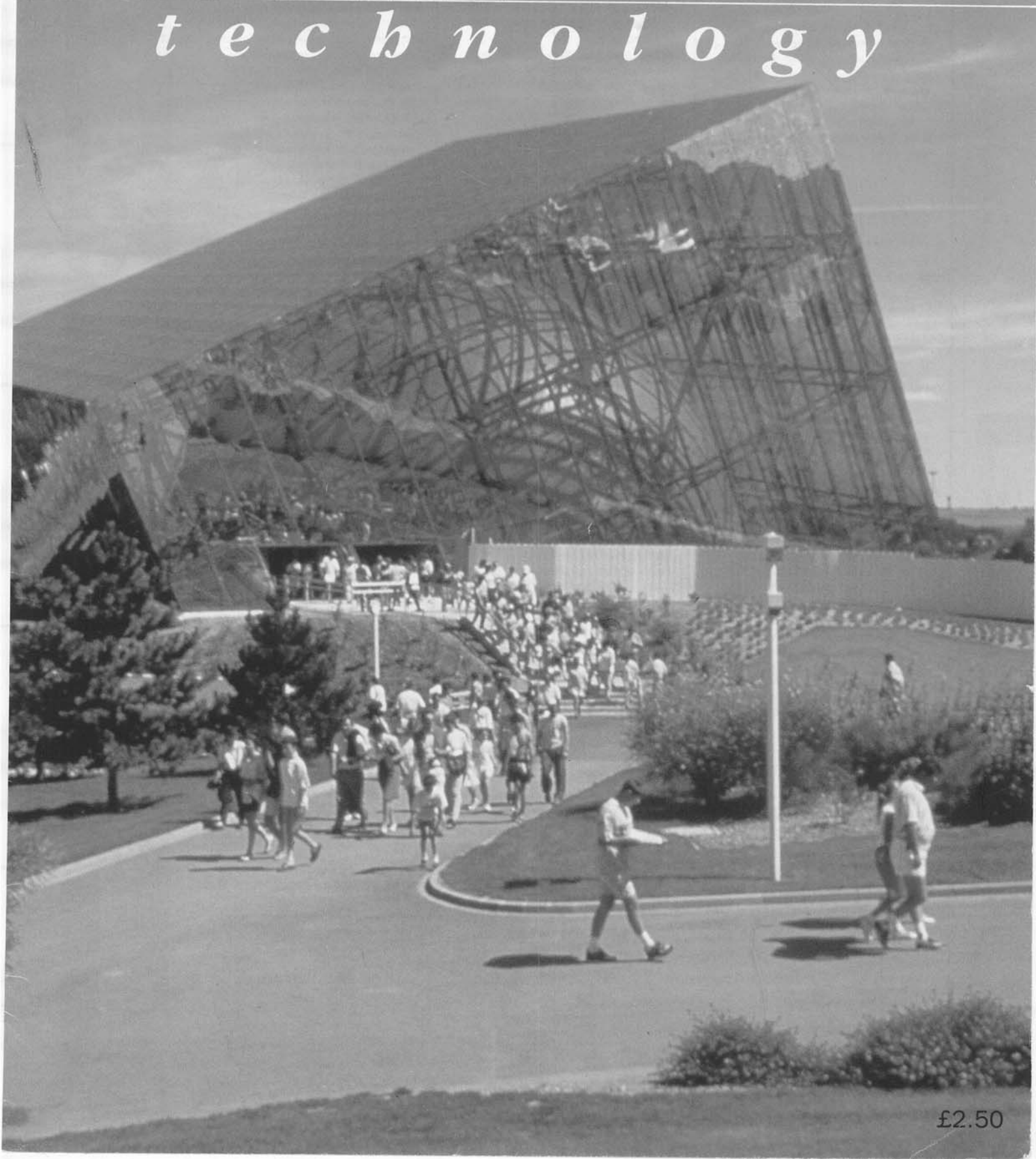
QUARTERLY VOL 6 NO 4 JULY 1993

CINEMA

technology



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Large Screen and Special Formats Park at Poitiers

by J. Creighton-Douglas

Have you ever wanted to see the various large-screen and special-format film and audio-visual processes, but couldn't afford the time and money to visit America and other far-flung venues?

Take heart. They're closer than you think. A mere 90 minutes from Paris by TGV, less than four hours from the channel ports or Paris by car, on one of the routes to the south of France, you can see almost all of the worthwhile film and audio-visual formats in one stop.

The good folk of the *Département de la Vienne,* France, have put together the world's biggest audio-visual theme park, at Jaunay-Clan, just outside of Poitiers. *Poitiers*, you say, "but nothing's happened there since the Black Prince's battle in 1356, or do you think of Diane de Poitiers, mistress of King Henry II"?

How it came about is another story, but on one site, the *Parc du Futuroscope* ("A World of Entertainment Technology"), they have brought together in one place more large-format film and audio-visual systems and processes than anywhere else in the world, more even than at most recent world's fairs.

The park opened in 1987 with the first IMAX® theatre in France and the largest flat screen in Europe. It has subsequently added 70mm 3-D, a 360° theatre ("Circlevision® in all but name), two versions of Showscan® (one with dynamic motion) and a 10-screen multi-image show.

An OMNIMAX® theatre was added in 1990, a *Cinéautomato* (the audience decides how the show turns out), and an IMAX MAGIC CARPET® theatre (1992), as well as a number of lesser and less-permanent audio-visual shows. New for 1993 is IMAX SOLIDO®, which opened on May 22 with "Echoes of the Sun".

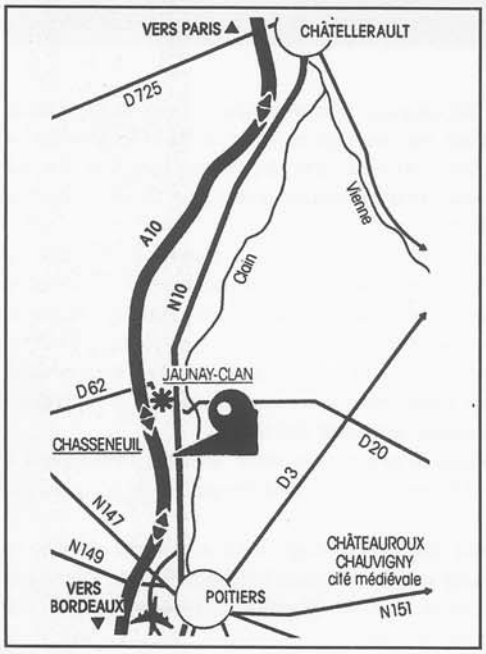
For anyone involved in, or interested in, trends in film and audio-visual technology, the *Parc du Futuroscope* is a must. The ability to see and compare so many processes and formats within a limited time and space, to make comparisons and judgements and, if necessary, to go back and double check, is truly mind-boggling.

The site is relatively compact and not too tiring, but unless you have a short and specific list of things to see, do not expect to do it all in a single day. There are enough shows and formats that one should allow the best part of two days to see everything properly.

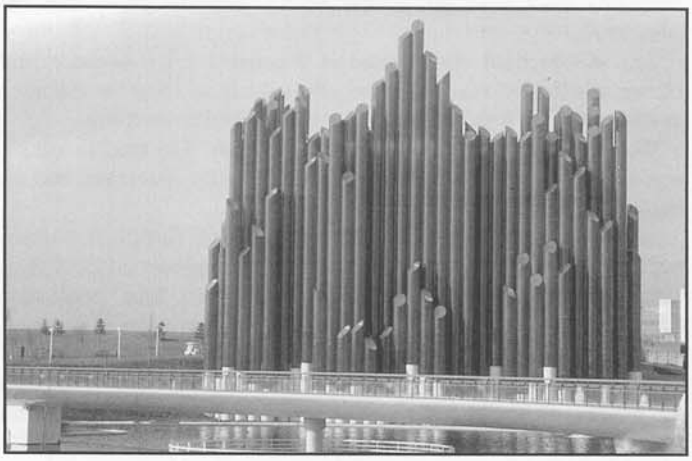
Best of all is that the traveller does not have to suffer. There are two two-star hotels and a one-star hotel on site, a Mercure and a Novotel a short drive away, and several other hotels ranging up to four-star in the area. Being France, there are several restaurants on site, and more in the neighbourhood. The park is open from the beginning of April to the end of November. Parking is free and there is a direct exit from the A10 Autoroute. □

General view of Futuroscope, Poitiers.

The Magic Carpet (Imax Systems Corp.) pavilion, Futuroscope, Jaunay-Clan, Poitiers.



