

Reference library

A photograph of a library aisle with tall metal shelving units filled with books. The text "Reference library" is overlaid in the center. The shelves are filled with books of various sizes and colors, creating a dense and organized appearance. The lighting is warm, and the perspective leads the eye down the aisle.

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Diagrams and circuits

PPT Information sheets

Books

Kinematograph Year Books

Cinema Technology

AGA-Baltic



Depois desta comunicação de
Nazare, mais três instalações con-
cretizadas :

Cinema do Sport Lisboa e Ben-
fica - Lisboa, inaugurado bri-
lhanamente a 4 de Outubro;
Belém Jardim - Lisboa e
Club Recreativo Pirenense
- Cova da Piedade, em ins-
talação.

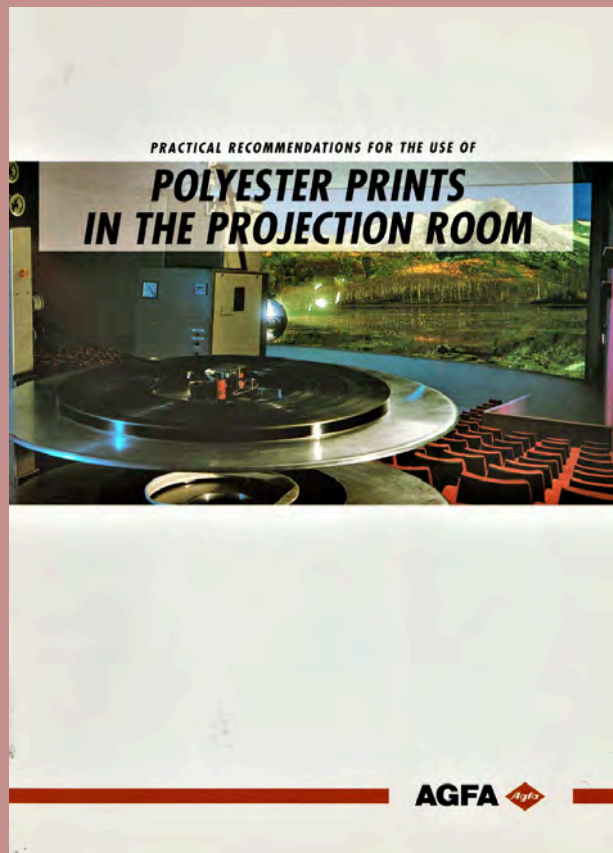
NOVOS EXITOS
AGA-BALTIC-Soler
"Qualidade — Prestigio"

AGA-BALTIC

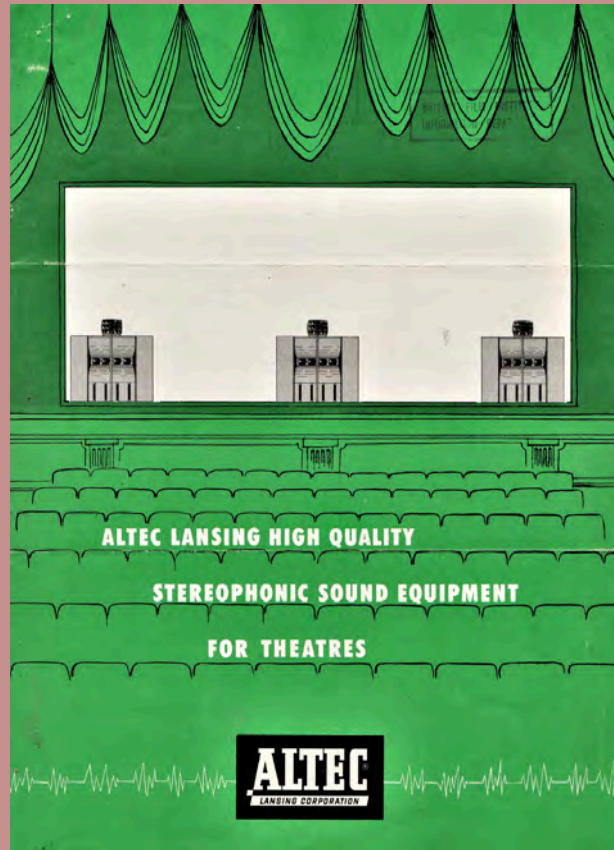
projector sound system

P. SOLER

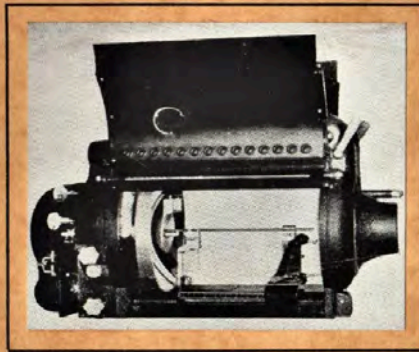
R. Artilharia Un., 100-1.ª — LISBOA R. Passos Manuel, 177 — PORTO
Telefone, 43251 Telep.: SOLER CINE Telefone, 22056



Altec



THE ASHCRAFT
**“SUPREX”
ARC**



THE LAMP of TO-MORROW for the PROJECTION of TO-DAY !

SOLE CONTROL U.K. :

JACK ROE

8, NOEL STREET, WARDOUR ST., LONDON, W.1

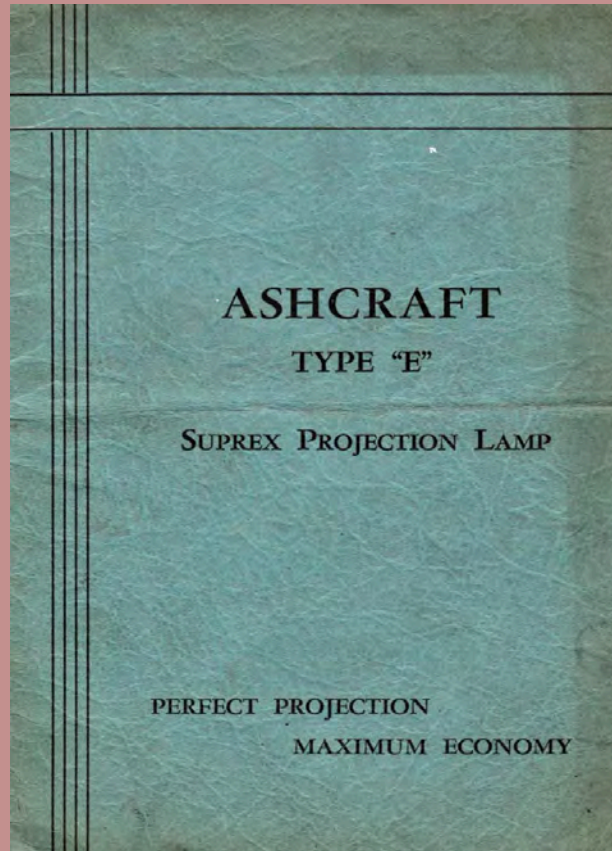
Phone : Gerrard 5171

and at 87, Donegal Street, Belfast

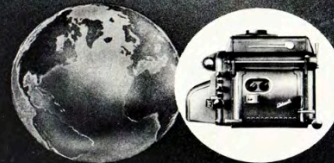
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Ashcraft

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Ashcraft
HIGH INTENSITY
REFLECTOR Projection Lamps



Ashcraft lamphouses

THE WORLD'S Finest Light Projector

Ashcraft

A vintage advertisement for Ashcraft Core-Lite projection arc lamps. The background is black with three white, ribbon-like banners arranged vertically. The top banner features the 'Ashcraft' logo in a stylized script, followed by 'presents' and 'SUPER CORE-LITE' in a bold, outlined font. The middle banner features 'CORE-LITE i35' in a similar font. The bottom banner features 'CORE-LITE i110' in a similar font. Below the banners, the text 'PROJECTION ARC LAMPS' is written in a bold, sans-serif font. Underneath this, it says 'with the Exclusive Ashcraft Core-Lite Optical System!' followed by a 'Patented' logo. At the bottom, a block of text reads: '...THE MOST MODERN, EFFICIENT PROJECTION ARC LAMPS EVER DEVELOPED FOR LIGHTING ALL THEATRE SCREENS!'. A small copyright notice is visible at the very bottom right of the advertisement.

Ashcraft
presents
SUPER **CORE-LITE**
35/70

CORE-LITE i35
35/70

CORE-LITE i110

PROJECTION ARC LAMPS
with the Exclusive Ashcraft **Patented**
Core-Lite Optical System! U.S. Pat. No. 2,399,310
Foreign Patents Pending

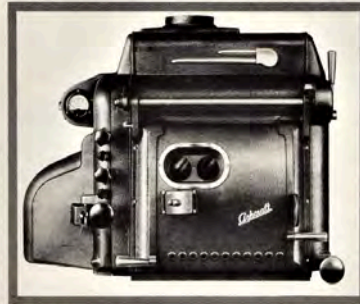
**...THE MOST MODERN, EFFICIENT
PROJECTION ARC LAMPS EVER
DEVELOPED FOR LIGHTING
ALL THEATRE SCREENS!**

©Registered Trade Mark Copyrighted

Corelite lamphouse

NEW
Ashcraft
CORE-LITE

MOTION PICTURE PROJECTION LAMP



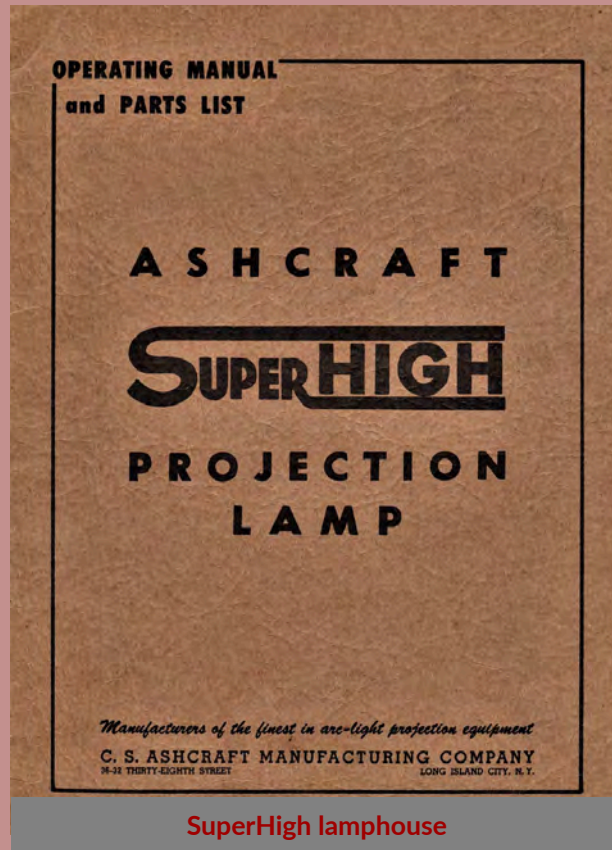
*The MOST
AMAZING
Projection Lamp
Ever Designed*

Perfect Picture Reproduction on Theatre Screens

- **MORE SCREEN LIGHT**
 - MAXIMUM DISTRIBUTION with Whiter Light
 - IMPROVED FOCUS—Definition—Resolution
 - **LESS CARBON COST**
 - **LESS POWER COST**
 - **LESS HEAT ON FILM**



Ashcraft C70 lamphouse



SuperHigh lamphouse



Atlantic

ATLANTIC MODEL AFX-6000

WORLD'S FIRST FULLY AUTOMATED CINEMA EQUIPMENT



ATLANTIC HAS DESIGNED AND BUILT THE RIGHT EQUIPMENT FOR:

Small Theatres, Exhibitions, Universities, Schools, Industries, Hotels, Motels, etc.

It will drastically cut expenses on labour, electricity and maintenance. Once the film is prepared, threaded in the projector, — you just press the button — where ever you wish to have it installed — and the show starts. You don't have to stop when the program is over. We have designed the system so that it will stop by itself when the program is over. It will rewind by itself the whole two hour program in 7 minutes and be ready for the next show. It will wait the preset intermission time and then start again by itself the whole program.

DO YOU WISH MORE AUTOMATED FUNCTIONS ?

Intermission music, Curtain movement, Light dimming or switching, Commercial slide projection, etc.

Yes, this is already incorporated in the ATLANTIC SYSTEM.

YOU WONDER HOW BIG THE CINEMA CAN BE ?

Well, will 20 ft wide screen satisfy your demand ? Then the automated ATLANTIC Cinema Equipment is what you have to install. No cartoons, but fully automated Xenon light source (by the way, it will last 2000 hours or more !). All projectionist functions are automated and preset. No attendance required.

The "ATLANTIC" fully automated 16 mm film projection is today's answer for small theatres or halls — may it be in the city or in the country, where every expense \$ counts. Price ? — you will hardly believe how little investment you require to be "ONE MAN" — cinema owner — operator !

Contact us, ask us, we will be glad to give you all required information.

- automatic start
- automatic stop
- automatic rewind
- automatic loop adjustment
- automatic change over (if over 2 1/2 h. show)
- automatic Xe-light source
- for screens up to 20 ft wide
- automatic switching for related functions in the Cinema

SPECIFICATIONS

- Fully automatic or manual start/stop
- Film reel capacity : 5400 ft. or 2 1/2 hours of continuous projection.
- Fully automatic rewinding after completion of the program
- No rethreading required
- Power rewind with controlled tension
- Controlled take-up tension
- Asynchronous motor drive, interlock available
- Automated Xenon light source
- Adjustable light output, over 2000 screen lumens
- 2 Blade shutter for high light output
- Accepts different focal length lenses, anamorphic and zoom lenses
- Easy access for filmgate cleaning
- Precise framing adjustment and focusing
- Picture steadiness $\pm 0.1\%$
- Projector tilt $\pm 5^\circ$
- Automatic film loop adjustment
- Optical sound, 24 fps.
- Dynamically balanced heavy flywheel
- Transistorized amplifier, 15 W output
- Solar cell sound pick-up
- Tone control
- Amplifier is usable as public address system
- Built-in monitor speaker
- Microphone and other sound source input
- 600 ohm output for other power amplifier network
- Total power requirement 14 Amp/115 V 60 cy.

ATLANTIC

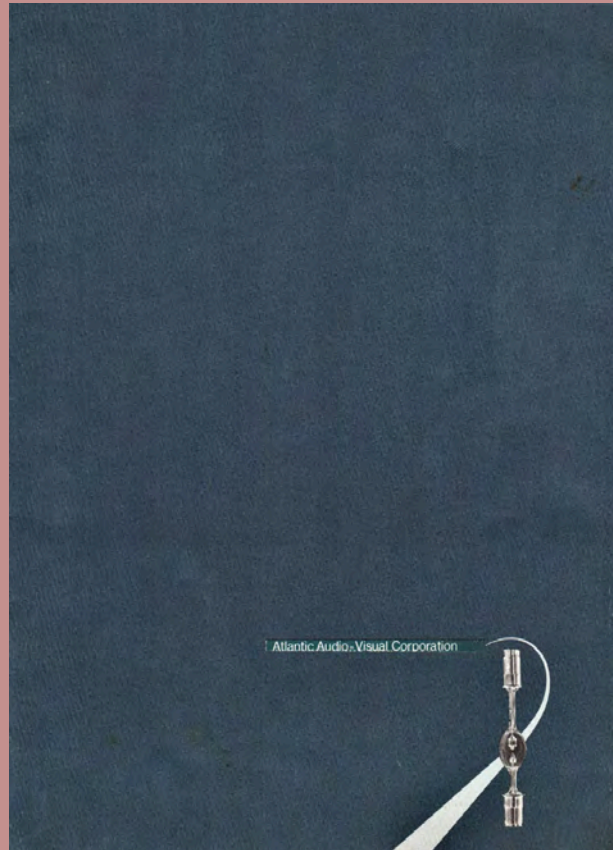
XENON A-V SYSTEMS

Distributed by:

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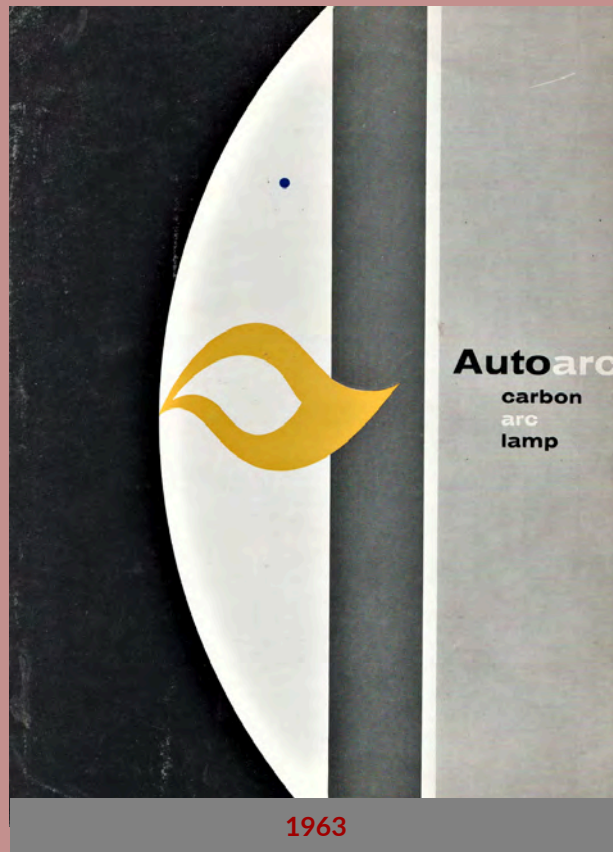
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Autoarc

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Autoarc



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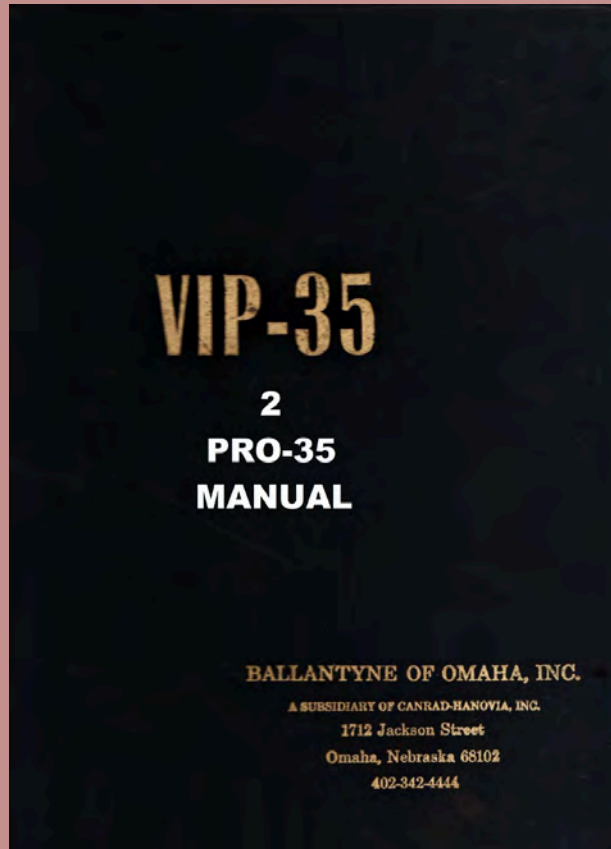
Ballantyne



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Ballantyne

VIP-35

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**MODEL VII
SOUNDHEAD**

BALLANTYNE OF OMAHA, INC.

A SUBSIDIARY OF CANRAD-HANOVIA, INC.

1712 Jackson Street

Omaha, Nebraska 68102

402-342-4444

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Ballantyne

VIP-35

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**BALLANTYNE
NEWS**

BALLANTYNE OF OMAHA, INC.

A SUBSIDIARY OF CANRAD-HANOVIA, INC.

1712 Jackson Street

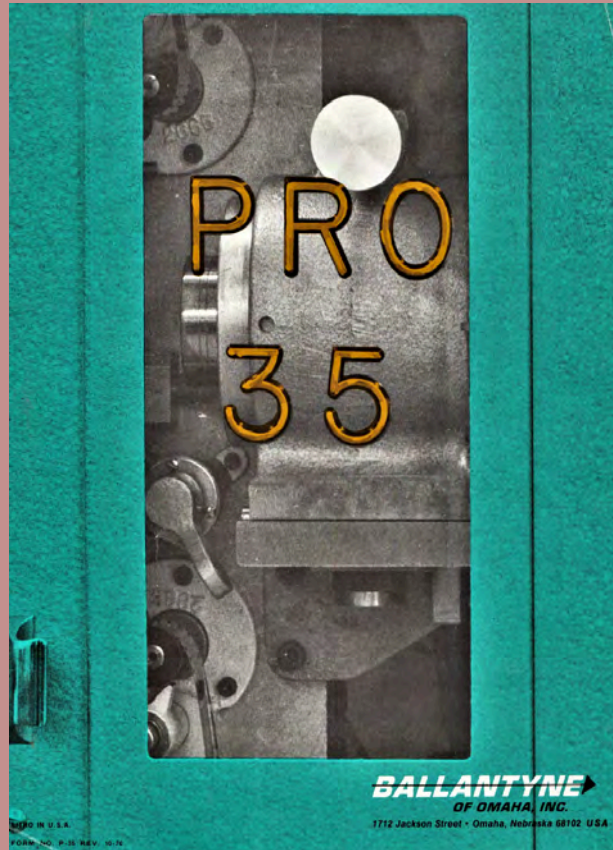
Omaha, Nebraska 68102

402-342-4444

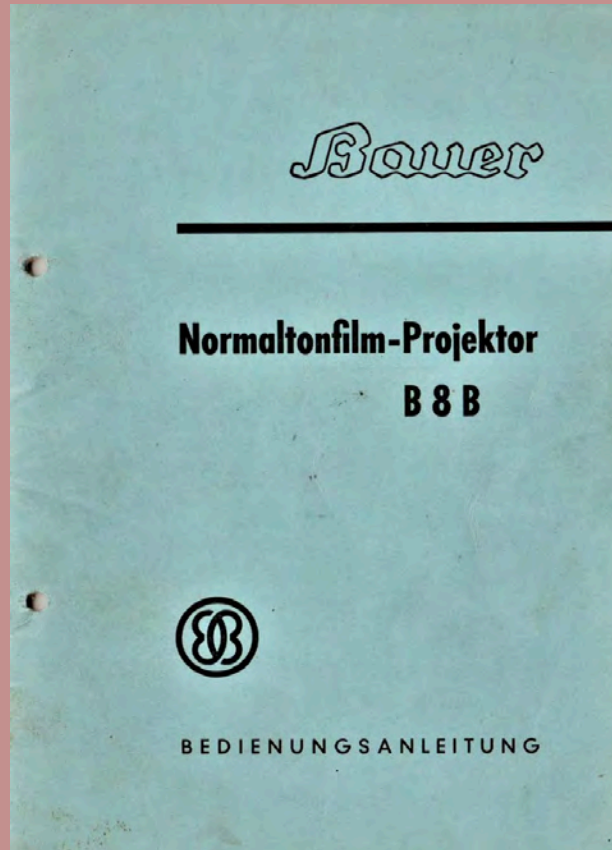
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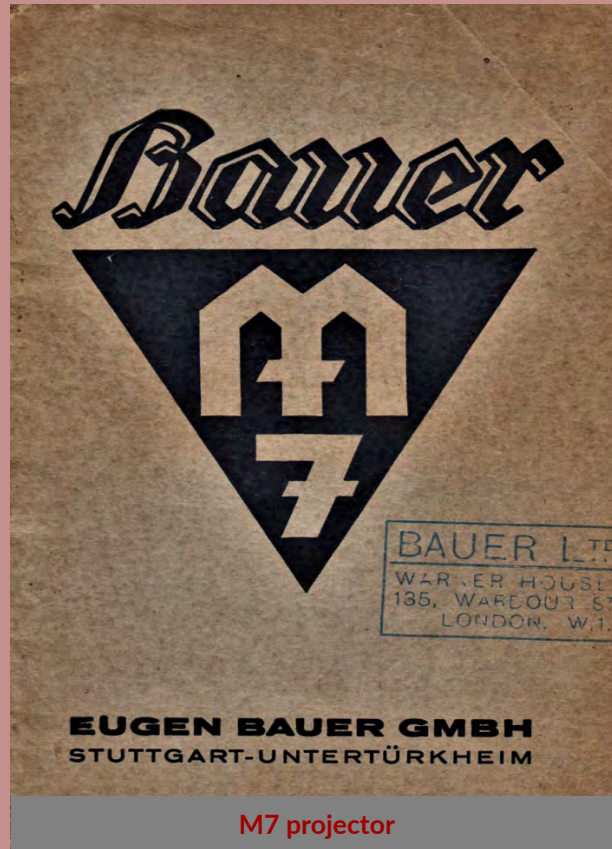


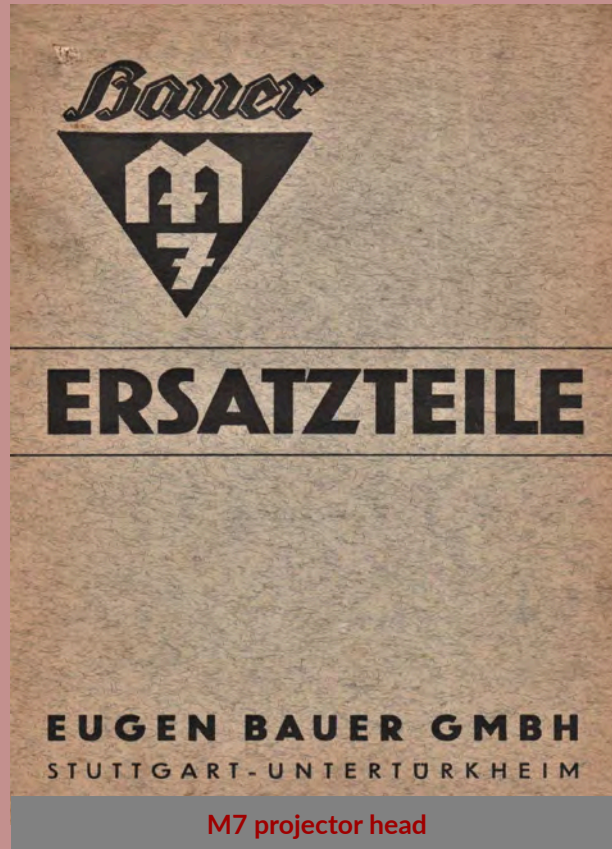


Bauer



Bauer







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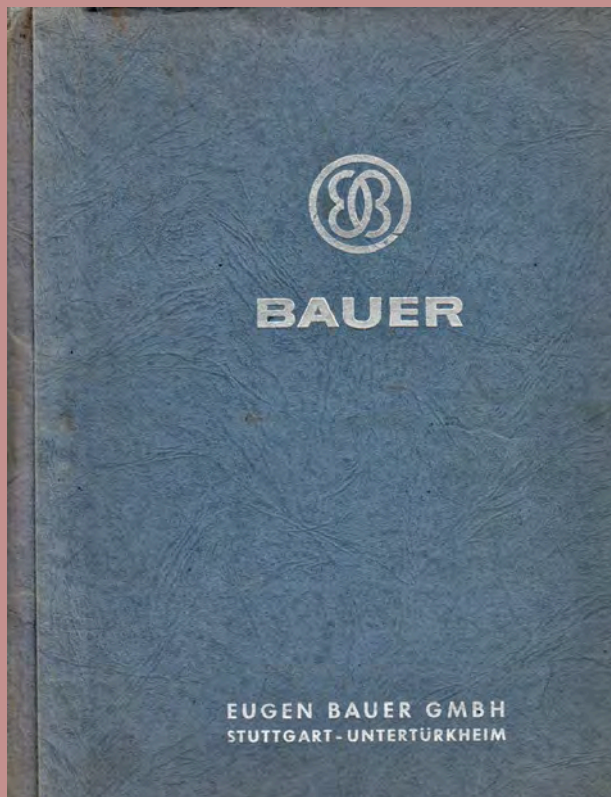
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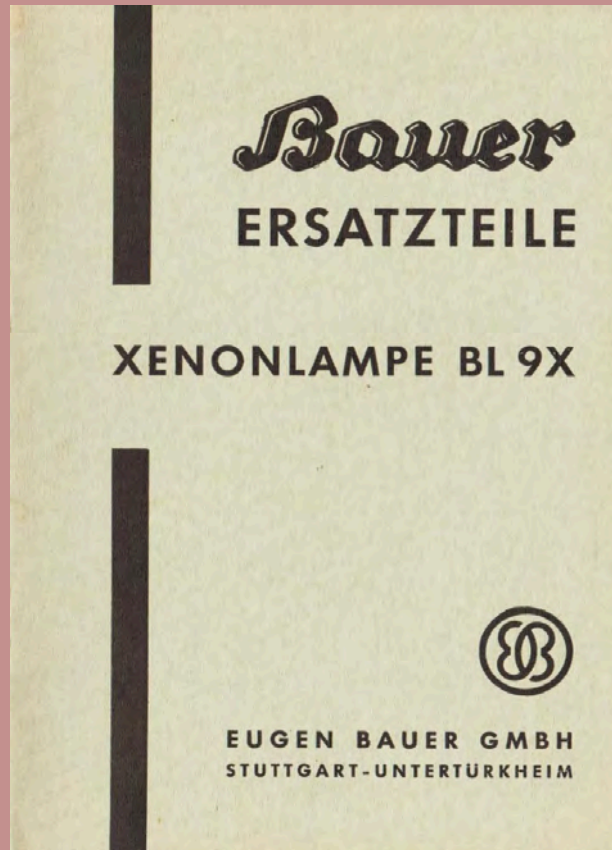
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B11 X xenon lamphouse



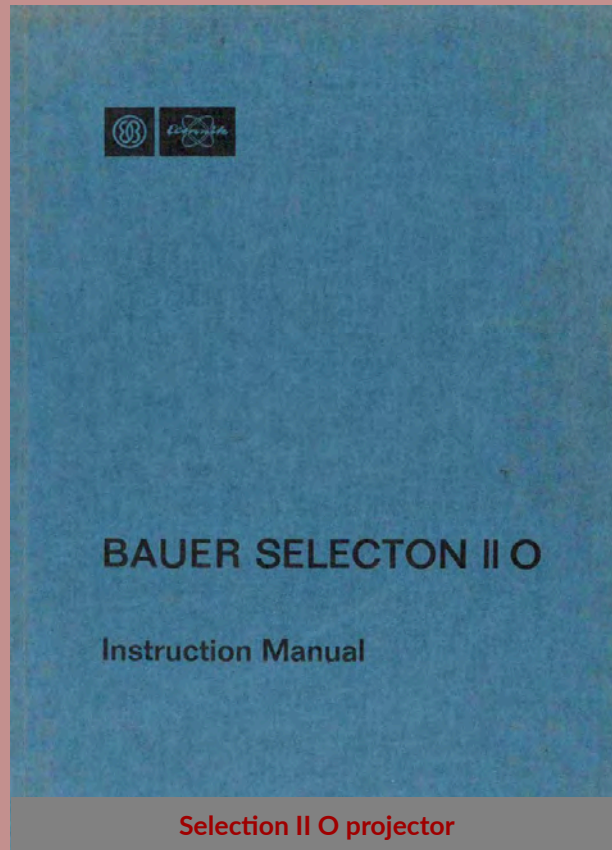




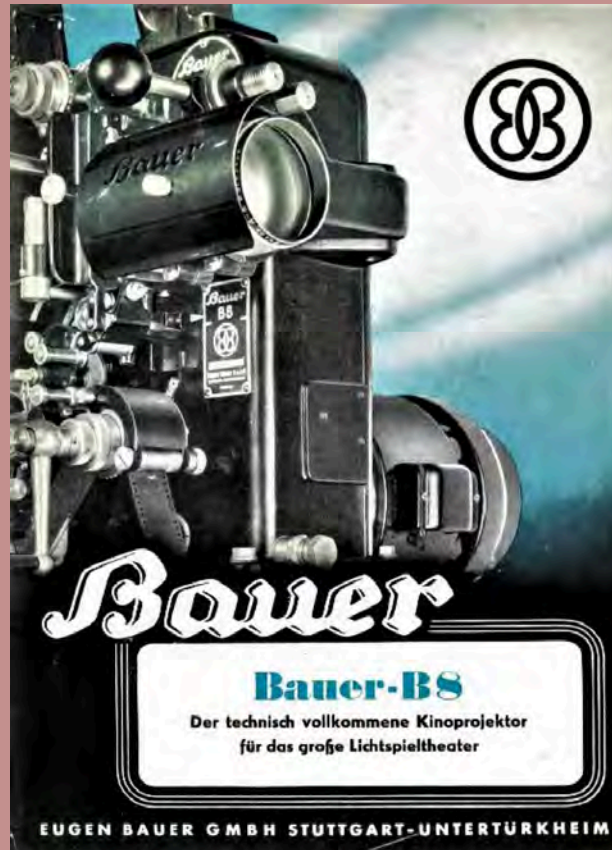
BAUER SL6 X

Xenon-Lampenhaus
Xenon-Lamphouse
Lampe au Xénon

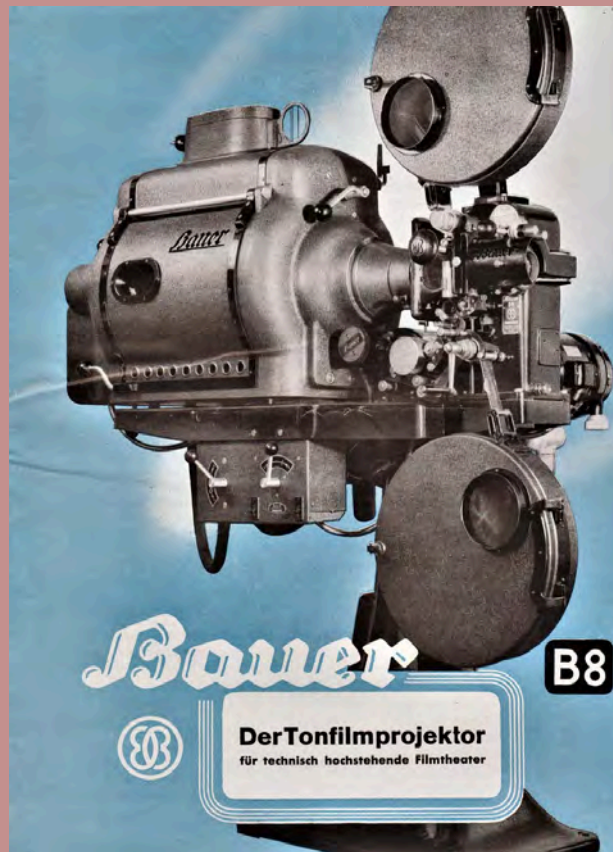
Ersatzteile
Spare parts
Pièces de rechanges



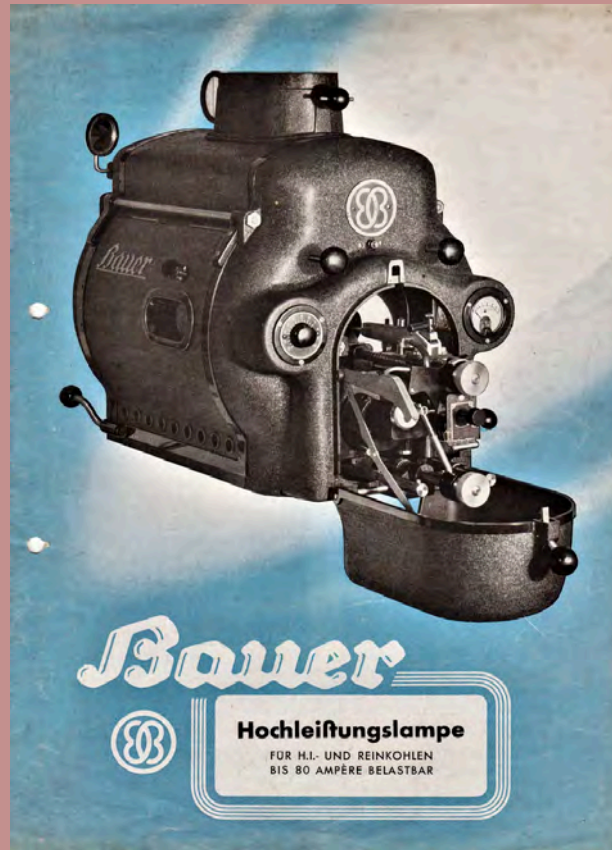




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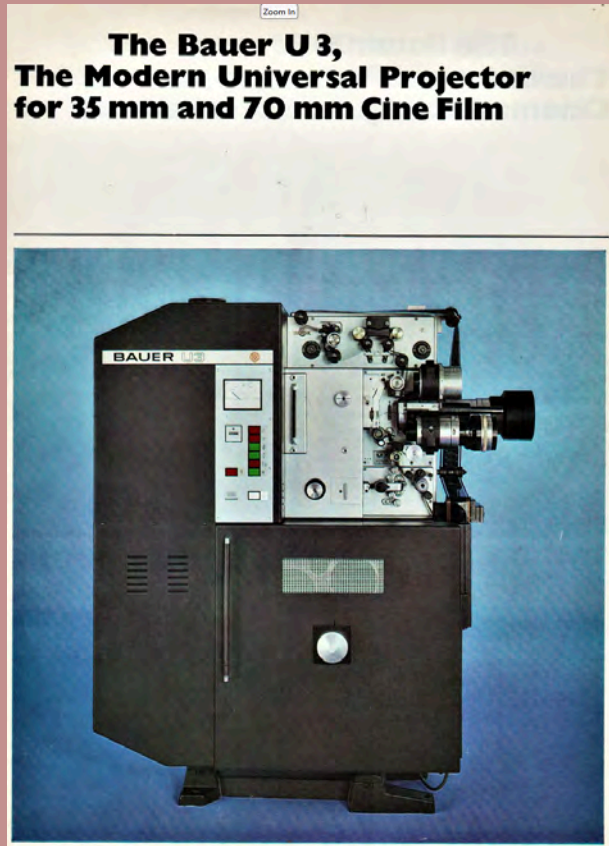




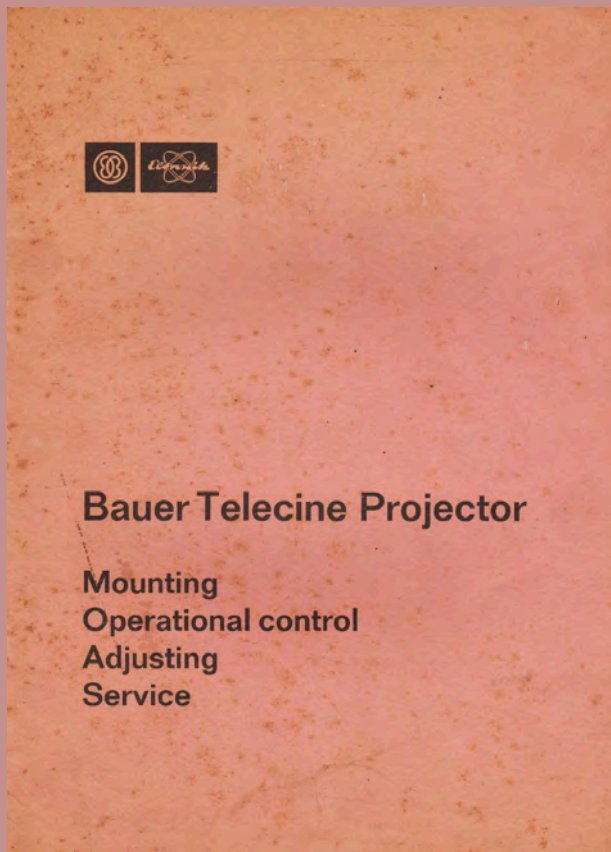








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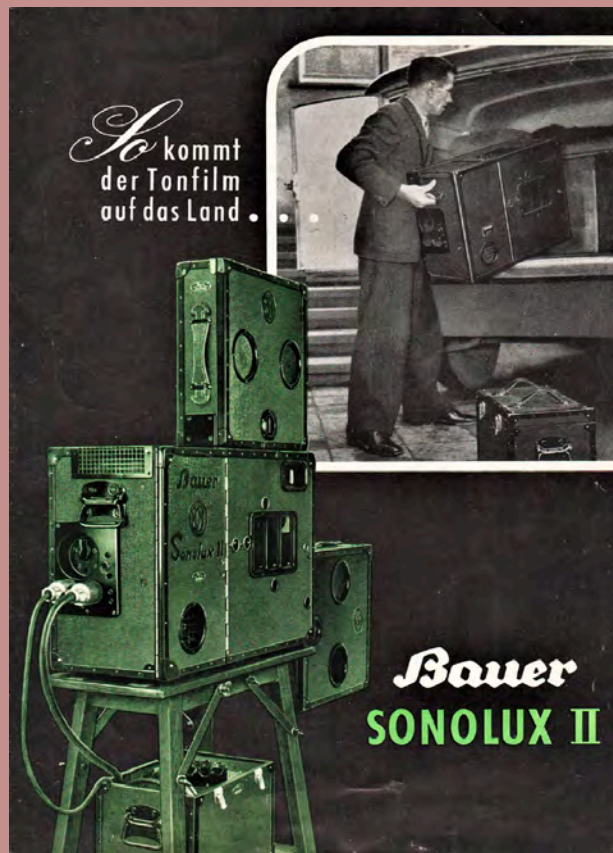


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**Bauer B14 Studio
35 mm Projectors
for Film and TV Studios.**



**Bauer Cinema Projectors
for Conventional and Automatic
Film Projection.**



Bausch and Lomb



Bausch and Lomb

BAUSCH & LOMB INCORPORATED SERVICE POLICY - BALCOLD REFLECTORS

To assure you of reasonable and equitable service from your BALCOLD Reflectors, the following service warranty has been established.

POLICY

When a BALCOLD Reflector is removed from service - because of performance failure due to material or workmanship - you will be entitled to a credit adjustment toward the purchase price of a new BALCOLD on the following basis:

ADJUSTMENT SCHEDULE

Months in Service: (Calendar Year)	<u>1-3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
% Purchase Price Allowed:	100%	90	80	70	60	50	40	30	20	10

This policy is based on all installations being made in strict compliance with the directions for installation and use, for reflector and arc-lamp.

Each adjustment will consider the following conditions:

Performance: Only actual loss in reflectance, as determined from screen illumination, due to deterioration of reflecting coating will warrant adjustment.

Breakage: No adjustments will be made for breakage.

Appearance: The actual appearance of the coating, or light transmitted through the back of the reflector, does not determine performance.

Pitting and Smoke: Normal and gradual decrease in illumination must be expected from smoke and carbon deposits.

Cleaning: Special attention to cleaning, as outlined in the Reference Manual supplied with each reflector, will assure maximum illumination and reflector life.

Storage: Store in warm, dry place - whether storage of spare or winter storage. Drive-ins should not leave reflectors in unheated buildings during cold winter seasons.

SERVICE RECORD

Registration Card: To entitle each reflector to this policy, the enclosed Registration Card must be completed, and forwarded to Bausch & Lomb Incorporated, Rochester 2, New York, by your Dealer, at time of purchase.

Dealer Card: Kept by your Dealer as his record.

Claim Card: Must be used to receive adjustment, if claim arises. Adjustment cannot be made without claim card.

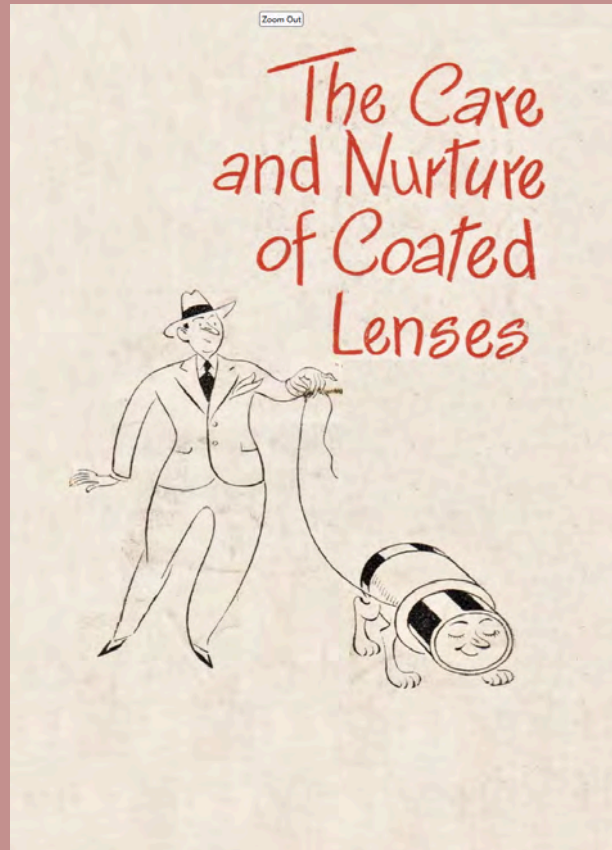
CLAIM PROCEDURE

If it becomes necessary to request adjustment, contact your Dealer. All adjustments will be made through your Dealer. He will determine if an adjustment is warranted, and assist you accordingly.

Used reflectors, for which claim is being made, must be returned (transportation charges prepaid) to Bausch & Lomb Incorporated, Rochester, New York.

All adjustments are subject to final approval by Bausch & Lomb Incorporated. Bausch & Lomb reserves the right to limit the warranty to reflectors found defective within 18 months from date of shipment from its factory.

Bausch and Lomb



Bausch and Lomb

[Zoom Out](#)

BAUSCH & LOMB OPTICAL CO., ROCHESTER, N. Y.

B&L REVERSED CINEMASCOPE LENS

Ordinarily, Drive-Ins with extra long throws would require specially made - and expensive - long focus lenses. But at less cost - standard Super Cinephor Lenses can be used with the B&L Reversed CinemaScope Lens.

HOW IT WORKS -

Say you are using an 8" focus prime lens with a standard CinemaScope lens to obtain an image approximately 47' x 110'. If the anamorphic lenses were reversed the image would then be only 23.5' x 55' - or exactly 1/2 the original dimension. To provide the desired image size, a 4" E. F. lens would be used (exactly 1/2 the focal length originally needed) to expand the image again to 47' x 110'.

Where an 8" Series II, f/3.3, Cinephor was originally needed - an f/1.8 Super Cinephor can be used - with no loss in picture size - or quality - and can provide a 35% increase in illumination!

By the same method, a 7" E. F. Super Cinephor can be used where a 14" focus lens may be needed. There are many such installations presently using 4" to 7" focus Super Cinephors with the Reversed CinemaScope Attachments, where 8" to 14" lenses would have been needed with the anamorphics using the standard method.

WHAT TO ORDER -

The B&L 4" diameter CinemaScope Attachment - Catalog #41-77-04 - Reversed.

Because excessive vignetting will result if the small diameter attachment is used - the 41-77-04 is recommended for all reversed uses.

For the same reason, lenses of less than 4" focal length are not recommended for use with Reversed 41-77-04.

NOTE: Adapters are provided with the Reversed 41-77-04 for either 2-25/32" diameter, or 4" diameter, prime lenses. These are needed as the prime lenses are attached to what is normally the front of the anamorphic lens.

Bausch and Lomb

Zoom Out

CONSUMER PRICE LIST

January, 1960

BAUSCH & LOMB MOTION PICTURE PROJECTION EQUIPMENT

"SUPER CINEPHOR—2 $\frac{1}{2}$ " dia. barrel, Balcoted

Catalog No.	Speed	E. F. in Inches	List Price
41-77-20	1/1.8	2	\$185.00
41-77-22	1/1.8	2 $\frac{1}{2}$	185.00
41-77-25	1/1.8	2 $\frac{1}{2}$	195.00
41-77-27	1/1.8	2 $\frac{1}{2}$	195.00
41-77-30	1/1.8	3	205.00
41-77-32	1/1.8	3 $\frac{1}{2}$	205.00
41-77-35	1/1.8	3 $\frac{1}{2}$	215.00
41-77-37	1/1.8	3 $\frac{1}{2}$	215.00
41-77-40	1/1.8	4	240.00
41-77-42	1/1.8	4 $\frac{1}{2}$	240.00
41-77-45	1/1.8	4 $\frac{1}{2}$	240.00
41-77-47	1/1.9	4 $\frac{1}{2}$	260.00
41-77-50	1/2.0	5	260.00

"SUPER CINEPHOR—4" dia. barrel, Balcoted

41-77-48	1/1.8	4 $\frac{1}{2}$	\$350.00
41-77-51	1/1.8	5	360.00
41-77-52	1/1.8	5 $\frac{1}{2}$	370.00
41-77-55	1/1.8	5 $\frac{1}{2}$	380.00
41-77-57	1/1.8	5 $\frac{1}{2}$	390.00
41-77-60	1/1.8	6	400.00
41-77-62	1/1.8	6 $\frac{1}{2}$	420.00
41-77-65	1/1.8	6 $\frac{1}{2}$	440.00
41-77-67	1/1.9	6 $\frac{1}{2}$	470.00
41-77-70	1/1.9	7	500.00

"CINEPHOR LENSES—2 $\frac{1}{2}$ " dia. barrel, Balcoted

41-73-35	1/2.0	3 $\frac{1}{2}$	\$105.00
41-73-37	1/2.0	3 $\frac{1}{2}$	105.00
41-73-40	1/2.0	4	105.00
41-73-42	1/2.0	4 $\frac{1}{2}$	115.00
41-73-45	1/2.0	4 $\frac{1}{2}$	115.00
41-73-47	1/2.0	4 $\frac{1}{2}$	125.00
41-73-50	1/2.0	5	125.00

"CINEPHOR SERIES II—2 $\frac{1}{2}$ " dia. barrel, Balcoted

Catalog No.	Speed	E. F. in Inches	List Price
41-82-52	1/2.5	5 $\frac{1}{2}$	\$125.00
41-82-55	1/2.6	5 $\frac{1}{2}$	125.00
41-82-57	1/2.4	5 $\frac{1}{2}$	125.00
41-82-59	1/2.6	6	125.00
41-82-62	1/2.7	6 $\frac{1}{2}$	125.00
41-82-65	1/2.9	6 $\frac{1}{2}$	125.00
41-82-70	1/3.1	7	125.00
41-82-75	1/3.2	7 $\frac{1}{2}$	125.00
41-82-80	1/3.3	8	125.00
41-82-85	1/3.5	8 $\frac{1}{2}$	125.00
41-82-90	1/3.7	9	125.00

CINEPHOR CONDENSING LENSES

Catalog No.	Description	Diam.	List Price
FOR ARC LAMPS			
41-86-61	Parabolic, rear	6 $\frac{1}{2}$ "	\$310.00
41-86-63	Parabolic, front	7 $\frac{1}{2}$ "	75.00
41-86-65	Sphere-Cylinder, rear	5 $\frac{1}{2}$ "	42.00
41-86-25	Parabolic, front	6"	45.00
FOR INCANDESCENT LAMPS			
41-86-45	Parabolic, rear	4"	\$ 27.00
41-86-35	Parabolic, front	5 $\frac{1}{2}$ "	40.00

SILVERED REFLECTORS

Catalog No.	Application	Diam.	List Price
ELLIPSOIDAL—FOR ARC LAMPS			
Use for:			
43-55-14	Powerless Magnarec	14"	\$ 35.00
43-55-94	Brenkert Emarc	13 $\frac{1}{4}$ "	35.00

Catalog No.	Convex radius of Curvature	Diam.	List Price
SPHERICAL—FOR INCANDESCENT LAMPS			
43-35-01	1 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	\$2.25
43-35-03	3 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	4.50
43-35-30	1 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	2.25
43-35-40	2 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	3.75
43-35-43	3"	3"	4.50
43-35-04	2 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	5.00
43-35-05	3 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	6.00
43-35-07	5"	7"	9.00

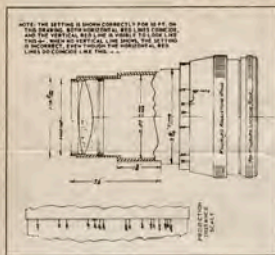
*These prices are for lenses in barrel only. Add \$15.00 to the list price for cover fittings for replacement lenses. Separate and model listed for other coloring, and designate fitting desired by adding .25 to ending number of lens.

Prices are subject to change without notice. Orders are subject to acceptance at Rochester, N. Y., U. S. A., at prices prevailing at time of shipment. Orders for standard items may be canceled if not needed because of price advance. Extra taxes or other governmental charges and so-called otherwise applicable. Shipment to points outside Continental United States, and delivery to all territories, dependencies, United States and foreign, are not subject to extra taxes. Delivery dates are estimated and cannot be guaranteed.

See reverse side for additional listings.

Bausch and Lomb

Zoom OutIONS FOR ADJUSTING CINEMASCOPE ATTACHMENTS TYPES 41-77-02 AND 41-77-04



Each CinemaScope attachment must be adjusted for the projection distance in your theatre as follows:

Hold the attachment in the left hand with the front of the unit towards the right. Unlock the adjustment by loosening the red colored ring. Rotate the large diameter knurled uncolored ring so that the top turns away and continue the rotation until the end is reached but do not go against the end with much force. Turn the whole unit until you locate a short red line parallel to the axis and on the same part of the assembly as the uncolored ring. Hold the uncolored knurled ring from turning and rotate the left end of the assembly so that the top moves away until the short red index line is opposite the red line on the rotating part which has the number 50. Note the number red line crossing the line marked 50 at a right angle, and making a plus (+) sign, is just visible, and that there are no other crossed lines to be seen. If the attachment were left in this adjustment it would be properly set for a projection throw of fifty feet; the numbers indicate the distance from the projector to the screen center. The setting and the unaltered scale for both models are illustrated in Fig. 5 and 6. Continue the rotation past the intervening numbered lines until the next set of crossed lines appears at the number 60, which will be the next number higher than 50. When the short index line and the numbered line are directly opposite, the lens is adjusted for a 60 foot throw. Should a projection distance somewhere between 50 and 60 feet exist then estimate the correct setting between the two marks, as for example, if the throw were 53 feet the index line should be set about 3/10 of the distance from 50 to 60.

For throws greater than 60 feet, continue the rotation as before watching for a crossed line to appear at that number which is just smaller than the projection distance and the next set of crossed lines would be greater than the required setting. Reset to the smaller number, that is, the one closest to but less than the throw. Estimate the setting between the two closest numbers, one lower and the other higher, as previously described and lock the adjustment by tightening the red colored ring. The CinemaScope attachment is now ready for assembly with the regular projection lens and installation of both into the projector.

A final test of the adjustment is described later. It must be clearly understood that since the attachment has been properly adjusted it needs no further attention in this regard unless it is moved to some other equipment or changes in projection throw are made.

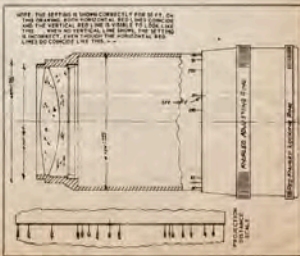
The setting for the projection throw is not a focusing adjustment; it merely adjusts the astigmatism of the attachment so that uniform definition is obtained over the whole screen area. The combination of the projector lens and CinemaScope attachment should next be rotated so that vertical lines in the center of the screen appear vertical and focusing of the projector lens is then accomplished in the usual manner by use of the customary knob and screw.

UNDER NO CIRCUMSTANCES SHOULD THE ATTACHMENT ADJUSTMENT BE CHANGED AS THE PROJECTOR LENS AND ATTACHMENT ARE FO-CUSED, except as described in the following:

The accuracy of the setting of the CinemaScope attachment can be checked at the time of installation by tuning the focusing knob on the projector so that the images go out of focus slightly in each direction and observing that the horizontal and vertical lines of the image go out of focus simultaneously and at the same rate. For example, if turning the focusing knob clockwise should make the horizontal lines fuzzy but the verticals should get a little sharper before becoming fuzzy, then adjustment of the CinemaScope attachment is indicated. Unlock the red clamping ring and turn the uncolored knurled ring slightly in one direction and repeat the in-and-out of focus test to see whether the change in horizontal and vertical lines occur together.

If not, reset in the other direction slightly beyond the initial setting and recheck. When the best adjustment is found by this trial method lock the setting with the red clamping ring.

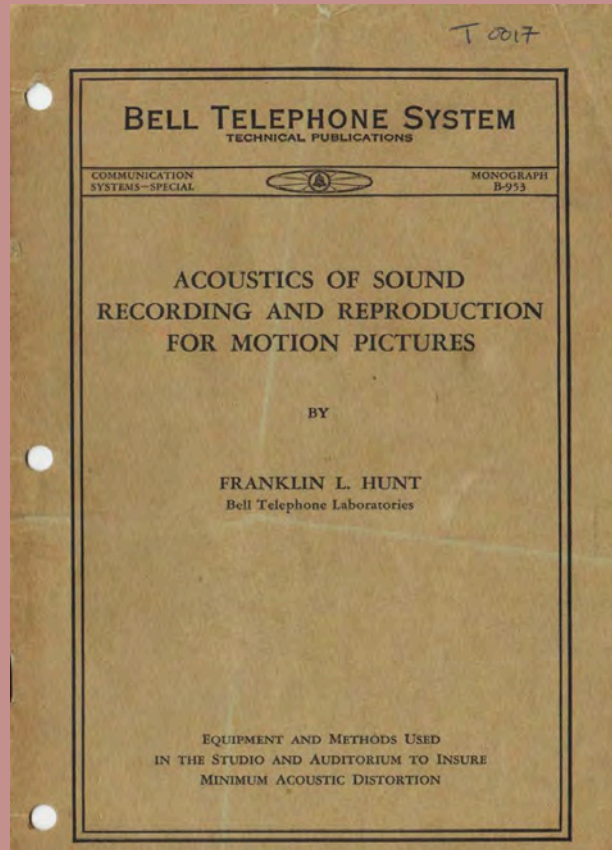
It must be emphasized that great care be used in this test and, in evaluating the screen results, it should be remembered that the scales on the barrel were placed thereon in manufacture of the unit and suitably tested. Should the test indicate a value 5% or more different than the scale setting the attachment should be returned for inspection.

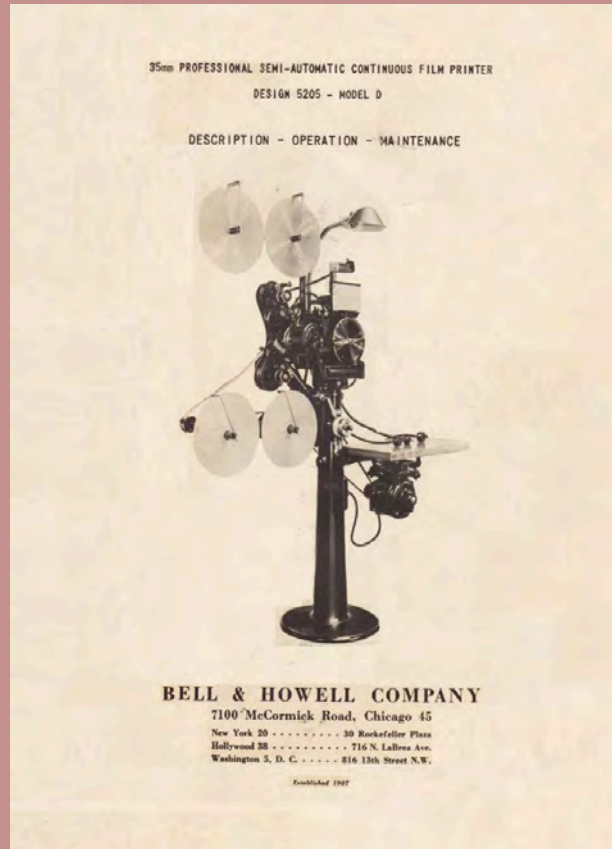


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BKS / BKSTS

B.K.S.T.S. Technical Data. Film, Lens and Aspect Ratios.

16mm Film (0.630 in.)

Perfs per frame	1
Frames per foot	40
Perfs per foot	40
Feet per minute @ 16 fps	24
Feet per minute @ 24 fps	36
Metres per minute @ 16 fps	7.32
Metres per minute @ 24 fps	10.97

35mm Film (1.378 in.)

Perfs per frame	4
Frames per foot	16
Perfs per foot	64
Feet per minute @ 24 fps	90
Feet per minute @ 25 fps	93.75
Metres per minute @ 24 fps	27.43
Metres per minute @ 25 fps	28.58

70mm Film (2.756 in.)

Perfs per frame	5
Frames per foot	12.40
Perfs per foot	64
Feet per minute @ 24 fps	112.50
Feet per minute @ 30 fps	140.63
Metres per minute @ 24 fps	34.29
Metres per minute @ 30 fps	42.86

16mm Projector Apertures

1.34:1 Standard	9.65 x 7.21mm 0.380 x 0.284in
1.66:1 Super 16	11.89 x 7.16mm 0.468 x 0.282in
1.85:1 Super 16	11.89 x 6.43mm 0.468 x 0.243in

35mm Projector Apertures

1.33:1 Silent	23.65 x 17.78mm 0.931 x 0.700in
1.37:1 Academy	20.96 x 15.24mm 0.825 x 0.600in
1.66:1 Widescreen	20.96 x 12.62mm 0.825 x 0.497in
1.78:1 Widescreen	20.96 x 11.79mm 0.825 x 0.464in
1.85:1 Widescreen	20.96 x 11.33mm 0.825 x 0.446in
2.35:1 Cinemascope	21.31 x 18.16mm 0.839 x 0.715in
2.39:1 Cinemascope	20.96 x 17.53mm 0.825 x 0.690in
2.55:1 Cinemascope	23.16 x 18.16mm 0.912 x 0.715in
1.85:1 Super 35	24.00 x 12.96mm 0.945 x 0.511in
2.40:1 Super 35	24.00 x 10.00mm 0.945 x 0.394in

* Original Dimensions

* Current S.M.P.T.E. standard.

* Dimensions for Multi-track Magnetic Cinemascope.

† Improved picture quality when reprinted onto optical

release print. Also used for 70mm blow-ups.

‡ Non-Anamorphic Cinemascope photography. Image squeezed by 2:1 when reprinted.

70mm Projector Apertures

2.20:1 Standard	48.59 x 22.10mm 1.913 x 0.870in
1.85:1 Special	40.89 x 22.10mm 1.610 x 0.870in
1.37:1 Imax 15-Perf	68.00 x 49.64mm 2.677 x 1.954in
1.37:1 Imax 8-Perf	62.00 x 38.00mm 2.047 x 1.496in

Synchronisation between Picture and Sound

Film	Type of sound	Frames	Position
16mm	Optical Track	28	Ahead
16mm	Magnetic Track	28	Ahead
35mm	Optical Track	20	Ahead
35mm	Magnetic Track	28	Behind
70mm	Magnetic Track	24	Behind
Golly Digital	Digital Optical	26	Ahead
S.D.D.S.	Digital Optical	0	
D.T.S.	Digital CD ROM	20	Ahead

Conversion of Lens Focal Length Using**Common Picture Height**

Lens Focal Length of	Multiply by	To Obtain
Standard		
1.37:1	0.743	WS 1.85:1
1.37:1	1.151	CS 2.39:1
1.37:1	1.449	70 2.20:1

Widescreen

1.85:1	1.346	ST 1.37:1
1.85:1	1.848	CS 2.39:1
1.85:1	1.950	70 2.20:1

Cinemascope

2.39:1	0.869	ST 1.37:1
2.39:1	0.646	WS 1.85:1
2.39:1	1.259	70 2.20:1

70mm

2.20:1	0.690	ST 1.37:1
2.20:1	0.513	WS 1.85:1
2.20:1	0.794	CS 2.39:1

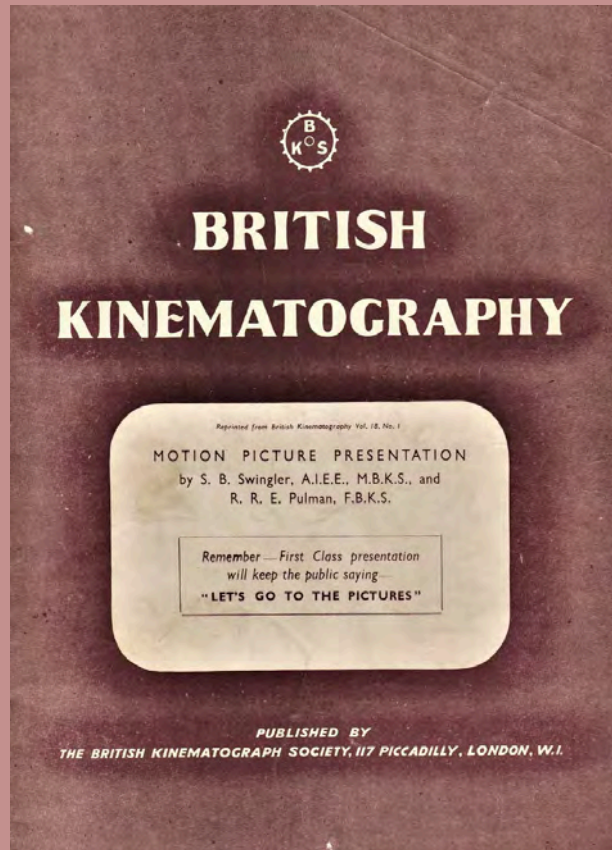
Lens Barrel Diameter Equivalents

50.80mm	2.000in
55.00mm	2.165in
57.15mm	2.250in
62.50mm	2.460in
63.50mm	2.500in
69.85mm	2.750in
70.60mm	2.780in
101.60mm	4.000in

35mm Cue Marks (Frames from tail)

ANSI PH22.55-1983	SMPT 201-1997
Start of Motor cue:	200
Frames Between cues:	168
Start of Picture cue:	28

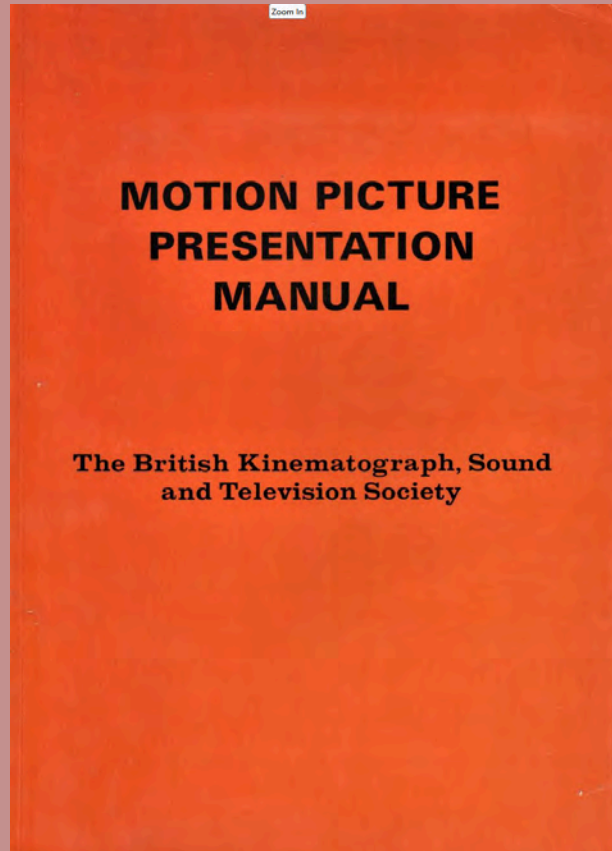
Edited & Reviewed by Steve Grant.



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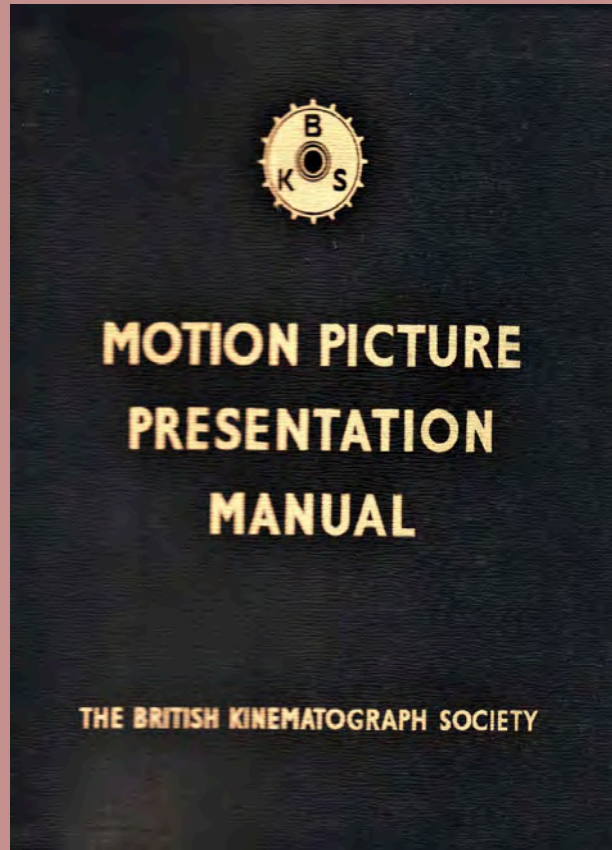
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BKS / BKSTS



“BETTER PROJECTION”



II—PROJECTOR CARE

The second of a series of lectures prepared by the Theatre Division Committee of the British Kinematograph Society, for presentation, through the branches of the Cinematograph Exhibitors' Association, to projectionists throughout Great Britain.

THE BRITISH KINEMATOGRAPH SOCIETY

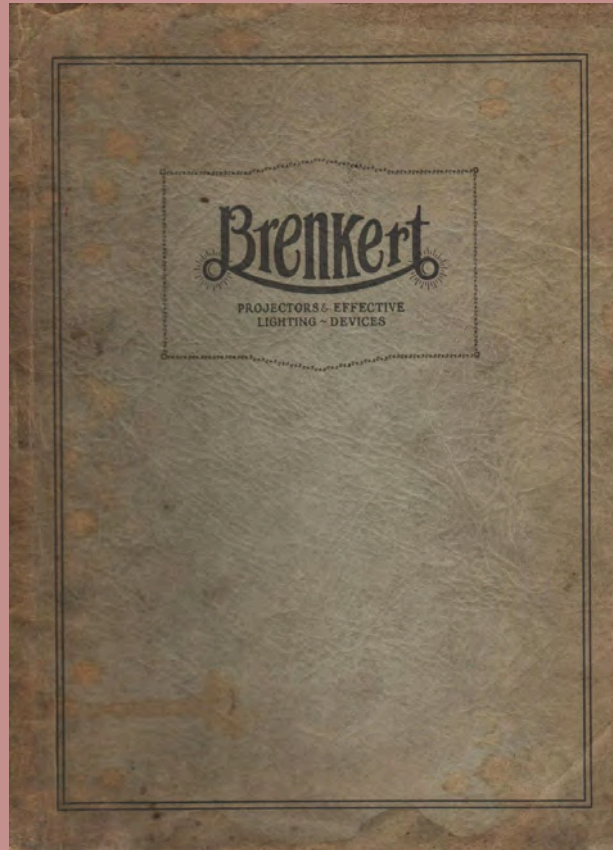
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GERrard 7368

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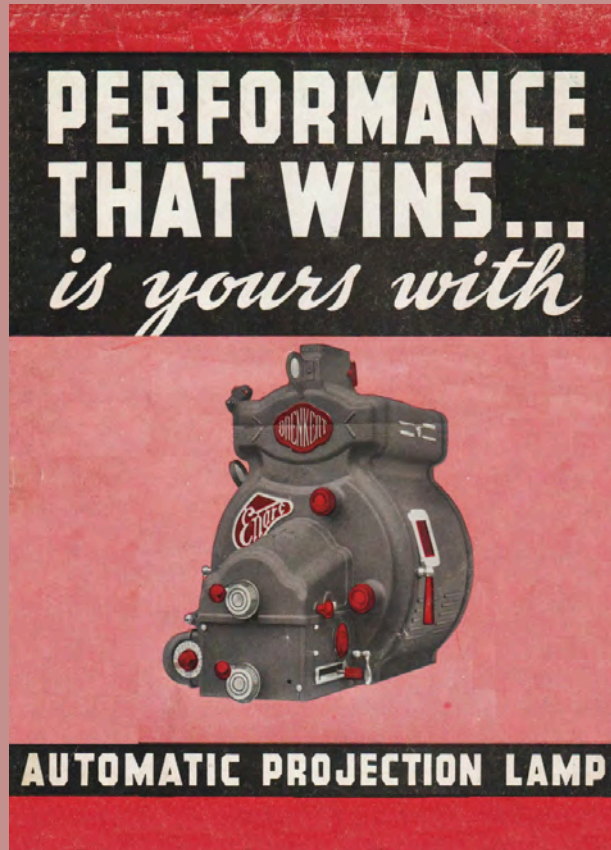
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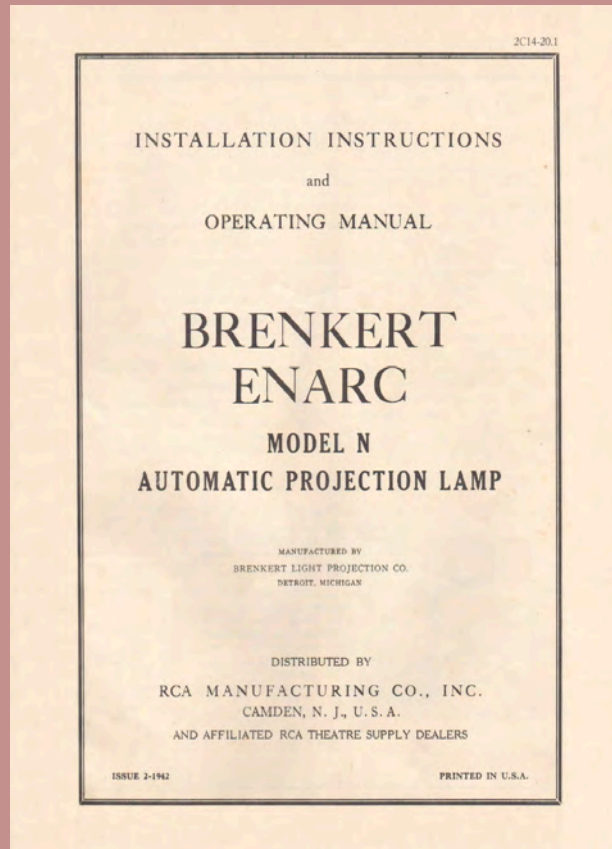
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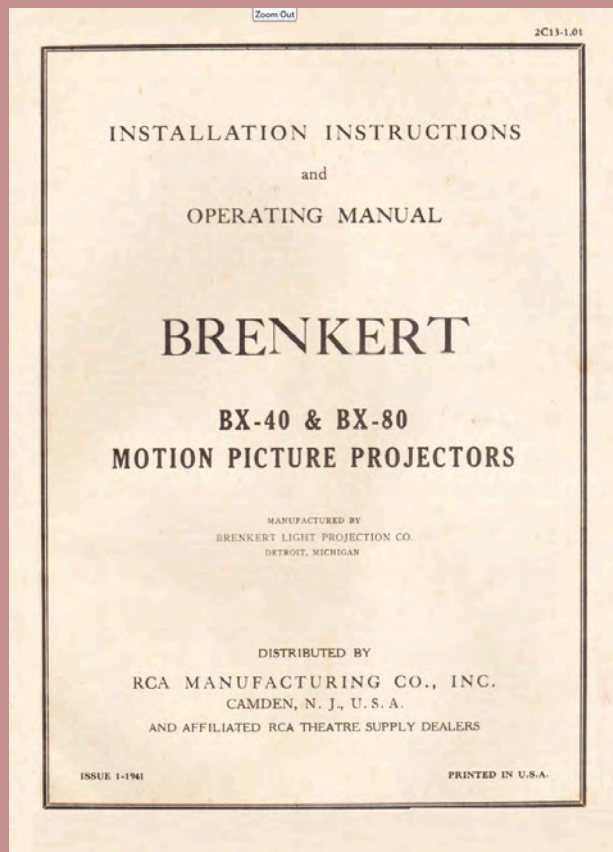


Brenkert BX 60 projector

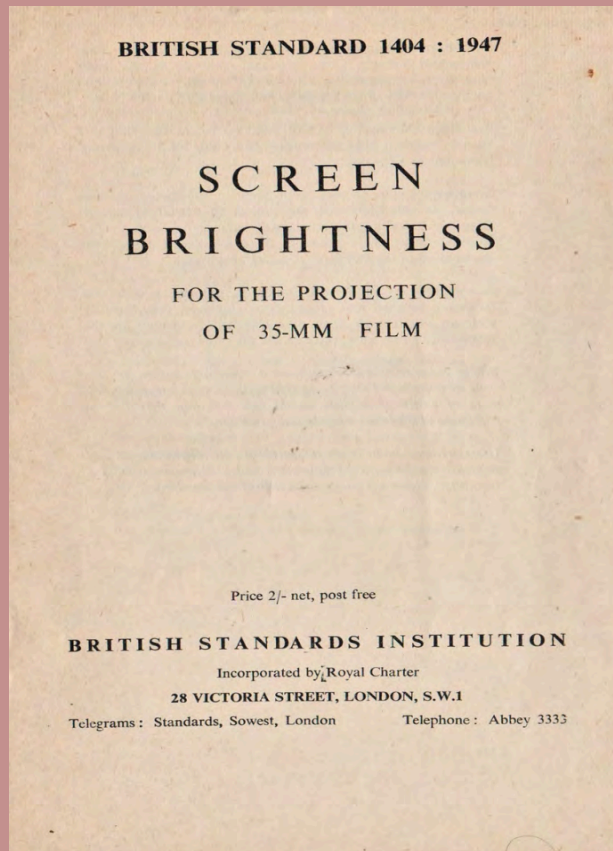




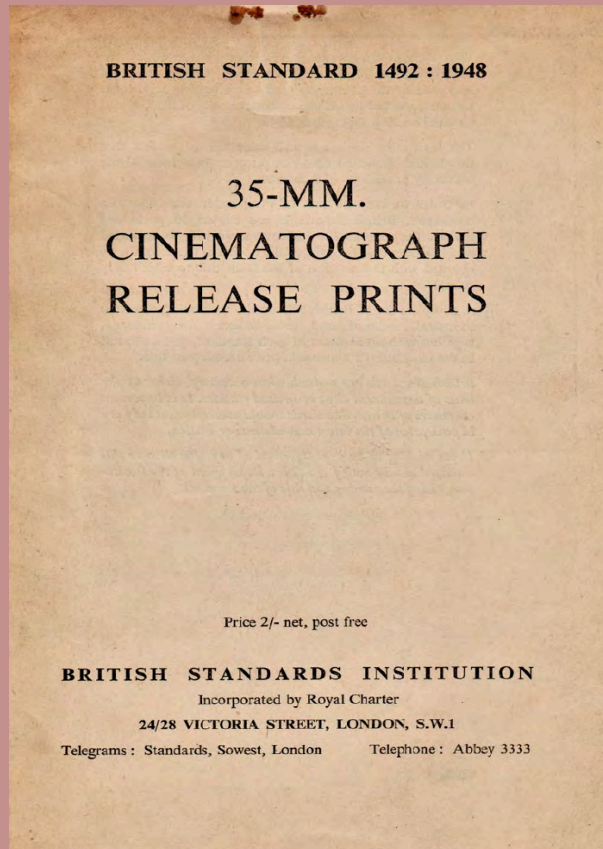




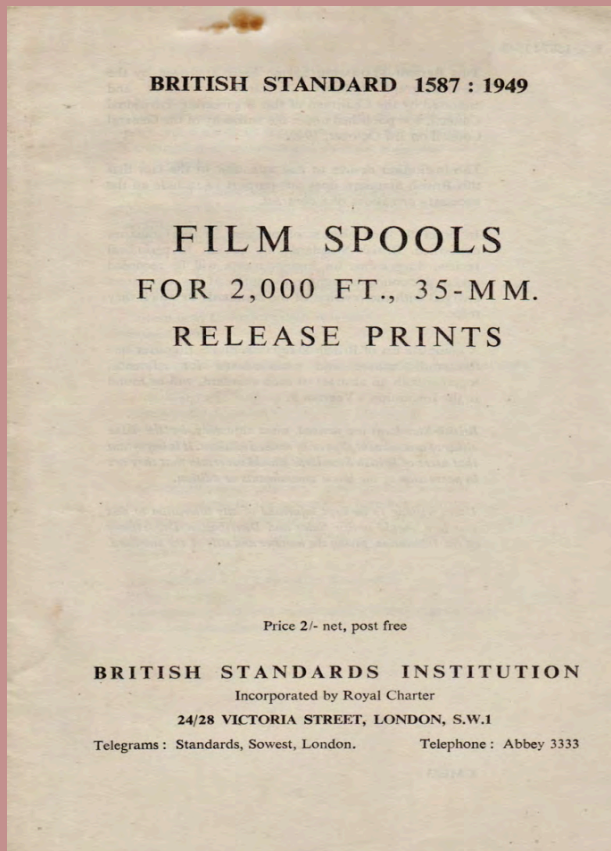
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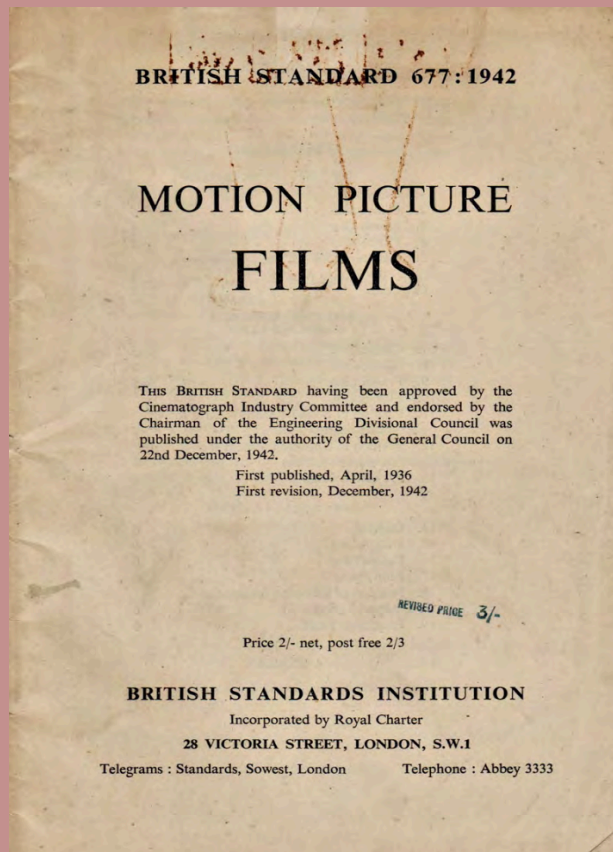
British Standards Institution (BSI)



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British Standards Institution (BSI)



British Talking Pictures

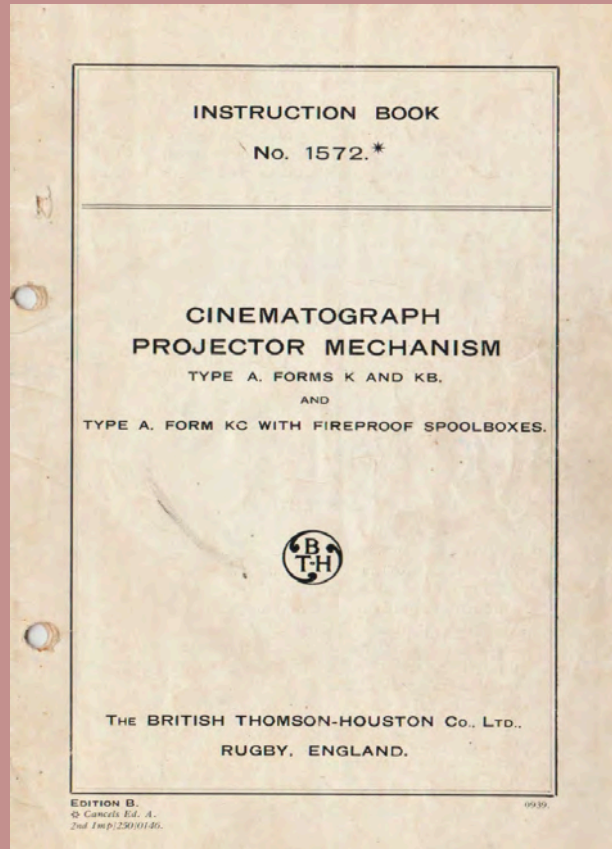


British Talking Pictures

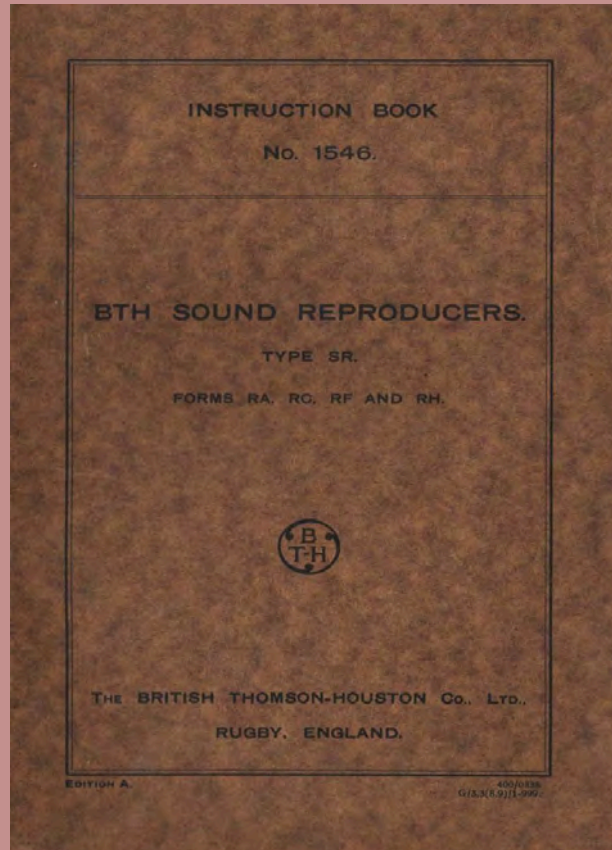


Trufonic reproducing equipment

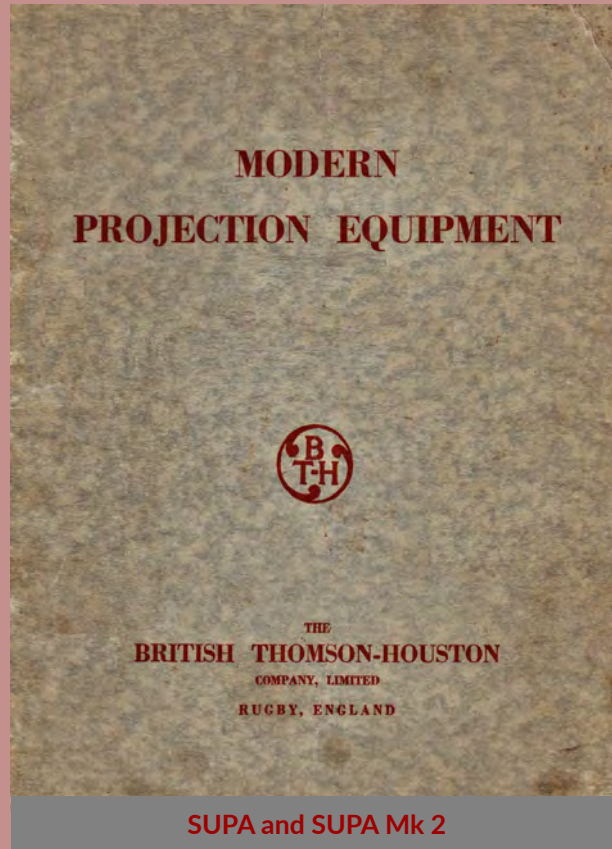
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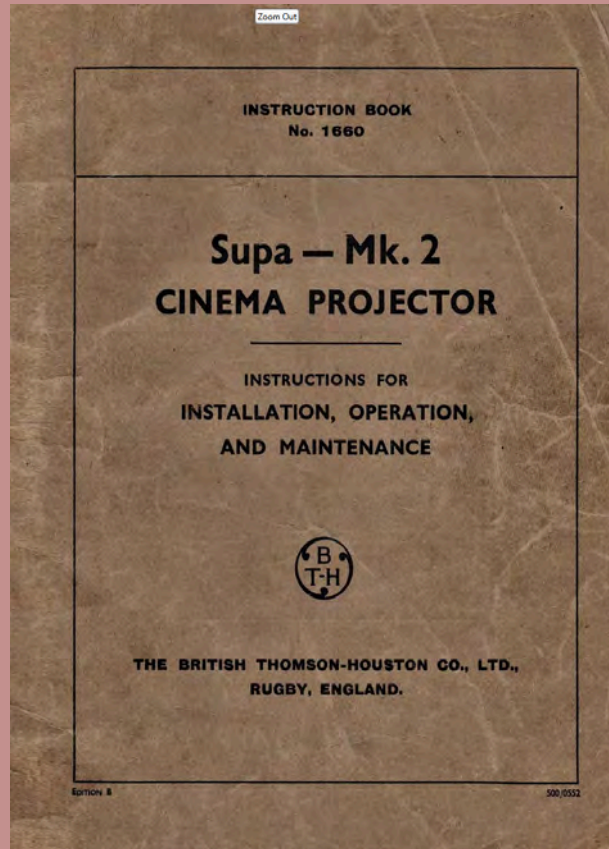
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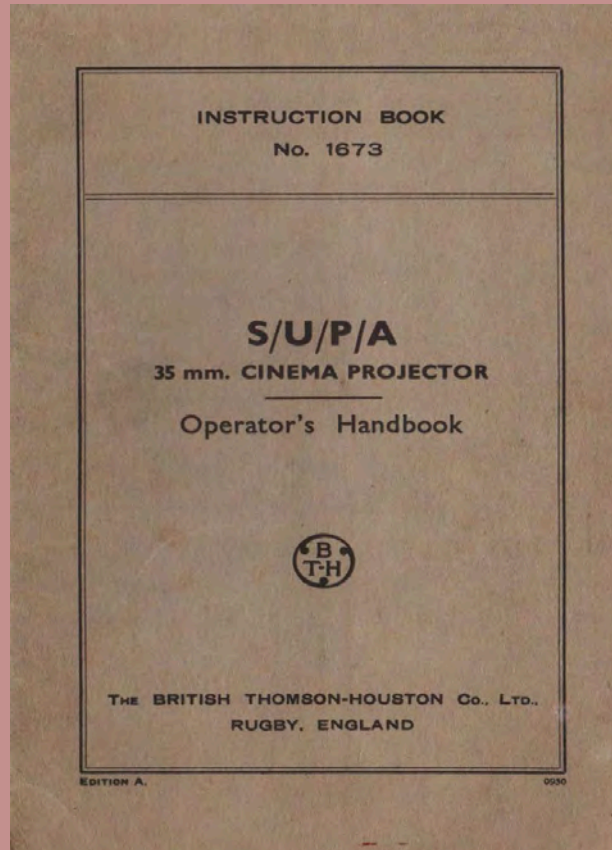
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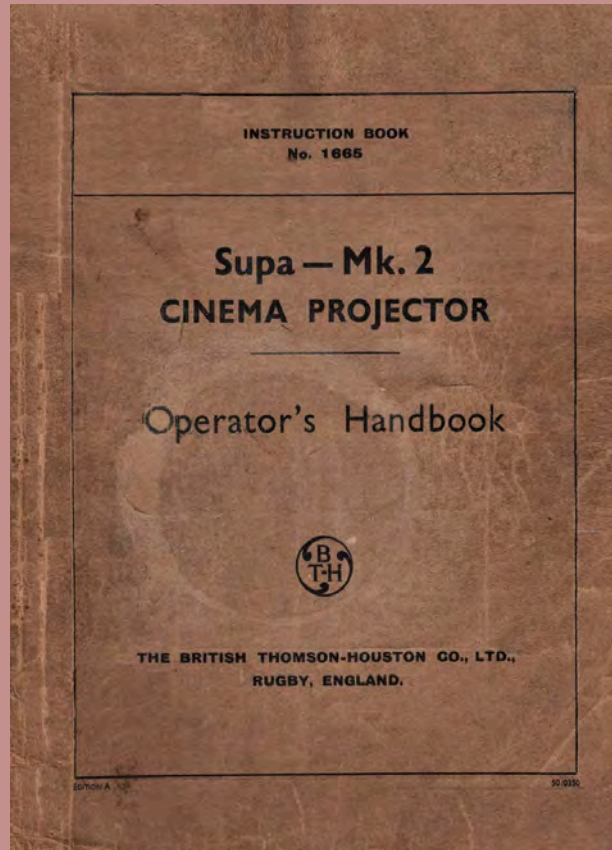
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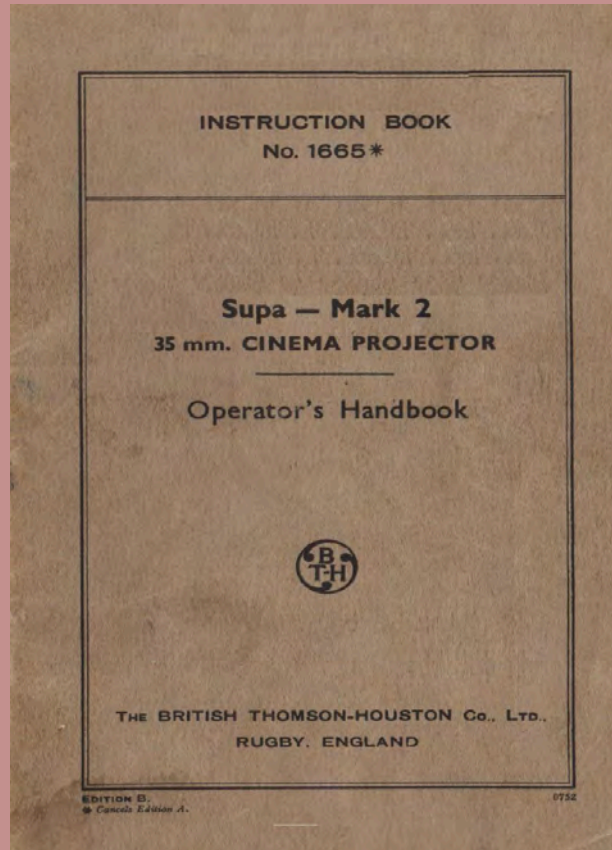
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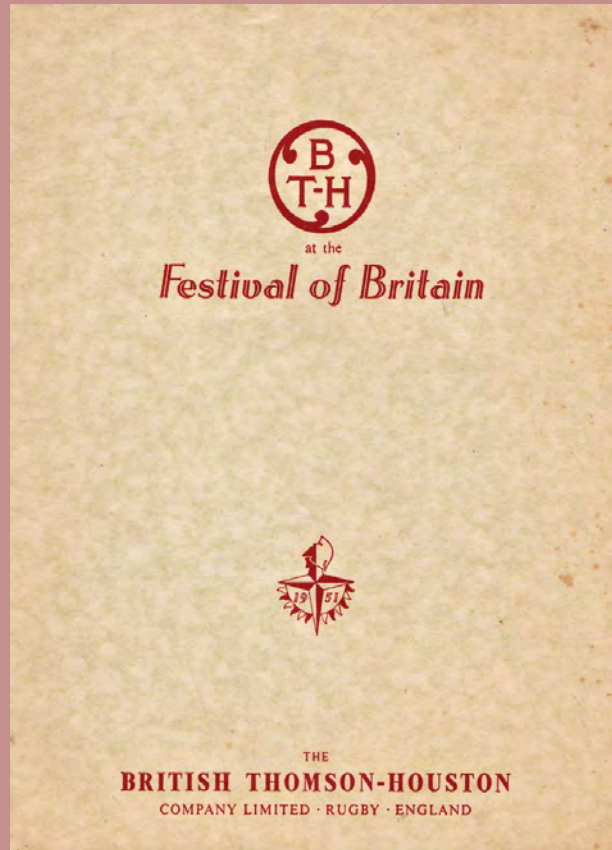
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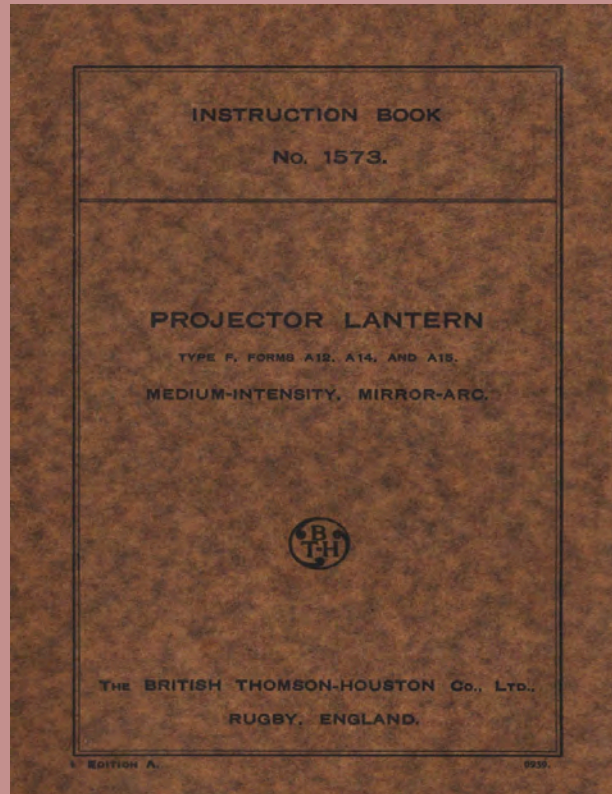
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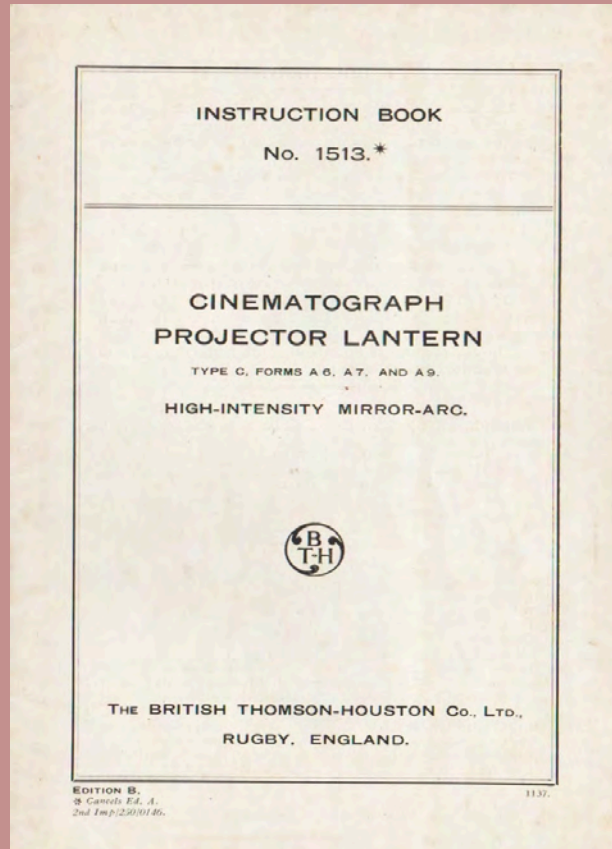


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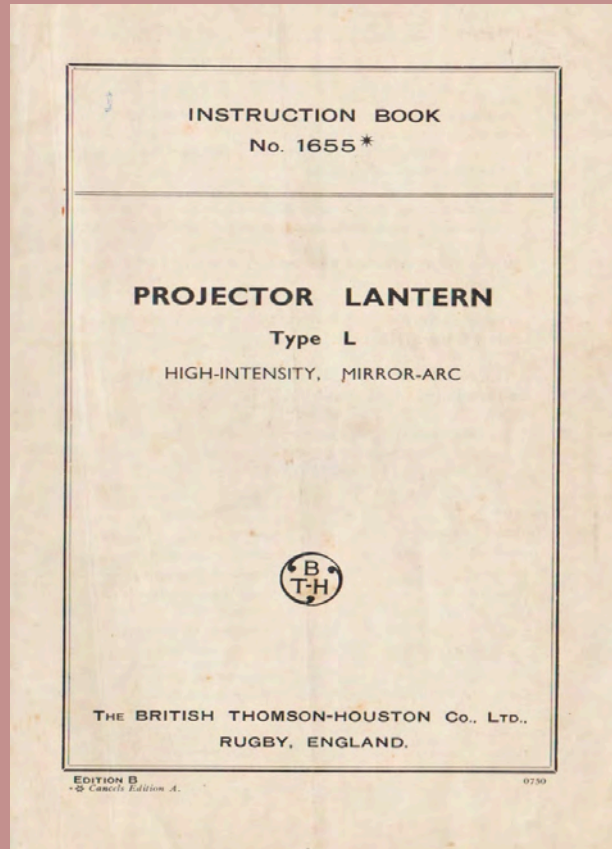


Type F lamphouse

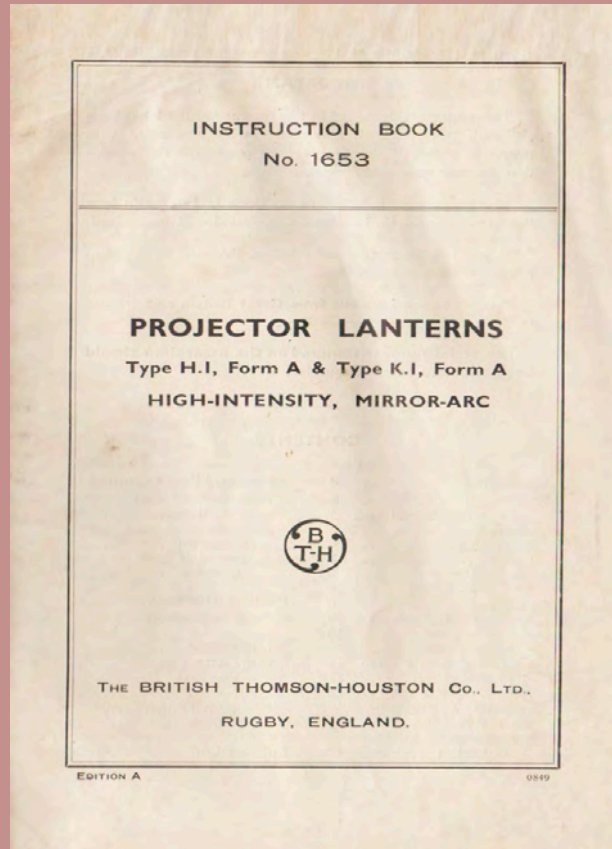
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DESCRIPTIVE LIST  No. 7481-G*

'S/U/P/A'
CINEMATOGRAPH PROJECTOR LANTERN
TYPE H
HIGH-INTENSITY, MIRROR-ARC



Fig. 1. Operating side of the Lantern, showing the attractive streamline appearance.