Outline map showing access routes to Futuroscope at Jaunay-Clan, Poitiers. Poitiers is 90 minutes by train (TGV) from Paris Montparnasse or it is 330kms from Paris by road.



Sound for the Cinema 1992

Pinewood Studios and Technicolor Laboratories

On Sunday, November 15 a group of about 50 people descended on the world famous Pinewood Studios, Iver Heath, Bucks. They were there for the annual BKSTS 'Sound for the Cinema' one day seminar that looks at film sound track creation from dubbing through to exhibition.

Registration and coffee took place in Theatre 7 and the group consisting of projectionists, engineers, trainees, students, and journalists, then moved across to the sound department. Initially they assembled in Theatre 1, the main dubbing theatre at Pinewood, where they were welcomed by Dion Hanson (Dolby Labs) the chairman of the Cinema Technology Committee. Dion then introduced Graham Hartstone the Head of Sound at Pinewood.

Graham explained the intricacies of film mixing and dubbing using a chart to show how all the individual sound elements are used to form the sound track. He then screened some clips from 'Frankenstein' a TV film they were currently working on to show how using the computerised 'Solid State Logic' SL5000M 60 channel mixing desk, all the elements are brought together and worked upon to produce a coherent track.

The group was then divided into four smaller groups to visit the various sections of the sound department. The first port of call was Theatre 5 which is the post synch dialogue and sound effects theatre. It has a unique collection of props for reproducing all kinds of sound effects and Peter Lacey gave a very interesting talk and demonstration with various people trying their luck at lip synching and spot sound effects.

We then visited the projection room or machine room for Theatre 1 where Max Bell described how all the different elements were loaded onto various followers that were locked to the picture on the high speed reversing Kinoton projector. It was nice from a projectionists point of view to see the Peerless Magnarc still in use and still burning carbons! The group then returned to the theatre to have the console described in more detail by Nicolas LeMessurier one of the dubbing engineers.

The magnetic transfer room was next on the list with Tim Partridge (Dolby Labs) explaining how the outputs from the console are brought up to the recorders and laid down on 35mm magnetic film in any number of formats such as mono, 2 track SVA, 4 track or 6 track, depending on the release print.

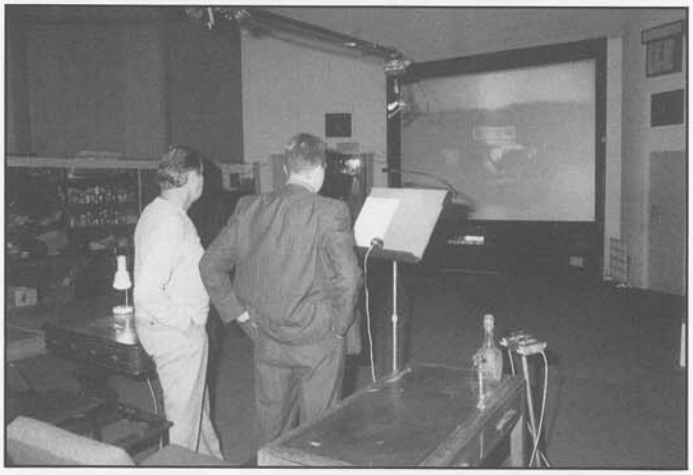
The group was then taken into the optical transfer room where Derek Andrews showed how the optical sound camera transfers the magnetic track into an optical sound negative ready for the laboratory.

The groups then reassembled in Theatre 1 for a question and answer session followed by a vote of thanks from Dion for everyone at Pinewood for a most interesting and enjoyable morning.

We all then went back to Theatre 7 for lunch. The food and drink was kindly donated by Bell Theatres and Sound Associates and set out and served by Susan and Clare Hanson.

After lunch we left Pinewood for our visit to Technicolor which began with Geoff Richards the assistant chief engineer giving a short talk on running and maintaining a modern film processing laboratory followed by a tour round the facility with Jim Winterbon, Technicolor's head of sound.

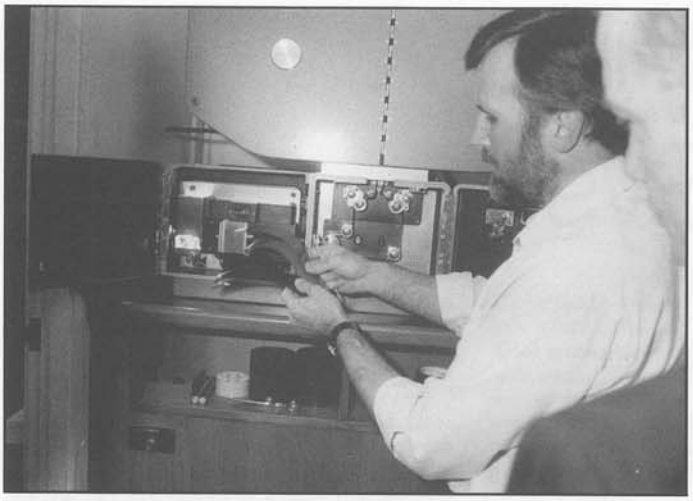
The tour started by showing the two negatives passing through the printers to obtain the positive print, followed by the processing of the picture and reprocessing of the sound to get the optical release print as received by the cinema. We were then taken to the 70mm department, not having lost anyone in what seemed like miles of darkened corridors. Here we saw how the 70mm film was striped with oxide, dried, and then recorded using the 6 track master supplied by the studio.

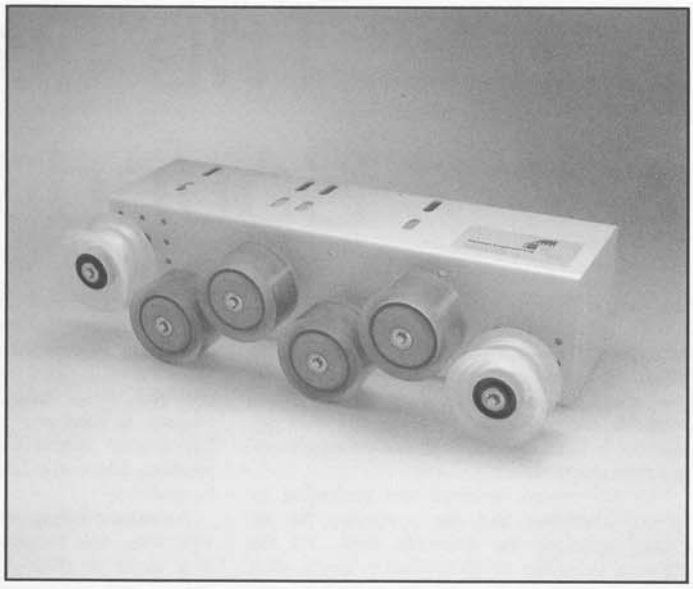


The afternoon finished in the main preview theatre with a talk by Tim Partridge on the history of cinema sound with several film clips to illustrate the formats. This was followed by Guy Hawley (Harman UK) talking on high quality sound reproduction to today's modern cinema and how to achieve it. The talk was illustrated with several slides that proved that there were some aspects of sound reproduction that have not changed from the thirties.

Finally Nigel Wolland (Odeon, Leicester Square) introduced a short film about the Odeon's history and preparing it for a Royal Premiere.

Anne Fenton closed the proceedings with a vote of thanks to Technicolor for the tour and use of their facilities for the afternoon and an acknowledgement to Guy Hawley and Harman UK for sponsoring the whole day's event. □





Further to an article in the BKSTS Journal, "Image Technology" on PTF (Particle Transfer Rollers) and a reference to their use on projectors at the Projectionist's Surgery on 27th April at the Camden Parkway, Filmlab Systems sent this photograph of their Projector Kit, comprising special bracketing and PTR rollers for direct mounting on any projector. It is claimed that these rollers really do pick up an enormous amount of dirt from the film, making for an improved performance and longer life for the release print. The rollers, developed by Kodak, are simply washed in soapy water at the end of the evening, dried overnight and reinstalled next day. In practice it is usual for two sets of rollers to be available, the clean set being installed while the dirty set is made available for washing. Filmlab Systems are an Australian company, their UK office address is PO Box 296, Churchstoken, High Wycombe HP14 3RH (telepone (0494) 485271).

1. *Graham Hartstone head of sound at Pinewood Studios.*
2. *Peter Lacey prompting a delegate with some post synch. dialogue.*
3. *Max Bell explaining the operation theatre one's machine room.*
4. *The operation of the optical camera being described by Derek Andrews.*
5. *Delegates being shown the operation of the main mixing console at Pinewood by Nicholas LeMessurier.*
6. *Jim Winterbon at Technicolor demonstrating how 70mm is recorded in the sound transfer department.*
7. *Delegates being shown part of the processing equipment at Technicolor Laboratories.*

The Orbital X Sound System

Cinesales, a British company, acquired the rights of the existing Orbital stereo system in 1987, and according to the company, subsequently spent "many thousands on the extensive re-design and [the] aim was to develop a system far more extensive and versatile, by perfecting dialogue presence in large auditoria and maintaining excellent reproduction."