THE Type H projector Lantern is a further advance in design resulting from intensive BTH research. A very high level of screen illumination is achieved, and the efficiency of design is such that this result is obtained at an operating cost no higher than that of many low-intensity lanterns.

This lantern has been designed for an arc-current of 50-amperes, and will give stable operation with line voltages between 60 and 100 volts; the recommended arc voltage for the standard carbon trim is 41 volts.

Skillful use of ventilating louvers and internal heat reflectors ensures adequate body cooling, free from internal draughts and arc flicker. The lantern chimney includes a flue-damper to prevent down draughts.

The neat streamline appearance is shown in Fig. 1. The body has a polychromatic-grey finish, all the external metal parts being chromium-plated. The handy-sized control knobs are heat-insulated and clearly marked to show effect of rotation.

DISTINCTIVE FEATURES

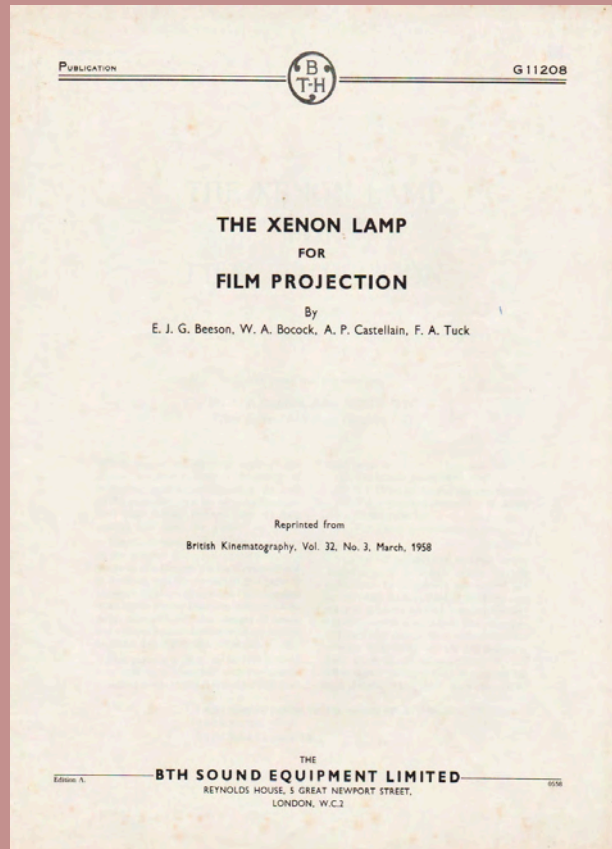
- Improved screen illumination.
- Improved cooling.
- Automatic arc-striking.
- New feed control device.
- Automatic focus control.
- Quick-reset carbon carriages.
- Longer burning for carbons without resetting.
- Increased light with low current consumption.
- Easy operation.

As efforts are made constantly to improve both designs and methods of manufacture, the apparatus supplied may differ in details from the illustrations.

EDITION B.
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THE BRITISH THOMSON-HOUSTON CO., LTD.,
RUSSY, ENGLAND.

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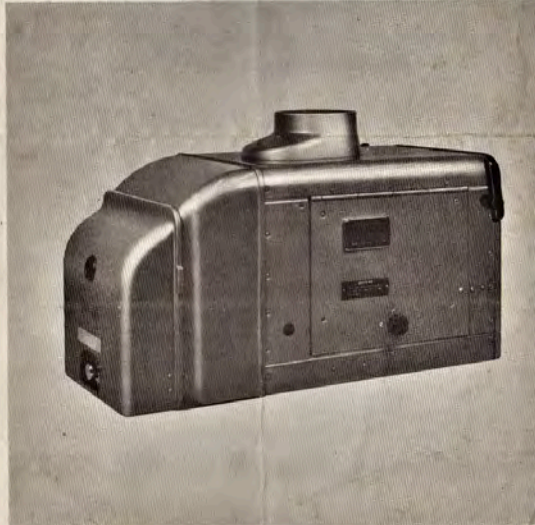


British Thomson-Houston (BT-H)

GEC-Elliott Process Automation Limited

Xenon Lantern
Type LX & LX Mk II

Components List



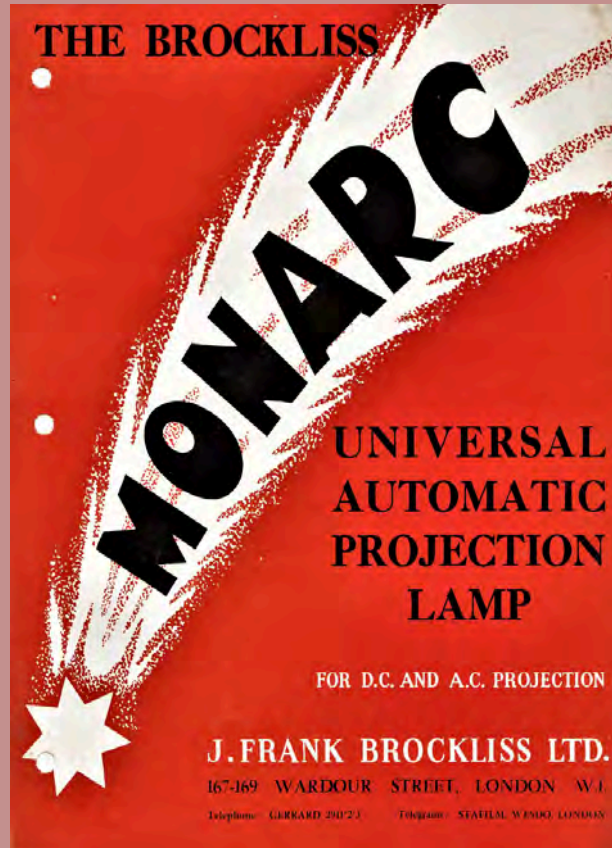
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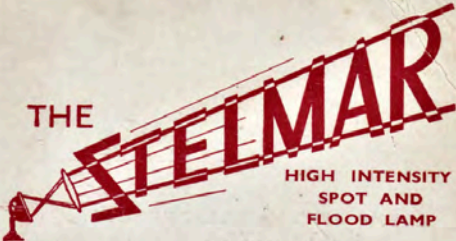


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Brockliss





THE
STELMAR
HIGH INTENSITY
SPOT AND
FLOOD LAMP

THE PERFECT MEDIUM
FOR PROJECTING THE
MOST BRILLIANT SPOT
AND FLOOD YET PRODUCED

WORKS EFFICIENTLY ON
ANY AMPERAGE UP TO 75

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THE STELMAR PROJECTION LIGHTING SYSTEM

Brockliss

Instructions for Assembling and Aligning

THE STELMAR PROJECTION ARC LAMP

The Stelmar Arc Lamp is sent out in two parts :—

- A. The lamphouse and Arc.
- B. The Stelmar reflector unit.

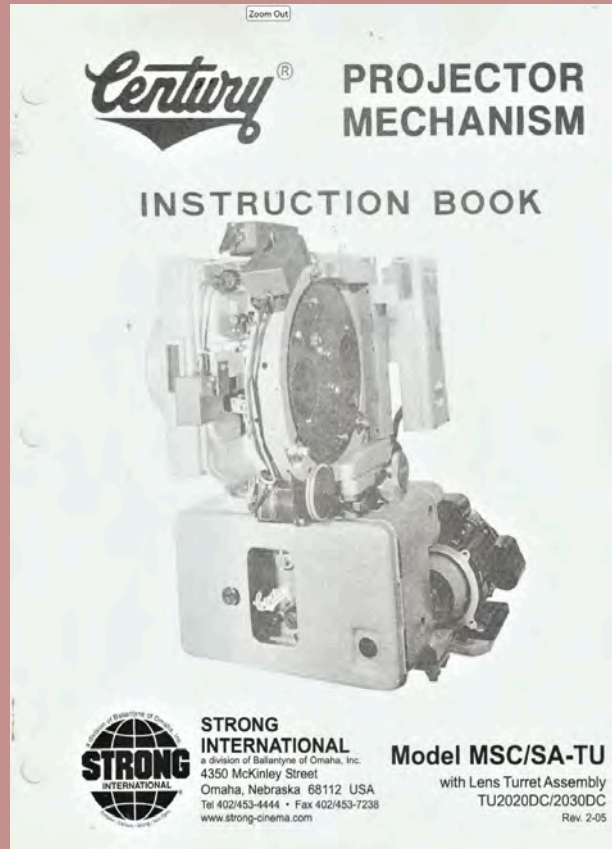
Before attempting to set up the lamphouse, care should be taken to see that the projector lamphouse carriage is in the same horizontal plane as the mechanism.

The Stelmar lamphouse has been designed for mechanisms having an optical centre $8\frac{1}{2}$ " from the base plate, consequently for mechanisms having a different height centre, the lamphouse carriage must be raised or lowered accordingly.

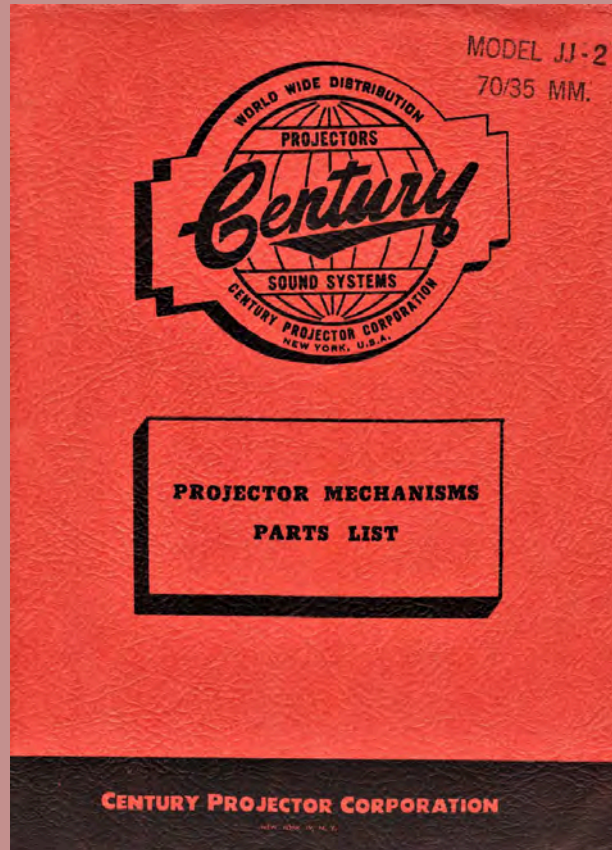
After the Stelmar lamphouse has been securely bolted down to lamphouse carriage, the Stelmar unit should now be unpacked. It will be noted that the unit is bolted together with three nuts and bolts. These should be removed as they are only utilised to ensure the safe transit of the unit. The three knurled retaining nuts should then be removed from the lamphouse unit holder. These will be found when the front cut-off cone is raised in the upward position. The large reflector cone should then be fitted into the recess casting with the three fixing studs protruding. Attached under the bow spring of the inner reflector will be found a small envelope which contains the universal supporting pillars for the bi-convex lens. These can be inserted into the holes provided at the bottom of the inner reflector cone.

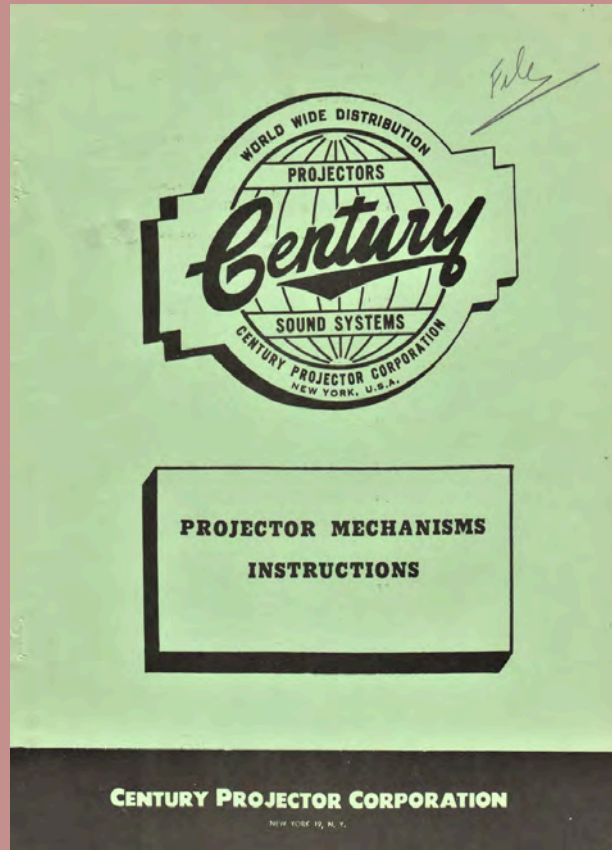
The central lens which is packed with the unit can then be inserted with the larger convex surface towards the mechanism. It will be as well to obtain a pair of inside callipers to check whether the central lens is in the centre of the inner cone. If adjustment is required, this can be made by unlocking the two lock nuts on the base of the inner cone and adjusting the screws which will be found there.

After this adjustment the lock nuts can then be set off and the inner cone reflector, complete with central lens, installed on the lamphouse fixing studs. An engraved name plate will be noticed on the rim of the reflector holder, this should appear at the top of the rim when looking at the lamphouse front, in other words, the hole nearest to this plate should be placed over the top stud of the lamphouse front.



Century





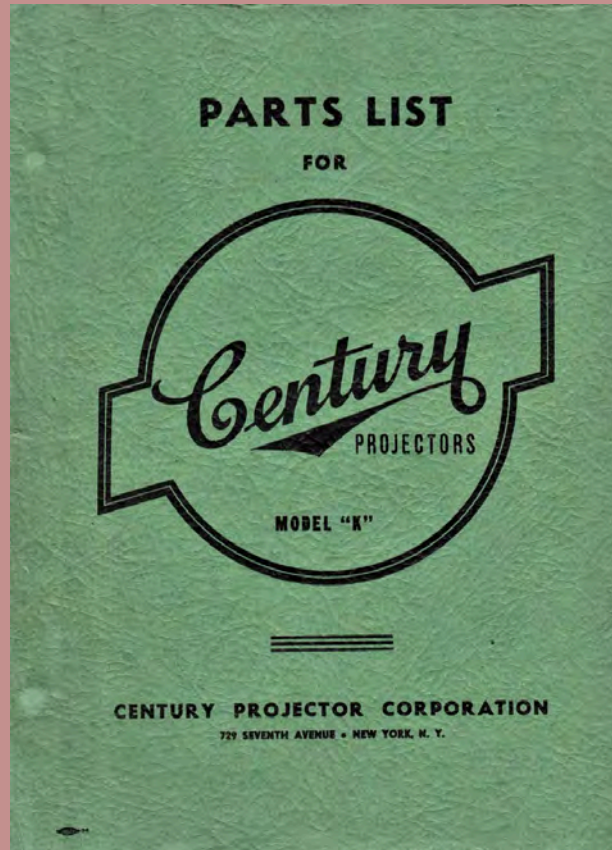
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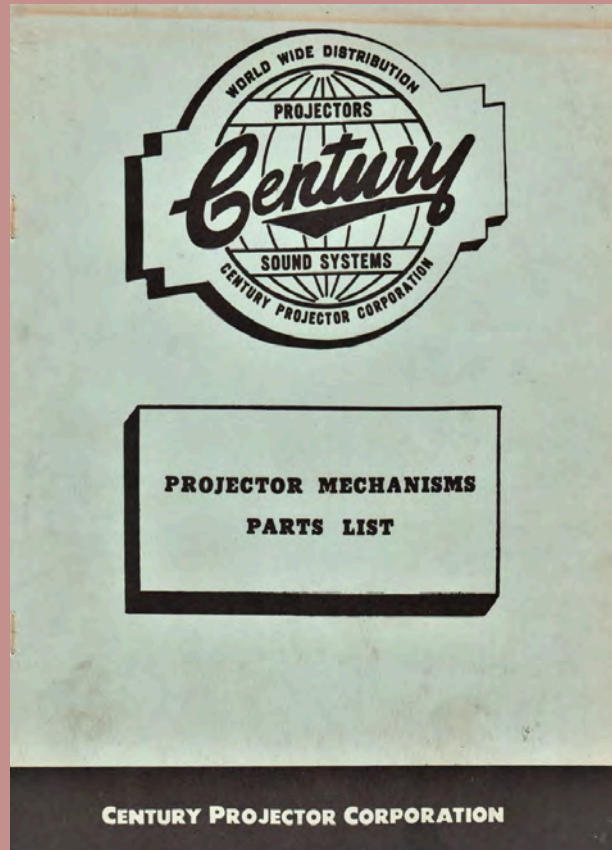


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35mm OPTICAL SOUND REPRODUCERS
Types R3-E, MR3-E, & JR3-E
Instructions & Parts Lists

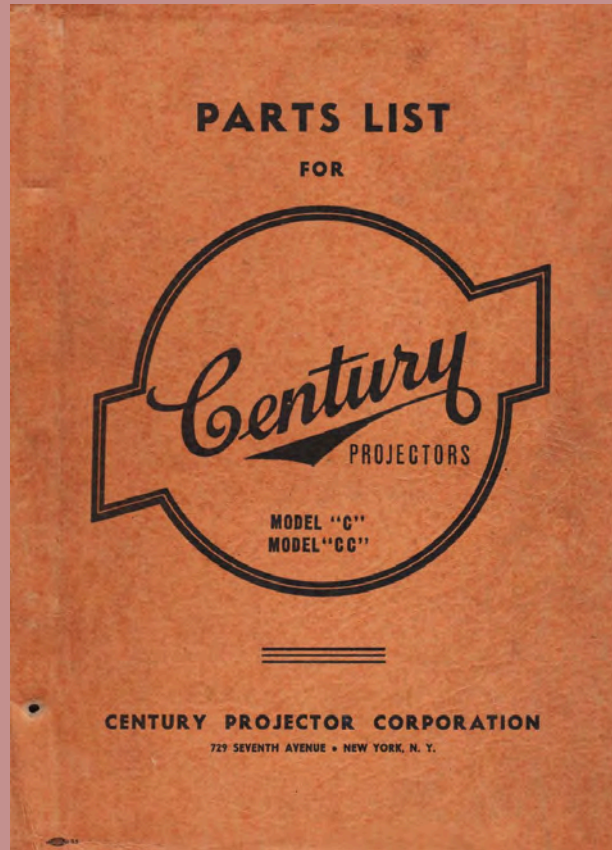
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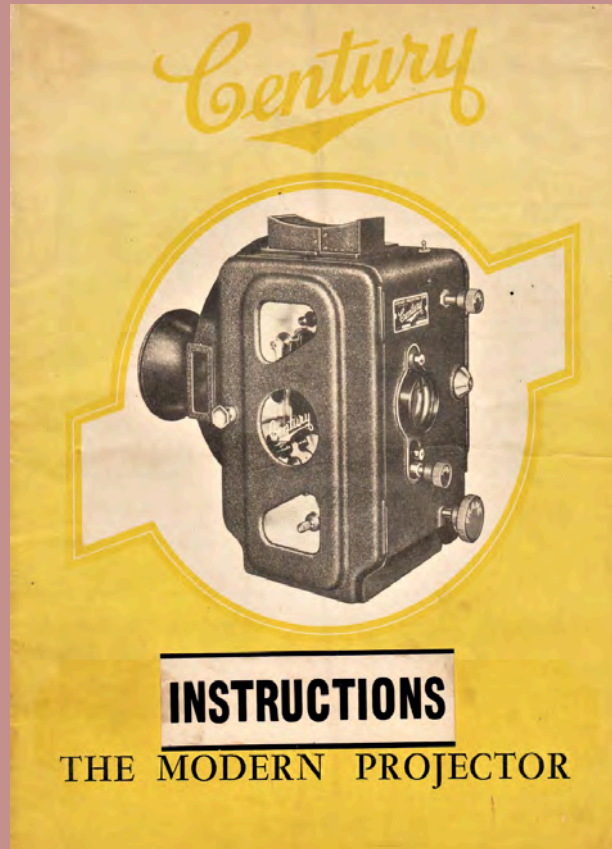
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Century



BULLETIN BSG-70

Zoom Out

Better Light with...



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BSG LAMPHOUSE
& RECTIFIER POWER SUPPLY



- 1600 TO 6500 WATTS
- BRIGHTEST FIELD OF ILLUMINATION
- UP TO 80 FT. INDOOR SCREENS
- ALL SIZE DRIVE-INS
- 35/70MM QUICK CHANGE-OVER
- CAN BE COMPLETELY AUTOMATED



**INDOOR SCREEN
BRIGHTNESS GUIDE**
Typical data based
on 35mm Projector with
3 inch TL 9 lens, 50%
shutter, screen gain of 1.2,
and 2.35:1 aspect ratio.

MAJOR COMPONENTS

XENON BULB (See "XL" Bulletin)
An extremely high brightness point source of light with tungsten electrodes fully enclosed in quartz. Almost indistinguishable from natural daylight — more brilliant colors, sharper images, greater depth of focus, no warm-up, clean and automatic unattended operation. Average life of 1000-2000 hours, typically twice as efficient as carbon arc.

LAMPHOUSE Designed optically, mechanically, and electrically for optimum performance of each size Xenon bulb. Provides brightest field of illumination per watt. Special focus control of bulb in conjunction with dual mirror system gives performance not attainable with other systems. Includes: igniter, various controls, meters and optics.

IGNITER (See "XE" Bulletin) Fully enclosed igniter is located in rear compartment of lamphouse, but close to bulb, to provide reliable starting together with maximum safety and accessibility. Connectable for manual or automatic operation.

RECTIFIER POWER SUPPLY (See "XL" Bulletin) Standard system includes separate matched Christie Class III XENOLITE silicon rectifier power supply which incorporates special characteristics for reliable bulb starting and extended bulb life.

CHRISTIE
ELECTRIC CORP.

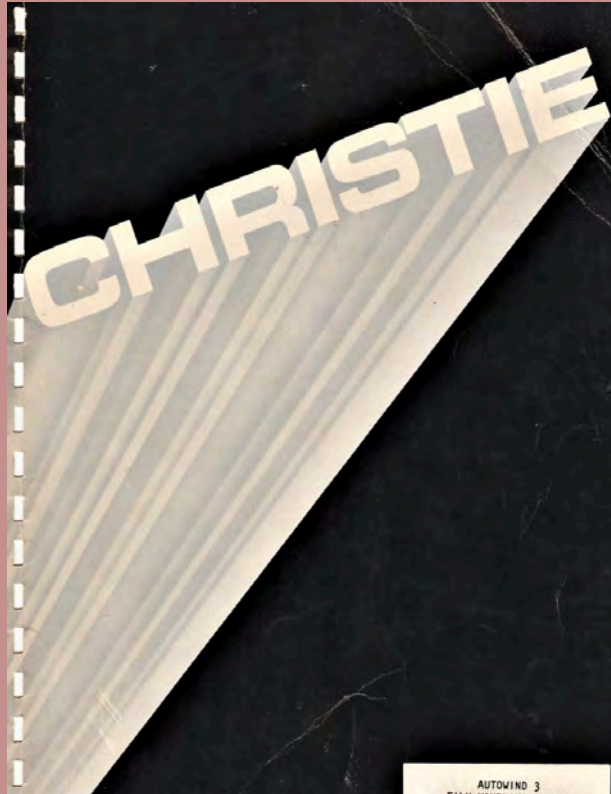
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See other side for Features & Data

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Autowind 3

CHRISTIE

INCORPORATED

INSTRUCTIONS

FOR

INSTALLATION, OPERATION, AND MAINTENANCE

OF

AUTOWIND-3R FILM HANDLING SYSTEM

(P/N: 193932-001)

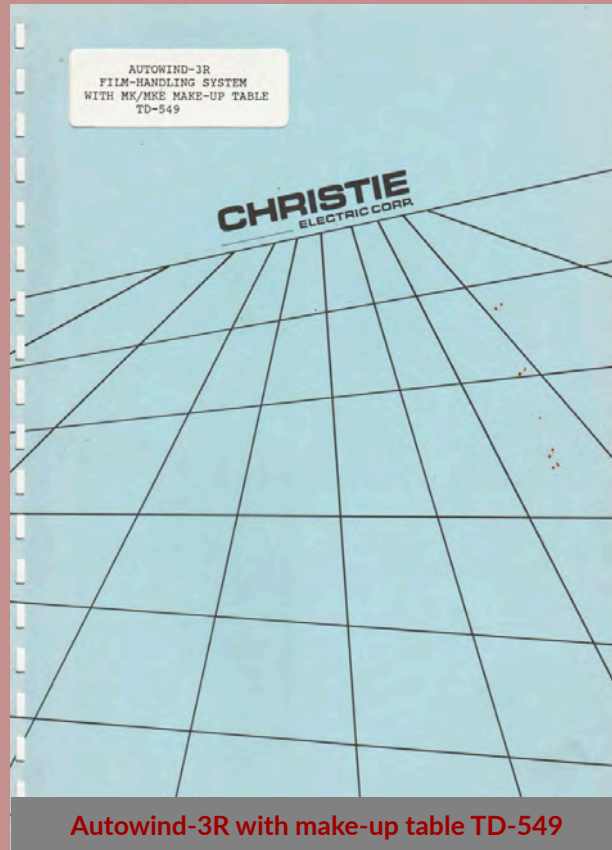
WITH

MK/MKE MAKE-UP TABLE

(AFTER SERIAL NUMBER 4720)

AND ALL WITH RETROFIT KIT P/N: 193439-001

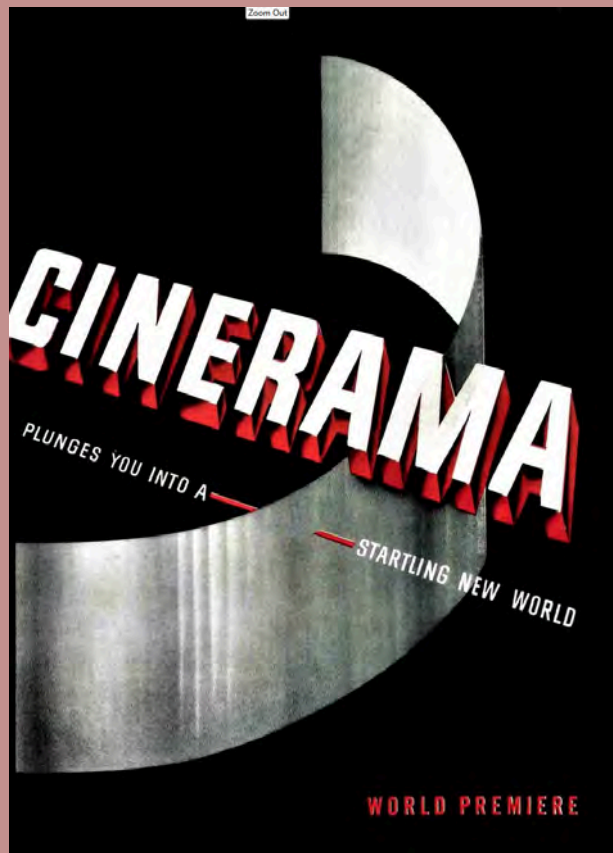
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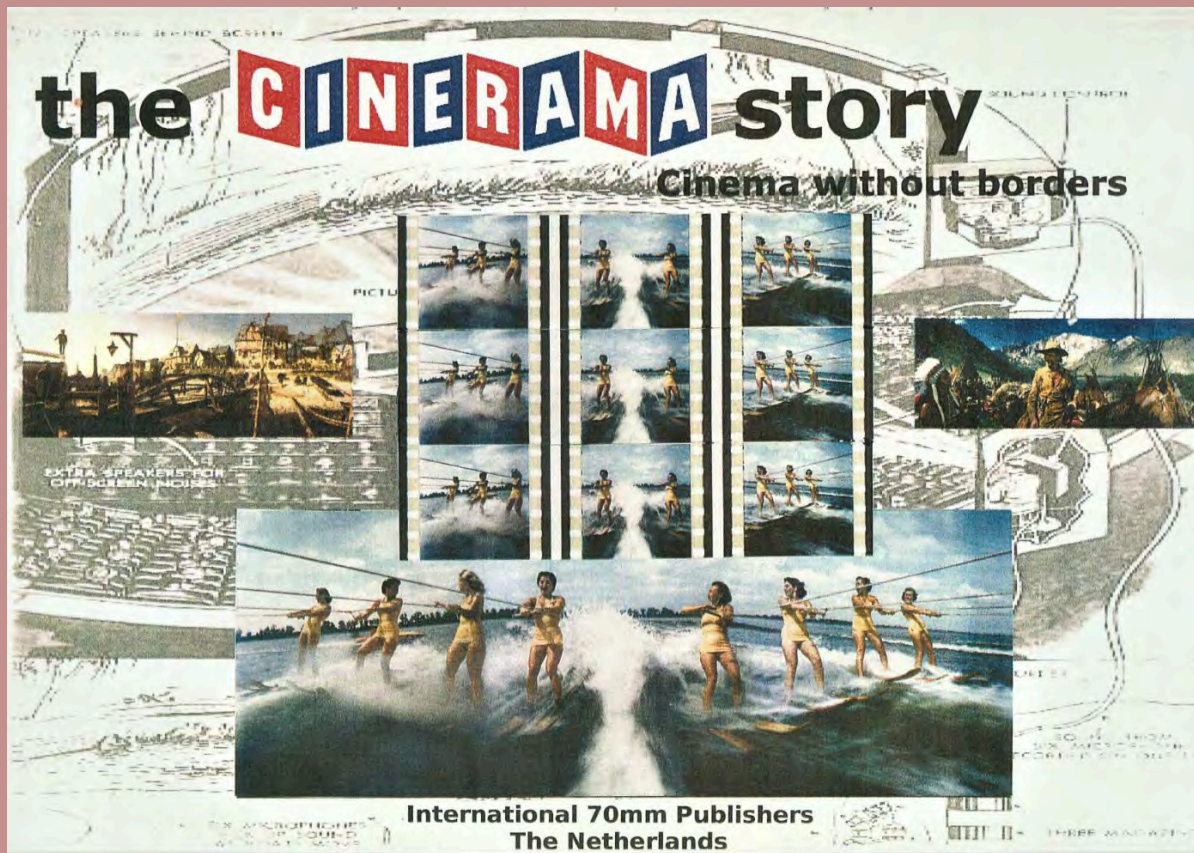


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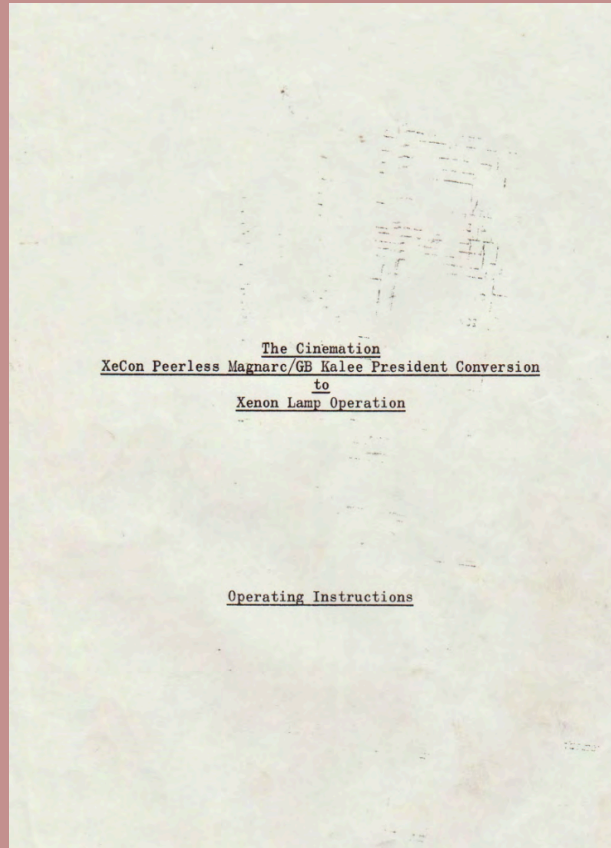
Cinerama

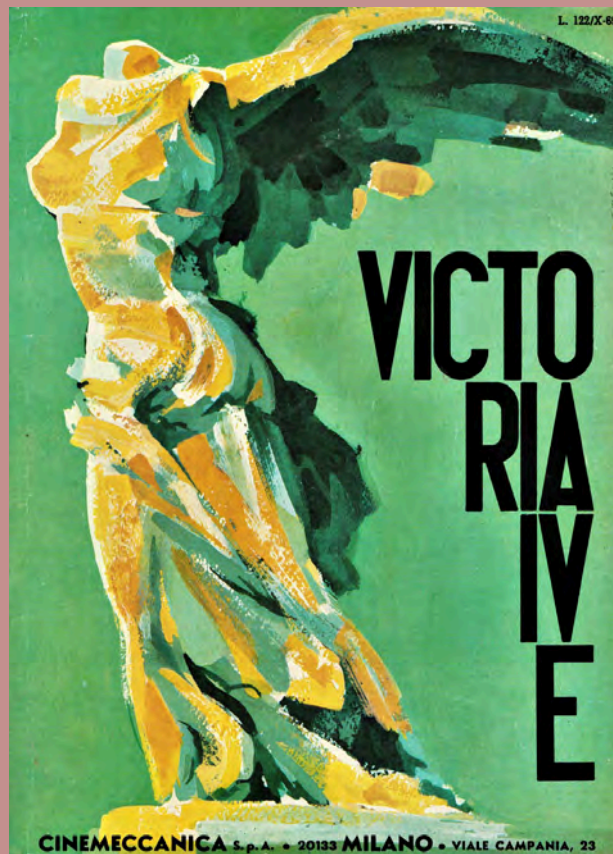
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Cinematic

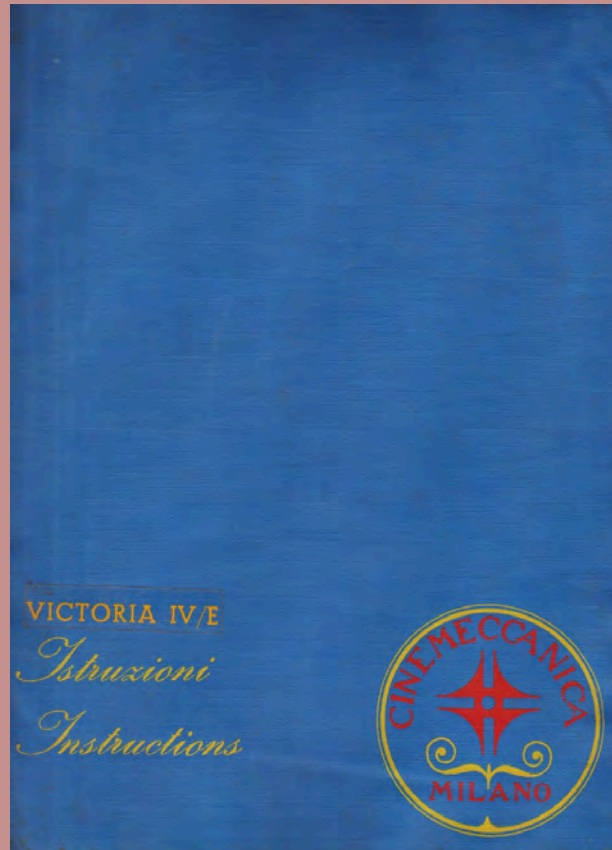




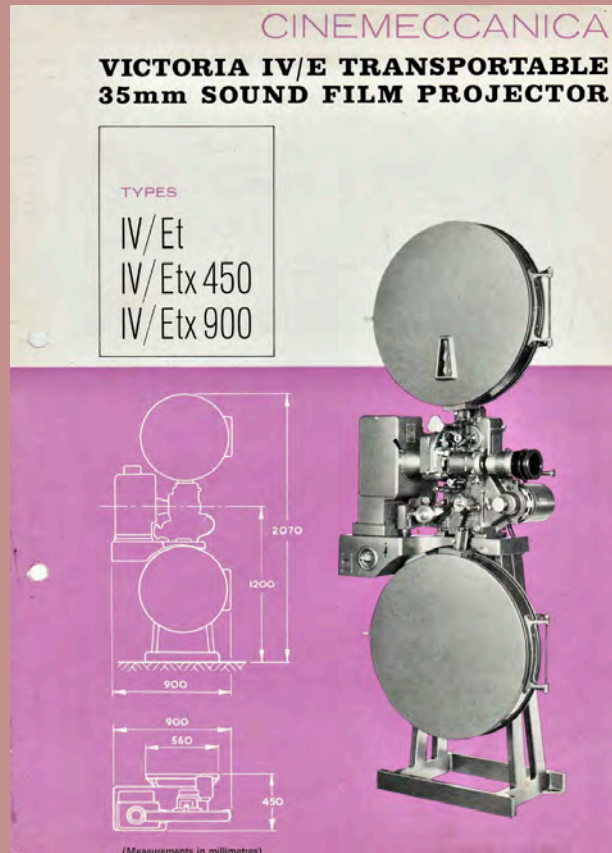
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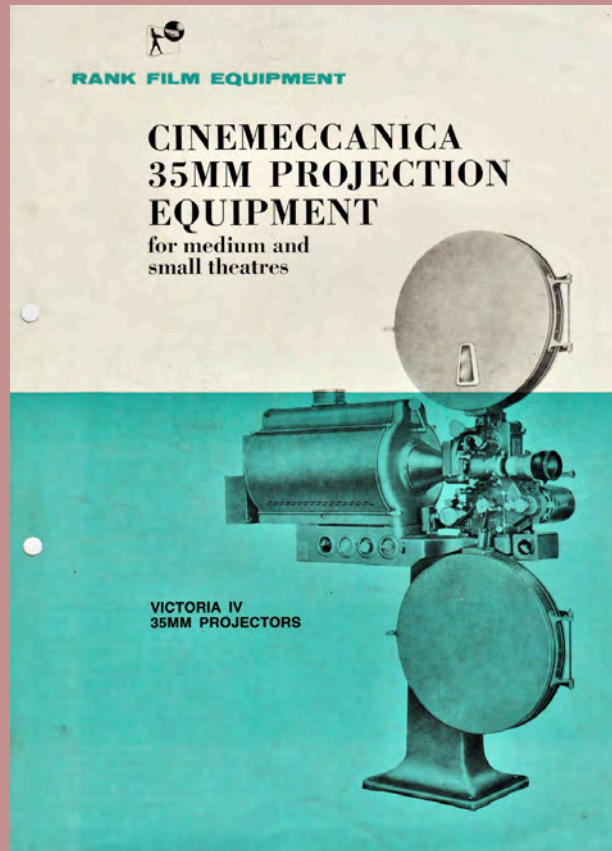
RANK AUDIO VISUAL LIMITED

**CINEMECCANICA
35MM PROJECTION
EQUIPMENT**
for medium and
small theatres

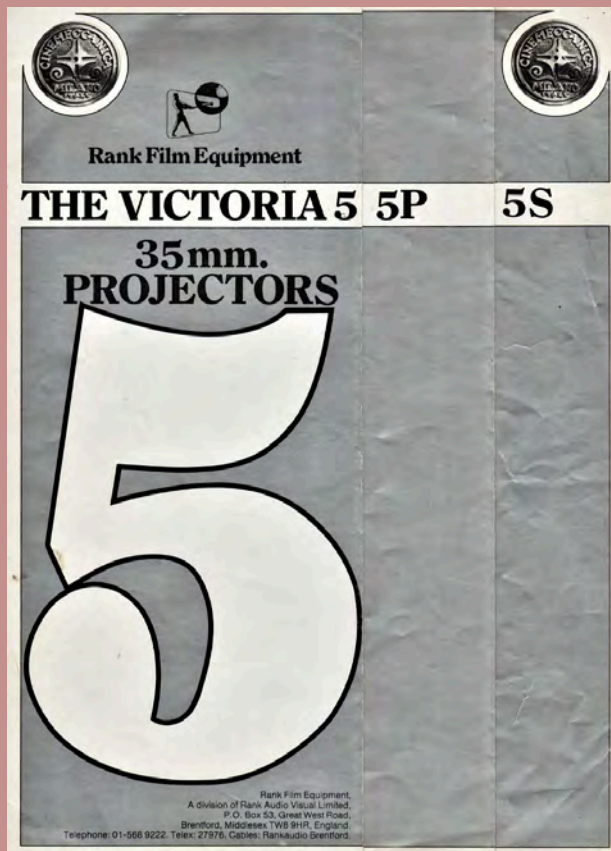
**VICTORIA IV
35MM PROJECTORS**

The Victoria IV range of projectors offers the basic Victoria IV operating mechanism with varying combinations of stand and lamphouse to suit such locations as small public theatres, lecture theatres, pre-view theatres, and ships' cinemas.

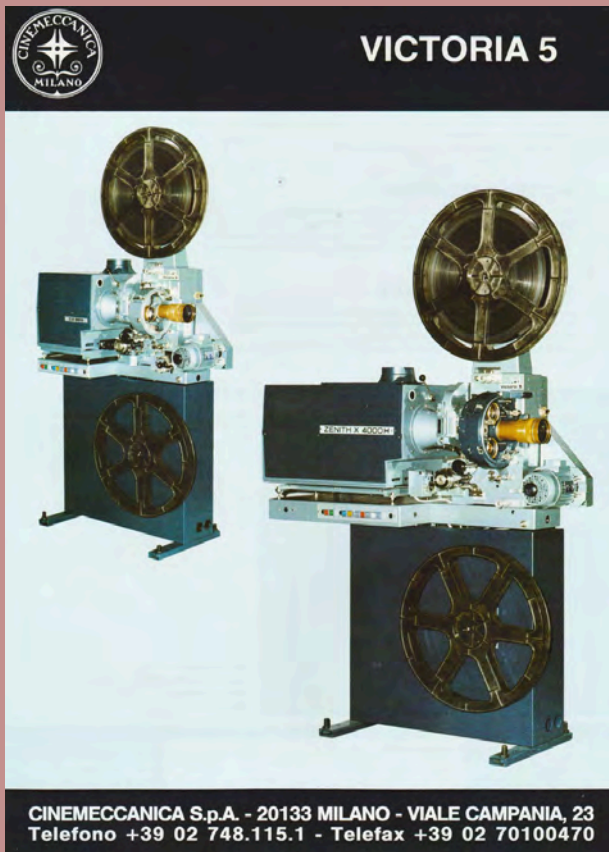
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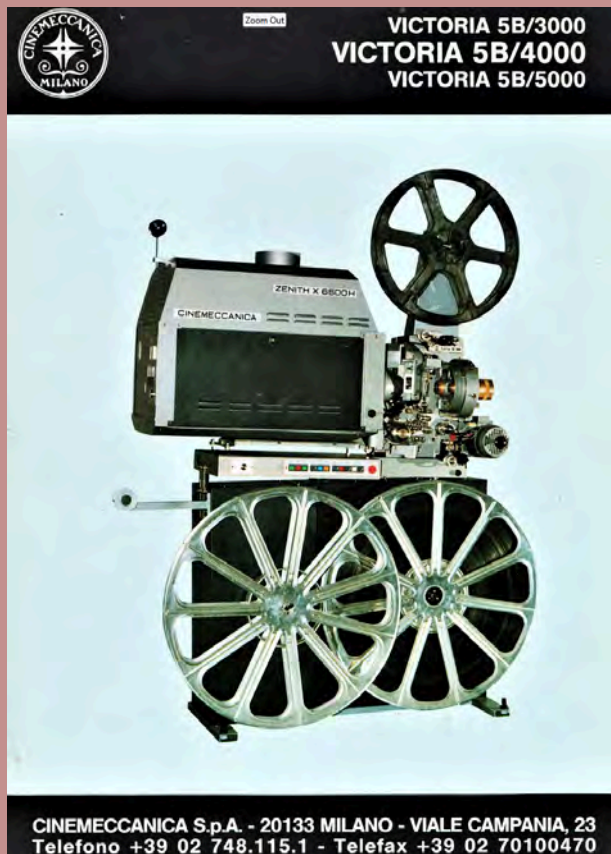
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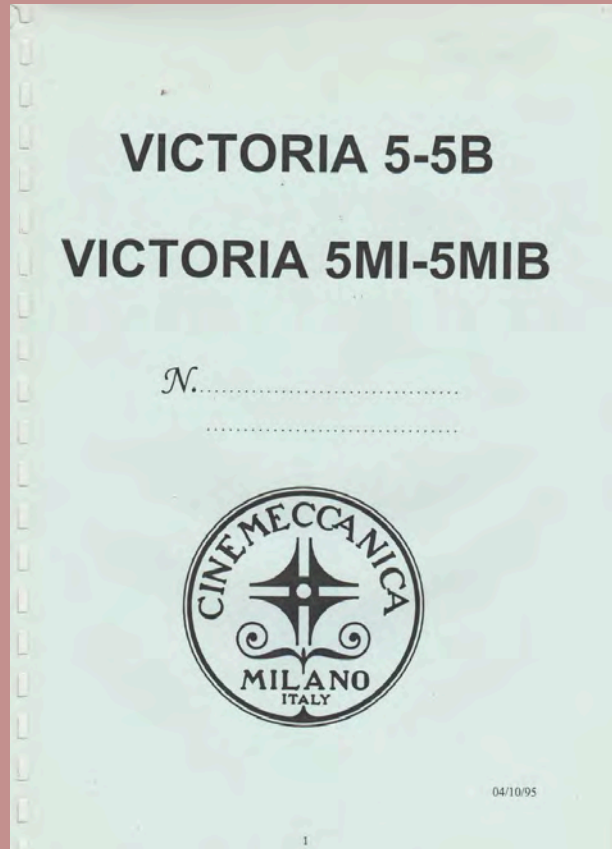
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VICTORIA 5 DB VICTORIA 5 DB - MI



VICTORIA 5 DB and VICTORIA 5 DB-MI double band reverse projector complete with:
 - VICTORIA 5 projector mechanism with on request (VICTORIA 5-MI) capability of projection while in reverse (gate release during reverse). COMOPT, SEPMAG, COMMAG can be played.
 With 4 plates for 600 metres (2000 feet).
 As an option, motor and inverter for 8-36 FPS with centrifugally controlled shutter, tachometer for digital FPS indication can be supplied.

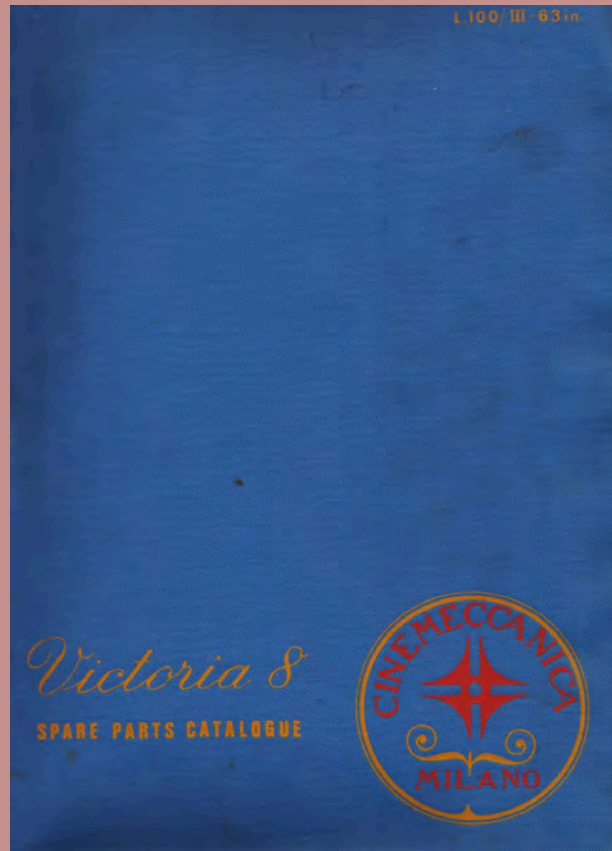
Apparecchio sonoro VICTORIA 5 DB e VICTORIA 5 DB-MI (marcia indietro) - doppia banda - completo di:
 - proiettore sonoro VICTORIA 5 con a richiesta (VICTORIA 5-MI) possibilità di funzionamento e proiezione in marcia indietro (allentamento sportello durante la marcia indietro), per colonne sonore COMOPT, SEPMAG, COMMAG, con piatti per pizze da 600m.
 A richiesta, motore e inverter per velocità variabile 8-36 FPS con serranda a comando centrifugo, tachimetro digitale per indicazione FPS.

CINEMECCANICA S.p.A. - 20133 MILANO - VIALE CAMPANIA, 23
Telefono +39 02 748.115.1 - Telefax +39 02 70100470

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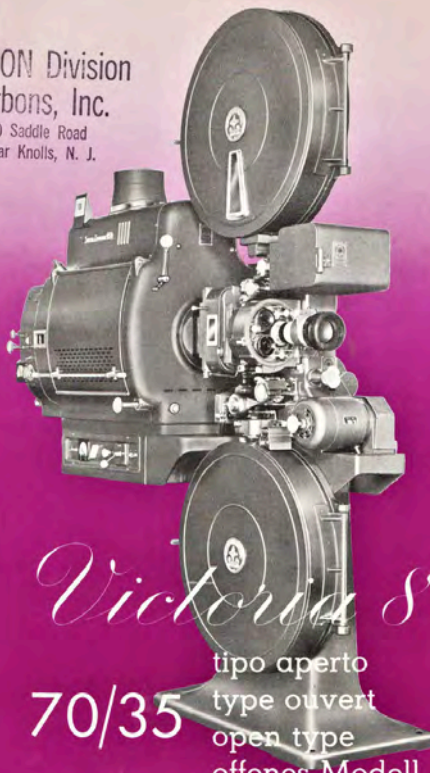
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**XeTRON Division
Carbons, Inc.**
10 Saddle Road
Cedar Knolls, N. J.

f. 10
VII-67



Victoria S
70/35

tipo aperto
type ouvert
open type
offenes Modell

CINEMECCANICA S.p.A. • VIALE CAMPANIA, 23 • MILANO

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*Victoria 8
4000*



XeTRON Division
Carbons, Inc.
10 Saddle Road
Cedar Knolls, N. J.

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£ 15

V-71

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Rank Film Equipment

THE VICTORIA 8

35mm & 70mm PROJECTORS





Rank Film Equipment
A division of Rank Audio Visual Limited
PO Box 70, Great West Road, Brentford, Middlesex TW8 9HR, England.
Telephone: 01-568 9222. Telex: 2737C. Cable: Rankaudio Brentford.

The Victoria 8 series represents the very highest in quality of all the Cinemeccanica projectors. Well established in cinemas throughout the world, the famous Victoria 8 models are renowned for their picture steadiness, smooth running, reliability and durability.

They are ideal for larger auditoria and drive-in cinemas where a high power light source is required, as the dual path water cooling and independent air blower ensure that the gate does not become overheated.

Particularly quiet and smooth in operation, the Victoria 8 series has a curved gate, conical shutter and the standard dashpot eliminates rattle and flutter from the optical and magnetic soundheads. They are built to last and the mechanism casing is constructed of die-cast aluminium. The excited mechanism has elliptical gears and continuous lubrication is effected by means of a high pressure oil pump.

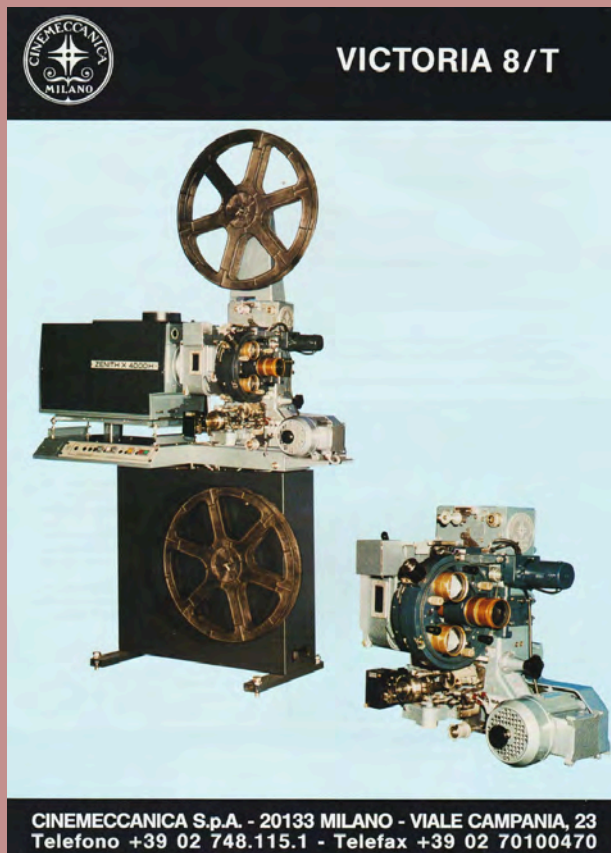
In addition, the Victoria 8 projectors are versatile and can be supplied for 70i 35mm operation, 35mm only, or as a 35mm model convertible to 70mm.

The mechanisms can be open or enclosed and speed capacity ranges from 1800 metres to 4000 metres, or 35mm film or 1100 metres to 3000 metres of 70mm film.

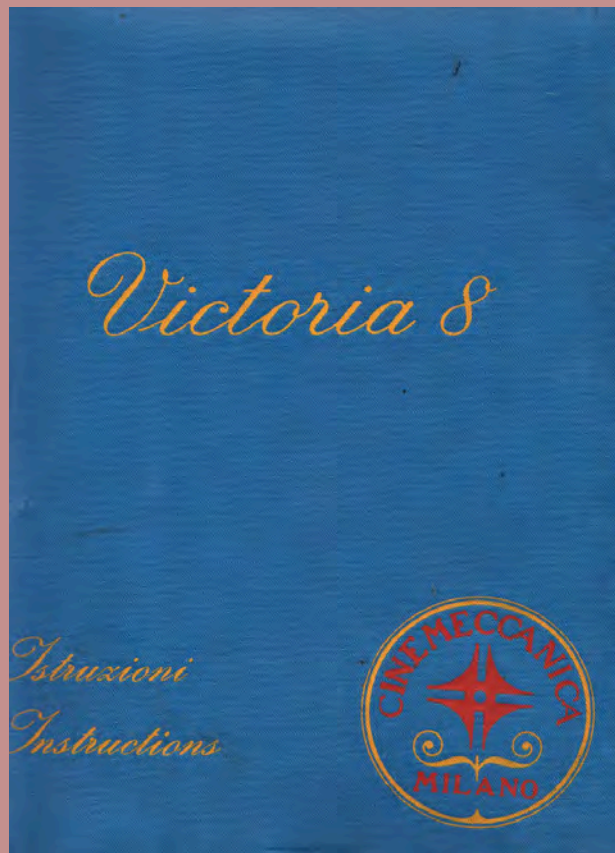
A reversing model of the Victoria 8 is also available for use in automated pairs and a wide range of options can be fitted to all models to provide partial or full automation facilities.

Versatility is Cinemeccanica.

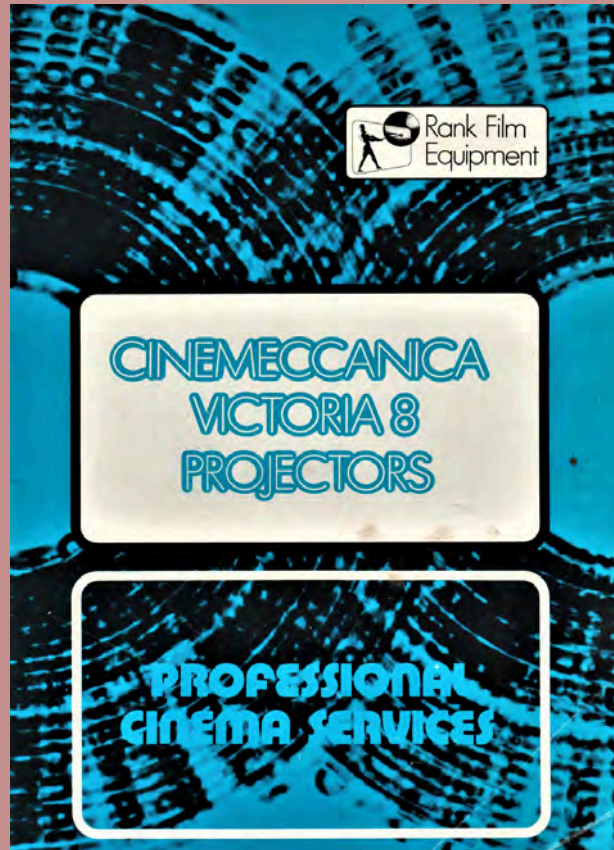
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Film '71 The International Film Technology
Conference and Exhibition

June 21-25 Royal Lancaster Hotel,
London, England

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presenta presents

VICTORIA 9

*IL MODERNO PROIETTORE
A COSTRUZIONE MODULARE*

*A NEW APPROACH TO PROJECTORS
MODULAR CONSTRUCTION*



RANK FILM EQUIPMENT
PO Box 70 Great West Road Brentford Middlesex



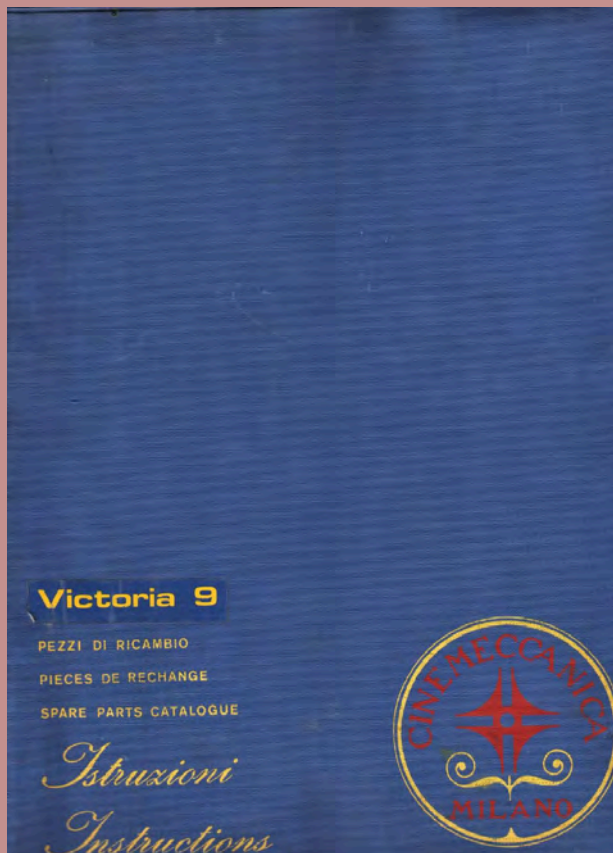
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Viale Campania, 23

F. 971

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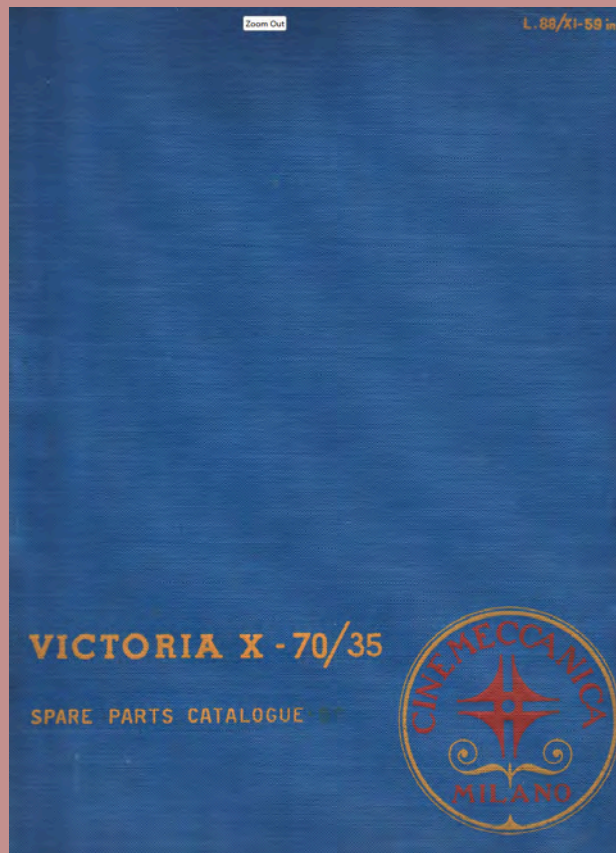
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for 70mm presentation
be sure to obtain
full details of*

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The complete equipment within the
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It is '5 STAR' PROJECTION backed by
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a country-wide network of service
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NEW
from Cinemeccanica



**THE
VICTORIA 12
35mm
PROJECTOR**

Cinemeccanica quality
for the mini cinema
at a mini price

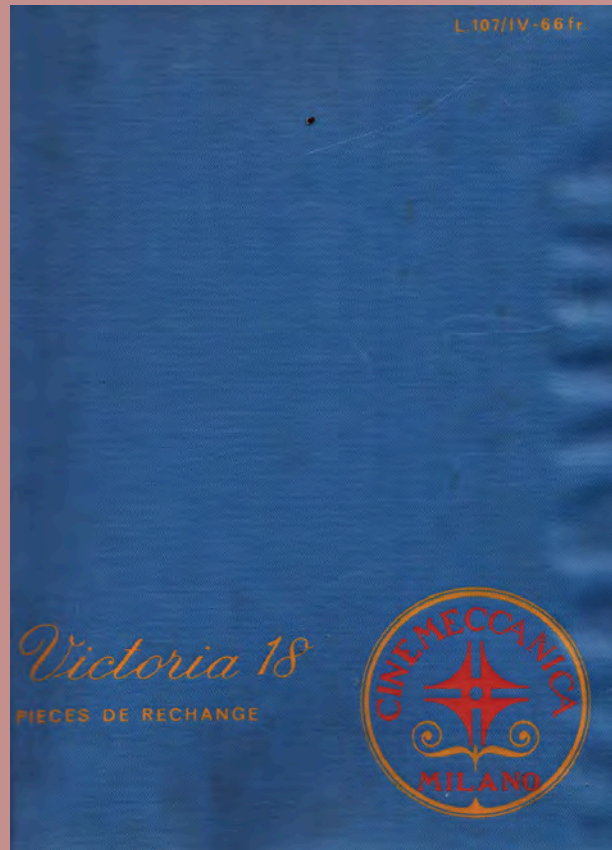


Rank Strand Cinema
P.O. Box 51 - Great West Road, Brentford, Middlesex, TW8 9RH
Telephone: 01 568 9222 Telex 27978 Caples Rankaudio Brentford

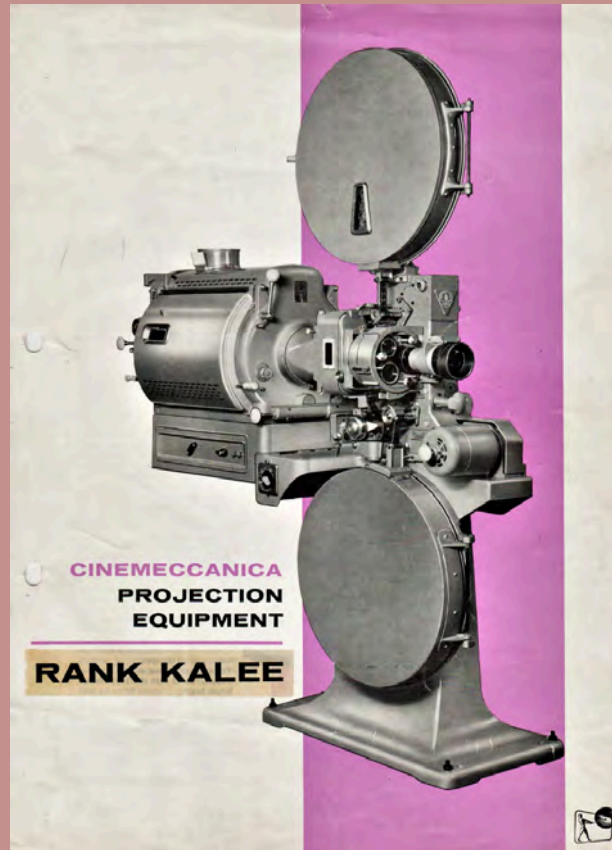
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CC7040H

Console

Cinemeccanica




Rank Film Equipment

LONG PLAYING TOWERS

DGB 2x4
DCB 4x4



Both Long Playing Towers utilize patented wedge compensated clutches for blue-ist, which ensure constant light film tension, irrespective of speed changes.

The Towers can be adjusted for release spring and do not require any adjustment during projection. This permits unattended operation which is invaluable, particularly for multi-screen cinemas.

The current light film tension and the science of film changeover, releasing operation makes the DGB series much less liable to film tear than conventional open projector systems.

Today, the Towers should be referred to simply as the projector. However, it happens to be that the Towers can be positioned parallel with, or up to an angle of 30° with, the projector but angled tower assemblies are also available to divert the film onto the projector below.

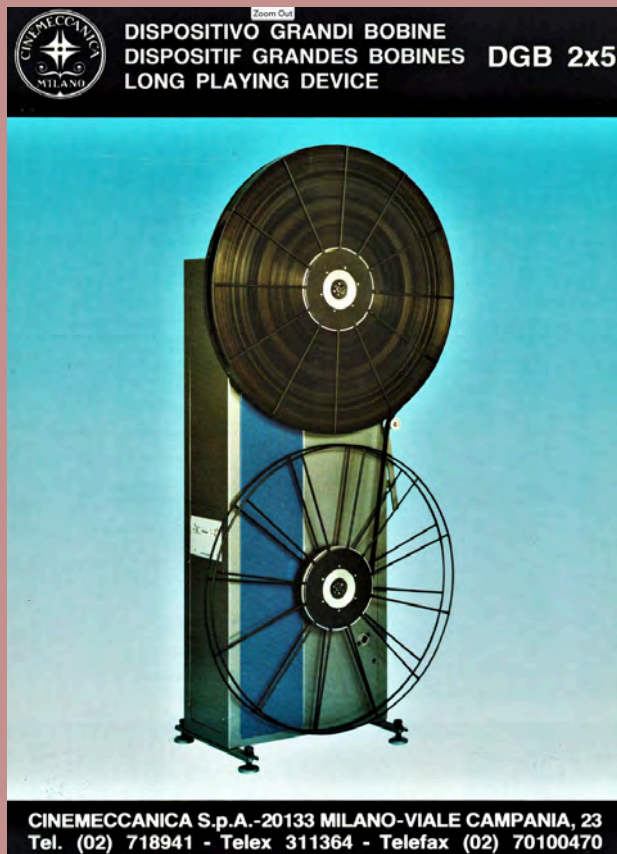
Controls consist simply of ON/OFF switch and TALK UP/TALK DOWN switch. A Magazine switch is incorporated (in some models).

DGB Long Playing Towers are highly reliable, simple to operate, easy to maintain and above all rugged.

Availability in Cinemas and...

Rank Film Equipment,
 A Division of Rank Audio Visual Limited,
 P.O. Box 53, Gower Way Road, Brentford, Middlesex TW8 9HR, England
 Telephone: 01-834 8022, Telex: 270716, Cable: Rank audio (Brentford)

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NEW
from Cinemeccanica

**THE CNR 335
PLATTER SYSTEM**

A non-rewind, film-handling
device to complement our
range of labour saving modern
projection equipment



 **Rank Strand Cinema**
P.O. Box 51, Green West Road, Brentford, Middlesex, TW8 9AR
Telephone: 01 898 9222 Telex 27876 Cabels Rankaudin (Brentford)



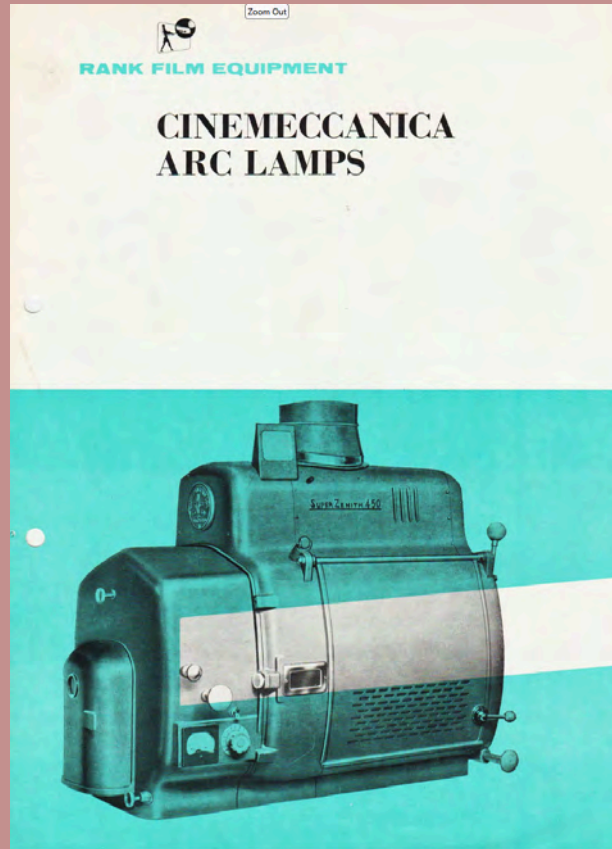
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CNR 3-35 N

Platter

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ZX4000H



Xenon lamphouse

Cinemeccanica



LANTERNA ZX 4000 H

per lampade Xenon da
for Xenon lamps
pour lampes Xenon de
für Xenon Kolben

1600 W - 4000 W





LANTERNA ZX 4000 H

La ZX 4000 H può utilizzare ampolle da 1600W a 4000W ed erogare un flusso luminoso a corrente nominale fino a 20.000 lumen, coprendo in tal modo la grande maggioranza delle sale cinematografiche.

LANTERNE ZX 4000 H

La ZX 4000 H peut utiliser lampes de 1600W à 4000W et est en mesure de procurer un flux lumineux à courant nominal jusqu'à 20.000 lumens, couvrant de telle façon la grande majorité des salles cinématographiques.

CINEMECCANICA S.p.A. - 20133 MILANO - VIALE CAMPANIA, 23
Telefono +39 02 748.115.1 - Telefax +39 02 70100470

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LANTERNA ZX 8000 H

per lampade Xenon da
for Xenon lamps
pour lampes Xenon de
für Xenon Kolben

2500 W - 8000 W



LANTERNA ZX 8000 H

La ZX 8000 H può utilizzare ampole orizzontali da 2500 W a 8000 W ed illuminare schermi grandi e grandissimi, fino a 30 metri di base. Viene fornita completa di soffiatore/aspiratore.

Filtro calore e lente cilindrica per 70 mm. a richiesta.



LANTERNE ZX 8000 H

La ZX 8000 H peut utiliser lampes horizontales de 2500 W à 8000 W et est destinée à l'éclairage des grands et très grands écrans, jusqu'à 30 mètres de base; elle est fournie complète de soufflerie/aspirateur.

Sur demande: on fournit le filtre chaleur et la lentille cylindrique pour film 70 mm.

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Cinemeccanica



LANTERNA CX 21 H

LAMPHOUSE CX 21 H

per lampade Xenon da
for Xenon lamps
pour lampes Xenon de
für Xenon Kolben

500W - 2000W





LANTERNA CX 21 H

La CX 21 H può utilizzare ampolle da 500W a 2000W ed erogare un flusso luminoso di 18.000 lumen, coprendo in tal modo le sale piccole e medie.

CX 21 H LAMPHOUSE

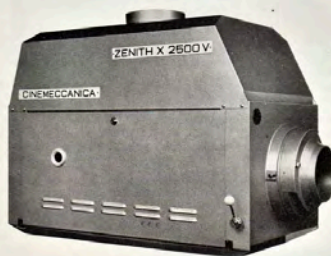
The CX 21 H lamphouse can take bulb from 500W to 2000W and can have a light output of 18,000 lumen. Small and middle size theatres can therefore use this lamphouse.

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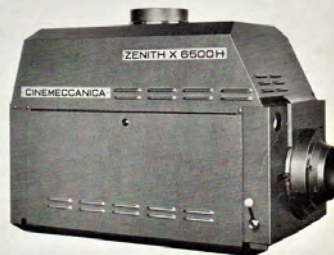
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Estratto dalla
RIVISTA TECNICA DI CINEMATOGRAFIA
Volume XXV - Fasc. 3/4 - Luglio-Dicembre 1976

NUOVE LANTERNE



ZENITH X 2500 V



ZENITH X 6500 H

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Rank Film Equipment

LAMPHOUSES

Cinemeccanica lamphouses are all designed to use xenon bulbs and have been developed in consultation with the bulb manufacturers. They can be fully automated, will operate non-stop for more than two hours and, with special ozone-free bulbs, do not need exhaust systems. In many instances the air used for cooling can be safely discharged back into the projector booth. Consisting of both vertical and horizontal systems, the new models are more efficient, more versatile and produce excellent light distribution over the entire screen. The lamphouse design uses a pressed steel construction with a double skin for cooling and safety and sophisticated cooling systems are incorporated, especially around the anodes on models that accept high wattage bulbs to provide extra protection for the film. The current range which uses bulbs of 500W up to 6000W, will cover screens of between five and 30 metres in width and each lamphouse incorporates a 1600 watt fan, downer, armature, four corner zone, universal table and safety air switch. Cinemeccanica lamphouses are designed with versatility, safety, efficiency and economy in mind.

Versatility & Cinemeccanica!

Rank Film Equipment,
A division of Rank Audio Visual Limited,
P.O. Box 53, Great West Road, Brentford, Middlesex TW8 9PH, England
Telephone: 01-568 9222, Telex: 27976, Cables: Rankaudio Brentford.

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LANTERNA CX 20 H

R-C 0022

per lampade Xenon da
for Xenon lamps
pour lampes Xenon de
für Xenon Kolben

500W - 2000W



LANTERNA CX 20 H

La CX 20 H può utilizzare ampolle da 500W a 2000W ed erogare un flusso luminoso di 18.000 lumen, coprendo in tal modo le sale piccole e medie.

CX 20 H LAMPHOUSE

The CX 20 H lamphouse can take bulb from 500W to 2000W and can have a light output of 18.000 lumen. Small and middle size theatres can therefore use this lamphouse.

CINEMECCANICA S.p.A. - 20133 MILANO - VIALE CAMPANIA, 23
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L. 124/IX-70 - int.

LANTERNS XENON

ZENITH X 4000
 Lowa lamphouse complete with holder for 407 mm. dia. cold mirror and auxiliary mirror, blower and exhaustor, start, ammeter and hour meter - terminals for XBO 4000 or 6500 W Xenon bulbs.

ZENITH X 4000
 Xenonlampe grosser Ausmassen: ausgestattet mit Kaltspiegel 407 mm Durchmesser und Hilfspiegel, Gebläse und Entlüfter, Zündgerät, Amperemesser und Stundenabzähl - für Xenonkolben XBO 4000 oder 6500 W.



ZENITH X 4000/E
 - same as above, less blower and exhaustor, with 350mm dia. standard mirror and auxiliary mirror - terminals for XBO 1000 or 2500 W Xenon bulbs.

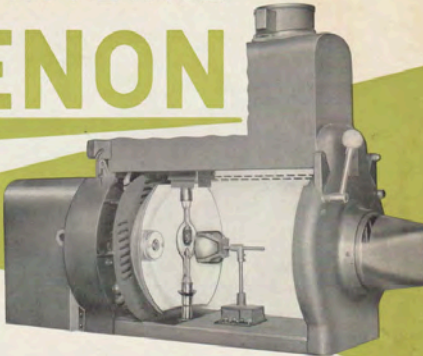
ZENITH X 4000/E
 Gleich wie vorstehend beschrieben, jedoch ohne Gebläse und Entlüfter, mit Normalspiegel 350 mm Durchmesser und Hilfspiegel - für Xenonkolben XBO 1000 oder 2500 W.

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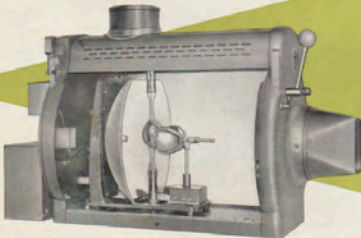
L. 105/1-65 - it. fr.

LANTERNE XENON



ZENITH 420/X
Lanterna di grandi dimensioni per l'impiego dell'ampolla Xenon XHO 4500 W; è fortemente raffreddata per assicurare una lunga durata dell'ampolla. Permette di ottenere risultati veramente eccellenti anche con schermi di grandi dimensioni.

ZENITH 420/X
Lanterne de grandes dimensions pour l'utilisation de la lampe Xenon XHO 4500 W; elle est fortement refroidie pour assurer une longue durée de la lampe. Elle permet d'obtenir des résultats vraiment excellents même avec les écrans de grandes dimensions.

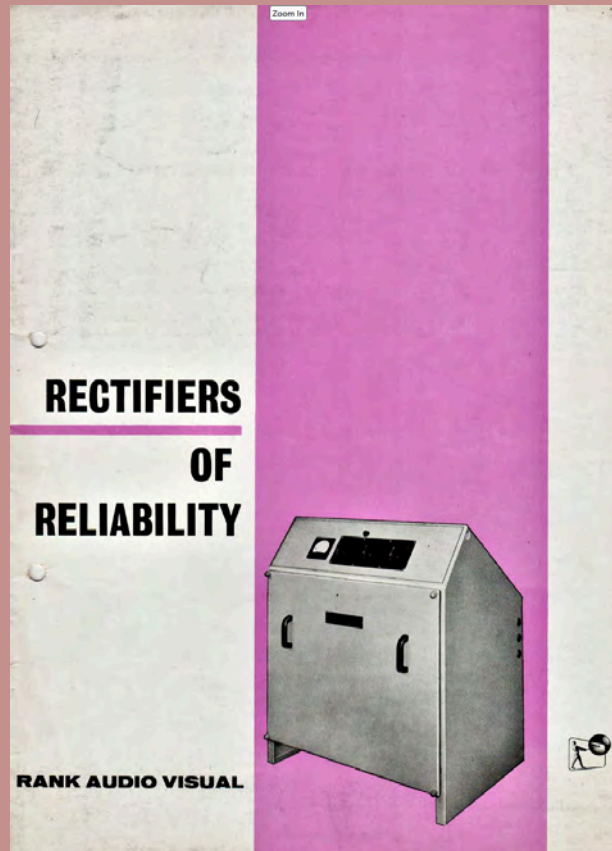


ZENITH 400/X
Lanterna che — per l'eleganza e razionale ventilazione — è particolarmente adatta per impieghi Xenon di potenza elevata. Impiega il dispositivo Radium X e può essere corredata di specchi freddi o normali di diametro 400 e 350 mm.

ZENITH 400/X
Lanterne qui — par une ventilation efficace et rationnelle — convient particulièrement pour lampes au Xenon de puissance élevée. Utilise le dispositif RADIUM X et peut être munie avec miroirs froids ou normaux de diamètre 400 et 350 mm.

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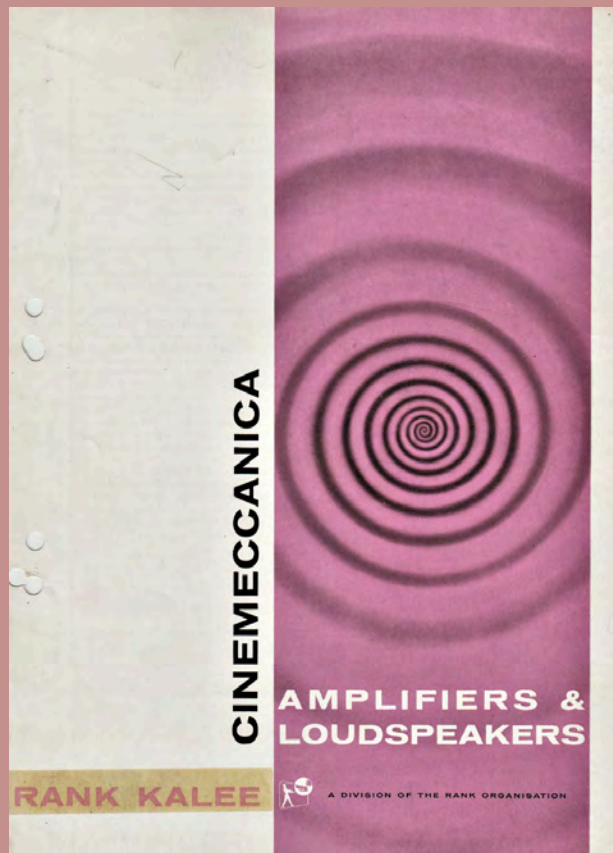
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AMPLIFICATEUR C55. MK3

C55. MK3 VERSTÄRKER

C55. MK3 AMPLIFICATEUR

C55. MK3 amplificateur complet de préamplificateur à transistors, amplificateur de puissance (135W/8 - Ohm 190W/4 Ohm continu), amplificateur 5W pour témoin, haut-parleur témoin, entrées (OPT.1 - OPT. 2 - TAPE - AUX.) contrôlables à distance pour connexion à automatisation cabine, autofade sur entrée tape, sélection entrée pré-déterminable à l'allumage, contrôle des tones aigus et graves, niveau réglable pour chaque entrée - complet de support pour le montage.

C55. MK3 VERSTÄRKER

C55. MK3 Verstärker, ausgerüstet mit Vorverstärker, Endverstärker (135W/8 Ohm - 190W/4 Ohm - Sinusleistung), 5W - Kontrolllautsprecher mit separatem Verstärker, Eingangswahl (OPT.1 - OPT.2 - TAPE - AUX.) steuerbar von der Automation, Getrennte Pegelgleichung aller Eingänge, Eingangswaltaster mit optischer Anzeige, Lautstärkeregelung sowohl aus dem Saal, als auch vom Vorführraum, komplett mit Halterung.





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Tel. (02) 718941 - Telex 311364 - Telefax (02) 70100470

Rank Film Equipment

SOUND SYSTEMS

The name Cinemeccanica has always been associated with good, innovative design and extreme versatility - and their new range of Cinema Sound Systems is the culmination of years of experience gained in the design and manufacture of cinematographic equipment. Based upon the sleek and simple interchangeability of modules, these new sound systems are robust yet lightweight - all cabinets are made of silver steel and are built to last.

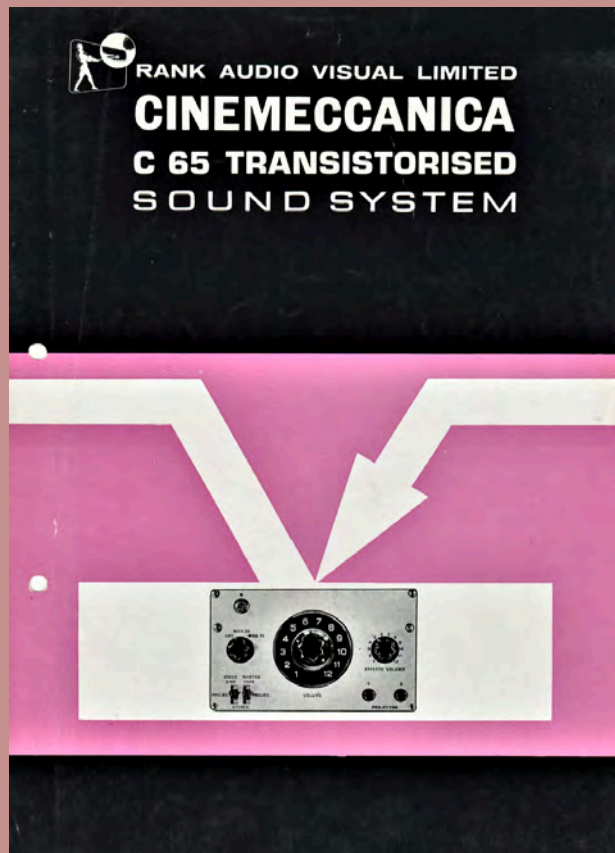
The choice of four models means that there is a system that will suit every application from small capacity cinemas to large auditoria, whether with full or part automation of the projection booth.

Cinemeccanica Sound Systems provide excellent sound fidelity, are easy to install and maintain, simple to operate and highly reliable.

Versatility is Cinemeccanica!

Rank Film Equipment,
A division of
Rank Audio Visual Limited,
P.O. Box 70, Great West Road, Brentford, Middlesex TW8 9JR, England.
Telephone: 01-568 9222. Telex: 27970. Cable: Rankaudio Brentford.

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KDC/200 STEREO SOUND

The KDC/200 stereo optical sound system is rack mounted and has the facility to accommodate the Dolby CP50 unit. This unit provides a complete 4-track stereo film presentation package without the need for 70mm projectors or a separate magnetic soundhead. The modifications to your projectors (ie fitting the special sprockets) and the adjustment of the CP50 will be carried out by your local Dolby agent and once installed, the system should not require further attention due to the high quality Cinemeccanica components which have been used.

The Dolby encoded stereo optical system is being used in an increasing number of films, due to the low production cost in comparison with the conventional magnetic system. Versatility is Cinemeccanica.

Rank Film Equipment,
A division of Rank Audio Visual Limited,
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Brentford, Middlesex TW8 9HR, England
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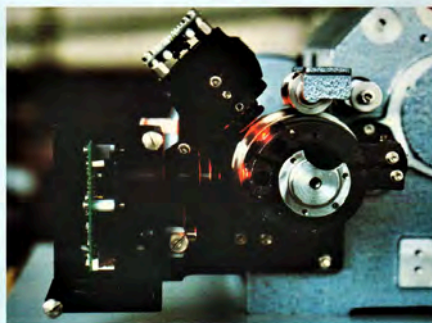
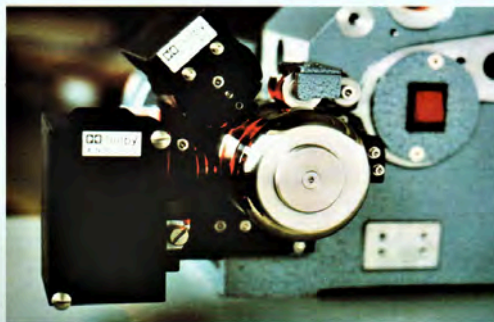
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- RED LED SR+D DIGITAL READER
- VERY HIGH QUALITY RED LED REVERSE ANALOGUE READER



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realizzabile in ogni misura

★

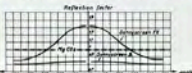
altissimo rendimento luminoso con risparmio nell'acquisto delle lampade xenon e nel consumo di energia elettrica

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goffatura appositamente studiata per mantenere un'alta resa anche sotto angoli di visione elevati

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forato e non forato
si spedisce ripiegato in scatole di piccole dimensioni



Reflexion factor
100
50
0
0° 90° 180°
Horizontal Center
Vertical Center

Il grafico illustra la panta di sorgente luminosa, facendo riferimento all'indice di riflessione del carbonato di magnesio, il guadagno dello schermo Sunnyscreen B e del nuovo Sunnyscreen FX.

Confrontate questo campione con il vostro schermo attuale



CINEMECCANICA S.p.A. - 20133 MILANO - VIALE CAMPANIA, 23
Telefono +39 02 748.115.1 - Telefax +39 02 70100470

Cinemeccanica



NUOVO ^{Zoom Out}AVVOLGITORE ELETTRICO
NOUVELLE ENROULEUSE ÉLECTRIQUE
NEW MOTORIZED FILM REWINDER
NEURER MOTORISCHER FILM-UMROLLER



Era sentita la necessità di un avvolgitore elettrico che permettesse l'ispezione del film e che potesse ricevere bobine da 3000, 4000 e 5000 metri.

Abbiamo quindi progettato e realizzato un nuovo avvolgitore dotato di un motore a corrente continua, molto robusto e a velocità facilmente controllabile. Si ha a disposizione un controllo continuo di velocità, dalla più lenta per ispezionare il film, alla più veloce per il riavvolgimento.

Il motore a corrente continua agisce come freno dinamico, generando energia elettrica che è dissipata su una resistenza. Questa frenatura, molto dolce e efficace, è la stessa che si ha nelle locomotive elettriche delle ferrovie.

Questo avvolgitore, veramente completo, può ricevere un corredo di opzioni a richiesta:

- arresto automatico del riavvolgimento;
- manovella per avvolgimento manuale.

È possibile quindi preparare il film in modo accurato, come richiesto dagli impianti automatici, e di trovare e togliere tutti i segnali metallici lasciati dall'utilizzatore precedente, in modo da non avere false manovre dell'automazione.

È possibile poi riavvolgere 5000 metri di film in meno di dieci minuti.

+ + +

Les méthodes modernes d'exploitation cinématographique mettant en œuvre des systèmes enrouleur et dérouleur de grandes capacités, il devenait indispensable de disposer d'une nouvelle enrouleuse électrique pouvant satisfaire à toutes les exigences des contrôleurs à effectuer lors des montages et démontages de film.

C'est ainsi que nous avons été amenés à réaliser une nouvelle enrouleuse verticale, très robuste, à vitesse variable, mettant en œuvre un nouveau moteur à courant continu. La vitesse est réglable d'un façon continue, la plus lente pour contrôler les films et la plus rapide pour le réenroulement.

Cette enrouleuse a été conçue pour recevoir des bobines de 3000, 4000 et 5000 mètres.

Il nous a semblé, que seules les qualités d'un moteur en c.c. pouvaient apporter une très grande fiabilité. Ce moteur agit, d'une part comme frein dynamique, d'autre part en générateur d'énergie électrique que l'on dissipe sur résistance afin d'obtenir un freinage très doux, mais efficace. C'est là le système employé dans les motrices électriques des chemins de fer.

Cette enrouleuse peut recevoir les options complémentaires suivantes:

- arrêt automatique de réenroulement;
- manivelle pour enroulement manuel.

Cette nouvelle enrouleuse permet donc la préparation d'une copie d'exploitation d'une façon très soignée, comme l'exigent les équipements automatiques.

Nous terminerons en vous précisant que cette nouvelle enrouleuse permet le réenroulement d'un programme normal en moins de dix minutes.

CINEMECCANICA S.p.A. - 20133 MILANO - VIALE CAMPANIA, 23
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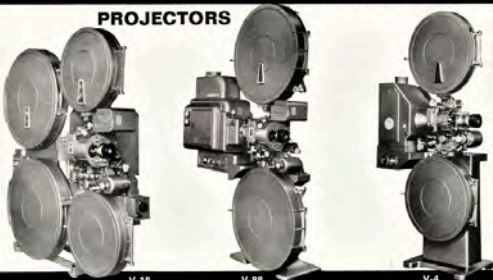
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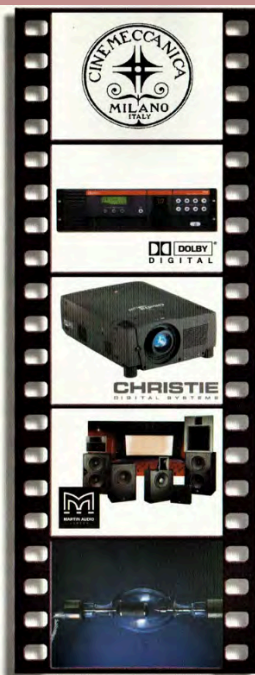
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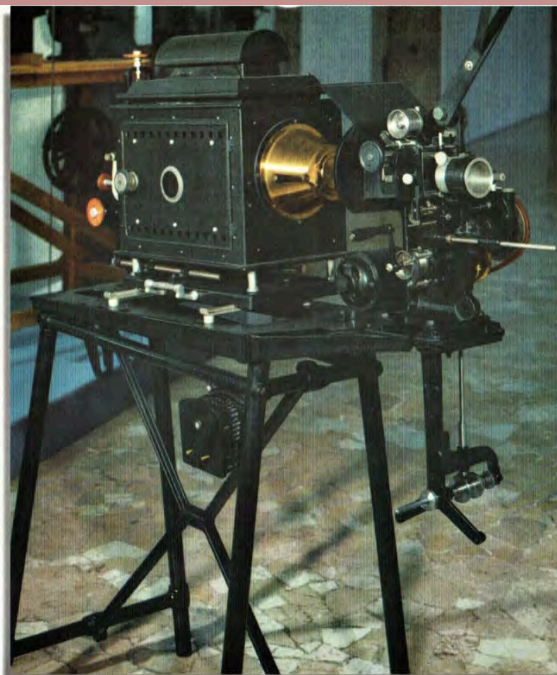
Rank Film Equipment
A division of Rank Audio Visual Limited
PO Box 70, Great West Road, Brentford, Middlesex TW8 9HR, England
Telephone: 01-568 9222 Telex: 27976 Cables: Rankaudio Brentford.

Cinemeccanica



December 2003

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Victoria 1

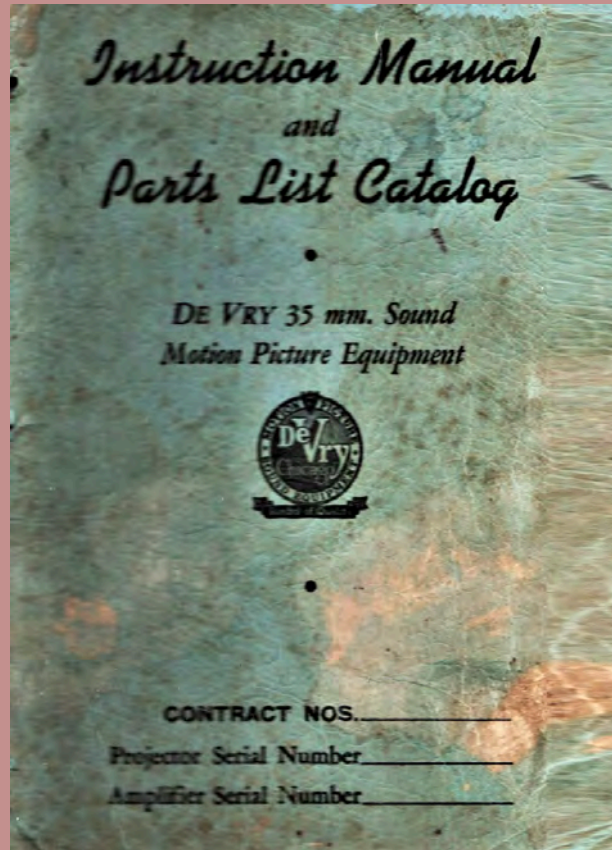
Milan has been home to Cinemeccanica since the company started production in 1920. Cinemeccanica exhibited their first movie projector at the 1920 Milan Trade Fair. Over the years the product has improved and a number of innovations have been made, but the basic mechanism has remained the same. As shown in this month's picture, the earliest projector was used for silent movies, employed "black" carbons for the light source and was mounted on a simple tripod. This projector was produced for about 9 years and working models still exist.

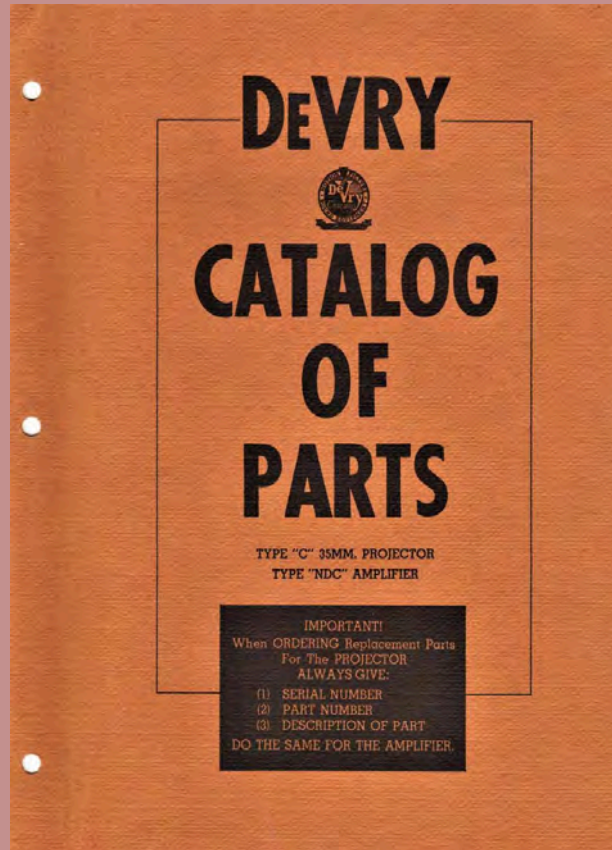
January



February 2004

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Dolby

What
is
Dolby Stereo?



What
is
Dolby Stereo SR?

DOLBY Backgrounder

The Evolution of Dolby Film Sound

Thanks to such developments as multichannel digital sound, the motion picture viewing experience today is more exciting and involving than ever before. And what the audience hears today, is very much the result of a continuing effort to improve film sound originally undertaken by Dolby Laboratories more than twenty years ago. Indeed, the evolution of motion picture sound over the past two decades is, in great part, that of Dolby film sound technologies.

Optical sound

The photographic or "optical" soundtrack was the first method of putting sound on film, and today it remains the most popular.

An opaque area adjacent to the picture contains narrow, clear tracks that vary in width with variations in the sound (Figure 1). As the film is played, a narrow beam of light from an exciter lamp in the projector's soundhead shines through the moving tracks. Variations in the width of the clear tracks cause a varying amount of light to fall on a solar cell, which converts the light to a similarly varying electrical signal. This signal is amplified and ultimately converted to sound by loudspeakers in the auditorium.

Several advantages of optical sound have contributed to its universal acceptance, the foremost being economy. For one thing, the soundtrack is printed photographically on the film at the same time as the picture. For another, the soundtrack can last as long as the picture, which—with care—can be a long time indeed. A further benefit is that the optical soundhead within the projector is itself economical and easily maintained.

Motion pictures with sound were first

shown to significant numbers of moviegoers in the late 1920s. By the mid-1930s, the "talkies" were no longer a novelty, but a necessity, and many thousands of cinemas were equipped in that short time to show films with optical soundtracks. This phenomenally rapid acceptance of a sophisticated new technology was not without drawbacks, however. Equipment was installed in cinemas so rapidly that there was no time to take advantage of improvements which

were occurring on an almost daily basis.

A good example is loudspeaker design. The first cinema loudspeakers had very poor high-frequency response. Speakers with superior response became available within just a few years. But there was no time to retrofit the original systems with new units, because engineers were too

busy equipping other cinemas with their first sound installations.

This caused a dilemma for soundtrack recordists. Should the tracks be recorded to take advantage of the improved speakers, or should they be prepared to sound best on the many older installations already in place? Given that it was impractical to release two versions of a given title, the only alternative was to tailor soundtracks to the older speakers. The result was to ignore the improved high-frequency response of the newer, better units.

To forestall compatibility problems, in

the late 1930s a *de facto* standardization set in, the cinema playback response that today is called the "Academy" characteristic. Cinema owners knew what to expect from the films, and therefore what equipment to install. Directors and sound recordists knew what to expect from cinema sound systems, and thus what kind of soundtracks to prepare. The result was a system of sound recording and playback that made it possible for just about any film to sound acceptable in any cinema in the world. On the other hand, however, it lacked the flexibility to incorporate improvements beyond the limitations that existed in the 1930s.

Even with those limitations, for years optical film sound provided higher quality sound than home photographs and radios. But by the late 1960s and early 1970s, superior hi-fi stereo systems had been installed in so many homes that a significant and influential proportion of the movie-going public was used to better sound at home than could be heard in the cinema.

Magnetic sound

In the 1950s, a new method of putting sound on film was introduced as an

alternative to the optical track. After the picture is printed, narrow stripes of iron oxide material similar to the coating on magnetic recording tape are applied to the film (Figure 2). The sound is then recorded on the magnetic stripes in real time. The film is played back on projectors equipped with magnetic heads, similar to those on a tape recorder.



Figure 1: 35 mm optical print

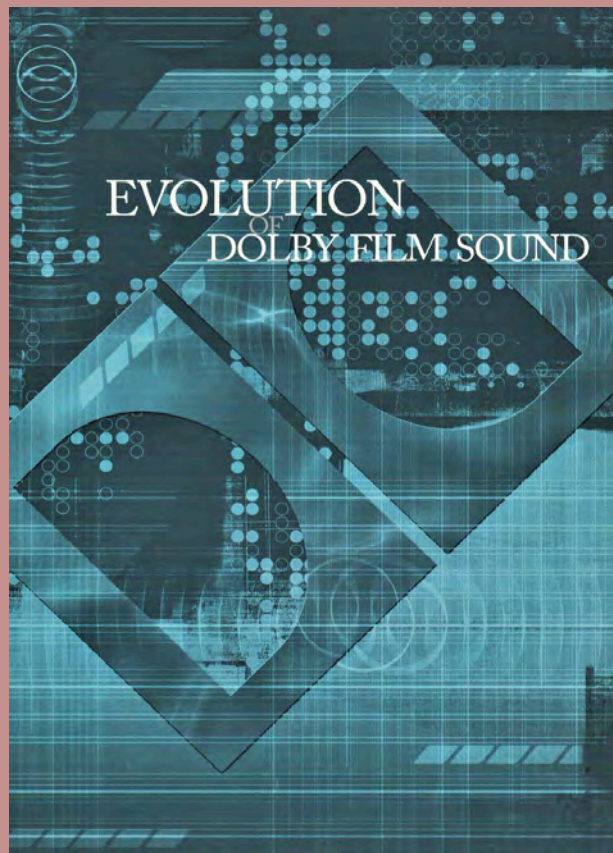


Figure 2: 70 mm magnetic print

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Questions and Answers about Dolby SR for 35mm Release Prints
- Information for Film Production Companies and Distributors -

What is Dolby SR?

Dolby SR (Dolby spectral recording) is the new professional recording process that has become the logical successor to Dolby A-type noise reduction. Dolby SR not only reduces film and tape noise far beyond A-type but also considerably reduces distortion components and improves high- and low-frequency headroom. When used with modern analogue recording equipment, Dolby SR can yield results equal or superior to current digital recording systems.

Does Dolby SR make 35mm optical soundtracks sound better?

Dolby Stereo SR represents a significant improvement in the quality of the 35mm stereo optical soundtrack format. With Dolby SR, background hiss is reduced to a level below the ambient noise levels found in the best cinemas. In addition, frequency response is extended at high signal levels, allowing extreme low- and high-frequency signals to be recorded without distortion; channel separation is improved due to increased crosstalk rejection; and overall dynamic range is significantly improved, especially at the frequency extremes. **These combined improvements result in a soundtrack that has less background noise and is purer in quality.** While the average dialogue is at the same comfortable listening level, the soundtrack can now go louder for occasional music and effects sequences that need added impact. **Quality with this range of volume levels has previously only been possible with 70mm magnetic releases.**

How obvious is the improvement to the average cinema-goer?

With high-quality film material and a state-of-the-art cinema, the improvement with Dolby SR is obvious to the entire audience. On the other hand, bad production sound or inadequate equipment such as power amplifiers and loudspeakers, or poor acoustics in the cinema, can hide many of the improvements. The Dolby Stereo SR soundtrack has specifications adequate to ensure that it will never be a limitation to the final quality heard. For this reason, Dolby Laboratories is recommending that SR release prints be played in the better quality cinemas.

Does it help the average film, or only those with special sound value?

All films will benefit from the lower distortion and noise on the SR releaseprint. This results in improved intelligibility of the dialogue. Films with soundtracks that have a wide dynamic range are even further enhanced because of the higher peak level capabilities of the Dolby Stereo SR soundtrack.

Dolby

DIGITAL CINEMA PROCESSOR

MODEL CP650 DIGITAL CINEMA PROCESSOR

The Dolby® CP650 Digital Cinema Processor is the exhibition industry's preferred cinema processor worldwide. Continuing the long evolution of Dolby cinema sound, it is the only all-digital cinema processor for the playback of all current Dolby soundtrack formats, combining advanced signal-processing technology, highest-quality components, and sophisticated manufacturing processes to provide the best sound and utmost reliability.

Thanks to built-in features such as Dolby Digital Surround EX™ decoding and four AES digital inputs, the Dolby CP650 Digital Cinema Processor is the most cost-effective Dolby processor. Excellent reproduction of analogue soundtracks is facilitated by fully digital implementations of Dolby A-type and Dolby SR decoding.

Addressing the future of exhibition, the Dolby CP650 has an expansion slot that provides a convenient upgrade path to new developments, such as multichannel audio decoding for digital cinema. Upgradeable software also helps to ensure the CP650's role in the future, while a built-in Ethernet interface opens up a new world of remote control and monitoring applications.

External setup software (available in several languages) facilitates calibration, troubleshooting, software upgrades, and transfer of settings via a personal computer. A connection port is conveniently located behind the front-panel access door.

The Dolby CP650 features a built-in real-time analyzer and EQ Assist™ system that enable quick theatre equalization. These features, combined with Auditorium Assist™, provide every theatre operator with the necessary tools to keep their cinema sounding as good as the first day it opened. An easy-to-read LCD screen and simple front-panel format selection and control keys help simplify operation of the CP650, as well as installation and service.

Designed to satisfy the needs of today's multiplexes, the Dolby CP650 Digital Cinema Processor is also a bridge to the entertainment complex of the future for exhibitors dedicated to providing their audiences with the best motion picture presentation possible, both today and tomorrow.



Dolby Laboratories, Inc., 3450 Wilshire Boulevard, Suite 100, Berkeley, CA 94705, USA. Telephone: (415) 353-8200. Fax: (415) 353-8201.

300 Potrero Avenue, San Francisco, CA 94102-4913. Telephone: (415) 355-0200. Fax: (415) 355-1373.

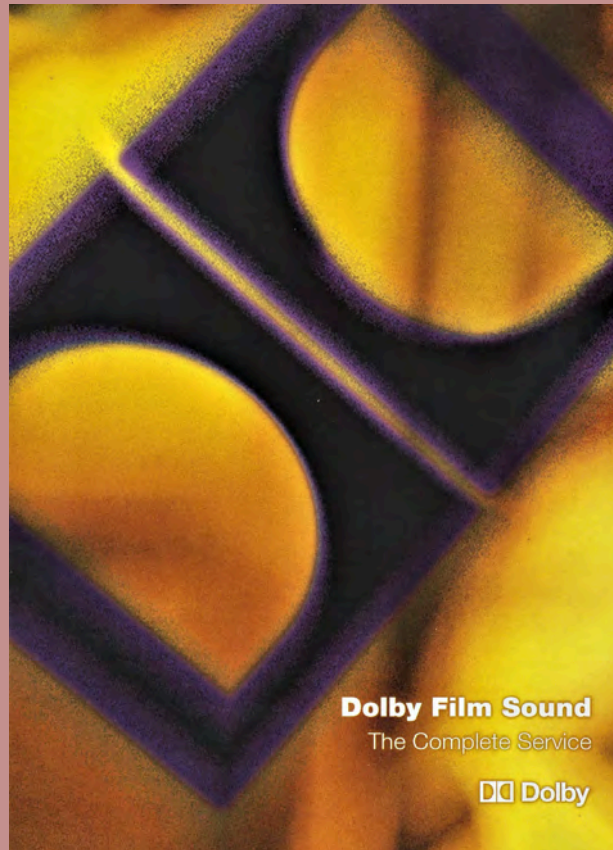
For additional information, contact info@dolby.co.uk or www.dolby.com



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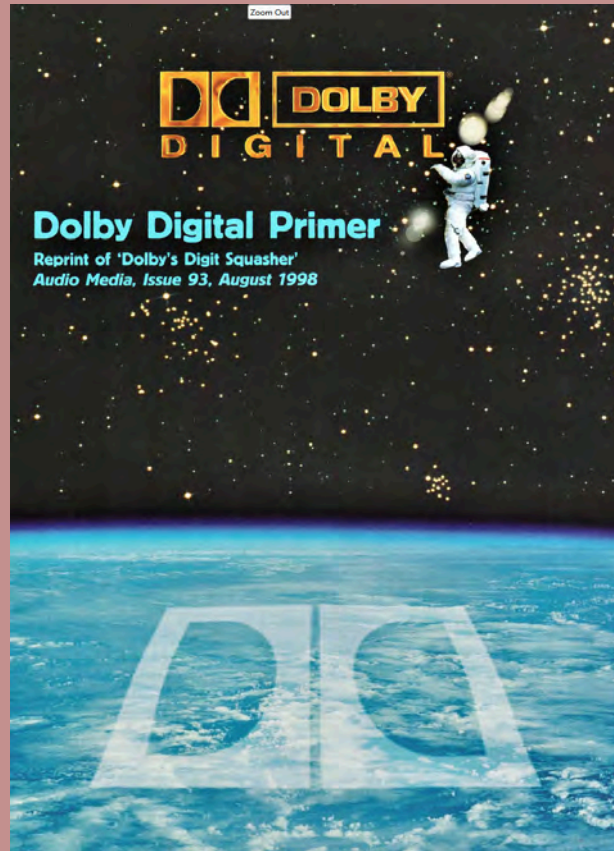
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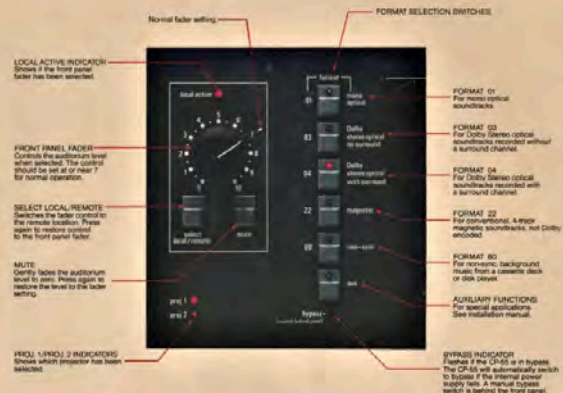
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A Brief
CHRONOLOGY
of
DOLBY LABORATORIES



 **Dolby**
BREAKING SOUND BARRIERS

CP55 OPERATING INSTRUCTIONS FOR THE PROJECTIONIST



CP-55 BASIC OPERATION

1. Turn on the sound system. The CP-55 automatically selects Format 04 and the local, front panel fader.
2. If necessary, select a different format. Usually the initial selection will be Format 04 (non-encoding) for background music.
3. If desired, the fader control may be changed to remote location for easy access from the projections. Pressing the select local/remote button will "toggle" the fader control between remote locations and the front panel.
4. If no background music is selected, it is usually a good practice to cut off the sound by pressing the mute button. This will prevent projector start-up noise from reaching the auditorium.
5. When the time comes to start the show, double-check the following: Correct format selection, correct fader position, and correct projector selection. Switch mute off at the appropriate moment by pressing the mute button again.



Dolby Laboratories Inc., 100 Potrero Ave., San Francisco CA 94103, Telephone 415-556-0200, Telex 444009 346 Clapham Road, London SW9 9AP, Telephone 01-739 1111, Telex 913169 "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

HOW TO TELL A STEREO PRINT FROM A MONO PRINT

A Dolby Stereo print should be identified as such on both the film can and leader. However, with time the identifications may be lost if you are not sure whether you have a stereo print, play a reel and find a stretch of music without dialogue or narration. On the latter, a stereo print looks much like a mono print. Examine the soundtracks closely; the two tracks on a stereo print will be different from each other. On a mono print, the two tracks will be identical. It is impossible to tell by visual inspection if a stereo film contains a surround channel; however, most Dolby Stereo films have surround information and should be played in format 04.



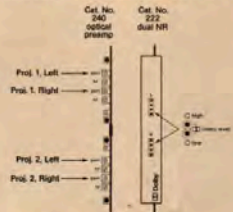
STEREO (FORMAT 03 or 04)
On music and effects, the two tracks look different.

MONO (FORMAT 01)
Mono tracks are identical on all material.

DOLBY LEVEL ADJUSTMENT

If the exciter lamp is changed, it is necessary to re-adjust Dolby level. This is a simple procedure that can easily be done by the projectionist. It is a good practice to occasionally re-check these adjustments to compensate for aging exciter lamps.

To adjust Dolby level, run a loop of Dolby Cat. No. 69 test film. Make sure you are using the Dolby tone edge and have the emulsion side facing away from the screen. Look at the LED Dolby level indicators on the Cat. No. 222 card. (Refer to the drawing inside the front panel for location.) Adjust the left and right gain controls on the Cat. No. 240 card until the two green indicators on the corresponding Cat. No. 222 meter are equally lit. Do not adjust the HF controls. Repeat the procedure for the other projector.



DOLBY LEVEL CONTROLS

- Notes:**
1. Do not adjust the HF controls without proper test equipment.
 2. Do not use "pink noise" for Dolby level adjustment.



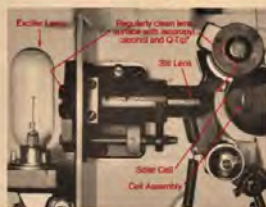
OTHER CP-55 ADJUSTMENTS

For optimum performance, the internal adjustments inside the CP-55 should only be done by a qualified service engineer with specialized test equipment. This is usually only necessary during the initial installation or if other sound reproduction equipment such as outboarders or power amplifiers are changed. If you feel your CP-55 is in need of service, phone your local service engineer.

LOCAL SERVICE ORGANIZATION:

Phone:

IN THE UNITED STATES:
DOLBY LABORATORIES EMERGENCY 24-HOUR PHONE NUMBER: San Francisco 415-392-0308



KEEP THE SOUNDHEAD OPTICS CLEAN

Regular cleaning of the projector's soundhead optics will help you keep your theater sounding at its best. Use isopropyl alcohol to clean lens surfaces and compressed air to blow dust from the solar cell. Be very careful not to damage or move the solar cell.

IN CASE OF DIFFICULTY

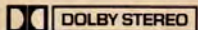
If the sound system should fail to operate, immediately check the following:

1. Check that the exciter lamp in the projector is on.
2. Check that AC power is getting to both the CP-55 and power amps. (Look for the "power on" indicators on the power amplifiers.) If the bypass indicator on the CP-55 is flashing, read the section on CP-55 bypass operation (below).
3. Check that the CP-55 is switched to the correct format and projector. (Look at the format and projector indicators on the CP-55 front panel.)
4. Check that the correct fader is selected and is at the correct level. (Look at the local active LED and fader knob position.)
5. Check that the CP-55 mute is switched off.
6. Check for an improper external switch position, such as a speaker selection switch.

CP-55 BYPASS OPERATION

The CP-55 contains an independent amplifier and power supply for emergency operation. The CP-55 will automatically switch to bypass in the event of a power supply failure. Other problems, such as distorted sound or loss of a channel will require the CP-55 to be switched into bypass manually. The bypass switch is located behind the front panel. Bypass operation should allow you to continue the show with acceptable sound in mono until further troubleshooting can be done.

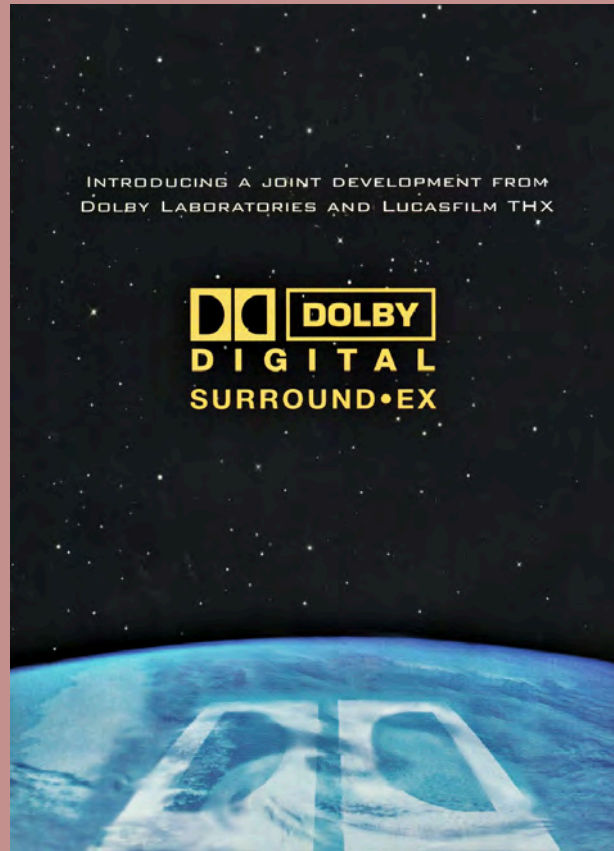
If the CP-55 has automatically switched into bypass, there are several things the projectionist can check before calling the service engineer. Check the main power fuse on the transformer block and replace with the spare if necessary. Dolby Laboratories recommends an extra Cat. No. 249 (Power supply regulator card) be kept in the spare slot. Replace the Cat. No. 249 with the spare card if available. (Shut AC power to the system off before removing the Cat. No. 249.) If you are unable to restore the sound system to normal operation, call your local service engineer.



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Zoom Out

A Cinema Sound Glossary

Analog vs. digital sound — The difference between analog and digital sound is explained best in terms of the analog and digital soundtracks on the Dolby Stereo SR•D print shown in Figure 1.

The width of the analog soundtrack varies in a way that is directly analogous to the varying sound waves of the original sound. All analog formats have an equivalent varying parameter, such as the strength of the magnetic field on recording tape, or the side-to-side swings of the groove on a phonograph record.

The digital soundtrack, on the other hand, consists of tiny dots that are optical representations of the "1"s and "0"s, or digits, of the computer language to which the original sound is converted. These digits also can be recorded as magnetic pulses on tape, or as microscopic pits on CDs.

Digital sound can be of very high quality, and resistant to wear and tear. Without sophisticated techniques such as the Dolby AC-3 process used on SDDS prints, however, it takes a lot more space to record or transmit digital sound than analog.



Figure 1: A Dolby Stereo SR•D print has both analog and digital soundtracks.

Atmospherics — Low level background sounds, such as wind or traffic noise, which add to the reality of a scene. These sounds are sometimes recorded separately at a shooting location, creating what is called a "wild track" for mixing into the soundtrack later.

Dolby noise reduction — Complementary (record-play) signal processing system developed by Dolby Laboratories to reduce the noise inherent in recording media without affecting the sound being recorded.

Dolby A-type noise reduction, the original professional Dolby system, is used on Dolby Stereo 35 mm optical soundtracks. The Dolby B-type, C-type, and new S-type systems are for consumer formats such as the audio cassette.

Dolby SR (spectral recording) — The newest and most powerful professional Dolby signal processing system, used for the analog soundtracks on Dolby Stereo SR and SR•D prints. As well as

providing greater noise reduction than the original Dolby A-type system, Dolby SR also permits recording a wider frequency range, particularly at high signal levels.

Dolby Stereo — Dolby Laboratories' umbrella term for its film sound technology. It involves the recording of a film's soundtrack, the soundtrack itself on the release print, and its playback in the theatre. With the advent of the new digital soundtrack there are now four Dolby Stereo formats (see Figure 2).

"Dolby Stereo" also is used in advertising and on the marquee to identify the presentation of a Dolby Stereo release print in a theatre equipped with a cinema sound processor manufactured by Dolby Laboratories (see Stereo).

TYPE	REPRODUCTION	RECORDING	RECORDING
SR	SR	SR	SR
1	SR	SR	SR
2	SR	SR	SR
3	SR	SR	SR
4	SR	SR	SR
5	SR	SR	SR
6	SR	SR	SR
7	SR	SR	SR
8	SR	SR	SR
9	SR	SR	SR
10	SR	SR	SR
11	SR	SR	SR
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93	SR	SR	SR
94	SR	SR	SR
95	SR	SR	SR
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97	SR	SR	SR
98	SR	SR	SR
99	SR	SR	SR
100	SR	SR	SR

Figure 2: There are now four Dolby Stereo formats.

Dolby Surround — The home surround sound format derived from Dolby Stereo film sound.

Dubbing theatre — A special theatre equipped expressly for mixing film soundtracks. The sound systems in dubbing theatres where Dolby Stereo films are mixed and in Dolby Stereo cinemas are calibrated to the same standards. This makes it possible to achieve in the cinema the sound the director heard—and intended audiences to hear—when the soundtrack was mixed.

Dynamic range — The range between the loudest and softest sounds a sound format or system can reproduce properly.

Effects — Sound effects, i.e., the non-musical elements on a soundtrack other than dialogue.

Foley — A special soundstage used exclusively for recording sound effects (footsteps, doors closing, etc.).

Magnetic soundtrack — Narrow stripes of oxide material (similar to the coating on recording tape) that are added to a developed release print, then recorded in real time with the film's sound. For playback in the theatre, projectors are equipped with magnetic heads like those on a tape recorder.

This technology was introduced in the 1950s to provide stereo sound in the cinema, and its sound quality can be very high. Both prints and theatre maintenance are costly, however, so today there is just one remaining magnetic format, Dolby Stereo 70 mm six track.

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Dolby


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What is Dolby Digital?



 **DOLBY**
DIGITAL

Zoom Out



PRESS RELEASE

For Immediate Release

**DTS LAUNCHES NEW PRODUCT LINE WITH
XD10 DIGITAL CINEMA-READY MEDIA PLAYER**

New Product Series Will Deliver Performance Control Technology For Cinemas

London UK – 30 April 2003

At the recent ShoWest 2003 trade show in Las Vegas, DTS introduced the XD10 Cinema Media Player, the first product in its new line of XD Series products being developed for the cinema industry.

Engineered to deliver up to 10 channels of digital surround sound (8-channel playback with 2 channels for alternate audio), the XD10 is an expandable, reliable, and user-friendly media solution for pre-show and feature film presentation. The XD10 is also compatible with both traditional film playback and emerging Digital Cinema.

For reliability, the XD10 incorporates an internal hard drive that is used as the film sound signal source. Two DVD drives enable download of film sound information to the hard drive. When discs are loaded into the player, the system downloads the first reel (in approximately 30 seconds), and then begins to play the film. The balance of the reels is recorded onto the XD10 hard drive while the first reel is being played. The downloading process only needs to be performed once. From that point on, playback is automatic. The XD10 will automatically load and store up to 30 full-length film soundtracks. This gives distributors and exhibitors the flexibility of storing multiple languages of one title or multiple titles. Subsequent loading is accommodated by sequential replacement of previously loaded films.

The XD10 is also capable of playing back enhanced video for alternate media and has networking and pre-show programming features for an integrated presentation. The system automatically starts, stops, and tracks film breaks and changeovers.

The XD10 can also decode DTS Coherent Acoustics for soundtracks from video sources and for future applications. Optional custom features include DTS-CSS Access technology for subtitling, captioning, and audio description, as well as digital audio out.


Future capabilities will include scalable multi-channel audio as well as 96/24 playback and DTS Neo 6™. DTS Neo 6™ matrix technology expands 2-channel sources to 6 channels. This feature can be used for commercials and intermission music.

"As one of the pioneers in digital sound for the cinema, DTS is committed to creating products that will both benefit film distributors and exhibitors, as well as enhance the movie-going experience for the audience," said Tony Nowak, managing director of DTS Europe. "The introduction of the XD10 Cinema Media Player marks the first product in a series that is designed to meet the needs of this ever-changing industry, which demands ease-of-use, reliability and expandability."

Some of the other key benefits and optional features of the XD10 Cinema Media Player include:

- Customizable play list allows for the rearrangement of pre-show advertisements or trailers.
- Trailer and pre-show logging & tracking capabilities benefit advertisers, distributors and exhibitors.
- Supports large format films, special venue, and rite films in 5.1, 6, and 8-channel playback.
- Can playback 16mm, 35mm, and 70mm prints in 5, 8, and 15 perf.
- Capable of storing up to 60 hours of audio information as well as a combination of audio and video for pre-show programming.

[Zoom Out](#)



FACTSHEET

XD SERIES

As DTS continues to innovate for a dynamic and ever-changing cinema industry, we are introducing a new series of cinema products engineered to deliver super performance technology.

The XD Series will feature digital media products that offer unprecedented expandability, flexibility, and reliability. With the XD Series, we are enhancing the performance of today's products while developing technologies for the future.

Products in the XD Series are hard-drive based and engineered to deliver:

- High performance multi-channel digital sound playback
- High definition video output
- Digital Cinema compatibility
- Multiple language storage - audio and subtitles
- Customizable options for a one-box solution

DTS **XD10** CINEMA MEDIA PLAYER

The first product being introduced in this series is the DTS XD10 Cinema Media Player, designed with the most innovative performance technology available today. The DTS XD10 is a full-featured media solution for today's progressive cinemas.

Standard features include:

- Up to 10-channel digital sound playback
- 40 GB internal hard drive for storing up to 30 feature film soundtracks
- Scalable multi-channel audio
- Networking capability
- 96/24 playback and DTS Neo 6™ technology

Optional custom features include:

- DTS-CS Access technology for subtitling, captioning, and audio description
- Pre-show programming
- Integrated video for alternate media
- Digital Out AES/EBU



DTS-ECP

Processore cinematografico espandibile

Il primo passo verso il digitale: un processore completo ed espandibile

A chi segue un futuro digitale, ma non è ancora pronto all'acquisto, DTS offre ora una soluzione di livello mondiale per la sala cinematografica impegnata nella transizione al digitale. Il Processore cinematografico espandibile DTS-ECP fornisce una riproduzione eccellente dell'audio grazie all'integrazione delle funzioni di un processore cinematografico analogico completo e di un monitor di proiezione in un unico gruppo da 4 unità. Il sistema DTS-ECP può essere facilmente ampliato per la riproduzione di audio digitale aggiungendo un Paschetto di elaborazione digitale DTS. A tutto questo si aggiunge la tecnologia del suono superiore che produttori, sale e appassionati di cinema riconoscono dal nome. Tutto questo è possibile grazie a DTS.



Digital Theater Systems, Inc.
5071 Chardon Drive
Agrate Hills, California 91301
t: 1-800-368-4109 or 1-818-706-3625
f: 1-818-706-1968
e: info@dtsonline.com
www.dtsonline.com

Digital Theater Systems (UK) Ltd.
Unit 16, Twickenham Industrial Estate
Ruscombe Lane, Twickenham
Barnetshire TW20 9PL, UK
t: +44 1189 345 199
f: +44 1189 345 198
e: dtsinfo@dtsonline.co.uk

DTS Japan
ATC Communications KK, Liaison Office
2-1-44 Shinjohara, Koto-ku
135-0067 Tokyo, Japan
t: +81(03) 5564-7158
f: +81(03) 5521-1022
www.dtsjapn.co.jp

Innovation: Performance
Control Technology



DTS XD10

Cinema Media Player

The DTS XD10 Cinema Media Player is engineered to deliver 10 channels of the highest quality digital surround sound, plus enhanced video for alternate media. The unit contains an internal hard drive, capable of storing up to 30 feature film soundtracks.

The DTS XD10 will offer scalable multi-channel audio as well as 96/24 playback and DTS-Neos™. Optional custom features include DTS-CSS Access technology for subtitling, captioning, and audio description.

The DTS XD10 is a full-featured media solution with networking and pre-show programming capability. With the XD10, DTS launches the first product in its XD Series, designed to deliver high performance technology for today's progressive cinemas.

Features

The XD10 is capable of supporting 10-channel playback (8-channel playback and 2 channels for alternate audio). The system automatically seeks, stops, and traces film breaks and chapter markers.

The XD10 is capable of decoding two DTS audio formats: standard (up to X 100%) and DTS Digital Surround. Material recorded in standard digital audio at a 44.1K sample rate with up to X 100% digital audio data compression (x1) provides up to 8 audio channels that are DTS Digital Surround plus 2 auxiliary channels. Two-channel audio, generally used for commercials, can utilize DTS-Neos™ technology to matrix to 6 channels.

For reliability, the XD10's internal hard drive is used as the film sound signal source and two DVD drives are available to download film sound information to the hard drive. When discs are loaded into the player, the system downloads the first reel (in approximately 30 seconds), and then begins to play the film. The balance of the reels is recorded onto the XD10 hard drive while the first reel is being played.

The downloading process only needs to be performed once. From that point on, playback is automatic. The XD10 will automatically load

and store up to 30 full-length film soundtracks. Subsequent loading is accommodated by sequential replacement of previously loaded films.

DTS's encode assures not only accurate sound and picture synchronization, but is likely to assure films are not with the correct audio tracks. Films released in the DTS Digital Sound format also contain a traditional analogue (left/right) soundtrack (Dolby, A/TM, or MONO) to serve as a fallback sound source. To further ensure safe operation, the XD10 will perform automatic error detection. If problems are detected with the digital sound, the system automatically alerts that a fallback format is needed.

Additionally, DTS-CSS features can be added easily with over-the-air software, as well as expanded functionality to include a video board.



DTS

DTS Offers a Global Subtitling & Captioning Solution for Exhibitors



As the motion picture industry continues to progress at a rapid pace, DTS is focused on meeting the needs of both distributors and exhibitors with a technology so remarkable, and so flexible, that it has become a one-stop solution for a variety of theatrical applications. Recognized worldwide as a premier digital sound company, DTS cinema products have always provided technology solutions that are adaptable even beyond the realm of digital sound, for which the company is so well known.

Outstanding in its flexibility, versatility and total sonic system, DTS Digital Sound was created to take full advantage of digital storage technology advancements by placing the soundtrack data on the medium intended to store it, the CD-ROM.

The DTS system reads timoncode on the film, and synchronizes playback from CD-ROM discs, playing the correct sound for each frame of film presented. This advanced digital technology assures that a soundtrack's audio integrity is unaffected by film deterioration or degradation, the print plays perfect sound, on the last play date and on the thousandth.

Uniquely, the DTS system is able to deliver almost any kind of added information, whether it is a foreign language soundtrack, a separate narrative track, or special effects.

With DTS, motion picture studios can produce a single inventory of prints for domestic and foreign distribution, while exhibitors can present a film in any language, in any country, using a single print - all accomplished with a simple switch of a CD-ROM disc.

A Single-Print Solution: The DTS-CSS Cinema Subtitling System

DTS has taken its world-class technology one step further to develop the DTS-CSS Cinema Subtitling System which projects subtitles directly onto the screen instead of printing or overlaying them onto the film itself.

For several years, DTS has provided foreign-language discs with original version prints in many territories. Now, with the DTS-CSS system, we can provide the same capability with subtitled and captioned prints. Essentially, this means that a single inventory of prints can easily be used along with the appropriate DTS disc to provide a foreign language audio track, subtitling, or captioning information to project on the screen. DTS discs are held up to 40 languages to facilitate different subtitles for different shows.

For those countries with multi-language laws, the DTS-CSS system can play foreign language discs and audio subtitles. For instance, in Spain you could play Catalan Spanish language discs while projecting local Basque subtitles. In fact, this technology could easily be adapted should a cinema operator want to show an English-language print in the morning in an El Paso cinema, and then run a Spanish subtitled print for a different audience in the afternoon - again accomplished with a simple switch of a CD-ROM disc.

Accessibility For Diverse Audiences

Captioning can be presented in the same

manner with the DTS-CSS, just by switching to a disc containing the caption information. DTS technology also offers a unique ability to present access programs like DTS' TheaterCall for visually-impaired moviegoers and the Fleet Windows™ Captioning System for hearing-impaired patrons. These programs enable exhibitors to reach wider and more diverse audiences than ever before.

DTS-CSS Features And Specifications

- Accommodates single inventory of release prints for all worldwide territories
- Flexibility to show any subtitle in any auditorium, anytime, anywhere
- Ability to enhance multiple screens and project a different language/subtitle on each screen
- Shady and bright subtitle/captioning that never deteriorates
- Projects movie subtitles in sync with picture
- Converts to existing DTS timoncode master head
- Easy to use LED backlit control panel for roll up
- Integrated with Fleet Windows™ Captioning System and DTS® Theatrical System

Processor Specifications

- Size: 15" wide mount, 8.25" high, 15.25" deep
- Power supply: 100-250V at 50-60Hz
- Power consumption: 150 watts

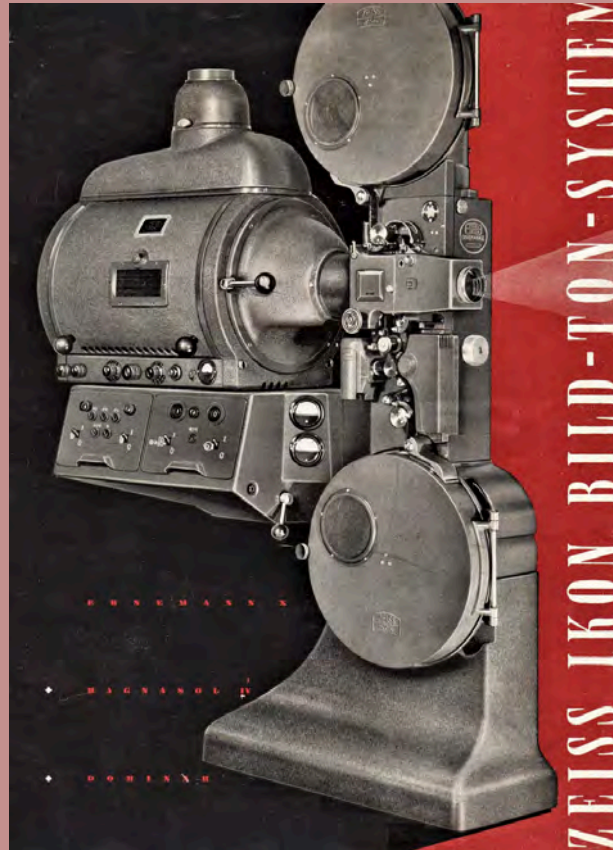
Projector Specifications

- Size: 30" wide, 3.5" high, 10" deep
- Weight: 8.8 pounds (3.1kg)
- Power supply: 100-240V at 50-60Hz
- Power consumption: 450 watts

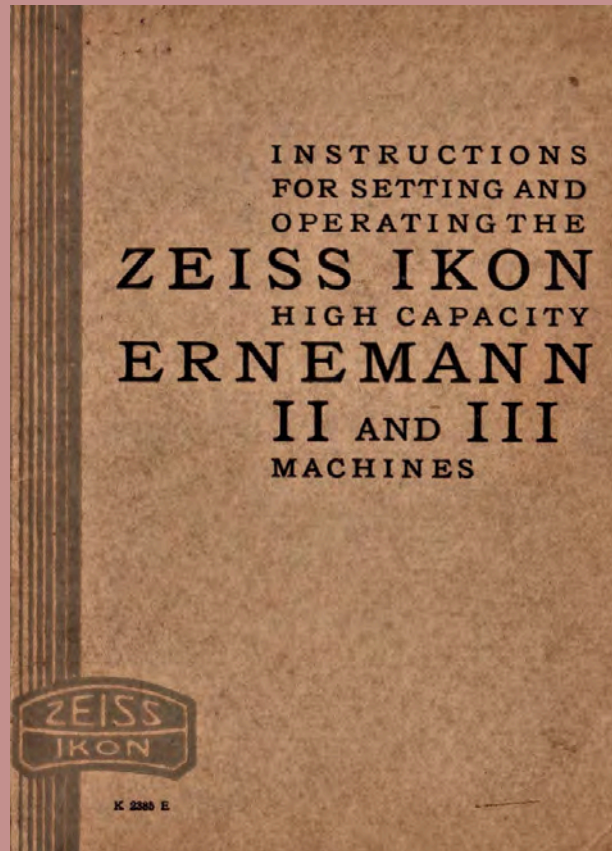


Figure 1000

Ernemann




Ernemann



Zeiss Ikon

Super Intensity Projector

Ernemann III



PRICES :—

Mechanism	- - -	£118 0 0
Top Spool Box and Arm		12 0 0
Bottom „ „		15 10 0
Heavy Pedestal Stand	-	17 10 0

Arc Lamp and Lamp House
(Price according to type required).

Cine Lens
(Price according to Diameter and Focus).

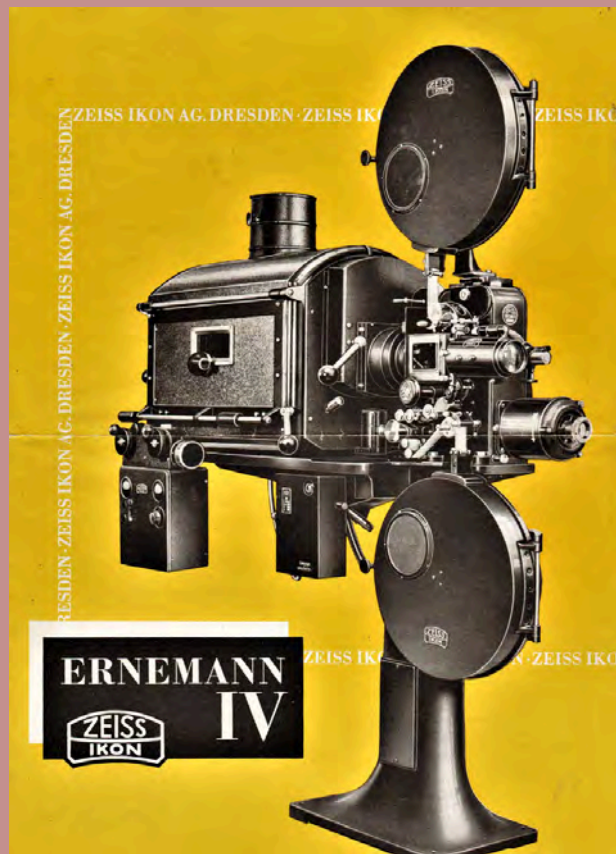
Conversion Equipment for
 R.C.A., B.T.H., Picturetone
 Price per Projector £25 0 0

K 361 E.

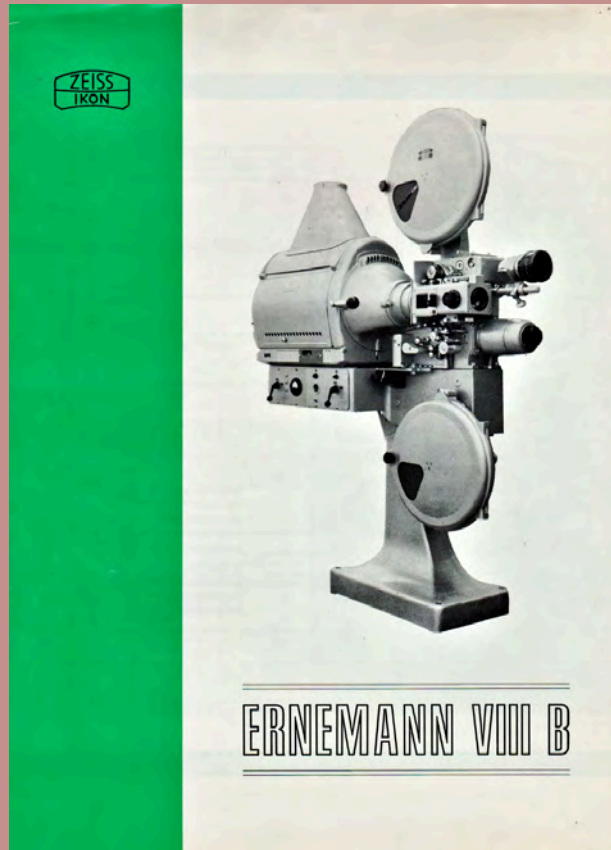
Zeiss Ikon A.G. Dresden



Ernemann



Ernemann



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INSTRUCTIONS
FOR
ASSEMBLY AND OPERATION

ERNEMANN VIII B

ZEISS IKON AG. WERK KIEL

ERNEMANN
PROJEKTIONSTECHNIK



WALTURDAW
 LIMITED
Representatives
 200 BATH ROAD
 LONDON W11 2AA
 TEL: 01-692 1517
 TELEX: 94716
 CABLES: FILMSERVIS

ERNEMANN 12

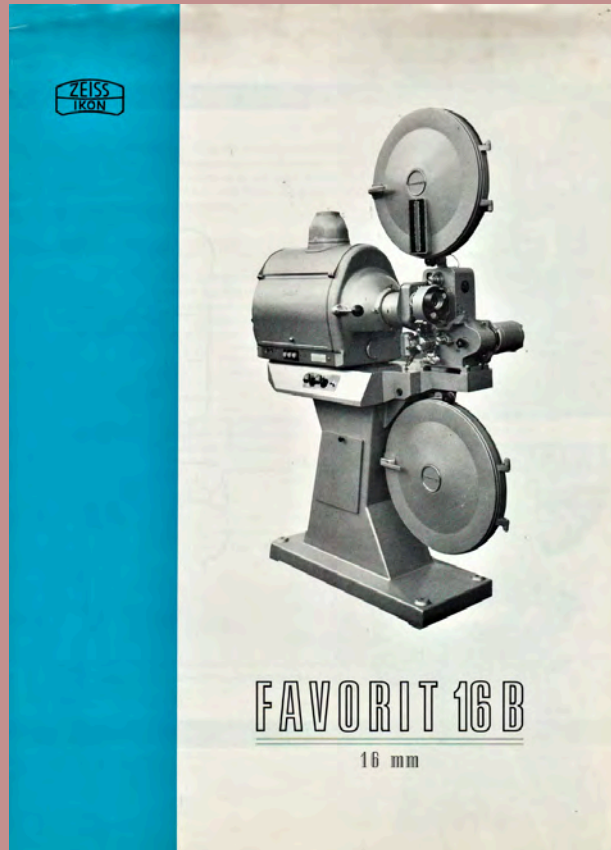
for 35 mm or 35 and 16 mm

The **ERNEMANN 12** is the first truly innovative advance in dual gauge projection. A standard version provides the projectionist with a „work horse“ module capable of the compact acceptance of rectifier, amplifier, magnetic reproducer, lens turret, coupled to the most flexible automatic control system.

With the addition of the latest horizontal xenon lamphouse providing the light output for both 35 mm and 16 mm formats the **ERNEMANN 12** emerges as the world's most sophisticated and reliable projector.



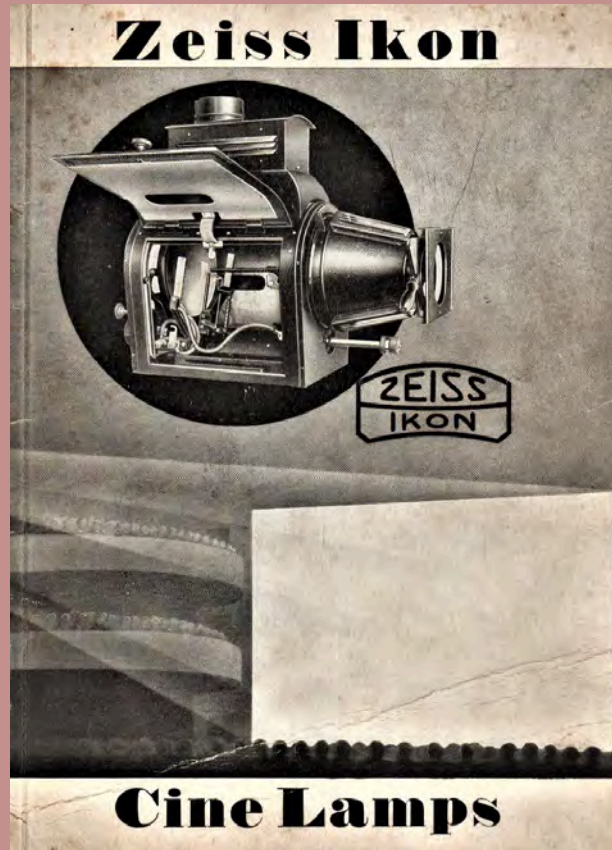
Acc 80-2002 E / 2 / FN 7706



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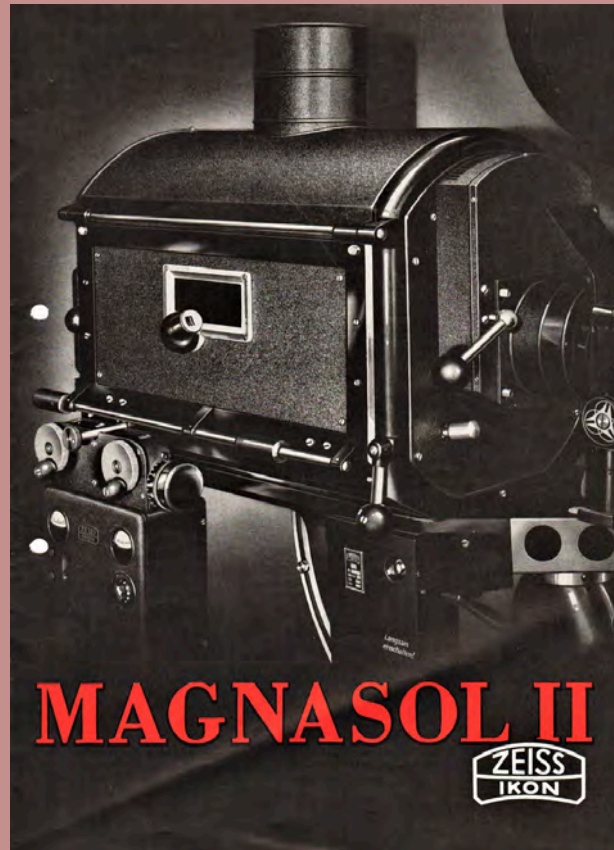
Ernemann



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Ernemann



Ernemann

Zoom Out

XENOSOL II

The xenon lamp **XENOSOL II** is intended for small and medium theaters and can be equipped with xenon bulbs **XBO 450, 900 or 1600 W**, as required.

CONSTRUCTION

The lamphouse is provided with two flap doors, giving easy access to the lamp interior. The left-hand door can only be opened with a hollow key. In the upper part of the back are the instruments (ammeter and hour meter), and in the lower part is a detachable cover, giving access to the ignition device and the main mirror adjustment. The inner lamp components form a single unit, the **XENOBLOCK**.

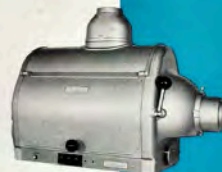
OPTICAL SYSTEM

The **XENOSOL II** has an adjustable main mirror of 356 mm diameter which can also be supplied as a cold-light mirror. The auxiliary mirror has a diameter of 96 mm. It is guarded against overheating by a separate fan. Adjustment of the auxiliary mirror is by three lateral setting knobs and can be checked through a small optical system. Particularly uniform light distribution can be achieved by means of an accessory, the **ZEISS IKON honey-comb condenser**.

IGNITION

The lamp is ignited by means of a button provided on the lamphouse. The ignition device may be supplemented by an automatic device which triggers off repeated ignition attempts, should the bulb fail to fire on transmission of the first ignition impulse. This happens sometimes with old bulbs, and also with some types of rectifier. In automatically operated plants the automatic ignition device is obligatory.

The automatic ignition device also prevents sound interference from ignition.



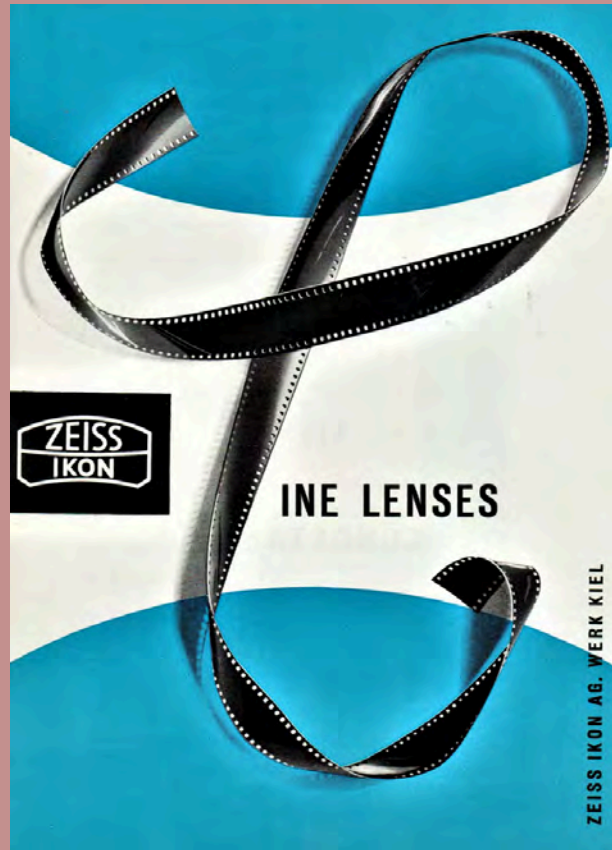
XENOSOL II



XENOSOL II, Rear view

ZEISS
IKON

Ernemann



Ernemann



**ZEISS
IKON**

Der Farbspielprojektor

ein wertvolles Zusatzgerät für das moderne Filmtheater

Ernemann

Fig. 1 Total view of 1829 with transport chassis

ZEISS IKON

Heavy Duty Slide Projectors

The development of Zeiss Ikon Heavy Duty Slide Projectors has created an equipment which, on account of its outstanding features, can be employed for many purposes.

MAIN FEATURES of the equipment:

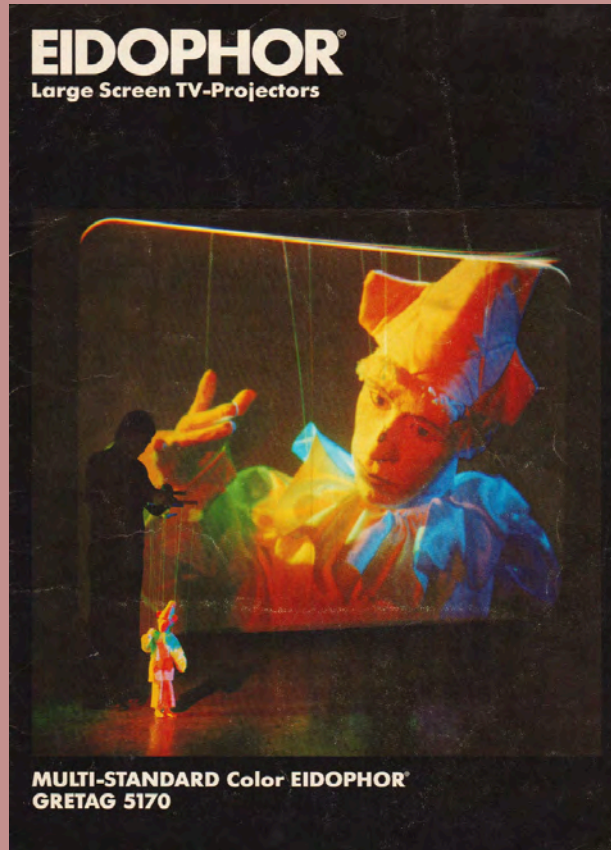
- High light output; therefore applicable not only for ordinary projection but also particularly for rear and background projection
- Extremely even illumination by means of the Zeiss Ikon Honeycomb Condensor
- Large images at short distance
- Application of various slide-sizes
- Largest protection of slides against heat by means of cool light mirror, filter and cooling blower
- Easy mobility in combination with a trolley
- Space saving by mounting an angular mirror in front of the lens (fig. 2)

FIELDS OF APPLICATION

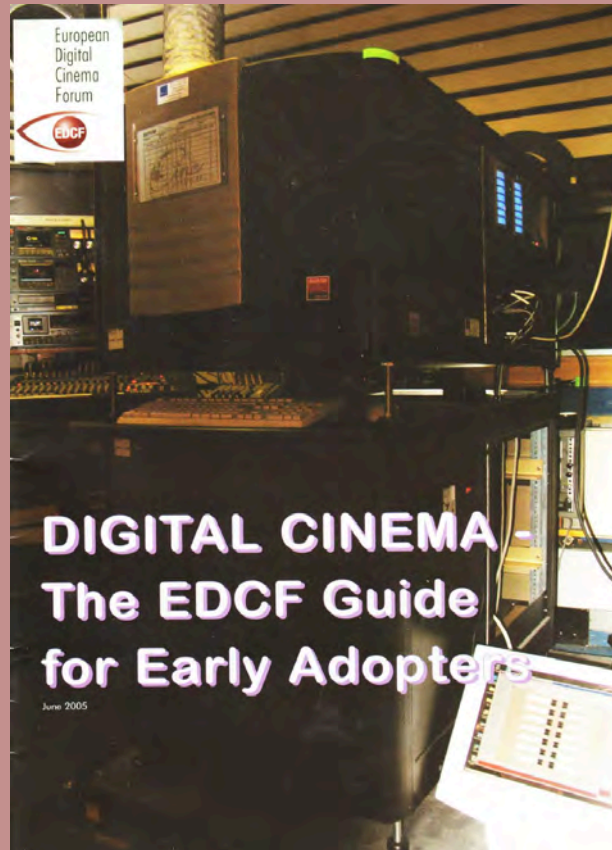
- In television and film studios**
the projector is mainly employed for rear projection. Its advantages are here:
 - bright and well-contrasted images
 - no attendance of the lamphouse
 - low-noise, therefore no sound-proof cabin necessary for shielding the microphones
- In fashion and advertising photography**
for background projection. Outdoor shots for fashion and catalogue photos become unnecessary when employing suitable slides
- For the reproduction of advertising slides on fairs, exhibitions, or in department stores**
- For background and effect projection in theatres.**

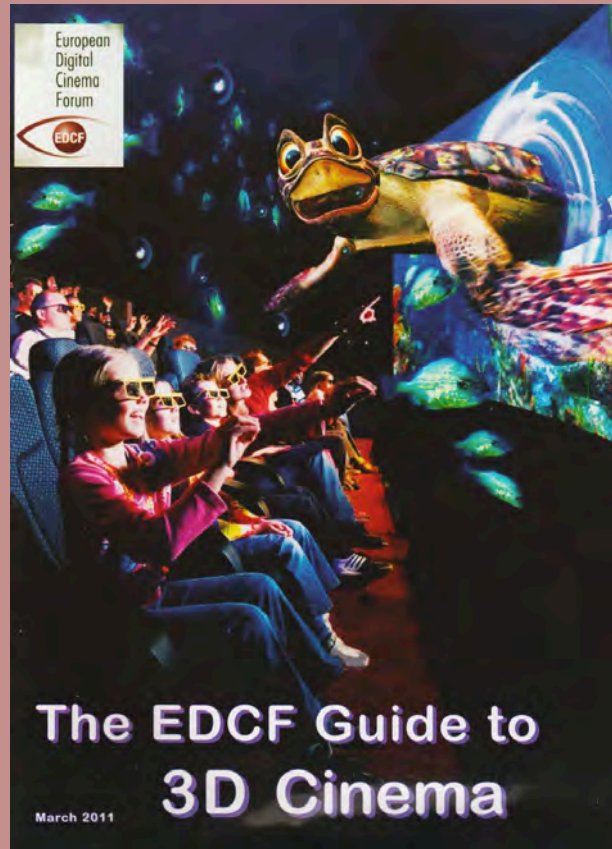
Ernemann





European Digital Cinema Forum





Frieeseke and Hoepfner

The latest FH-development



FH-UNIVERSAL PROJECTOR

suitable for the projection
of all picture systems
known up to now
with films of 35 mm
and 70 mm width

35 **70**

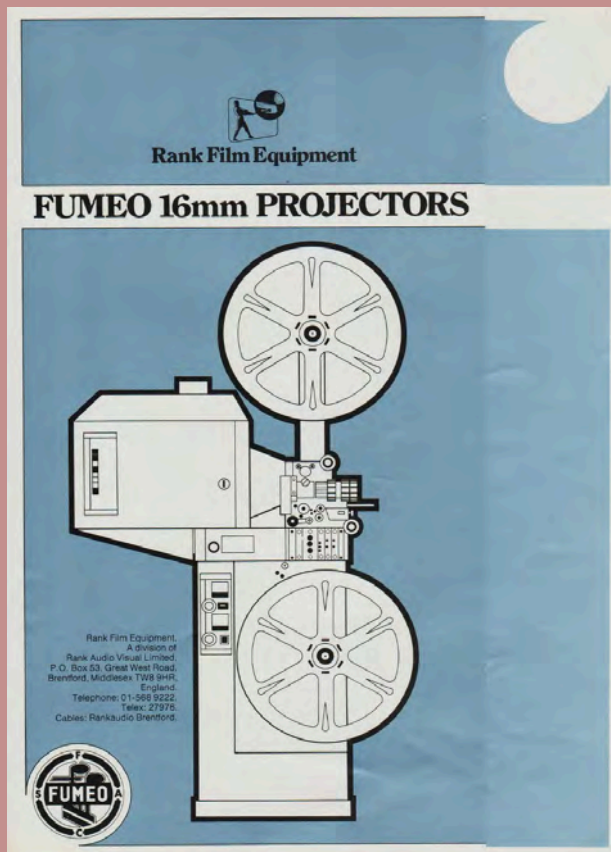
 **FRIESEKE & HOEPFNER GMBH ERLANGEN-BRUCK**
WESTERN GERMANY

Frieseke and Hoepfner

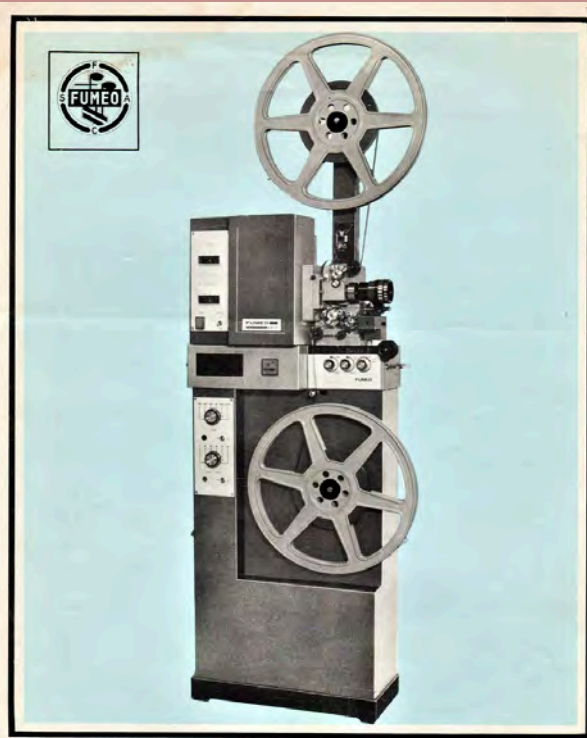


Frieseke and Hoepfner





Fumeo



16 mm. PROFESSIONAL
SESTO - TR XENON 900

Gaumont British and Kalee



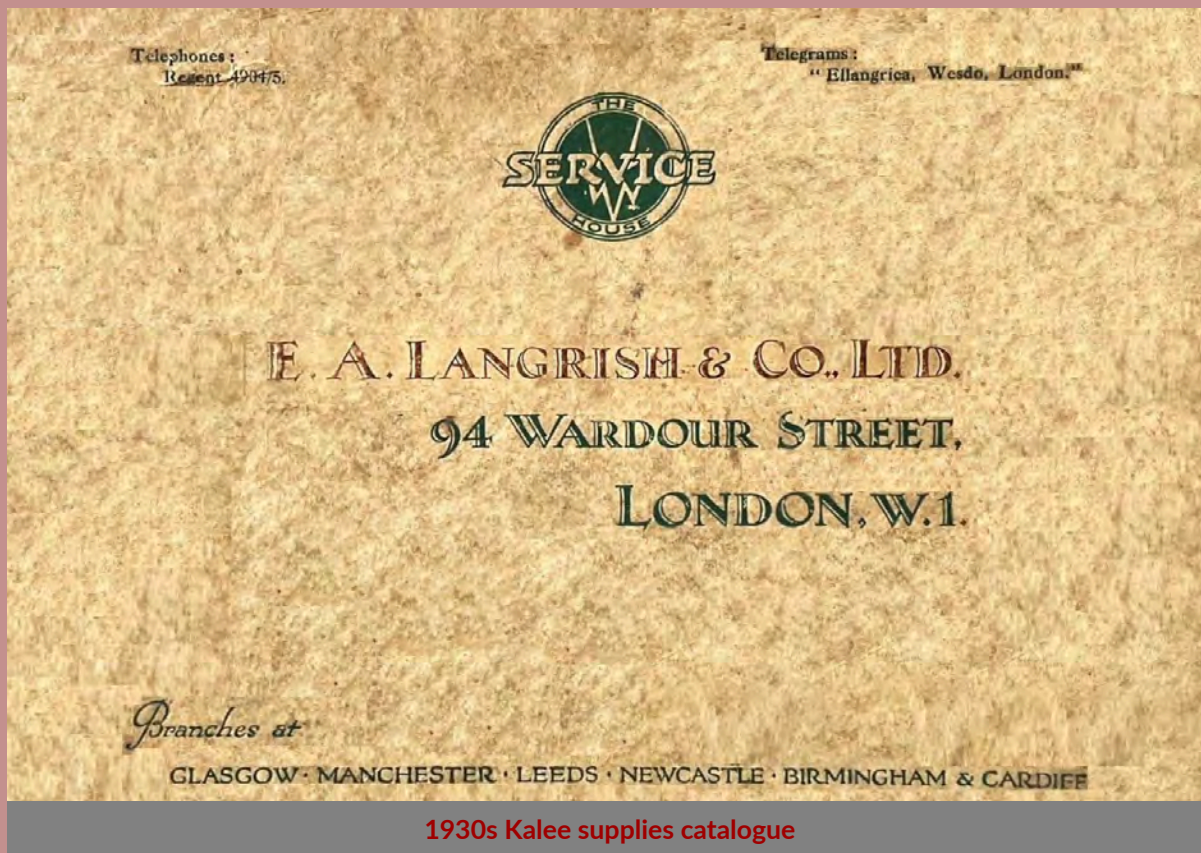
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Gaumont British and Kalee



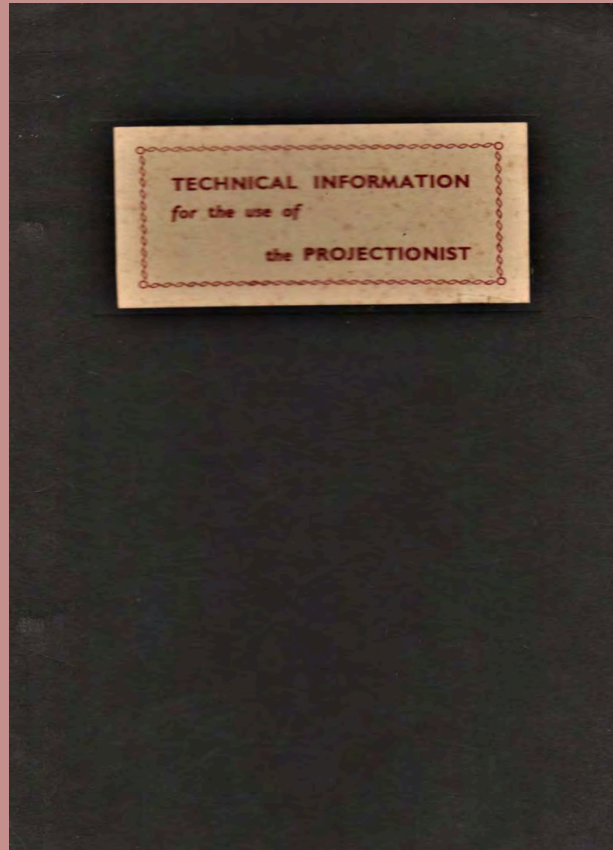
Gaumont British and Kalee



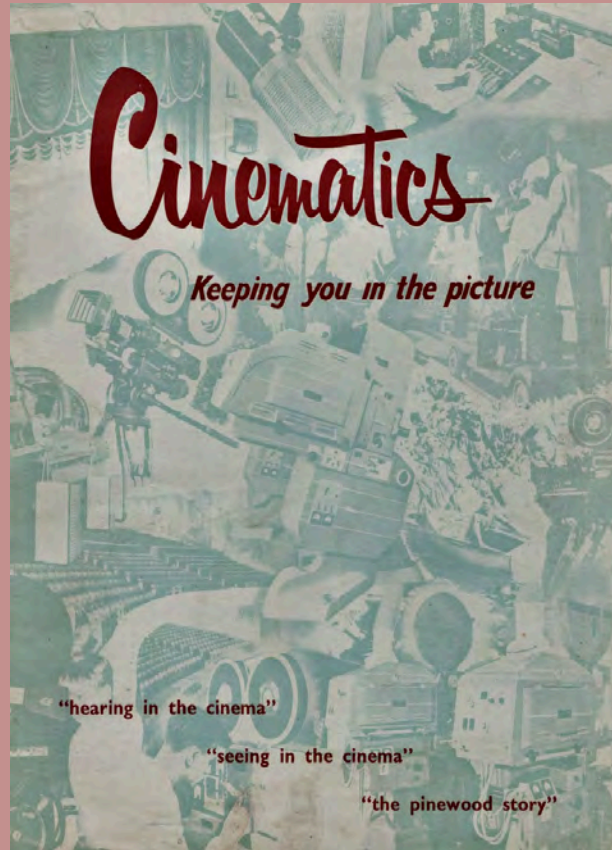
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Gaumont British and Kalee

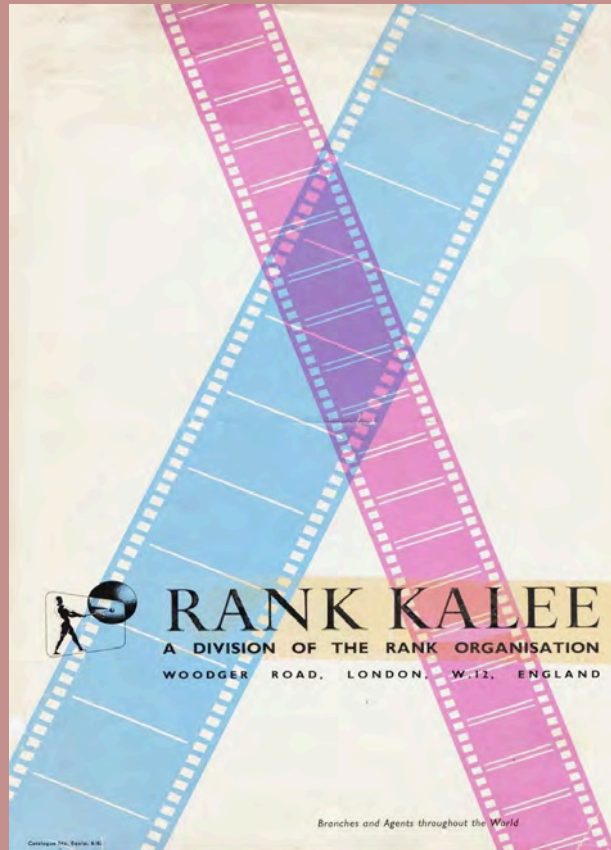
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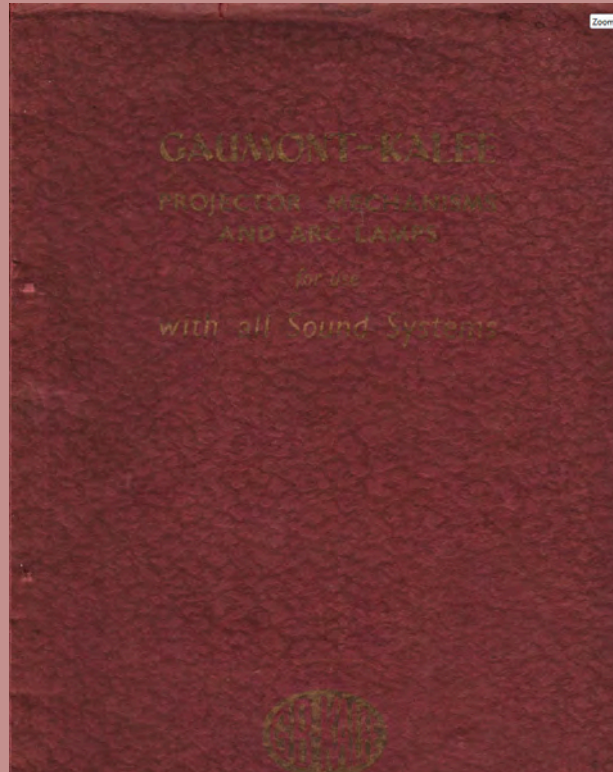
Gaumont British and Kalee



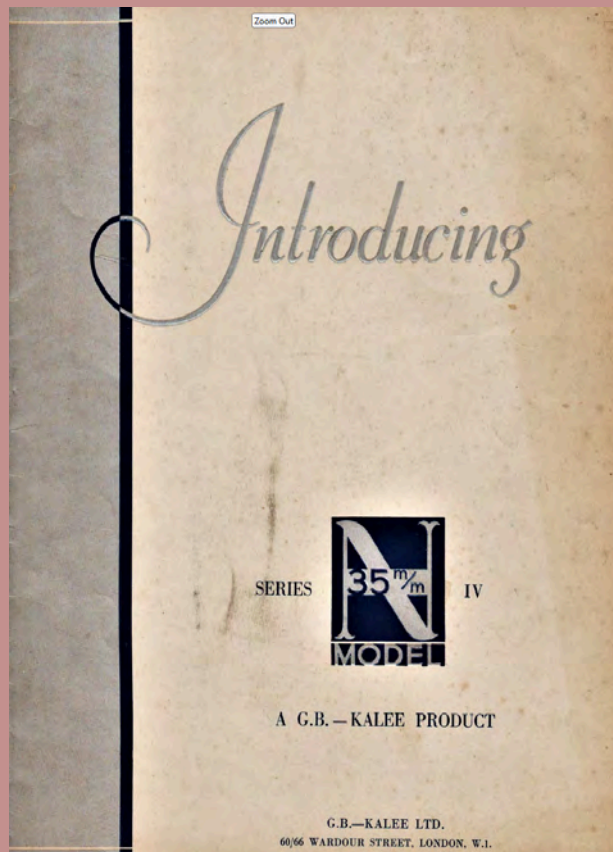
Gaumont British and Kalee



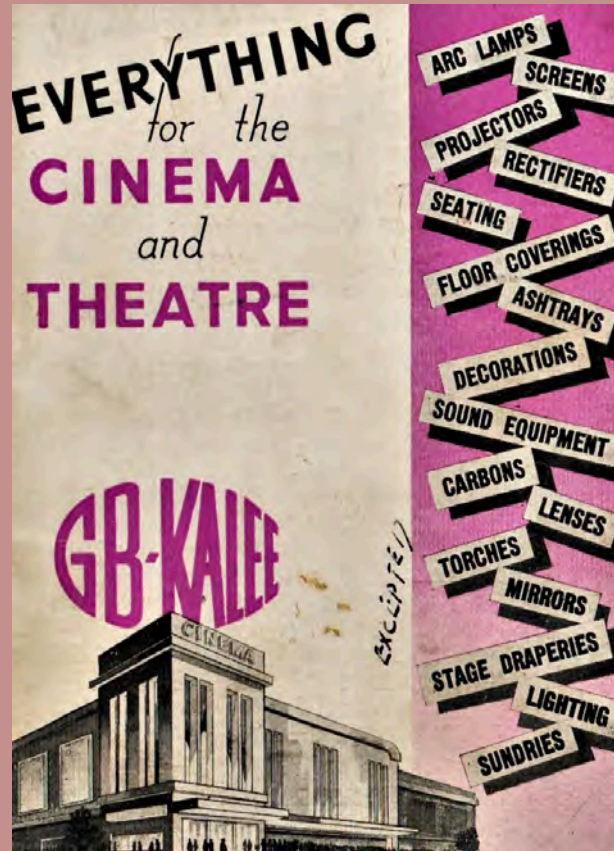
Gaumont British and Kalee



Gaumont Kalee projector mechanisms and arclamps for use with all sound systems



Gaumont British and Kalee



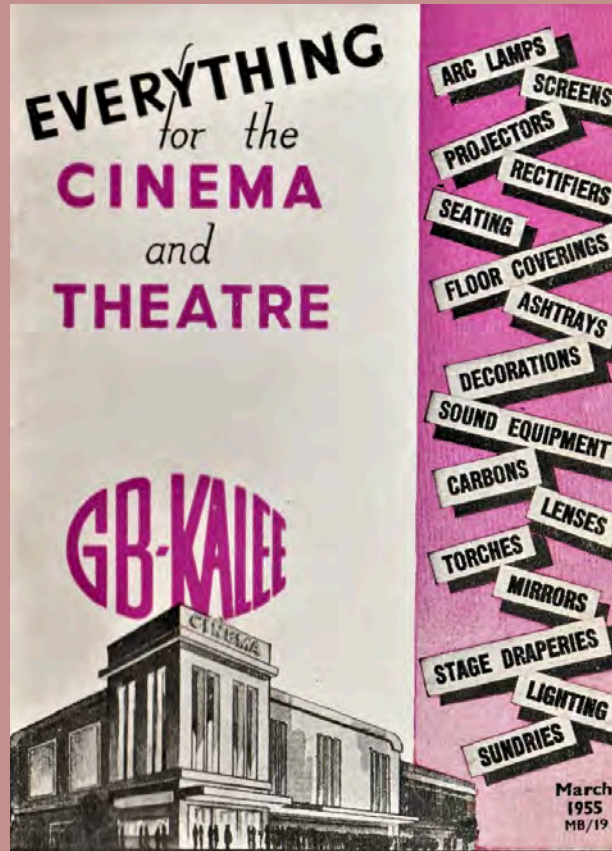
Gaumont British and Kalee



Gaumont British and Kalee



Gaumont British and Kalee



Gaumont British and Kalee



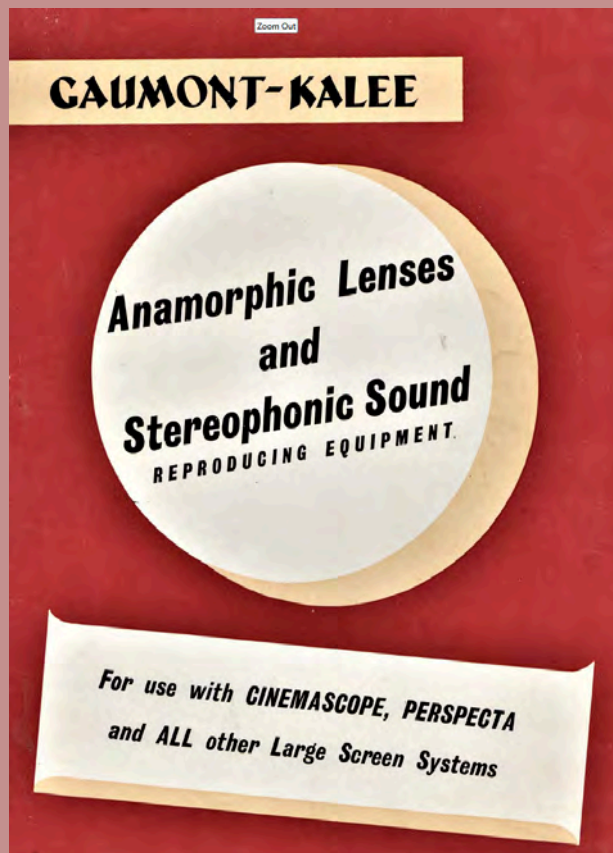
Gaumont British and Kalee



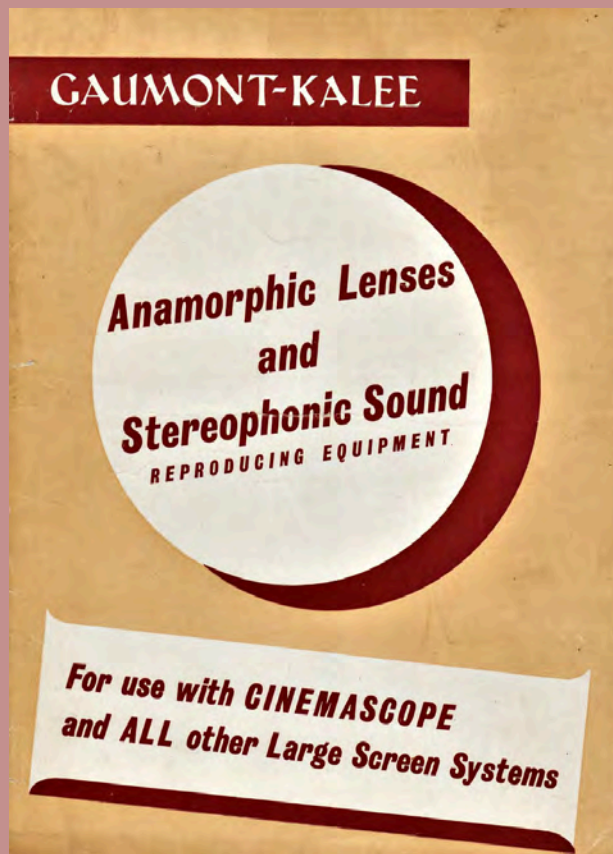
Gaumont British and Kalee



Gaumont British and Kalee



Gaumont British and Kalee



Gaumont British and Kalee

Gaumont-Kalee News

Keeping You in the Picture

No. 8

DECEMBER, 1952

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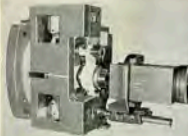
Published by G.B.-KALEE LTD., in London for private circulation among friends and associates in the Film Industry at Home and Overseas.

G.B.-KALEE IN PRODUCTION FOR CINEMASCOPE

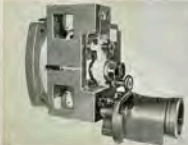
The Gaumont-Kalee anamorphic lens



The Gaumont-Kalee primary-type anamorphic lens (above).



Bracket with lens in position for CinemaScope presentation (centre).



Bracket with anamorphic lens swung out of position for showing normal films (bottom left).

The B.O.P.E. manufacturing companies form part of the Rank Group. They include: Taylor, Taylor & Hobson Ltd. (jewellery-makers, lens, manufacturing), A. Kershaw & Sons (manufacturers of Kalee projection equipment), British Acoustic Film Ltd. (manufacturers of Diastonic sound equipment) and G.B.-Kalee.

G.B.-Kalee will distribute the CinemaScope lenses and Miracle Mirror screens through its branches and its overseas agents throughout the world, and will make the equipment available to exhibitors through most of the established supply companies. Stereophonic sound equipment will also be available from G.B.-Kalee.

Lenses and other equipment are already in production and plans have been made to meet all anticipated demands. A B.O.P.E. report has recently returned from the United States where he has studied the production of the Miracle Mirror screens, and it is expected that these screens will be manufactured in B.O.P.E. factories shortly.

ANAMORPHIC LENSES
TAYLOR, TAYLOR & HOBSON, A COMPANY WITHIN THE B.O.P.E. GROUP, AND WORLD-FAMOUS LENS MANUFACTURERS, HAVE, AFTER MANY MONTHS OF INTENSIVE RESEARCH, DESIGNED AN ANAMORPHIC LENS OF THE PRISMATIC TYPE FOR USE WITH CINEMASCOPE FILMS.

In designing this lens, Taylor, Taylor & Hobson had, as their primary objective, the provision of the finest possible definition, so important in the presentation of wide screen pictures, coupled with the lowest possible cost to the exhibitor. Several important points on the lens are now pending.

The standard anamorphic lens covers

projection focal lengths up to 51 in. Larger anamorphic lenses for focal lengths of 6 to 8 ft. are also available.

G.B.-Kalee will be the main distributors of these lenses and will, in addition, make sales available to U.K. exhibitors through Winton Electric, R.C.A. Sound Equipment Ltd., Fante Equipment Ltd., Walford Cinema Supplies (1952) Ltd., J. Frank Brockley Ltd. and Cinema and General Equipment Co. Ltd.

New 'High Definition' Lenses

Many of the projection lenses at present in use in cinemas, whilst providing satisfactory picture quality on the normal size of screen, are not capable of reproducing wide screen definition. Taylor, Taylor & Hobson have, therefore, designed a new range of "high definition" lenses for use in conjunction with anamorphic films in order to ensure the best possible projection of CinemaScope films.

Swinging Bracket for Quick Changer

B.O.P.E., in conjunction with various projection manufacturers, have designed special mounting brackets which allow the anamorphic lens to be swung out of position to permit the projection of normal pictures, sound movies, etc., in a programme which includes CinemaScope films.

This arrangement, illustrated on the left, enables a rapid changeover between the different types of picture projection without the need for re-mounting. It also ensures that the anamorphic lenses are always securely mounted on the projector and thus free from risk of damage.

The shape of the B.O.P.E. special production facilities, both of Taylor, Taylor & Hobson and of A. Kershaw and Sons in Leeds, will be used to secure maximum output of the anamorphic and other lenses.

Gaumont British and Kalee

GAUMONT-KALEE
ANAMORPHIC LENSES & STEREOPHONIC SOUND
REPRODUCING EQUIPMENT
FOR USE WITH
CINEMASCOPE
AND ALL OTHER LARGE SCREEN SYSTEMS

5th November, 1962



**GAUMONT-KALEE
PROJECTOR ASSEMBLY**

Showing 4-way magnetic Soundhead between two spool-boxes and mechanism. It can be fitted with 5000 Ft. spool-boxes as shown, for use on three dimensional presentation.

ANAMORPHIC LENSES

The Anamorphic, or "squeezed" lens attachment is the key to Cinemascope. On the camera lens, the anamorph "squeezes" a wide picture into a frame approximately the size of a normal 35mm frame. On the projector, it reverses the process, and "stretches" the picture on to a curved screen with aspect-ratio of 2.35 to 1.

The anamorphic attachment Type P illustrated, uses prismatic components and is suitable for use in conjunction with special Gaumont-Kalee High-Definition Projection Lenses. A new range has been designed for this purpose. All the lenses are provided with mounting diameters of 2.751".

The attachment, Fig. A, is mounted in a bracket shown in Fig. B, which enables the anamorph to be moved out of position for normal projection and brought into use for pre-determined adjustments.

The anamorphic lens is provided with an adjuster for projection throw and this is indicated on a calibrated scale.



FIG. A.



FIG. B.

Fig. A. GAUMONT-KALEE Anamorphic Lens, Type P, with prismatic components.

Fig. B. GAUMONT-KALEE Anamorphic Lens Bracket.

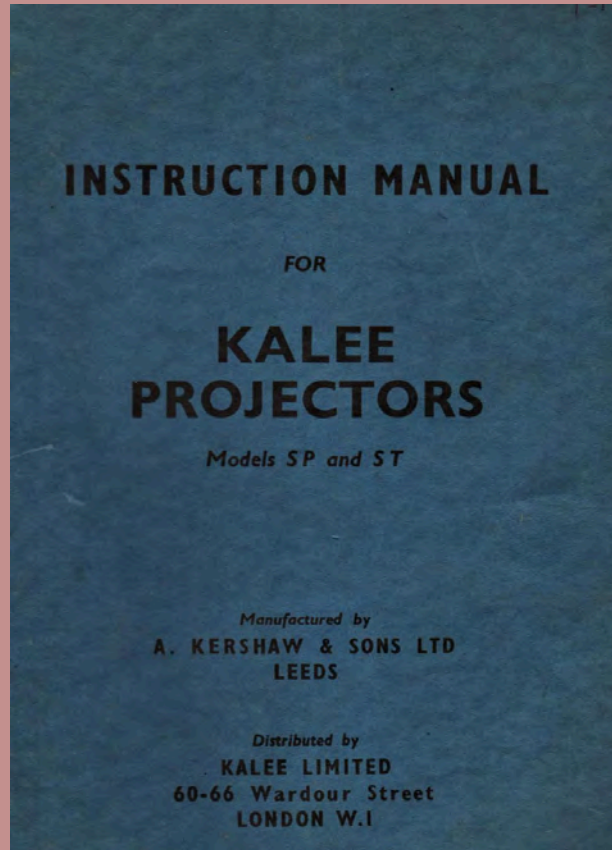
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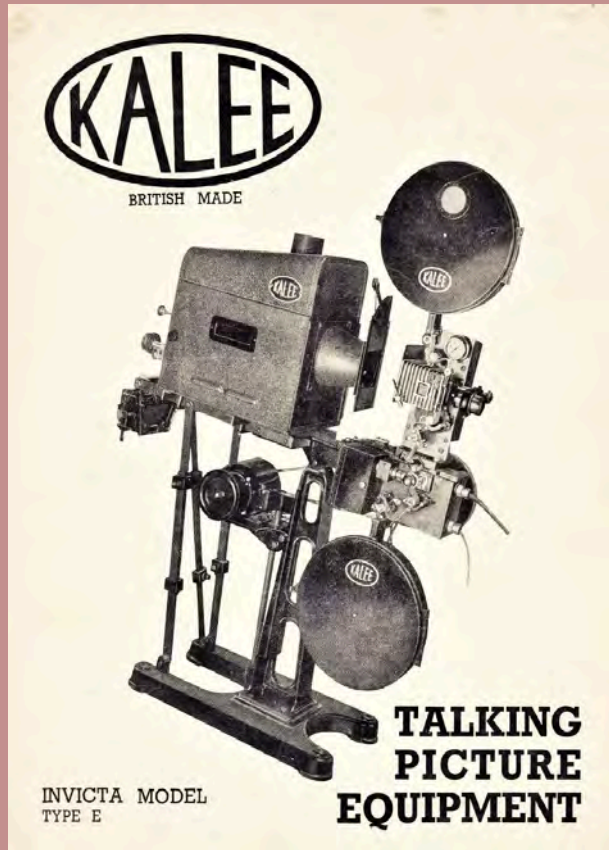
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1946

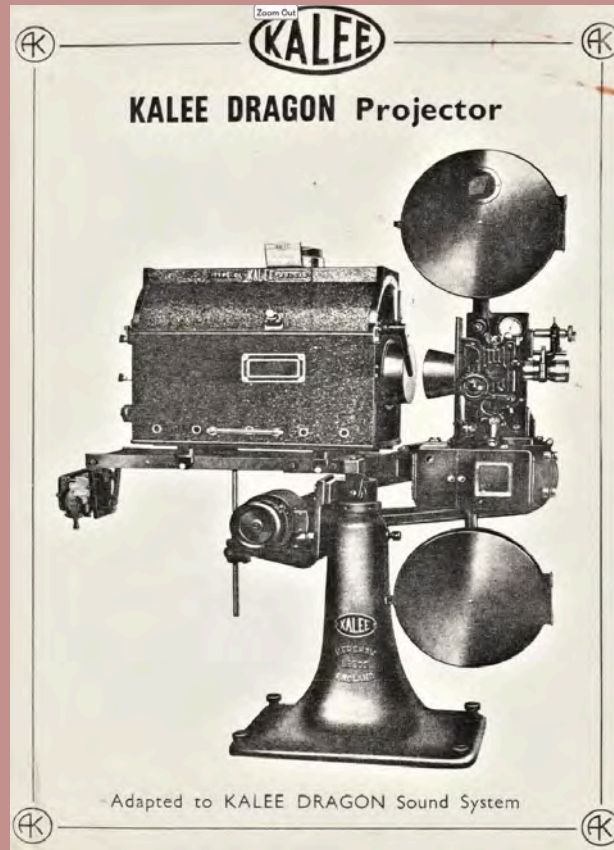
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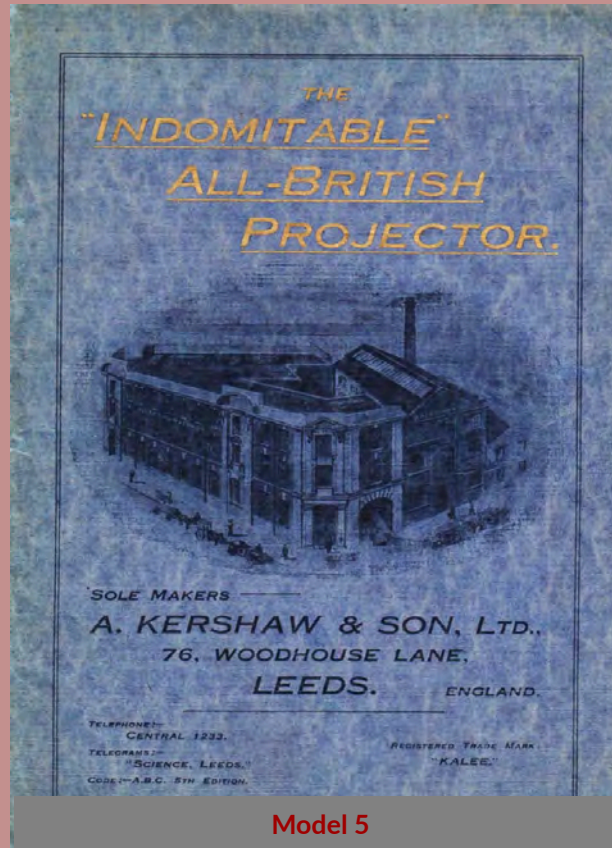
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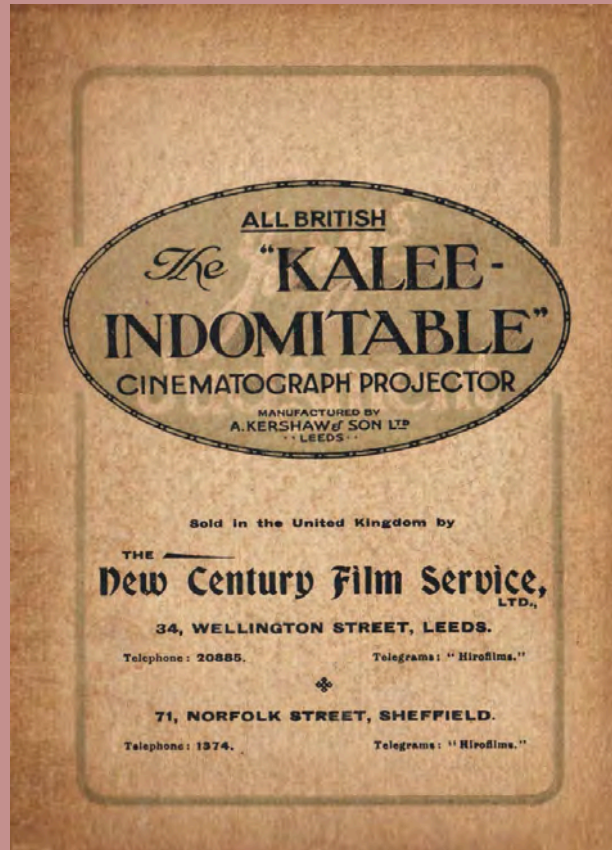


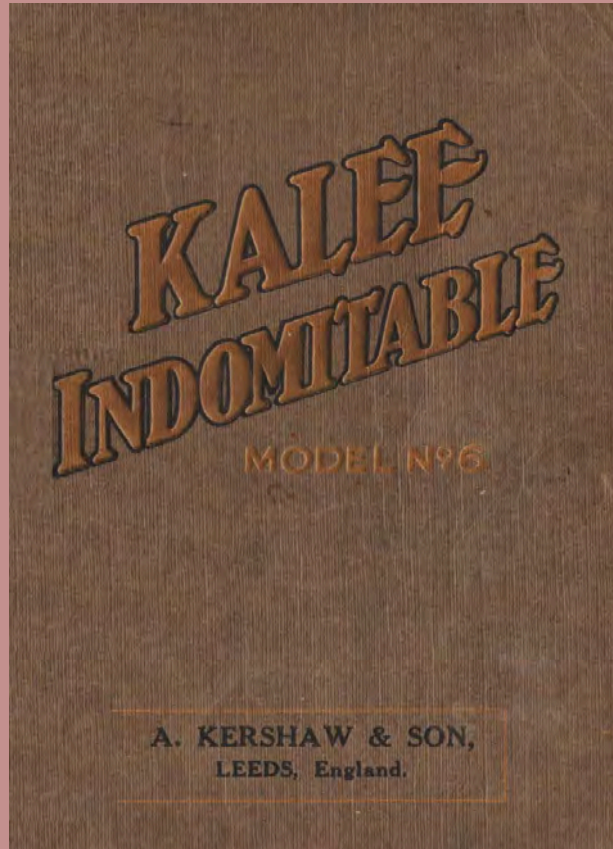
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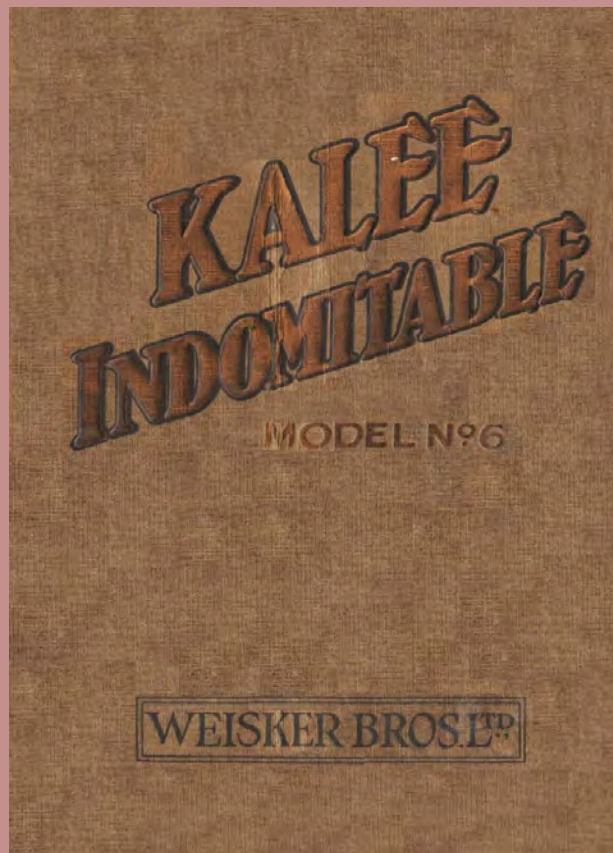


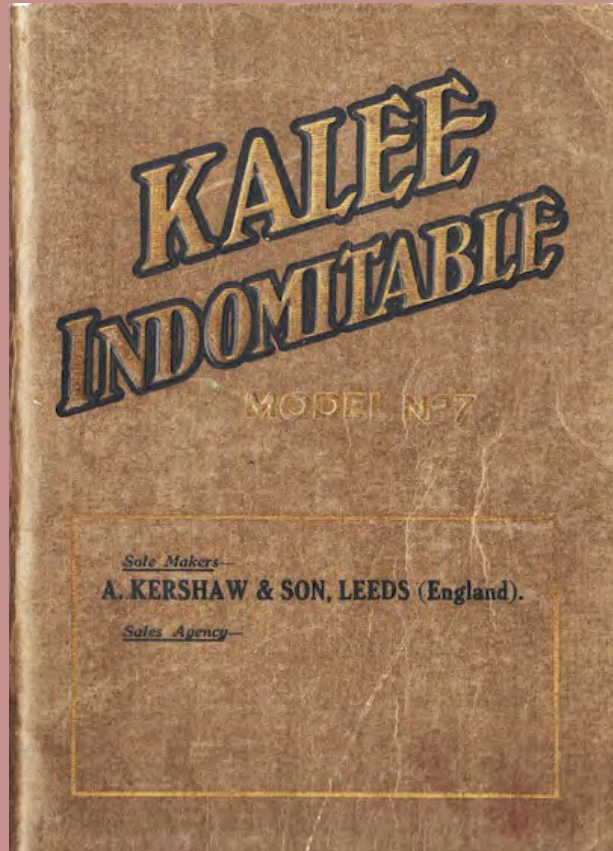
Model 5

Gaumont British and Kalee









gR Kershaw

KALEE

Model 7 Projector

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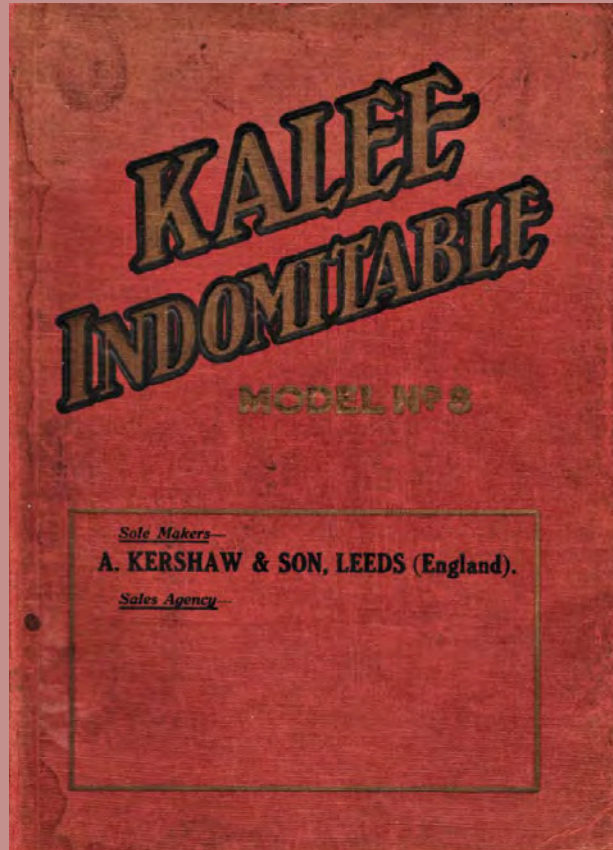
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August 15th, 1937.