The new design involved new packaging by "green" thinking, and the possibility for recycling most of the materials used. All the cabinets, including tough speaker cabinets, were designed never to be replaced during normal usage, the contents being designed for easy replacement or up-dating. Almost every unit within the system is plug-in, including every individual amplifier, and even the miniature push buttons and complex motherboard assembly.

Orbital X offers digital signal processing (after the analogue signal has been taken from the film sound track) as an optional extra, with a choice of the number of stereo channels from four to a maximum of 12. Cinesales claim that exceptional noise reduction has been attained by the development of a special circuit process which separates the signal from the track noise. This helps make dialogue more readily understandable, even from severely scratched tracks.

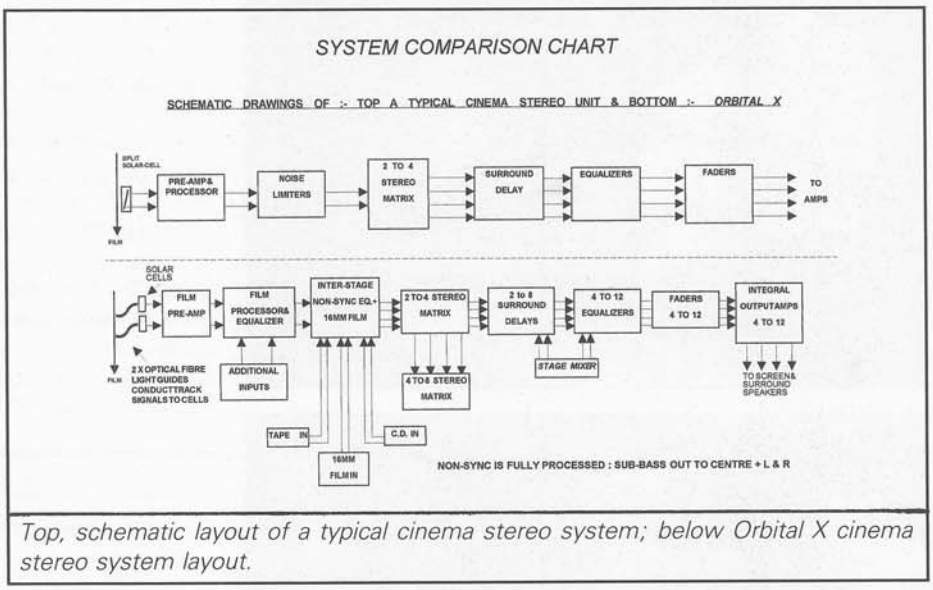
Everything, including processing, multiple 85W and 150W amplifiers and exciter unit are housed within a compact cabinet. Despite the packed contents it is cool running and can be mounted on the wall beside the projector. The overall size of the cabinet is 800mm high, 590mm wide and 350mm deep. Cinesales say that signals can be accepted from up to eight 35mm projectors, two 16mm projectors, CD, tape, video, electronic organ and even a stage mixer. The stage mixer output is capable of independent direction to left or right, or to the surround speakers, to enable full use in conjunction with stage performances.

Stereo channels in the system can be fed to between three and five main screen speakers, and to single or treble sub-bass speakers. Additionally it can feed five different surround tracks with suitable delay compensation. Equalisating facilities are also provided for all tracks. The specification also allows balanced and unbalanced line outputs to feed any remote amplification and microphone inputs for voice over from any position. Electronic crossovers are also stated to be available.

Automatic fading, with film to non-sync to film switching, was introduced when the system was first made in 1980. This facility has been improved with the provision of an option to permit fader control in any of six positions, allowing its use with alternative projectors or even from within the auditorium.

The system uses fibre optic pick ups for the optical sound track, enabling signal processing to be situated at a distance from any "noisy" source, which also helps reduce the risk of cell damage. Simple plug-in connections throughout permit quick replacements.

Cinesales have also developed their own stage speakers for the system, with triple and quadruple drive units, incorporating special middle and top units, and purpose designed to provide good dialogue and orchestral sound. The full speaker stack is stated to reproduce from 16Hz to 16,000Hz, and the surround speakers, which normally have twin drivers, are said to be able to cover from 40Hz ro 20,000Hz.



Top, schematic layout of a typical cinema stereo system; below Orbital X cinema stereo system layout.

The company, located at The Mill, Alpheton, Sudbury, Suffolk, is also now marketing a competitively priced twin processor and amplifier stack design specifically for twin screen applications. □

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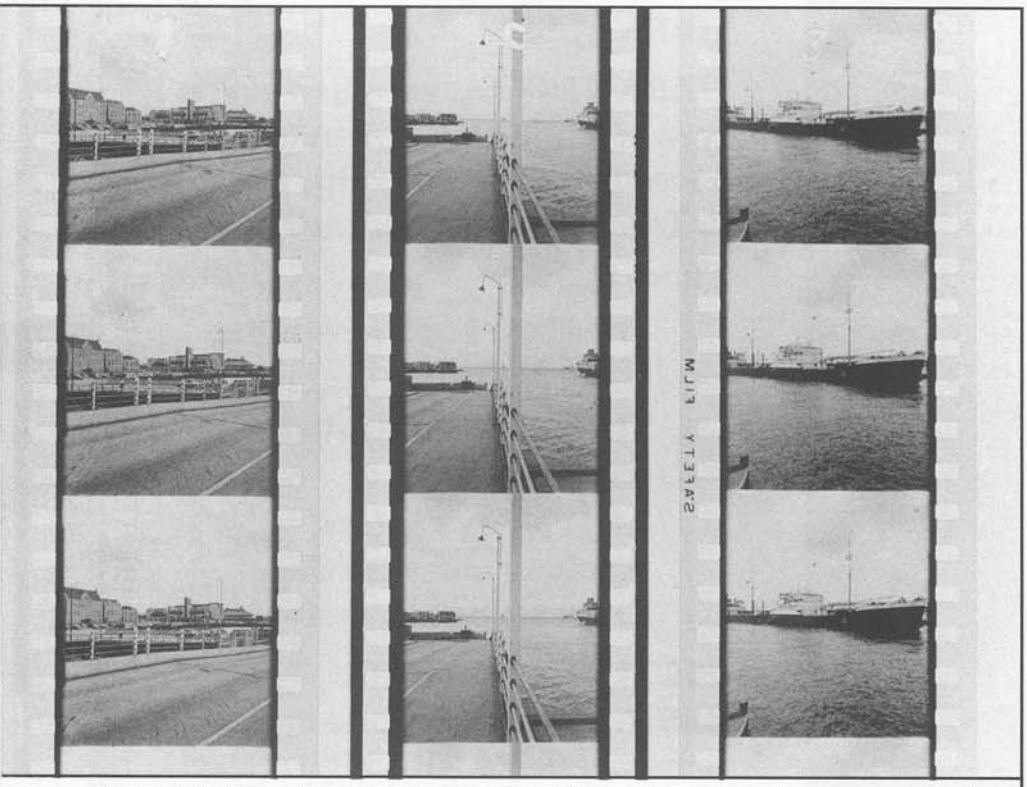
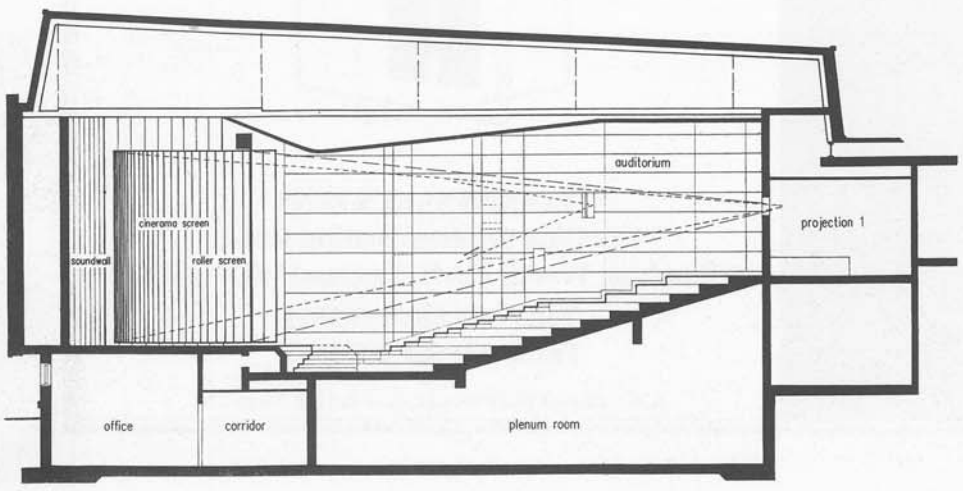
Early Cineramaa programmes. (Photo courtesy Alan Ashton)



Three matching strips of Cinerama film. The centre strip carries two outer edge magnetic control tracks. (Photo courtesy Alan Ashton)



Ciner
opens at

After painstaking reconstructio
Cinerama theatre opened at the
Film & Television in Bradford
Head of Film Development at
Cinerama project, describes th
which began in 1988.