Prices are subject to revision without notice.



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Models 8 & 8RS Projectors

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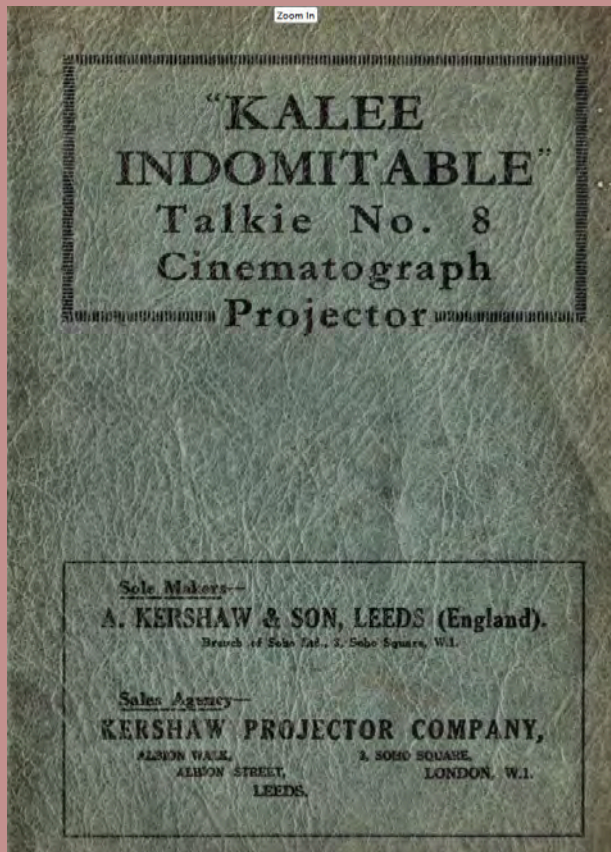
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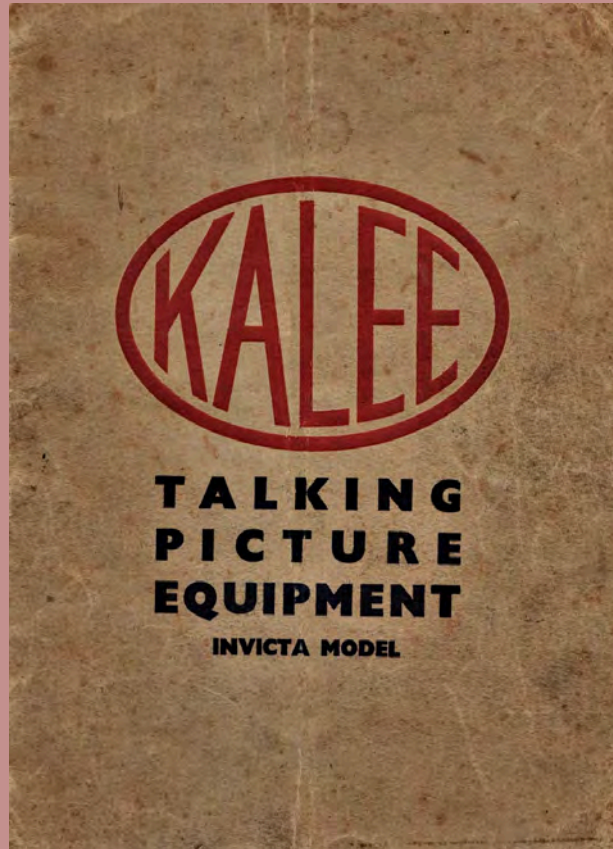
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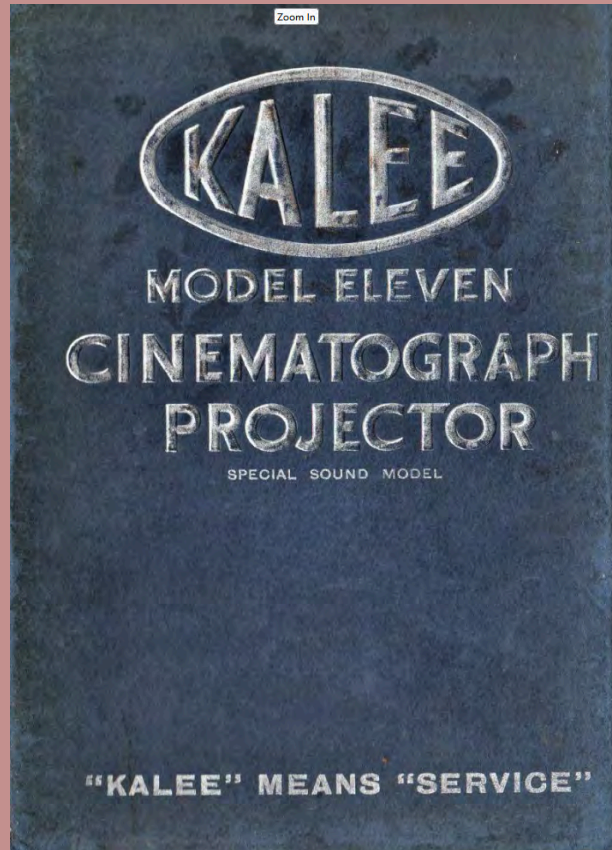
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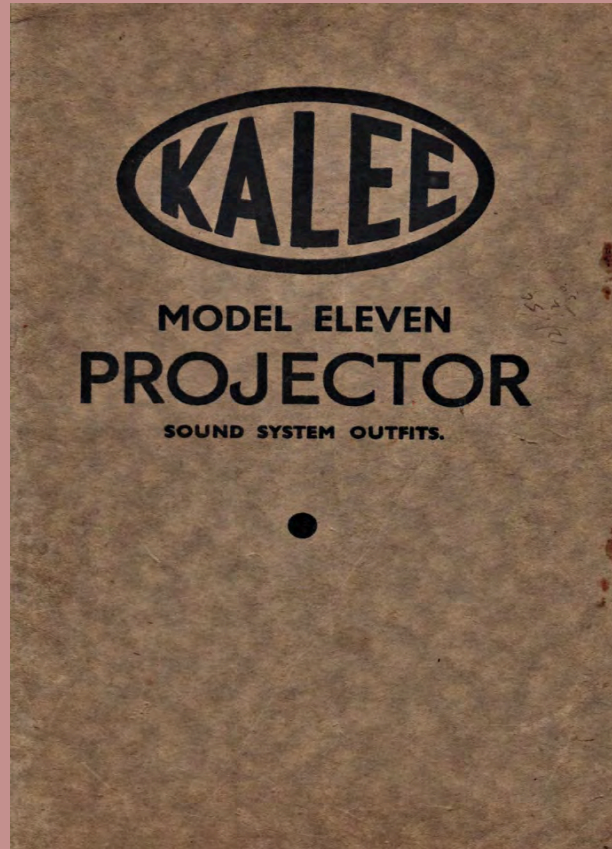
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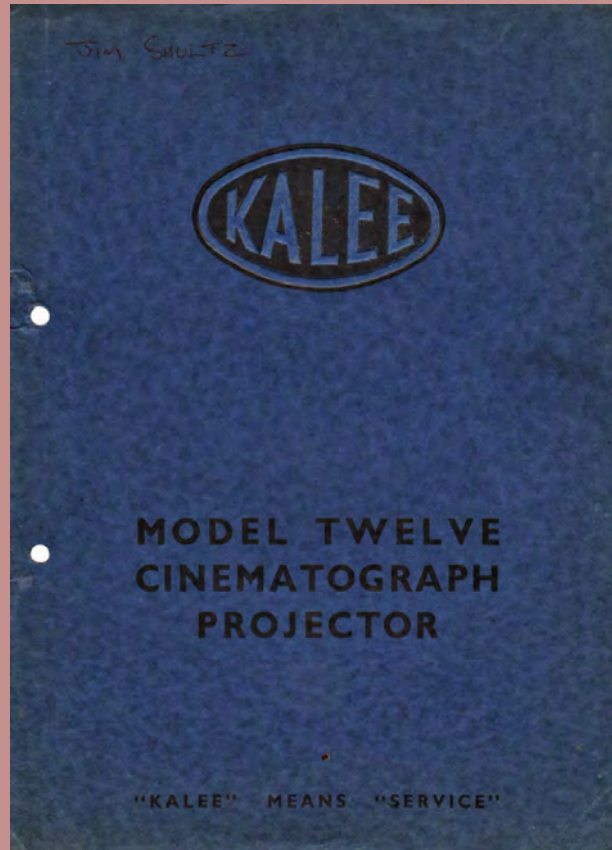
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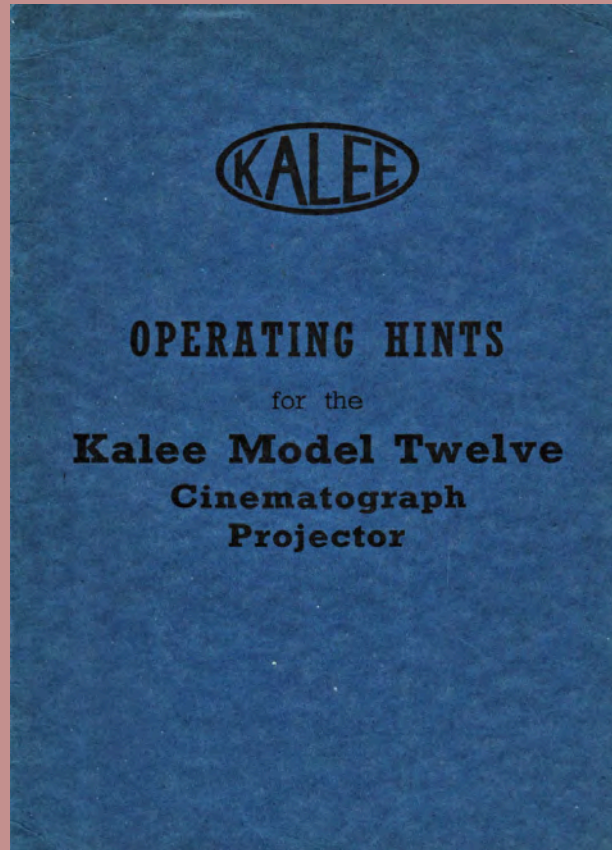
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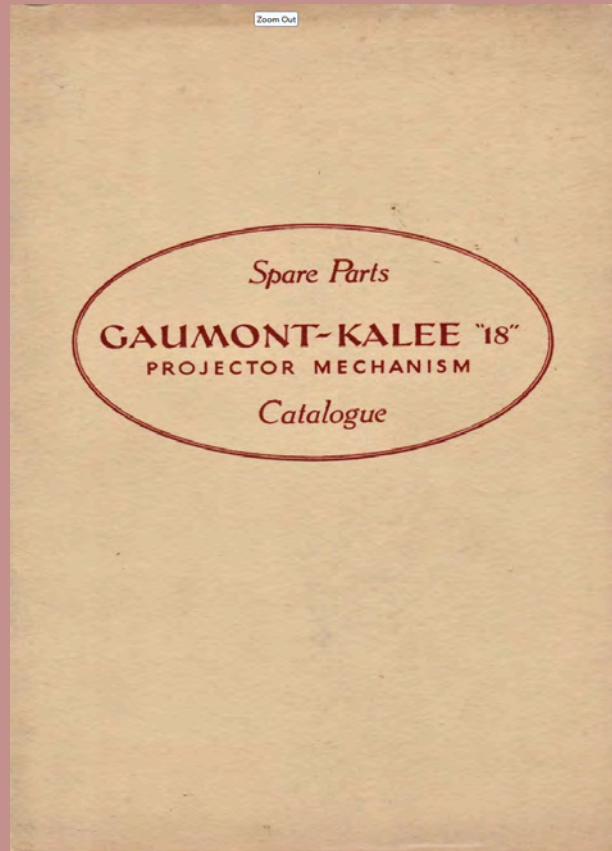
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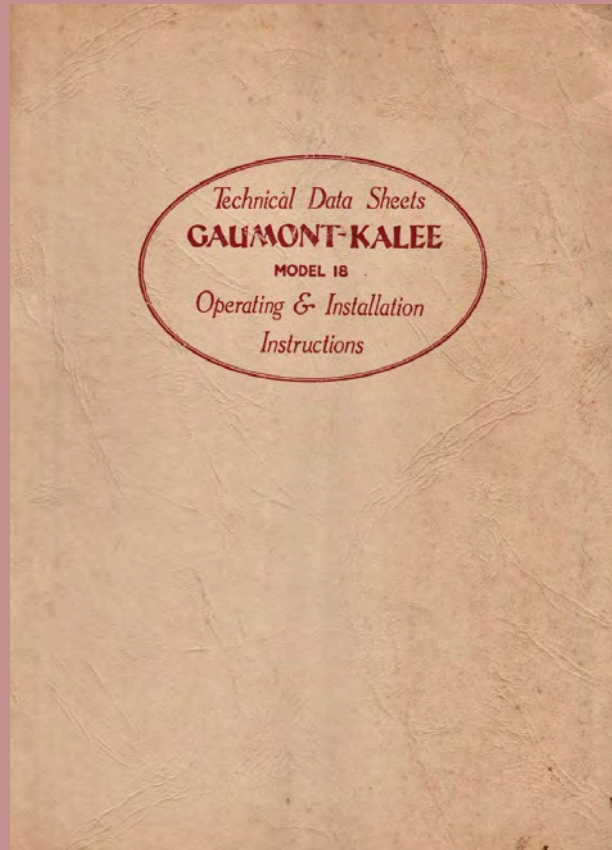
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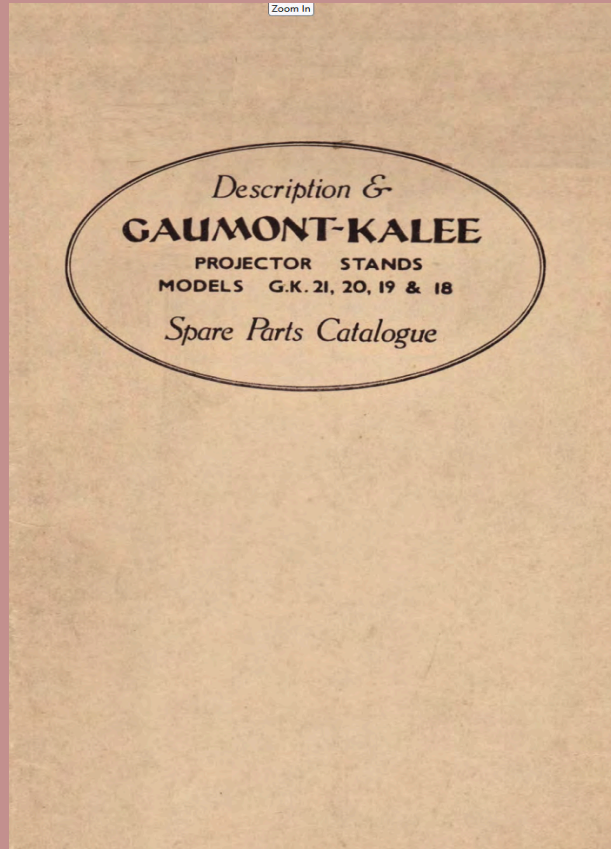
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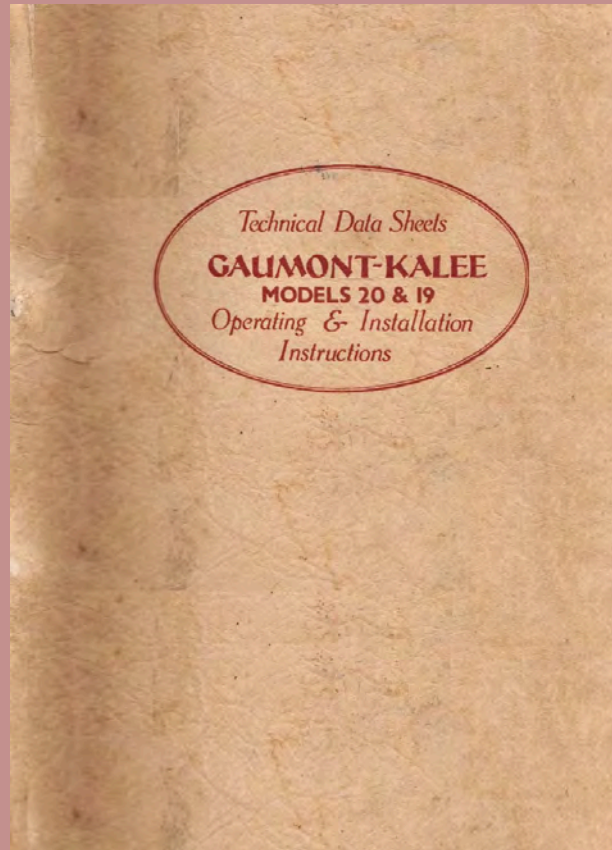
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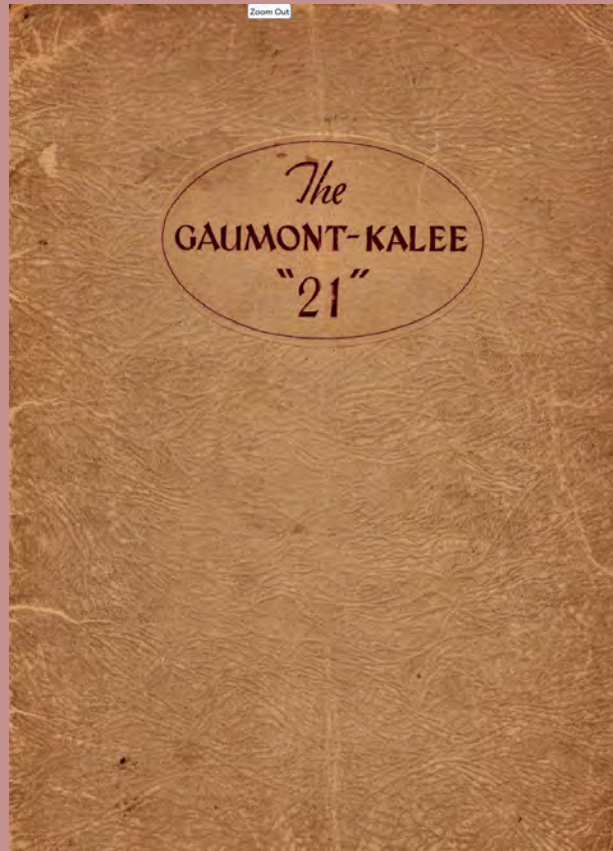
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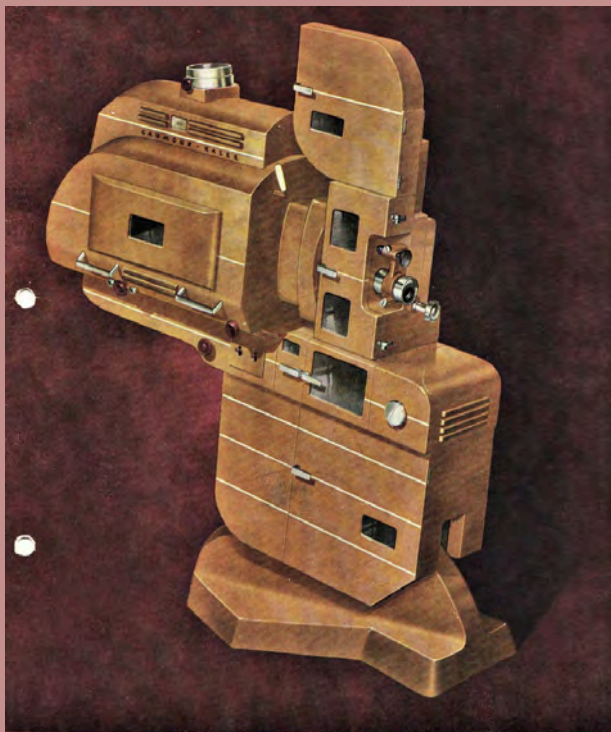
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The Post-war
GAUMONT-KALEE "21"

Gaumont British and Kalee

The "QUEEN MARY" selects the latest



Published by courtesy of
CUNARD WHITE STAR LTD.

THE
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"21"

The Cunard White Star has constructed a new Cinema in the "Queen Mary" which is acknowledged to be the most replete and magnificent afloat. It seemed natural, therefore, that the equipment selected was the new Gaumont-Kalee "21," and we are proud of this additional honour. Now all four theatres on board have been equipped by G.B.-Kalee.

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The New
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The first totally-enclosed, industrially-designed projection and sound equipment ever presented, providing advantages in silent operation, neatness and cleanliness. Gracefully styled and finished in beige, maroon and silver, the new Gaumont-Kalee "21" is destined to set the standard in design and performance for a long time to come. A coloured illustrated brochure will be sent on request.

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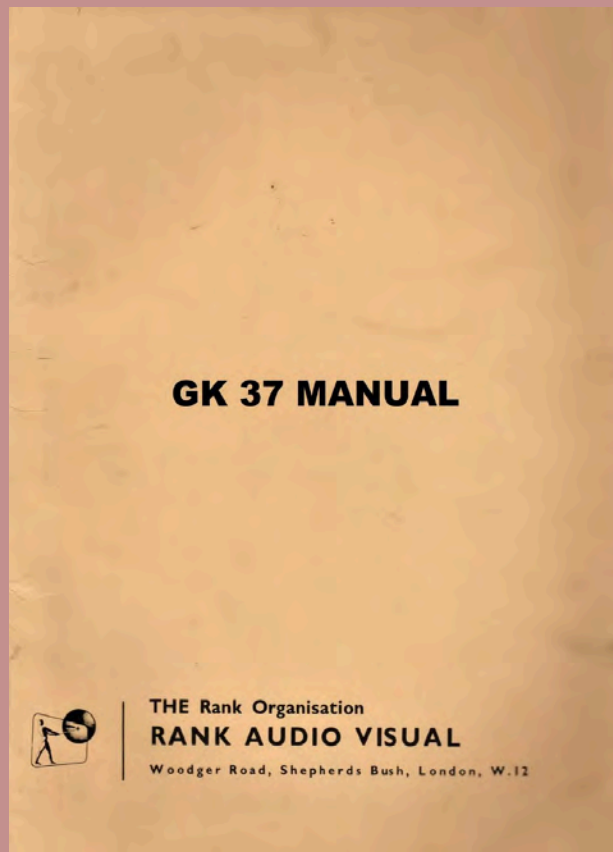
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Zoom In

Gaumont-Kalee Projection



'37'

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THE LEADING EUROPEAN
GROUP OF CINEMA
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INCORPORATING

RANK PRECISION INDUSTRIES, (R.A.F.) LTD. (formerly BRITISH
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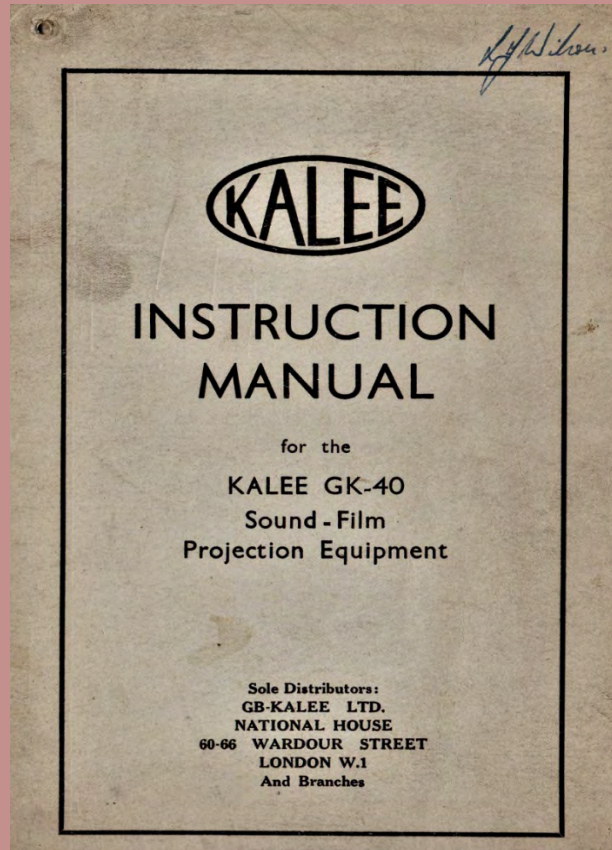
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Quality Presentation · Trouble-free Service

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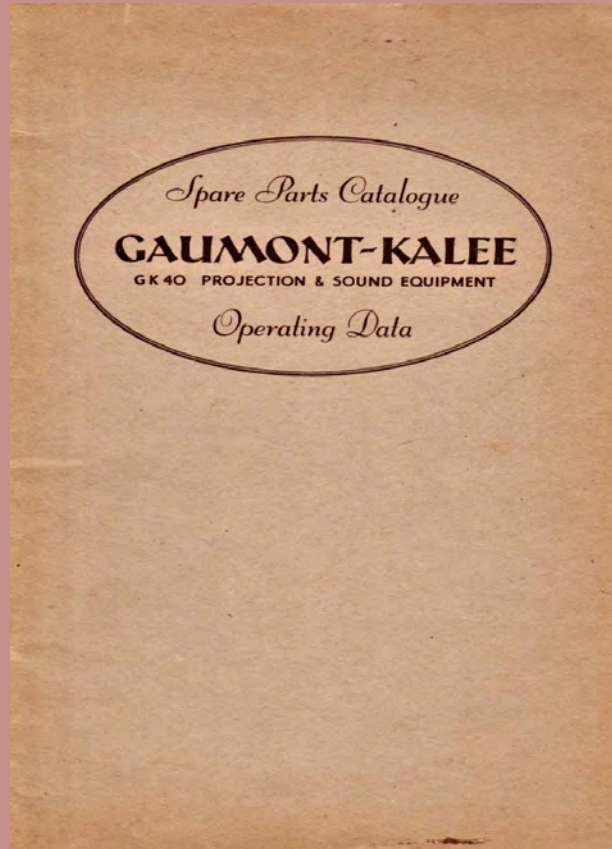
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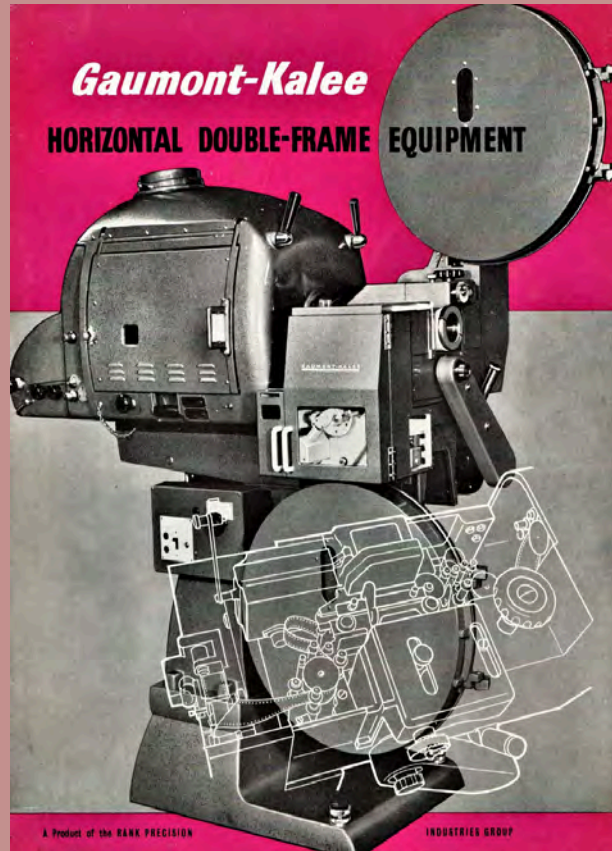
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**“Regal” High Intensity
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KALEE

"VULCAN"
LANTERN SLIDE PROJECTOR



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**"KALEE" Type H.M.L. High
Intensity Reflector Arc Lamp**
10 in. dia. MIRROR AND CONDENSER.
For Currents up to 75 Amperes.

FIG. 1.

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Telegrams : "Projector, Leeds." | Telegrams : "Noiram, Rath, London."

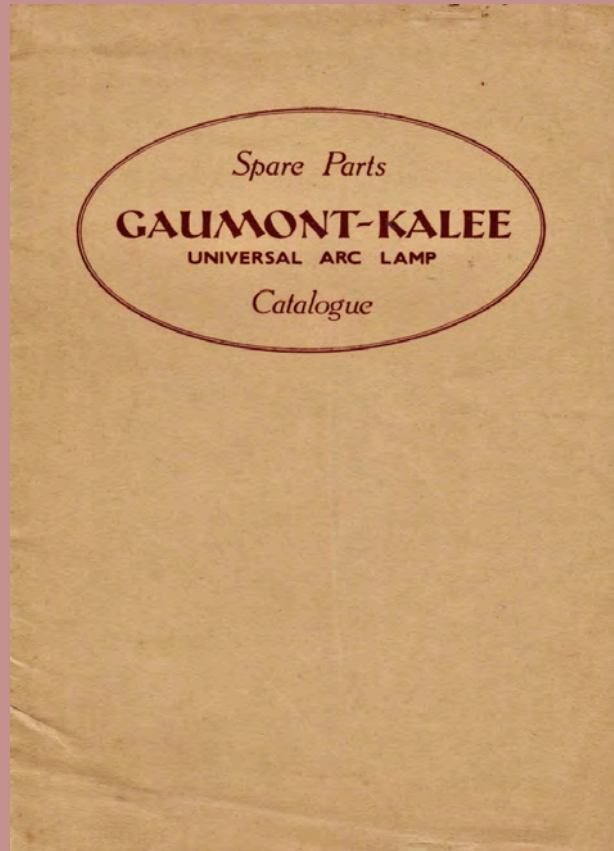
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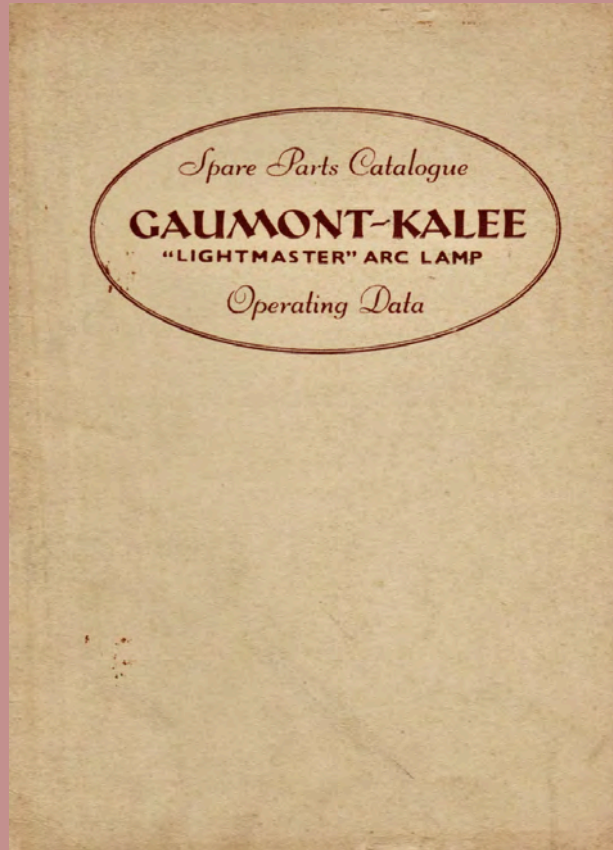
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 the **NEW** GAUMONT-KALEE
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Designed for modern R.L. carbons, this new "PRESIDENT" has facilities to cover the full range of carbon current combinations. It embodies refinements not found in other lamps, with greatest trouble-free operation. The "PRESIDENT" can be relied upon to maintain a brilliant uniform picture. Send for full details and specification and let us arrange a personal demonstration.

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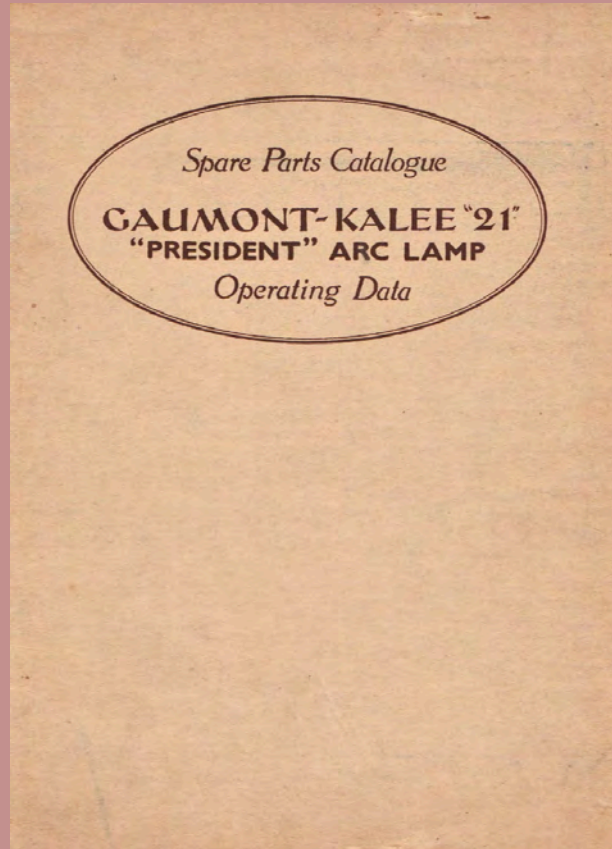
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Outstanding in design Brilliant in performance



The **NEW**
"PRESIDENT"
Arc Lamp

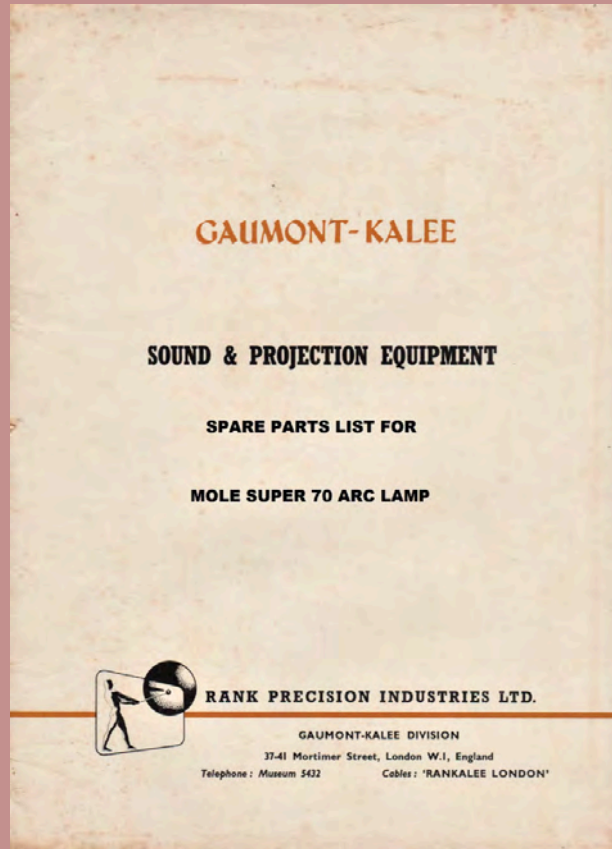
Incorporating many new and exclusive features which make it the most advanced, efficient and reliable Arc Lamp now available to the Cinematograph Industry

A GAUMONT-KALEE Product

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The NEW X80 1600W

GAUMONT-KALEE
XENON
LANTERN



In the above illustration the auxiliary mirror has been moved to show the Xenon bulb

INCREASED LIGHT OUTPUT

Up to 50% above Xenon lamps of similar rating, operating under equal lens conditions. High brightness and luminous efficiency obtained by vertical burning lamp charged with xenon gas.

LONGER LAMP LIFE

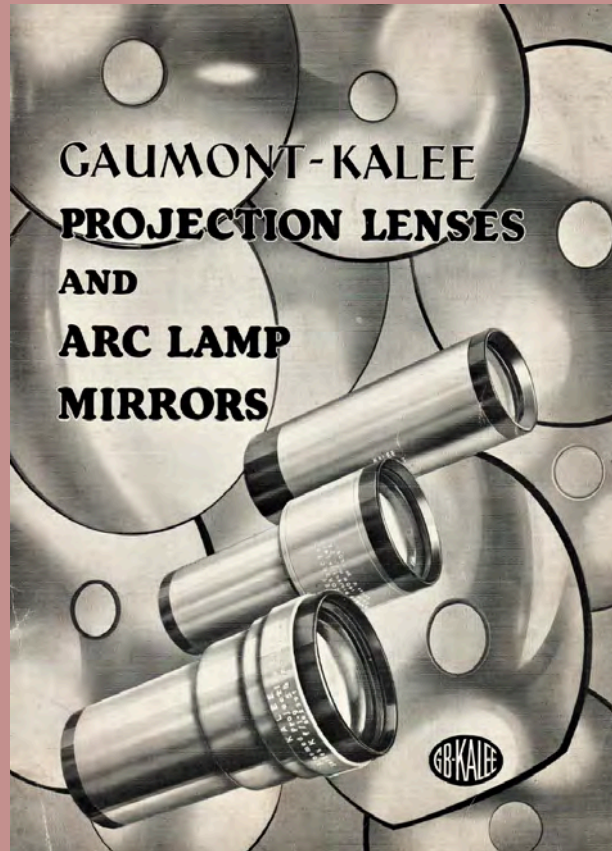
Minimum life expectancy of 1500 hours, dependent upon operating conditions, is greatly exceeded in many practical installations. Lamp covered by guarantee up to 1000 hours. Replacement allowance calculated on basis of 1500 hours life.



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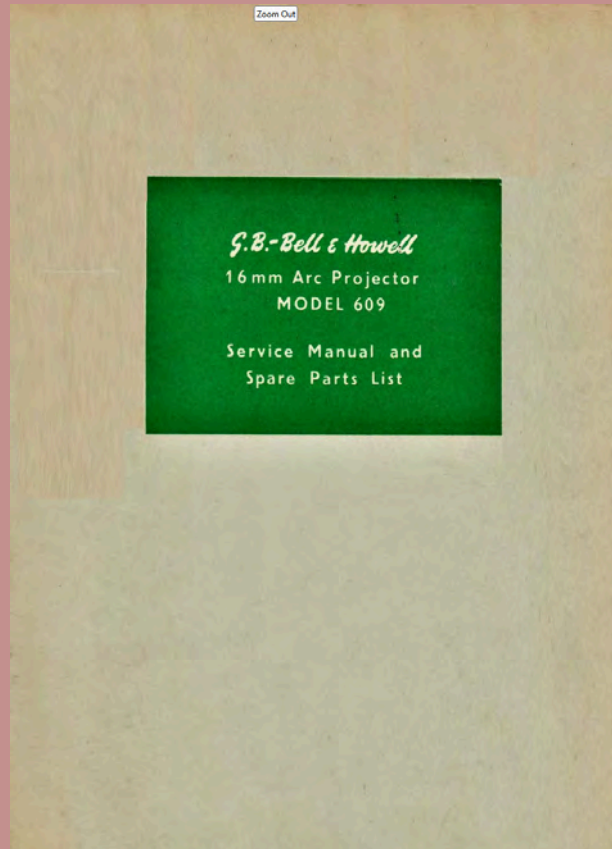
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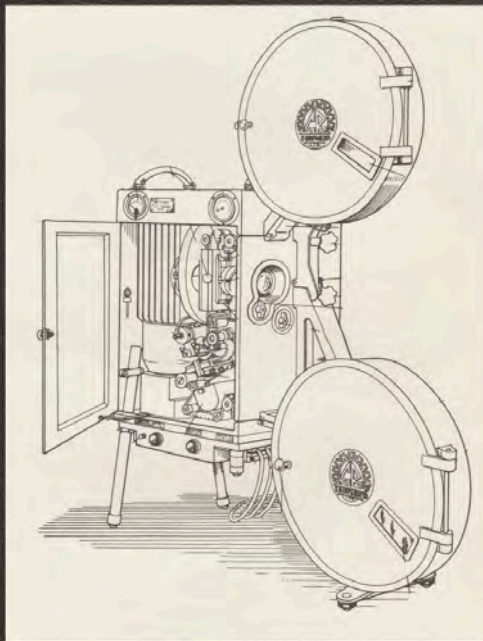
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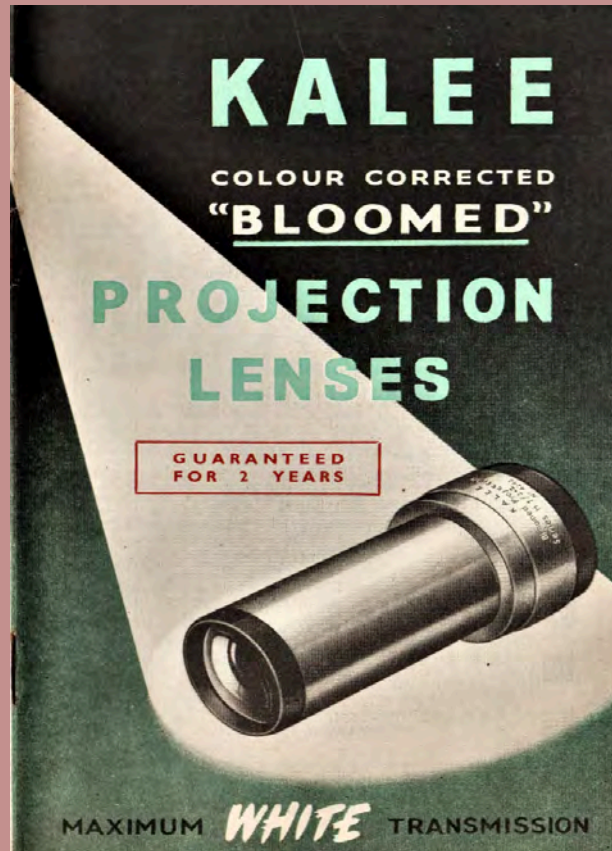
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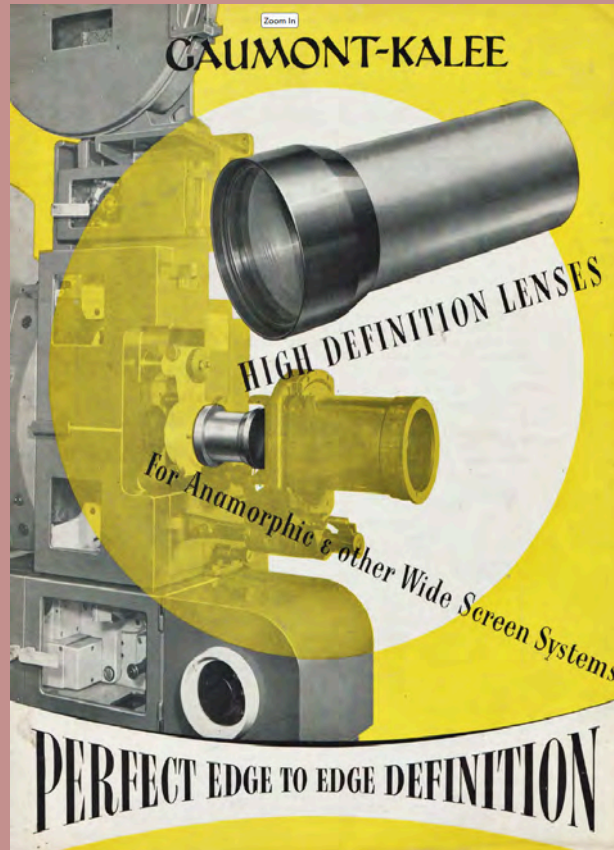
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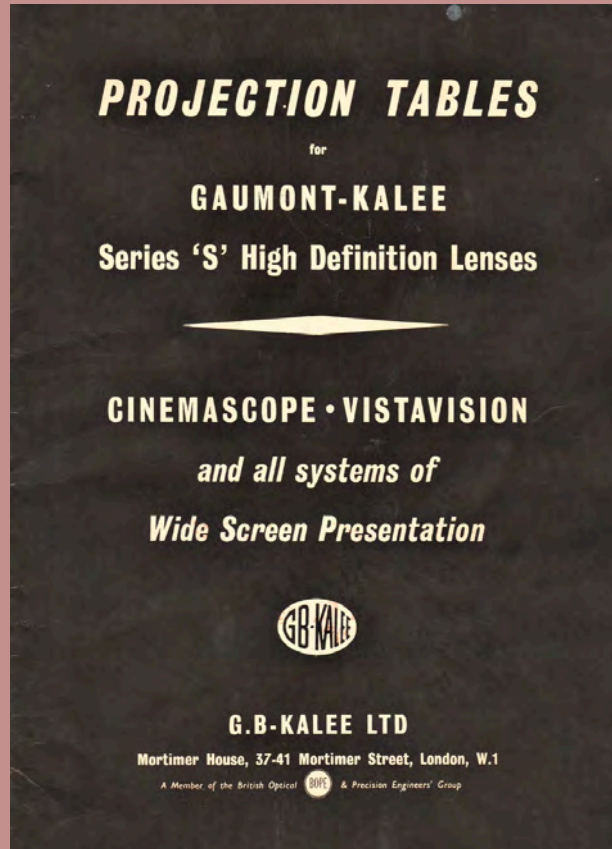
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COLOUR CORRECTED BLOOMED PROJECTION LENS

(Kershaw Process, Patent Pending)

TYPE "H"

CONSTANT F/VALUE

THE introduction of the Kalee Type "H" Projection Lenses is the result of intensive research, and constitutes the highest achievement in the science of optical design and the transmission of light for cinematograph projection.

The most highly trained brains and labour have been combined to bring these projection lenses as near as possible to perfection. The optical units have been computed by mathematicians, the anti-reflection surface treatment of the lenses has been carried out by scientists under controlled laboratory conditions, and the instruments have been made throughout by craftsmen.

The Kalee type "H" lenses will give maximum possible screen brightness, perfect image contrast and, most important of all, true colour rendering, *provided* that you will observe the following simple instructions on the care and maintenance of these valuable instruments.



COLOUR CORRECTED BLOOMED PROJECTION LENS

(Kershaw Process, Patent Pending)

TYPE "K" CONSTANT F/VALUE

THE Kalee Type "K" projection lens represents the last word in optical design and transmission of light for cinematograph projection.


It embodies distinct improvements on all preceding projection lenses. It is the outcome of co-operation between scientists familiar with up-to-date optical principles and manufacturing technique, and the technical staffs of G.B.-Kalee Ltd. with their wide knowledge of projectionists' requirements, in a combined effort to produce the best projection lens it is possible to manufacture.

Among the technical advances incorporated in this lens, are (i) the achievement of extremely high working aperture, enabling considerably enhanced transmission of available light, and (ii) the use of Kershaw "colour corrected" blooming—which itself constitutes one of the most important developments in the field of optical science.

The Kalee type "K" lens will provide screen illumination, contrast, definition and colour rendering of an order never previously achieved, *provided* that it is cared for and maintained in complete accordance with the following simple instructions.

Gaumont British and Kalee

Zoom In



**COLOUR CORRECTED
BLOOMED
PROJECTION LENS**
(Kershaw Process, Patent Pending)
TYPE "S"
CONSTANT F/VALUE

THE introduction of the Kalee Type "S" Projection Lenses is the result of intensive research, and constitutes the highest achievement in the science of optical design and the transmission of light for cinematograph projection.

The most highly trained brains and labour have been combined to bring these projection lenses as near as possible to perfection. The optical units have been computed by mathematicians, the anti-reflection surface treatment of the lenses has been carried out by scientists under controlled laboratory conditions, and the instruments have been made throughout by craftsmen.

The Kalee type "S" lenses will give maximum possible screen brightness, perfect image contrast and most important of all, true colour rendering, *provided* that you will observe the following simple instructions on the care and maintenance of these valuable instruments.

Gaumont British and Kalee

For perfection and for the future install the **GAUMONT-KALEE 'Varamorph'**

Variable Prismatic Anamorph

The Gaumont-Kalee "Varamorph" is a development of the Gaumont-Kalee fixed prism type, which won universal praise for its superb performance, and for its unique edge-to-edge definition. It is designed by Taylor, Taylor & Hobson, a name which stands for the finest motion picture camera lenses in every important Studio in the world. The "Varamorph" can be used for all anamorphic prints that have horizontal compression ratios between 1.3 : 1 and 2 : 1, giving picture ratios from 1.78 : 1 up to 2.55 : 1 with the appropriate aperture plate.



- ★ **Variable for all known expansion ratios ;** instantly adjusted during projection by a knob which can be locked in position.
- ★ **Variable for any length of throw.** Special focus control of the front lens by a graduated ring to ensure perfect definition at any length of throw. All glass surfaces hard coated for maximum light transmission.
- ★ **Sharp focus retained in horizontal and vertical directions** at all expansion ratios. Correction of colour aberration and distortion effected by prisms of complex forms.
- ★ **Equal light transmission over the whole screen.**
- ★ **Completely enclosed to prevent dust entering optical system.**
- ★ **Swung out of position for normal projection** and brought into use to pre-determined adjustments, for instant projection. No light losses imposed during normal projection.

PERFECT EDGE-TO-EDGE DEFINITION AT ALL RATIOS

Zoom Out



now introduce the new

Pola-lite system for

THREE-DIMENSIONAL PRESENTATION



Front view of Pola-Lite attachment for single film twin-picture three-dimensional presentation

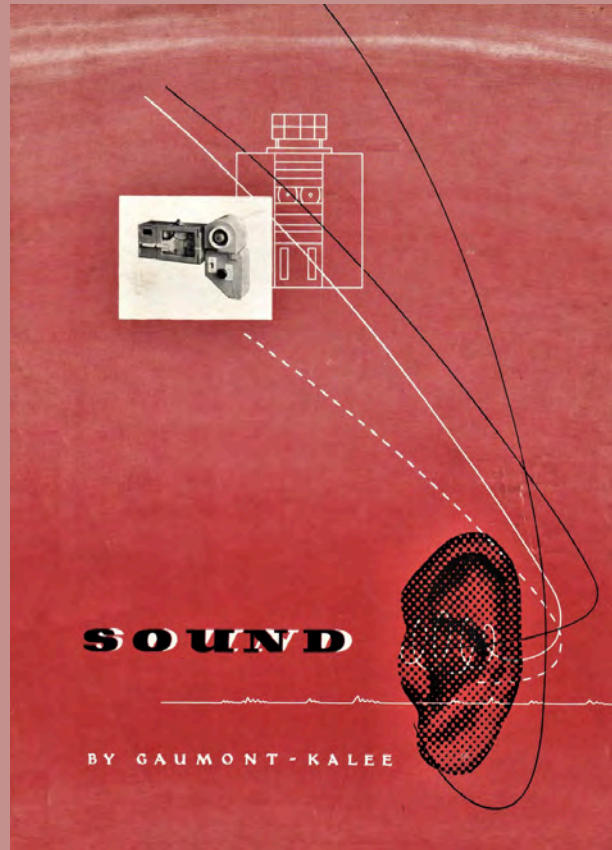
Three-dimensional films can now be shown as simply and easily as a normal flat picture —on one projector only.

With the new Pola-lite system the two pictures, necessary for obtaining the three-dimensional effect, are printed on a single strip of standard 35 mm. film.

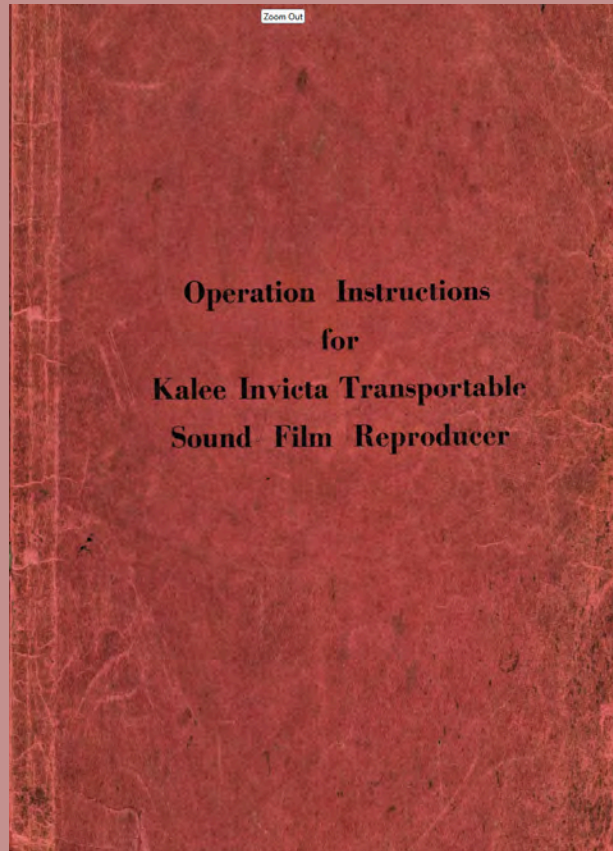
In projection the new method ensures perfect synchronisation of the two images. There is no difference in brilliance or density of the right and left picture, caused either in the printing of the film or through any difference of light from two arc lamps. The two images must always be in focus as they are on one film and are projected through the one lens. They cannot be affected by difference of wear of sprockets on the projector, or sprocket holes in the film.

All these faults, inherent in the old system, were a frequent cause of the complaints of headaches and eyestrain.

Gaumont British and Kalee



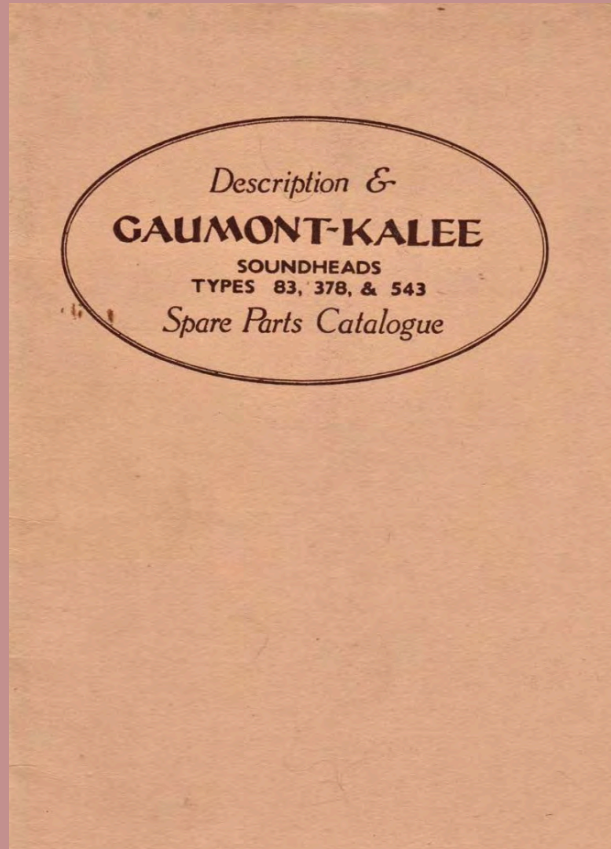
Gaumont British and Kalee



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Gaumont British and Kalee

THE GAUMONT-KALEE '37' Single Channel Amplifier

18 Watt

- 18 watt Output
- Built-in Power Supplies for Amplifiers and Exciter Lamps
- Built-in Monitor Speaker
- Complete Amplifier Chain from Photocell Input to Stage Output



The Gaumont-Kalee '37' amplifier has a built-in power supply with a universal mains transformer for mains of 100-125 or 210-250 volts at 40-100 cycles. It is also fitted with a Monitor Loudspeaker and Monitor Volume Control. An ON/OFF switch is provided to isolate the stage Loudspeakers, and automatically to connect a 20 ohm loading resistor across the Output, when the stage speakers are not required.

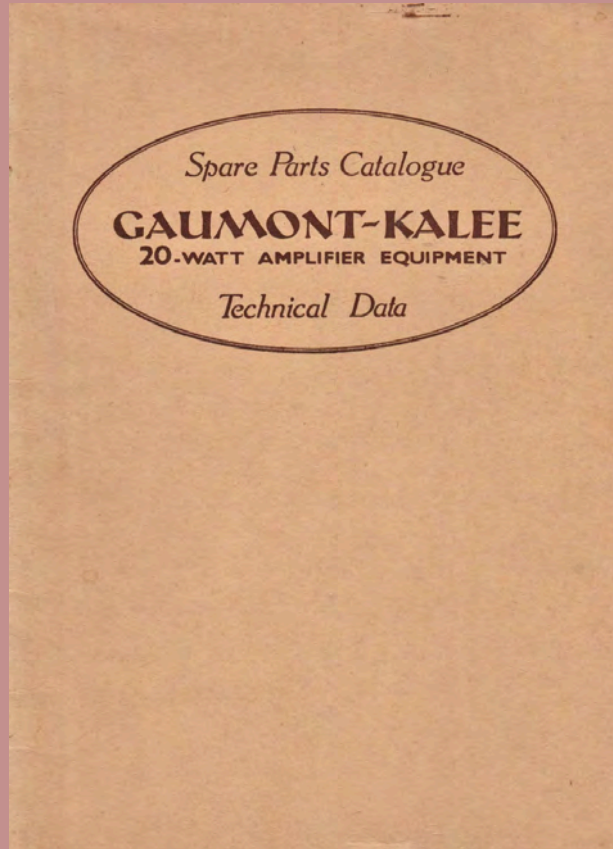
Illustrations must not be taken as binding.
Distortions are made at discretion only.

Leaflet No. AMPL E/37

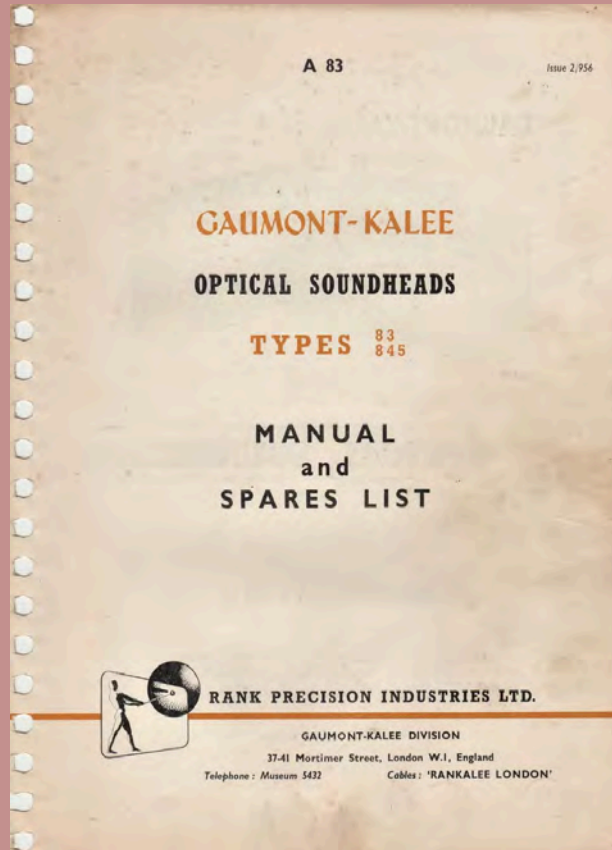
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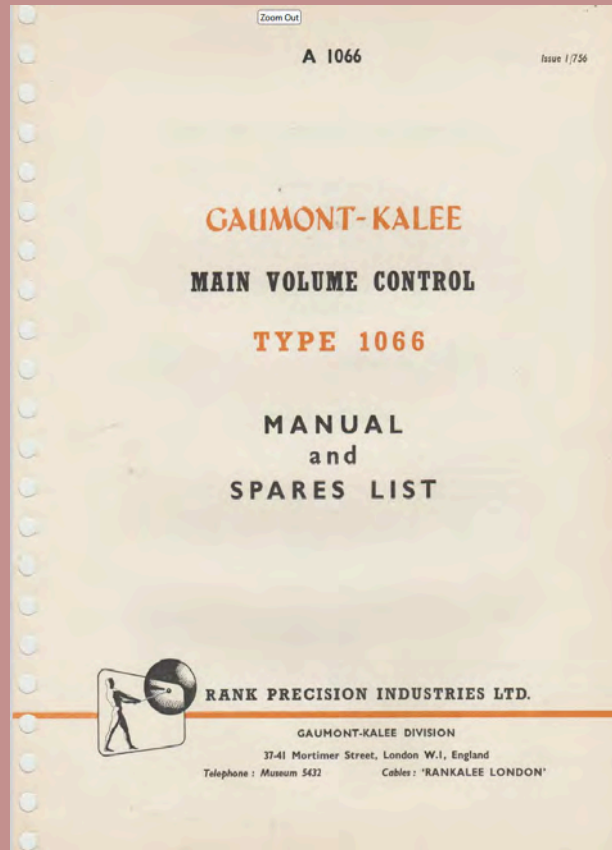
Gaumont British and Kalee



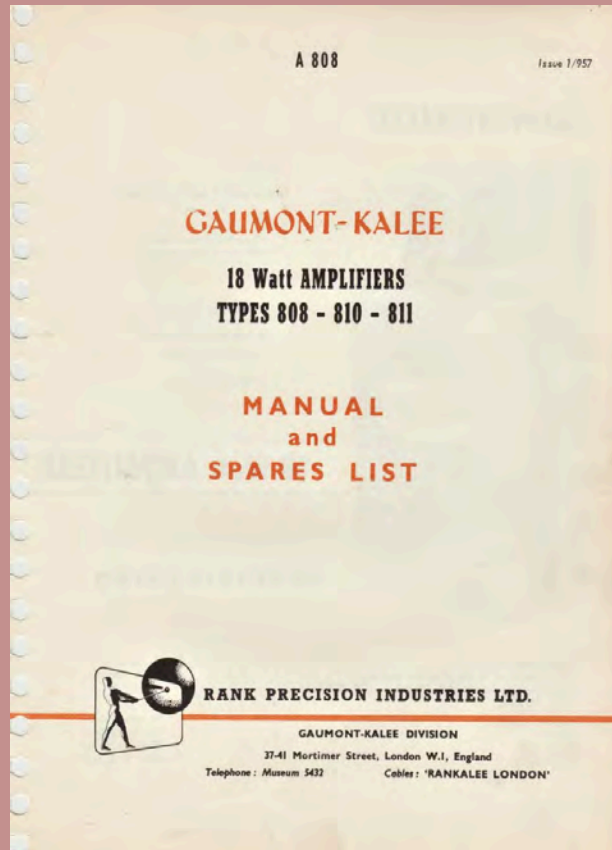
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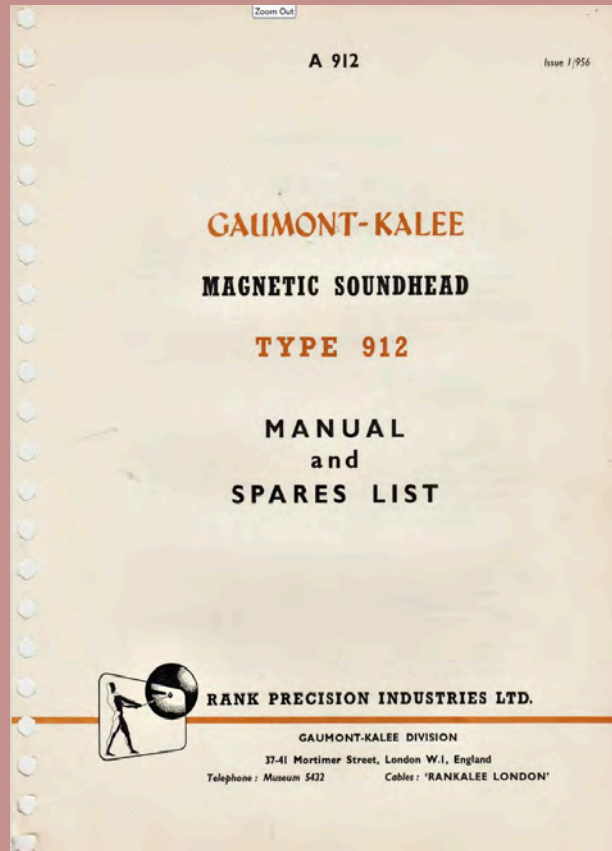
Gaumont British and Kalee



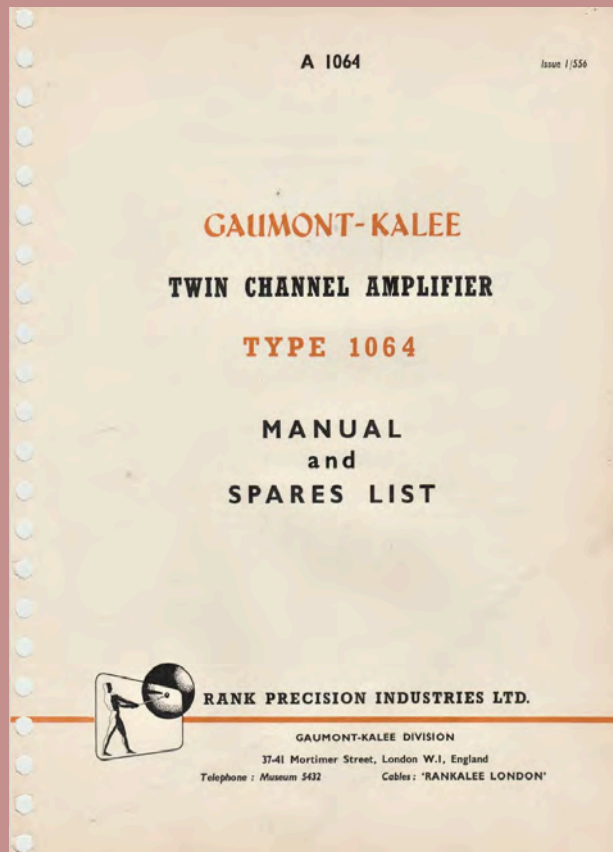
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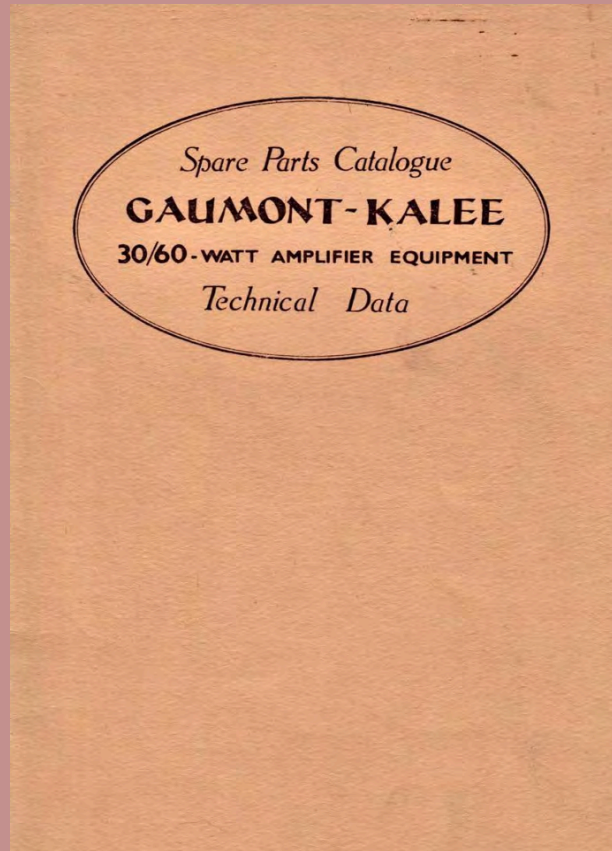
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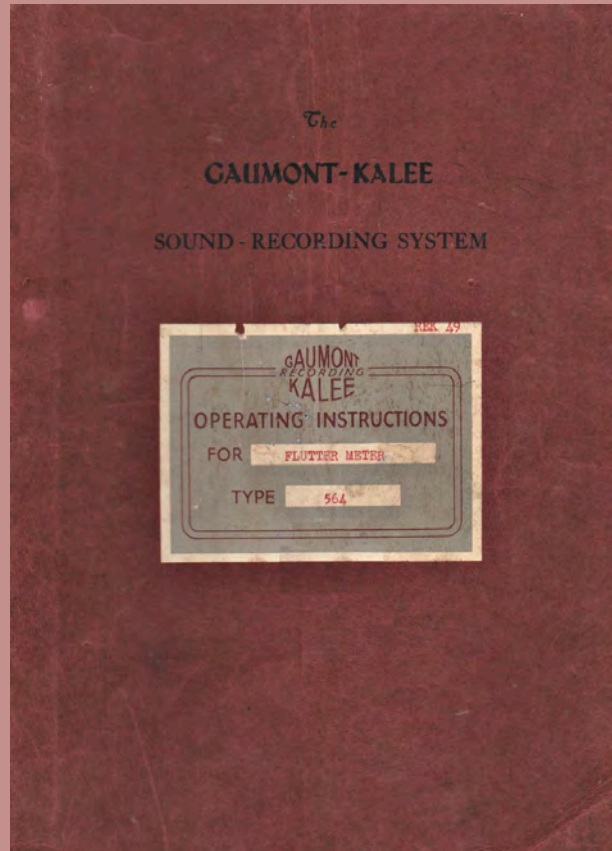
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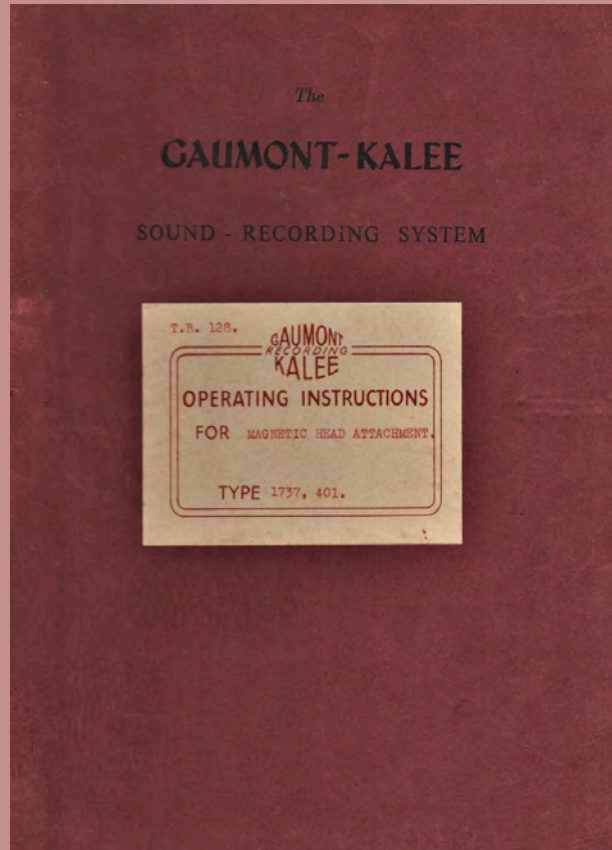
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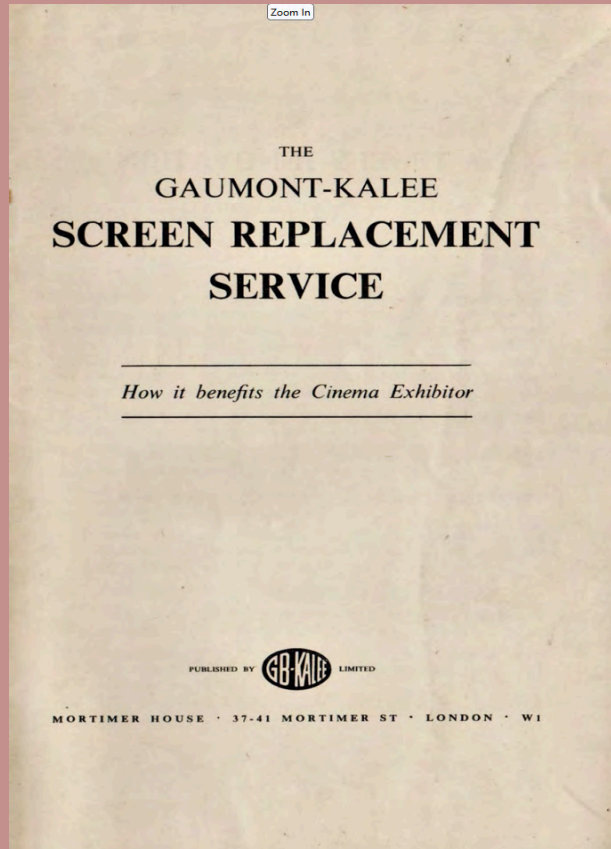
Gaumont British and Kalee



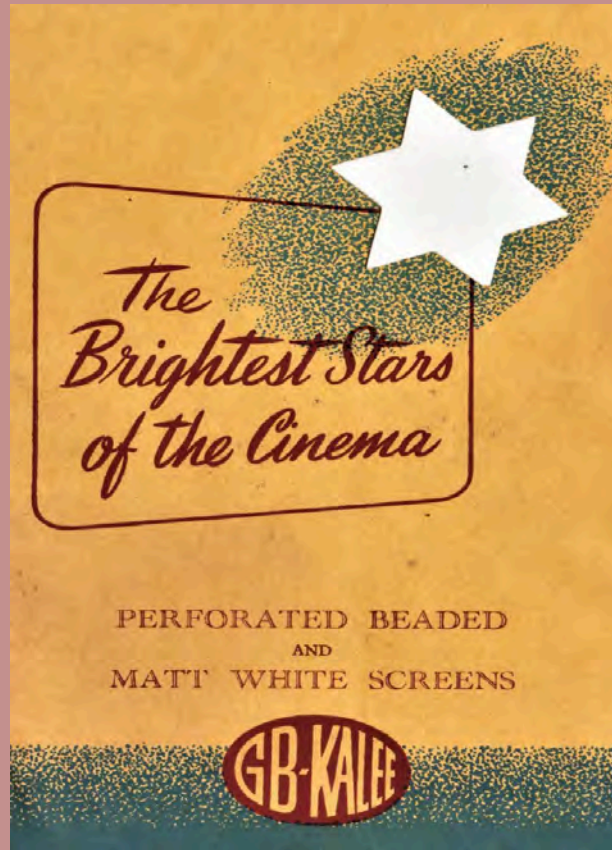
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Gaumont British and Kalee

List No. 49/11


Everything for the Cinema & Theatre

PROJECTION ROOM EQUIPMENT

The new **GAUMONT-KALEE**
clutch type **REWINDER**



PRICE COMPLETE
£8. 17. 6

The new Gaumont-Kalee clutch type rewinder, illustrated above, is of robust construction built to withstand hard and continuous service. It is attractively finished in mid-violet enamel and chromium plate.

The standards are made of cast-iron, accurately machined and coupled by a strong tube 39" long.

A cast-iron block, machined out to film width, is supplied fixed to the tube, to provide a simple fixture for scraping and jointing the film.

The geared winding head is provided with a 14½" diameter pressed aluminium disc for loose film winding, and is driven through suitably enclosed machine cut gears giving a 3 to 1 ratio. The fixed head is fitted with a clutch on the revolving spindle and can be adjusted to control the speed of spool.

The Gaumont-Kalee rewinders can be supplied to accommodate spools with centre hole diameters of 5/16", 3/8", 1/2", and 5/8".

Please state size or make of projector when ordering.

G.B. KALEE LTD., MORTIMER HOUSE, 37-41, MORTIMER STREET, LONDON, W.1. **Telephone 5432**

Branches: **Belfast, Birmingham, Cardiff, Dublin, Glasgow, Leeds, Liverpool, Manchester, Newcastle-on-Tyne and London**

Gaumont British and Kalee



Gaumont British and Kalee

Zoom Out



The Gaumont-Kalee SLIDE PROJECTOR only weighs 37 lbs. (16.8 kilos). Complete with collapsible stand, the weight is 87 lbs. (39.8 kilos).

THE GAUMONT-KALEE Slide Projector

This strongly-constructed, economical Slide Projector is extremely simple to operate. It can be quickly installed, is easy to move and has an electrical air-cooling system. The universal type slide carrier takes both British and American standard slides and the projector can be mounted on a specially designed collapsible stand.

- Operates on wide voltage range.
- Electrically operated air-cooling system.
- Adjustable elevation.
- 3" diameter projection lens (single unit type).
- Heat resistant rear condenser lens.
- 4" diameter Glass Reflector.
- Specially designed collapsible stand.

Gaumont British and Kalee

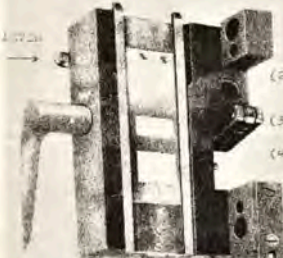
JACK ROE (Cinema Supplies) LTD., LUTON - BEDS. TELEPHONE 30922

THE "DUOSCO" PATENT INSERT CHANGING 'DOUBLET' AND 'SINGLE' INSERTION
AN IMPROVED FILM GATE SYSTEM ADAPTED TO THE G.E.-21 MODEL PROJECTOR

OBJECT:- To perform the function of changing the aspect ratio by simple lever operation which can be carried out, if need be, even whilst the projector is in operation. To eliminate the need for extra work pieces, the "Duo-sco" work piece acts as the projector as an integral part. To enable the projectionist to rectify instantly possible work piece error without stopping the performance.

ADVANTAGE:-

- (1) Should a projectionist forget to change the film gate to working ratio (and how often this can happen) there is no need for a 2/3 minute slowdown to change plates, just move the lever and the result is corrected, it's as simple as that!
- (2) With the "Duo-sco" it is possible in any foreseeable instance to run this screen and Cinemascope hi-lights on one tool.
- (3) User on film gate work piece slots removed by present method is rather tedious.
- (4) No work pieces lying around the projection room to become damaged.



This device, invented by Mr. J. P. Jones and developed by Mr. J. G. Roe with the kind co-operation of Jack Theatre Ltd., is one step nearer elimination and trouble free projection. We are informed that approx. 40% of today's performance slowdowns are caused through failure to change work pieces. "Duo-sco" will eliminate this hazard.

FEATURE:- "Duo-sco" is being marketed in kit form with full fitting instructions and can be fitted by most competent projectionist. No drilling work is necessary, just remove existing elements and replace with ours. The sliding 'double' insert will, of course, need to be filed out to fit the various working in accordance with the accepted standard procedure.

KIT FOR TWO G.E.-21 PROJECTORS CONSISTS OF:-

2. Specially modified super hard Mach Steels and Anorthozon.
2. Duo-sco "Double" Sliding Film Plates.
2. Lever Assembly and Retaining Screws.
2. Modified Right Hand Shutters Slides with Retentil plates.

PRICE: 3/- One, Complete.

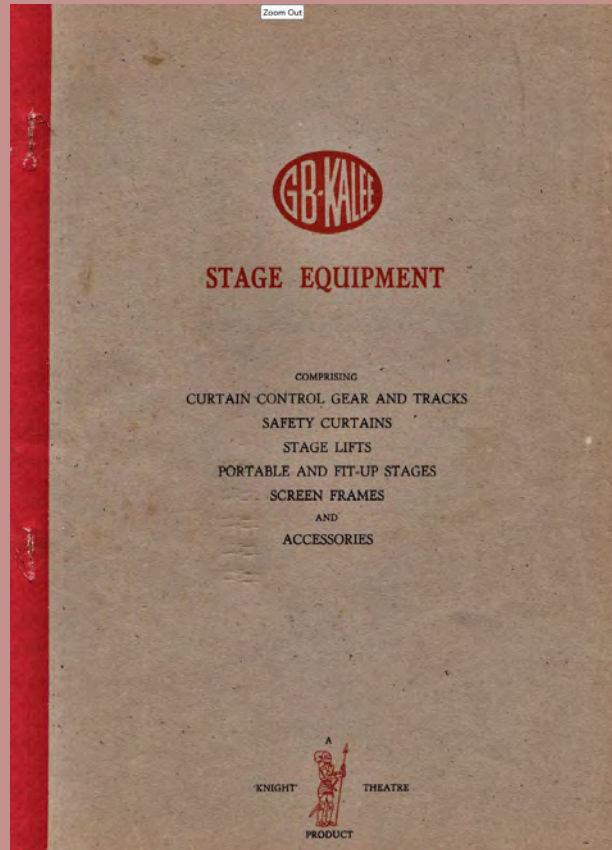
QUALITY
JACRO
 LTD.

40 BUXTON ROAD LUTON - BEDS.

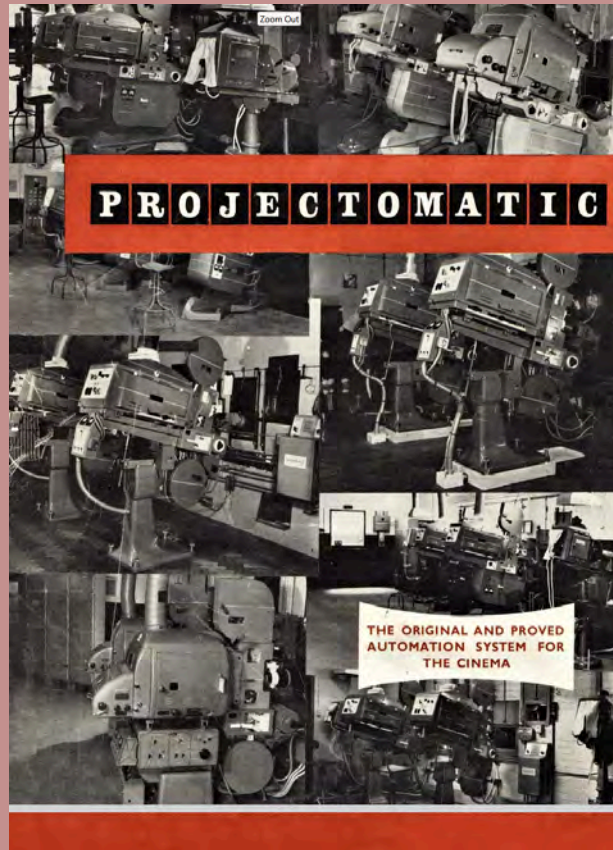
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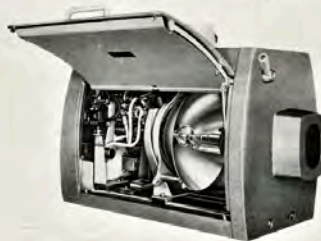


Gaumont British and Kalee

[Zoom Out]

The ideal combination for perfect presentation and economy

Today's most successful application of a proven automation system



GAUMONT-KALEE XENON LAMP

Push button striking. Trouble-free lighting with correct colour rendering. Negligible maintenance. Low running cost. 12" diameter, deep bowl reflector. Lamp located in horizontal position for greater efficiency and symmetrical light distribution — exceeds British Standard specification of 60% minimum ratio of side-to-side luminance.

Your existing Projectors and sound Equipment can be fitted with Xenon Lamps and Projectomatic to provide Automation at moderate cost.

ASSISTED FINANCE PLAN

The G.B.-Kalee Assisted Finance Plan will help you to re-equip with a minimum outlay. Write now for details:



PROJECTOMATIC

Actuates projection and sound equipment automatically, with split-second timing — faultless change-overs. Where required, Projectomatic equipment will control house and stage colour lighting, open and close screen curtains and operate magnascope masking gear.

Projectomatic, the film industry's first automation system, is installed in over 175 cinemas in Great Britain.

G.B.-KALEE

A Division of RANK PRECISION INDUSTRIES LTD

WOODGER ROAD · LONDON, W.12 TEL: SHEpherd Bush 2000

BRANCHES: BELFAST, BIRMINGHAM, CARDIFF, GLASGOW, LEEDS, LIVERPOOL, MANCHESTER, NEWCASTLE
SOLE AGENTS: ALLIED CINEMA SUPPLIES LIMITED, 44 MIDDLE ABBEY STREET, DUBLIN

You can have

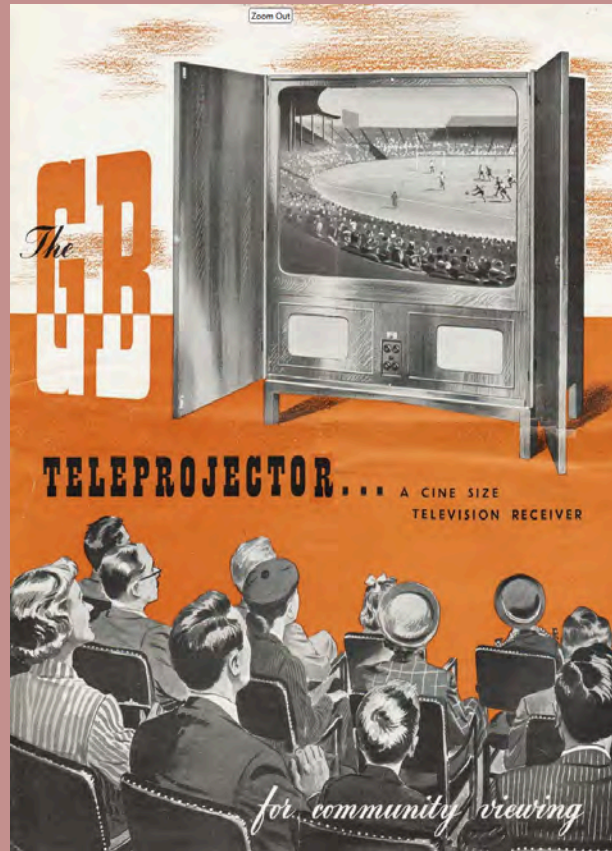
Dual **GAUMONT-KALEE**

PROJECTORS, LENSES
AND/OR ARC LAMPS ON

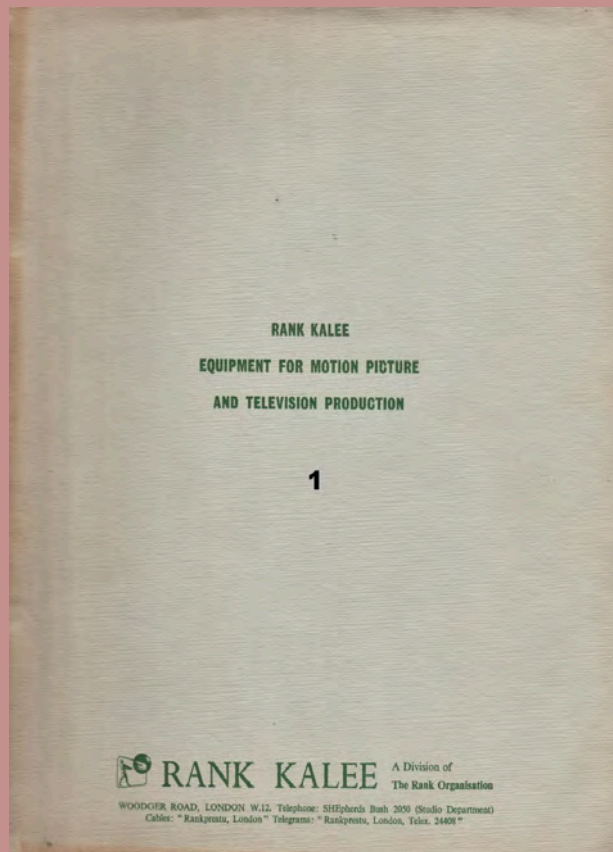
**14 days
free test**

IN YOUR OWN PROJECTION BOX

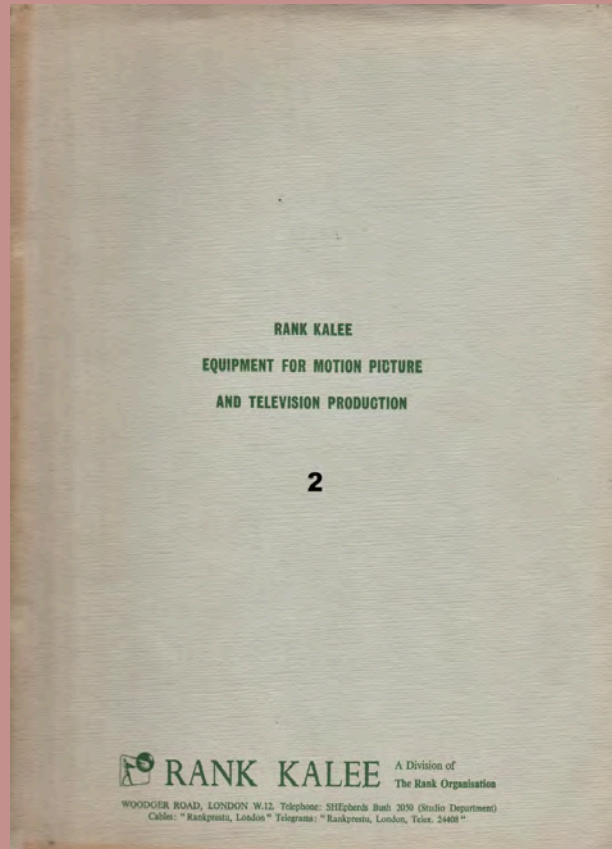
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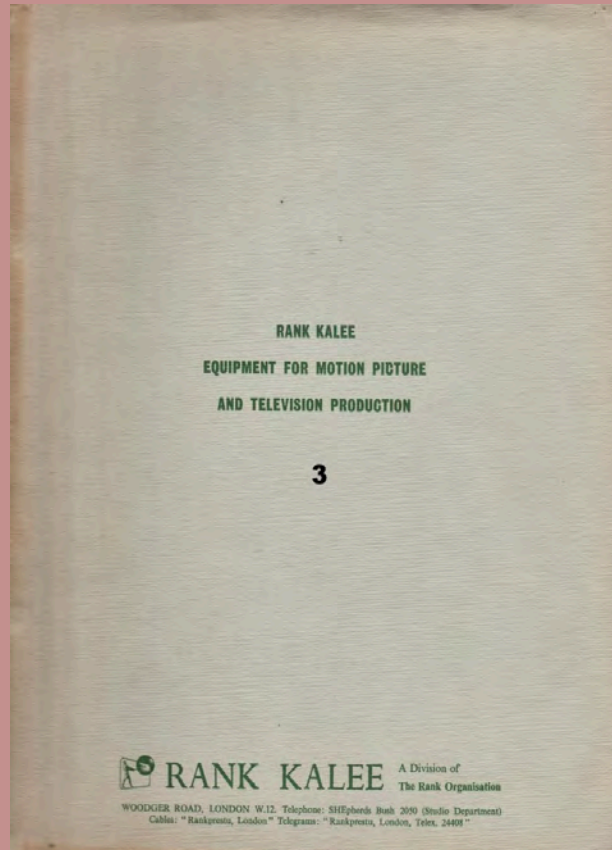
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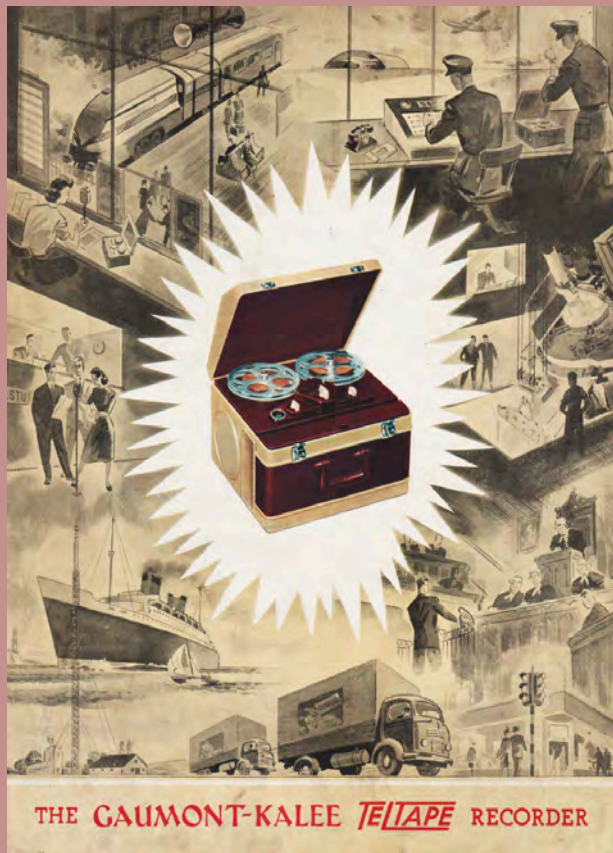
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Hall & Connolly

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SUBJECT TO STOCK INCREASE.

J. FRANK BROCKLISS, LTD.,

58, GREAT MARLBOROUGH STREET, LONDON, W.1.

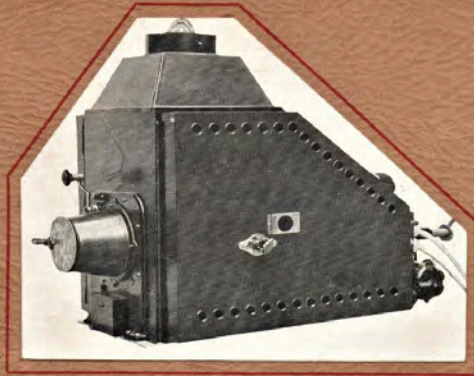
TELEPHONE: GERRARD 2911-2912-2913.
 Telegrams: - Staffin, Wreeda, London.

HALL & CONNOLLY H.C. 4 LAMP. REPLACEMENT PARTS.

BURNER PARTS.

						£	s.	d.
H.C.	1	Lamp Frame	...	...	...	2	5	0
H.C.	2	Lamp Feed Frame	...	...	...	2	10	0
H.C.	3	Positive Carbon Guide Head 11 m/m or 13.6 m/m	...	...	...	1	2	6
H.C.	4	Contact Shoe 11 m/m or 13.6 m/m	...	...	...	...	...	...
H.C.	5	Positive Contact Spring	...	...	...	0	2	6
H.C.	6	Positive Contact Shunt...	...	...	...	0	2	6
H.C.	7	Screws for H.C. 1 and H.C. 2	...	...	...	0	0	5
H.C.	8	Shunt Nut for H.C. 6 on H.C. 1	...	...	...	0	0	5
H.C.	9	Lamp Support Screw	...	...	...	0	0	5
H.C.	10	Brass Washer for H.C. 70	...	...	...	0	0	3
H.C.	11	Mica Washer for H.C. 70	...	...	...	0	1	0
H.C.	12	Mica Bushings for H.C. 67	...	...	...	0	1	0
H.C.	13	Contact Lever	...	...	...	0	10	0
H.C.	14	Contact Lever Pivot	...	...	...	0	1	6
H.C.	15	Shunt Screw Washer	...	...	...	0	0	3
H.C.	16	Positive Flame Shield Screw	...	...	...	0	0	3
H.C.	17	Double Positive Flame Shield (new style)	...	...	...	1	0	0
H.C.	18	Negative Spring Bracket Screw	...	...	...	0	0	3
H.C.	19	Negative Tension Spring	...	...	...	0	2	6
H.C.	20	Negative Tension Spring Bracket	...	...	...	0	2	6
H.C.	21	Negative Spring Adjusting Screw	...	...	...	0	0	9
H.C.	22	Negative Spring Adjusting Screw Nut	...	...	...	0	0	3
H.C.	23	Negative Pin Gear	...	...	...	0	7	6
H.C.	24	Negative Pinion and Shaft	...	...	...	0	10	6
H.C.	25	Negative Pinion Shaft Collar Cotter Pin	...	...	...	0	0	3
H.C.	26	Negative Pinion Shaft Collar	...	...	...	0	2	0
H.C.	27	Connecting Rod Casting	...	...	...	0	0	3
H.C.	28	Connecting Rod Complete	...	...	...	1	0	0
H.C.	28A	Positive Gear Collar Set Screw	...	...	...	0	3	6
H.C.	29	Positive Gear Collar Set Screw	...	...	...	0	0	4
H.C.	30	Spline Shaft	...	...	...	0	11	6
H.C.	31	Positive Feed Worm Bearing	...	...	...	0	2	6
H.C.	32	Set Screw for H.C. 32	...	...	...	0	0	3
H.C.	33	Insulating Coupling Complete	...	...	...	0	11	6
H.C.	34	Insulating Coupling and Shaft Complete	...	...	...	1	5	0
H.C.	34A	Mica for Insulating Coupling	...	...	...	0	2	6
H.C.	34P	Mica Holder for Insulating Coupling	...	...	...	0	1	0
H.C.	34H	Pin for Mica for Coupling	...	...	...	0	0	3
H.C.	34B	Taper Pin for Insulating Coupling	...	...	...	0	0	3
H.C.	34C	Insulating Coupling Universal Joint	...	...	...	0	10	0
H.C.	34D	Insulating Coupling Cotter Pin	...	...	...	0	0	3
H.C.	35	Positive Feed Worm	...	...	...	1	7	6
H.C.	36	Positive Feed Worm Law and Locking Weight	...	...	...	...	...	...
		Assembled	...	...	...	0	10	6
H.C.	37	Positive Feed Pilot	...	...	...	0	0	9

Hall & Connolly

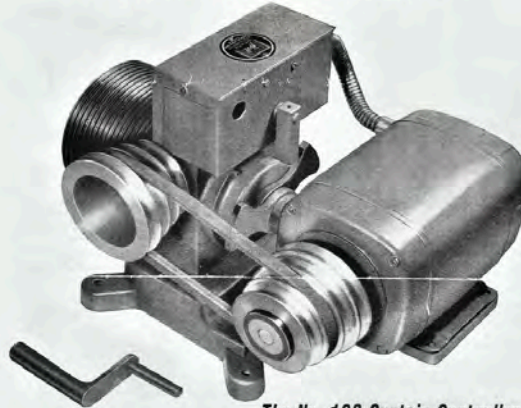


The HALL & CONNOLLY HIGH INTENSITY ARC

MANUFACTURED BY
SPERRY GYROSCOPE Co. LTD.
EXCLUSIVELY FOR
J. FRANK BROCKLISS LTD.
58 GREAT MARLBOROUGH ST., W. 1.

Hall Stage Equipment

THEATRE STAGE CURTAIN TRACKS AND CONTROLLERS



The No. 198 Curtain Controller

"HALL" No. 198 automatic curtain controllers are powered by a totally enclosed motor mounted on a hinged bracket arranged for automatic belt tension and easy changeover from one speed to another. The "Vee" drive provides four selective speeds between the motor and the totally enclosed worm reduction gear box. This gearbox is fitted with ball bearings on both shafts. The worm wheel is of phosphor-bronze accurately generated and the work shaft is of high tensile steel. Epicyclic gearing is provided between the main shaft and the limit gear. The limits are cam operated and very easily adjusted.

SPECIAL NOTE:

**FOR ALL ELECTRICALLY OPERATED CURTAINS WE
RECOMMEND THE No. 292 (WHEEL RUNNER) TRACK**



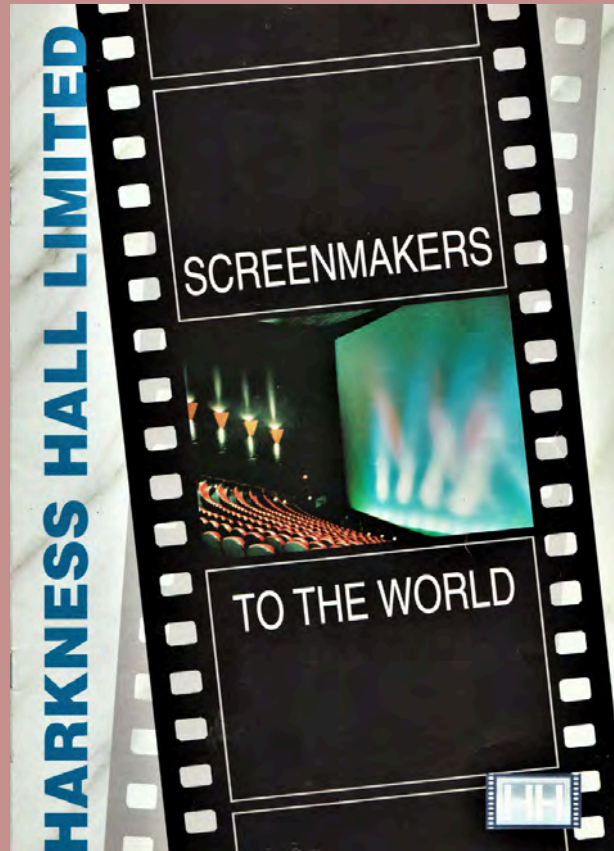
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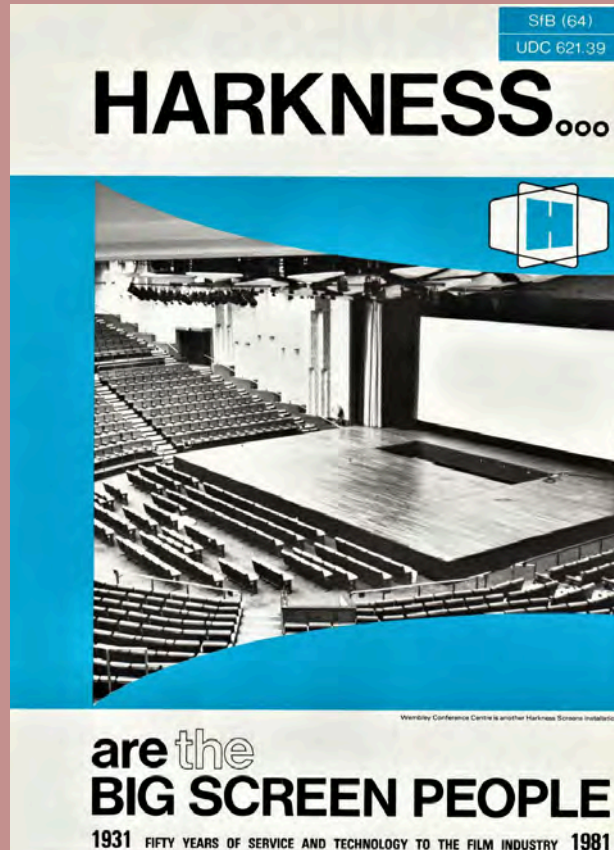
HALL STAGE EQUIPMENT LIMITED. BRIXTON. LONDON. S.W.9. ENGLAND

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Harkness





Hortson

^(Zoom Out) THE HORTSON 16mm SOUND PROJECTOR

brings
35mm technique to
16mm projection

'LANGUEDOC' XENON Mark II

The popular Hortson 'Languedoc' Mark II projection equipment is now supplied with a new design pedestal stand, which is both attractive and functional. The two 5,000 feet spools and projector mechanism are now aligned vertically, thereby obtaining an even greater compactness. The complete equipment, including overhang of the large diameter spools, now stands in an area measuring only 25" x 18", height 78" (approx.). This permits installation in a comparatively small projection room, and an increased working area. Precision manufactured to 35mm standards, the Hortson will give a long and trouble-free service with minimum maintenance. Only cleaning of the film path and occasional lubrication is necessary. Film lacing is extremely simple—over two hours showing can be given with the 5,000 feet spools at standard sound speed of 24 F.P.S. Brilliant theatre quality pictures are obtained with the push-button-operated Xenon lamp. Equipment can be supplied for optical and/or magnetic sound, or silent film.



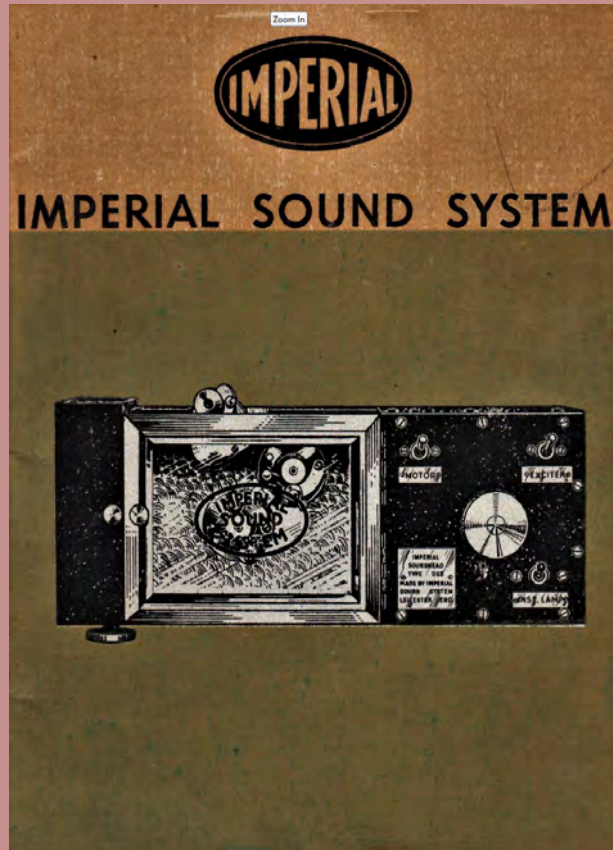
'LANGUEDOC' Mark II with
swing-aside Cinemascope Lens



The Rank Organisation **AUDIO VISUAL DIVISION**

Imperial







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Imperial



Zoom Out

Cinemascope Ultra-Star ★



Ultra-Star ★ Cinemascope Attachment

The new Cinemascope attachment is distinguished by the high optical performance, the compact size and ISCO's New Focussing Lock Mechanism. It has been developed to meet the requirements for modern automatic projectors.

ISCO's New Focussing Lock Mechanism allows a one hand control. After having set the desired projection distance, the knurled focussing ring has to be pushed slightly ahead to the screen in order to fix the adjusted value and to preserve from unintentional defocussing. The best image quality can be obtained in connection with our "Ultra" and "Ultra-Star ★" basic lenses with the focal lengths from 85 mm upwards.

Cinemascope Ultra-Star ★

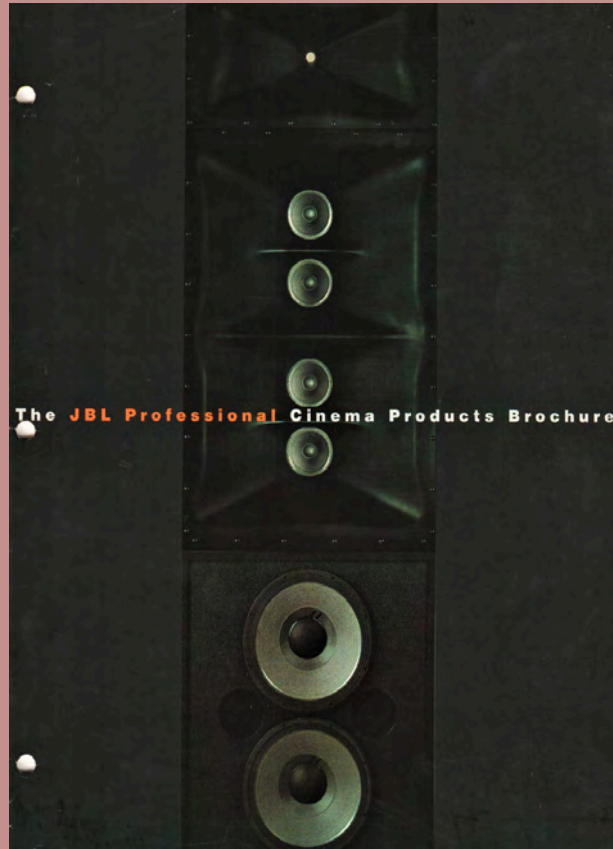
The new compact Cinemascope lenses consist of an Ultra Star basic lens and a Cinemascope attachment. They are also featured by ISCO's New Focussing Lock Mechanism and can be delivered with the focal lengths 50 to 95 mm.

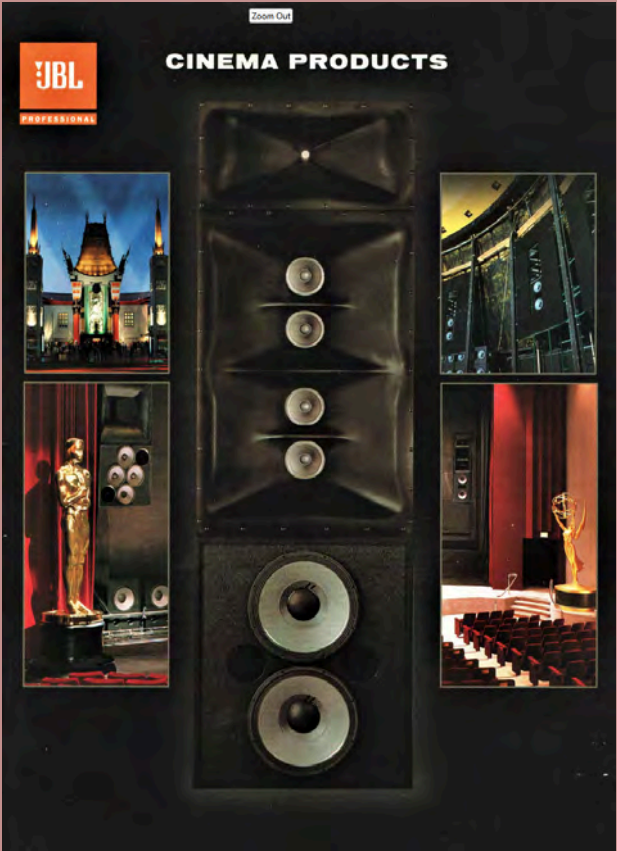
ISCOOPTIC

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JBL

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JBL

Professional Series

Key Features:

- ▶ 40 Hz to 20 kHz Frequency Range
- ▶ 91 dB SPL, 1 W, 1 m (3.3 ft)
- ▶ 100 watts power capacity, continuous pink noise
- ▶ Tight-cluster design of components for uniform horizontal and vertical dispersion
- ▶ Convenient mounting design uses JBL QuickMount™, Omnimount® or APC Multimount brackets
- ▶ Special cabinet shape incorporates 20° angled front baffle
- ▶ SMPTE/ISO2969 Curve X high frequency de-emphasis
- ▶ Lightweight, rigid molded enclosure
- ▶ Input terminals located on top of cabinet for quick access
- ▶ Approved by Lucasfilm, Ltd. for THX® installations

The 8330A Cinema Surround Speaker offers high power handling, high sensitivity, and extended bass response in a very compact enclosure. The three-way 8330A's proven reliability and performance features have positioned it as the industry standard.

The 8330A features a 200 mm (8 in) low frequency driver for smooth, extended bass response; a 150 mm (5 in) midrange transducer for the critical midrange; and a 25 mm (1 in) titanium-laminate dome tweeter to provide wide, even high frequency coverage. The 100 watt continuous power rating (400 watt peaks) provides wide dynamic range with reliability.

Its modern, molded black textured enclosure with black grille enhances any decor.

JBL's QuickMount bracket allows one person to quickly and simply mount the very lightweight enclosure on a previously installed bracket rail.

Built to traditional JBL quality standards, the 8330A will stand up to long-term use under adverse conditions while delivering excellent performance.

Omnimount is a registered trademark of Omnimount Systems.

THX is a registered trademark of Lucasfilm, Ltd.

Zoom Out

8330A Surround Cinema/Foreground Music System



Specifications:

System:	
Frequency Range	1-20 dB, 40 Hz - 20 kHz
Frequency Response	(±1 dB) 70 Hz - 13 kHz
Power Rating	100 watts continuous pink noise; 400 watts peak
Sensitivity	91 dB SPL, 1 W @ 1m (3.3 ft)
Nominal Impedance: 8 ohms	
Hor. Coverage Angle (±6 dB)	110° averaged 400 Hz to 12 kHz
Vert. Coverage Angle (±6 dB)	100° averaged 400 Hz to 12 kHz
Directivity Factor (Q)	4.5 averaged 400 Hz to 12 kHz
Directivity Index (DI)	6.5 dB averaged 400 Hz to 12 kHz
Crossover Frequencies	650 Hz, 3.1 kHz
High Frequency Crossover	80/2000 Curve X surround outcrop
Polarity	SEA (Positive voltage on RED terminal goes forward cone motion. This is opposite from the previous model 8330).
Low Frequency Transducer:	
Nominal Diameter	200 mm (8 in)
Midrange Transducer:	
Nominal Diameter	150 mm (5 in)
High Frequency Transducer:	
Nominal Diameter	25 mm (1 in)
Physical:	
Downward Firing Angle	Nominal 20° when mounted flush on back panel
Enclosure Material	Textured Black HIPS Plastic
Grille Color	Black
Input Connectors	5-way binding posts
Dimensions (H x W x D)	457 mm x 457 mm x 203 mm (18 in x 18 in x 10.25 in)
Net Weight	8.6 kg (19 lb)

Rating based on test signal of 100 Hz filtered random noise with a peak-to-average ratio of 1 dB, one-third octave.

*Sensitivity is based on a average 100 Hz to 2 kHz test signal for an input of 2.83 V @ 8 ohms.

JBL continually engages in research related to product improvement. Some naturally, production methods and design refinements are introduced into existing products without notice as a matter of course. For this reason, any current JBL product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.

JBL

JBL

Professional Series

Key Features:

- 660 Watts Continuous Pink Noise, 1200 Watts Continuous Program Power Handling
- Usable response to 25 Hz (-10 dB, no EQ), flat to 25 Hz (-3 dB) with External EQ
- 2241H VGC™ Vented Gap Cooled Driver
 - High Sensitivity
 - Low Power Compression
 - High Maximum-SPL Capability
 - Low 2nd and 3rd Harmonic Distortion
 - Symmetrical Field Geometry SFG™ Magnet Structure
 - Long Excursion Capability
- Approved by Lucasfilm, Ltd. for THX® installations

The JBL Model 4641 is a high quality subwoofer system, featuring an advanced technology 460 mm (18 in.) low frequency transducer mounted in a direct radiator, bass-reflex enclosure for smooth response to the lowest audible frequencies. The 4641 is ideal for low-frequency augmentation of either analog or digital soundtracks in motion picture theaters and for general sound reinforcement applications.

Transducer

The 2241H transducer utilizes the patented Vented Gap Cooling (VGC) process*, which pumps air through the magnetic gap and directly over and around the voice coil, providing immediate heat transfer and a reduction in operating temperature. This increases power handling while reducing power compression.

Through the use of computer-aided magnet optimization and analysis techniques, JBL engineers were able to optimize magnet weight, flux density and field situation, resulting in a 2.6 kg (5.5 lb) reduction in overall driver weight and a significant reduction in harmonic distortion. This magnet structure offers much of the weight advantage of rare earth magnet structures without the prohibitive cost, enabling the system to carry a 660 watt continuous AIS pink noise power rating.

*U.S. Patent #5,042,072, Foreign Patents Pending.

4641 Single 460 mm (18 in.) Subwoofer System



Specifications:

TRANSDUCER: JBL Model 2241H 160 mm (18 in.) Low Frequency	
Transducer	
SYSTEM	
Rated Impedance: 8 ohms	
Minimum Impedance: 6.5 ohms	
POWER HANDLING CAPABILITY	
Continuous Pink Noise: 660 Watts	
Continuous Program: 1200 Watts	
Peak Power: 2400 Watts	
OUTPUT CAPABILITY	
And Sensitivity: 50 Hz to 500 Hz: 98 dB, 1W @ 1m	
40 Hz to 100 Hz: 97 dB, 1W @ 1m	
Power Compression:	
At -10 dB power (60 W): 0.8 dB	
At -3 dB power (300 W): 2.4 dB	
At rated power (660 W): 3.8 dB	
Half Space Reference Efficiency:	
25% 5.8% 6.7% 11.6%	
Single Two Four Eight	
Module Modules Modules Modules	
Power Output:	
17 W 50 W 200 W 557 W	
Maximum Continuous SPL @ 1 meter:	
125 dB 131 dB 136 dB 140 dB	
Maximum Peak SPL @ 1 meter:	
131 dB 137 dB 142 dB 146 dB	
FREQUENCY RESPONSE	
Lower Frequency Limits (no EQ):	
-10 dB 25 Hz	
-3 dB 35 Hz	
Lower Frequency Limits (with EQ):	
-10 dB 22 Hz	
-3 dB 25 Hz	
Recommended Crossover Frequencies:	
High-pass: 20 Hz, 24 dB/octave or greater	
Low-pass: 80 Hz to 150 Hz, 12 dB/octave or greater	
Distortion:	
2nd harmonic: <2%	
3rd harmonic: <2%	
System Polarity: IIA Standard. Positive voltage to RED terminal.	
Input Connections: Color-coded push terminals.	
Net Weight: 60 kg (131 lbs.)	
Shipping Weight: 66 kg (142 lbs.)	
ENCLOSURE	
Materials and Finish: 19 mm (3/4 in) particle board with 25 mm (1 in) baffle and back panel. Polyester lamination on all panels.	
Enclosure Tuning Frequency: 25 Hz	
Net Internal Volume: 225 liters (8 cu. ft.)	
Dimensions:	
1110 mm x 675 mm x 450 mm	
H x W x D: 39 3/8 x 26 5/8 x 17 3/8 in	

See footprints on back of

JBL

Professional Series

Key Features:

- ▶ 800 Watts Continuous Pink Noise, 1600 Watts Continuous Program Power Handling
- ▶ Usable response to 22 Hz (-10 dB, no EQ), flat to 22 Hz (-3 dB) with External EQ
- ▶ 2242H SVG™ Super Vented Gap Cooled Driver
 - High Sensitivity
 - Minimal Power Compression
 - Highest Maximum-SPL Capability
 - Extremely Low 2nd and 3rd Harmonic Distortion
 - Symmetrical Field Geometry SFG™ Magnet Structure
 - Extended Excursion Capability
- ▶ Approved by Lucasfilm, Ltd. for THX® installations

The JBL Model 4645C is a high quality subwoofer system, featuring an advanced technology 460 mm (18 in), low frequency transducer mounted in a direct radiator, bass-reflex enclosure for smooth response to the lowest audible frequencies. The 4645C is ideal for low-frequency augmentation of either analog or digital soundtracks in motion picture theaters and for general sound reinforcement applications.

Transducer:

The 2242H transducer utilizes the patented Vented Gap Cooling (VGC) process™ which pumps air through the magnetic gap and directly over and around the voice coil, providing immediate heat transfer and a reduction in operating temperature. This increases power handling while reducing power compression.

The 2242H utilizes a rugged 100 mm (4 in) diameter voice coil and incorporates a large motor structure with a pole piece that extends both above and below the top plate to improve gap flux symmetry and increase thermal conductivity. This magnet structure and the use of a voice coil with one-third more exposed area than in former designs, provides the 2242H with very effective heat sinking, enabling the system to carry an 800 watt continuous AES pink noise power rating.

*1/3 octave 40 Hz (1/2) frequency filters included

4645C

Single 460 mm (18 in)
Subwoofer System



Specifications:

TRANSDUCER		JBL Model 2242H 300 mm (12 in) Low Frequency Transducer			
SYSTEM					
Rated Impedance:		8 ohms			
Minimum Impedance:		7.2 ohms			
POWER HANDLING CAPABILITY					
Continuous Pink Noise:		800 watts			
Continuous Program:		1600 watts			
Peak Power:		3200 watts			
OUTPUT CAPABILITY					
Audio Response:		50 Hz to 500 Hz, 50 dB, 1W @ 1m			
40 Hz to 100 Hz, 37 dB, 1W @ 1m					
Power Compression:					
At -10 dB power (80 W):		0.6 dB			
At -5 dB power (160 W):		2.0 dB			
At rated power (800 W):		5.5 dB			
Half-Space Reference Efficiency:					
Max. Continuous Average:		Single Module	Four Modules	Eight Modules	Light Modules
Power Output:		52 W	128 W	504 W	2012 W
Maximum Continuous SPL @ 1 meter:		123 dB	143 dB	157 dB	161 dB
Maximum Peak SPL @ 1 meter:		142 dB	160 dB	173 dB	177 dB
FREQUENCY RESPONSE					
Lower Frequency Limits (w/ EQ):					
-10 dB:		42 Hz			
-3 dB:		35 Hz			
Lower Frequency Limits (w/o EQ):					
-10 dB:		22 Hz			
-3 dB:		22 Hz			
Recommended Crossover Frequencies:		High-pass: 20 Hz, 12 dB/octave or greater			
		Low-pass: 80 Hz to 180 Hz, 12 dB/octave or greater			
Distortion:					
2nd harmonic:		<0.0%			
3rd harmonic:		<0.0%			
System Volume:		IEC Standard, Positive voltage to 82D terminal produces forward cone motion.			
Input Connections:		Gold-plated push terminals			
Net Weight:		6.0 kg (13.5 lb.)			
Shipping Weight:		6.7 kg (15.0 lb.)			
DIMENSIONS					
Materials and Finish:		30 mm (1 1/8 in) particle board with 25 mm (1 in) baffle and back panel. Durable flange on all panels.			
Enclosure Tuning Frequency:		25 Hz			
Net Internal Volume:		254 liters (9 cu. ft.)			
Dimensions:		330 mm x 274 mm x 450 mm			
11 x W x D:		806 in x 269 in x 176 in			
See Enclosure on back of					

See Enclosure on back of

JBL

Professional Series

Key Features:

- ▶ 1200 Watts Continuous Peak Noise, 2400 Watts Continuous Program Power Handling
- ▶ Usable response to 22 Hz (-10 dB, no EQ), flat to 22 Hz (-5 dB) with External EQ
- ▶ 2241H VGC™ Vented Gap Cooled Drivers
 - High Sensitivity
 - Low Power Compression
 - High Maximum-SPL Capability
 - Low 2nd and 3rd Harmonic Distortion
 - Symmetrical Field Geometry SFG™
- ▶ Magnet Structure
- ▶ Long Excursion Capability
- ▶ Approved by Lucasfilm, Ltd. for THX™ installations

The JBL Model 4642A is a high quality subwoofer system, featuring advanced technology 460 mm (18 in), low frequency transducers mounted in a direct radiator, bass-reflex enclosure for smooth response to the lowest audible frequencies. The 4642A is ideal for low-frequency augmentation of other analog or digital soundtracks in motion picture theaters and for general sound reinforcement applications.

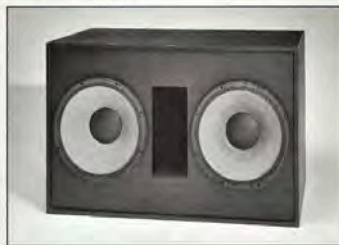
Transducer

The 2241H transducer utilizes the patented Vented Gap Cooling (VGC) process*, which pumps air through the magnetic gap and directly over and around the voice coil, providing immediate heat transfer and a reduction in operating temperature. This increases power handling while reducing power compression.

Through the use of computer-aided magnet optimization and analysis techniques, JBL engineers were able to optimize magnet weight, flux density and field saturation, resulting in a 2.6 kg (6.5 lb) reduction in overall driver weight and a significant reduction in harmonic distortion. This magnet structure offers much of the weight advantage of rare earth magnet structures without the prohibitive cost, enabling the system to carry a 1200 watt continuous AES pink noise power rating.

*U.S. Patent #5,042,072 Foreign Patents Pending

4642A Dual 460 mm (18 in) Subwoofer System



Specifications:

TRANSDUCERS Two JBL Model 2241H 460 mm (18 in) Low Frequency Transducers	
SYSTEM	
Rated Impedance	4 ohms
Minimum Impedance	3.2 ohms
POWER HANDLING CAPABILITY	
Continuous Peak Noise†	1200 Watts
Continuous Program	2400 Watts
Peak Power‡	4800 Watts
OUTPUT CAPABILITY	
Voice Sensitivity§	50 Hz to 500 Hz, 100 dB, 1W @ 1m
	40 Hz to 150 Hz, 100 dB, 1W @ 1m
Power Compression	
At 10 dB power (120 W)	0.8 dB
At 1 dB power (100 W)	2.0 dB
At rated power (1200 W)	5.5 dB
	Single Two Four
Module Module Modules	
Half-Space Reference Efficiency	5.8% 8.7% 11.0%
Max. Continuous Acoustic Power Output	70 W 200 W 585 W
Maximum Continuous SPL @ 1 meter	145 dB 156 dB 160 dB
Maximum Peak SPL @ 1 meter	157 dB 162 dB 166 dB
FREQUENCY RESPONSE	
Lower Frequency Limits (no EQ):	
-10 dB	22 Hz
-5 dB	35 Hz
Lower Frequency Limits (with EQ):	
-10 dB	20 Hz
-5 dB	22 Hz
Recommended Crossover Frequencies	
High-pass: 20 Hz, 12 dB/octave or greater	
Low-pass: 40 Hz to 150 Hz, 12 dB/octave or greater	
Distortion	
2nd harmonic	<2%
3rd harmonic	<2%
System Polarity IEC Standard: Positive voltage to RED terminal produces forward cone motion	
IEC Connections Color-coded peak terminals	
Net Weight	96 kg (210 lbs.)
Shipping Weight	205 kg (450 lbs.)
ENCLOSURE	
Materials and Finish	19 mm (3/4 in) particle board with 25 mm (1 in) baffle and back panel. External bracing on all panels
Enclosure Tuning Frequency	25 Hz
Net Internal Volume	806 liters (28 cu. ft.)
Dimensions	762 mm x 1219 mm x 610 mm
H x W x D	30 in x 48 in x 24 in

See Footnotes on back of



CINEMA SOUND SYSTEM MANUAL

I. INTRODUCTION:

The decade of the 1980's has seen many improvements in the quality of motion picture sound. Dolby Laboratories began the cinema sound revolution during the middle 1970's, with noise reduction and equalization of cinema loudspeaker systems. In 1981, JBL demonstrated the first flat power response loudspeaker systems at the Academy of Motion Picture Arts and Sciences. In 1983, Lucasfilm, Ltd. introduced the THX® system, along with their program of cinema certification. As the 1980's have progressed, Dolby stereo optical sound tracks have gained in favor, increasing the number of stereo houses significantly. The application of Dolby Spectral Recording™ to motion picture release prints represents another step forward in sound quality.

As new cinema complexes are being planned and constructed, acoustical engineers are now regularly engaged to deal with problems of architectural acoustics and sound isolation between adjacent exhibit spaces. More attention is being paid to the specification of sound equipment and its careful integration into the cinema.

JBL's commitment to the motion picture market is very strong. The company has become the acknowledged leader in the field, and JBL's products are routinely specified for major studios and post-production facilities throughout the world.

This manual has several goals. First, it will provide a background in basic system concepts, and then move on to acoustical considerations in the cinema. The subject of electroacoustical specification will be discussed, as will the problems of mounting and aiming of the components. Electrical interface and system checkout will be covered in detail. JBL believes that the more dealers and installers know about the basics of sound in the cinema, the better will be the results of their work in all areas.

II. BASIC SYSTEM CONCEPTS:

A. Film Formats:

There are basically two film gauges, 35 mm and 70 mm. The projection ratios for 35 mm can be either 1.85:1 ("flat") or 2.35:1 ("scope"). Seventy mm prints are normally projected at a ratio of 2.2:1. The advantages of the 70 mm format are the availability of six magnetic tracks and, of course, larger image area. The cost of a 70 mm release print is quite high, and these prints are made primarily for exhibition in premier houses in large metropolitan locations. Today, the general practice with 70 mm is to use three channels behind the screen (left, center, and right) and a single surround channel feeding multiple loudspeakers. Options are to use the remaining two magnetic tracks for subwoofer signals and/or split (two channel) surrounds. The 35 mm format was modified during the 1960's to handle four magnetic tracks: three screen channels and a single surround channel. At the same time, the standard monophonic variable area optical track was maintained. Figures 1A and B show the channel layout for both 70 mm and 35 mm magnetic standards. At present, 35 mm magnetic sound is no longer in general use.

Technical Manual

JBL8330 MK II

SURROUND
FOREGROUND
MUSIC SYSTEM

SPECIFICATIONS

ACOUSTIC & ELECTRICAL SPECIFICATIONS:

- Nominal Impedance: 8 ohm
- Power Rating: Continuous Pink Noise: 150W
- Frequency Response: 70 Hz to 19 kHz
- Sensitivity: 96 dB SPL
- Crossover Frequencies: 850 Hz and 3.1 kHz

SYSTEM COMPONENTS:

- Cabinet: GS300
- Grille: GS300
- Low Frequency Transducer: 203mm (8 in.) Laminated High Polymer Cone
- DC Resistance: 5.9 ohm \pm 3% — Copper Wire
- Mid Range Transducer: 126mm (5 in.) Laminated High Polymer Cone (SOSG)
- DC Resistance: 4.95 ohm \pm 3% Copper Wire
- T1 Watt (2.83 V RMS) @ 1 Meter

SYSTEM COMPONENTS: (cont'd)

- High Frequency Transducer: 25mm (1 in.) Titanium
- DC Resistance: 3.88 ohm \pm 3% Copper Wire
- Crossover Network: NB330 MK II

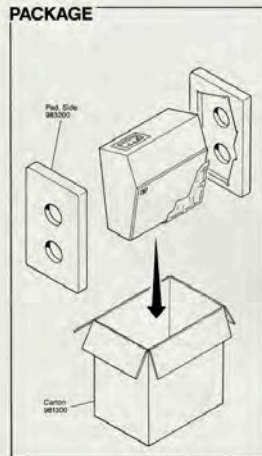
AURAL SWEEP TEST SPECIFICATIONS:

- A. System Aural Sweep Test: 7.2V Input, 30 Hz to 20 kHz
- B. L.F. Aural Sweep Test: 4.0V Input, 30 Hz to 1.2 kHz
- C. M.F. Aural Sweep Test: 4.0V Input, 100 Hz to 5.5 kHz
- D. H.F. Aural Sweep Test: 2.0V Input, 3 kHz to 20 kHz

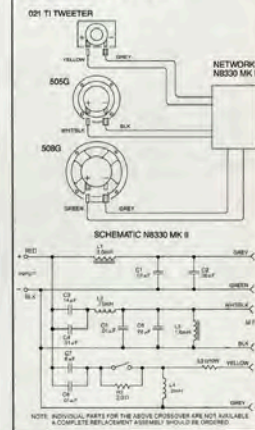
PHYSICAL SPECIFICATIONS:

- Enclosure Dimensions: 484mm x 487mm x 257mm D.
(19.43 x 19.21 x 10.12 in. D.)
- Shipping Weight: 36 lbs. (16 kg)

PACKAGE



WIRING DIAGRAM



JBL

JBL

8340A

High Power Cinema Surround
Speaker for Digital Applications

Professional Series

Key Features:

- ▶ 45 Hz to 18 kHz Frequency Range
- ▶ High Sensitivity: 96 dB SPL, 1 W, 1 m (3.5 ft)
- ▶ High Power Handling Capability: 250 watts continuous pink noise
- ▶ Convenient mounting design uses JBL QuickMount™, Outrigger™ or APC Multimount brackets
- ▶ Special cabinet shape incorporates 27° angled foot baffle
- ▶ SMPTE/ISO2959 Curve X high frequency de-emphasis
- ▶ Lightweight, rigid molded enclosure
- ▶ Input terminals located on top of cabinet for quick access
- ▶ Uniform horizontal and vertical coverage
- ▶ Approved by Lucasfilm, Ltd. for THX® installations

The 8340A Cinema Surround Speaker offers very high power handling, high sensitivity, and extended bass response in a very compact enclosure. The two-way 8340A proven reliability and performance features have positioned it at the industry standard for the extended dynamic range required by digital sound formats.

The 8340A features a high power, long-throw 250 mm (10 in) low frequency driver for smooth, extended bass response. The high frequency section combines a 25 mm (1 in) titanium diaphragm compression driver with a constant coverage horn for very high output capability and wide, even high frequency coverage. The 250 watt continuous power rating (1000 watt peak) provides extended dynamic range required for digital soundtracks with absolute reliability.

Its modern, molded black textured enclosure with black grille enhances any decor.

JBL's QuickMount bracket allows one person to quickly and simply mount the very lightweight enclosure on a previously installed bracket rail.

Built to traditional JBL quality standards, the 8340A will stand up to long-term use under adverse conditions while delivering excellent performance.

Outrigger is a registered trademark of Chromatix Systems.



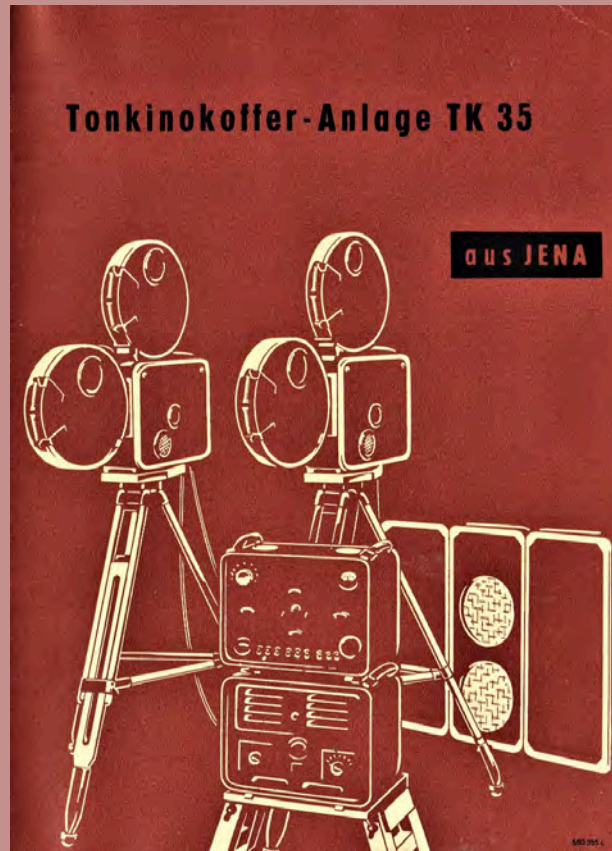
Specifications:

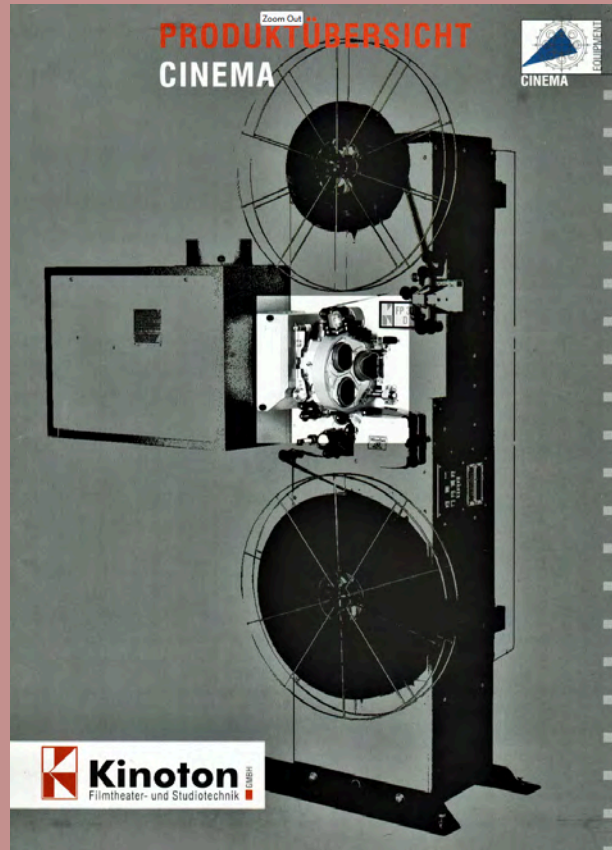
Nominal	
Frequency Range	45 Hz - 18 kHz
Frequency Response	±3 dB: 75 Hz - 16 kHz
Power Rating	250 watts continuous pink noise, 1000 watt peak
Sensitivity	96 dB SPL, 1W @ 1m (3.5 ft)
Normal Impedance	8 ohms
100 Hz Coverage Angle	65° (B) - 135° (avg) @ 90° Hz to 12 kHz
Vert. Coverage Angle	65° (B) - 80° (avg) @ 90° Hz to 12 kHz
Directivity Factor (Q)	avg @ 90° Hz to 12 kHz
Directivity Index (DI)	6.5 dB (avg) @ 90° Hz to 12 kHz
Crossover Frequency	2.2 kHz
High Frequency Coverage	90° (B) - 135° (avg) @ 90° Hz to 12 kHz
Physical	155 mm (6.1 in) x 155 mm (6.1 in) x 155 mm (6.1 in)
Low Frequency Transducer	
Normal Diameter	250 mm (10 in)
High Frequency Transducer	
Normal Diameter	25 mm (1 in)
Physical	
Mounting Flange Angle	Scalloped 27° when mounted front on back panel
Finish	Textured Black (JBL's Flare)
Grille Color	Black
Input Connections	See handling guide
Dimensions (H x W x D)	155 mm x 155 mm x 155 mm
Net Weight	2.2 kg (4.8 lb)

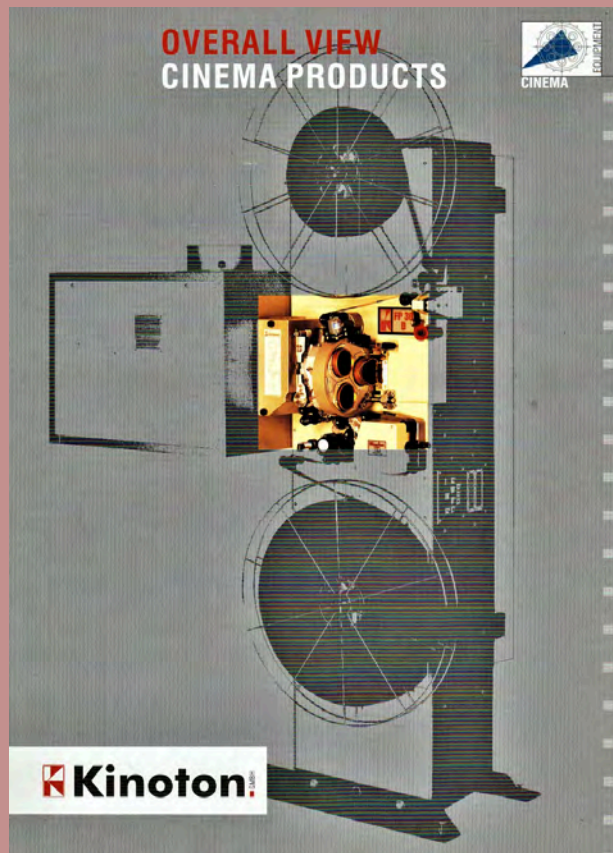
Many times we see equal or better performance with a wider coverage angle of 60° (B) - 135° (avg).

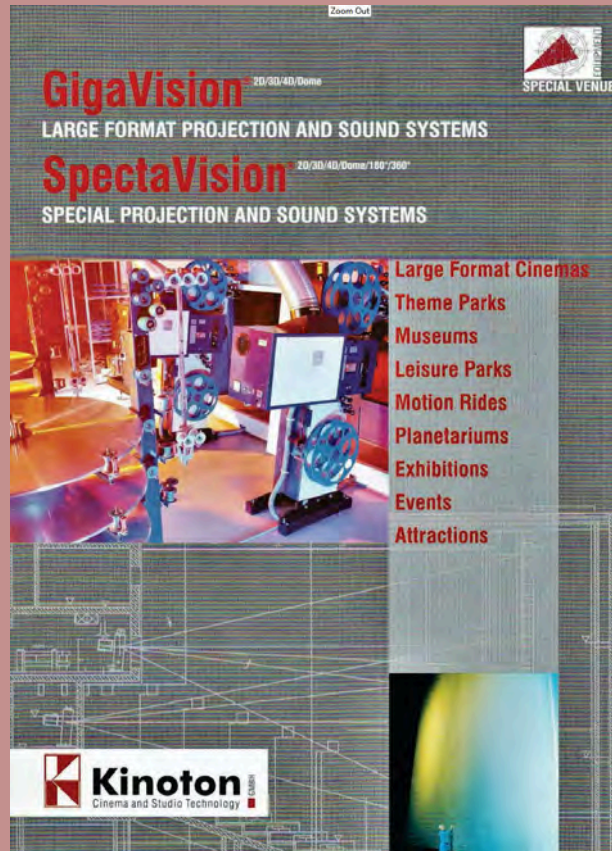
JBL's QuickMount bracket allows one person to quickly and simply mount the very lightweight enclosure on a previously installed bracket rail.

Built to traditional JBL quality standards, the 8340A will stand up to long-term use under adverse conditions while delivering excellent performance.









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Kinoton

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Kinoton
Filmtheater- und Studiotechnik

Zoom Out

Zubehör

- Filmspulen von 600 m bis 5000 m
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- Antistatik-Filmreinigungsgeräte
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- Kabinenfenster
- Schutzhandschuhe und Gesichtsschutz
- Abdeckhauben für Filmteiler
- Test- und Prüftime





**SOUND AND PROJECTION**

16-mm theatre sound-film projector FP 16

**EMI Sound & Vision Equipment Limited**
EMI Pathe Division
54 Beak Street, London, W1R 3DH.
Telephone : 01 437 1544
and
46A, Bramhall Lane South,
Cheshire, SK7 1AH.
Telephone : 081 439 9058



- Operational simplicity
- Utterly reliable
- Unique "grooved-disc" intermittent mechanism
- Extremely versatile – 3 basic models
- Brilliant, stable pictures of optimum quality
- Optical and magnetic sound system

Kinoton

KINOTONE FP-16 PROFESSIONAL THEATRE AND AUDITORIUM 16MM MOTION PICTURE PROJECTOR

The KINOTONE FP-16 Professional 16mm Sound-Film Projector is designed for permanent installations, such as in screening rooms, school auditoriums and small theatres. This modern projector is simple to operate and easy to maintain.

The FP-16 projector is a sturdy, well built machine, precision engineered for long life and superior reliability. It is designed with a unique "grooved disc" intermittent mechanism and 12 tooth sprockets. The use of large front, holdback and intermittent sprockets, always engaging at least five perforations, enables this projector to reduce print wear and show damaged prints that cannot be run on other projectors.

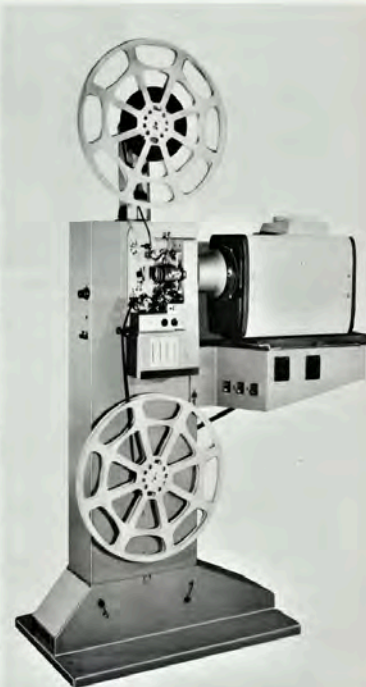
The left-hand operation of this projector has several advantages particularly in regard to print protection and sound reproduction. The profiled rollers, turner plate, pressure plate and sound drum preclude scratching either the sound track or the picture area, regardless of the emulsion position.

The sound optics and magnetic heads are all positioned toward the operating side and are easily accessible for cleaning and service adjustments when required.

The plug-in, solid state amplifiers feature an optimum frequency response curve. The sound head has low flutter and wow because of the rotary sound drum and pressure roller; the same construction is used in this projector as in the Kinotone 35mm and 70/35mm professional projectors. There are vertical sliding potentiometers for microphone, volume, film sound volume, bass and treble control.

Shown with ORC* Model 1000-15 Xenon Lamphouse (optional) which provides 4000 lumens with open aperture and f/1.6 lens. Features integral power head. Equipped with 12' power cord for connection to standard 115V, 60Hz, 15A wall outlet. Requires no exhaust vent. Max current regulator, adjustment control and elapsed time meter. Heat-treated, oil-free projection lamp conforms to latest safety standards. Also available: Models 1600-W (1600 Watt) and 2000-W (2000 Watt) lamphouses with external power supplies.

*Orma: Radiation Corporation



Zoom Out

Kinoton



PROJEKTIONSGERÄTE

EMI Pathe

50-54 Beak Street,
London W1R 3DH
Telephone 437 1544
Telex: 22760

A division of
EMI Film & Theatre Corporation Ltd.

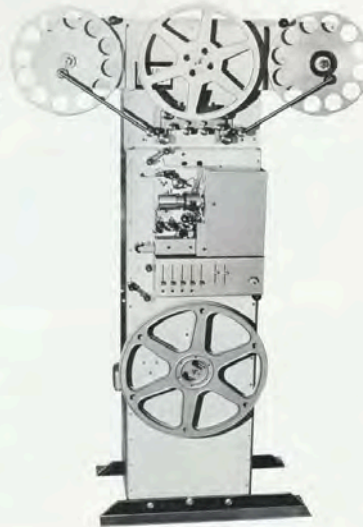
A Member of the EMI Group. International leaders in music, pictures and theatre.

**16-mm-Projektor FP 18 Studio
FP 18 Telecine**

Der Projektor FP 18 Studio entspricht im Aufbau, in seiner Präzision, der Filmauswahl, der optimalen Wiedergabequalität von Bild und Ton, der einfachen Installation, Wartung und Bedienung dem Projektor FP 18, wie er ausführlich im Prospekt beschrieben ist.

Er erfüllt damit schon im wesentlichen die Voraussetzungen der Studiooptime. Die praktischen Eigenschaften sollen nachfolgend beschrieben werden.

- Professionelle Ausführung wie Projektor FP 18
- Vor- und Rückwärtslauf
- Einzelbildschaltung
- Stillstandsprojektion
- 24 Bilder/sec.
- 25 Bilder/sec. netzsynchron
- elektronische Steuerung in C-MOS-Technik
- Koppelungsmöglichkeit mit allen Tonmaschinen



Kinoton



SOUND AND PROJECTION

EMI Pathe

50-54 Beak Street,
London W1R 3DH
Telephone 437 1544
Telex: 22760

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A Member of the EMI Group. International leaders in music, electronics and television.

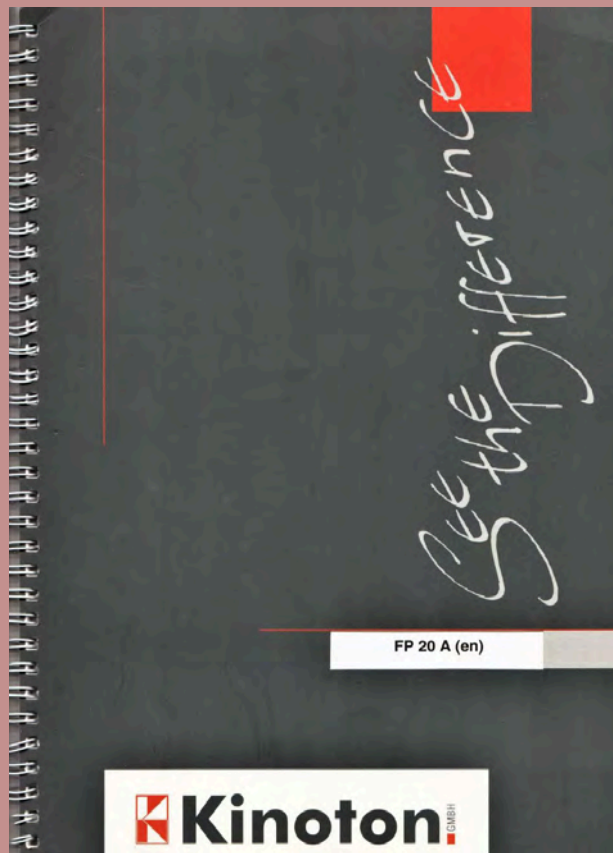
16 mm Projector FP 18

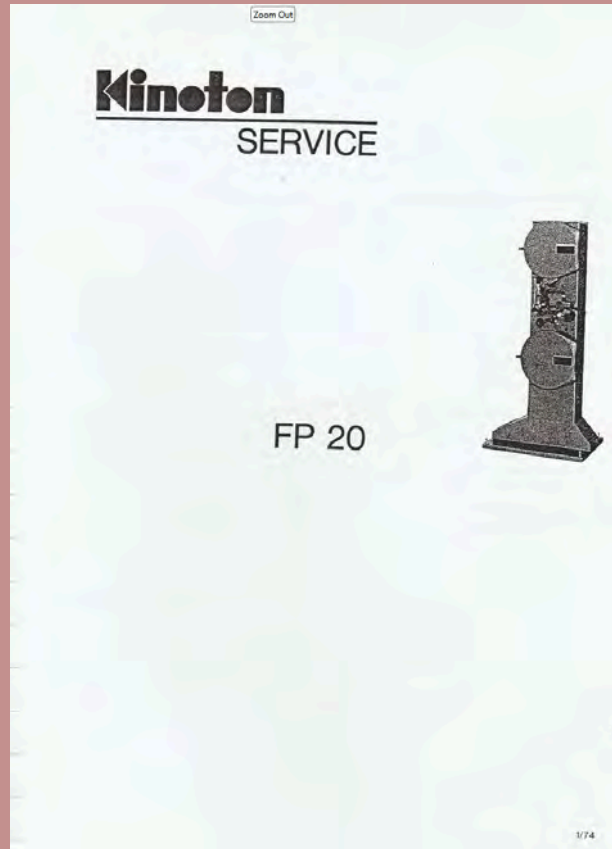
The FP 18 static Projector was developed for use in all situations where the quality of picture and sound demanded for 16 mm film projection exceeds the capabilities of smaller equipments intended for the consumer market. The projector has been designed for heavy duty service in motion picture theatres, studios and general purpose auditoria. It requires virtually no maintenance.

- Professional standard
- High Precision picture stability
- Uniform picture illumination
- Extremely straight-forward installation
- Remote control of all functions
- 5000 ft. Film Spools
- Weight compensating frictions
- Scanning of optical and magnetic sound tracks
- Additional equipment for 16 mm periotape
- Special version for studio and television applications



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[Zoom In](#)

Kinoton



SOUND AND PROJECTION

Projector FP 20

The outstanding design and constructional features of the 35 mm Projector FP 20 make it one of the most versatile and advanced professional sound projectors available for virtually any application. Complete data on projection distance characteristics, control and automation, light sources and reverse running is given in the full technical brochure which is available on request. This publication summarises the main characteristics of the FP 20 Projector.

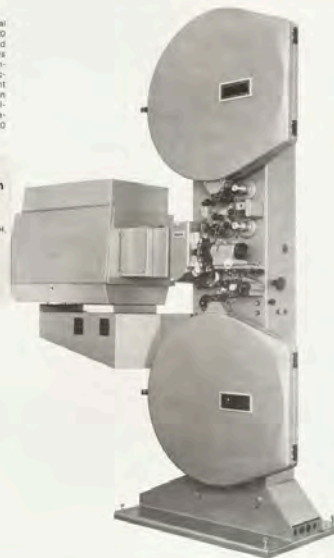


**EMI Sound & Vision
Equipment Limited
EMI Pathe Division**

54 Beak Street, London, W1R 3DH,
Telephone : 01-427 1944,
and
16A Broomfield Lane South,
Chesham, Bucks, HP7 1AH.
Telephone : 061 439 8858

Special features of the FP 20 Projector:

- Perfect accuracy in respect of picture-steadiness.
- Optical sound-scanning
- High light-efficiency
- Designed for straightforward economic installation
- Easy film threading
- High reliability due to precision construction and simple gearing
- Minimal maintenance
- Wide versatility of use



[Zoom Out](#)

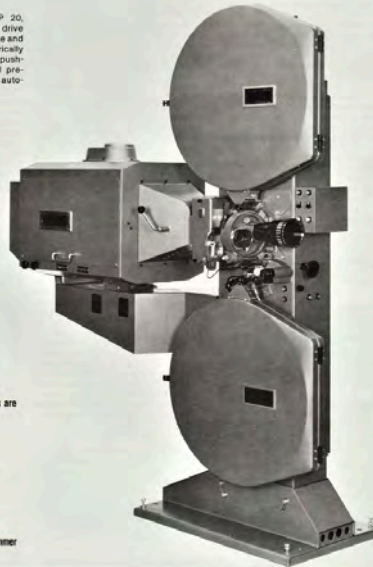
Kinoton



SOUND AND PROJECTION

FP 20 – Remote Control and Automation

The publication describing the FP 20, 35 mm Projector points out that the drive motor, the picture change-over device and the film rupture device can be electrically operated by means of a relay with push-button control. This is an essential prerequisite for remote control and automation of the projector.



Some auxiliary units for automating or remotely controlling projector functions are described below:-

- Remote Focusing Device
- Remote Framing Device
- Motor-Operated Lens Turret
- Motor-Operated Aperture Changing
- Retardation of Ignition and Automatic Ignition Unit
- Scanning of the Film Contacts
- Automatic Change-over System
- Automation using the Matrix-Programmer

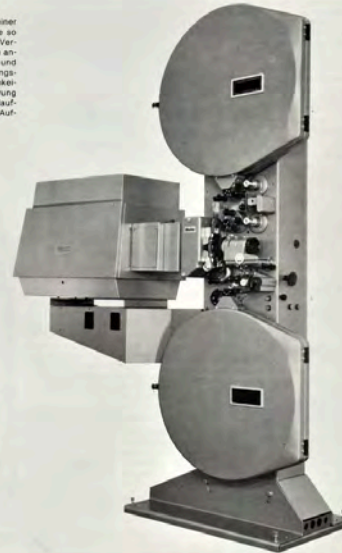


PROJEKTIONSGERÄTE

Kinoton

Projektor FP 20

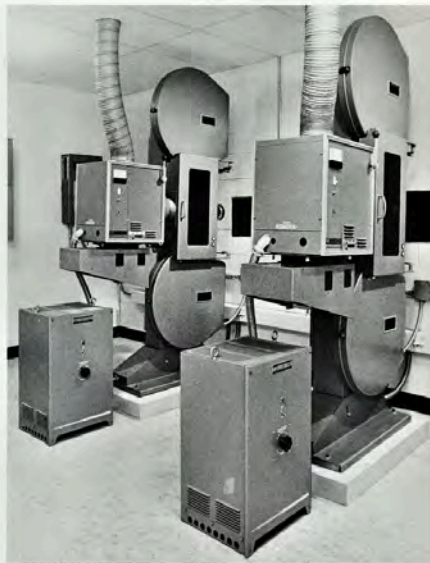
Der 35-mm-Projektor FP 20 ist dank seiner überragenden Konstruktionsmerkmale so universell in seinen Ausrüstungs- und Verwendungsmöglichkeiten wie kaum ein anderer professioneller Tonfilmprojektor und eignet sich somit für jeden Anwendungsbereich. Über die Ausrüstungsmöglichkeiten geben die Prospekte für Fernsteuerung und Automation, Lichtquellen, Rücklaufprojektoren und Kombiprojektoren Aufschluß.



Die hervorragenden Merkmale des Projektors FP 20 sind:

- ausgezeichnete Bildstandgenauigkeit
- optimale Tonabfassung
- hohe Lichtausbeute
- einfache und billige Montage durch Aufbau in Kastenskule
- vereinfachtes Filmeintlegen
- unkomplizierte Bedienung
- bewährte Betriebssicherheit durch höchste Präzision und einfaches Getriebe
- geringe Wartungsansprüche
- universell für jeden Zweck ausrüstbar

KINOTONE FP 20 SERIES 35mm MOTION PICTURE PROJECTOR TYPE LCB0020



The **KINOTONE FP 20** projector contains the latest developments in the field of cinematography... combining maximum performance reliability with exceptional design simplicity. Its principal features include:

- Simple drive mechanism with a minimum of transmissions.
- Easy film threading, few parts on film path
- Framing device of special design
- Minimum maintenance
- Built-in Optical Soundhead. (Four-track Magnetic soundhead also available)
- Outstanding picture steadiness; water-cooled curved film gate
- Suitable for all types of 35mm films
- Easy interchange of projection lenses without re-focusing
- Suitable for all types of arc and Xenon lamps
- Automatic film break switch
- Double speed single-blade shutter provides extremely high light efficiency
- Optional Remote Focus and Remote Framing available
- Equipped with arc lamp bracket
- Built-in changeover

**Adaptable to
automated programming**

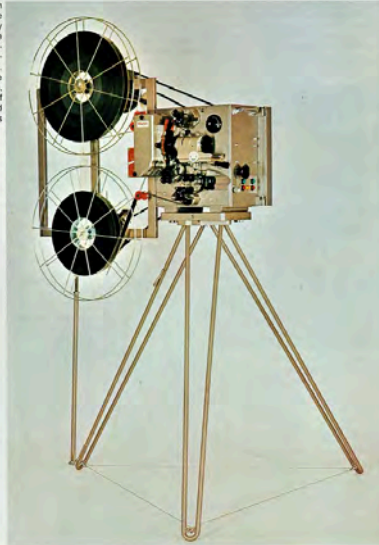
Kinoton



SOUND AND PROJECTION

Projector FP 23

The FP 23 projector, a portable 35 mm cinema equipment, is designed to meet the most demanding performance and quality specifications. It is equally suitable for use as a permanent installation in many applications, such as in studios, shipboard cinemas, small theatres and other installations. The FP 23 projector, developed from the fully proven stationary Kinoton projectors, has all the outstanding characteristics of that mechanism which has given long and reliable operation in thousands of cinemas throughout the world.



- Excellent picture and sound quality
- High reliability
- Excellent light-intensity
- Ease of installation and operation
- Minimal maintenance
- Compact design
- Small dimension and low weight
- Fully tropicalised



**SOUND AND PROJECTION**

Projector FP 23

The FP 23 projector, a portable 35 mm cinema equipment, is designed to meet the most demanding performance and quality specifications. It is equally suitable for use as a permanent installation in many applications, such as in studios, shipboard cinemas, small theatres and other installations. The FP 23 projector, developed from the fully proven FP 20 projector, has all the outstanding characteristics of that mechanism which has given long and reliable operation in hundreds of cinemas throughout the world.



Special features of the FP 23 Projector:

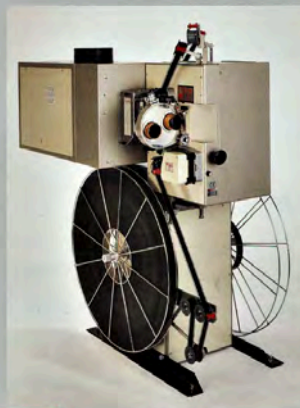
- Excellent picture and sound quality
- High reliability
- Excellent light-intensity
- Ease of installation and operation
- Minimal maintenance
- Compact design
- Small dimension and low weight
- Fully tropicalised

Kinoton





The synthesis of our proven 35 mm projector head, lamphouse and reel tower results in a complete, inexpensive and space saving projection system that guarantees first class presentations.



Projector FP 25 D

Exceptional Versatility:

- ideal for permanent installation as well as outdoor events, premieres, exhibitions and special venues demanding high quality projection
- can be quickly installed and prepared for operation
- just like all Kinoton products: perfectly reliable and virtually maintenance-free

Projector Head:

- excellent picture steadiness and smooth film handling
- simple film guidance, simple operation

Light sources:

- lamp capacity from 700 W to 10,000 W
- optimum light output and distribution

Options:

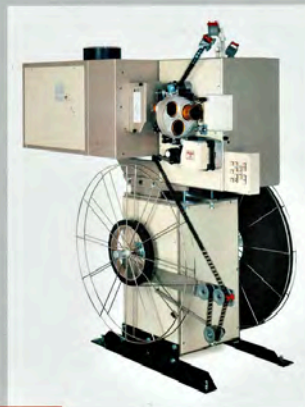
- reel tower:
 - electronically controlled feed and take-up
 - versions for 4000 m (13,000 ft) or 5000 m (16,000 ft) of film
 - quick and easy adjustable speed
 - on-board rewinding with automatic stop
 - low, constant film tension even at high rewind speeds protects the film
- reel rack:
 - with mechanical feed clutch and motorised take-up
 - versions for 4000 m (13,000 ft) or 5000 m (16,000 ft) of film

Kinoton
Cinema and Studio Technology





Der Projektor FP 25 E ist eine komplette, platzsparende und vielseitig einsetzbare Projektionseinrichtung, geeignet sowohl für den stationären Betrieb als auch für mobile Einsätze wie beispielsweise Open-Air-Veranstaltungen. Der patentierte, elektronischen Schaltrollenantrieb anstelle des Malteserkreuzes garantiert eine nicht zu überbietende Projektionsqualität.



Projektor FP 25 E

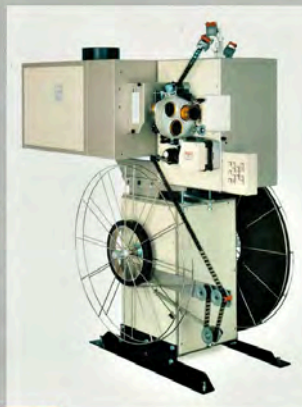
- perfekter Bildstand durch elektronisches Kontrollsystem
 - überragende Bildschärfe und Kontrast
 - hocheffiziente Lichtleistung durch lange Standzeit des Filmbildes im Bildfenster
 - kontinuierliche elektronische Bildstrichverstellung
 - synchronisierte Umlaufblende für hohe Lichtausbeute und einwandfreie Projektion bei unterschiedlichen Projektionsgeschwindigkeiten
 - zahlreiche Ausstattungsmöglichkeiten
 - Lichtleistungen von 700 W bis 10 000 W
 - schnelle Montage und Inbetriebnahme
 - einfache Filmlufthaltung, einfache Bedienung
- wahlweise lieferbar mit:**
- Spulenturm: elektronisch gesteuerte Fraktionen
 - Versionen für 4000 m oder 5000 m Film
 - rasches und einfaches Rückspulen direkt am Projektor - mit regelbarer Geschwindigkeit
 - automatischer Stopp der Rückspuleinrichtung bei Filmende
 - Filmschönung durch konstant geringen Filmzug auch bei hohen Rückspulgeschwindigkeiten
 - wie alle Produkte der Kinoton GmbH äußerst zuverlässig und nahezu wartungsfrei
 - Untergestell: mit mechanischer Abwickelfriction und motorischer Aufwickelfriction
 - für 4000 m oder 5000 m Film

Kinoton
Filmhersteller- und Studientechnik





Le projecteur FP 25 E est un système de projection complet à usages multiples. Il peut être utilisé non seulement en poste fixe mais encore pour des installations mobiles comme des manifestations en plein air. Le mécanisme d'entraînement électronique du tambour remplaçant la croix de Malte mécanique garantit une qualité de projection sans pareil.



Projecteur FP 25 E

- stabilité de l'image parfaite grâce au système de contrôle électronique
- netteté de l'image et contraste exceptionnels
- rendement lumineux élevé grâce à une plus longue exposition de l'image dans la fenêtre de projection
- dispositif de cadrage électronique continu
- obturateur à grande vitesse synchronisé électroniquement offrant un haut rendement lumineux et une projection impeccable à toutes les vitesses
- nombreuses possibilités d'équipement
- source lumineuse pour lampe xénon horizontale de 700 W à 10 000 W
- montage et mise en service rapide
- utilisation facile, chargement du film simple
- comme tous nos produits: extrêmement fiable et presque sans entretien

Variantes disponibles:

- dérouleur vertical:
- frictions réglées électroniquement
- versions pour bobines de 4000 m ou 5000 m
- rembobinage rapide et facile sur le projecteur avec vitesse réglable
- arrêt automatique de l'unité de rembobinage à la fin du film
- protection accrue du film grâce à la faible tension exercée sur celui-ci, même pendant le rembobinage à grande vitesse
- rack
- avec friction débiteur mécanique
- et friction réceptrice motorisée pour bobines de 4000 m ou 5000 m







SOUND AND PROJECTION

Double-purpose
projector FP 26



- Suitable for both 16 mm and 35 mm films
- Separate film tracks for both systems
- Either system can be chosen without need to readjust or interchange any parts
- Direct change-over from 16 mm to 35 mm or vice versa
- Optimal light efficiency for both systems
- Simplicity of operation
- High reliability
- Little space required
- Built-in sound equipment
- Suitable for automatic programming
- Ideal solution for institutes and studio applications

Kinoton



SOUND AND PROJECTION

EMI Pathe

50-54 Beak Street,
London W1R 3DH
Telephone 437 1544
Telex: 22760

A Division of
EMI Film & Theatre Corporation Ltd.

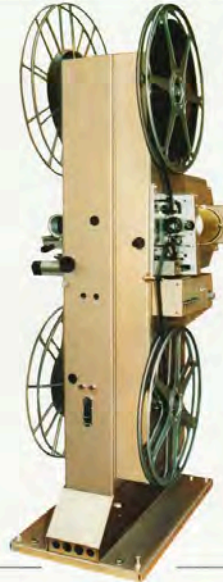
A Member of the EMI Group. International leaders in electric soundtracks and lenses.

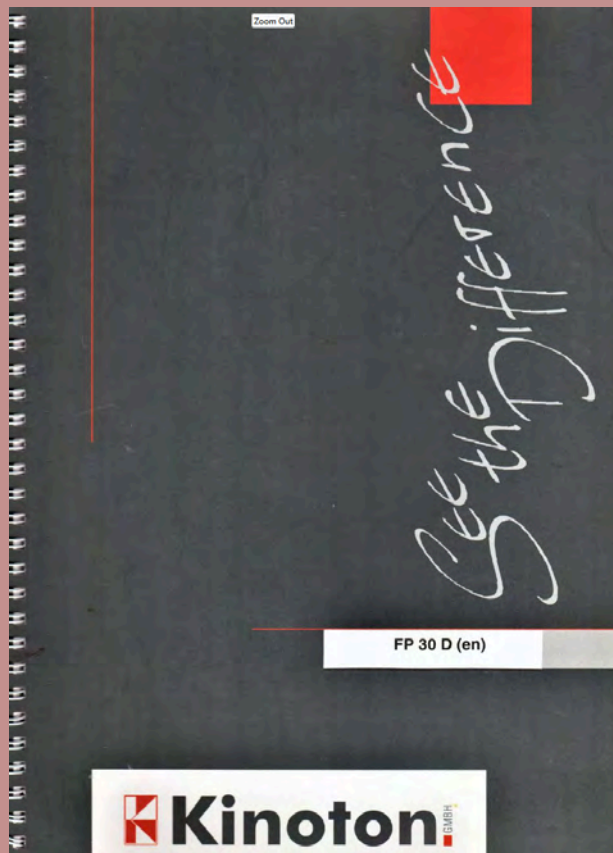
**Dual-Purpose
Projector FP 28**

The FP 28 Projector was developed for use in cinemas, studies and general purpose auditoria where excellent picture and sound quality are stipulated, using either 35 mm or 16 mm film.

In fact this projector combines the features of the famous FP 20 and FP 16 Projectors, the special characteristics of which are described in their respective brochures.

- Suitable for all 35 mm and 16 mm films
- Separate film paths
- Independent drive mechanisms
- No changing-over or readjustment of sprockets, guide rollers etc.
- Optimal light efficiency
- Remote control of all functions
- Simple operation
- High reliability
- Limited space requirement
- Straightforward installation
- Built-in sound equipment







STUDIO

Zoom Out

The E-Q series projectors have been especially designed to meet the extremely high demands for reproduction quality and functionality during inspection and control procedure for positive and negative film materials in printing laboratories, preview rooms and film studios. The flexible electronic drive concept guarantees perfect and optimal projection quality in every respect.



FP 30 E-Q Quality Inspection Projector

- maintenance-free direct electronic sprocket drive instead of a Maltese cross
- perfect picture steadiness through an electronic control system
- excellent focus and contrast
- high optical efficiency due to longer dwell time
- continuously running electronically controlled shutter for increased brightness and flicker free projection at all speeds
- 3 blade shutter (optional)
- STILL FRAME projection (even with large screens) for single frame evaluation with no time limit (colour temperature 5400 K)
- 10 adjustable preset projection speeds (1 - 3 - 6 - 12 - 24 fps in forward and reverse speed) with JOG monitoring switch (optional)
- infinitely variable projection speed (10 - 30 fps) via potentiometer control
- shuttle operation "CONT" up to 100 fps, forward and reverse
- optional display of:
 - projection speed
 - SMPTE time code
 - FRAME counter
- 50 Hz biphase output for controlling other equipment
- continuous remote controllable electronic framing
- electronic reel shafts provide film protection due to constant film tension
- 35 mm reel adapters for 8 mm (or 5/16 in.) and 12.7 mm (1/2 in.)
- remote control panels for projector and auditorium functions (optional)
- just like all Kinoton products: perfectly reliable and virtually maintenance-free

Kinoton
Cinema and Studio Technology



E-mail: welcome@kinoton.de Tel. + 49 (0) 89 / 89 44 46-0 Fax + 49 (0) 89 / 8 40 20 02 Industriestrasse 20a D-82110 Germering



SOUND AND PROJECTION

Kinoton

Projector FP 30

The 35 mm Projector FP 30 is equipped with the thoroughly proven film run mechanism and optical sound device of the internationally renowned FP 20 Projector. In common with the FP 20, it permits excellent quality reproduction of picture and sound. Due to its modular construction, the FP 30 is a self-contained unit ready for immediate operation and also ideal for automation and remote control.

Special features of the FP 30 Projector:

- Universal application due to the range of automation capabilities
- Possibility of updating equipment at anytime using comprehensive, fully compatible accessories.
- Extremely straightforward installation
- Complete factory pre-wiring
- Simple replacement of modules
- Minimal maintenance
- Ease of operation
- Attractive price
- Robust reliability
- Compact floor area, suits even small projection booths





PROJECTION EQUIPMENT

Kinoton

Studio Projector FP 30 EC
Studio Projector FP 38 EC

The studio projectors FP 30 EC for 35 mm film and FP 38 EC for 35 mm and 16 mm film are universally applicable for continuous use and are suitable for all aspects of studio application, such as preview, mixing, post-synchronizing, examination of prints and video scanning.



- Direct electronic sprocket drive
- Constant film tension by micro-processor control
- Excellent picture stability
- High picture illumination
- Maximized shuttle speeds
- Automatic shuttling system
- Master and slave operation
- Control by computer systems
- Remote control



PROJECTION EQUIPMENT

Kinoton

Projector FP 30

The FP 30 35 mm projector meets the most stringent demands all over the world due to its high quality and is noted for its excellent reproduction of picture and sound.



- Universal application due to the range of automation capabilities
- Possibility of updating equipment at anytime using comprehensive, fully compatible accessories
- Ease of operation
- Proven reliability
- Complete factory pre-wiring and testing
- Utmost simplicity of installation
- Minimal maintenance
- Simple replacement modules
- Advantageous price compared with its efficiency
- Long lifetime
- Requires little space
- Possibility of remote control and automation.



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Filmtheater- und Studientechnik

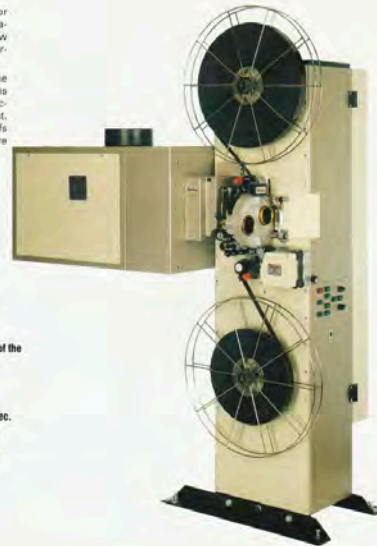
Zoom Out

Electronic Film Projector FP 30 E / FP 38 E

The first projector worldwide for cinema application without the traditional Maltese cross sets a new standard for picture perfect performance.

The electronic sprocket drive of the projectors FP 30 E and FP 38 E is precisely designed to optimize picture steadiness, focus and contrast. An advantage which clearly proves itself, especially with the move towards larger screens.

- direct electronic sprocket drive
- unprecedented picture steadiness provided by electronic control
- excellent focus, contrast and light efficiency due to longer dwell time of the picture in frame
- versions for continuous reverse running with 100 frames / sec.
- versions for additional continuous forward running with 100 frames / sec.
- electronic framing device included
- processor controlled electronic friction with constant film tension
- configured for all Kinoton automation systems
- remote control of projector functions available
- capable of MASTER performing in synchronous operation



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Zoom Out

Kinoton

SOUND AND PROJECTION

EMI Pathe

50-54 Beak Street,
London W1R 3DH
Telephone 437 1544
Telex: 22760

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EMI Film & Theatre Corporation Ltd.

A Member of the EMI Group. International trading in music, electronics and theatre.

35 mm Projector FP 30 Studio
FP 30 Studio Double Band
FP 30 Telecine

The FP 30 Studio Projector is basically identical to the FP 30 Telecine Projector. The former has been specially designed for use as a universal studio projector in all aspects of studio application, such as previews, mixing, post-synchronizing and scanning for television transmission. This projector is provided with a special Matese Cross intermittent mechanism which permits the intermittent sprocket to be driven continuously for highspeed film travel. The projector ensures true-to-life projection of optimally illuminated, absolutely steady pictures of required size. The capability of rapidly advancing or rewinding any part of the film greatly facilitates quick location of a scene or frame. Projector maintenance is reduced to a minimum; operation is very straightforward. The film transport mechanism has unambiguously proved its merits in the famous FP 20 and FP 30 Projectors.



- Professional high precision equipment
- Facility for projection during inching
- Single frame projection
- 24 frames per second
- 25 frames per second, mains synchronized
- Adjustable high speed film travel up to 120 frames per second at uniform speed
- Forward and reverse film running
- Electronic control equipment using C-MOS technique
- Compatibility with all types of sound equipment



[Zoom In](#)

Kinoton



SOUND AND PROJECTION

Projector FP 30

The 35 mm Projector FP 30 is equipped with the thoroughly-proven film-run mechanism and optical sound device of the internationally renowned FP 20 Projector. In common with the FP 20, it permits excellent quality reproduction of picture and sound. Due to its modular construction, the FP 30 is a self-contained unit ready for immediate operation and also ideal for automation and remote control.



Special features of the FP 30 Projector:

- Universal application due to the range of automation capabilities
- Possibility of updating equipment at anytime using comprehensive, fully compatible accessories.
- Extremely straightforward installation
- Complete factory pre-wiring
- Simple replacement of modules
- Minimal maintenance
- Ease of operation
- Attractive price
- Robust reliability
- Compact floor area, suits even small projection booths

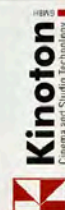


Quality and reliability have made Kinoton's high-speed projectors the standard in the world's most important studios. Their versatility enables use in all studio applications: mixing, post production, preview, print QC, and video scanning.



Studio Projectors FP 30 EC II / FP 38 EC II

- maintenance-free electronic sprocket drive
- perfect picture steadiness due to electronic compensation of mechanical tolerances
- excellent focus and contrast
- projection speeds from 1 up to 40 fps
- continuously running, electronically controlled shutter for increased brightness and flicker-free projection at all speeds
 - virtual 3-wing shutter up to 21 fps
 - 2-wing shutter above 22 fps
- shuttle operation up to 400 fps (16 mm) / 300 fps (35 mm)
- microprocessor controlled film-core shafts with switchable rotation direction
- film protection due to constant film tension at any winding diameter
- reverse scan sound device for DOLBY A, DOLBY SR and DOLBY DIGITAL with switchable flywheel pre-acceleration
- high optical efficiency
- automatic shuttling system
- shift (offset) function in slave mode
- zero location
- fully controllable by computer systems
- simple, inexpensive optional video scanning due to electronically synchronized shutter
- available remote control
- FP 38 EC II: simple, quick change of formats (16/35)
- can be used as biphase master and slave
- user-configurable software
- robust and reliable





Due to its patented, micro-processor controlled drive the FP 30 E 35 mm projector sets new standards for optimum picture quality:

- perfect picture steadiness
- unsurpassed focus
- excellent contrast
- high optical efficiency

The E series projectors have proven their reliability in hundreds of theatres all over the world.

Zoom Out



Electronic Film Projector FP 30 E

- patented direct electronic drive
- optimum picture steadiness due to software correction of mechanical tolerances
- excellent focus and contrast
- high optical efficiency due to longer picture dwell time
- continuous electronic framing
- continuous running electronically controlled shutter for increased brightness and flicker-free projection at all speeds
- optional electronic reel shafts provide film protection due to constant film tension at any winding diameter
- simple, inexpensive optional video scanning due to electronically synchronized shutter
- many equipment options
- lamp capacity from 700 W to 10.000 W
- suitable for all Kinoton automation systems
- available remote control of projector functions
- can be used as biphas master in synchronous operation
- special versions for through-the-gate rewind
- completely wired and tested for quick installation
- easy film guidance, simple operation
- absolutely reliable, safe and virtually maintenance-free





The E-Q series projectors have been especially designed to meet the extremely high demands for reproduction quality and functionality during inspection and control procedure for positive and negative film materials in printing laboratories, preview rooms and film studios. The flexible electronic drive concept guarantees perfect and optimal projection quality in every respect.



FP 30 E-Q Quality Inspection Projector

- maintenance-free direct electronic sprocket drive instead of a Maltese cross
- perfect picture steadiness through an electronic control system
- excellent focus and contrast
- high optical efficiency due to longer dwell time
- continuously running electronically controlled shutter for increased brightness and flicker-free projection at all speeds
- 3 blade shutter (optional)
- STILL FRAME projection (even with large screens) for single frame-evaluation with no time limit (colour temperature 5400 K)
- 10 adjustable preset projection speeds (1 - 3 - 6 - 12 - 24 fps in forward and reverse speed) with JOG monitoring switch (optional)
- infinitely variable projection speed (10 - 30 fps) via potentiometer control
- shuttle operation "CONT" up to 100 fps, forward and reverse
- optional display of: projection speed SMPTE time code FRAME counter
- 50 Hz biphase output for controlling other equipment
- continuous remote-controllable electronic framing
- electronic reel shafts provide film protection due to constant film-tension
- 35 mm reel adapters for 9 mm (or 5/16 in.) and 12.7 mm (1/2 in.)
- remote control panels for projector and auditorium functions (optional)
- just like all Kinoton products: perfectly reliable and virtually maintenance-free





Since its introduction more than 25 years ago the FP 30 D 35 mm projector with its classic high-precision maltese cross has been in operation countless hours all over the world. It owes its excellent reputation to its high projection quality, its outstanding reliability and its long life while being almost maintenance-free.

Zoom Out



Projector FP 30 D

- picture steadiness exceeds required SMPTE standard
- curved film gate for optimum focus, even with the most difficult film stock
- vibration-free drive due to directly coupled sync motor - very smooth running
- safe, precise film transport
- easy film guidance, simple operation
- film transport: switchable between 24 fps and 25 fps (standard)
- available remote control
- can be used with all Kinoton automation systems
- needs little space
- quick installation and start-up
- components can be easily exchanged
- just like all Kinoton products: perfectly reliable and virtually maintenance-free

Kinoton
Cinema and Studio Technology







PROJECTION EQUIPMENT

Variosync Projector

The Variosync series of projectors are special versions of the well known Kinoton 18 mm, 35 mm and 70 mm projectors. They are available for the following film formats:

FP 30 Variosync (35 mm)
 FP 18 Variosync (18 mm)
 FP 38 Variosync (35/18 mm)
 DP 75 Variosync (70/35 mm)



- Universal application
- Master/Slave operation
- Ease of maintenance
- Proven reliability
- Simple installation
- Torque motor reel drive
- Microprocessor controlled
- Preselection of projection speeds
- Speed indication
- Synchronous coupling acc. to DIN 15573 part 2
- Various remote control options





PROJECTION EQUIPMENT

Dual-purpose projector FP 38

The FP 38 is a dual-purpose projector for 35 mm and 16 mm films which satisfies the most stringent demands as regards the reproduction of picture and sound, thus being a good match for the famous FP 30 projector. The FP 38 projector may actually be considered as a combination of the established projectors FP 20 for 35 mm films and FP 18 for 16 mm films. It is suitable for use in cinema theatres, in studio and in multi-purpose auditoriums.



- universally suitable for all 35 mm and 16 mm films
- built-in amplifying equipment
- completely wired – most easily to be installed
- simple maintenance – simplicity of operation
- long life
- modest space requirements
- possibility of automation of all functions
- professional construction



The dual-format FP 38 E projector for 35 mm, 16 mm and Super 16 films is the right choice whenever the best reproduction quality is important. The patented electronic drive guarantees:

- perfect picture steadiness
- unsurpassed focus
- excellent contrast
- high optical efficiency



Electronic Film Projector FP 38 E

- patented direct electronic drive
- optimum picture steadiness due to software correction of mechanical tolerances
- excellent focus and contrast
- high optical efficiency due to longer picture dwell time
- continuous electronic framing device
- continuous running electronically controlled shutter for increased brightness and flicker-free projection at all speeds
- electronic reel shafts provide film protection due to constant film tension at any winding diameter
- simple, inexpensive optional video scanning due to electronically synchronized shutter
- many equipment options
- lamp capacity from 700 W to 10.000 W
- suitable for all Kinoton automation systems
- available remote control of projector functions
- can be used as biphasic master in synchronous operation
- special versions for through-the-gate rewind
- completely wired and tested for quick installation
- easy film guidance, simple operation
- quick change of formats
- absolutely reliable, safe and virtually maintenance-free

Kinoton



The FP 50 D projector is a complete and inexpensive projection unit with integrated xenon unit, highly efficient cooling system and rectifier. Just like all Kinoton projectors and light sources, the remarkable features of this projector are high quality and excellent light intensity.



Console Projector FP 50 D

PK 50 D projector head:

- excellent picture steadiness exceeding SMPTE standards
- curved film gate for optimum focus, even with the most difficult film stock
- safe, precise film transport
- very smooth vibration-free drive due to directly coupled sync motor
- film transport: switchable between 24 fps and 25 fps (standard)
- easy film guidance, simple operation

SK 50 console:

- minimum space requirement due to compact construction
- many equipment options
- quick, simple and therefore inexpensive installation
- quick replacement of components

Xenon unit:

- excellent light intensity and distribution for xenon lamps from 1.000 W up to 7000 W
- simple lamp replacement, simple adjustment
- long lamp life
- safe automatic ignition system
- just like all Kinoton products, the FP 50 D console projector is perfectly reliable and virtually maintenance-free



The PK 60 E projector head sets new standards with its patented electronic intermittent: perfect picture steadiness, perfect focus and contrast.



Projector Head PK 60 E

- perfect picture steadiness due to electronic control system
- excellent focus and contrast
- high optical efficiency due to longer dwell time of the picture in aperture
- continuous electronic framing device
- synchronous running electronically controlled shutter for increased brightness and flicker-free projection at all speeds
- mounts to all standard consoles and accepts different cue detectors and reel arms
- curved film gate for optimum focus, even with the most difficult film stock
- safe and precise film transport
- easy connection to any automation or ancillary equipment
- electronic interlock available
- operates from American or European electric supply
- easy access to all components
- quick installation and easy operation
- just like all Kinoton products: perfectly reliable and virtually maintenance-free





Our SP series projectors were especially developed for the extreme requirements of special and large format projection. The electronic drive concept ensures optimum projection quality in every respect.



Special Format Projectors SP 75 E

- perfect picture steadiness due to electronic control system
- excellent focus and contrast
- high optical efficiency due to longer picture dwell time
- maintenance-free electronic sprocket drive instead of a maltese cross
- continuous electronic framing
- electronic focus adjustment
- electronically controlled reel shafts for gentle, constant film tension
- continuous running electronically controlled shutters for increased brightness and flicker-free projection at all speeds
- light capacity up to 10,000 W
- programmable projection speeds, 60 fps max.
- through the gate rewind at 100 fps max. with electrical skate filling
- special versions for 180° and 360° dome projection
- interlock for 3D and multi-screen projection
- biphasic synchronous interlock (master output)
- remote control of projector and auditorium functions
- complete automation of projector and auditorium functions available
- just like all Kinoton products: perfectly reliable and virtually maintenance-free



[Zoom Out](#)

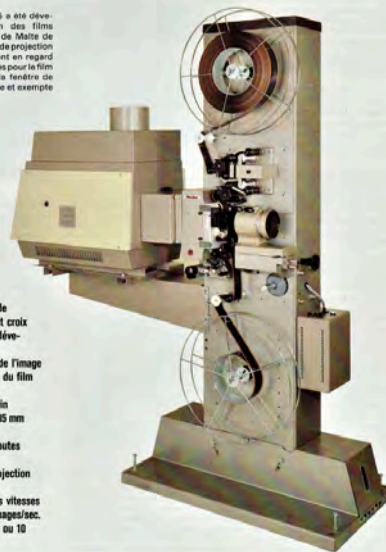
Kinoton



SON ET PROJECTION

Projecteur DP 75

Le projecteur universel DP 75 a été développé pour la reproduction des films 35 mm et 70 mm. La croix de Malte de haute qualité et le mécanisme de projection ont été construits spécialement en regard des critères mécaniques, exigés pour le film 70 mm. La construction de la fenêtre de l'image assure un image stable et exempte de pompage.



- Conception en colonne rigide
- Mécanisme de projection et croix de Malte particulièrement développés pour le film 70 mm
- Construction de la fenêtre de l'image supprimant toute distortion du film due à la chaleur
- Glissières et patins en Dextrin
- Conversion rapide du film 35 mm au film 70 mm
- Remplacement simple de toutes les pièces
- Versions spéciales pour projection 180° et 360°
- Versions spéciales pour des vitesses de projection jusqu'à 60 images/sec. ainsi que pour un pas de 8 ou 10 perforations

[Contents](#)

Kinoton

[Home](#)





Especially developed for the demanding requirements of 70 mm projection, this 2-format-projector is an uncompromising solution for optimum projection quality, robust construction and reliability.

Zoom Out



Electronic Film Projector FP 75 E

- perfect picture steadiness due to electronic control system
- excellent focus and contrast
- high optical efficiency due to longer dwell time of the picture in aperture
- combined film path for 35 mm and 70 mm film
- quick and simple change of formats
- maintenance-free electronic sprocket drive instead of a maltese cross
- continuous electronic framing device
- electronically controlled reel shafts for gentle, constant film tension
- continuous running counter-rotating electronically controlled shutters for increased brightness and flicker-free projection at all speeds
- lamp capacity up to 10.000 W
- 2 programmable projection speeds
- optional shuttle mode up to 100 fps forward and reverse
- available biphasic synchronous interlock (master output)
- remote control and automation of projector and auditorium functions
- just like all Kinoton products: perfectly reliable and virtually maintenance-free



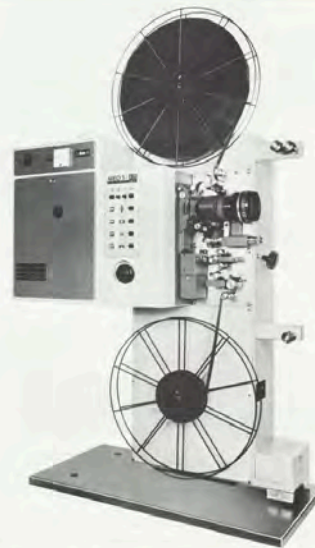


PROJECTION EQUIPMENT

Kinoton

Projector MEO 5X

The MEO 5X is a compact 35 mm projector of modern construction. It is possible to use only one projector for solo operation or to combine two of them for changing-over application. It has been so wired that it is directly suitable for both modes of operation. The projector is supplied with an attached xenon lamp house.



- excellent picture and sound quality
- simple installation due to the way in which its housing is designed
- remarkably low price
- simple operation and maintenance
- high luminous efficiency by using a single-blade shutter and a horizontally mounted xenon lamp
- possibility of rewinding the film by the projector
- electrically controlled take-up and take-off devices

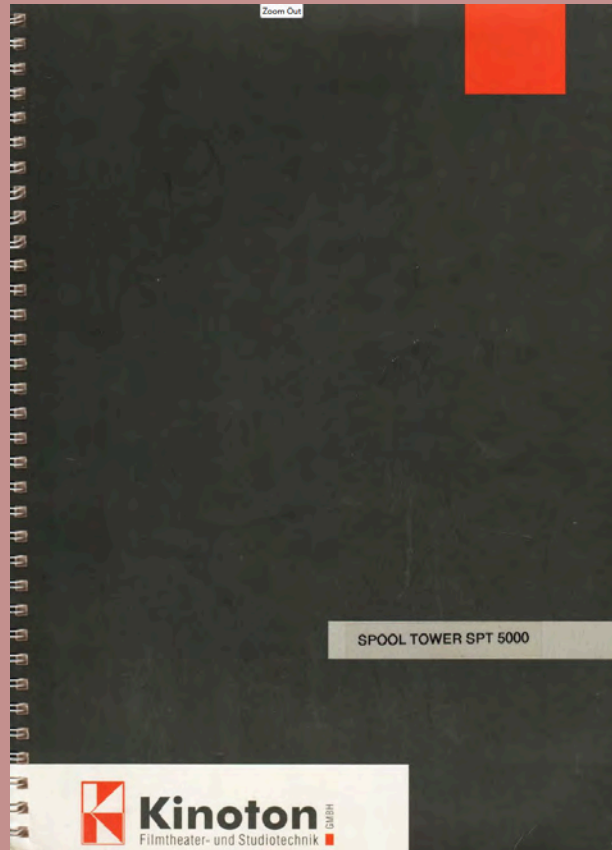
Kinoton



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Kinoton





The SPT 5000 spool tower is a stable and robust device for film reels containing up to 5000 m (17,000 ft) of film (running time: approx. 3 hours).