As we approach 1995 and the official centenary of cinema, the vaults of decaying nitrate *and* acetate film are a constant reminder that our moving image heritage is fast disappearing. The National Film Archive and many dedicated individuals are trying their hardest, but it's a very big job and time is running out. But let us not forget, cinema is also about the public's fascination and hunger for those technologies which can produce such miraculous images and illusions. In 1952, with television threatening to end cinema, the industry looked to technology for solutions. Cinerama was one of those solutions. It changed the way we experienced movies – the audience was no longer an observer, it became a participant. Surrounded by oversized images and stereo sound, movie going became an event which seemed, literally, to move you. Hollywood sat up – Fox dusted off their anamorphic patents and came up with CinemaScope, Mike Todd moved on from Cinerama to create Todd-AO. By the end of the 1950s the Academy ratio was effectively dead, widescreen ruled.

However, from my point of view, Cinerama started in June 1988, just after I had joined the Museum. I was running a symposium for IMAX film makers and, during a break, was handed what looked like a gate from a 35mm projector. "Oh," I said, "It's from a Cinerama projector." This was a purely intuitive response, I had never seen Cinerama but I knew what it was. My finger had rubbed against a serrated edge on the inside of the gate – the device known as a 'Jigolo': a fine vibrating comb which helped blend the joins between the three Cinerama panels.

I am sure that my memory has embellished this little encounter, but there were definite consequences: I was alerted to the

rama

Bradford

the world's only three-projector ational Museum of Photography, n 16th June 1993. ***Rod Varley,*** *e Museum, and in charge of the reconstruction of the system,*

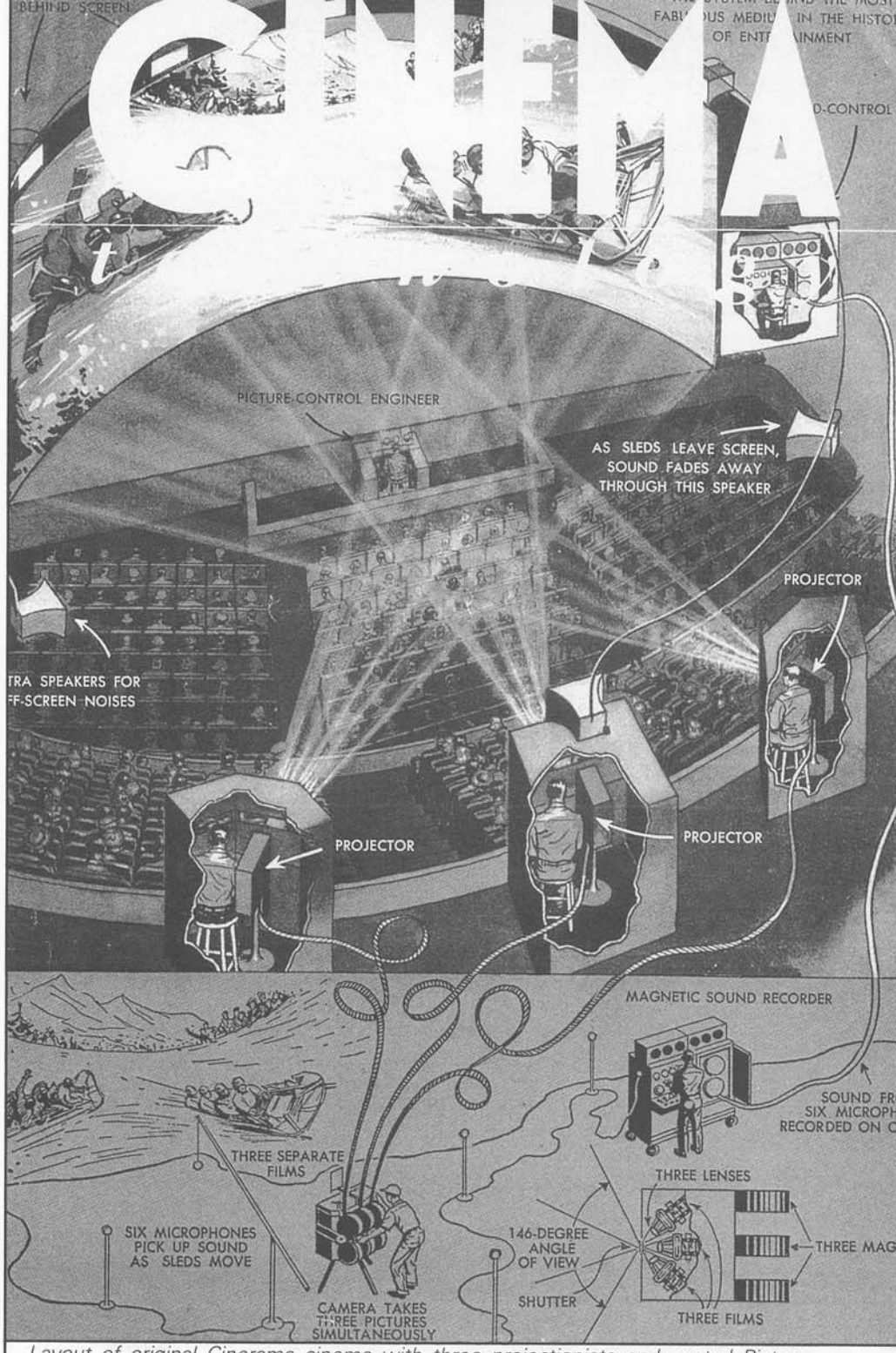
imminent demise of one of cinema's key technologies; I was introduced to the International Cinerama Society (ICS); and, I found out that we already had, in the Museum, two Cinerama projectors.

A few months later the City of Bradford offered the Museum a lease on a theatre on an adjacent site. The building had the potential to become a superb 35mm/70mm cinema and, with a few structural changes, could also accommodate a genuine three-projector Cinerama system. Overnight, what had been a vague archaeological yearning to save Cinerama from extinction had become a real possibility.

Now, as I write, I have still not seen Cinerama. However, we do have a superb 35mm/70mm theatre, the Pictureville Cinema, and are only days away from commissioning the Cinerama system. In less than six weeks, on 16th June 1993, 41 years after it thrilled audiences in New York's Broadway theatre, a brand new print of *This is Cinerama*, struck from the original negative, will open to the public. I have lived with this project for five years, for others it has been an ambition ever since the last three-projector Cinerama closed in 1967.

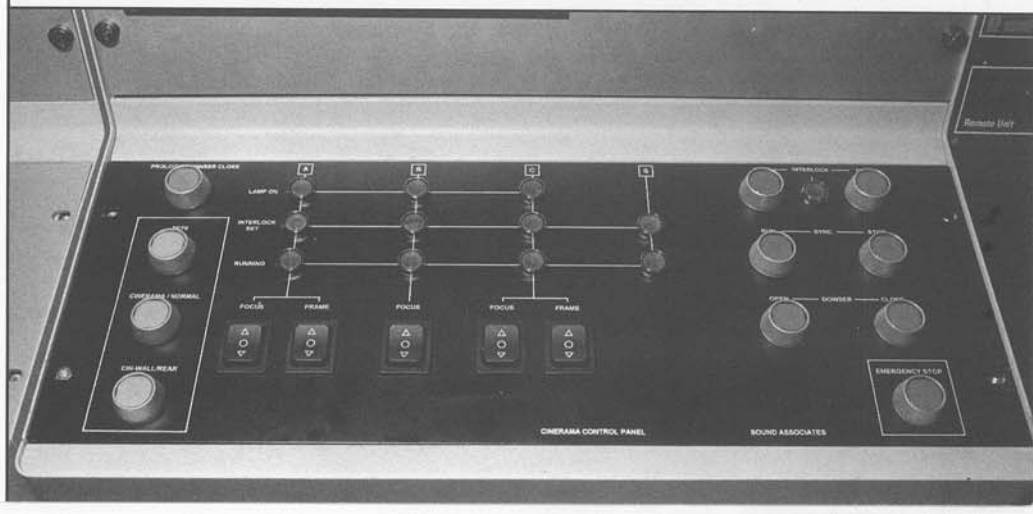
The brief was to recreate an authentic three projector Cinerama theatre with a deeply curved 146° louvred screen. Unlike the original system, which required several projectionists, our system would have to operate with one. also, money was tight – although generous funds had been made available by Bradford Council and Europe, this was only enough to convert the theatre to a 35/70 cinema and add the two extra side projection boxes. We still had to sort out the delivery system – projectors, sound and controls: the screen; and, the print.