The electronically controlled friction motors guarantee a constant, low film tension at any diameter and therefore minimum wear and tear on the film.

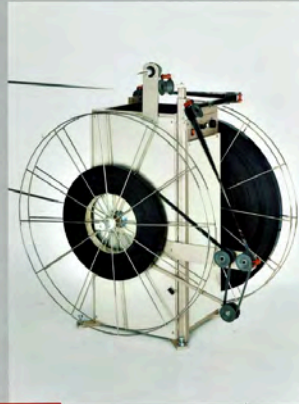


Spool Tower SPT 5000

- high, infinitely variable rewind speed (15 min. for 5000 m / 17,000 ft at maximum speed)
- automatic stop after rewind
- built-in workplace for splicing
- shaft adapter for 600 m (2,000 ft) split reels
- robust frame
- available in right-hand or left-hand versions
- sets of guide rollers available for different locations and distances from the projector
- easy installation and operation
- suitable for all projectors
- just like all Kinoton products: perfectly reliable and virtually maintenance-free



The stable and robust SPT 5000 K spool tower was developed for booths with limited height and little space. As both reels (5000 m/17,000 ft—running time: approx. 3 hours) are mounted directly above the floor, the work of handling the large, heavy reels is a lot easier.

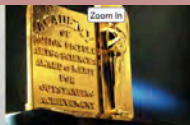


Spool Tower SPT 5000 K

- high, infinitely variable rewind speed (15 min. for 5000 m/17,000 ft at maximum speed)
- electronically controlled reel motors for constant, low film tension—for minimum film wear and tear
- automatic stop after rewind
- work surface to make up and tear down film prints
- shaft adapter for 600 m (2,000 ft) split reels
- robust frame
- available in right-hand or left-hand versions
- easy installation and operation
- suitable for all projectors
- just like all Kinoton products: perfectly reliable and virtually maintenance-free



Kinoton was awarded the technical Oscar for the invention of the first non-rewind system in the 60s. What was pioneering then is standard in projection rooms all over the world now and has been proven a thousand times.



- very easy to use thanks to electronic control and regulating units
- make-up and tear-down of film print on every disc
- absolutely reliable and safe function with any film material, independent of thickness, film material and age of the film print
- automatic recognition of the take-up and feed-out disc
- quick make-up and tear-down of prints

- film-friendly operation
- engineered for maintenance-free performance
- easy installation and operation
- suitable for all projector types
- 35 mm versions from 2 to 5 discs
- 35 mm and 70 mm film version
- versions for special formats (5 - 10 perf)

Discs available in 2 sizes:

- disc 124 cm (49 in) Ø:
film capacity 5600 m (18,600 ft)
(thickness of film 0.17 mm),
running time 3.4 hours
film capacity 5900 m (19,600 ft)
(thickness of film 0.16 mm),
running time 3.6 hours
- disc 132 cm (52 in) Ø:
film capacity 6500 m (21,600 ft)
(thickness of film 0.17 mm),
running time 4 hours
film capacity 6900 m (23,000 ft)
(thickness of film 0.16 mm),
running time 4.2 hours

ST 100 E - ST 500 E Non-Rewind-Systems





Dérouleuse sans fin ST 2000

Le dérouleur sans fin ST 2000 est idéal pour les cinémas, les expositions et pour toutes les manifestations où des projections entièrement automatiques, sans rechargement du film, sont exigées.

- usure minimale du film
- déroulement du programme entièrement automatique
- utilisable avec tous les types de projecteurs
- capacité de 5000 m de film
- entraînement du plateau contrôlé électroniquement
- approprié à chaque matériel de film
- utilisation facile
- sûr et fiable





Kinoton has developed a number of make-up and rewind tables for easy, quick film handling. When assembling and breaking down film prints these flexible tables have proven to be an indispensable aid to many theatres. Useful and time-saving accessories facilitate routine work.



MT 2000
with Accessories

Make-up and Rewind Tables

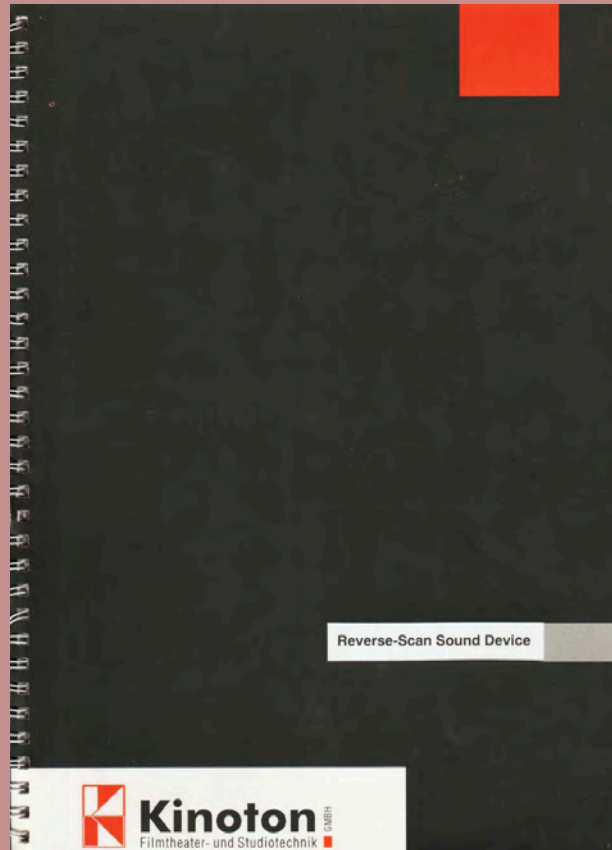
- fast make-up and tear-down speeds
- microprocessor controlled drive system for minimum film wear and breakage
- rotation direction of each shaft can be reversed
- variable make-up and tear-down speed
- automatic film run-out shut-off
- accepts cores and film reels
- robust steel frame with solid work surface
- lockable wheels
- dual gauge version for 35 mm and 70 mm film



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Kinoton



With the EMK1 automation system any show can be easily and reliably controlled. It is ideal to manage and store a large number of both preset and field programmable functions.



- very easy operation - program unit on the projector
- clear operating panel: display of the whole preset program at a glance
- 6 complete programs storable
- 16 steps with up to 20 standard functions per step
- user programmable functions also
- sound format and volume display
- volume preadjustment for sound
- three-step adjustment of the auditorium lights
- adjustable time delay between functions
- show start clock
- interlock operation
- safety circuit in the rare event of film break or failure of xenon lamp
- preset program can be manually changed any time
- available in a projector mounted version or for wall mounting
- serial interface to control external devices

System accessories:

- RP4 remote control panel
- SP6 and SP10 status panels
- software for program and storage via PC (can be upgraded)

Electronic Automation System EMK1



Kinoton




Das Computer-Automations-system ASK 1 ist unentbehrlich in großen Kino-Centern und Multiplexen, um mit geringstem Zeitaufwand sämtliche Vorstellungen eines Komplexes zentral von einem Personalcomputer aus zu programmieren, zu steuern und zu überwachen.




- Programmierung des Vorstellungslaufes an zentralem PC für alle Säle
- Windows-Oberfläche und übersichtliche Benutzerschnitt
- Individuelle, kundenspezifische Software-Anpassungen möglich
- Statusanzeigen und Fehlermeldungen an mehreren Monitorstandorten abrufbar
- 20 Programmschritte mit bis zu 27 Standardfunktionen
- beliebig viele Vorstellungsläufe am PC programmieren, speichern und abrufen
- Speicherung der Daten in der SPS-Steuerung des Projektors und auf PC-Festplatte
- kein Datenverlust bei Ausschalten des PCs oder des Projektors
- Programm-Ablaufsteuerung über SPS-Einheit des Projektors
- manuelle Steuerung der Vorstellung jederzeit möglich
- problemloser Saalwechsel ohne zusätzlichen Programmieraufwand
- Sicherheit durch umfangreiches Anzeigee- und Überwachungssystem
- Fehlerprotokolle
- Lautstärke-Voreinstellung für die Tonausgänge
- stufenlos einstellbare Helligkeit des Saallichtes
- Soundkarten-Unterstützung für Alarm
- beliebige und einfache Zuordnung von Projektor / Saal für Interlockbetrieb

Computer-Automationsystem ASK 1



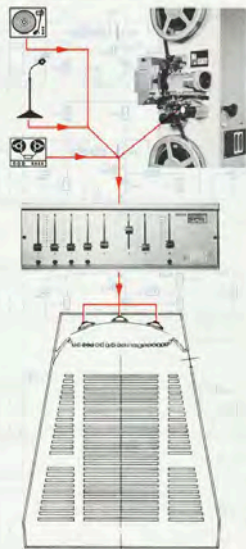




PROJECTION EQUIPMENT

Amplifiers

Every visitor in a cinema theatre expects rightly that all efforts have been made to ensure a good sound transmission, a good intelligibility and a faithful reproduction of music. The main component of an electro-acoustical installation that satisfies all requirements, is a high-quality amplifier that is adapted to the size and acoustical properties of the auditorium. In our amplifier programme, based on the familiar SQ 4 series of Philips amplifiers, the correct amplifier is available for every cinema theatre.



- the correct amplifier for every cinema theatre
- high-quality reproduction of music and speech
- linear frequency response curve
- high signal-to-noise ratio, low harmonic distortion
- designed for continuous operation, high reliability
- possibility of connecting all film systems and many external sound sources
- service requiring a minimum of effort by the use of insertable printed boards
- great simplicity of operation or remote control



Zoom Out

Unsere Verstärker-Anlagen werden höchsten Anforderungen an die moderne Audio-Technik in Film-theatern und Studios gerecht. Für hohe Zuverlässigkeit und Betriebssicherheit sowie erst-klassige Tonwiedergabe ver-wenden wir ausschließlich hochwertige Komponenten und Baugruppen namhafter Hersteller.

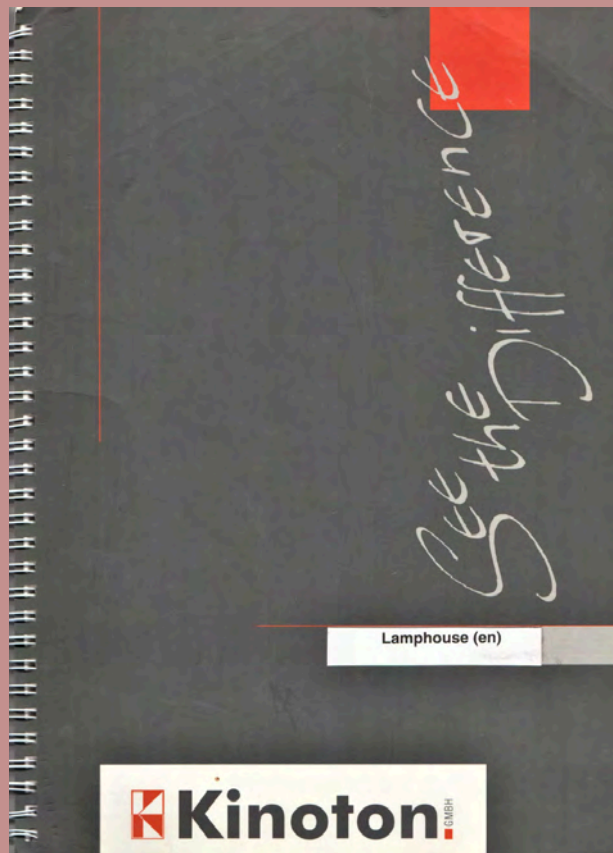


Verstärker-Anlagen

- geeignet für alle Tonformate:
Lichtton: Mono, DOLBY A,
DOLBY SR
Digitalton: DOLBY, DTS, SONY
Magnellon
- massive Systemschränke in 19"-
Bauweise 34 HE und 43 HE
- projektspezifische
Zusammenstellung geeigneter
Komponenten, auf Wunsch mit
THX-Zulassung
- Anschlüsse für externe Geräte wie
CD-Player, Mikrofone etc.
- Anlagen komplett montiert,
verdrahtet und werkgeprüft
- geringer Montageaufwand vor Ort
- einfache Bedienung
- geeignet für vollautomatischen
Programmablauf
- Fernsteuerung der Lautstärke
möglich
- Komponenten im Service-Fall von
allen Seiten bequem zugänglich



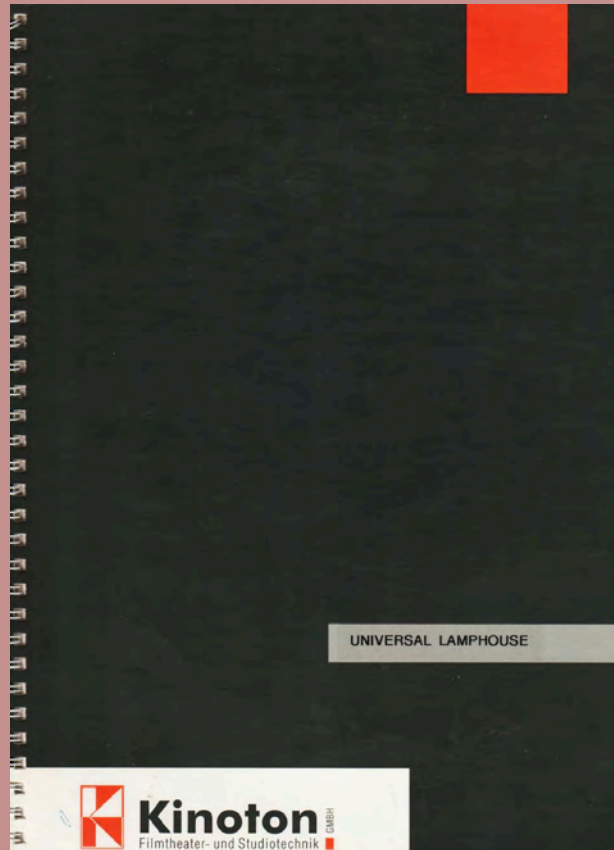
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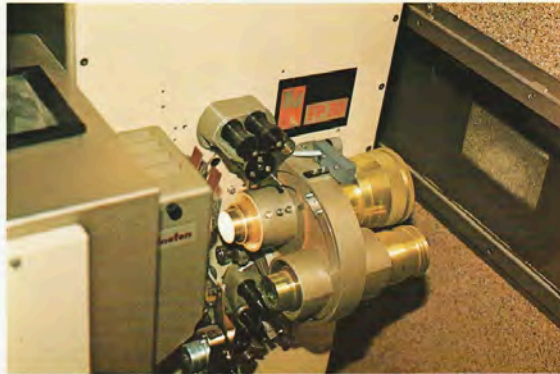
PROJECTION EQUIPMENT

Kinoton

Light sources

The answer to the question which light sources should be used for the projection, depends from case on the picture dimensions, on the reflection factor of the screen and on economical arguments. Appropriate light sources are available for all purposes. Originally our lamp houses were designed for our own extensive programme of projectors, but nowadays they are frequently being used with excellent results also as light sources for projectors of other types of projector.

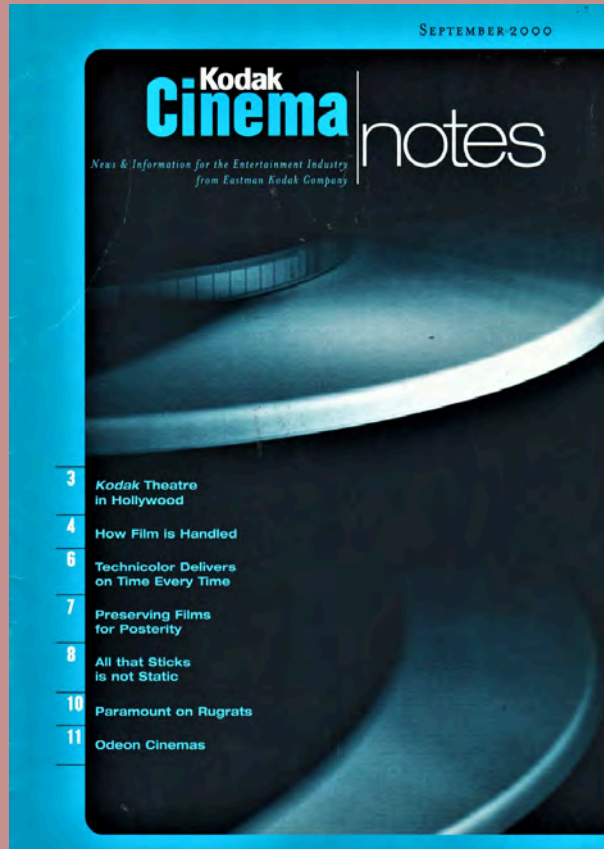
- the adequate light source for any picture size
- optimal luminous efficiency
- osim-free xenon lamps
- the use of a "cold" mirror prevents the film from being exposed to excessive temperatures, even at a large light output
- the operation is controlled fully automatically by the projector
- many possibilities of adaption to a great diversity of projectors



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Kodak

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KODAK PROJECTION TIPS

Recent field experience has provided some useful tips for successful projection of motion picture colour, and black and white prints. These tips reinforce existing guidelines, and will reduce problems and concerns in projection boxes.

PROJECTION BOX

1. **The correct alignment and maintenance** of all rollers and guides in the film path is critical to trouble-free projection. Regular checks to ensure all rollers are free-running, and clean are essential. Should this be neglected it can result in wear, damaging the film edges and perforations, which will cause dirt, unsteadiness and even film breaks.
2. **Ensure that the ambient relative humidity (RH)** is in the range 50-60%. *(This can be measured with a hand-held meter, available from High Street electronic stores.)* Projection boxes with a lower RH may experience static cling, excessive curl, focus flutter, unsteadiness, and/or excessive projection noise. **Note:** *excessive curl may cause winding difficulties.*
3. **Film platters with non-conductive surfaces** require treatment with antistatic solution to avoid static build-up. This will reduce static cling, leading to 'brain-wrap' and film breaks in serious cases, especially if the RH is also low (see para. 2. above).
4. **Conductive PTR film cleaning rollers** should be used. Regular cleaning of the PTR rollers should be carried out to remove dirt build up on the rollers.
5. Tension-sensing fail-safe devices should be used when projecting polyester prints. This will avoid equipment damage as polyester film will not break before equipment damage has occurred.

OPERATIONS

1. **Black and white prints will always need lubrication.** The correct procedure for applying a wax to lubricate the print is shown overleaf.
2. **Splices should be butt joined,** overlapping the film or wrapping the tape around the film splice will cause problems.
3. **Colour prints may also benefit from waxing** if they are noisy, unsteady, or produce more dusting. **Note:** *It is important to check that all equipment is correctly aligned and maintained. Also check under these circumstances, that the ambient RH is 50-60%.*



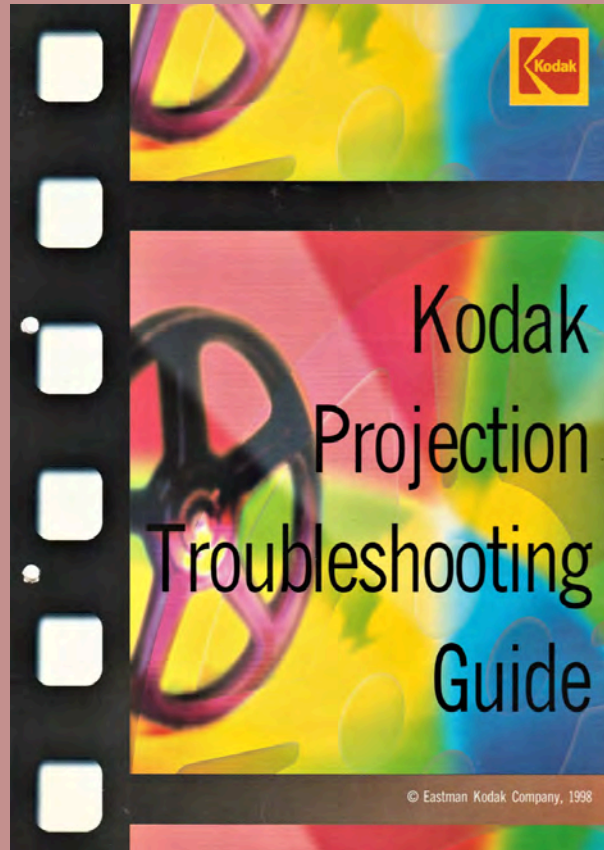
**Professional
Motion Imaging**

Issued June 1998 by Professional Motion Imaging.
Kodak Limited, P.O. Box 66, Hemel Hempstead, HERTS. HP1 1JJ.
Tel: 01442 261122 Fax: 01442 844987

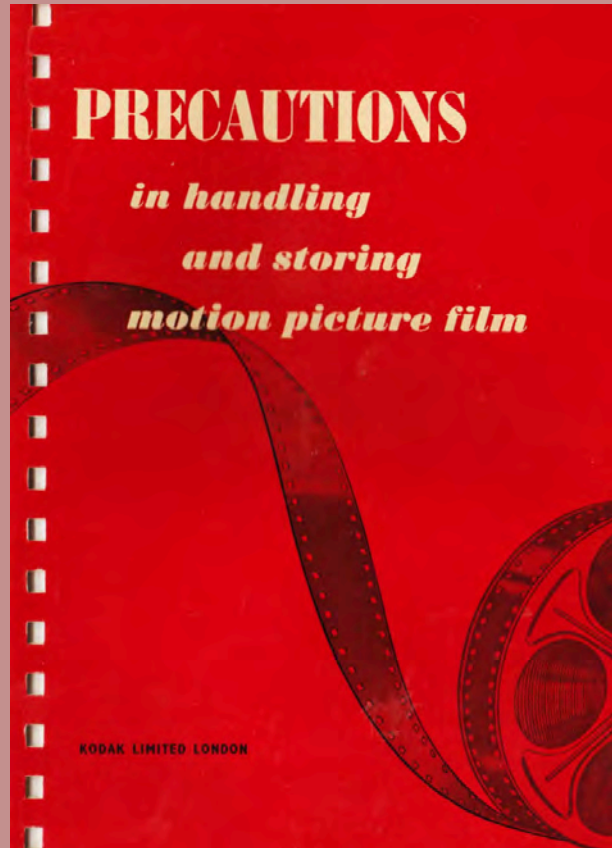
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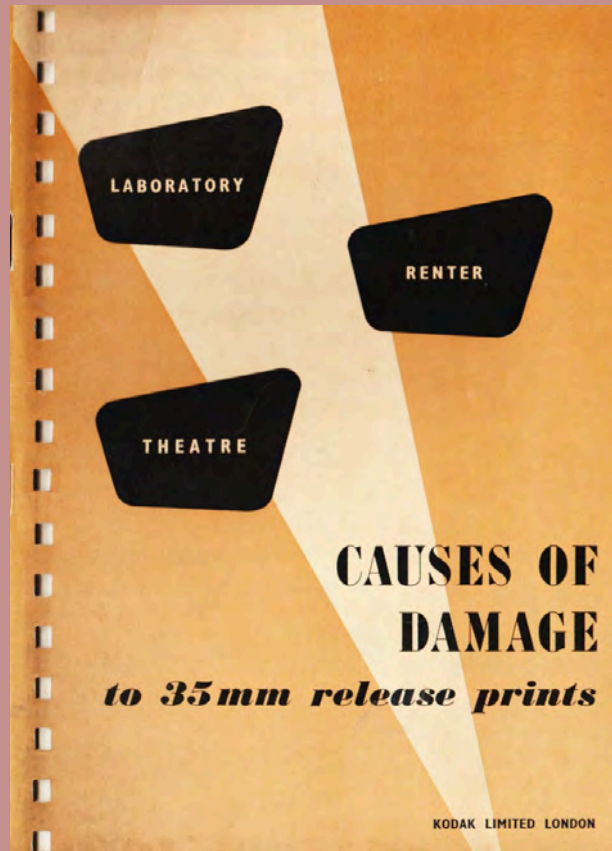
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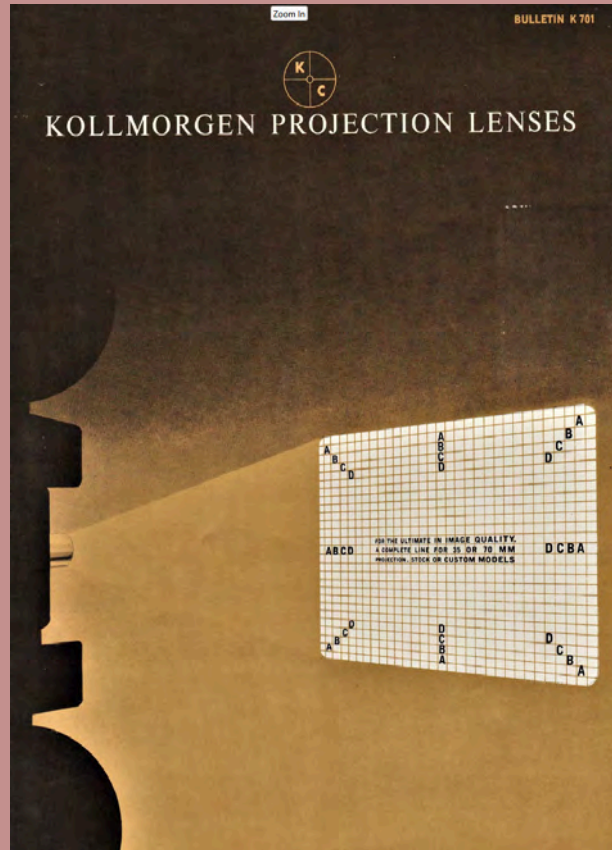








Kollmorgen



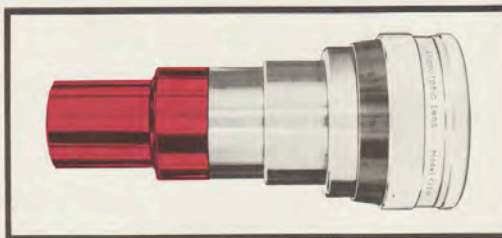
Kollmorgen

B247 REGAL LENS FOR ANAMORPHIC BACKUP

Specification Sheet
K2-90

KOLLMORGEN

Theatre
Equipment



DESCRIPTION

The new Regal B247 is a new concept in a projection lens for anamorphic presentation. A new optical assembly design provides greater focus stability in the center, where it is required. This 6-element lens is manufactured in focal lengths from 3.50 to 4.75 in standard quarter-inch steps.

FEATURES

IMPROVED FOCUS STABILITY: This lens provides the projected image with greater center focus stability, decreasing the need for frequent focusing.

CONTROLLED BRIGHTNESS: This versatile lens, when used for anamorphic presentation, can be mated with a standard f/1.9 lens for the 1.85 format presentation, for matched brightness, between the two formats in the same theatre.

PREMIUM CONTRAST: Contrast is not only maintained, but improved by the new optical assembly.

HIGH LIGHT DISTRIBUTION: The large rear aperture allows maximum input from the light source. Lens speed in the center of the format has been reduced to f/2.1. This reduced speed plus substantially faster edge light provides improved screen distribution. For example, brightness readings with an anamorphic lens with a standard backup lens yielded 60% distribution while the Regal lens of the same focal length gave 80% without changing lamp settings, and without loss in contrast.

50 Years of Image Quality



KOLLMORGEN
CORPORATION
ELECTRO-OPTICAL DIVISION
NORTHAMPTON, MASSACHUSETTS 01060

Kollmorgen



The Ultimate in Long-Throw Projection

THE 4 INCH DIAMETER SUPER-SNAPLITE

with speed of

f/1.9


from 5 through 7 inch focal lengths

- **MORE LIGHT** . . . the four inch diameter Super Snaplite gives you an $f/1.9$ lens in focal lengths as long as 7 inches!
- **SHARPER PICTURES** . . . a true anastigmat lens for longer throws — the four inch diameter Super Snaplite gives wide-sharp pictures right to the very corners!
- **HIGHER CONTRAST** . . . anti-reflection coatings further enhance the brilliant, crisp, sparkling pictures projected by the four inch diameter Super Snaplite!
- **LONG LIFE** . . . one piece mount, specially sealed lens elements, anodized finish that can't flake off — all spell longer top-notch performance for the four inch diameter Super Snaplite!

Kollmorgen



Focus Control with MONETTE VIEWING SCOPE and BRACKET



MONETTE VIEWING SCOPE and BRACKET
Catalog No. AX 270
LIST PRICE
\$62.00
F.O.B. PLANT

DISCOUNT 4% OFF LIST PRICE

MONETTE VIEWING SCOPE WITH BRACKET

OBSERVATION PORTS

4 KOLLMORGEN PRODUCT

No more guessing "is it in focus?" Look through your VIEWSCOPE while focusing your projector — you'll know exactly what you're getting "on-the-screen." The Monette Viewing Scope is a precision optical instrument; an 8x prism scope. The Monette Viewing Scope is compact, offers convenient one hand focusing and has a wide field. Coated optics throughout.

INSTALLATION

1. Mount the MOUNTING BRACKET on the inside wall of the projection booth. Fasten clamp assembly should clear edge of observation port by 3".
2. Lock both adjusting wing nuts.
3. Loosen mount clamp band by turning (1) counter-clockwise.
4. Insert MONETTE VIEWING SCOPE and tighten mount band by turning (1) clockwise.

ADJUSTMENT

1. If you wear glasses remove eye cap from VIEW SCOPE.
2. Tilt scope on blank screen.
3. Looking through the View Scope slowly turn (2) until screen is in focus. Check and make note of plus or minus reading on the dialer scale. When you use the View Scope, always set the dialer scale to this reading. This reading will probably vary for each operator so it is important that it be set to your dialer reading when you are using the Viewing Scope for focusing.

USE

1. Set dialer scale to your correction reading (plus or minus).
2. Looking through the View Scope turn focusing knob on your Projector until the picture is in focus. Be sure that the View Scope is set to your dialer reading.

CARE

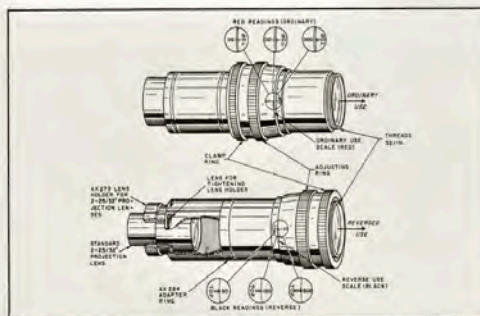
The Monette Viewing Scope is a precision instrument and should be cared for as such. To assure proper performance the following cleaning procedure is offered as a help to users.

1. Remove all particles of dust or lint with a clean strand's hair brush, which should be used only for this purpose.
2. Wet sheet of clean "Lens Tissue" in any good liquid lens cleaner similar to the "Gild Craft" lens cleaner, grain alcohol or acetone, and wipe the surfaces gently but thoroughly.
3. Cloths of any character are not recommended for cleaning — use LENS TISSUE.
4. Dry the surface with a clean dry piece of "Lens Tissue."
5. Never attempt to open the Monette Viewing Scope since it is factory sealed. In event of damage return to factory for inspection.

Kollmorgen

FULLY REVERSIBLE ANAMORPHIC MODEL KA-299

Bulletin KA-299

KOLLMORGENTheatre
Equipment

DESCRIPTION: A cylindrical 4" diameter fully-reversible anamorphic adapter, Model KA-299, can be used for Drive-in applications with normal or extra long projection distances without factory adjustment. The adapter is produced in the reverse form, but is threaded at both ends, which allows the unit to be used in the normal or reversed position. The top lens in the above illustration shows the unit operating in the ordinary use position with a 4" diameter backup lens. The bottom lens combination shows the unit operating in the reversed position. The lens holder shown is used to hold a standard diameter projection lens. For example, if the projection distance is excessive, a 4.00" c.f. backup lens could be used with the adapter in the reversed position instead of an 8.00" c.f. 4" diameter backup lens. It can also be used with a 4" diameter lens, in the reversed position.

ADJUSTMENT CONTROLS: The anamorphic attachment must be adjusted for the projection distance. There are two scales for adjustment purposes: the scale for ordinary use is color-coded red, and the scale for reversed use is color-coded black. This adjusting ring is marked in increments between 50 to 500 ft. The settings shown are for distances of 50, 120 and 500 ft. in the above illustrations. The unit can be used for distances up to 1000 ft. The word "TOP" is for reference only, it is the side which is up at installation.

INSTALLATION: The illustrations show the markings on the barrel as the distance ring is moved for 50, 120 and 500 ft. for projection distances.

50 Years of Image Quality

KOLLMORGEN
CORPORATION
ELECTRO-OPTICAL DIVISION
NORTHAMPTON, MASSACHUSETTS 01060

Kollmorgen

Zoom Out

Effective October 1, 1953.
Subject to change without notice.
All prices F.O.B. our plant.
Packed for domestic shipment.

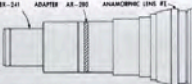
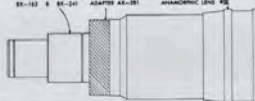
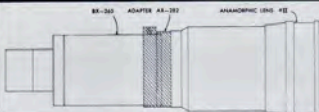
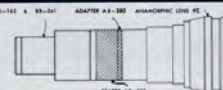
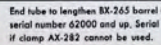
Kollmorgen Optical Corporation

30 Church Street, New York 7, N. Y.
Telephone: WOrth 2-0890

DATA SHEET and PRICE LIST

ADAPTERS FOR ANAMORPHIC LENSES

These adapters are designed solely for the purpose of connecting the anamorphic lens to our lenses. These adapters will NOT support anamorphic lenses. Supports for the anamorphic lenses must be obtained from the projector manufacturer.

Catalog No.	Description	List Price
AX-280	 <p>Adapters for fitting Type I anamorphic lenses to BX-241 and BX-163 Snaplites.</p>	\$ 7.50
AX-281	 <p>Adapter for fitting Type II anamorphic lenses to BX-241 and BX-163 Snaplites.</p>	15.00
AX-282	 <p>Clamp for fitting Type II anamorphic lenses to BX-265 Super Snaplite (4" diameter lenses).</p>	20.00
AX-283	 <p>Spacer for use with adapter AX-280 and Type I anamorphic lenses. Made in two lengths, namely 1/2" and 1". When ordering please specify length wanted. *If Spacer AX-283 is used, Adapter AX-280 must also be used.</p>	6.00
AX-284	 <p>End tube to lengthen BX-265 barrel (when required). For use with BX-265 lenses having serial number 62000 and up. Serial numbers below 62000 must be altered in our plant if clamp AX-282 cannot be used.</p>	14.00

Dealer's discount 50% off above prices.

KOLMO OPT. CO. 1953
Printed in U.S.A.

Kollmorgen

CABLE AND RADIO ADDRESS
"KOLLMORGEN"

Telephone:
617-387-0000
Two
617-384-1776

KOLLMORGEN
CORPORATION
NORTHAMPTON, MASSACHUSETTS 01060

PRICE LIST #4
for
MOTION PICTURE
PROJECTION LENSES

AUGUST 1965

Member:
TESMA-TEDA

Subject To Change Without Notice

RETAIL

F/1.9

BX-241 SUPER SNAPLITE - 2-25/32" Dia.

f. f. in inches	(6 elements)	Speed	Unit Price
2.00	f/1.9		\$230.00
2.25	f/1.9		230.00
2.50	f/1.9		240.00
2.75	f/1.9		240.00
3.00	f/1.9		250.00
3.25	f/1.9		250.00
3.50	f/1.9		260.00
3.75	f/1.9		260.00
4.00*	f/1.9		280.00
4.25*	f/1.9		280.00
4.50*	f/1.9		280.00
4.75*	f/1.9		320.00
5.00*	f/2.0		320.00

*Proven for 70mm application, see aperture stop note.

BX-163 SERIES II SNAPLITE - 2-25/32" Dia.

f. f. in inches	(4 elements)	Speed	Unit Price
3.50	f/2.0		\$220.00
3.75	f/2.0		220.00
4.00	f/2.0		230.00
4.25	f/2.0		220.00
4.50	f/2.0		240.00
4.75	f/2.0		240.00
5.00	f/2.0		240.00
5.25	f/2.2		260.00
5.50	f/2.3		260.00
5.75	f/2.45		260.00
6.00	f/2.55		300.00
6.25	f/2.65		300.00
6.50	f/2.75		300.00
6.75	f/2.85		300.00
7.00	f/2.90		300.00
7.25	f/2.95		350.00
7.50 to 9.00	f/3.0 to f/3.6		350.00*

* Available to extent of existing stock.

F/1.7

BX-290 SUPER SNAPLITE - 2-25/32" Dia.

f. f. in inches	(7 elements)	Speed	Unit Price
2.50	f/1.7		\$ 320.00
2.75	f/1.7		320.00
3.00	f/1.7		340.00
3.25	f/1.7		340.00
3.50	f/1.7		360.00
3.75	f/1.7		360.00
4.00	f/1.7		390.00

F/1.7X

BX-294 SUPER SNAPLITE - 2-25/32" Dia.

With X-tended Barrel & Built-in Magnifier*

f. f. in inches	(11 elements)	Speed	Unit Price
1.75	f/1.7X		\$ 560.00
1.88	f/1.7X		560.00
2.00	f/1.7X		580.00
2.25	f/1.7X		580.00
2.50	f/1.7X		580.00
2.75	f/1.7X		600.00
3.00	f/1.7X		600.00

*These lens include 88 or .75 magnifiers plus BX-290 optics.
(e.g. 4" BX-290 X.69+2.75" BX-294)

BX-265 SUPER SNAPLITE - 4" Dia.

For 85 mm & 70 mm use.

f. f. in inches	(8 elements)	Speed	Unit Price
5.00	f/1.9		\$ 460.00
5.25	f/1.9		480.00
5.50	f/1.9		500.00
5.75	f/1.9		530.00
6.00	f/1.9		560.00
6.25	f/1.9		600.00
6.50	f/1.9		640.00
6.75	f/1.9		690.00
7.00	f/1.9		750.00

See T. 23 through 11.00** available on special order. Speeds f/1.9 to f/3.0.

See Notes.

RAPID SHIPMENT (3 days or less)

MATCHED PAIRS

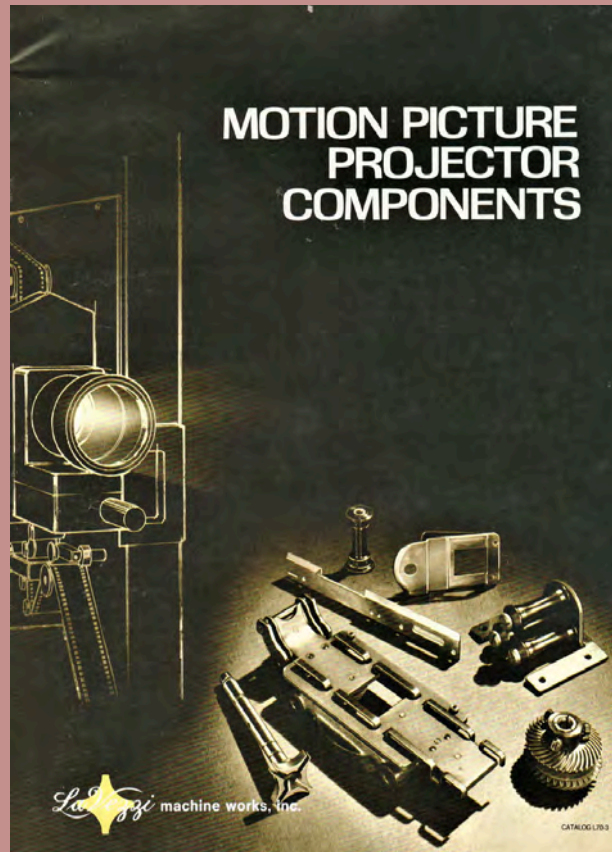
UNMATCHED PERFORMANCE



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LaVezzi

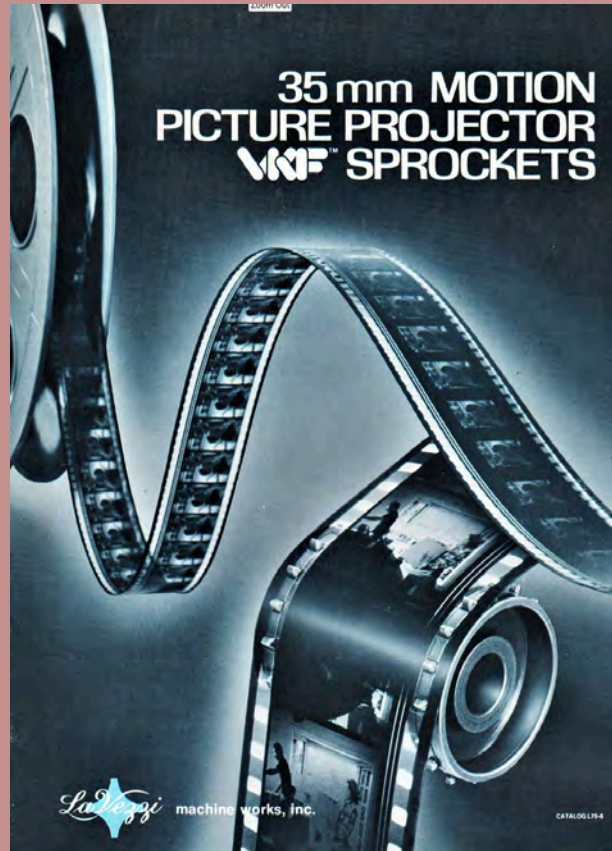
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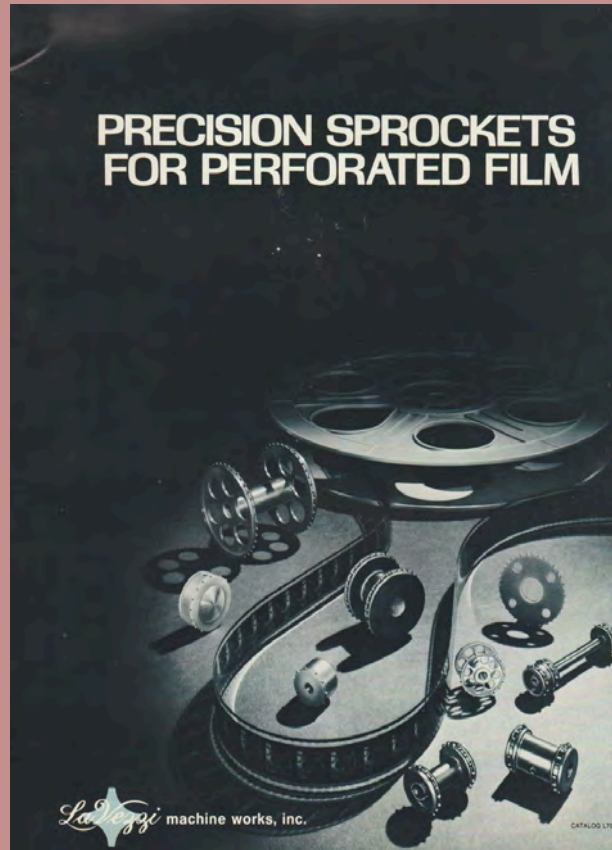


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LaVezzi

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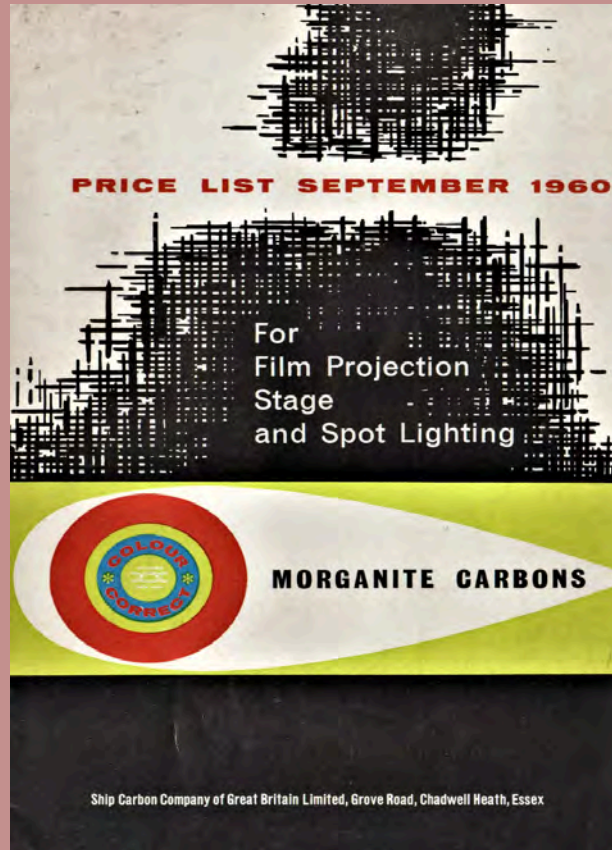




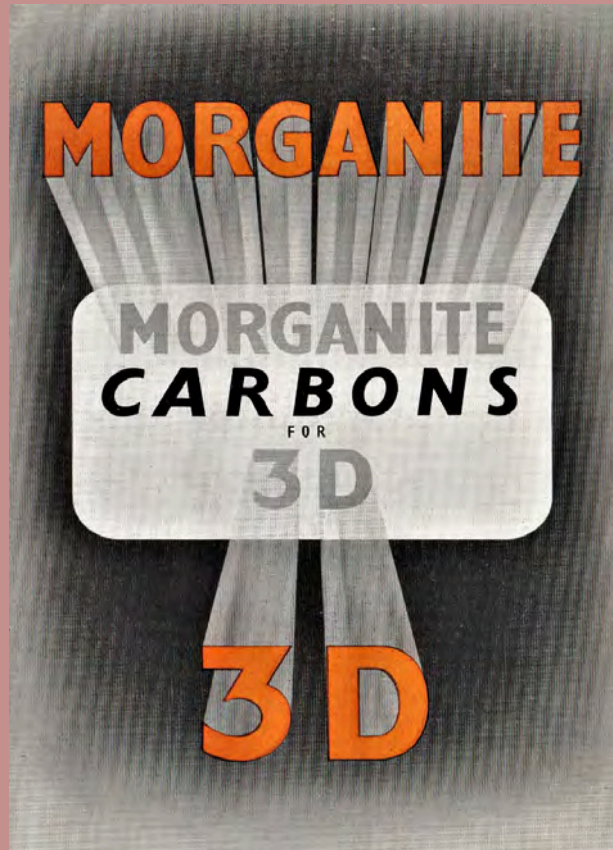
Microcine



Morganite



Morganite



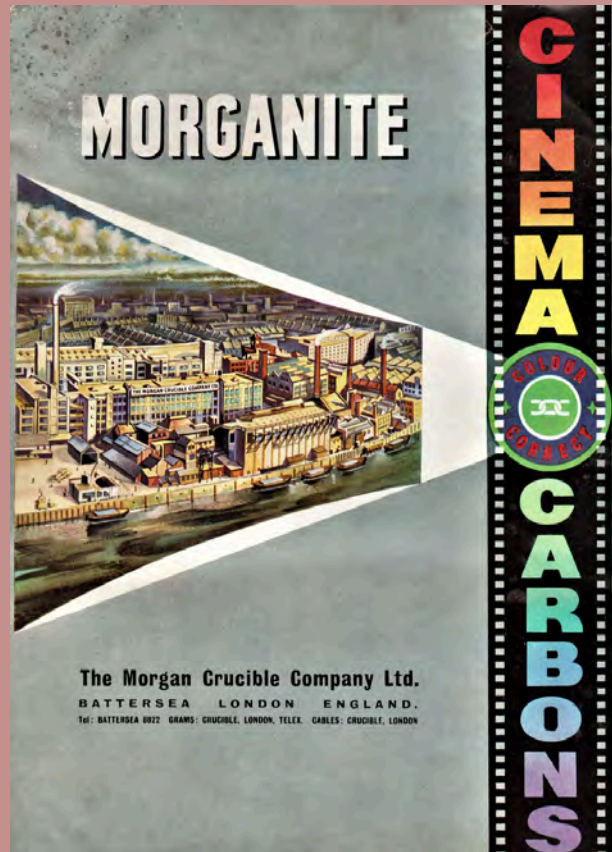
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Morganite



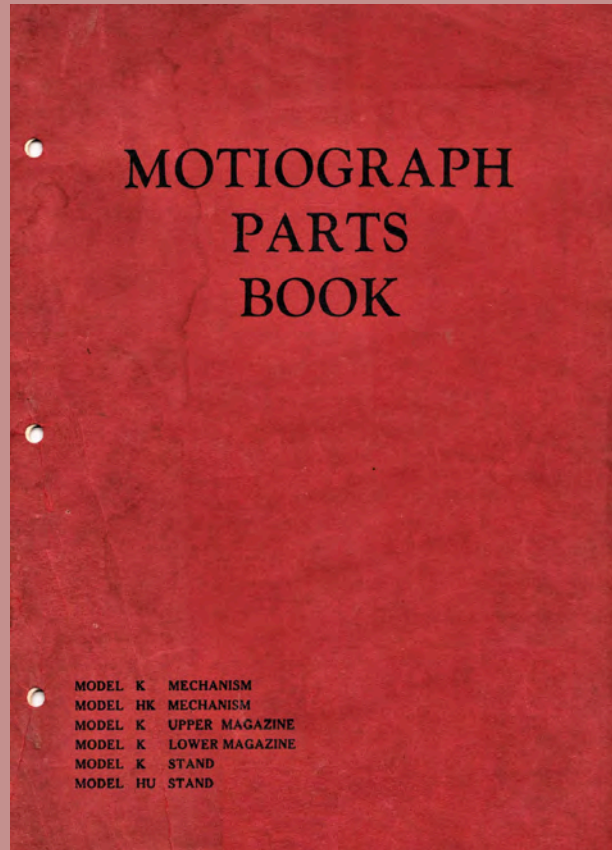
Morganite



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Motiograph



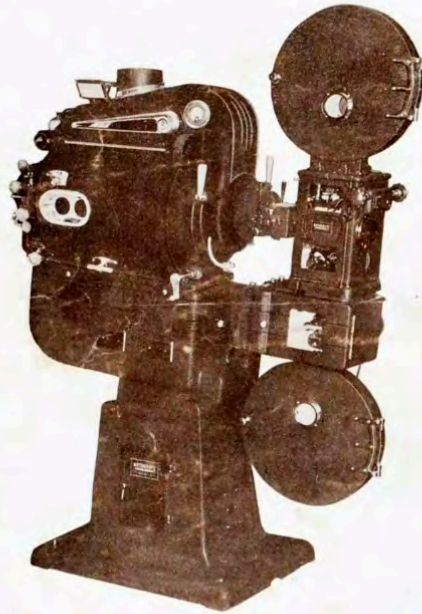
Motiograph



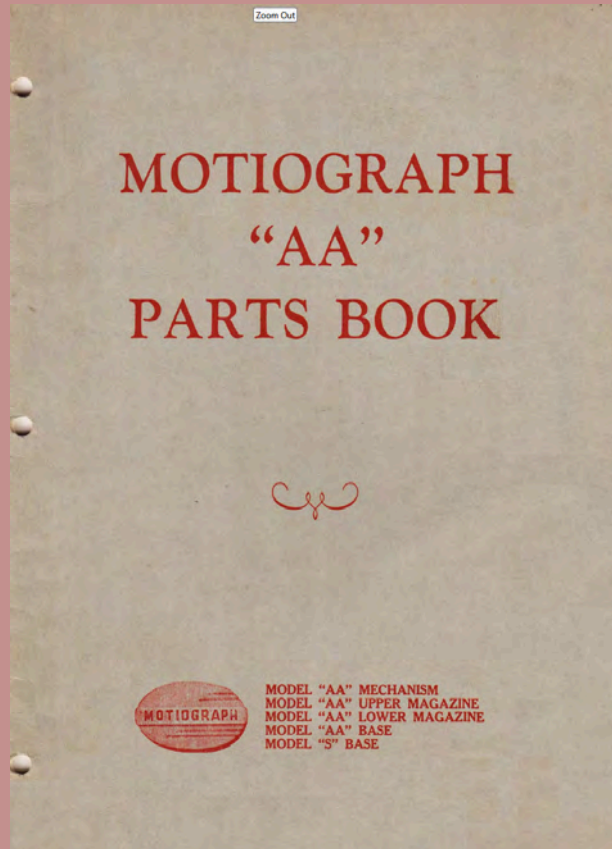
Motiograph

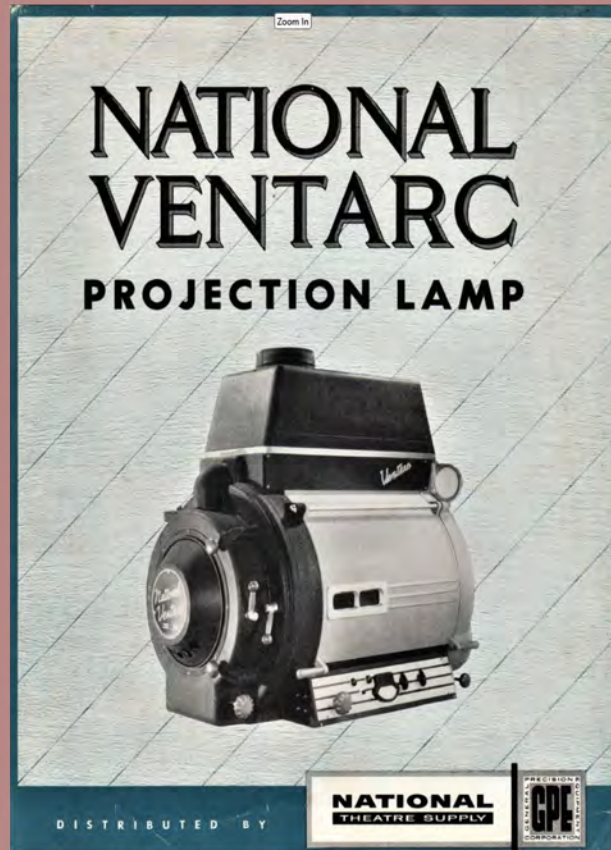
The Motiograph Model "K"

Its Care, Operation and Adjustment



Motiograph

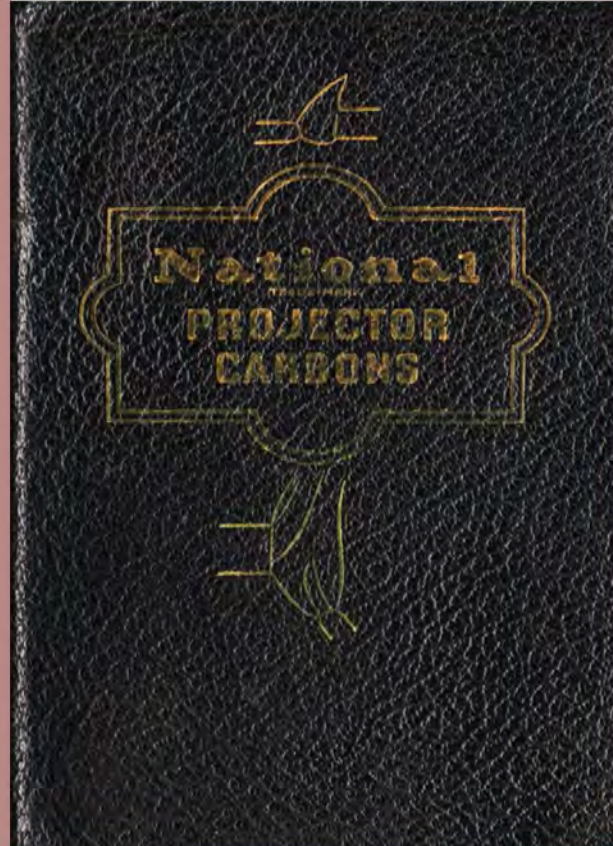




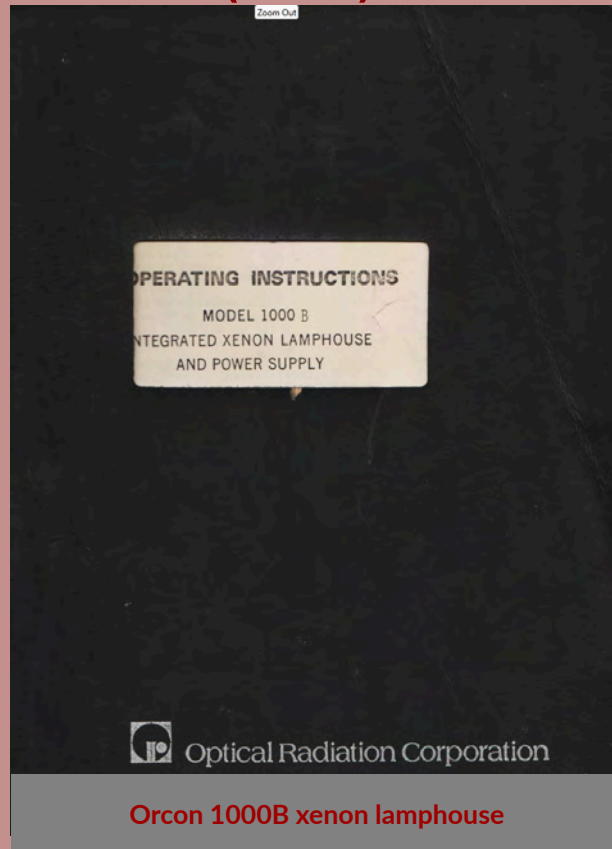
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Optical Radiation Corporation (ORC)



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Peerless

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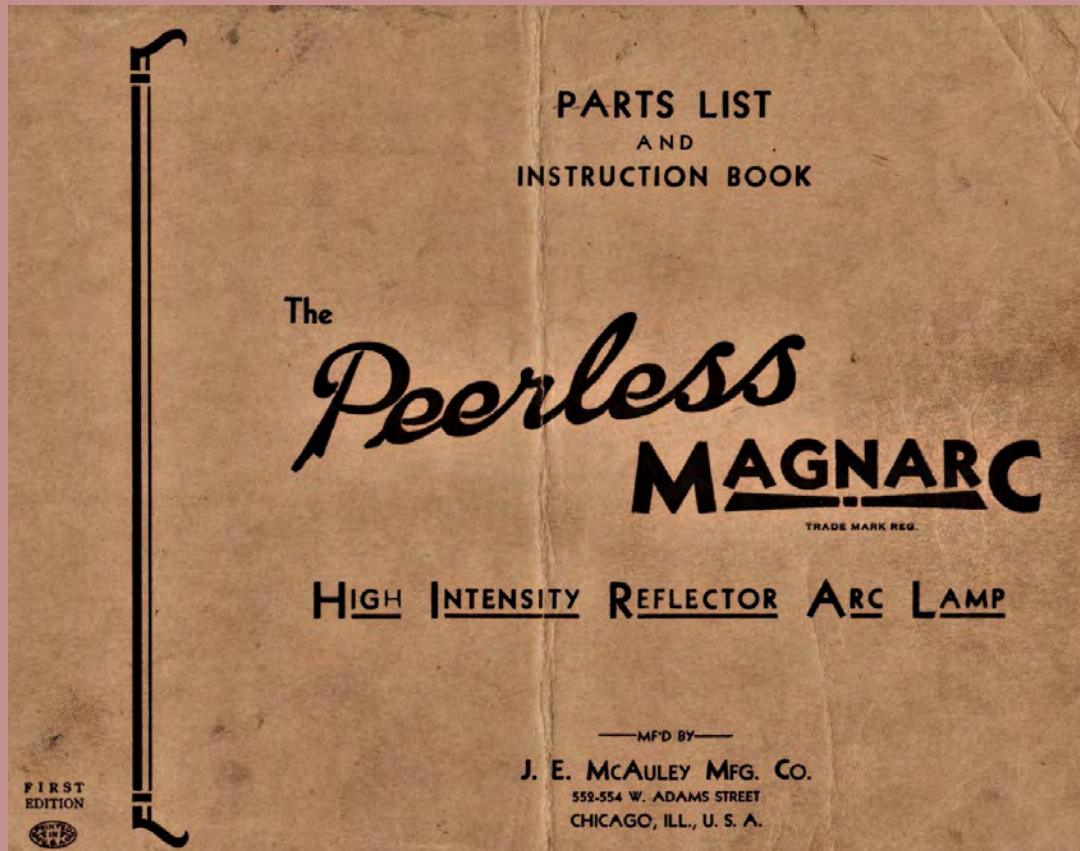
THE *Peerless*

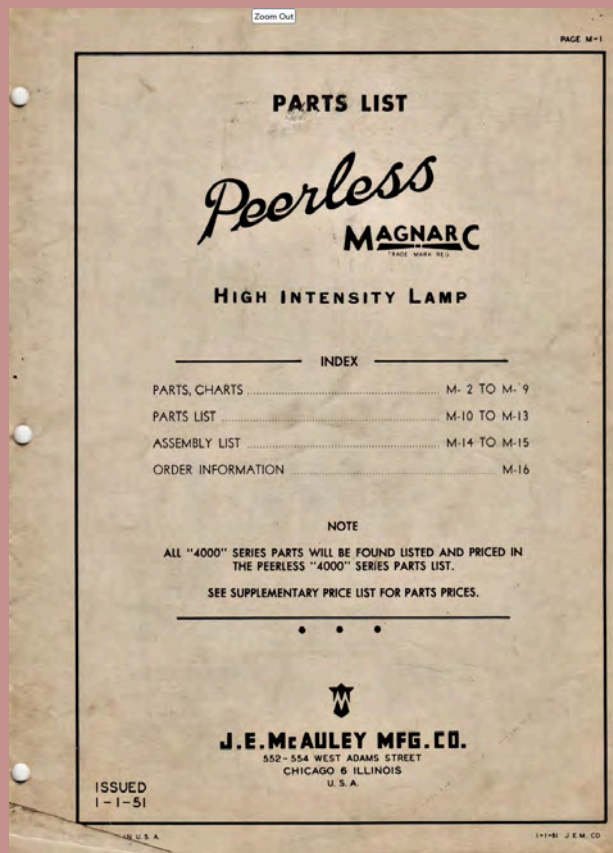
MAGNARC
REGD TRADE MARK

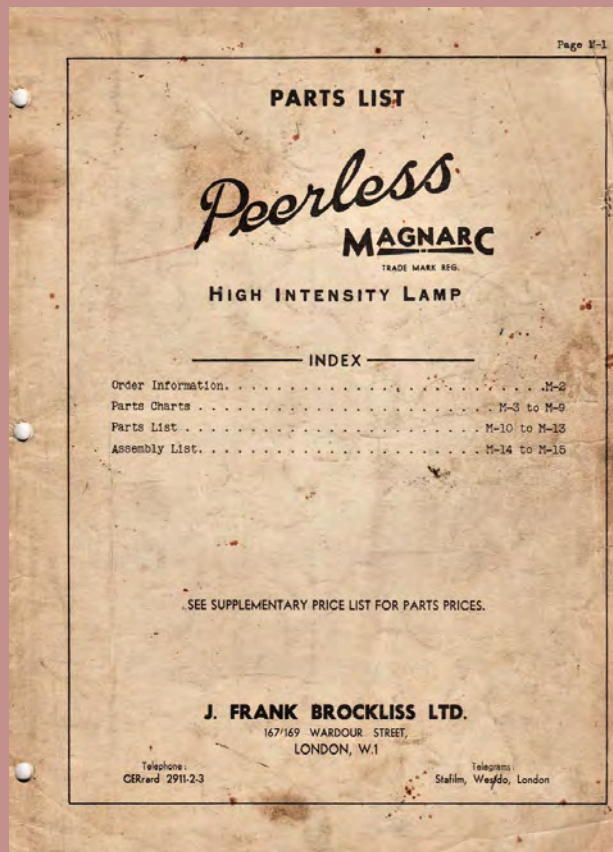
The
**SUPER REFLECTOR
HIGH INTENSITY
ARC LAMP**
*Brilliant Screen Illumination
Combined with Economy*

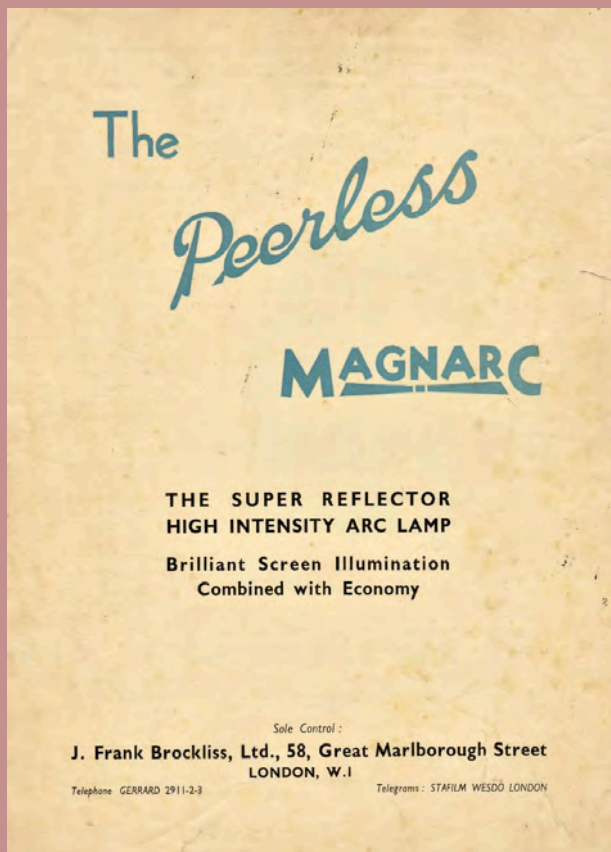
Sole Control:
J. FRANK BROCKLISS LTD · 167-9, WARDOUR STREET · LONDON · W.1

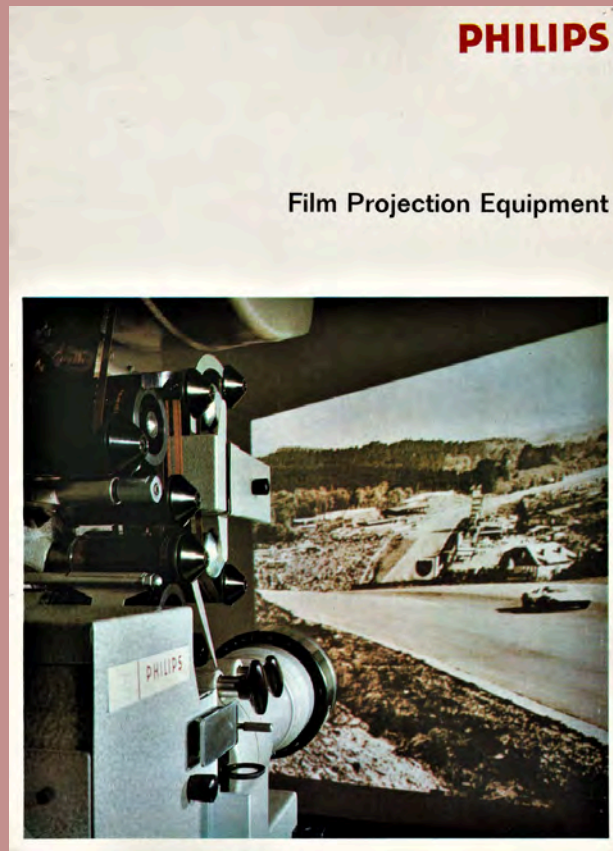
TELEPHONE: GERRARD 2911-2-3
TELEGRAMS: STAFILM WESOO LONDON







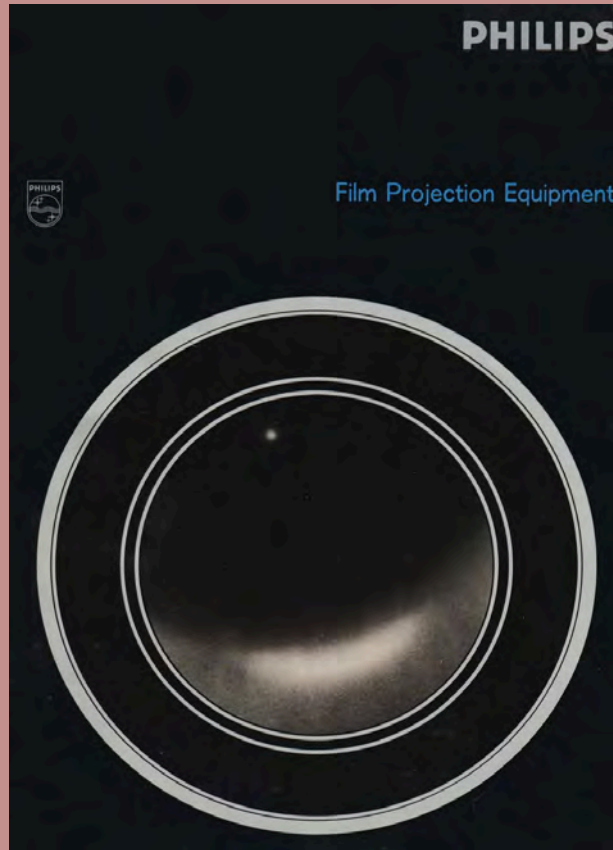




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**PHILIPS**

Pulsed Discharge Lamp Projection grows in popularity throughout the world!

Economy, ease of operation and flicker-free projection have made the Philips SPP 800 Pulsed Discharge Lamp prove its worth to exhibitors during the last few years.

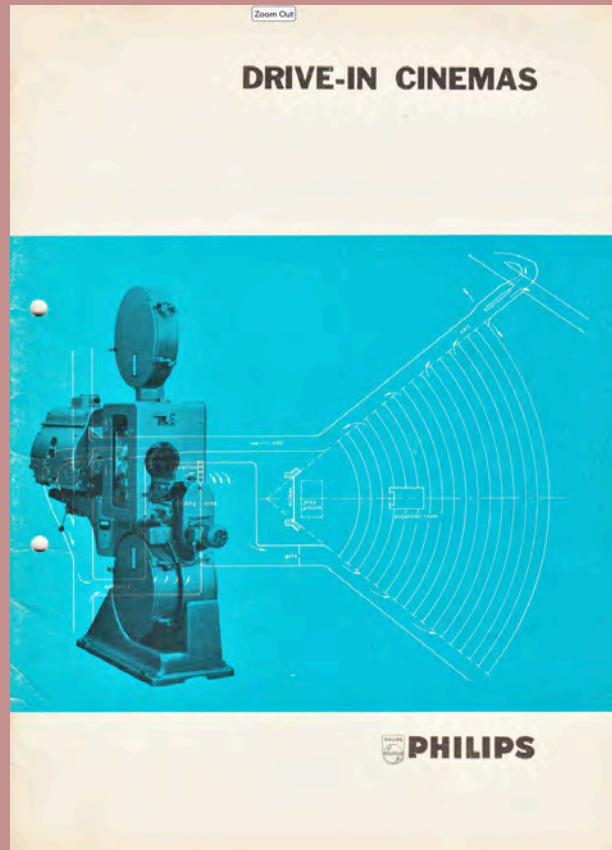
Application of this lamp has been limited only by the luminous flux obtained. For a Philips FP 20 S Projector with the SPP 800 pulsed discharge lamp, a luminous flux of 5000 lumen is achieved, limiting its application to small and medium cinemas. An increase in luminous flux as well as a simplification of the power supply and an improvement in colour reproduction remained to be achieved, before new and larger fields of application could be opened up.

NEW ADVANCES
IN
CINEMA PROJECTION

NEW ADVANCES
IN
CINEMA PROJECTION

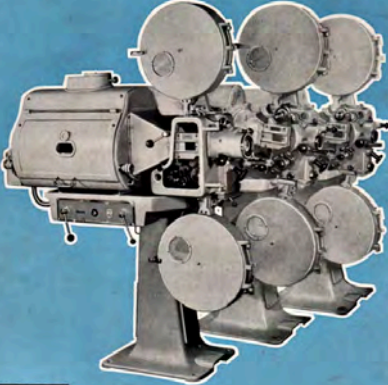
NEW ADVANCES
IN
CINEMA PROJECTION

NEW ADVANCES
IN
CINEMA PROJECTION



PHILIPS
Kinotechnik
Qualität in Bild und Ton

Film - Ton - Technik
H. Hildenbrand
Philips-A Alleinvertrieb
Düsseldorf
Hofmann & S. Paderborn



PHILIPS
DEUTSCHE PHILIPS GMBH
HAMBURG 1, MÖNCKEBERGSTRASSE 7
Abteilung für Elektroakustik und Tonfilm

PHILIPS

Cinema

A-II-5-E

PROJECTORS
FP 5
and
FP 6

The basic construction of these two projectors, FP 5 and FP 6, is exactly the same. Together with the FP 7 they form a range of projectors suitable for any class of cinemas.

Both are equally reliable and sturdy. They have quite a number of features in common, as for instance:

- high light output,
- accurate intermittent movement,
- powerful magnetic oil-filters,
- rotary drum-shutter with centrifugal flaps and ventilating blades.

Besides these, the FP 6 has some additional features:

- water-cooled film mask,
- manual film-loop correctors,
- 32.5-mm lens-holder with calibrated scale (the FP 5 has a 32.5-mm lens-holder without scale),
- pointer indication of the framing-device position.

The following description applies for both the FP 5 and the FP 6.

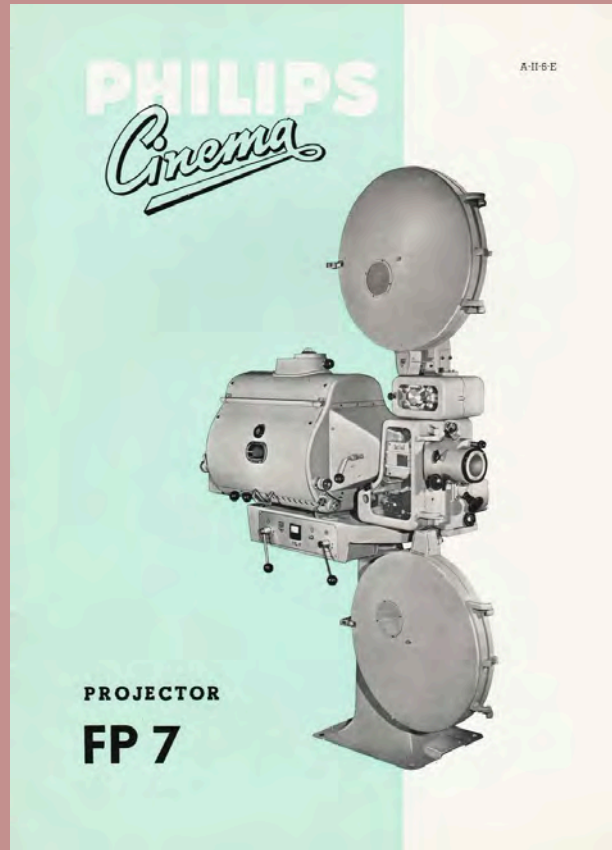
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Philips

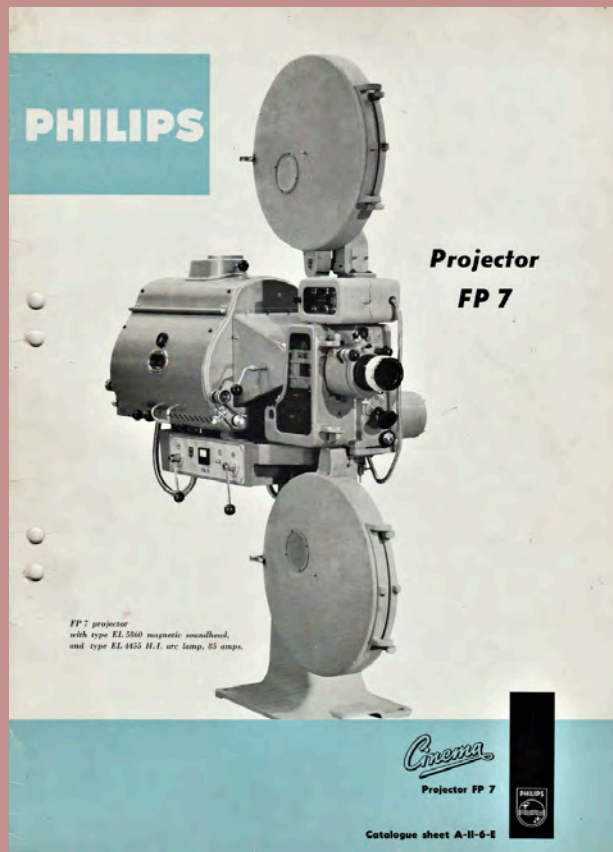
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Philips FP5 FP6 FP7



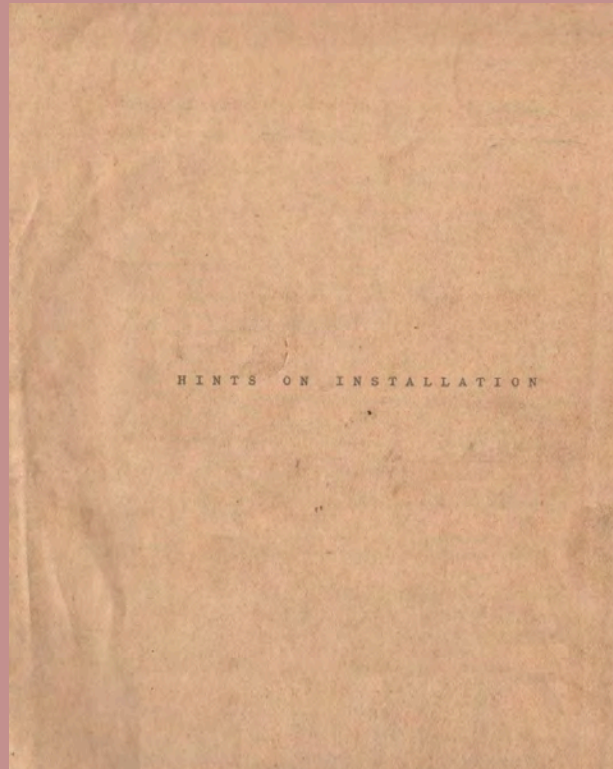




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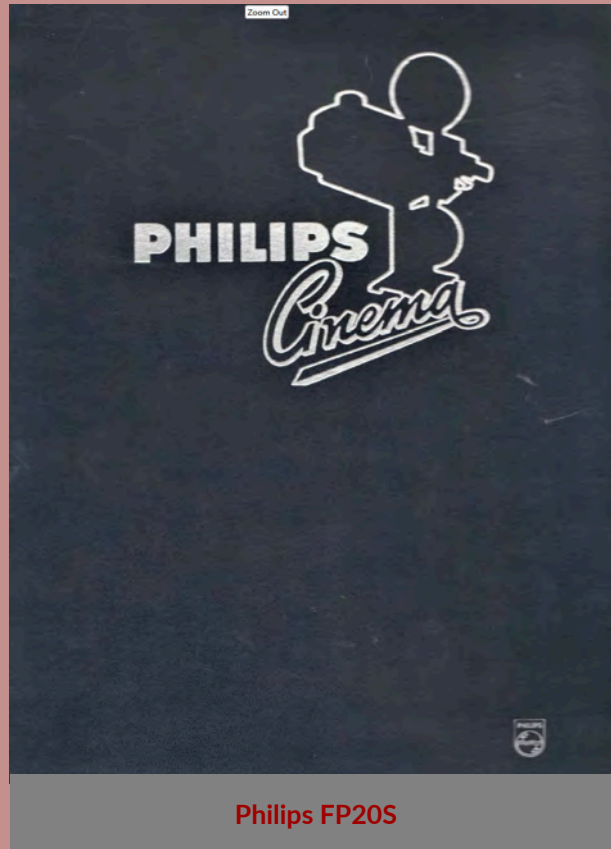


Philips FP7 and FP56

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Philips

FP 20- S

the new **PHILIPS** 35 mm Projector with the
economical SPP lamp.



Incorporating the SPP800 gas-discharge lamp, a brand new light-source representing the fruit of years of Philips-research, making a shutter superfluous and thus offering the highest luminous efficiency.
Lower running costs per Lumen than with any other light-source.

14 "HIGH LIGHTS"

- * Flicker-free projection, even at much higher luminous intensities than normal. 72 light-pulses per second
- * **Constant luminous flux**, irrespective of the number of operating hours and irrespective of mains voltage fluctuations
- * **Perfectly uniform brightness**, right into the corners of the screen
- * **Ideal colour-rendering**
- * **Completely safe operation**
- * **No flue or exhaust system needed**
- * **Lamp can be replaced without interrupting operation.** Automatic lamp exchange precludes interruptions of the performance
- * **Light-source requires no adjustment whatsoever.**
- * **Low energy consumption**
- * **High luminous efficiency** } greatest economy!
- * **Low running costs**
- * **Ideal for remote control and automatic systems**
- * **Saves space in projection room**
- * **Minimal heating of film**, hence good definition at all times

*The projector that meets all the
wishes of EXHIBITOR and
PROJECTIONIST.*

Pathe Equipment Ltd.

177, WARDOUR STREET, LONDON W.1

Phone : GERard 1544

BRANCHES : CARDIFF, GLASGOW, LEEDS, MANCHESTER

AUTOMATION!
Fully automatic
change-over device available.

Loom Ltd

PHILIPS

Projector FP 20



The FP 20 projector is of an entirely new construction, the result of the latest developments in the field of cinematography, and designed in accordance with practical requirements as revealed by thorough investigations. Its principal features are:

- Simple and logical construction.
- Very simple driving mechanism, using a minimum of transmissions.
- Very easy threading of the film, the film path containing the smallest possible number of parts.
- Perfectly steady picture; curved film gate.
- New design of framing device.
- Very little maintenance.
- Suitable for all kinds of 35 mm films.
- Easy interchange of projection lenses without re-focusing.
- Double-speed single-blade shutter; hence very high light efficiency.
- Suitable for all kinds of arc lamps.
- Facilities for remote control of focusing and framing.



Projector FP 20



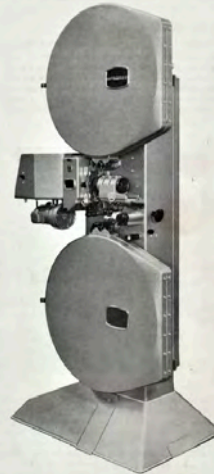
Cat. A-10-19-E

PHILIPS

Projector FP 20 G

The FP 20 G projector is specially intended for use in smaller cinemas, preview theatres, film and television studios, etc. Its principal features are:

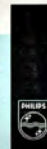
- Simple and logical construction.
- Very simple driving mechanism, using a minimum of transmissions.
- Very easy threading of the film, the film path containing the smallest possible number of parts.
- Perfectly steady picture: curved film gate.
- New design of framing device.
- Very little maintenance.
- Suitable for all kinds of 35 mm films.
- Easy interchange of projection lenses without re-focusing.
- Double-speed single-blade shutter; hence very high light efficiency.
- Equipped with two 1000 W, 110 V incandescent lamps, type 7840 C.
- Facilities for remote focusing control.



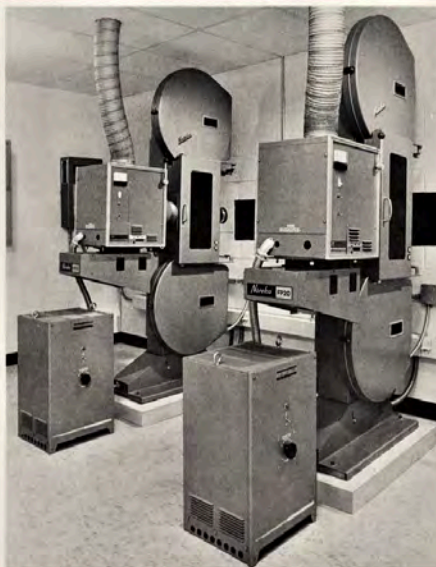
Cinema

Projector FP 20 G

Cat. A-19-24-E



Norelco® FP 20 SERIES 35mm MOTION PICTURE PROJECTOR TYPE LCB0020



The **NORELCO FP 20** projector containing the latest developments in the field of cinematography...combining maximum performance reliability with exceptional design simplicity. Its principal features include:

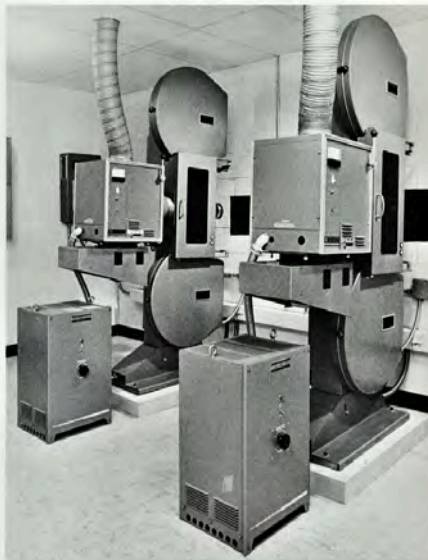
- Simple drive mechanism with a minimum of transmissions.
- Easy film threading, few parts on film path
- Framing device of special design

- Minimum maintenance
- Built-in Optical Soundhead. (Four-track Magnetic soundhead also available)
- Outstanding picture steadiness: watercooled curved film gate
- Suitable for all types of 35mm films
- Easy interchange of projection lenses without re-focusing
- Suitable for all types of arc and Xenon lamps

- Automatic film break switch
- Double-speed single-blade shutter provides extremely high light efficiency
- Optional Remote Focus and Remote Framing available
- Equipped with arc lamp bracket
- Built-in changeover

Adaptable to automated programming

KINOTONE FP 20 SERIES 35mm MOTION PICTURE PROJECTOR TYPE LCB0020



The **KINOTONE FP 20** projector contains the latest developments in the field of cinematography... combining maximum performance reliability with exceptional design simplicity. Its principal features include:

- Simple drive mechanism with a minimum of transmissions.
- Easy film threading, few parts on film path
- Framing device of special design
- Minimum maintenance
- Built-in Optical Soundhead. (Four-track Magnetic soundhead also available)
- Outstanding picture steadiness; water-cooled curved film gate
- Suitable for all types of 35mm films
- Easy interchange of projection lenses without re-focusing
- Suitable for all types of arc and Xenon lamps
- Automatic film break switch
- Double-speed single-blade shutter provides extremely high light efficiency
- Optional Remote Focus and Remote Framing available
- Equipped with arc lamp bracket
- Built-in changeover

Adaptable to automated programming

Philips


Zoom Out


Review

OF PHILIPS CINEMA EQUIPMENT

Presenting the revolutionary FP 20-S

shutterless 35 mm film projector with the economical SPP-lamp

Introducing the SPP 800 gas-discharge lamp, a brand new light-source representing the fruit of years of research, making a shutter superfluous, so that the highest luminous efficiency is obtained. Operating-costs per frame are now lower than with any other light-source in cinema projection....

14 HIGH LIGHTS

- Flicker-free projection, even at much higher luminous intensities than normal, 72 light-pulses per second....
- Constant luminous flux, irrespective of the amount of operating hours and irrespective of mains voltage fluctuations....
- Perfectly uniform brightness, right into the corners of the screen....
- Ideal colour-rendering....
- Completely safe operation....
- No fan or exhaust system needed....
- Lamp can be replaced without interrupting operation. Automatic lamp exchange precludes interruptions of the performance....
- Light-source requires no adjustment whatsoever....
- Low energy consumption....
- High luminous efficiency....
- Low running costs....
- Ideal for remote control and automatic systems....
- Saves space in projection room....
- Minimal heating of film, hence good definition at all times....

Meeting all the wishes of exhibitor and projectionist....


and the FP20 PROJECTOR

which is not ADAPTED TO but
SPECIALLY CONSTRUCTED FOR the film projection systems of today.

Simple, logical, functional design.

FP 20

- Appreciable light gain thanks to new shutter construction. Single-Ende, double-exposed shutter of large diameter.
- Efficient film cooling. Ventilation fins in the shutter ensure effective cooling of film and runner plate. Additional water and air cooling superfluous.
- Versatile available: optical sound or optical and magnetic sound. Both versions with 2000 ft (600 m) spool holder, or 6000 ft (1800 m) spool holder. Projectors can easily be modified from one version to another.
- Readily adaptable for "cold light" projection, with the economical Philips SPP 800 lamp.



★

FP 20-S

- Uninterrupted projection of film lengths up to 6000 ft (1800 m), the projector being normally equipped with 6000 ft spool holder.
- Projector available in two versions: a) for optical sound and b) for optical and magnetic sound. Version a) can always be readily modified into version b). Both versions can be supplied with silent attachments.
- SPP lamp is automatically switched on or even as the film has attained its full speed. When the motor is switched off the lamp is also switched off automatically.

See page 2 for more technical data



PHILIPS



SHEETS 25x365 mm

Electromechanical Division

PROJECTOR FP 20

The FP 20 projector is the result of the latest developments in the field of cinematography, and has been designed in accordance with practical requirements as revealed by thorough investigations. Its principal features are:

- Simple driving mechanism, using a minimum of transmissions
- Easy threading of the film, the path of which contains a minimum of parts
- Perfectly steady picture: curved film gate
- Framing device of special design
- Little maintenance
- Suitable for all kinds of 35 mm films
- Easy interchange of projection lenses without re-focusing
- Double-speed single-blade shutter, hence very high light efficiency
- Suitable for all kinds of arc and krypton lamps
- Possibilities for remote control of focusing and framing
- Easily adaptable for SPP-lamphouse, type EL 446

CONSTRUCTION OF THE PROJECTOR

Rectangular steel housing

The housing is a rectangular sheet-steel construction. Its front panel is completely flat so that the components fixed will not require any special alignment to ensure a smooth running of the film. Projection up to 15° upwards or 25° downwards is possible by tilting the column with respect to its base.

Simple driving mechanism

Owing to the ingenious combination of various transmission systems and a central framing device, the driving mechanism is extremely simple. The feed and the hold-back sprockets as well as the lower sprockets are driven by chains. These are slow-running chains on wheels of a synthetic material which is practically indestructible and ensures silent operation.

The framing device requires no phase correction and hence no gear transmission for this purpose.

All the spindles and shafts run in sealed ball-bearings, requiring no lubrication, and all the guide rollers are made of self-lubricating material.

The oil bath of the Maltese cross is fully



Philips

PHILIPS

Projector FP 20 S with pulsed discharge lamp SPP 800

Never before have science and technology made such rapid advances as during these last years and never before have new experiences been applied so rapidly in practice. The new Philips FP 20 S projector is a proof of this. Apart from the obvious characteristics—which may be expected of any good projector—it is pre-eminent because of

- its entirely new construction and
- its pulsed discharge projection lamp, characteristics which, each by itself, result in numerous outstanding features, viz.:

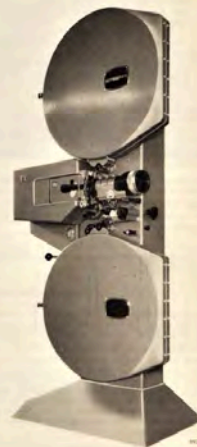
New construction:

- Maximum reliability.
- Suitable for all kinds of 35 mm film.
- Easy operation.
- Simple film threading.
- Faultless running of the film.
- Minimum stress on the film and minimum heating.
- Very little maintenance.
- Automatic change-over to stand-by projection lamp.
- Saving of space in the projection room.
- Facilities for automatic change-over from one projector to the other.
- Facilities for remotely controlled focusing.

Pulsed discharge lamp

- Great economy.
- Flicker-free projection, even at very high screen brilliance.
- Constant light output, irrespective of the number of operating hours.
- Perfectly uniform brightness on the screen.
- No rotary shutter.
- No flue or exhaust system.
- No arc adjustment.

The projector can be supplied with optical sound-head or with both optical and magnetic soundheads.



Cinema

Projector FP 20 S

Cat. A-11-18-4

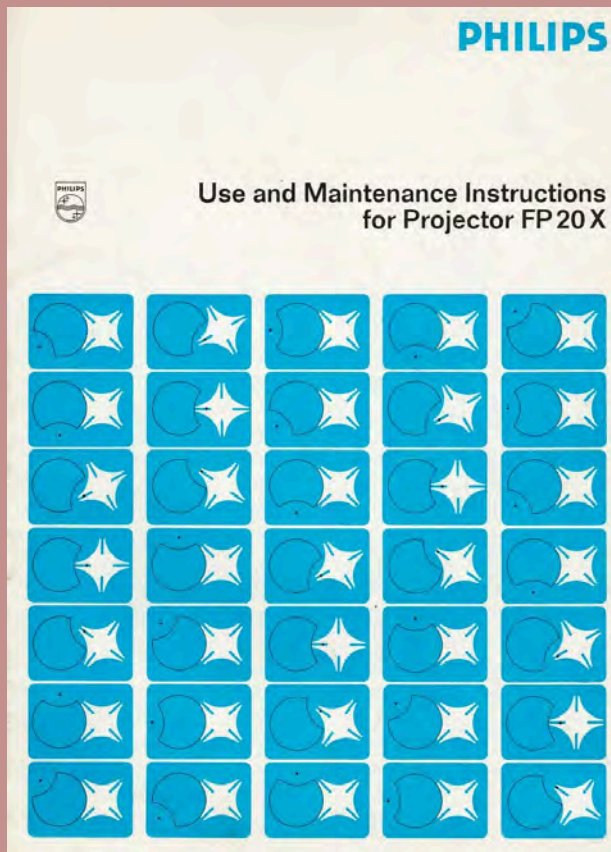


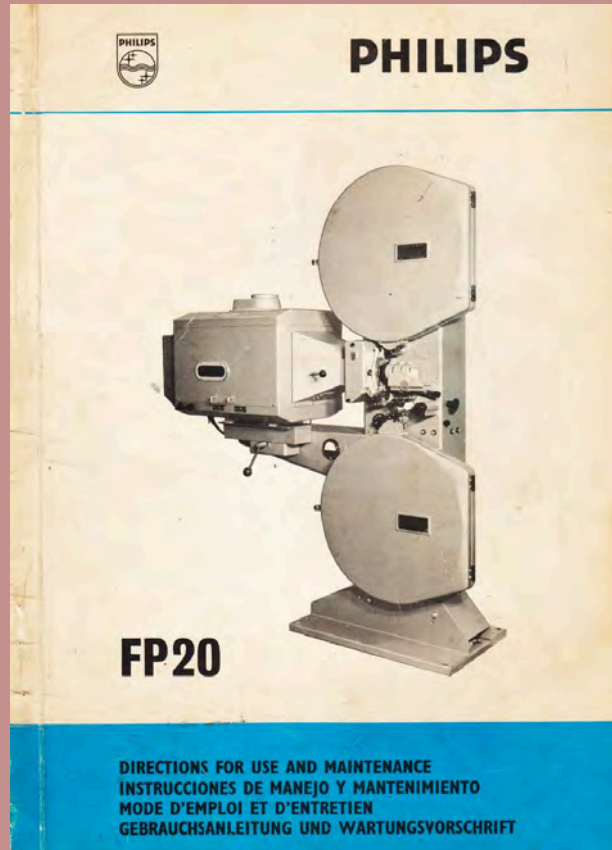
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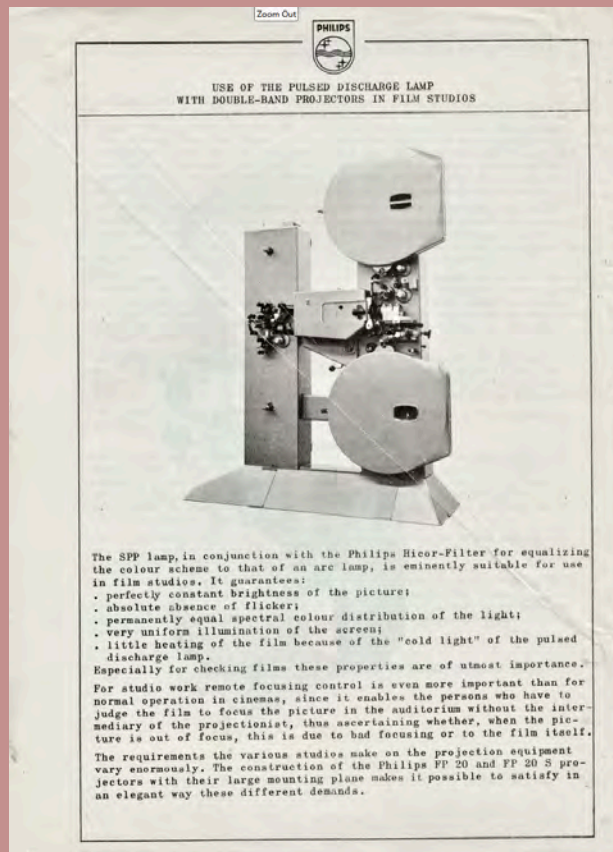
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Philips





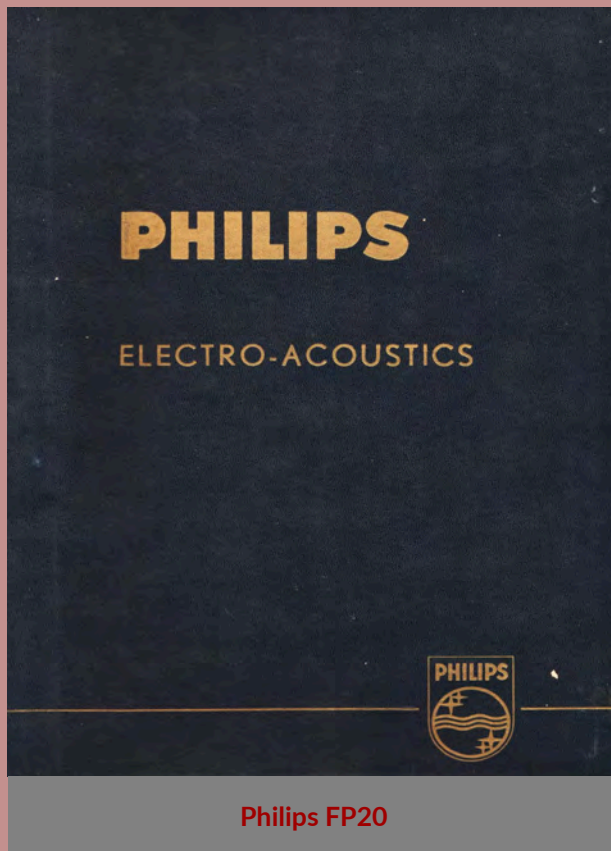




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Philips

PHILIPS**Projector FP 25 S****with pulsed discharge lamp SPP 1000**

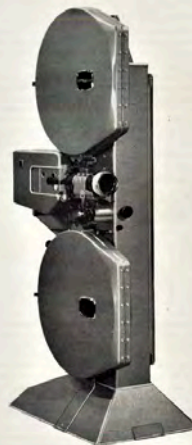
This projector is intended for the projection of 25 frames per second. It is equipped with a synchronous motor and operates in conjunction with a simple paleator. Its principal features are:

- Maximum reliability.
- Suitable for all kinds of 35 mm films.
- Easy operation.
- Simple film threading.
- Faultless running of the film.
- Minimum stress on the film and minimum heating.
- Very little maintenance.
- Automatic change-over to stand-by projection lamp.
- Saving of space in the projection room.
- Facilities for automatic change-over from one projector to the other.
- Facilities for remote focusing control.