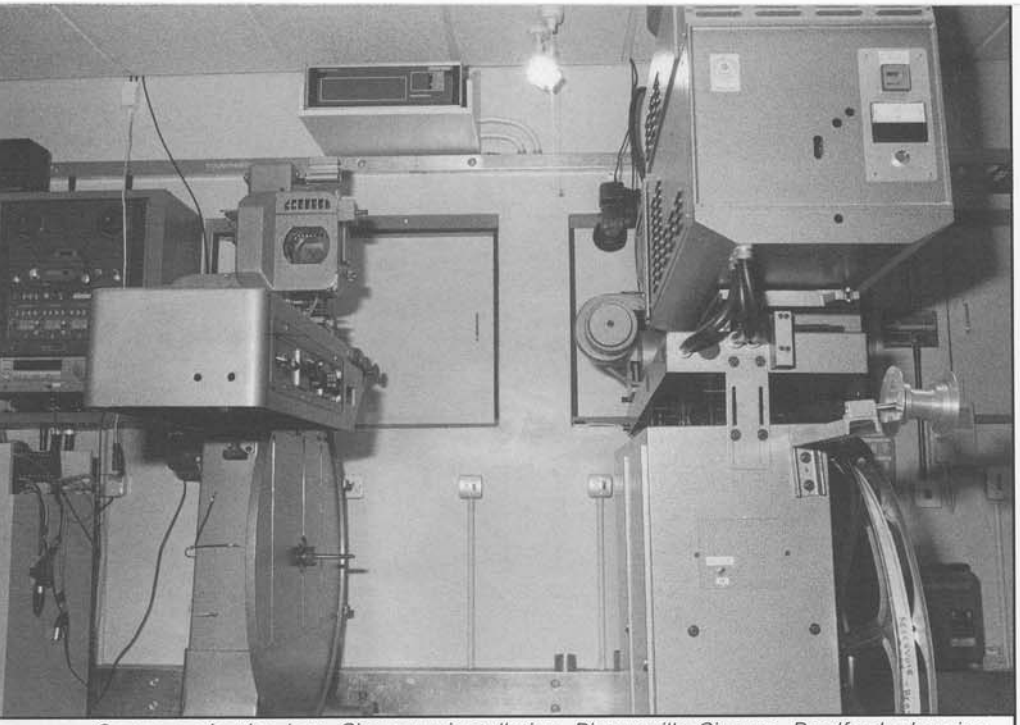
The technical consultant for the project was Willem Bouwmeester. It was Willem who had first aproached me in 1988, he was



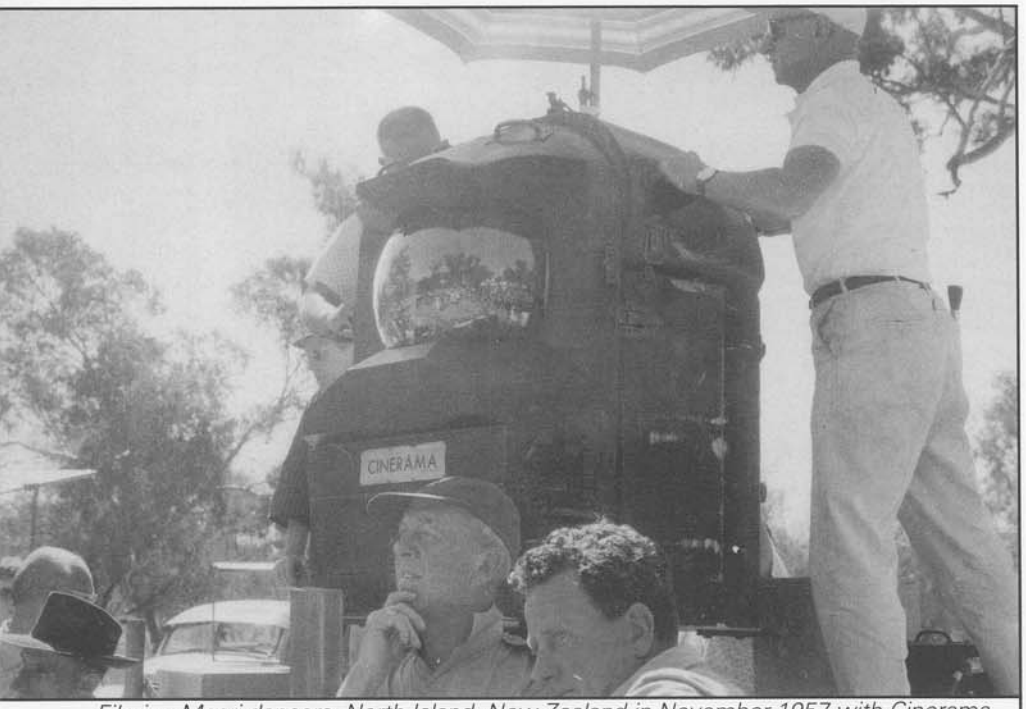
Layout of original Cinerama cinema with three projectionists and central Picture Control Engineer (reduced to one operator/projectionist at the installation in Pictureville).

Cinerama control panel at the Pictureville Cinema, Bradford, made by Sound Associates, which allows one projectionist to operate the three projector system.





Centre projection box, Cinerama installation, Pictureville Cinema, Bradford, showing incomplete Cinerama projector (left) and 35mm/70mm proejctor (right).



Filming Maori dancers, North Island, New Zealand in November 1957 with Cinerama camera number 6. The camera is fitted with a huge blimp to limit the camera noise. (Archive photo courtesy John McLean, Fifth Continent Music Pty, Australia).

John Harvey fixing the louvre guides for the Cinerama screen in the Pictureville Cinema.

also responsible for a great deal of the detailed detective work involved in tracking down the equipment. It is fair to say that without his persistence and commitment this project would never have got off the ground.

As already mentioned, the Museum had two Cinerama projectors from the Glasgow Cinerama (based on Cinemeccanica Victoria 8s). These had been converted to standard 35mm/70mm, and one was in use in our IMAX Theatre – the Cinerama gates had survived. A further two projectors were tracked down in the Netherlands (again they had been converted to 35mm/70mm). These were purchased by ICS and rebuilt. One was kept as a 35mm/70mm and was used to replace the IMAX Theatre machine, leaving three machines for Cinerama. However, the sound follower, selsyn interlock motors, Cinerama sprockets and the centre projector gate were missing. Three selsyn motors were located in the Hague.

Cinemeccanica were contacted concerning the missing parts. They had none in stock and re-manufacturing would have been prohibitively expensive. They sent a call out to all their agents and, miraculously, nearly all the parts were found in Helsinki. Cinemeccanica were also able to supply original drawings for sprockets and a few, but vital, sound follower parts. Cine Materiel in Paris arranged for new parts to be made.

Harkness Screens still had a stock of original Cinerama louvres, but could not supply the all important guide boards – these are fitted at the top, centre and bottom of the screen frame and hold the individual lourvres at the correct angle. Again, members of the ICS donned their Indiana Jones' outfits and set off in search. This time, in the basement of an old theatre in Brussels, a long abandoned set were unearthed. In poor condition, and set at the wrong angles, the old brackets had to be drilled out and nearly 5000 new spot welds made to correctly align the 1300 louvres for the Bradford screen.

Cinerama Inc. still had the original negative for the very first Cinerama film *This is Cinerama.* Cinerama President Michael Foreman, and Vice President Jim Hudson, were keen to support the Museum's project to restore this historic format and made the negatives available to Gunther Jung at Pix-Fix in Los Angeles who was in charge of print restoration. Tests were made on both Fuji and Kodak print stocks. At first, the colour balance on Fuji was preferred. However, we wanted to take advantage of the added reliability of a polyester (Estar) base, since a breakage in Cinerama involves a lot of detailed re-syncing. The problem was solved with money, or, more accurately, lack of money. Pix-Fix were ready to print two

years ago, but the Museum could not confirm the opening of the new Cinerama. In those two years, Kodak made changes to their Estar print stock and Gunther was happy with the new tests. Also, it was now possible to get hold of the Estar stock in the relative small quantities we required – 45,000 feet may sound a lot, but big labs deal with hundreds of thousands of feet a day.

At this point, enter two Johns. John Harvey is the proud owner of a fully functioning Cinerama cinema. Not a public one, a private one in his front room at his home in Dayton, Ohio. Willem's hands-on technical work had produced all the necessary bits, but he would need help in putting it together. John Harvey's experience in installing many original Cineramas, as well as keeping one running, would be crucial in commissioning the new system. Secondly, John Stevens of Sound Associates. He was responsible for the original 35mm/70mm installation in Pictureville Cinema, and had the job marrying the new to the old, and rising to the challenge associated with single projectionist operation.

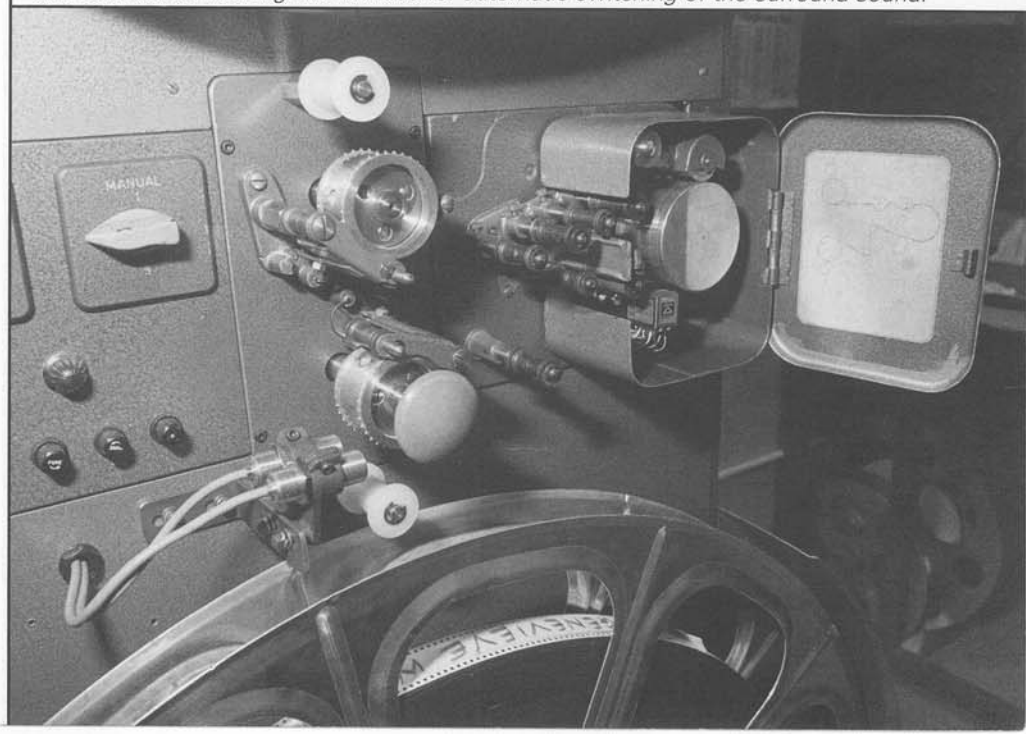
The installation started in March 1993. We had anticipated problems, but, in fact, there have been very few. the most serious was the louvres. Individually, they looked fine. Once hung, it became horribly clear that some had changed colour. this was not acceptable, we had to get new ones. After a week of hectic phone calls, a new source was found. Hurley in Baltimore, Maryland, could do the job. After some hard negotiating, calling in a few favours, and the worst storms on the Eastern US coast US in over 100 years, we finally received the new lourvres by the end of week two. Like all clouds, it had a silver lining: We were able to remeasure the screen frame with the louvre guides in place, and gain an extra foot in screen height, and nearly 3ft in width – final size 21ft high by 57ft wide.

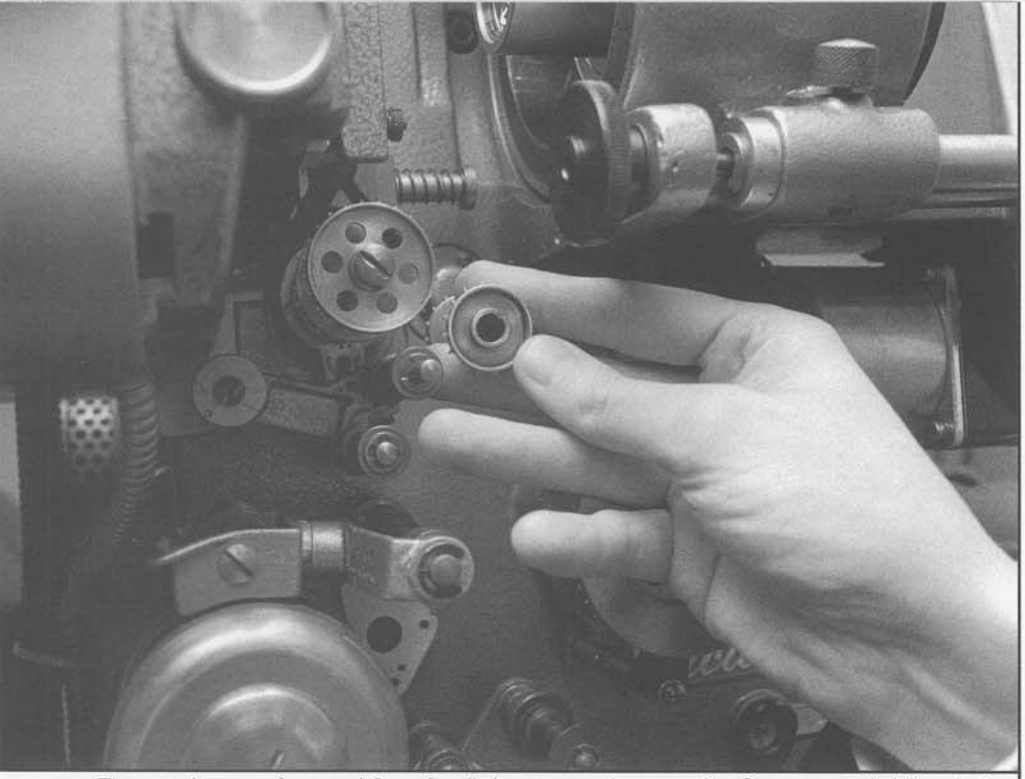
So, by the time you read this, there will be at least one place in the world where you can travel back in time to an era when cinema was big and brash and could hold its head high. I am reminded of a scene in one of the Indiana Jones' films. Indiana, having fought the usual battles with villains, snakes and scorpions, finally gets his hands on the goal. Handling the relic with care he says, and I will have to paraphrase here: "This is really important, it should be in a museum." □

In addition to all the people mentioned above, I must also acknowledge the help and support of many others, including: Teccon Enterprises for their painstaking work on the soundtrack and playback heads; members of the International Cinerama Society, and finally, all the staff of the National Museum of Photography, Film & Television. To those whom I may have overlooked, my apologies.

The Cinerama sound follower in the centre projection box, Pictureville Cinema.