Pulsed discharge lamp

- Great economy.
- Flicker-free projection, even at very high screen brightness.
- Constant light output, irrespective of the number of operating hours.
- Perfectly uniform brightness on the screen.
- No rotary shutter.
- No fan or exhaust system.
- No arc adjustment.

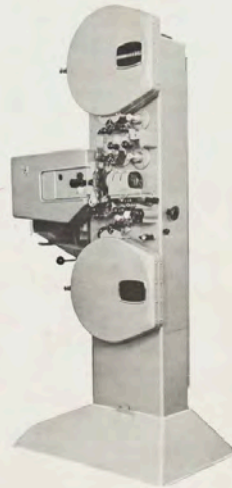
The projector can be supplied with optical soundhead or with both optical and magnetic soundheads.

*Cinema***Projector FP 25 S**

Cat. A-11-27-E



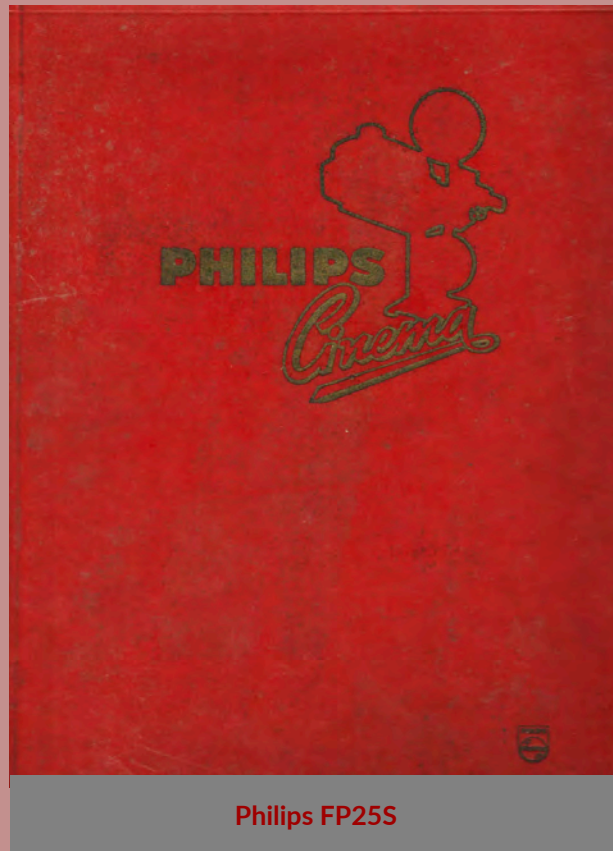
Operation and maintenance of FP 25 S projector



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PHILIPS

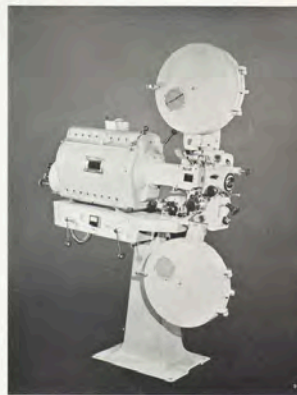
Projector FP 56

The Philips FP 56 projector of sturdy and modern construction, made of hard-wearing materials manufactured with highest precision, is suitable for any class of cinema. Its principal features are:

- high light output;
- simple operation;
- requires little maintenance;
- automatic lubrication;
- air cooling;
- easy replacement of all the parts;
- suitable for Wide-Screen and for Cinema-Scope projection;
- can be supplied for 110 V or 220 V, 50 or 60 c/s A.C. mains or D.C. mains;
- suitable for use under tropical conditions.

On request, the projector can be equipped with:

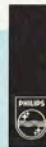
- water-cooling system;
- sprockets with loop correctors;
- soundhead for optical sound track;
- soundhead for magnetic sound tracks;
- spool boxes for 2000 ft (600 m) or 6000 ft (1800 m) of film;
- stand with height adjustment.

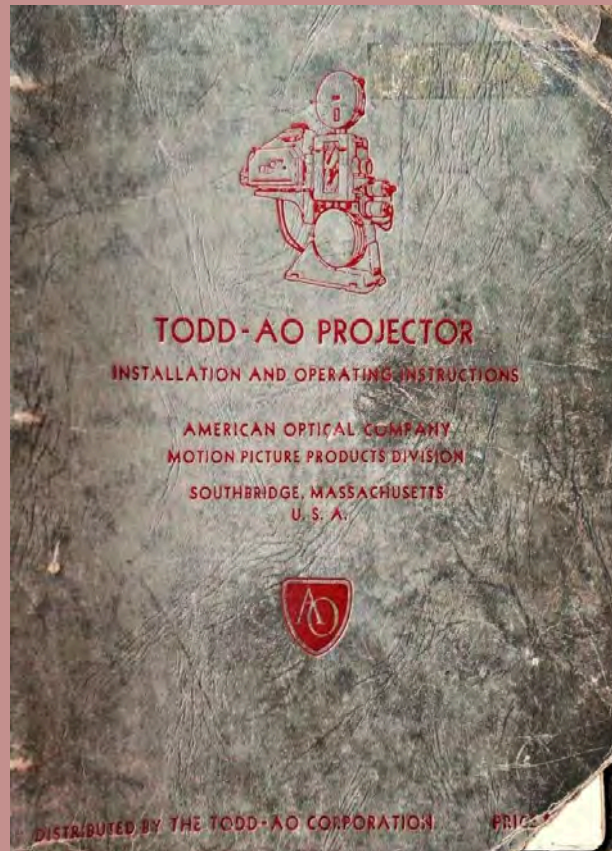


FP 56 projector with type 3037 optical soundhead and 30.1 H.L. air lamp type EE 410.

*Cinema***Projector FP 56**

Cat. A-II-15-E

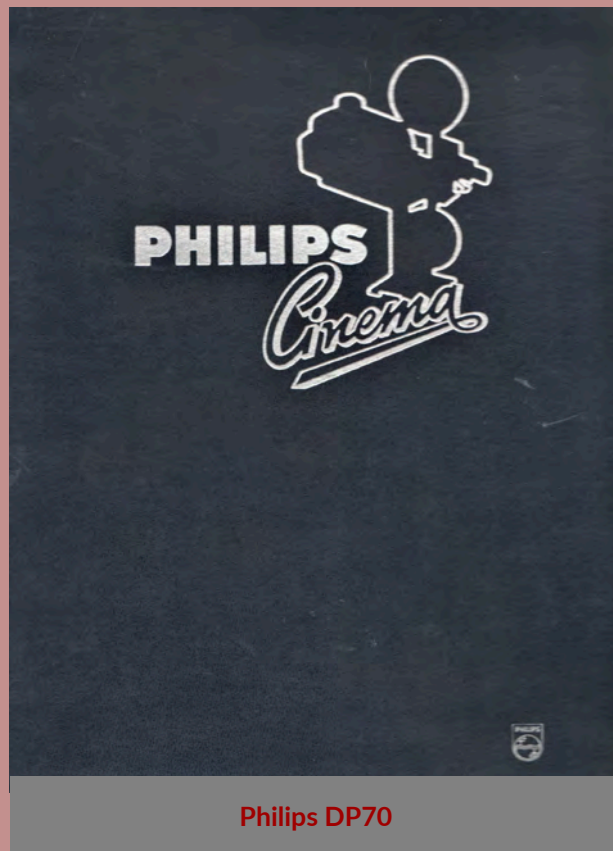


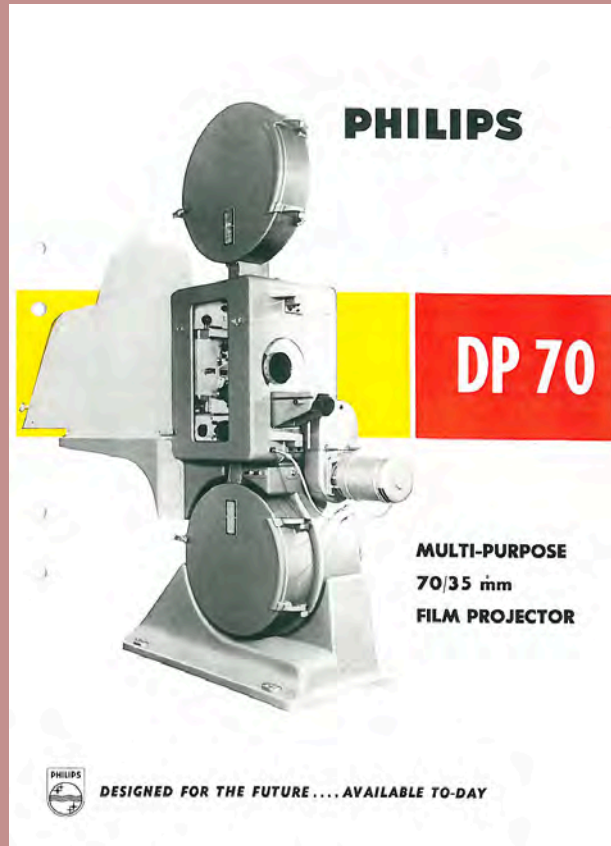


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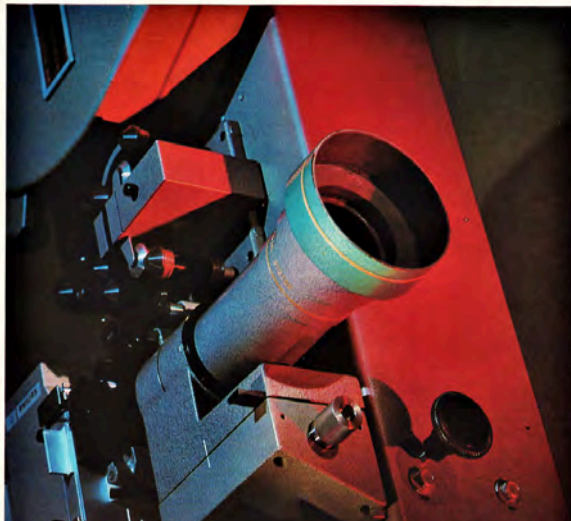
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Philips

NEW
Norelco
70/35_{mm}
PROJECTOR

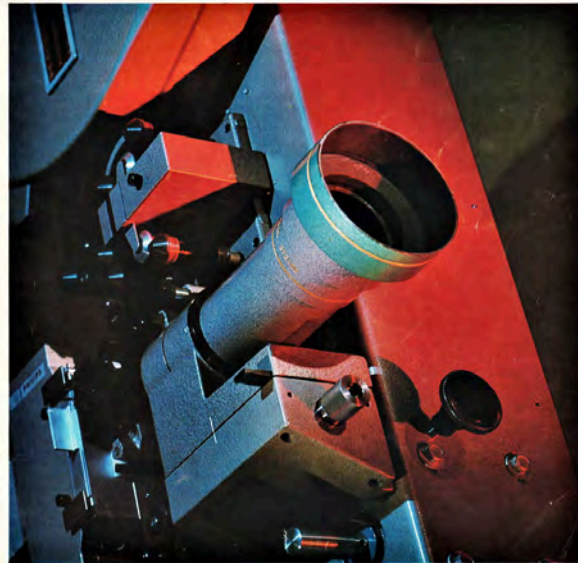


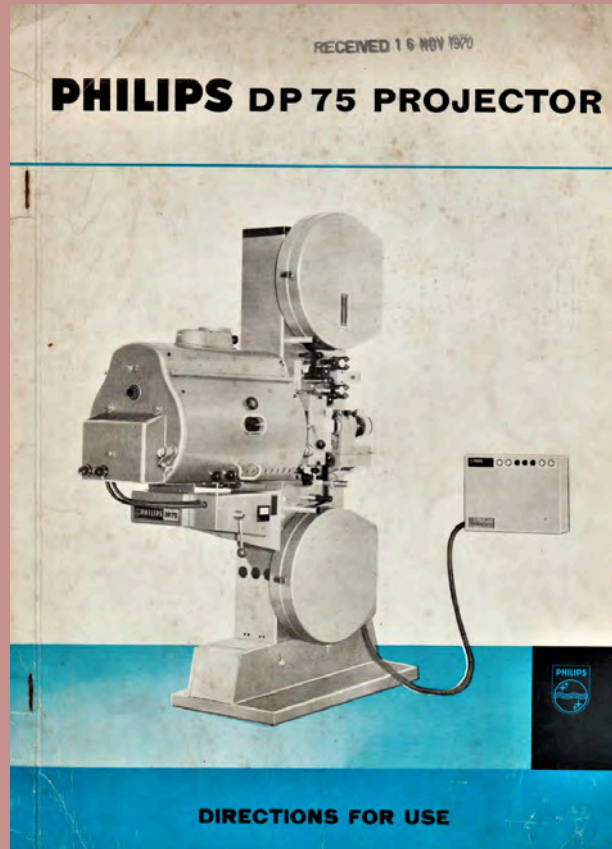
Philips DP75

Philips

PHILIPS

Universal DP 75
Sound-Film projector

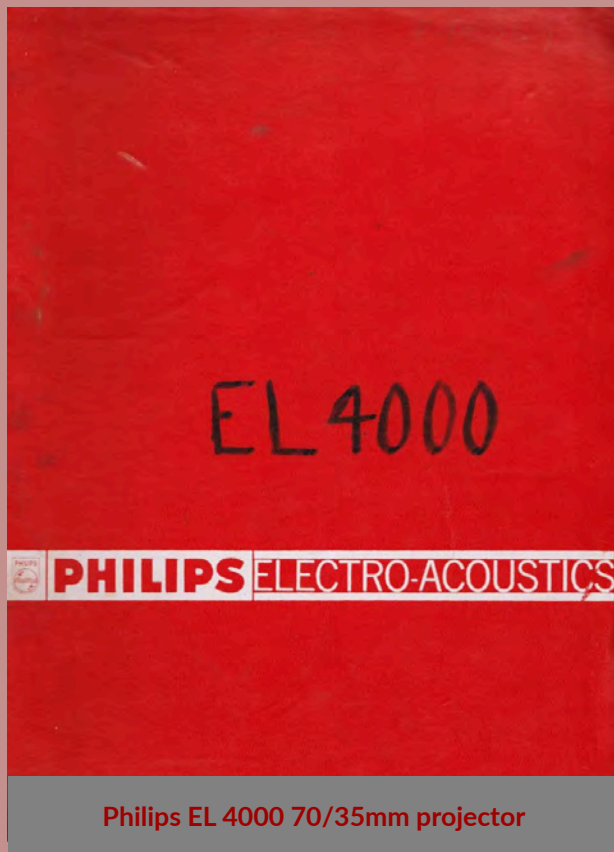


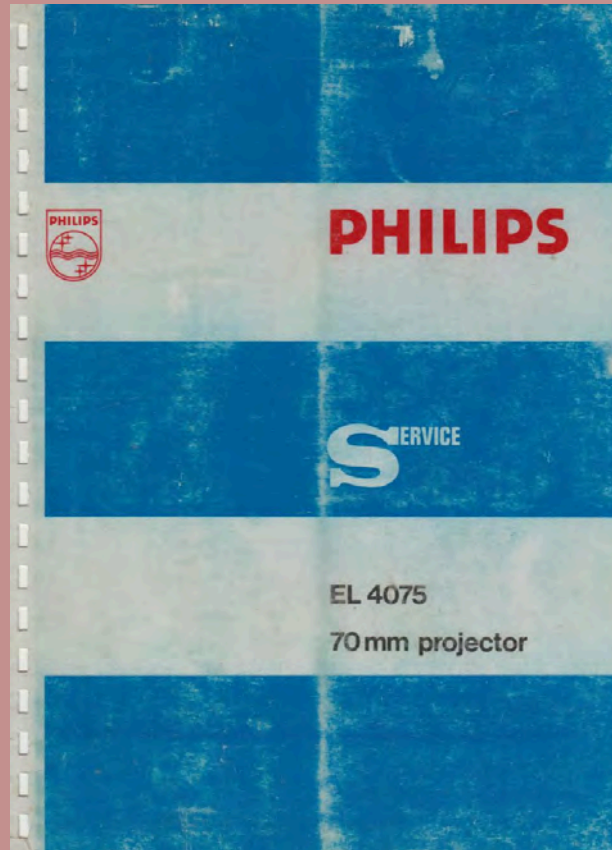


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Philips





**NEW PHILIPS PORTABLE
35 mm SOUNDFILM
EQUIPMENT**



Large and brilliant picture
True-to-life sound reproduction
Easily portable
Assembled in a few minutes
Simple operation
Perfect safety
Great reliability
Easy upkeep
Tropic-proof
Suitable for A.C. mains of
103-257 V, 50 and 60 c/s

For perfection
in sound and projection

PHILIPS *Cinema*



PHILIPS

Portable 35 mm sound-film equipment

This portable 35 mm sound-film equipment has all the outstanding qualities of normal theatre equipment, thereby satisfying all demands for portable installations. The principal features are:

- Easy portability (weight of projector only 87 lbs. 30.5 kg).
- Professional construction.
- Compliance with stringent safety regulations.
- Brilliant pictures up to 15 x 19 (4 m x 3 m).
- Ready adaptation to CinemaScope films (1:2.35) with optional sound track and to Wide-Screen films (1:1.85).
- True-to-life sound reproduction.
- Rapid assembly.
- Simple operation.
- Great reliability.
- Easy maintenance.
- Suitable for A.C. mains of 100-257 V, 50 and 60 c/s.
- Available with 2000 ft. 4000 ft. or 6000 ft. (600 m, 1200 m or 1800 m) twin spool box.
- Stylish finish.
- Sturdy fibre cases for transport.
- Suitable for use under tropical conditions.

These features will be described in detail in the following pages.

*Cinema***Portable 35 mm equipment****Catalogue sheet A-II-21-E**



PORTABLE 35 MM SOUND-FILM EQUIPMENT



This portable 35 mm sound-film equipment has all the outstanding qualities of normal theatre equipment, thereby satisfying all demands for portable installations. Its principal features are:

- Easy portability (weight of projector only 67 lbs, 30.5 kg).
- Professional construction.
- Compliance with stringent safety regulations.
- Brilliant pictures up to 12' x 10' (4 m x 3 m).
- Ready adaptation to CinemaScope films (1 : 2.35) with optical sound track and to Wide-Screen films (1 : 1.85).
- True-to-life sound reproduction.
- Rapid assembly.
- Simple operation.
- Great reliability.
- Easy maintenance.
- Suitable for A.C. mains of 103 - 257 V, 50 and 60 c/s.
- Available with 2000 ft, 4000 ft or 6000 ft (600 m, 1200 m or 1800 m) twin spool box.
- Stylish finish.
- Sturdy fibre cases for transport.
- Suitable for use under tropical conditions.

These features will be described in detail in the following pages.



Zoom Out

PHILIPS

FP 3 Projector



Principal features:

- Utmost reliability.
- Brilliant picture.
- Suitable for normal, CinemaScope and Wide-Screen projection.
- True-to-life sound reproduction.
- Simple operation.
- Easy maintenance.
- Suitable for use under tropical conditions.
- Suitable for A.C. mains of 110 V, 50 and 60 c/s.

Specially designed for:

- smaller theatres,
- ship cinemas,
- pre-view rooms.

1954


Cinema

FP 3 Projector

3922 980 442 41



Zoom Out



35^{mm} SOUND-FILM PROJECTOR
FP 3

PHILIPS
Cinema

THE OBVIOUS PROJECTOR

- for smaller theatres,
- on board ships,
- in pre-cine rooms.

PHILIPS

Philips

PHILIPS



PROVISIONAL

Electromagnetic Division



**EMI Sound & Vision
Equipment Limited**
EMI Pathe Division

54 Beak Street, London, W1P 3DH.
Telephone : 01-437 1544
and
45A Brompton Lane South,
Chiswick, MDT 14L.
Telephone : 061 439 5552

TV FILM PROJECTOR, TYPE FR 16 TV

The PHILIPS 16-mm TV film projector FR 16 TV, which is derived from the well-known 16-mm projector, type 11.3150, is specially designed for film screening. It fulfils the high-requirement for both black-and-white and colour telefilms.

Life and reliability of the projector, quality of picture and sound are not the only outstanding features. Easy operation as well as simple maintenance are also found among them.

LONG LIFE AND GREAT RELIABILITY

- * "Grounded-disc" intermittent mechanism is closed all both.
- * 12-tooth intermittent sprocket, of which five teeth engage in the film perforations.
- * Only four gear wheels and one worm wheel of very robust construction.
- * Heavy, self-starting synchronous motor with timing-belt transmission; no brushes; no speed control.
- * Fast starting and fast breaking device.
- * Picture and sound stability within one second, projector stops within four frames.
- * Easily replaceable, inexpensive runners in the film gate.
- * Side cell, with practically unlimited life and great stability instead of a photocell.
- * Fully transistorized amplifier.

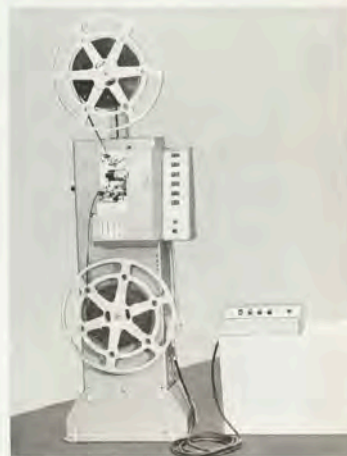
EXCELLENT PICTURE QUALITY

Excellent steadiness of the picture in operation.

- * the unique Philips "grounded-disc" mechanism with 12-tooth intermittent sprocket;
- * the curved runner plate;
- * the double running surfaces which avoid dirt deposit;
- * excellent light equality, colour to colour distribution 95 %.

TRUE-TO-LIFE SOUND QUALITY

- * Low wow and flutter, owing to the heavy sound drum with pressure rollers, fastness of the same construction as that of the Philips 35-mm and 70-mm projectors.
- * Constant frequency-response curve thanks to the high-quality 4th optical system with adjustment for standard and non-standard emulsions, the side cell and the fully transistorized amplifiers.
- * Separate mutes and level controls for matching the reproduction to the properties of the sound track on the film.



RUSH BUTTON OPERATION

- * Amplifier with very little distortion and low harmonic level.
- * Mixing facilities for film sound and microphone signals.
- * The projector can be equipped with a line amplifier for matching with other amplifier systems.
- * Start-stop mute
- * On-off lamp
- * Forward-reverse motor
- * On-off sound
- * On-off magnetic joint track
- * On-off aperture (lens: 30-40 pressure)

Kinoton



Projector FP 18 MC II

The FP 18 MC II 18 mm projector was developed for continuous use in film post production studios, broadcasting and television stations. It is a universal projector suitable for all aspects of studio and film laboratory application, such as preview, mixing, post-synchronising, effects recording, print examination, video scanning and television transmission.



- Master/Slave operation
- Excellent picture stability due to precision intermittent movement with sprocket, where 4 teeth are engaged with the film
- Perfect picture quality and picture illumination
- High shuttle speeds
- Compu/Commag
- Electronic reel drive
- Microprocessor controlled
- Synchronous coupling acc. to DIN 15573 part 2
- Straighttime principle with pneumatic positioning elements
- High-speed memory board
- Automatic shuttling system
- Different frame counters
- Control by ADR systems

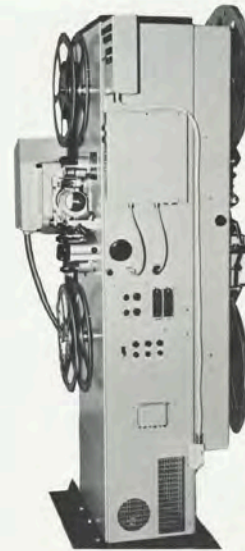
PHILIPS



PROJECTION EQUIPMENT

Dual-purpose projector FP 38

The FP 38 is a dual-purpose projector for 35 mm and 16 mm films which satisfies the most stringent demands as regards the reproduction of picture and sound, thus being a good match for the famous FP 30 projector. The FP 38 projector may actually be considered as a combination of the established projectors FP 30 for 35 mm films and FP 18 for 16 mm films. It is suitable for use in cinema theatres, in studio and in multi-purpose auditoriums.



- universally suitable for all 35 mm and 16 mm films
- built-in amplifying equipment
- completely wired – most easily to be installed
- simple maintenance – simplicity of operation
- long life
- modest space requirements
- possibility of automation of all functions
- professional construction

Norelco

Zoom Out

FP-16 PROFESSIONAL THEATRE AND AUDITORIUM 16MM MOTION PICTURE PROJECTOR

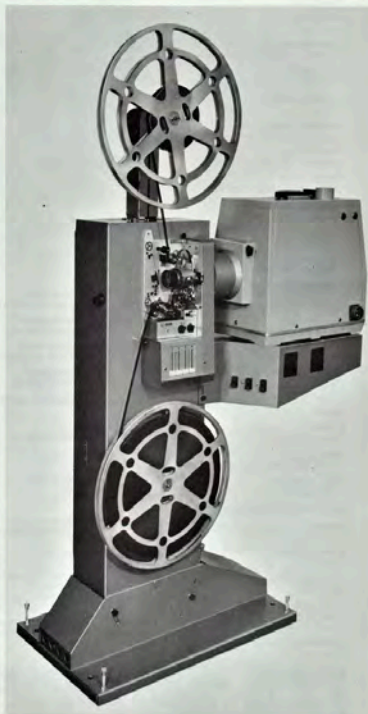
The NORELCO FP-16 Professional 16mm Sound-Film Projector is designed for permanent installations, such as in screening rooms, school auditoriums and small theatres. This modern projector is simple to operate and easy to maintain.

The FP-16 projector is a sturdy, well built machine, precision engineered for long life and superior reliability. It is designed with a unique "grooved disc" intermittent mechanism and 12 tooth sprocket. The use of large feed, holdback and intermittent sprockets, always engaging at least five perforations, enables this projector to reduce print wear and show damaged prints that cannot be run on other projectors.

The left-hand operation of this projector has several advantages particularly in regard to print protection and sound reproduction. The profiled rollers, turner plate, pressure plate and sound drum preclude scratching either the sound track or the picture area, regardless of the emulsion position.

The sound optics and magnetic heads are all positioned toward the operating side and are easily accessible for cleaning and service adjustments when required.

The plug-in, solid state amplifiers feature an optimum frequency response curve. The sound head has low flutter and wow because of the rotary sound drum and pressure roller; the same construction is used in this projector as in the Norelco 35mm and 70/35mm professional projectors. There are vertical sliding potentiometers for microphone volume, film sound volume, bass and treble control.



Philips

KINOTONE FP-16 PROFESSIONAL THEATRE AND AUDITORIUM
16MM MOTION PICTURE PROJECTOR

The **KINOTONE FP-16** Professional 16mm Sound Film Projector is designed for permanent installations, such as in screening rooms, school auditoriums and small theatres. This modern projector is simple to operate and easy to maintain.

The FP-16 projector is a sturdy, well built machine, precision engineered for long life and superior reliability. It is designed with a unique "grooved disc" intermittent mechanism and 12 tooth sprocket. The use of large feed holdback and intermittent sprockets, always engaging at least five perforations, enables this projector to reduce print wear and show damaged prints that cannot be run on other projectors.

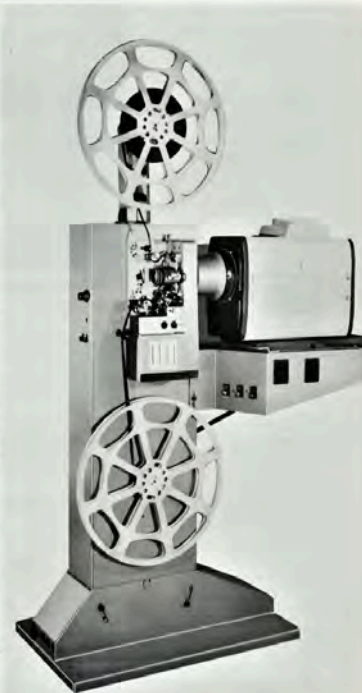
The left-hand operation of this projector has several advantages particularly in regard to print protection and sound reproduction. The profiled rollers, runner plate, pressure plate and sound drum preclude scratching either the sound track or the picture area, regardless of the emulsion position.

The sound optics and magnetic heads are all positioned toward the operating side and are easily accessible for cleaning and service adjustments when required.

The plug-in, solid state amplifiers feature an optimum frequency response curve. The sound head has low flutter and wow because of the rotary sound drum and pressure roller; the same construction is used in this projector as in the Kinotone 35mm and 70/35mm professional projectors. There are vertical sliding potentiometers for microphone volume, film sound volume, bass and treble control.

Shown with OBC* Model 1000-16 Xenon Lamphouse (optional) which provides 4000 lumens with open aperture and f/1.6 lens. Features integral power supply. Equipped with 10' power cord for connection to standard 115V, 60Hz, 15A wall outlet. Requires no exhaust vent. Has current regulator, adjustment control and shaped line filter. Nicotronic, oil-free projection lamp conforms to latest safety standards. Also available: Models 1000-16 (1800 Watt) and 2500-16 (2500 Watt) lamphouses with external power supplies.

*Optical Radiation Corporation



[Zoom Out](#)

PHILIPS



PROJECTION EQUIPMENT

provisional

16 MM THEATRE SOUND-FILM PROJECTOR FP 16

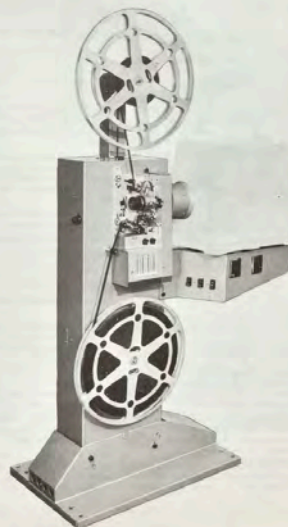
This stationary 16-mm sound-film projector has been specially designed for theatres where high demands are made on the life and reliability of the projector and the quality of picture and sound.

The outstanding features of the projector are its simplicity of operation and maintenance and its suitability for automation.

The projector can be supplied in various versions, viz. with:

- optical soundhead only, or
- optical and magnetic soundheads,
- built-in preamplifier and output amplifier, or
- possibility of connection to an existing cinema amplifier equipment,
- incandescent projection lamp, or
- 500-W Xenon gas-discharge lamp, or
- 900 to 2500-W Xenon gas-discharge lamp, or
- 800 or 1000-W LPP pulsed discharge lamp, or
- arc lamp.

Owing to its great reliability, the FP 16 projector is suitable for use not only in theatres, but also in preview rooms, film studios and television studios, as well as for permanent performances at exhibitions.



Philips



PROJECTION EQUIPMENT

NorelcoMOTION PICTURE
EQUIPMENTNORTH AMERICAN PHILIPS CORPORATION
Rutherford, New Jersey Division
One Philips Parkway, Mahwah, New Jersey 07643

Self-threading portable projector, type LCB 1000 for 16-mm sound and silent film



High light output

Automatic film threading

Easy operation and maintenance

Light weight

Versatile sound system

The LCB 1000 projector of well-styled, modern design combines high picture and sound quality with ease of operation and great versatility. Although small, light and really portable, it is of sturdy construction ensuring reliable operation during many years.

The automatic threading, the automatic end-of-film stop and the built-in rewinding device contribute to the ease of handling. The extensive range of lenses available (including an anamorphic lens), the high luminous flux and the powerful sound system (including public-address facility) are of great advantage in large halls.

The fact that the projector is self-threading is of particular importance when a show comprises several short films: the almost immediate threading makes it unnecessary to splice these films into one film of long

footage. This also avoids loss of time if the sequence film to be changed for a following performance. Programming is therefore greatly facilitated.

If a silent film is shown, or if the sound on the film is not used in the show, the sound system of the projector is available for the transmission of live speech (public address) or for background music from records or magnetic tape. With fully processed and snipped films, the operator may use the strips for recording on the film speech or background music. He can also erase completely or partly any previous recording.

This feature not only widens the scope of the equipment, but may also be essential for the programming of filmed lectures and similar professional performances.

The projector is equipped with a halogen

projection lamp of 250 W, 24 V. It is arranged for two speeds, 18 and 24 frames/s, to suit silent and sound films. Speed switching is combined with automatic change-over from 3-blade to 2-blade shutter (by means of a centrifugal switch). This ensures maximum light output and flicker-free projection at both speeds.

OPERATION

A selector switch permits the film to be run in the normal direction without, with reduced or with full light, and in the reverse direction without or with reduced light.

The motor is of the single-phase, asynchronous induction type. A dual fan on its shaft cools efficiently both the film and the projector. All the essential bearings are self-lubricating and need no maintenance.

Philips

Norelco

PORTABLE PROFESSIONAL 16 mm
SOUND-FILM PROJECTOR — EL 5100

The NORELCO Portable Professional 16 mm Sound-Film Projector, type EL 5100 has special application where the quality of the sound and picture, and the reliability of the projector are of prime importance. This rugged compact projector is simple to operate and easy to maintain.

Although the NORELCO EL 5100 is portable, its high quality makes it a suitable projector for permanent installations, such as in screening rooms.

The portable professional projector is a sturdy, well built machine, precision engineered for long life and superior reliability. The use of large feed, holdback, and intermittent sprockets, always engaging at least five perforations, enables this projector to reduce print wear and show damaged prints that cannot be run on other projectors. The use of large diameter sprockets reduces the wear on a 16 mm print, adding to the life of the print.

The left-hand operation of this projector has decided advantages particularly in regard to print protection and sound reproduction. The underside rollers, runner plate, pressure plate and sound drum precludes scratching either the sound track or the picture area, regardless of the emulsion position.

The sound optics and magnetic heads are all positioned toward the operating side and are easily accessible for cleaning and service adjustments when required.

The excellent screen brightness is due, in part, to the use of a new 150 W, 12 V mirror-condensate lamp with high luminous flux (450 lumens). Where more screen brightness is required or a larger picture is desired, this projector is available equipped with the MARC 300 light source.

The NORELCO Portable Professional 16 mm Sound-Film Projector is simple to operate. All controls are conveniently arranged. A forward-reverse switch is provided for operating a scene. A three-position switch allows the projectionist to select "optical sound/magnetic sound or magnetic recording". The magnetic recording position has a safety inter-lock. A built-in modulation meter is provided on models designed for magnetic recording.

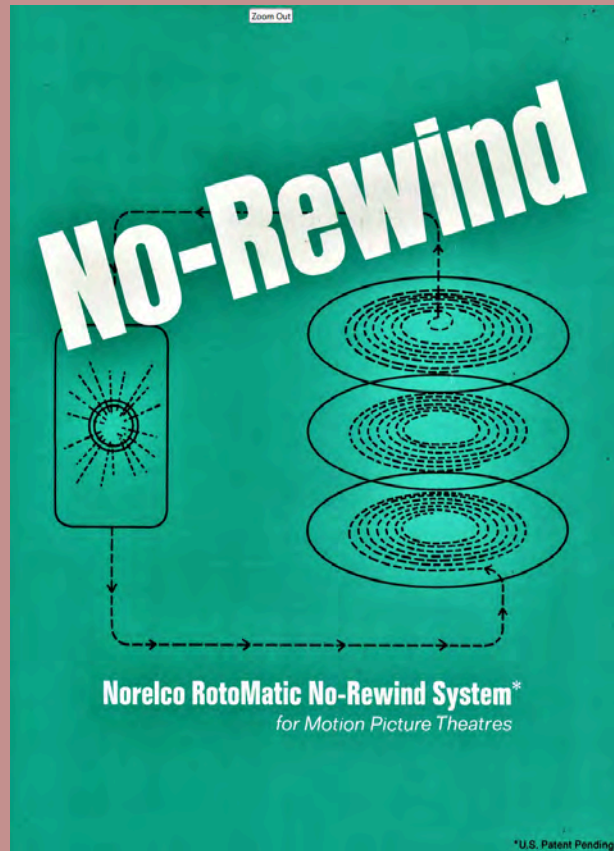
Our lever opens the film path, the film is kept taut while threading, and correct wind loops are formed automatically when the film path is closed.



It is easy to adjust the projector to any line voltage. There is a switch and meter for matching the voltage of the projection lamp to normal line voltage.

The plug-in, solid state preamplifiers feature an optimum frequency response curve. The sound head has low flutter and wow because of the rotary sound drum and pressure roller; the same construction is used in this projector as in the Norelco 35 mm and 70/75 mm professional projectors. There are versatile sliding potentiometers for microphone volume, film sound volume, bass, and treble control.

The rugged steel loudspeaker case consists of two detachable halves each containing wide-range, high-fidelity loudspeakers on large acoustically lined baffles.



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Philips

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PHILIPS



FILM PROJECTION EQUIPMENT



**EMI Sound & Vision
Equipment Limited
EMI Pathe Division**

54 Beak Street, London, W1R 3DH.
Telephone : 01-437 1544
and
45A, Bramhall Lane, South,
Cheshire, SK7 1AH.
Telephone : 061 428 5558

Non-rewind installation



No rewinding of films after the performance

Film damage minimised

Time-saving

Simple to install and operate

Little maintenance

Suitable for automation

By dispensing with the inter-announcing rewind procedure the Philips non-rewind device provides the necessary simplification which makes the automated cinema projection-room a practical proposition. With this system the longest film made at present can be shown without change-over, any type of cinema projector can be used, only a single projector need be used for a full length feature and the film is ready for re-screening at the end of each performance without the need for rewinding.

A fully automated cinema can be obtained by using a non-rewind device and one projector with lens-turret and a Philips punched-card programmer, or two projectors without lens-turret and with a Philips punch-card programmer.

As existing projectors can be used the capital outlay is restricted to the installation of the non-rewind device and the programmer. The non-rewind device can be delivered for presenting 35 mm film programmes or for presenting 35 mm and 70 mm film programmes.

FILM PROJECTION EQUIPMENT

Norelco

MOTION PICTURE
EQUIPMENT

NORTH AMERICAN PHILIPS CORPORATION

Rutherford Avenue, Mahwah, New Jersey 07643

Non-rewind installation

No rewinding of films after the performance

Film damage minimised

Time-saving

Simple to install and operate

Little maintenance

Suitable for automation

By dispensing with the inter-screening rewind procedure the Philips Non-Rewind Device provides the necessary simplification which makes the automated cinema projection-room a practical proposition. With this system the longest films made at present can be shown without change-over, any type of cinema projector can be used, only a single projector need be used for a full length feature and the film is ready for re-screening at the end of each performance without the need for rewinding.

A fully automated cinema can be obtained by using a Non-Rewind device and one projector with lens-barrel and a Philips punched-card programmer, or two projectors without lens-barrel, and with a Philips punch-card programmer.

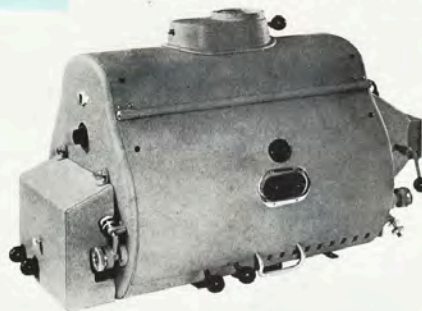
As existing projectors can be used the capital outlay is restricted to the installation of the Non-Rewind device and the programmer. The non-rewind device can be delivered for presenting 35 mm film programmes or for presenting 35 mm and 70 mm film programmes.

Philips



PHILIPS

**55-85 A high-intensity arc lamp,
type EL 4455**



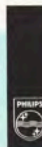
This 55-85 A H.I. arc lamp possesses the following outstanding features:

- Very high luminous efficiency.
- Uniform light distribution.
- Constant light output.
- Neat arrangement and easy accessibility of all the controls.
- Matched to the Philips projectors FP 5, FP 6, FP 6, FP 7 and FP 20; easily adaptable to any other projector.
- Suitable for H.I. carbon rims for amperages from 55 A to 85 A and for L.I. rims from 25 to 30 A.
- Easy operation and maintenance.
- Simple supervision.
- Also available with slide attachment.

Crema

55-85 amps. H.I. arc lamp
type EL 4455

Cat. A-II-14-E



Zoom Out

PHILIPS

Cinema

A-II-14-E

55-85 A
HIGH-INTENSITY
ARC LAMP
TYPE EL 4455



8132

The 55-85 A H.I. arc lamp possesses the following outstanding properties:

- very high luminous efficiency,
- uniform light distribution,
- perfectly steady arc,
- neat arrangement and easy accessibility of all the controls,
- matched to the Philips projectors FP 5, FP 6, FP 56 and FP 7 and easily adaptable to any other projector,
- suitable for all H.I. carbon trims for amperages from 55 A to 85 A,
- easy operation and maintenance,
- simple supervision,
- also available with slide attachment.



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Philips

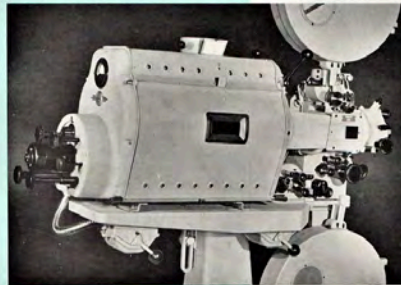
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PHILIPS *Cinema*

A-II-19-E

40-50 A
HIGH-INTENSITY
ARC LAMP
TYPE EL 4450



This 40-50 A high-intensity arc lamp is specially intended for use in medium-sized cinemas. As will be seen from the following description, its outstanding qualities are:

- High luminous efficiency.
- Uniform light distribution.
- Constant output.
- Great reliability.
- Easy operation and supervision.
- Minimum upkeep.
- Sturdy construction.
- Also available with a device for slide projection.



Zoom in

PHILIPS

1927 980 41541

CINEMA RECTIFIER, TYPE 1275

This cinema rectifier is the ideal apparatus for supplying D.C. to high-intensity arc lamps of 60 to 90 A and to 80 A spot lights.

It is characterized by:

- great reliability;
- high efficiency, owing to the adjustment of the current and the stabilization of the arc being practically free from losses;
- easy operation, the intensity being adjustable continuously;
- little maintenance;
- simple installation, no special foundation being required.

PHILIPS

Automatic Programme Selector**EL 4720****Why an automatic programme selector?**

The introduction of various new projection systems has saddled the projectionist with many additional tasks. He must pay attention not only to the treatment of the films, but also to the correct adjustments necessary during the performance, which renders his work much more difficult. Moreover, in many countries there is a shortage of technically trained staff, so that the additional tasks cannot be compensated by an increase in the number of employees. Consequently, most projectionists are nowadays greatly overstressed. This applies also to the smaller cinema, in which formerly one projectionist only was quite sufficient.

Automation of an important part of the projectionist's work can eliminate these difficulties. Of course an automatic programme selector can never fully replace a projectionist, because quite a number of adjustments cannot be carried out correctly without human judgment. Furthermore much of the projectionist's work consists of the care and maintenance of the extensive and expensive equipment adjusted to him.

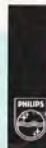
An automatic programme selector frees the projectionist of all the routine operations and gives him the time necessary to ensure a perfect course of the performance which, due to the competition of television and Hi-Fi music, requires more care than ever.



Cinema

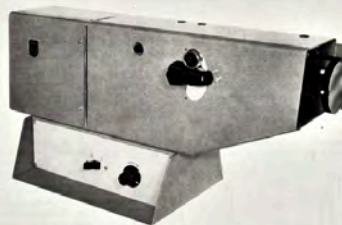
Automatic Programme Selector
EL 4720

Catalogue sheet A-III-17-E



PHILIPS

SPP Lamphouse EL 4465



This lamphouse has been designed specially for replacement of the arc lamp of older projectors by a pulsed discharge (SPP) lamp, thus modernizing the equipment and providing it with many of the special features of the modern Philips FP 10 S projector, viz.:

- High luminous flux at low power consumption.
- Flicker-free projection.
- No smoke, no dust, no gas development.
- Minimum heating of the film.
- Very simple operation.
- Suitable for remote control and/or automation.
- Low running cost.

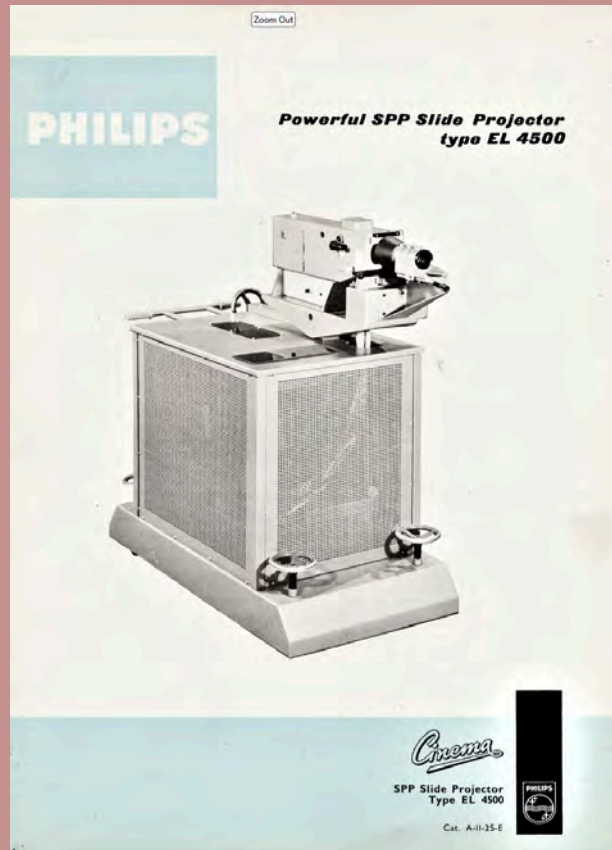
Although the lamphouse has been designed originally for replacing the arc lamp of the Philips FP 5, FP 6, FP 7, FP 56 and DP 70 projectors, its dimensions are so small that it can also be adapted easily to many other makes of projectors, matching parts being supplied on request.

Cinema

SPP Lamphouse EL 4465

Catalogue sheet A-II-24-E





PHILIPSTECHNICAL
DOCUMENTATION
"LIGHT"

SPP

The Philips SFP lamps are super-high-pressure mercury-vapour lamps, specially developed for cinema projection. The very small dimensions and high luminance make the lamp most suitable for use in optical equipment. The lamp is operated by a pulsating direct current variable over the range of 60-120 pulses per second.

Light is produced only during the pulses. The lamp being dark during the intervals, a shutter is unnecessary when the lamp is used in a film projector.

Other features making SFP lamps eminently suitable for cinema projection are:

- Great economy.
- Flicker-free projection, even at very high screen brilliance.
- Constant light output, irrespective of the number of operating hours.
- Perfectly uniform brightness on the screen.

ELECTRICAL AND LIGHTING DATA

224	Applied voltage V	Long term power (kW)	Temperature (°C)	Avg voltage (average) V	Water-cooling capacity ¹ L/min	Life ² (h)	Efficiency %	Pulse frequency [cycles]	Output of pulse max	Avg load
SPF 800 W	1100	average 17	2.0	+500	4	250	55	40-120	1.5, 2.5	57
SPF 1000 W	1200	25-31	1.4	400-	4	120	55	40-120	1.5, 3.1	57

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² Total life of 10 larvae, based on an average of 13 hatching attempts per individual.

ORDERING AND PACKING DATA

Type	Classificatory number ¹⁾	3-digit code	Weight g	Minimum existing quantity	Packing unit Qty	Weight kg	Dimensions cm	Volume dm ³
UPF 900 W	5736-01	9087 725 001	5	10	100	0.5	24 × 20 × 14	6.72
UPF 1500 W	7918-01	9087 724 001	5	10	100	0.9	24 × 20 × 14	6.72

of inclusion of 2 refugees.

RELATIVE LIGHT DISTRIBUTION OVER 2 SPECTRAL BANDS

Species/ family	280-420 nm	420-492 nm	492-600 nm	600-670 nm	670-740 nm	740-810 nm	810-880 nm	880-940 nm	940-1000 nm
SPF 800 m	0.015%	0.38%	0.30%	4.24%	61.7%	46.8%	4.3%	0.38%	0.28%
SPF 1500 m	0.009%	0.36%	0.41%	1.75%	45.1%	44.6%	4.46%	0.23%	
Colour	bl/white	white	blue	blue-green	green	yellow	light-red	dark-red	

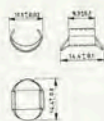
DIMENSIONS



Wine is slightly better in order
to ensure good electrical contact

REFLECTOR

Two reflectors are delivered together with each individual lamp. The reflector shape is optimal for the above application. The reflector can be easily fitted into the cooling unit.



SPP lamps are designed primarily for use in Philips cinema projectors.
For more detailed information and accessory equipment, apply to Product Division ELA/Cinema Dept.



**PULSED SUPER-HIGH-PRESSURE
MERCURY LAMPS**
TYPES SPP 8000 W AND SPP 1000 W

Close: 1/1/00
Replaces: 1/1/00
Page: 1

SP

A-III-7-E

APPARATUS FOR
REPRODUCTION OF
35-mm SOUND FILM

PHILIPS

Universal cinema amplifier cabinet type 2834



Fig. 1

This apparatus is housed in a strong metal cabinet (see fig. 1) so dimensioned that it can easily be set up against the front wall of the projection room, between the projectors.

It is designed on the "all-in-one" principle, all electrical parts for sound reproduction, between the photocell cable and the speaker cable, being incorporated in a single apparatus, making it readily surveyable, easy to operate and, moreover, greatly simplifying the projection-room wiring.

The amplifying units, supply units for the exciter lamps and the electronic-ray oscillograph are all provided with plug contacts, so that they can easily be taken out of the cabinet for servicing without a single wire having to be disconnected.

The beautiful grey frosted enamel finish and the simple, indirectly lighted control panels give the whole an attractive appearance.

PHILIPS *Cinema*

A-III-7-E

UNIVERSAL
CINEMA
AMPLIFIER ASSEMBLY
TYPE EL 5510

This assembly comprises the complete equipment for sound reproduction, necessary between the photocell cables and the loudspeaker cables, all the elements being housed in one single metal cabinet.

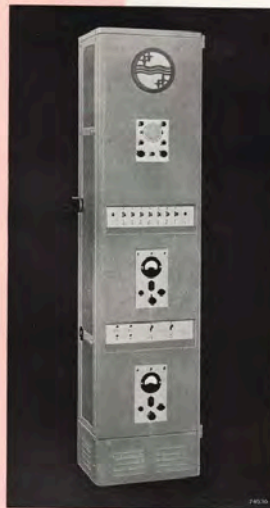
The cabinet is so dimensioned that it can easily be placed against the front wall of the projection room, between the two projectors.

This "all-in-one" construction has the advantage of greatly simplifying the projection-room wiring and of making the whole equipment readily surveyable and easy to operate.

The cabinet is fitted with two identical sets each consisting of one amplifying and one exciter-lamp supply unit. These units, as well as the cathode-ray oscilloscope are fitted with plug contacts, so that they can easily be withdrawn from the cabinet for servicing without a single wire having to be disconnected.

Two types of amplifying units of different output can be supplied, according to the capacity of the auditorium.

The grey frosted-enamel finish and the simple, indirectly illuminated control panels give the whole an attractive appearance.



Zoom Out

PHILIPS

Cinema Amplifier "M 2", type EL 5341

Introduction

This very modern Philips Cinema Amplifier for optical sound tracks, used in conjunction with Philips loudspeakers, forms the ideal system for sound reproduction in halls with a capacity up to 1500 seats. Its principal features are:

- Greatest reliability.
- Small dimensions.
- Easy installation.
- High output power.
- High sensitivity.
- Minimum distortion, hum and noise.
- Continuously adjustable frequency response.
- Two built-in monitor speakers.
- Simple operation.
- Easy maintenance and service.
- Suitable for use under tropical conditions.

The incorporation of all these features in one amplifier has been made possible by the use of transistors and printed circuits, which in recent years have been adopted more and more in electronic apparatus.





Amplifier "M 2", EL 5341

Catalogue sheet A-III-10-E



PHILIPS *Cinema*

A-III-14-E

AMPLIFIER ASSEMBLY
FOR OPTICAL SOUND

TYPE EL 5330

This self-contained Cinema Amplifier Assembly comprises all the elements for optical sound reproduction, required between the photocell cables and the loudspeaker cables, with the exception of the master volume control. The latter is supplied in a separate box for mounting at any convenient place either in the projection room or in the auditorium.

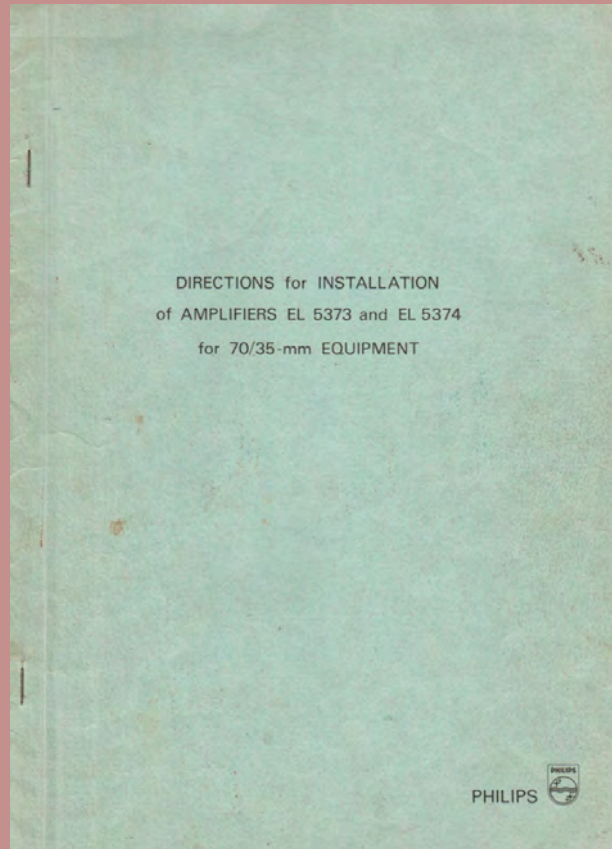
The assembly is housed in a grey standardised 19" cabinet which can be placed anywhere in the projection room. All the units are connected to the internal wiring of the cabinet by means of plugs and sockets, so that they can easily be taken out and re-inserted.

Principal features:

- Easy extension for one to four-track magnetic sound and for Perspecta-Sound, the room for the additional amplifiers being available.
- Equipped with two identical pre-amplifiers and two output amplifiers with change-over switches for 100% standby.
- Change-over facility of exciter-lamp supply from D.C. to A.C. for 100% standby.
- Simple operation.
- Built-in relays, operated by push-buttons on the projectors, for simultaneous change-over of picture and sound.
- Easily surveyable arrangement of the various components.
- Very simple projection-room wiring.
- Suitable for two-way sound reproduction.
- Separate treble and bass controls.
- Minimum distortion.
- Very low hum-and-noise level.
- Suitable for mains of 110-245 V, 40-60 c/s.
- Suitable for use under tropical conditions.
- Functional and modern throughout.



Philips



PHILIPS

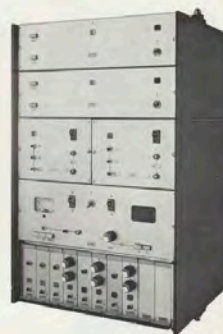
Fully transistorised cinema amplifier equipment Type "O3"

This equipment is suitable for the reproduction of:

- 35-mm films with optical sound track, on two or three projectors,
- three arbitrary non-synch. sound sources, e.g. a gramophone, a microphone and a tape recorder.

Principal features

- Perfect sound reproduction.
- Maximum reliability.
- Small dimensions.
- Very easy operation.
- Minimum maintenance.
- Built-in checking devices.
- Great versatility.



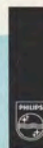
Suitable for:

- all conventional mains voltages and frequencies,
- remote control and automation,
- use under tropical conditions.
- Easily adaptable to projectors and loudspeakers of other makes.

Cinema

Amplifier equipment "O3"

Cat. A-113-20-E



PHILIPS



FILM PROJECTION EQUIPMENT

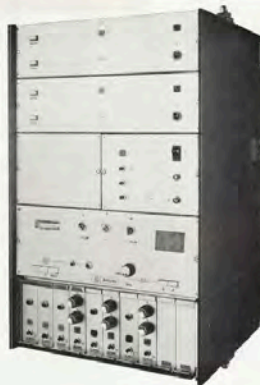


**EMI Sound & Vision
Equipment Limited
EMI Pathe Division**

54 Beak Street, London, W1R 3QH
Telephone : 01 437 1644.
and
46A, Brompton Lane South,
Chislehurst, SE7 1AH.
Telephone : 081 439 8568

**Fully transistorised
cinema amplifier
equipment,
type "O₂"**

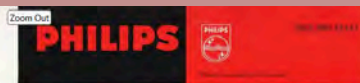
Superb sound reproduction
Utterly reliable
Compact
Operational simplicity
Built-in test facilities
Extremely flexible



This fully transistorised cinema amplifier equipment satisfies the most stringent demands of cinema sound track reproduction. It is suitable for the reproduction of the optical sound track of 35 mm films. In addition up to three non-sync sound sources can be handled, such as microphones, gramophones or tape-recorders.

All conventional mains voltages and frequencies can be used to power the equipment. Remote and automatic control facilities are available. The equipment is suit-

able for use under tropical conditions and is easily adapted to projectors and loud-speakers of various manufacture.



FULLY TRANSISTORISED CINEMA AMPLIFIER EQUIPMENT TYPE "OMA 6"



This equipment consists of:

- type EL 5373 pre-amplifier rack,
- type EL 5374 output amplifier rack,
- type EL 5483 six-channel volume control.

It is suitable for the reproduction of:

- 35-mm films with optical sound track,
- 35-mm films with four magnetic sound tracks,
- 35-mm films with six magnetic sound tracks,
- three arbitrary non-sync. sound sources, e.g. gramophones, microphones or tape recorders.

PRINCIPAL FEATURES

- Perfect sound reproduction.
- Maximum reliability.
- Small dimensions.
- Very easy operation.
- Minimum maintenance.
- Built-in checking devices.
- Great versatility.
- Suitable for:
 - all conventional mains voltages and frequencies,
 - remote control and automation,
 - use under tropical conditions.
- Easily adaptable to projectors and loudspeakers of other makes.

PHILIPS

**Fully transistorised
cinema amplifier equipment
Type "OMA 4"**



This equipment is suitable for the reproduction of:

- 35-mm films with optical sound track,
- 35-mm films with four magnetic sound tracks,
- three arbitrary non-sync. sound sources,
e.g. gramophones, microphones or tape recorders.

Principal features

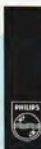
- Perfect sound reproduction.
- Maximum reliability.
- Small dimensions.
- Very easy operation.
- Minimum maintenance.
- Built-in checking devices.
- Great versatility.

- Suitable for:
 - all conventional mains voltages and frequencies,
 - remote control and automation,
 - use under tropical conditions.
- Easily adaptable to projectors and loudspeakers of other makes.

Cinema

Amplifier equipment "OMA 4"

Col. A-III-19-4

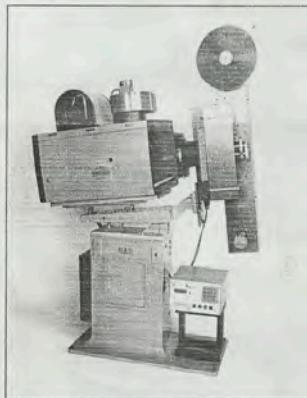


Pioneer Technology Corporation

Zoom Out

LINEAR-LOOP®

FILM PROJECTION SYSTEMS



Destination cinemas, planetariums, museums, and science centers are installing **LINEAR-LOOP®** large screen film projection for their audiences. Why?.....the 8/70mm **LINEAR-LOOP®** presents an image as **IMPRESSIVE** as 15/70mm. Need convincing, visit one of our installations below, or visit our demo theatre in Burbank.

We have several recent installations and more in work.

- Fleischmann Planetarium (dome)
- Strassenburgh Planetarium (dome)
- Le Futuroscope (ride simulator)
- Blue Mountain (19m x 25m screen)
- Alberta Science Center (dome)
- Hearst Castle (19m x 25m screen)
- Expo '98 (360° theatre, 9.35mm)
- Overn, France (8/70mm - 3D)

Why choose the **LINEAR-LOOP®**:

Our customers tell us:

- BEST PICTURE OF ALL
- LONGER PRINT LIFE
- NO SCHEDULED MAINTENANCE
- ROCK STEADY IMAGE ON SCREEN
- USE WITH FILM LOOP CABINETS
- WORKS WITH FILM PLATTERS
- REWINDS THROUGH GATE
- EXCELLENT FACTORY SUPPORT

- LOWER TOTAL COST

→ WE SUPPLY AND INSTALL COMPLETE THEATRE SYSTEMS ←

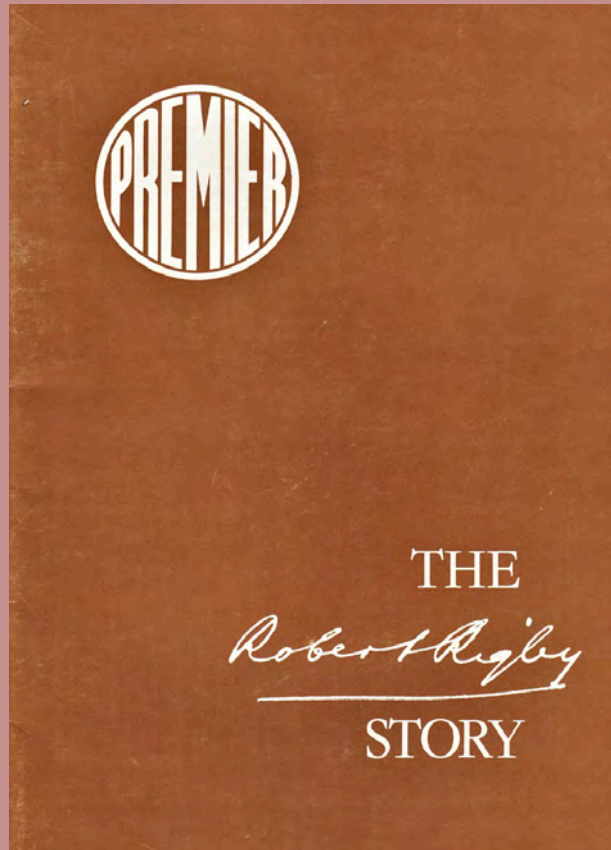
Models available:

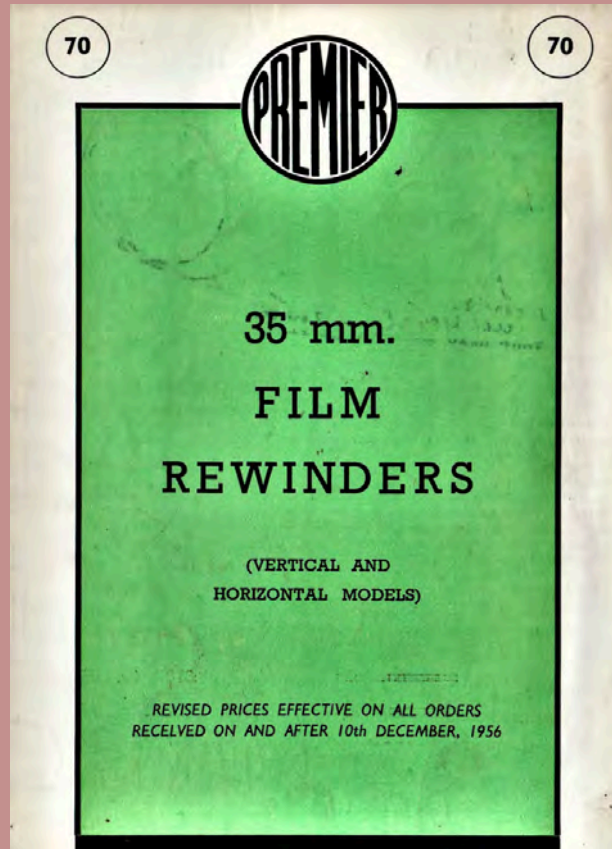
35/4P, 35/8P, 70/5P, 70/8P, 70/10P

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Premier

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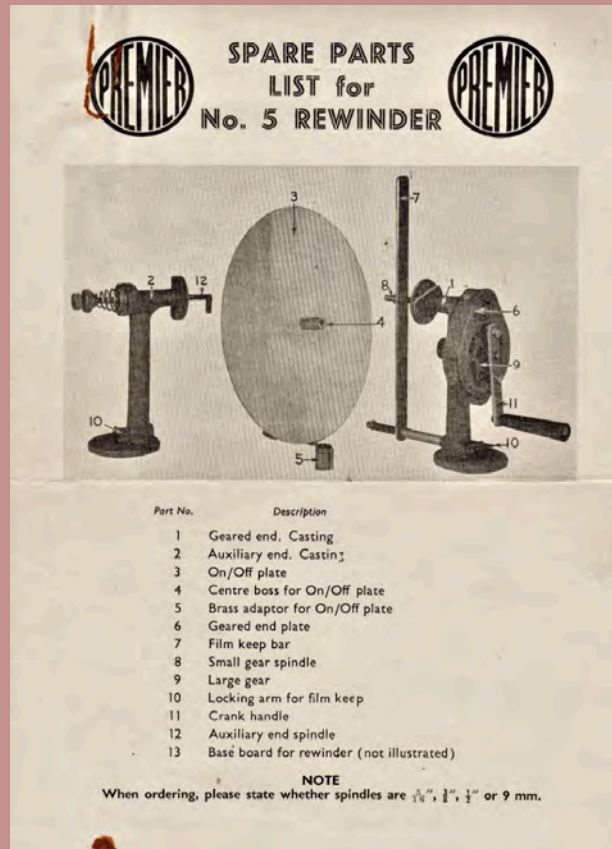
Premier

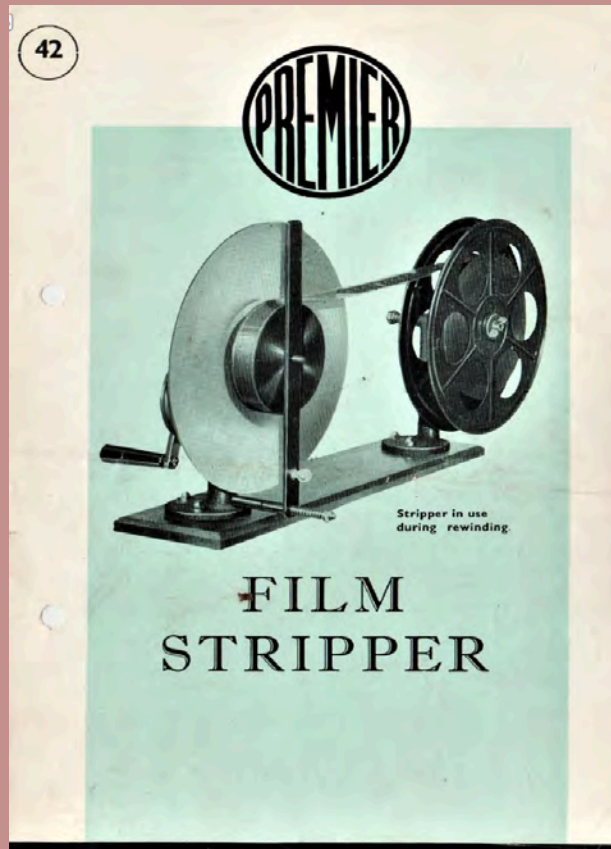
SPARES LIST
35 mm. REWINDER
No. 3 MODEL
 (BAR MODEL OR BASEBOARD MODEL)

SPARE PARTS CHART

Part No.	Description	Part No.	Description
301	Chromium plated bar or baseboard (as required)	315a	Tension spring
302	Main casting for geared end	315b	Steel collar
303	Gear cover	315c	Adjusting nut
304	Screws for gear cover	316	Clamp nut
305	15" diam. stripping disc	317	Handle crank
306	Screw for stripping disc	318	Screw for handle crank
307	Cup casting	319	Handle spindle
308	Pin for cup casting	320	Nut for handle spindle
309	Small gear	321	Lock nut for ditto
310	Large gear	322	Handle grip
311	Spindle for large gear	323	Brass sliding tube
312	Washer for large gear spindle	324	Clamping screw for bar
313	Screw for large gear spindle	325	Washer for ditto
314	Spindle for small gear	326	Nut for ditto
315	Auxiliary end spindle (all models now supplied with snick ends and adjustable spring tension comprising parts 315a/b/c)	327	Main idle end casting
		328	Auxiliary cheek


MOST IMPORTANT
 When ordering, please state whether spindles are $\frac{3}{16}$ " , 9 mm., $\frac{1}{8}$ " or $\frac{1}{4}$ "





Premier

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3D REWINDER

(No. 4 MODEL)



Specially designed to enable large diameter Spools up to 24" diameter to be easily rewound, featuring :

- ★ **LOW GEAR RATIO.**
- ★ **BALL BEARINGS THROUGHOUT.**
- ★ **ADJUSTABLE REWIND TENSION.**

The ratio of gearing has been reduced to 2 : 1, all spindles throughout are fitted with ball bearings and the turning handle is fitted with a long crank which gives ample leverage and ease of motion.

The Idle end is fitted with a friction device the tension of which can be adjusted during operation with a touch of the finger.

A 22" diameter Spooling On Off Plate with Film Keep can be supplied as an extra.

The Film Keep may be locked to either upright as required, and in conjunction with the On Off Plate enables the easy handling of unspooled film.

The whole is elegantly finished in grey enamel.

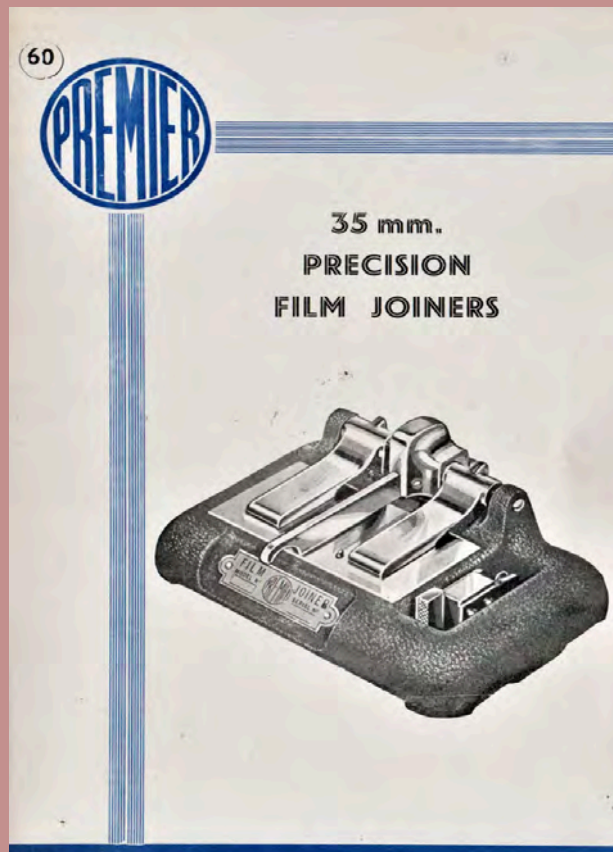
~~£26 10s. 0d.~~
£22. 10s. 0d.

Spooling On Off plate with Film Keep interchangeable on both uprights.



£5 0s. 0d.

These Rewinders can be supplied with 8", 1", 1" or 9mm. spindles to suit any make of Projector ; the size of spindles required must be stated when ordering.

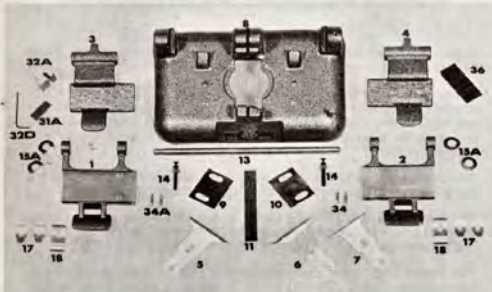




Premier


DE LUXE JOINER


(State whether 35mm. or 16mm.
or Senior 16mm. Model)



SPARE PARTS CHART

Part No.	Description	Part No.	Description
* 1	Lower Clamp, left-hand	19	Screws for 5 and 18
* 2	Lower Clamp, right-hand	20	Washers for 5, 6, 7, 9 and 10
* 3	Upper Clamp, left-hand	21	Screws for 6, 7, 9 and 10
* 4	Upper Clamp, right-hand	22	Grub Screws for 11 and 13
5	Cement Guard	24	Adjusting Screws for 5
6	Upper Spring	25	Adjusting Screws for 6 and 7
7	Lower Spring	26	Adjusting Screws for 11
8	Base	27	Nuts for 14
9	Knife, left-hand	31a	Scraper Blade, safety stock
10	Knife, right-hand	32a	Scraper Body, safety stock
11	Cutting Blade (state whether 1/8", 3/32" or 1/16")	32b	Fixing Screws, safety stock body
12	Scraper Post	32c	Adjusting Screws, ditto
13	Hinge Rod	32d	Key for 32b and 32c
14	Latch Posts	33	Lock Nut for 12
15a	Thrust Springs	34	Locating Pin
17	Over Latch Springs	34a	Steadying Pin
18	Under Latch Springs	35a	Ivory Disc
		36	Brush
		37	Rubber Feet

(N.B.—See separate Spare Parts List for Automatic Film Scraper Unit where fitted)

* When ordering Parts 1—4 state whether for use with 3/32" or 1/16" join

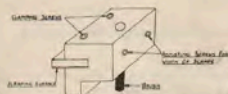


Premier

[Zoom Out](#)

INSTRUCTIONS FOR USING THE PREMIER 35 MM. DE LUXE MODEL FILM JOINER

WITH THE NEW PREMIER DRY SCRAPER



PATENT APPLIED FOR
REGISTERED DESIGN No. 837509

This scraper has been specially designed for use with Tri-acetate film stock (i.e. safety film) but it is equally efficient when used with Nitrate film stock.

METHOD OF SCRAPING AND JOINING

- (1) Lift whole of left hand clamp back to stop.
- (2) Lift upper section of right hand clamp and place film to be joined emulsion side up with masking line on the *left* edge of cutter, then close the top section of clamp to hold film firmly in position.
- (3) Pull left hand clamp down to cut the film, then throw complete right hand clamp back to stop with film held in it.
- (4) Lift upper section of left hand clamp and place film emulsion side up with masking line on the *left* edge of cutter, then close the top section to hold film firmly in position.
- (5) Pull down the right hand knife to cut film which is held in the left hand clamp; this trimmed piece of film which is resting on the centre bar is now ready for scraping.
- (6) Hold the body of the scraper (as illustrated above) with the thumb and second finger and with a **MEDIUM AND EVEN PRESSURE** move the scraper backwards and forwards **SLOWLY** along the surface of the film until quite clean; (when using Tri-acetate film, ensure that a little of the film base itself is removed). A slight downward pressure is obtained by placing the index finger on top of the scraper body.
- (7) Remove the particles of emulsion with the brush provided and apply the film cement.
- (8) Immediately after applying cement drop right hand film clamp, leave for a few seconds, then raise first the left and then the right hand upper sections of clamps and remove the film, which will be found to be perfectly joined.

Please note carefully that:

- (1) the width of the scraping surface is accurately set to give a perfect join and should not be altered unnecessarily; however a key is provided for future convenience.
- (2) for the efficient working of the scraper it is necessary to occasionally remove the emulsion dust from the scraping surface with a stiff brush.



Heater Unit

**for De Luxe Model
Film Joiners**

is a MUST



Premier

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Zoom Out

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AUTOMATIC

CUE-DOT MARKER



- ★ Applies 4 perfect cue marks simultaneously.
- ★ Ideal for Television and Wide Screen presentation.
- ★ Interchangeable plates for positive and negative film.
- ★ Cannot damage the film.

The "Premier Automatic Cue-Dot Marker", is a development of the "Standard Premier Cue Marker". It cannot damage or cut the film and it scribes four extremely neat cue marks simultaneously.

The base is cast aluminium and the top plates Duralumin, the plate on which the film lies is opaque Perspex, engraved and fitted with pins so as to give automatic alignment for the film to be marked. This Perspex plate is positioned on the base by two register pins. The scribing cutters are hardened steel. Two Perspex plates are supplied with each marker, one for positive and one for negative film. Special plates can be supplied for other types of film. Four rubber feet are fitted on the base.

The base of the Marker is attractively finished in a stove enamel and the Duralumin top plates are polished.

In operation the film is positioned on the pins on the Perspex plate, the Duralumin top plates lowered and then by moving the plastic knob from left to right two or three times, the four marks are scribed on to the film.

The diameter of the Cue Marker for both 16 mm. and 35 mm. is .042in. This size is particularly useful on wide screen cinema presentation where larger marks are objectionable. The smaller size is also eminently suitable for television use.

35 mm. MODEL. £18 15s. 0d.

16 mm. MODEL. £12 15s. 0d.

Premier

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FILM CUE-DOT MARKER

(for 35 m.m. release prints)

This Marker has been manufactured to facilitate the safe and accurate scribing of Motor and Change-Over Cues on 35 m.m. Cinematograph Release prints where the original printed cues have become obliterated or extracted.

It is primarily intended for use in Cinema Projection rooms where it is indeed indispensable ; but it is equally useful in Renters Organisations and Film Laboratories.

It has been thoroughly examined, approved and recommended by the Kinematograph Renters Society ; as also by the Film Damage Advisory Committee.

It embodies these special features :

- ★ Eliminates danger of film damage and mutilation by precluding unsightly hand-made cue marks.
- ★ Spring tensioned marking tool that cannot damage film.
- ★ Scribes circular mark with transparent outlines substantially similar to BSI Specification 1492 of 1948.
- ★ Film is located by pins for accurate positioning, and held rigidly by clamp during the operation.
- ★ Extremely simple, speedy, accurate and in cost reasonable.

Price ~~£2-17-6~~ £3 - 17 - 6



AUTOMATIC FILM SCRAPER

Instructions
(Replacing Operation 5—Splicing Instructions)

HOW TO OPERATE

● *This Scraper is adjusted before leaving our works and is set to remove the emulsion and part of the substratum from standard film bases. It is fully automatic in action providing the instructions overleaf are carefully adhered to.*

Premier

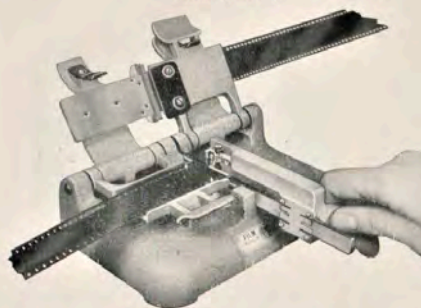


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AUTOMATIC FILM SCRAPER

(For the 35 mm. De Luxe Joiner)

(Patent applied for)



This latest addition, to the PREMIER range of Film Joiners, incorporates the following outstanding features :

- ★ It can be fitted to any existing Premier De Luxe Joiner.
- ★ It gives a precision scrape of even depth.
- ★ It is so designed as to remove the emulsion and binder from the film stock thus leaving the celluloid ready to be "welded" to the other end.
- ★ It is simple, easy and amazingly efficient and a boon to anyone joining film.

The method of operation is simple. By moving the scraper back and forth across the film, emulsion and binder are rapidly removed. The cutting blade is so set as to just remove these two layers, further movement will not scrape away the celluloid.

The whole attachment is precision machined and ground. The centre bar being of hardened ground stock. The actual scraping blade is made of high speed tungsten steel. The cutting knives are of hardened steel. The main casting is brass attractively finished in dull nickel.

The attachment as described above can be fitted to any existing PREMIER De Luxe Joiner. It is a **MUST** in Cinemas, Cutting and Editing Rooms, etc., if perfect joints are to be ensured.

£20 0s. 0d. ~~£16 16s. 0d.~~ complete with Joiner as illustrated
 £7 17s. 6d. ~~£6 16s. 0d.~~ Scraper attachment only







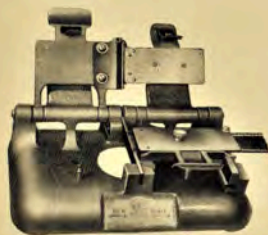
Premier



Premier

EQUIPMENT *for*
CINEMASCOPE

72



- *Non-magnetic and Demagnetised Parts.*
- *Scrapes both sides, magnetic tracks from the back, emulsion from the front.*

These SPOOLS are extremely strong and robust. They have all the advantages of Premier Patent Spools and Hubs which for so many years have been standard in Projection Rooms.

The Spools can be supplied in three sizes 15" (2,000 ft. approx.), 17" (3,000 ft. approx.) and 22" (5,000 ft. approx.) All can have a zinc alloy hub or a plastic hub, the advantages of the plastic hub being its lightness; both are non-magnetic and both hubs accommodate steel bushes for the various sizes of Projector spindles, viz.: $\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ " or 9mm.

Manufactured for long life and in the best tradition of Premier Spools they are attractively finished in grey enamel:

- 15" — £11.76d.
- 17" — £3. 0.0d.
- 22" — £4. 0.0d.

The PREMIER 35mm. DE LUXE
FILM JOINER

for CinemaScope has been specially designed for use with film stock having CinemaScope (Fox hole) size perforations. Similarly constructed to the normal PREMIER De Luxe Joiner it gives a precision $\frac{1}{32}$ " between perforation join on the mask line.

Constructed with special non-magnetic parts it is a necessity wherever CinemaScope Film has to be handled.

With this Joiner the magnetic tracks are easily removed, prior to removing the emulsion in the normal way.

In every way up to the high standard of Premier Joiners, it is strongly constructed, precision machined and attractively finished in grey polychromatic enamel:

£12.0.0d.

£15. 0. 0d.



- *Non-magnetic.*
- *Supplied for any standard projection spindle.*

Premier

Zoom Out

PREMIER

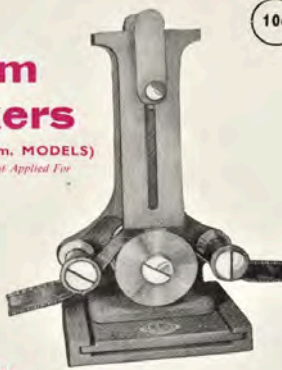
**Film
Waxers**

(35 mm. & 16 mm. MODELS)

Patent Applied For

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- ★ Oilite bearings
- ★ Duralumin rollers
- ★ Ball bearings to main roller
- ★ Channelled base plate for easy removal
- ★ Non-magnetic
- ★ Precludes the heavy cost of process waxing



This latest model Film Waxter constitutes a considerable improvement in design and efficiency on all portable Waxers at present manufactured. It is designed to prevent the emulsion sticking with all the subsequent mutilation hazards during projection.

The outstanding features of this new device are: the threading arrangements whereby the film can be inserted and withdrawn at any time during the processing, thus facilitating the splicing of joins when necessary; introduction of sturdy oil impregnated bearings thus eliminating the necessity for frequent oiling; and the precision balanced weight with special wax retaining clips, by which instantaneous engagement or disengagement of the wax with the film may be effected.

The wax strips are specially made from imported Waxes of the finest grades; they are non-spreading and will coat only the edges of the film without causing deleterious effects to the sound track or sprocket holes.

The waxer is supplied with a channelled fixing base plate to enable it to slide into position or to be quickly removed and stored out of the way when not in use. Two models are manufactured—one for 35mm., the other for 16mm. (which is equally effective for waxing either sound or silent film stock).

This device which is compact and superbly finished represents the very latest in precision equipment for film waxing which the manufacturers are proud to offer to the trade.

(Please specify 35mm. or 16mm. Model when ordering)

716NS
35mm wax
6-1

Premier


54

PREMIER

**FILM
WAXERS**

(35 mm. & 16 mm. MODELS)

Patent Applied For



NOW FITTED WITH
BALL BEARINGS TO
MAIN ROLLER.

This latest model Film Waxed constitutes a considerable improvement in design and efficiency on all portable Waxers at present manufactured. It is designed for use in Film Processing Laboratories and also in Cinemas showing first run films to apply a thin coating of wax to the edges in order to prevent the emulsion sticking with all the subsequent mutilation hazards during projection.

The outstanding features of this new device are : the threading arrangements whereby the film can be inserted and withdrawn at any time during the processing, thus facilitating the splicing of joints when necessary ; introduction of sturdy oil impregnated bearings thus eliminating the necessity for frequent oiling ; and the precision balanced weight with special wax retaining clips, by which instantaneous engagement or disengagement of the wax with the film may be effected.

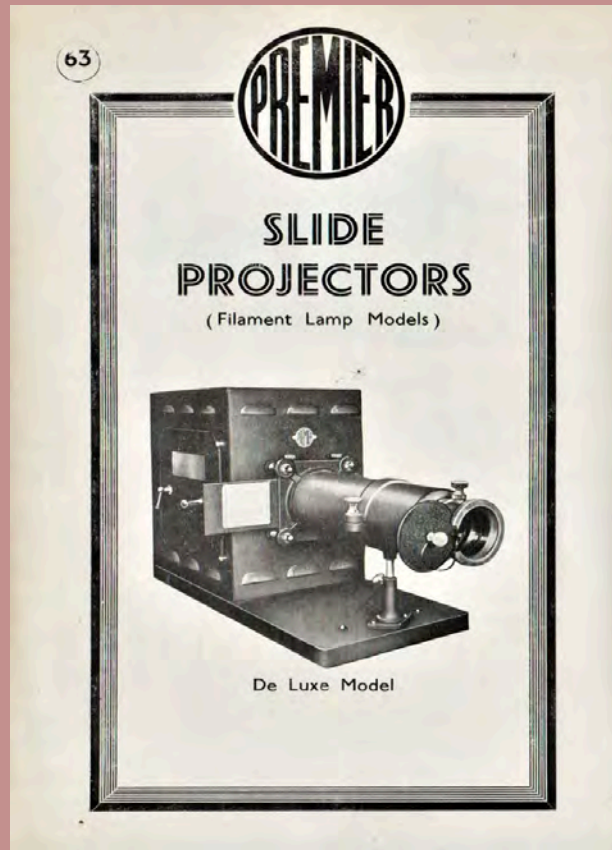
The wax strips are specially made from imported Waxes of the finest grades ; they are non-spreading and will coat only the edges of the film without causing deleterious effects to the sound track or sprocket holes.

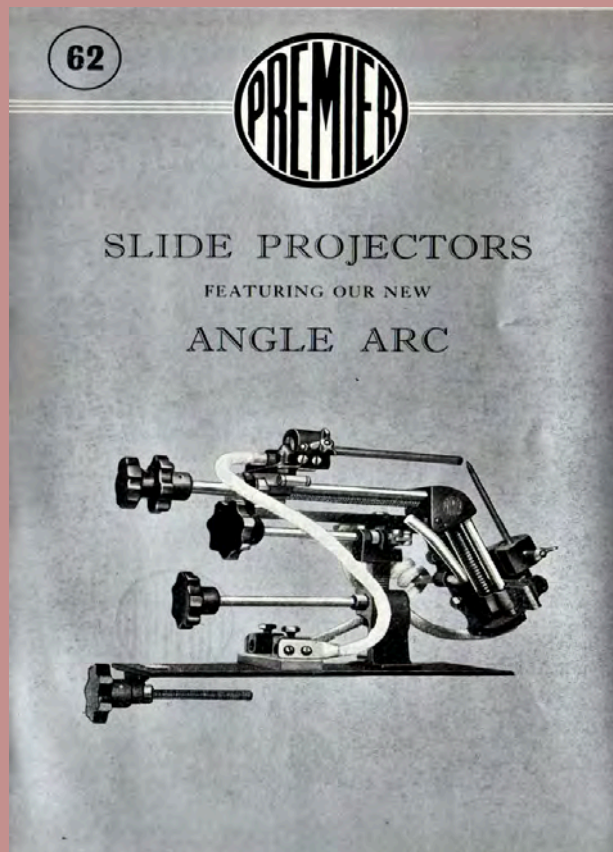
The waxer is supplied with a channelled fixing base plate to enable it to slide into position or to be quickly removed and stored out of the way when not in use. Two models are manufactured—one for 35mm., the other for 16mm. (which is equally effective for waxing either sound or silent film stock).

This device which is compact and superbly finished represents the very latest in precision equipment for film waxing which the manufacturers are proud to offer to the trade.

Price : **£6.6.0** (including box of wax) 7. 7. 0.
Spare boxes of wax : ~~2.0.0~~ 1.5.0 each

(Please specify 35mm. or 16mm. Model when ordering)



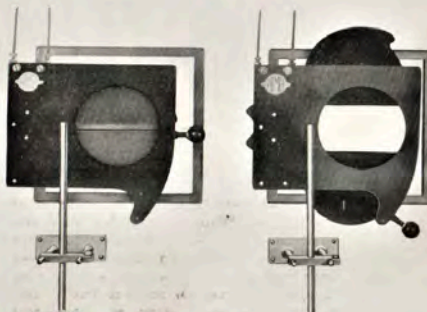


Premier



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"PREMIER" CHANGEOVER DEVICE



Special Features

- ★ Instantaneous Changeovers.
- ★ Independent of Projectors.
- ★ Simply fitted either vertically or horizontally.

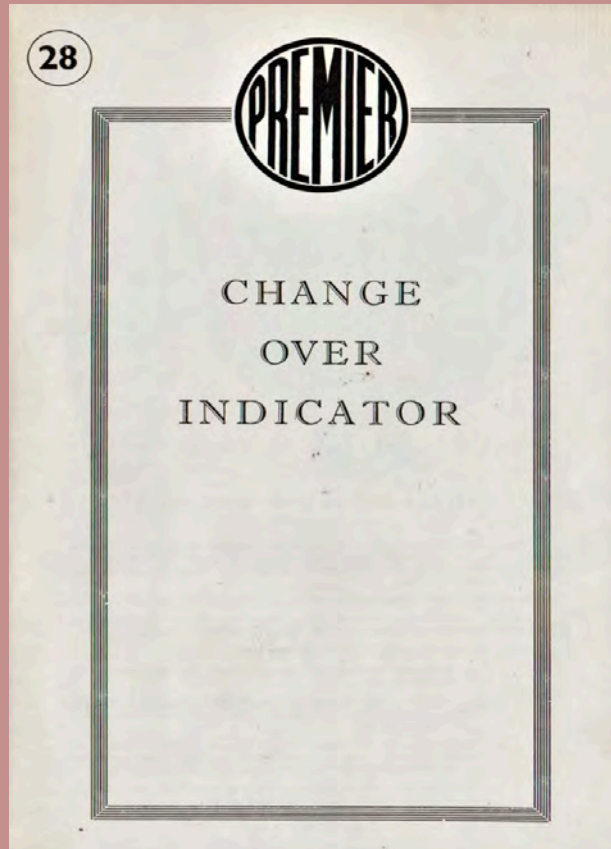
The PREMIER Changeover Device has been specially designed to meet the present day requirements of CinemaScope and other wide screen presentation techniques.

This Device consists of a pair of mechanically controlled cut-offs which can be mounted in any suitable position, either vertically or horizontally, in front of the projection aperture; as they are entirely independent of the Projectors they in no way interfere with the Anamorphic or other wide angle lens nor necessitate the moving back of the Imphouse with the consequent loss of light and other attendant difficulties.

This Device possesses the further advantage of enabling the Operator to obtain an instantaneous changeover effect. The action is effected by two cables operating coupled actuating plates and can be controlled from either cut-off unit.

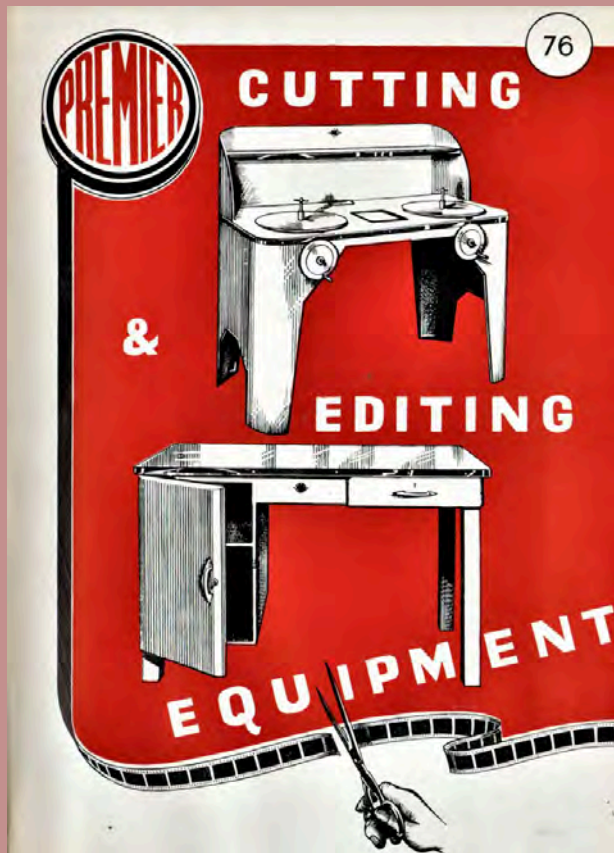
It is of simple but sturdy construction and can be fitted with the utmost ease in any Operating Room; all that is required being four fixing bolts or screws in the front wall either below, or at the side of the projection aperture. A further advantage of this Device is that no stray light can pass through the Projection aperture as the mechanism backplate shields all stray light and permits only the ray from the lens to pass through its $5' \times 3\frac{1}{2}'$ aperture. The cut-off and plates are finished in optical black and the fixing and adjusting parts in dull nickel; although the whole can be supplied in black and this should be stated on the order if required.

The price complete is : £12. 12. 0d. per pair

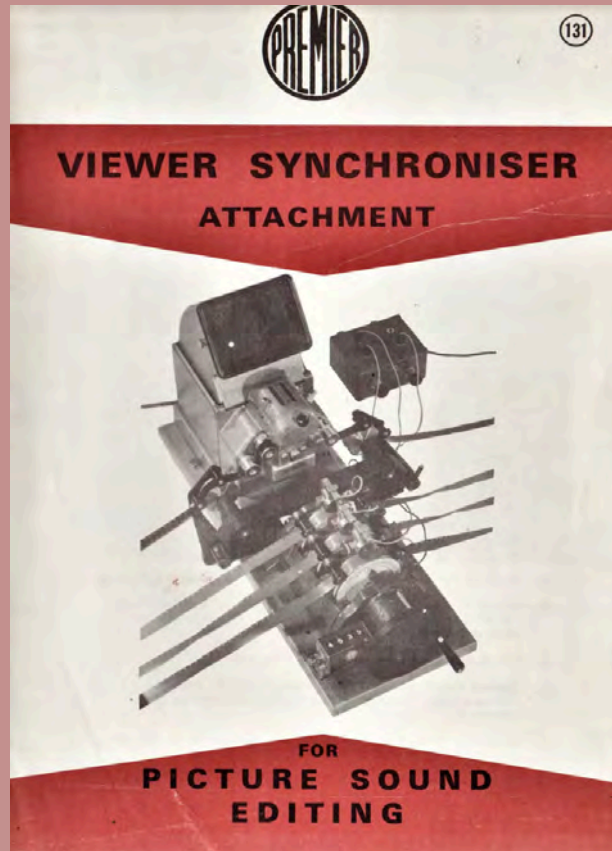




Premier







Premier

Zoom Out

74

PREMIER FIBRE BIN



- ★ A NECESSITY IN EVERY CUTTING and EDITING ROOM
- ★ LIGHT AND DURABLE
- ★ REMOVABLE CLOTH LINING

This bin constructed in fibre with a strongly reinforced top and bottom is a standard item in Cutting and Editing Rooms. A removable cloth lining can be supplied with the bin.

The standard size bin, as illustrated, is 21" in diameter and 30" high. Other sizes and shapes can be specially made. Quotations can be supplied against individual specifications.

STANDARD BIN (Illustrated) 21" diameter × 30" high
70/-
Cloth Lining 17/6

Premier

40



Ash Containers

FOR USE IN CINEMAS, THEATRES,
DANCE HALLS AND ALL PUBLIC
BUILDINGS



THESE CONTAINERS are
most suitable for placing in
vestibules, corridors, halls, etc.

They are of ample capacity
being 12 ins. square by 12 ins.
deep.