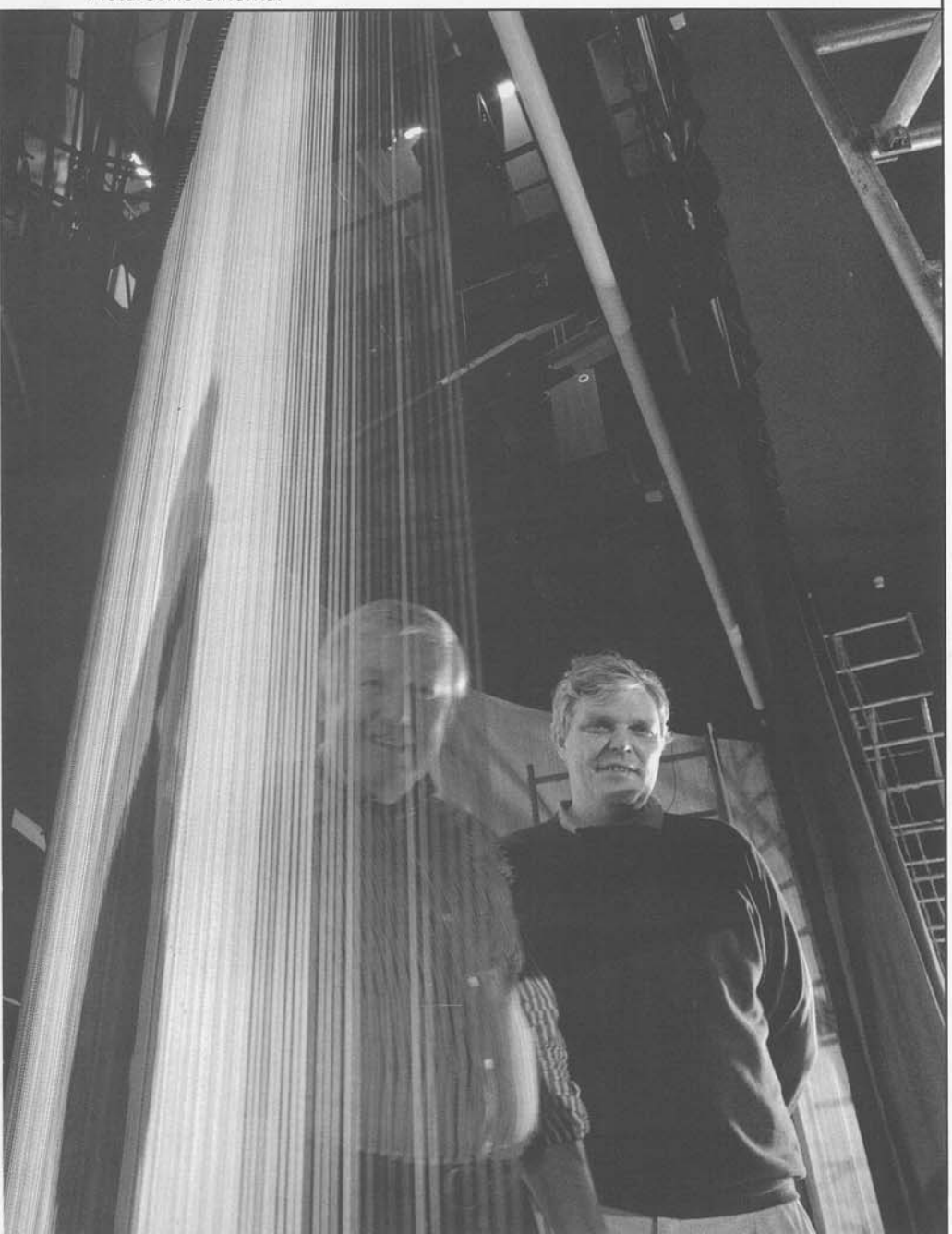
Inside the Cinerama sound follower. The new seven-track head made by Teccon Enterprises (right). At the lower left of the photograph are the twin sensors mounted on a bracket for reading the foil tabs for automatic switching of the surround sound.





The newly manufactured 6-perf pull down sprockets on the Cinemeccanic Victoria 8 proejctor. Being held are the standard 4-perf sprockets.

John Harvey (left) with Willem Bouwmeester (right) by the Cinerama screen louvres, Pictureville Cinema.



CINEMA technology

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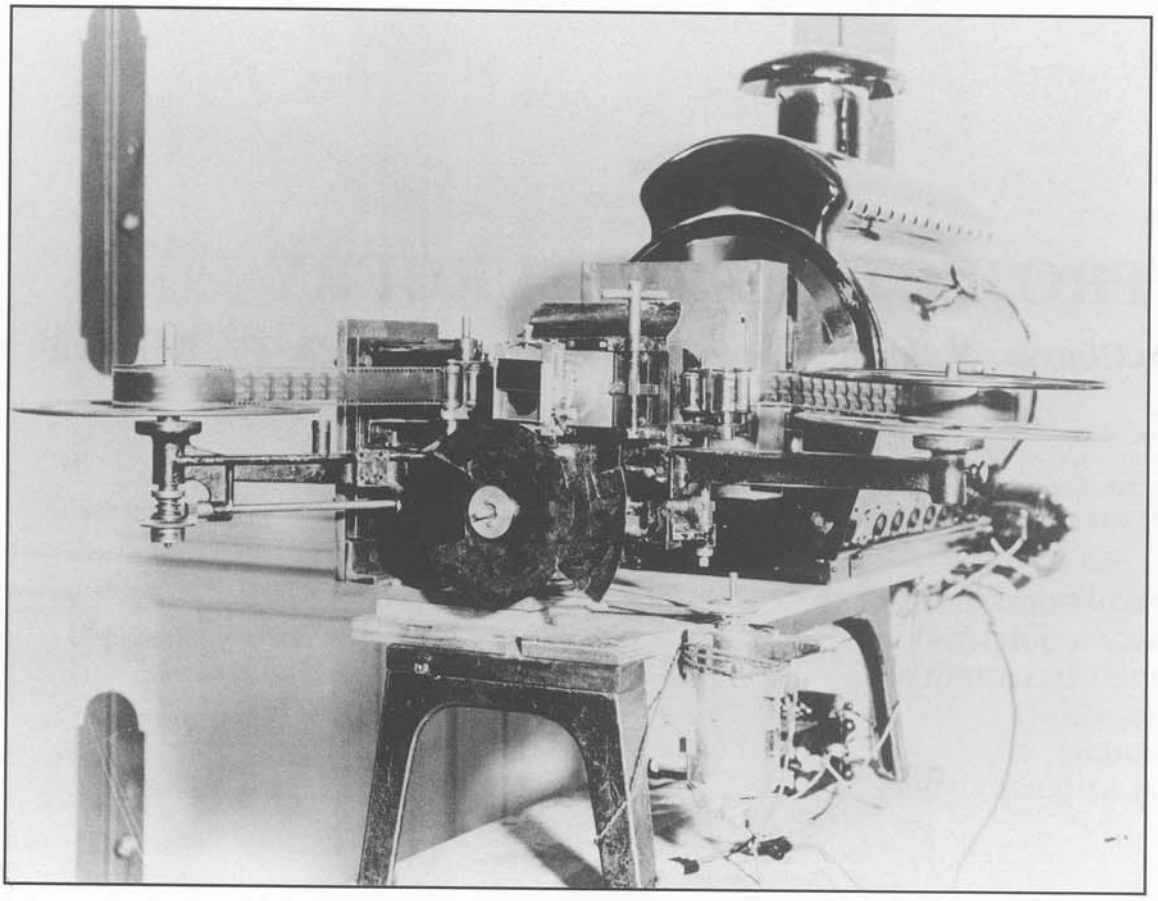
On the cover:

Our cover picture shows visitors to the OMNIMAX® theatre at the world's biggest audio visual theme park, Futuroscope, Poitiers, France. See article on page 107.



This is the mystery still from the BFI, sent to us by the Projected Picture Trust, which is referred to by K. S. Wheelan and Peter Swinson in their letters on the opposite page.

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LETTERS

WHAT IS THIS EQUIPMENT?

Dear Sir – The equipment you query (Cinema Technology, illustration page 176, *April 1993*) is an early attempt to produce colour on the screen by projecting three identical black and white images through three different colour filters.

In the camera a beam-splitting device would produce three identical images which would pass through red, green and blue filters (or possibly, cyan, magenta and yellow) before exposing the black and white film. Thus each of the three images would contain the relevant colour content of the original subject, in a similar fashion to Technicolor separation negatives.

In simple terms the process would be reversed during projection.

If you look at the photo in "Cinema Technology" you will see that the bottom film contains one image per frame, i.e. per every four sprocket holes. This film would be projected through, say, a red filter through the cut out in the front shutter which you can see on the left-hand side.

The top film contains two images per half-frame, i.e. per every two sprocket holes, and would have been projected at half the speed of the bottom film, with the blade to the right of the shutter cutting off the light as the film advanced. One of the images would have been projected through, say, a blue filter and the other, say, green – but not simultaneously. You will note, in the square opening above the shutter, a small blade. This would rise and fall exposing each image alternately. Persistence of vision would merge the colours.

The shutter is interesting. The obscuration period for the bottom film is approximately three quarters but for the top film only a quarter. Presumably this was to even out the additional obscuration of the moving and falling blade, so that all three images would be projected in the same amount of time, thus maintaining the colour balance.

From a practical point of view this system was a failure. Precise alignment of the three images on the screen was difficult, poor adjustment resulting in a blurred picture with colour fringing. A break in one film required either the insertion of a few black frames or the removal of frames from the other film to keep them in sync.

There were other variations on this theme, using multiple images on the one film. The drawback here was the lack of definition due to the smallness of the images and increased magnification. The system shown in your illustration had the one advantage that high definition could be obtained with the full frame image, the other two providing colour overlay.

All such systems suffered from poor light output due to the colour filters, excessive obscuration periods and, in the 'one-film' system, the beam-splitting prisms, necessary to split up the multiple images so that they could then pass through the colour filters and backing lenses.

Yours faithfully,

K. S. WHEELAN
15 Greenways, Hinchley Wood, Esher,
Surrey KT10 0QH

Dear Sir – With reference to the mystery projector on page 176 of Cinema Technology I can't throw any light on the manufacturer of the projector, but studying the photo carefully indicates that the film shows two identical images per four perforation frame. Additionally, the exit lens appears to have some mechanism over one half of it.

Based on those observations and with reference to the BKSTS widescreen and 3D format film chart I believe the projector is for use with the following system.

A. Zeiss-Ikon 1939 also shown on the chart as Nord 1953; or
B. Moroptician Polar-Lite 1953.

Whether it is A or B would depend entirely upon what the mechanism is shown in the top half of the lens, if it is a polarisation system only then it would tend to be A, if it is a mirror flipping the top image then it would tend to be B.

Yours sincerely,

PETER R. SWINSON
Telecine Product Manager
Rank Cintel Ltd, Watton Road, Ware
Herts SG12 0AE

We are still puzzled. It is not entirely certain that the top of the film has two images per half frame as Mr Wheelan suggests, and the film appears to have no sound track which may make it earlier than Mr Swinson thinks. It is believed to be a 30s Ernemann projector, and more likely to be a 3-D system, and possibly an experimental non-commercial system used for a special purpose such as medical filming. But we stand to be corrected and will leave the correspondence open until the next issue. Any further letters on the subject by 8th August please – Ed.

DRIVE-IN MOVIE PARKS

Dear Sir – Do you know of any reading material on the subject of Drive-In Movie parks? I have searched high and low but so far have drawn a blank on the subject.

My interest began after visiting a relation living in America last Summer. One warm evening we all jumped in the car and went to their local Drive-in Movie Park. To my surprise, when we got there, the sound track of the film was broadcast from the projection box via the car radio, in stereo. I thought this was marvellous, the sound track reproduction was very good indeed. Until then I thought the sound was picked up via loudspeakers which you had to hook to your car window.

Yours faithfully

DENIS O'HARE
236 Keady Road
Armagh
Co. Armagh BT60 3EW
Northern Ireland

Unfortunately there is no information here on this subject, can anyone help Mr O'Hare with his request? We would also be very interested to receive any technical information on the subject in the office – Ed.

NITRATE FILM

Dear Sir – On behalf of FIAF (the International Federation of Film Archives), I am collecting material for a possible publication in celebration of nitrate film. Nitrate receives a generally bad press, but it is still the material "without which" those of us working in film can truthfully say "none of this would have been possible". As cinema approaches its 100th birthday, it seems appropriate to look at both sides of the picture.

Such a publication could combine all of the following:

- a technical appreciation of the physical properties of nitrate film;
- an artistic appreciation of its qualities;
- memories of working with nitrate at the time when "working with film" meant little else;
- stories and legends from the nitrate era – production, cutting room, projection box or archive incidents (films that were lost to or survived in spite of nitrate fires; SFX crews that used old film to generate smoke effects for new films; archive finds in unlikely or alarming places; nitrate film used for non-cinematic purposes; and so on.)

It should also be possible to compile a bibliography – meaning not only handbooks of cutting room or archive procedures, but also one with room for thrillers in which a vault fire is a murder method (I know of at least one!) and so on. A filmography is another possibility – *Cinema Paradiso* nominates itself.

I shall welcome and and all suggestions, whether from potential contributors, or from people who just want to point me in the right direction with a name or a title. Please do not assume that anything is "too well known to need mentioning" – much better to have the same thing nominated ten times than missed altogether. I hope to hear from many of you.

ROGER SMITHER
Keeper. Department of Film
Imperial War Museum
Lambeth Road
London SE1 6HZ

16mm GB PROJECTOR; DATA REQUEST

Dear Sir – I have recently become the proud owner of a 16mm sound movie projector which has been in the family for many years.

The unit is a G.B. Equipments Ltd Model L.16, No. 1139.

I have searched Australia for any information or data on the projector. The National Film and Sound Archive staff in Canberra suggested I write to this address in the hope that one of your members may know the model or better still, have some data, circuits, handbook etc.

To aid identification, the valve line-up in the amplifier is: CY2 Rectifier; CL4 Output; CL4 Output; CF1 Pre-amp; C1 Regulator.

I have full data on the valves but I would appreciate a copy of the circuit to enable me to get the sound section going again. The mechanical projection system works well.

Naturally I will pay for any costs in copying, postage etc. If you could publish this letter in your magazine, someone may recognise the machine.

Thank you

WAL PYWELL
9 Keys Crescent, Wanniassa, ACT 2903
Australia
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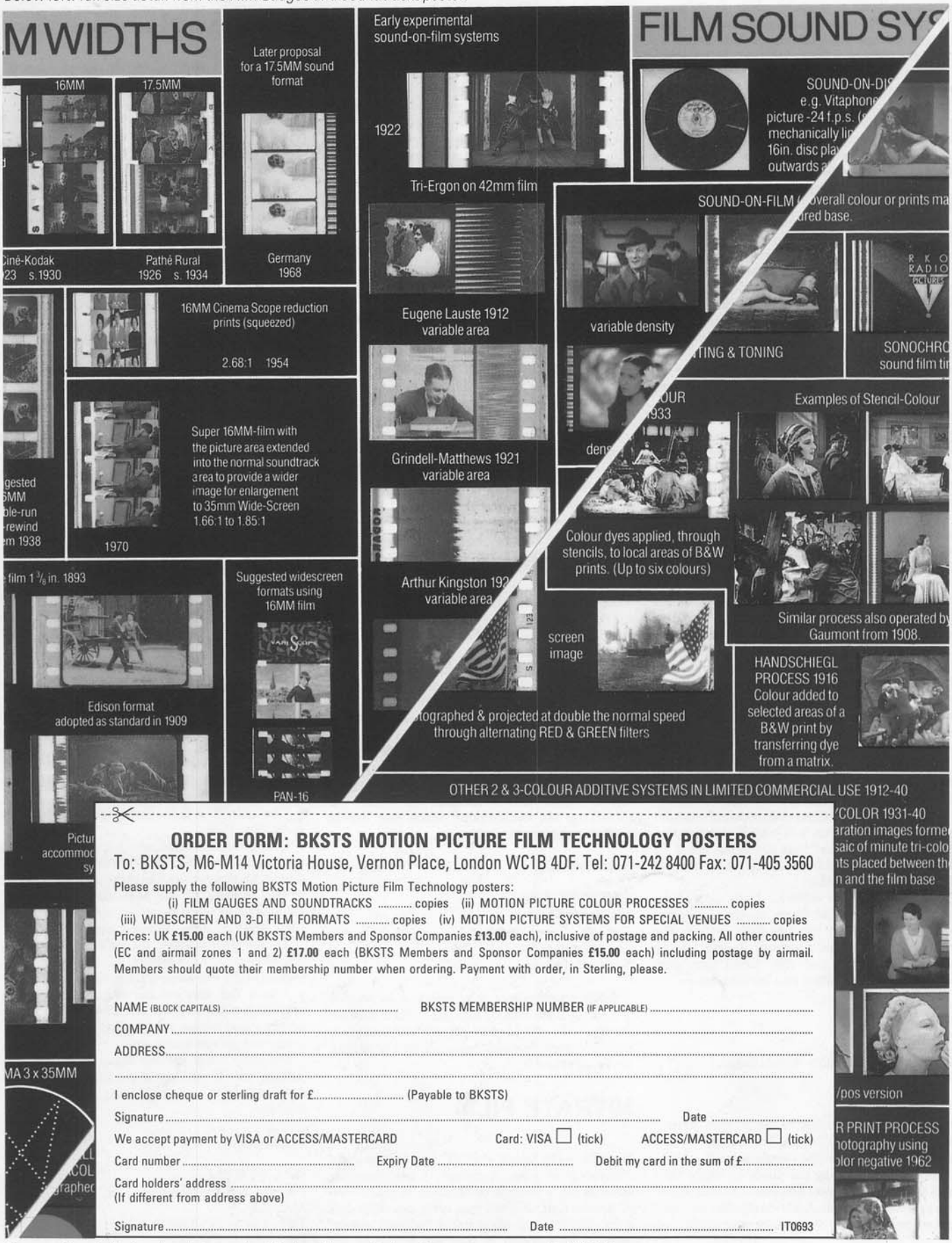
Fax: (+61 6) 296 2252

MOTION PICTURE FILM TECHNOLOGY POSTERS

Below left: full size detail from the Film Gauges and Soundtracks poster.



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Above right: full size detail from the Motion Picture Colour Processes poster. © BKSTS