They are strongly constructed in
stout gauge double seamed steel, and the cover is
easily removable for emptying purposes.

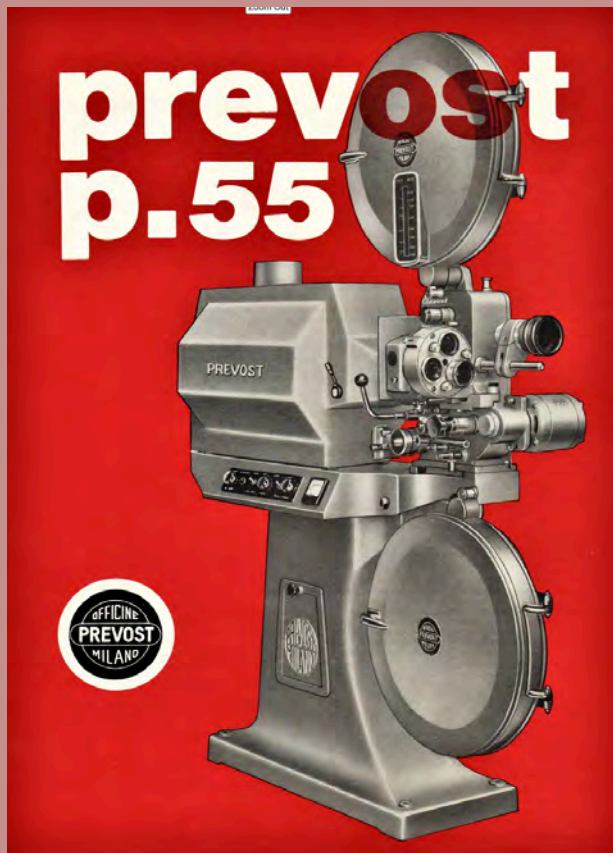
They are finished in a range of attractive colours :
gilt, silver, blue, beige, green or grey.

PRICE **35/-** EACH
(PLUS PURCHASE TAX)

Manufactured by

ROBERT RIGBY LTD. NORTHINGTON ST. LONDON W.C.1
Telephone : HOLborn 2944-5 Telegrams : "Precinemat, London"

Prevost



Zoom Out

prevost p.55/4000

Proiettore cinesonoro 35 mm.
con riavvolgimento autonomo del film



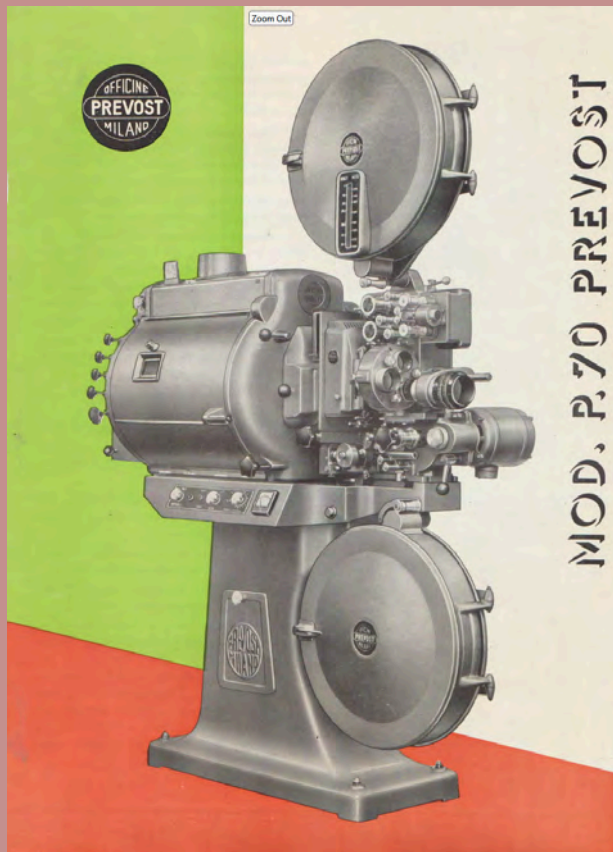
**OFFICINE
PREVOST
MILANO**

OFFICINE PREVOST - Via Desenzano 2 - 20146 MILANO (Italy) - Tel. 4043283 - 4043370 - 4043289





Prevost









Rank

*Hang in a prominent position
in the projection booth.*

XENON LAMPS

WARNING

**XENON LAMPS OPERATE AT HIGH PRESSURE AND
CAN BE DANGEROUS IF HANDLED CARELESSLY OR
USED INCORRECTLY.**

**ALWAYS WEAR FACE MASK AND
GLOVES**

When carrying, installing or removing a
Xenon lamp —

When working in the interior of a
lamphouse in which a Xenon lamp is
installed —

When cleaning or changing a mirror.

**HANDLE THE XENON LAMP ONLY
IN ITS PROTECTIVE COVER**

When installing a lamp remove the protec-
tive cover **LAST**

When removing a lamp fit the protective
cover **FIRST**.

**DO NOT ATTEMPT TO STRIKE THE
LAMP WHILE THE LAMPHOUSE DOOR
IS OPEN**

A safety switch is fitted to prevent the lamp
from striking or continuing to burn while
the door is open.

**DO NOT TAMPER WITH THIS SWITCH
OR ATTEMPT TO OPERATE IT OTHER
THAN BY THE DOOR LATCH:**

**DO NOT OPEN THE LAMPHOUSE
DOOR WHILST THE LAMP IS
BURNING OR STILL HOT.**

Sudden exposure to cold air may fracture
a hot bulb. Switch off supply and **WAIT
10 MINUTES BEFORE OPENING DOOR.**

**DO NOT ATTEMPT TO GAIN ACCESS
TO THE ELECTRICAL COMPONENTS
IN THE LAMPHOUSE WHILE THE
SUPPLY IS CONNECTED.**

The striking circuit operates at very
HIGH VOLTAGE.

**DO NOT OPERATE AT CURRENTS
EXCEEDING THE MAXIMUM RATING
OR INTERFERE WITH THE PROPER
VENTILATION OF THE LAMPHOUSE**

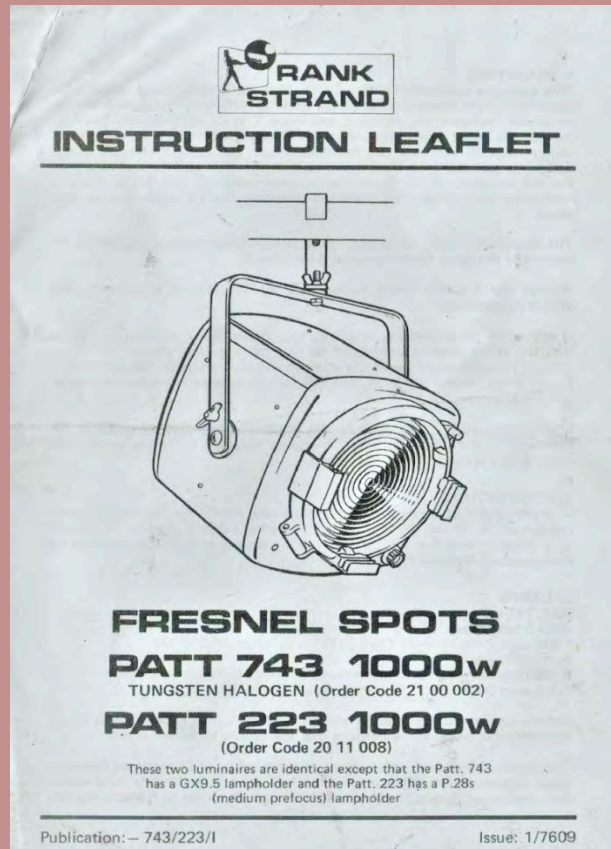
**DO NOT MAKE ANY UNAUTHORISED
CHANGES TO THE LAMPHOUSE OR
ITS ASSOCIATED SUPPLY EQUIPMENT**

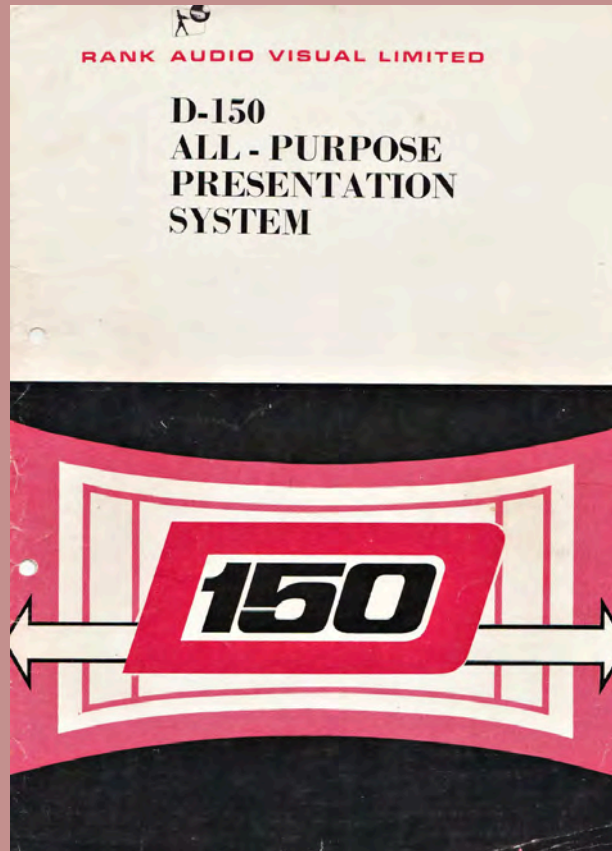
The lamphouse is designed to give
maximum safety if these rules are
observed.

**RANK AUDIO VISUAL**

P.O. Box 70, Great West Road, Brentford, Middx, TW8 9HR

Telephone: 01-568 9222





RANK LEISURE SERVICES

THEATRE DIVISION

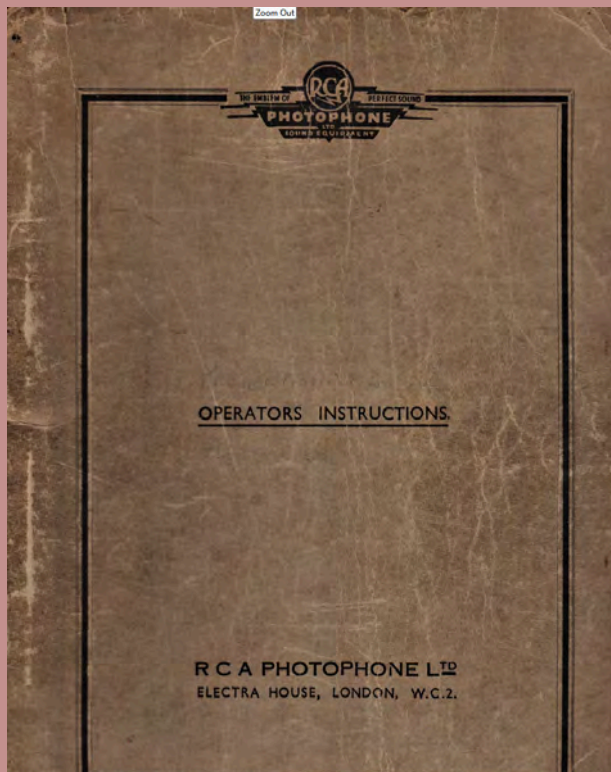
THEATRE OPERATING STANDARDS AND ROUTINES



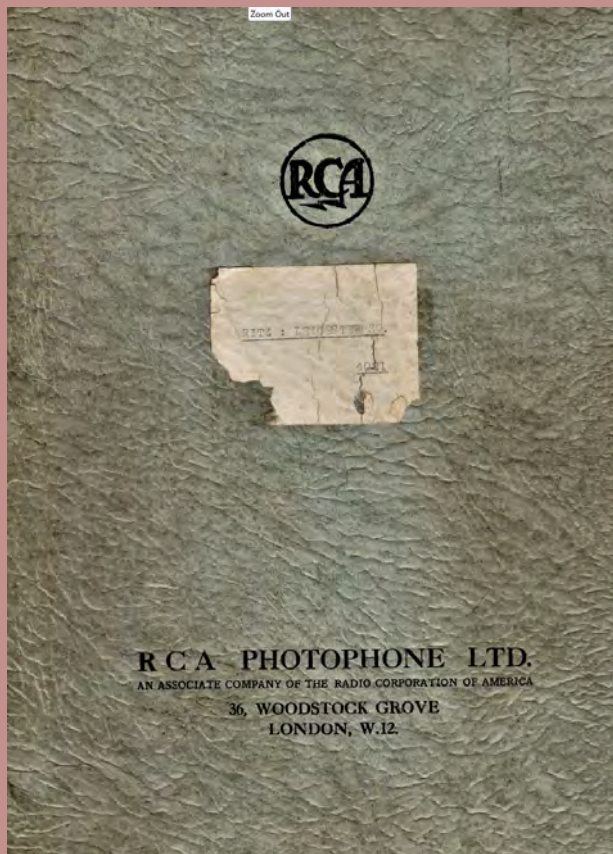
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RCA



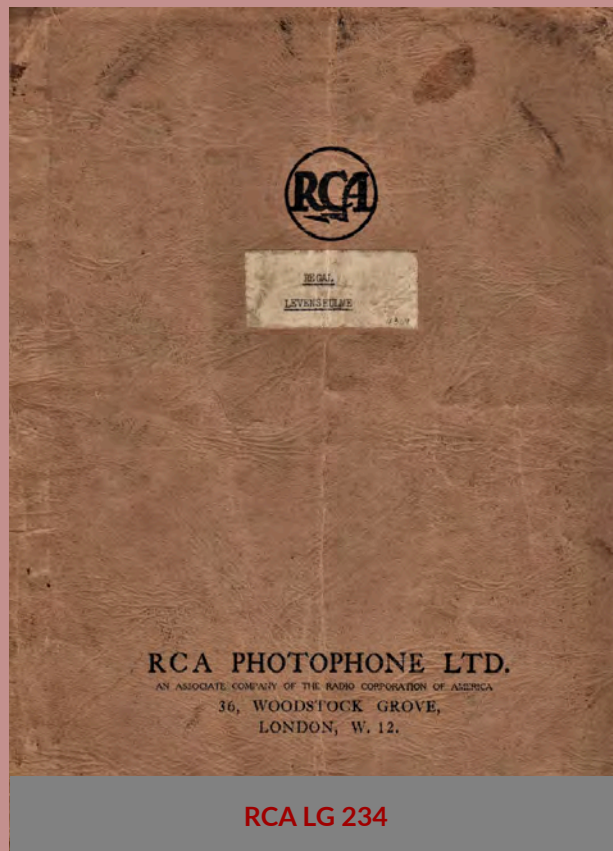
RCA LMI-9031 soundhead



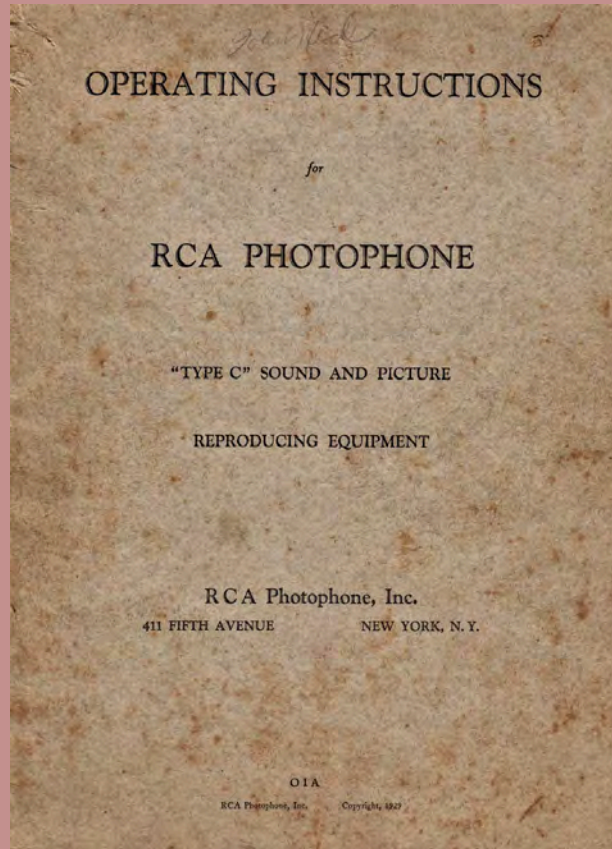
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RCA LG 234



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Rectifiers

POWER SUPPLIES for xenon arc lamps

N.1 SERIES FOR SINGLE-PHASE INPUT / N.3 SERIES FOR THREE-PHASE INPUT



A complete line of solid state high quality power supplies expressly designed to ensure long life of Xenon bulbs from 450 to 6500 Watt.

Have the following features:

- ☐ Designed to meet the recommendations of the Xenon bulb manufacturers.
- ☐ Continuous output regulation over entire operating range.
- ☐ Special IREM transformer with adjustable magnetic shunt.
- ☐ Silicon diodes hermetically sealed, no aging.
- ☐ Free convection cooling - No fans.
- ☐ Designed for continuous duty in ambient temperature of 40° C.
- ☐ ON-OFF remote control switch.
- ☐ Two terminals to provide 220 Volts to igniter when unit is on.

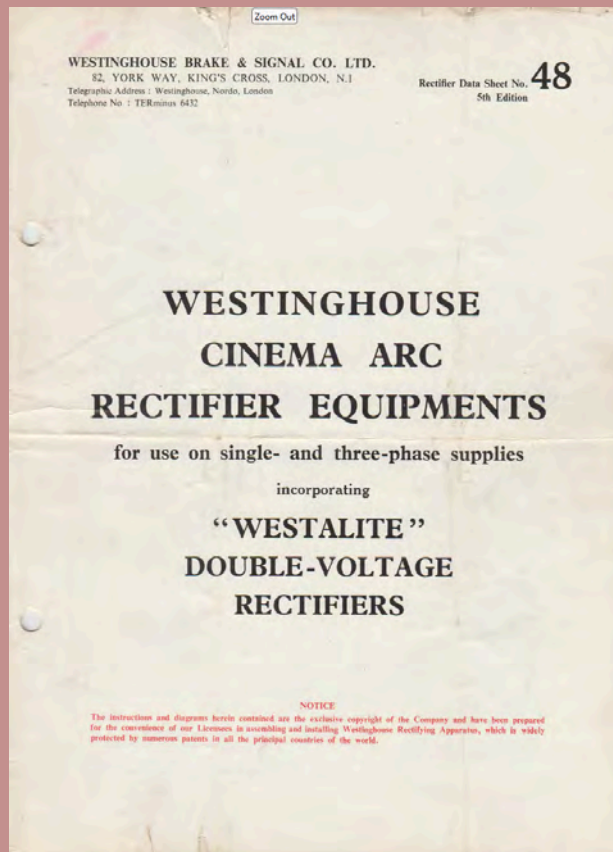
ONE YEAR WARRANTY
IREM HAS MANUFACTURED POWER SUPPLIES FOR ARC LAMPS FOR MORE THAN TWENTY YEARS AND EXPORTS THEM TO ALL WORLD MARKETS.



Rectifiers



Rectifiers



WESTINGHOUSE BRAKE & SIGNAL CO. LTD.
82, YORK WAY, KING'S CROSS, LONDON, N.1
Telegraphic Address : Westinghouse, Nords, London
Telephone No : TERMINUS 6412

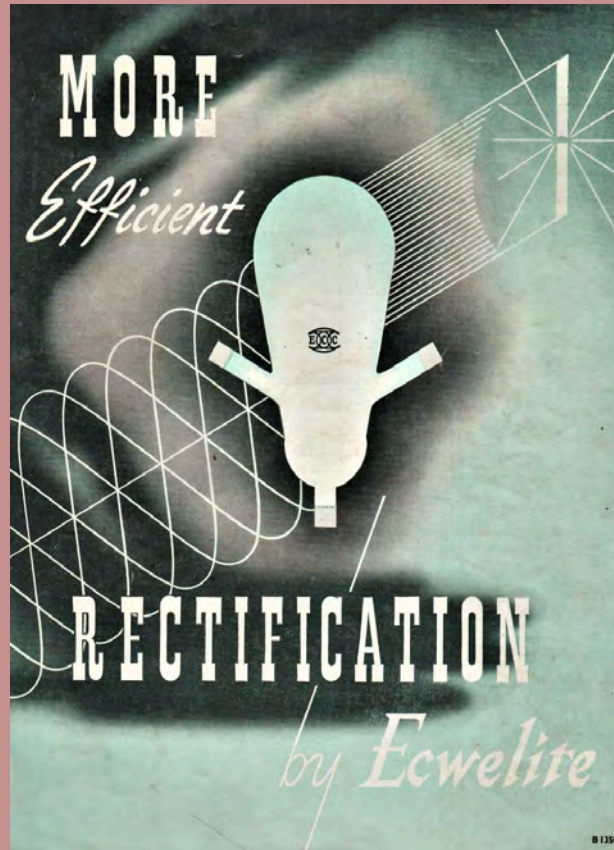
Data Sheet No. 806-SP

WESTALITE SINGLE-PHASE CINEMA ARC RECTIFIER SET TYPE 775



NOTICE
The instructions and diagrams herein contained are the exclusive right
for the convenience of our Licensees in assembling and installing.
widely protected by numerous patents in the U.S.A. and foreign.

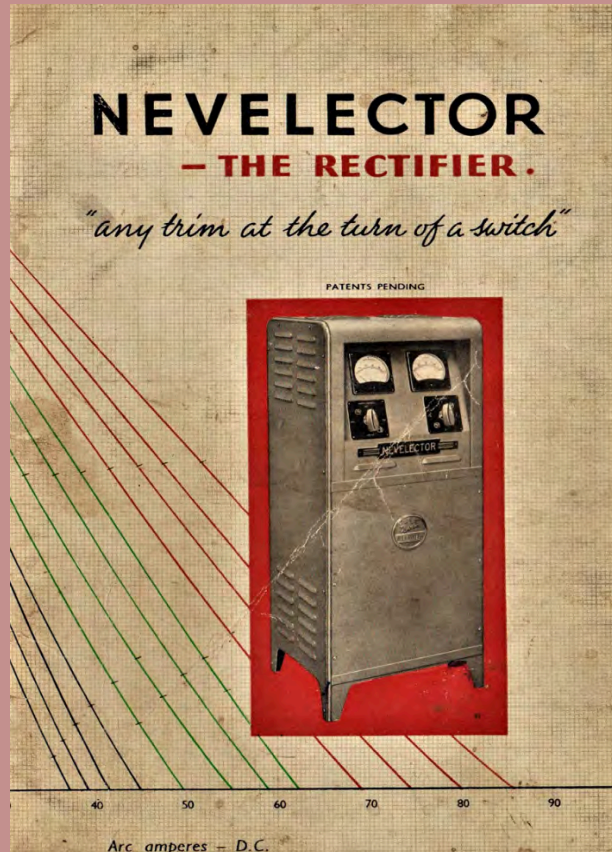
I have
Approved
for use
by
the
D



Rectifiers



Rectifiers



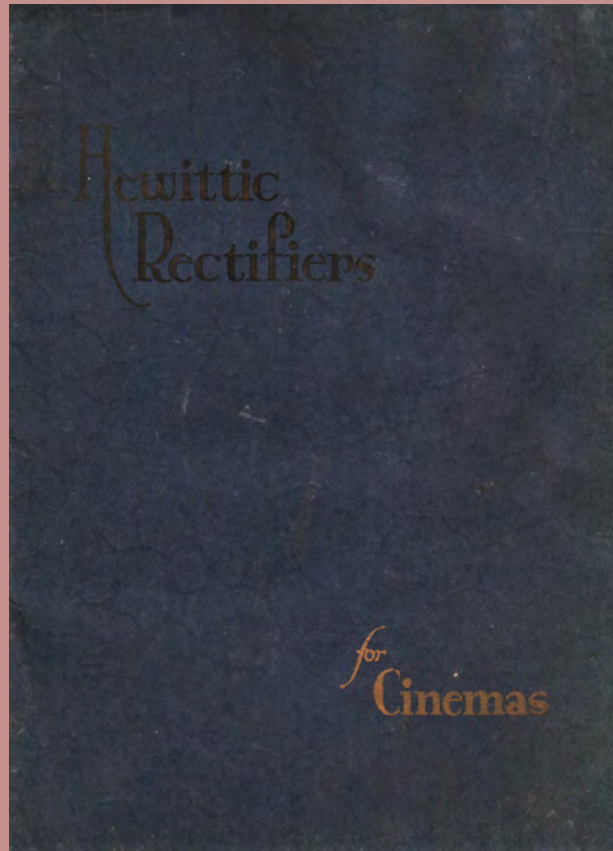
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Rectifiers



Rectifiers



Rectifiers

List No. 49.8



Everything for the Cinema & Theatre

RECTIFIERS

Hewittic

Mercury bulb type rectifier. Three models suitable for cinema use are described in this leaflet. Illustrated is the "Standard Unit-arc" model for single phase supply, and on page two is shown the "Unitarc Major" for three phase.

Nevelector

Mercury bulb type rectifier. Two models available for use on single phase supply. Illustrated is the standard model of which an interior view is shown on page three.

Westinghouse

Westalite metal plate type rectifier. Two models suitable for cinema use are described on page four. Illustrated on the right is the latest introduction for use on single phase supply.



Illustrations and prices in this list are not binding and are subject to alteration without notice.
 Delivery, free on terms within Railway Company's free delivery area. Cases will be charged for but credited in full, provided they are returned within 28 days, carriage paid, and in good condition.

ALL MAKES CAN BE SUPPLIED ON HIRE PURCHASE TERMS OVER 1, 2 OR 3 YEARS

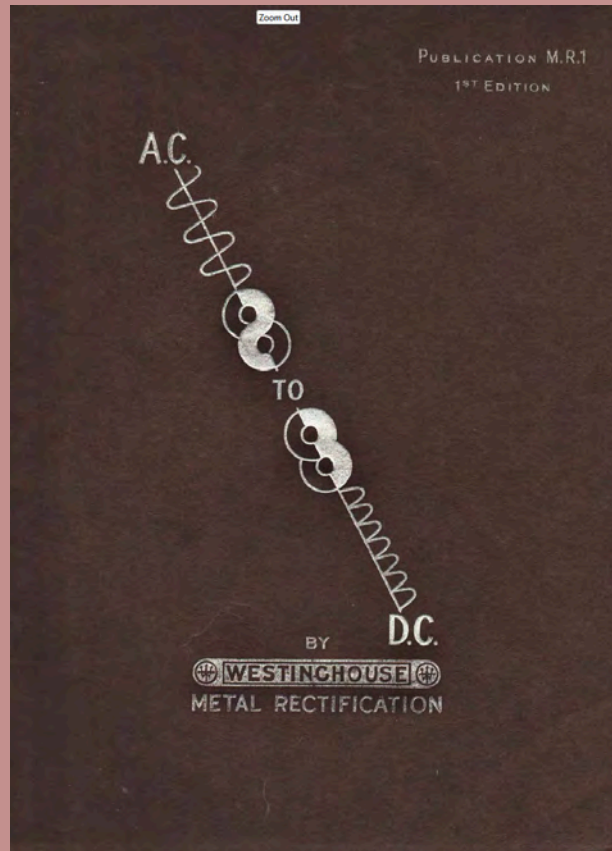
GB-KALE LTD. NATIONAL HOUSE 49-55 MARK LANE LONDON, W.1. GLOUCESTER

Agents: Birmingham, Cardiff, Dublin, Glasgow, Leeds, Liverpool, Manchester, Newcastle, etc.

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Rectifiers

GAUMONT-KALEE
HEAVY DUTY
3-PHASE SELENIUM RECTIFIERS

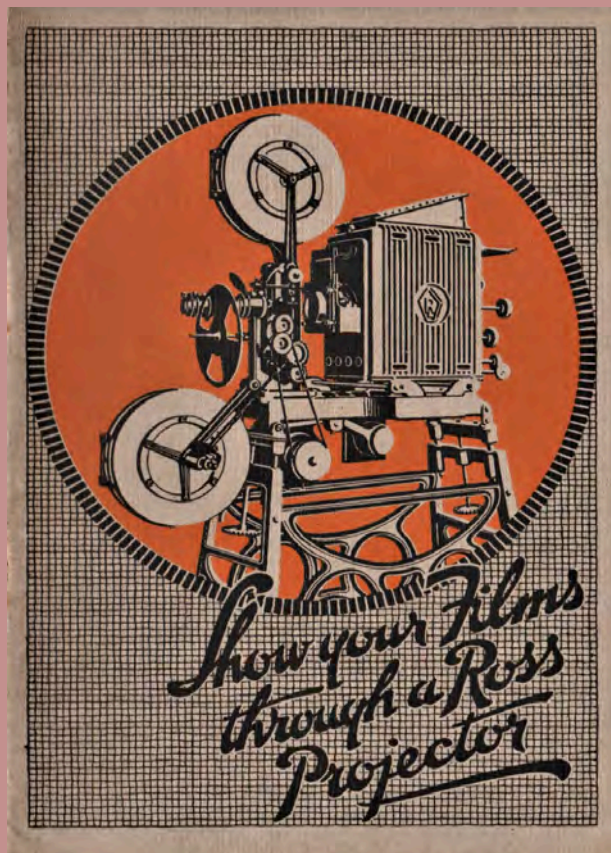


GB-KALEE

TYPE '140'
Designed especially for the
Mole Richardson, Gaumont-
Kalee 'High Power' Arc Lamp
and all High Intensity Arcs
using 80 to 140 amperes, for
Cinemascope, VistaVision,
SuperScope, all Wide Screen
presentation and Drive-in
Cinemas.

TYPE '80'
For High Intensity Arcs using
50 to 80 amperes.

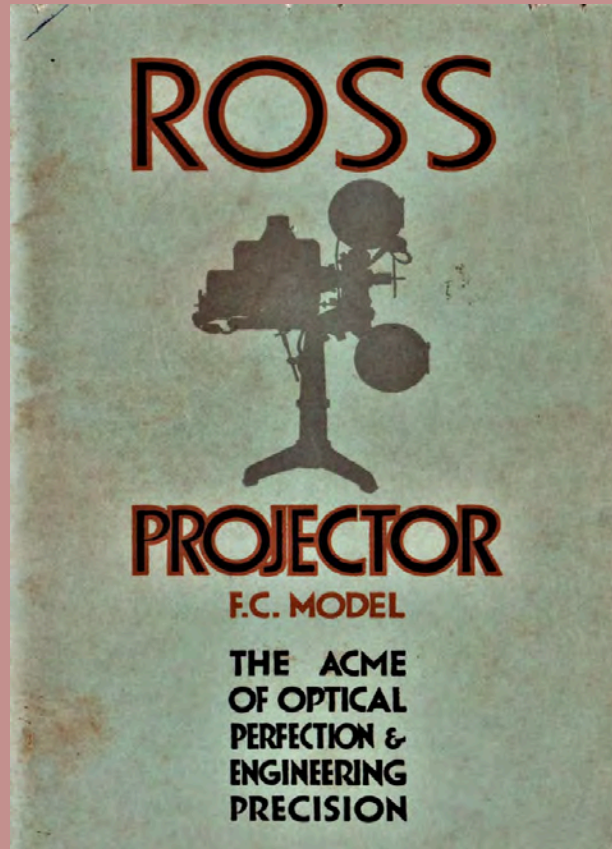
For Use as Delta
Transformer 20 to 60
cycle mains

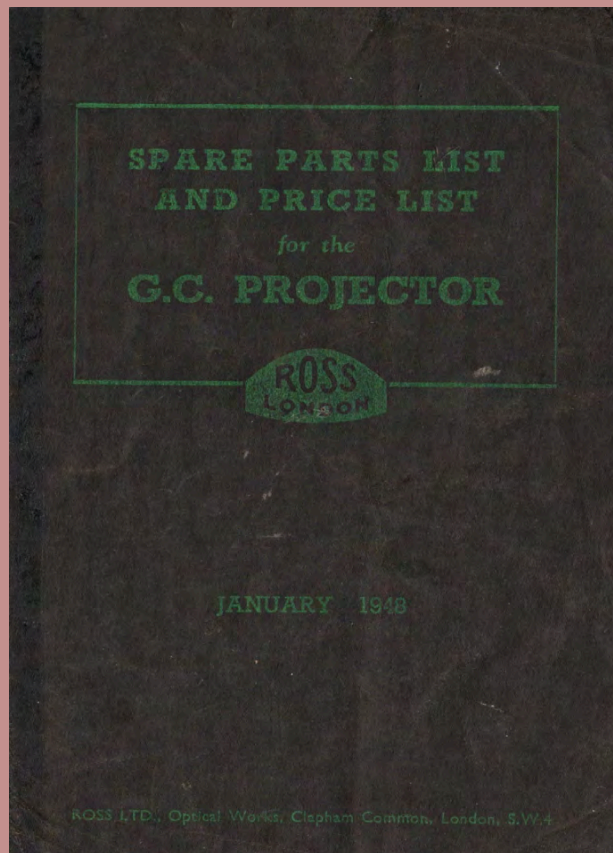


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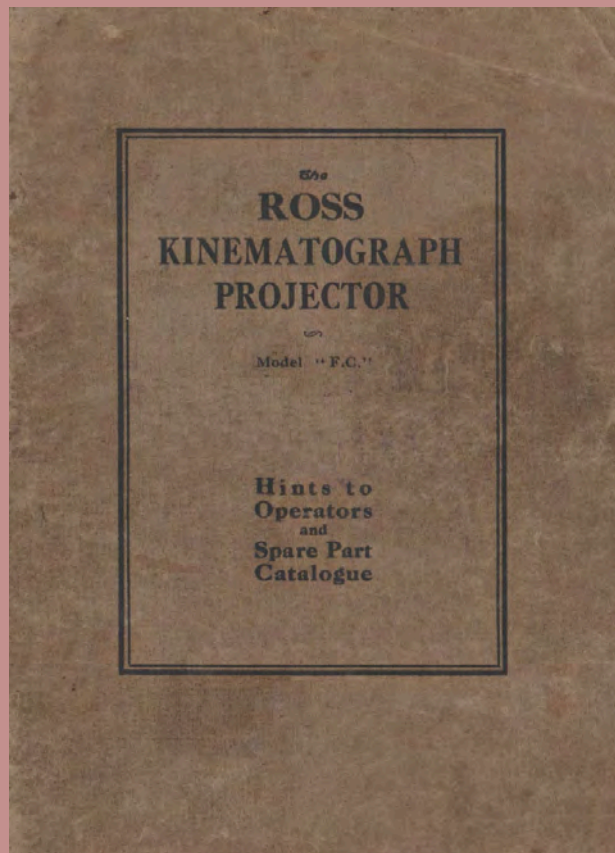




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Ross Model FC





Ross Model FC

Ross

THE ROSS PROJECTOR

ROSS LTD., since entering the field of the manufacture of Projection Equipment, have done a great deal towards perfecting the art of projection, and have proved themselves to be the leading authorities in this class of work. Their products have won universal appreciation, and have found their way into all corners of the world.

This is largely due to the untiring research work continually going on at their wonderful works at Clapham Common. Coupled with the march of progress and the rapid installation of Sound Producing Systems into many cinemas, Ross Ltd. have introduced a New Model Projector, the F.C. Model. The design and construction of this machine are such that the F.C. was at once accepted as the best and most efficient for all Sound Producing Systems now in use.

It possesses all the fine qualities demanded in a modern projector, is of British manufacture throughout, the hall-mark of strength and durability, giving unfailing service and complete satisfaction.

The answer to the problem of perfect projection is a Complete Ross Installation. The Ross F.C. Projector, Patent High Intensity Searchlight Arc Lamp and D.P.L. Projection Lens, are in combination the best that money can buy.

Ross Model FC

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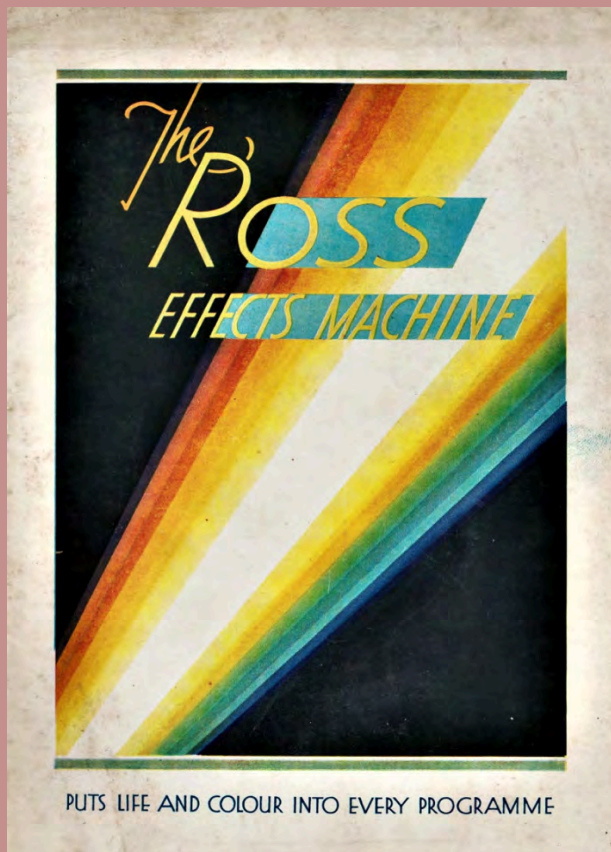
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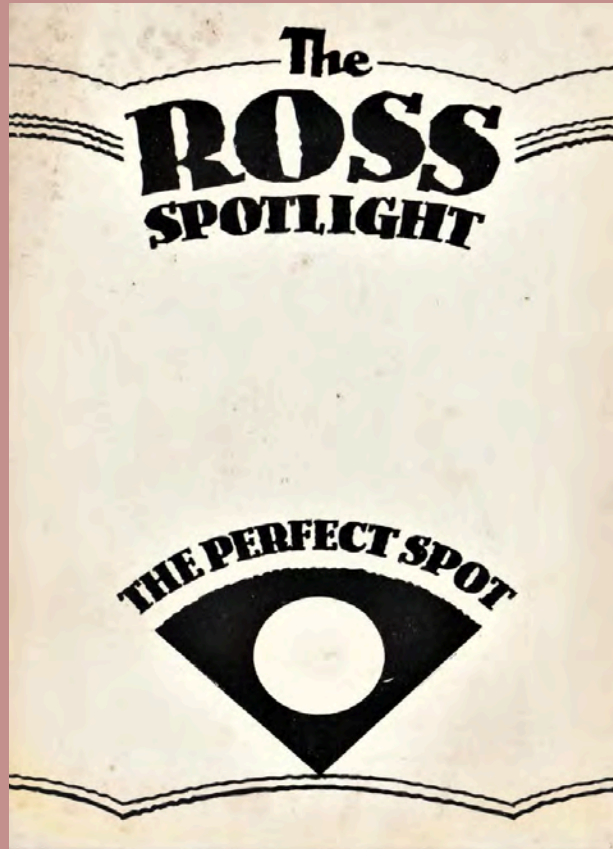
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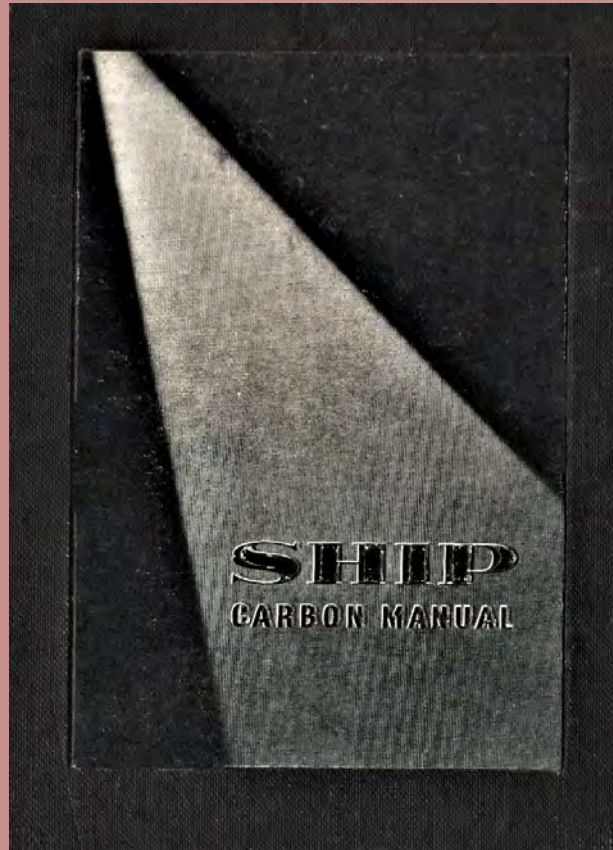
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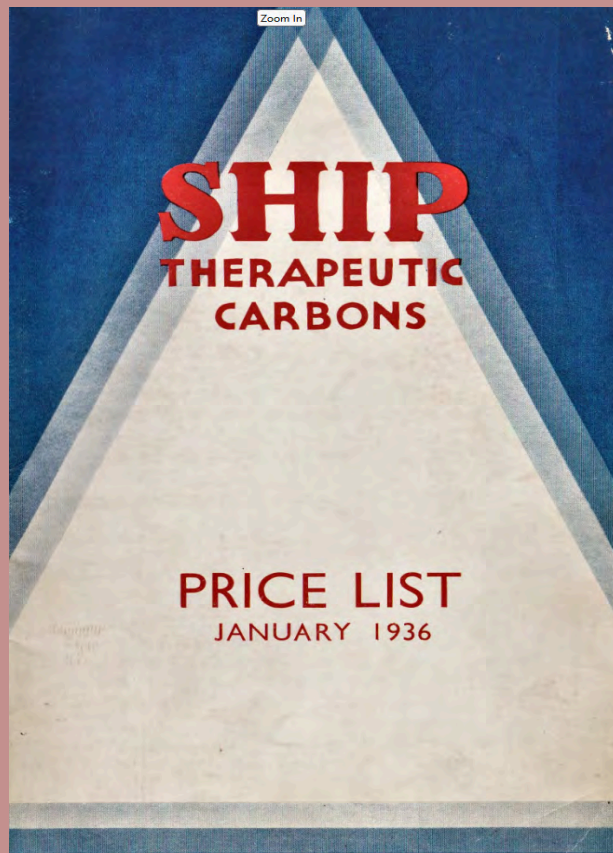
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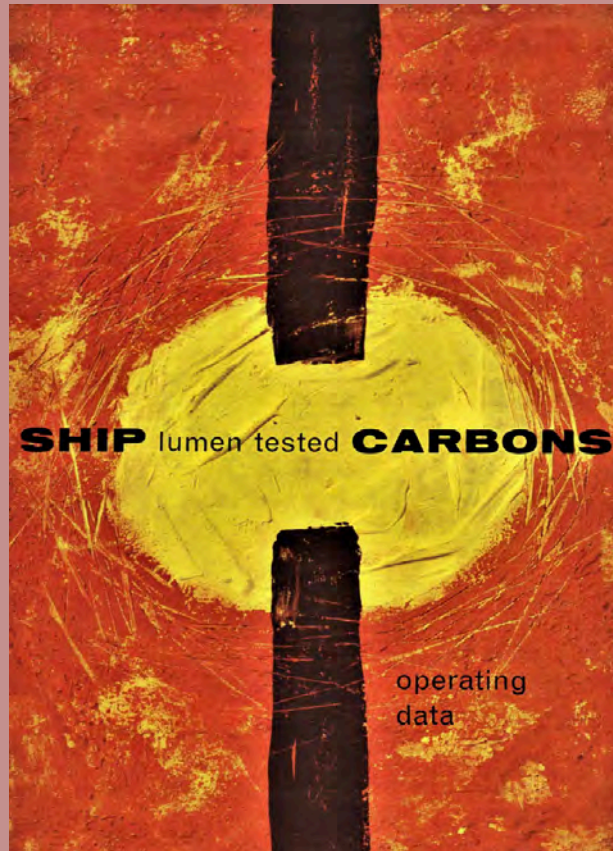
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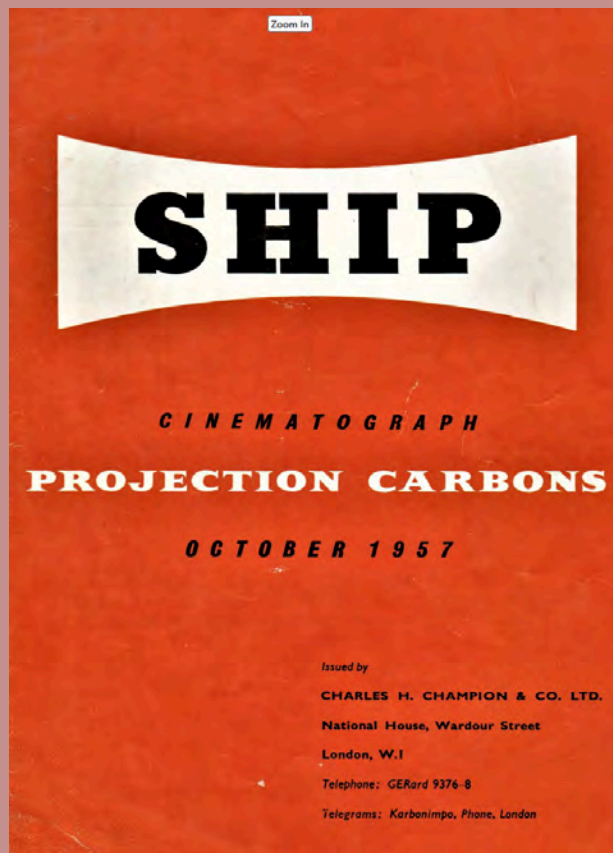
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PRICE LIST
JULY · 1935

**SHIP
PAIRLUX
(PATENT APPLIED FOR)
CARBONS**

Recommended and sold by
CHARLES H. CHAMPION & CO. LTD.
NATIONAL HOUSE,
60-66 WARDOUR ST. LONDON, W.1

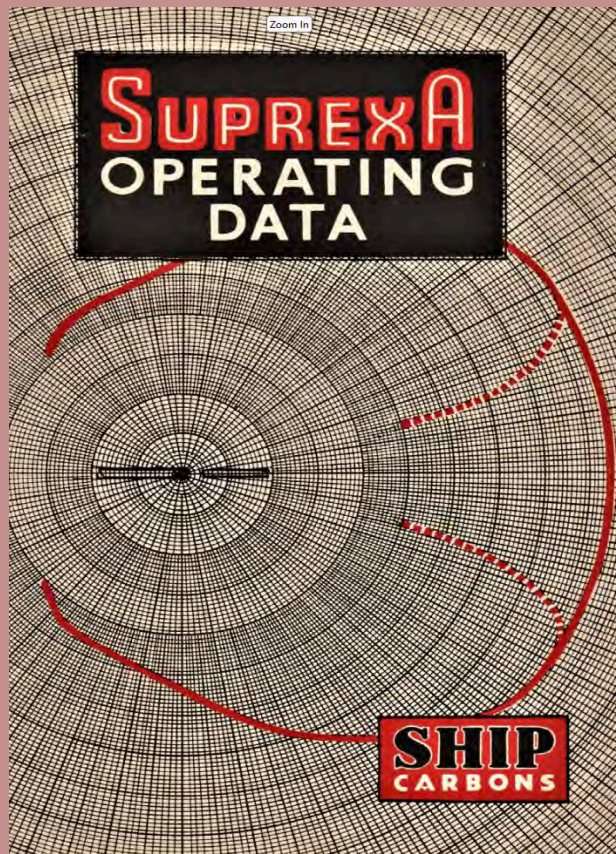
Telegraphic Address : Telephone :
KARBONIMPO, RATH, LONDON. GERRARD 2744 (3 lines).

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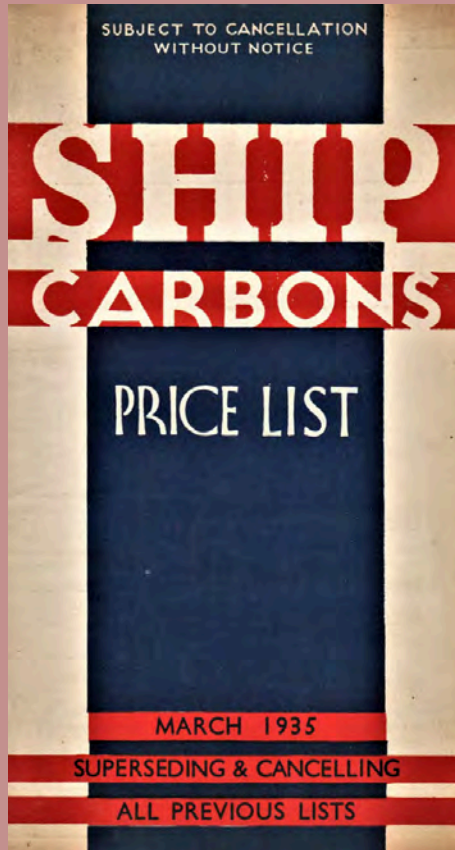
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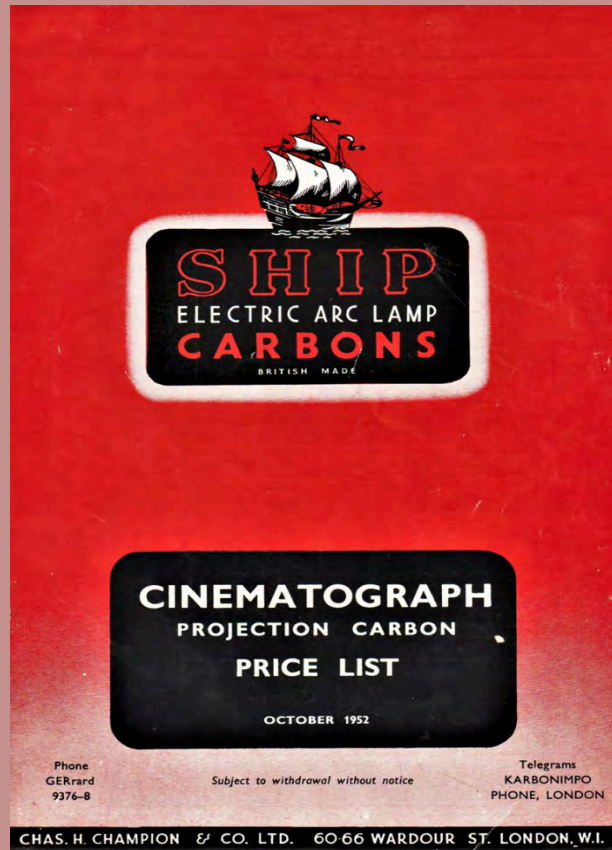


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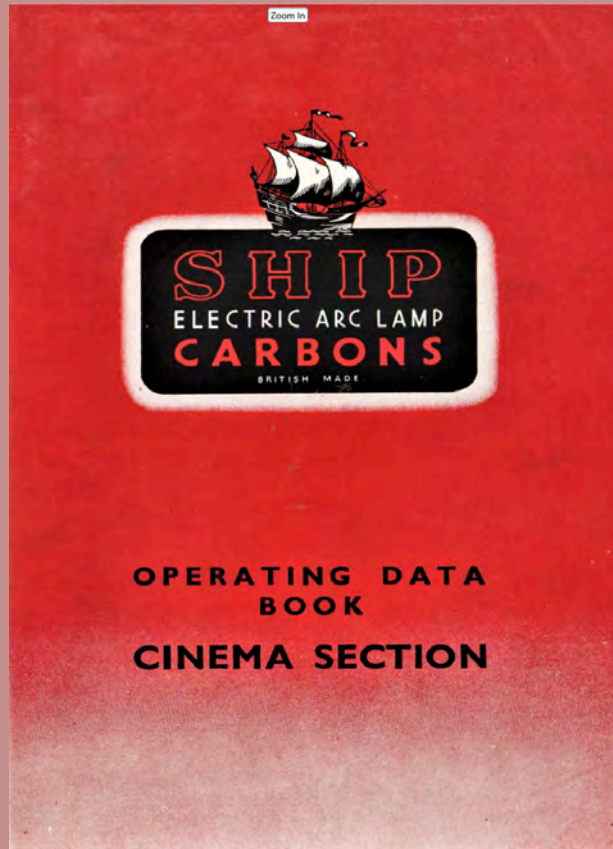




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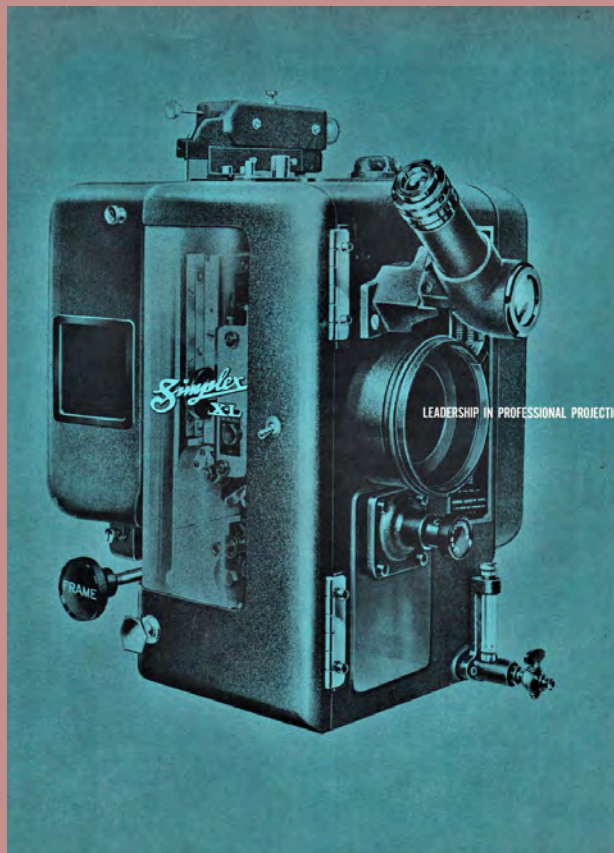
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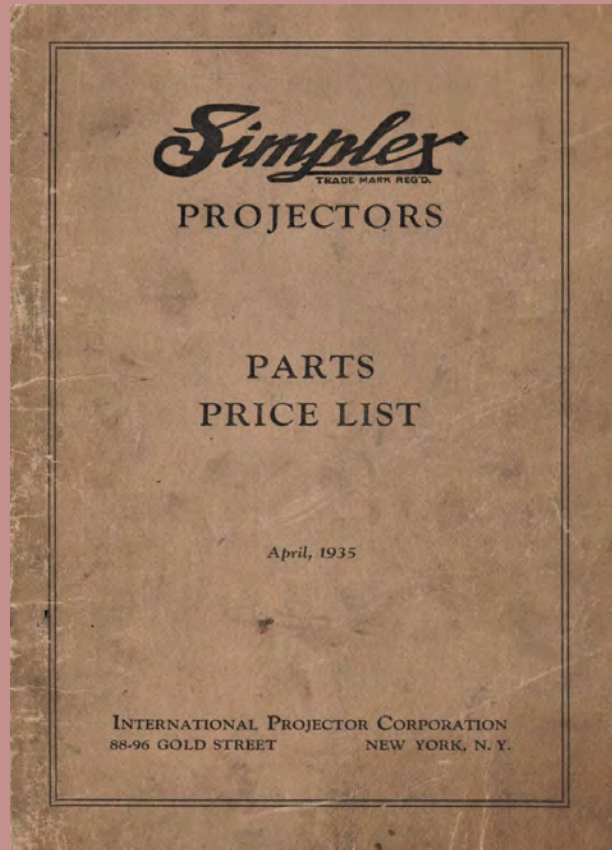
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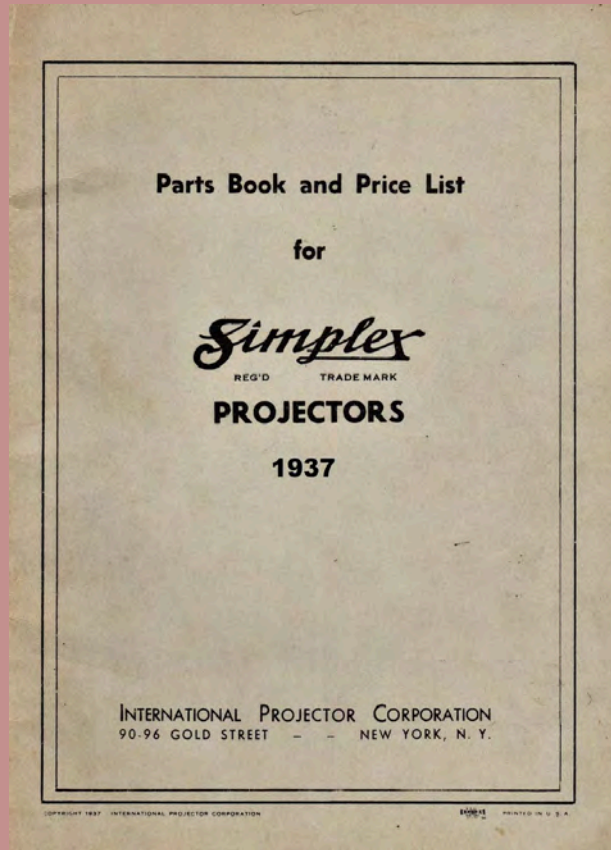


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PRICE LIST
OF
PRINCIPAL PARTS

Subject to change without Notice.

1939.



J. FRANK BROCKLISS LIMITED,
58, Gt. Marlborough Street,
LONDON, W.1.

Telephones :
Gerrard 2911/2/3.

Telegrams :
Srafilm, Wesdo, London.



Simplex

J. Frank Brockliss, Ltd.

TELEPHONES :
Glasgow.
Bell 1156.
Manchester :
Central 1876.
Leeds :
Lodge's 24509.
Birmingham :
Midland 2490.

58 Great Marlborough Street,
LONDON, W. 1.

TELEphone : GERRARD 2911 - 2912 - 2913.
grams : "Stafilm, Wesdo, London."

BRANCHES :
181, Howard Street,
Glasgow.
5, The Parnonnage,
Manchester.
67, Britannia House,
Wellington Street,
Leeds.
110 John Bright Street,
Birmingham.

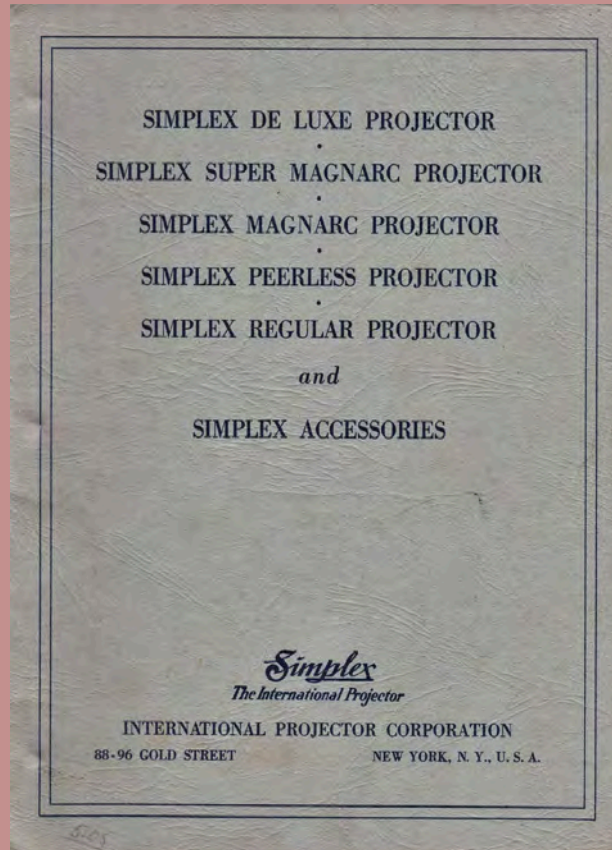
SIMPLEX

PRINCIPAL SPARE PARTS

PRICE LIST.

			£	s.	d.
A.1.		Handle Shaft and Collar ...	0	16	0
C.126.A.	Clutch :	Main Driving Gear Clutch ...	0	4	6
C.189.A.	Collar :	Handle Shaft Driving Collar ...	0	4	6
P.115.A.	Pin :	Handle Shaft Driving Collar Pin ...	0	0	9
S.287.A.	Shaft :	Handle Shaft	0	10	0
A.4.		Projecting Lens Holder and Slide ...	2	10	0
S.322.A.	Slide	Projecting Lens Holder Slide ...	0	6	0
S.342.A.	Spring :	Projecting Lens Holder Slide Guide Rod Spring ...	0	0	6
S.494.A.	Screw	Focussing Rack Retaining Screw ...	0	1	0
W.118.A.	Washer	Projecting Lens Holder Slide Washer ...	0	0	6
A.8.		Focussing Pinion Knob ...	0	7	6
R.178.A.	Rod :	Focussing Pinion Rod ...	0	0	10
A.24.		Projecting Lens Focussing Device ...	1	10	0
A.131.A.	Arm :	Focussing Rack Arm ...	0	6	0
G.121.A.	Gib	Focussing Slide Gib ...	0	1	0
P.189.A.	Pinion :	Focussing Pinion ...	0	10	6
S.118.L.	Screw	Motor Drive Pinion Set Screw ...	0	0	6
S.278.A.	Screw	Pad Roller Arm Tension Spring Fastening Screw ...	0	0	6
S.343.A.	Spring :	Rack Arm Friction Spring ...	0	0	6
S.569.A.	Spring :	Lower Sprocket Roller Arm Spring ...	0	0	9
S.570.A.	Spring :	Upper Sprocket Roller Arm Spring ...	0	0	9

March 1936



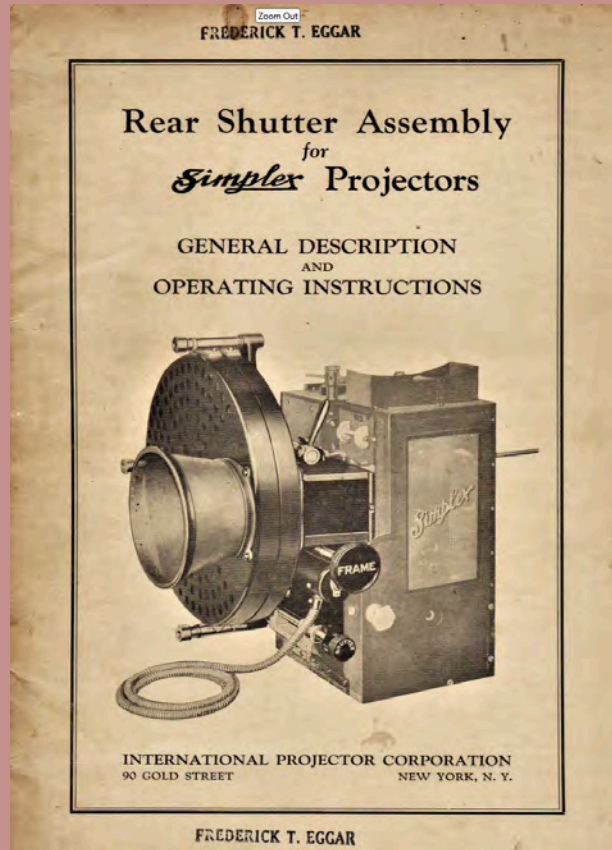


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[Zoom In](#)

The New Super Simplex

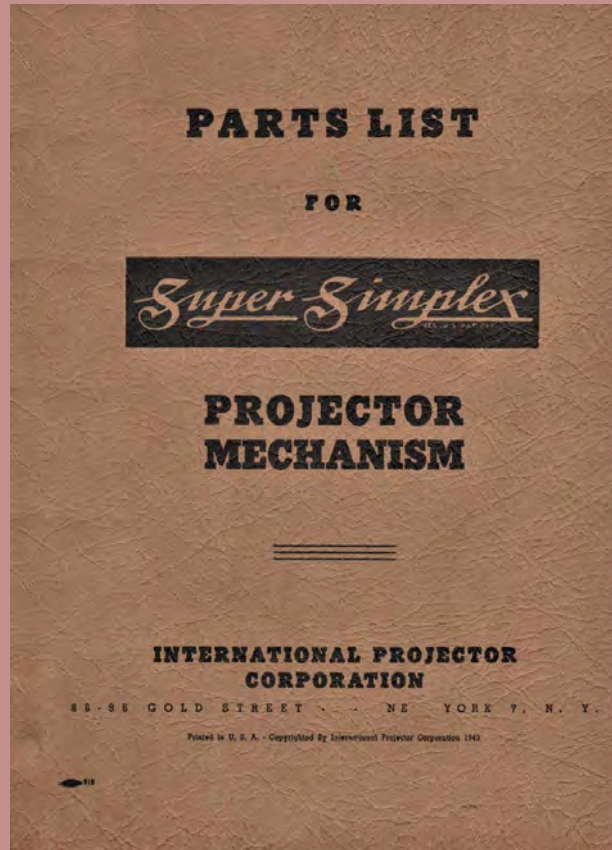
Foreword

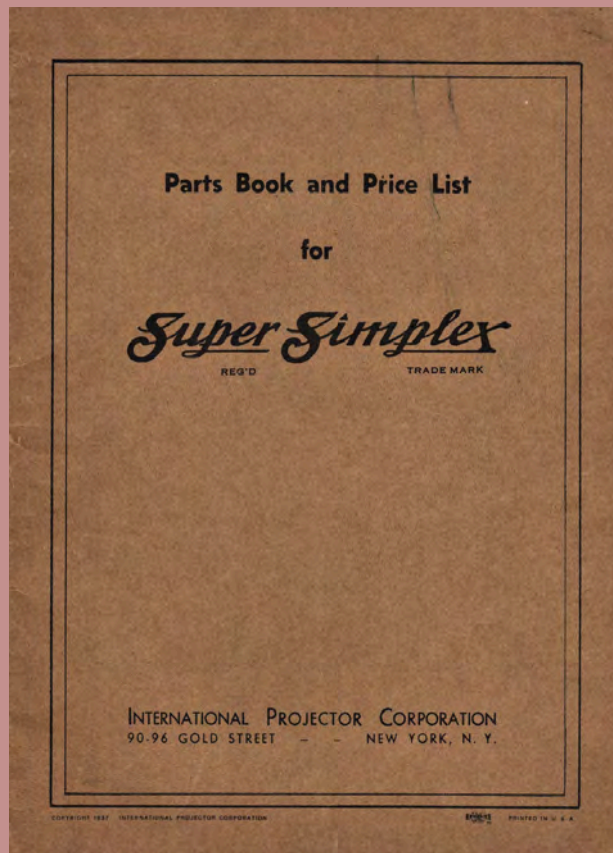
THE installation and operating instructions for the new Super Simplex must not in any way be considered as a textbook for general and widespread use. We take for granted that these instructions will go only to experienced projectionists who will need a certain amount of practical information for their guidance in connection with the Super Simplex, but are thoroughly competent to handle all ordinary problems for themselves.

We have endeavored to be as brief as possible and to cover only points which absolutely demand explanations and instructions. It is, therefore, not unlikely that there are some omissions. These we feel convinced will for the most part cover minor points, but it is possible that we may have omitted some information which generally or in special cases may be urgently needed. We would, therefore, greatly appreciate requests for further information when desired and we also welcome suggestions and criticisms.

The new Super Simplex is a great advance over any other projector manufactured by this or any other manufacturer of motion picture machines. While we do not claim that it is the final word in motion picture projectors, it is unquestionably the very latest and positively justifies the name Super Simplex. There is a natural tendency to give reasons for our confidence in the superiority of the Super Simplex but such explanations do not properly belong in a book of instructions. We do, however, sincerely believe that if the directions we give are carefully followed out the Super Simplex will be an invaluable aid to the expert and experienced projectionist.



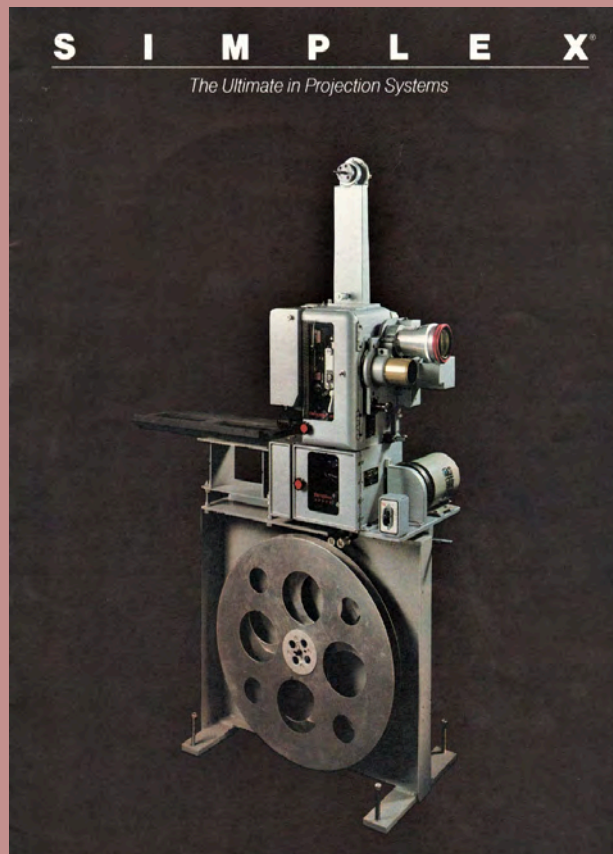




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Simplex

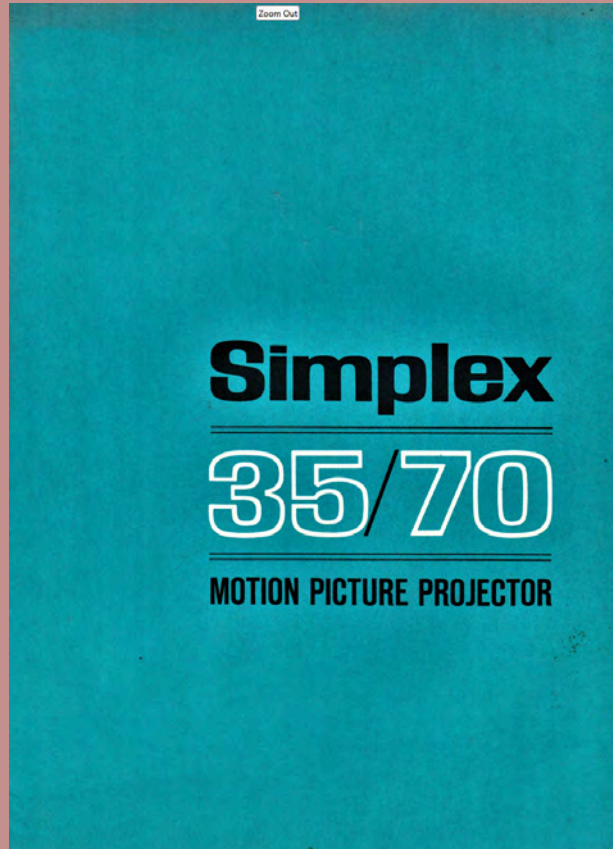
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Simplex



Simplex



1939

Simplex



Simplex

THE MOTION PICTURE INDUSTRY'S
MOST ADVANCED THEATRE SOUND SYSTEM

Simplex
XL / **TRANSISTOR**
SOUND SYSTEM

Simplex



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March '97
Volume 1

SONY

SDDS Quick Reference Guide

NO DIGITAL PLAYBACK

- Confirm that the power to the SDDS System is "ON" & the film is fast SDDS data tracks on both edges of the film. Refer to Figure 6.

- Ensure that film is threaded properly through the SDDS Reader Unit (DFF-R2000), refer to Figure 1.

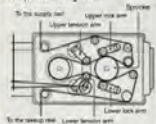


Figure 1

- Ensure that the film tension is set properly in the SDDS Reader Unit (DFF-R2000), refer to Figure 2.

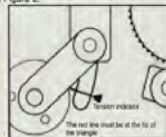


Figure 2

- Ensure that the "DATA PRESENT" & "SYSTEM OK" LEDs on the SDDS Decoder front panel is illuminated steadily, refer to Figure 3.



Figure 3

- Ensure that the "BYPASS" & "MUTE" keys are NOT illuminated, refer to Figure 3.

DIGITAL SOUND "CUTS OUT"

- After confirming correct tension (refer to Figure 2), ensure that the SDDS reader lenses are clean. Also verify that the light fibers are clean and illuminating a visible red light.

- Open the front panel of the SDDS Decoder (DFF-D2000), refer to Figure 4, and verify that the "S" & "P" data OK LEDs inside the processor are illuminated steadily, refer to Figure 5.

Loosen the Panel Locking Screw and open the Front Panel.

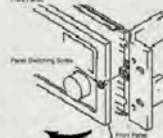


Figure 4

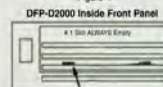


Figure 5

- Attempt to play the print on another SDDS system to confirm the print quality. If the playback fails on another SDDS unit, it is likely that the print is damaged or faulty.

GENERAL MAINTENANCE & PRECAUTIONS

- DO NOT "SLAM" Film Retainer Rollers onto Splicer Wheel. This can damage the roller and cause the roller to come into contact with the film edges, thus causing edge damage.

- Maintain a clean film path. Clean all rollers, lenses, and light fibers everyday with a clean dry photographic lens cleaning paper or cloth. For details, refer to pages 2-1 through 2-3 of the DFF-R2000 Maintenance Manual (available through your SDDS dealer).

- DO NOT USE ANY SPRAY LUBRICANT OR CLEANER SOLVENT ON THE SDDS EQUIPMENT!

- Do not mark splice points on a plattered print with excessively long permanent ink, polish, etc. ONLY mark the splice for the length of the splicing tape (approximately 1 inch). Adherence to this procedure will ensure proper digital playback through the splice points of the film.

Figure 6



Sony Cinema Products Corporation
Engineering Services Division
Tel. (212) 555-4811
Fax (212) 555-4557

[Zoom Out]

THE INSIDE TRACK

SONY CINEMA PRODUCTS CORPORATION

TAKING MOTION PICTURE SOUND TO THE NEXT LEVEL

A record number of ShowWest attendees gathered at the SCPC trade show booth to see the new SDDS DFP-3000 Cinema Sound Processor System. SCPC staff demonstrated many new DFP-3000 features, namely the integration of second generation SDDS digital and analog soundtrack decoding in one cost-effective package.

The DFP-DJ000 Decoder has been designed to fit into all theatre sound racks with advanced features including automated fader memory for consistent SDDS trailer and feature volume, two dedicated auxiliary inputs to connect alternative digital soundtrack formats, built in self-diagnostic and automation capabilities, and a user friendly display panel for easy identification of format and system status.

The new SDDS DFP-R3000 Reader is also more compact in design with a simplified film thread path, and a simplified reader/decoder cable connection. It features single long-life LED light sources to read the SDDS digital tracks and accepts SDDS tracks printed under a wide range of printing conditions.

The new reader also has fewer moving parts, a non-flywheel drum and a magnetically damped sprocket for lag-free wow/flutter reduction.

As with the DFP-2000, the DFP-3000 can easily be installed and aligned (A & B chain) using a laptop computer. The DFP-3000

Cinema Sound Processor playback system will be in theatres this summer. Advanced features are listed on pages 6 and 7.

Continued on page 6



DFP 3000
CINEMA
SOUND
PROCESSOR
SYSTEM





SOUND PERSPECTIVE

Words from this summer's cutting edge sound crews

A slew of summer releases are pushing film sound to a new level of creativity. This summer's leading sound crews took time to discuss their work on TriStar Picture's GODZILLA.

THE MASK OF ZORRO, DreamWorks SNG's **SAVING PRIVATE RYAN** and Columbia Pictures & Mandelkay Entertainment's **LES MISÉRABLES**.

Continued on page 4

TECHNICOLOR TO ESTABLISH SDDS MASTERING FACILITY



Technicolor
FILM SERVICES

LONDON, ENGLAND—11 MAY, 1998
Technicolor Film Services, London, has signed an agreement with Sony Cinema Products Corporation (SCPC) to install a Sony Dynamic Digital Sound® (SDDS®) Recorder System at Technicolor's U.K. laboratory in West Drayton. A complete new transfer suite has been constructed for the SDDS Recorder System and will be fully equipped to handle all standard digital and analog sound formats. The suite is planned to be fully operational by summer 1998.

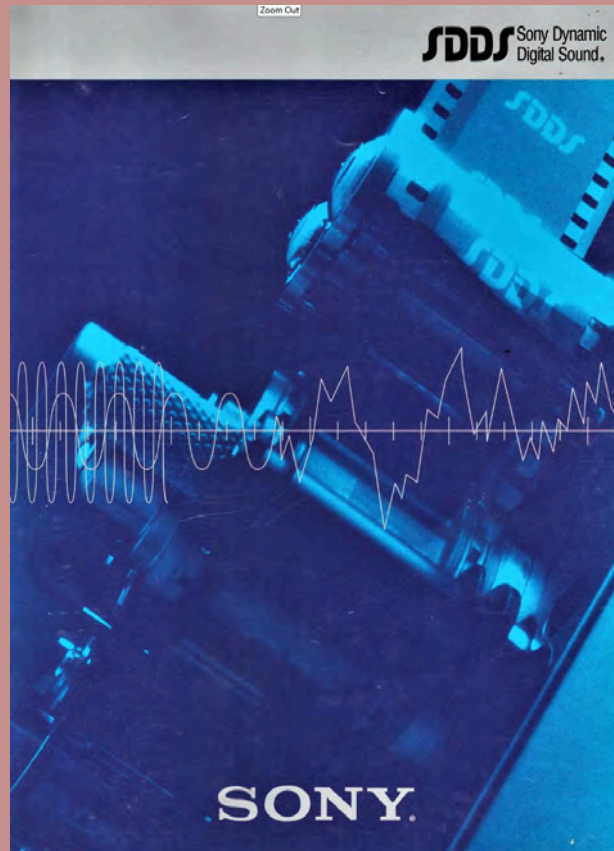
Ashley Hopkins, Technicolor's Managing Director said, "There is now a clear demand for SDDS prints in Europe and also for a facility that can support quad soundtracks (all optical

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Spectra

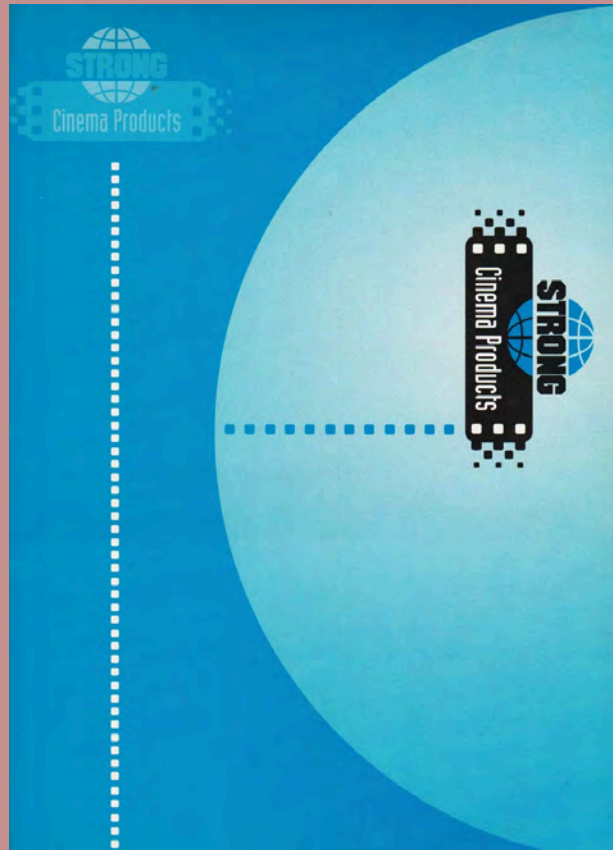
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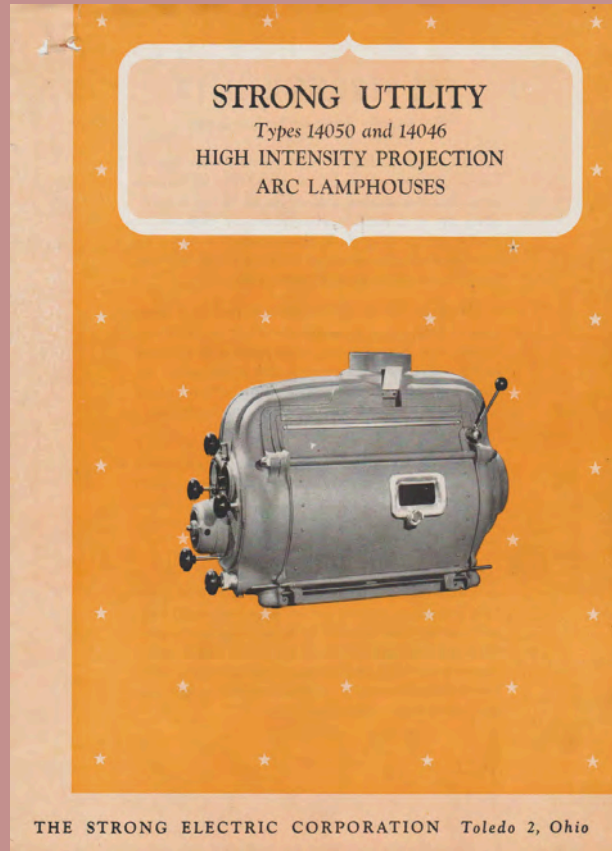


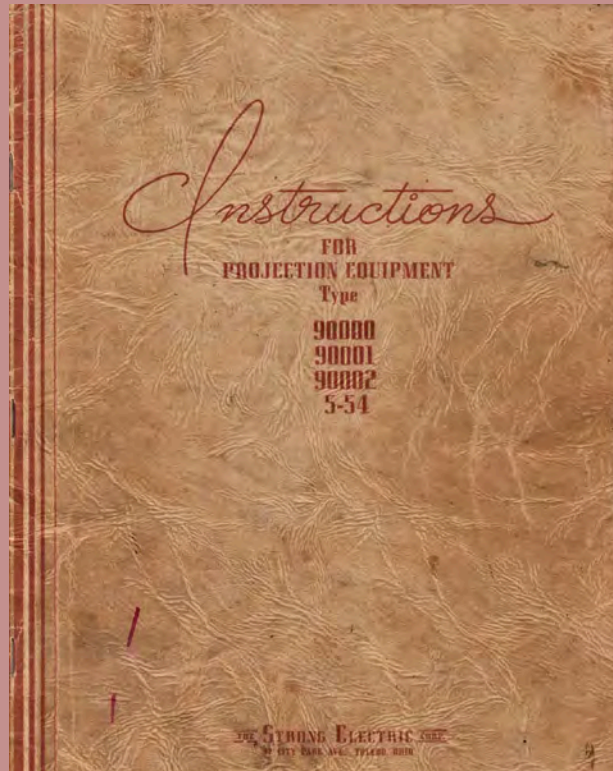
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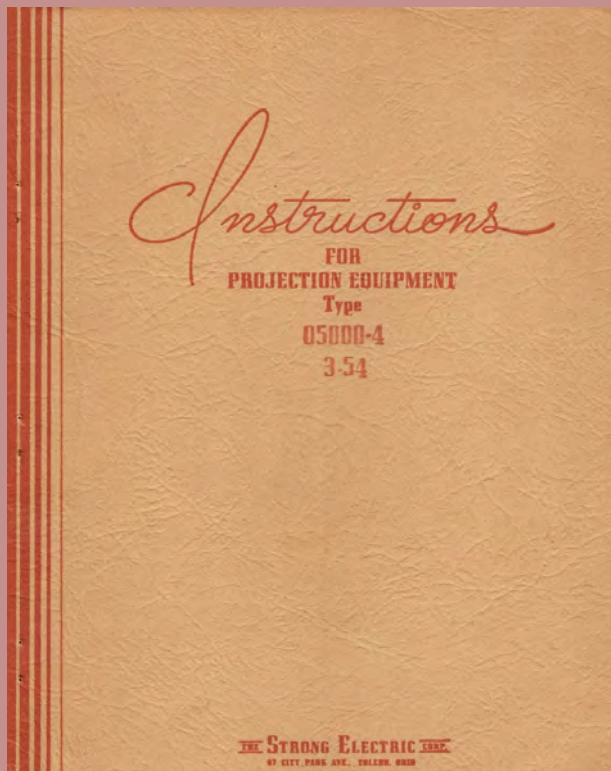


High intensity arc lamphouse

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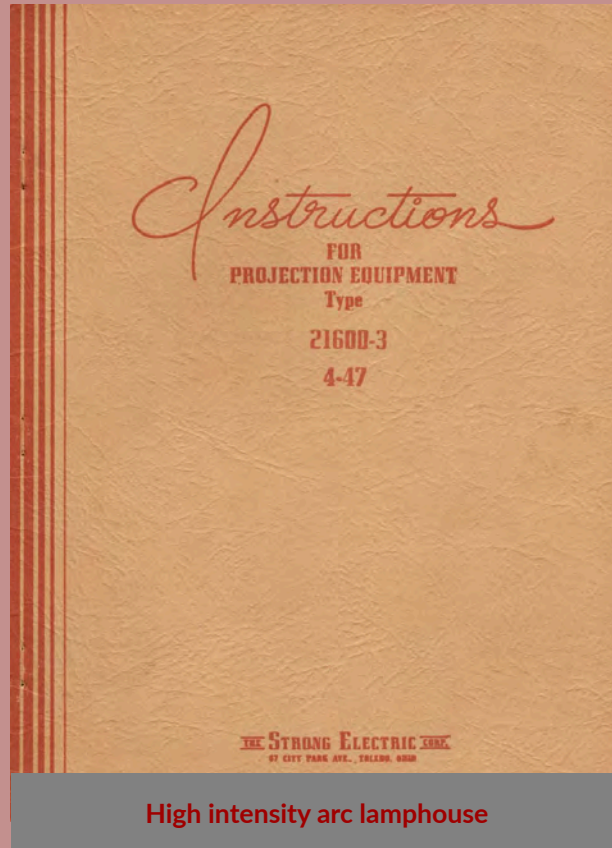


Low intensity arc lamphouse

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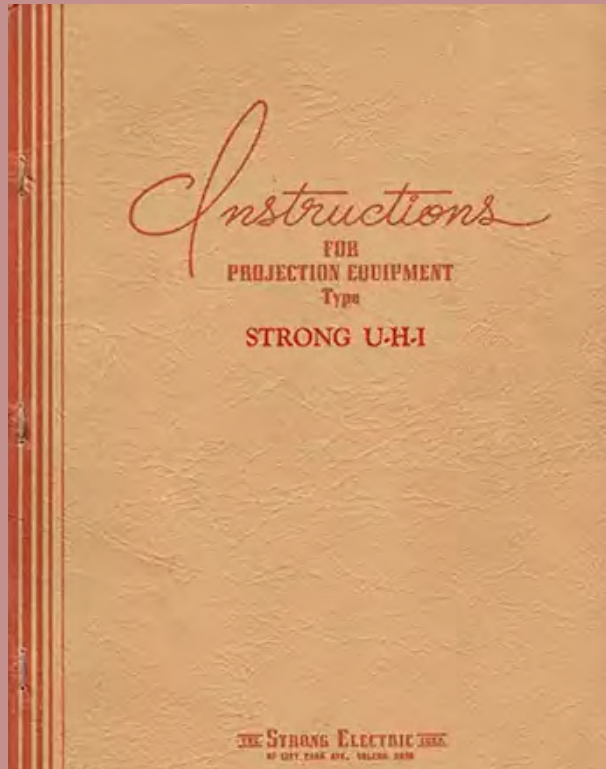


High intensity arc lamphouse

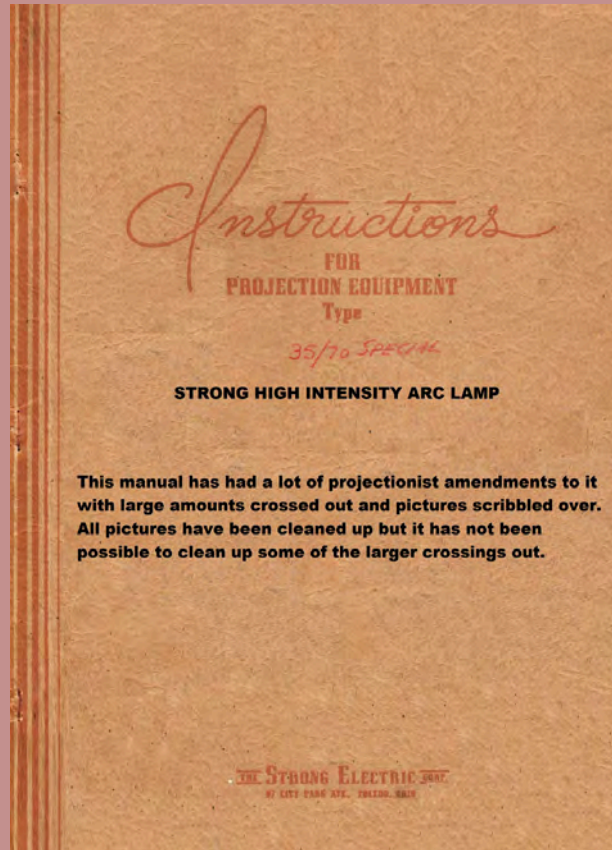
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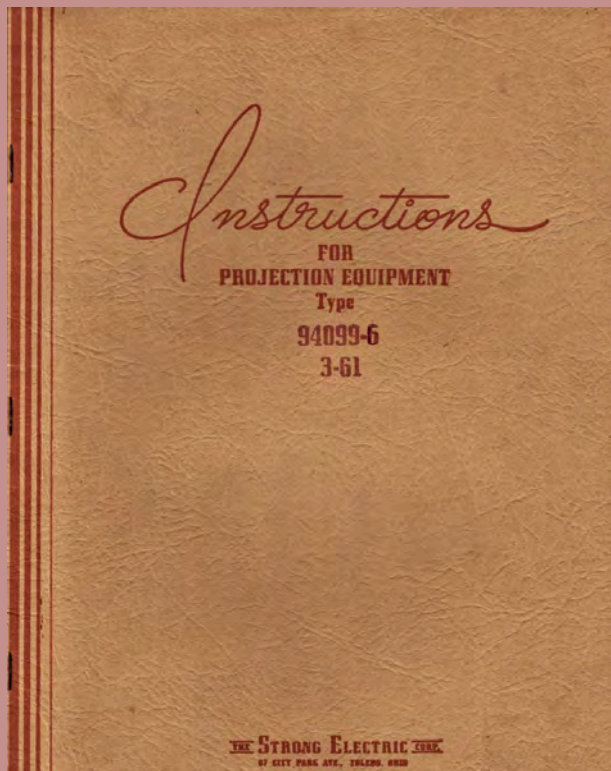
Low intensity arc lamphouse



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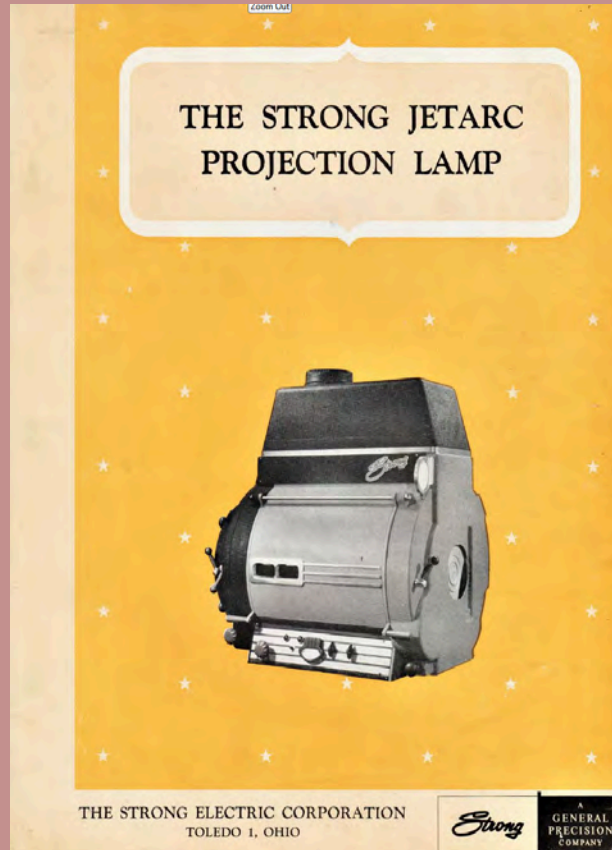
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Strong



Three phase rectifier

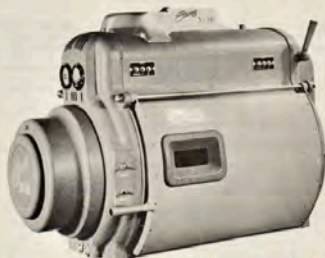






Strong

X - 16 XENON LAMP



HARDIN THEATRE SUPPLY CO.
714 S. HAMPTON RD. WH6-2232
DALLAS, TEXAS

DEVELOPED PRINCIPALLY FOR 35 AND 16 MM MOVING PICTURE PROJECTION THE STRONG X-16 LAMP WITH ASSOCIATED SILICON DIODE TRANSFORMER-RECTIFIER IS EQUIVALENT IN LIGHT OUTPUT TO A 46 AMPERE CARBON ARC. EMPLOYING A 1600 WATT OSRAM XENON BULB THE LAMP CAN ADEQUATELY ILLUMINATE A 24 FT. WIDE PICTURE.

THE XENON SOURCE IS IN REALITY AN ARC ENCLOSED IN A QUARTZ GLOBE AND POSSESSES ALL THE ADVANTAGES OF A CLEAN SOURCE. BECAUSE THE ELECTRODES ARE CONSUMED EXTREMELY SLOW THERE IS NOT PRESENT A PROBLEM OF FEEDING OR POSSIBILITY OF SHIFT OF FOCUS AS WHEN FASTER CONSUMING ELECTRODES ARE USED.

AN ELLIPSOIDAL MAIN REFLECTOR IS USED IN CONJUNCTION WITH A SPHERICAL AUXILIARY REFLECTOR TO GATHER AND MAGNIFY THE SOURCE TO THE REMAGING POINT. THE IGNITER IS BUILT INTO THE X-16 LAMPHOUSE AND PROVIDES THE PROPER STARTING OR IGNITION VOLTAGE.

THE ASSOCIATED RECTIFIER IS SPECIALLY DESIGNED TO PROVIDE THE EXACT CURRENT CHARACTERISTIC AND REGULATION CAPABILITY FOR OPTIMUM OPERATION OF THE XENON SOURCE.

THE X-16 CAN BE UTILIZED FOR OTHER LIGHT OR HEAT SOURCE REQUIREMENTS WHERE AN INTENSE REIMAGED SPOT IS NECESSARY. SUCH SYSTEMS INCLUDE SOLAR SIMULATION, ARC IMAGING, ETC.

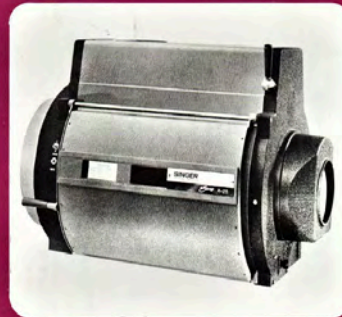
THE STRONG ELECTRIC CORPORATION
CITY PARK AVENUE • TOLEDO 1, OHIO

A SUBSIDIARY OF GENERAL PRECISION EQUIPMENT CORPORATION

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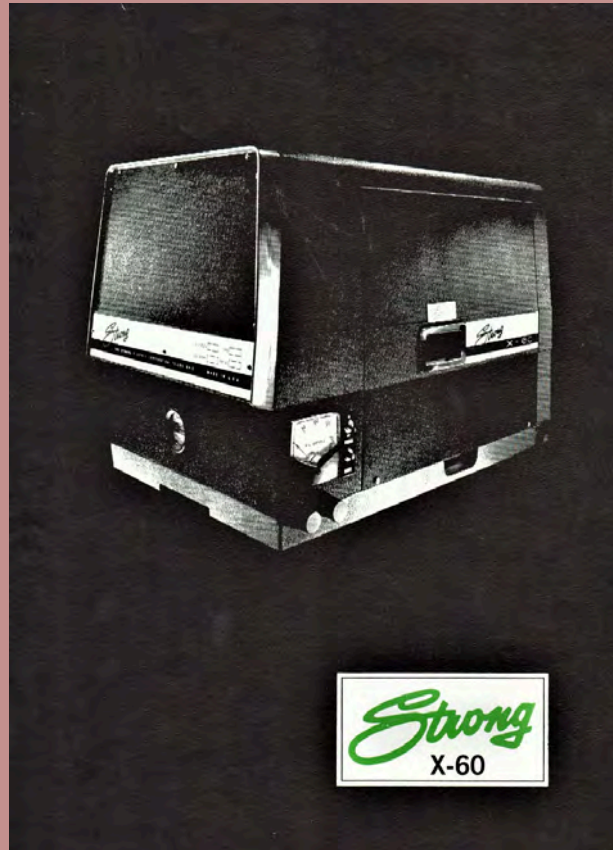


PROJECTION
SYSTEM

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Strong

Zoom Out

Strong **XENON
PROJECTION SYSTEMS**
For All Theatre Screens

Lume-X Systems
for Indoor Screens
up to 45 feet wide



X-608 Systems for
Indoor Screens over
40 feet wide and all
Drive In Screens



STRONG ELECTRIC DIVISION Holophane Company, Inc.
A JOHNS-MANVILLE COMPANY

INSTRUCTION MANUAL

STRONG HIGHLIGHT IIA

Xenon Projection Console

Euro Models

72-00823 • 72-00824

72-00825 • 72-00826

Rev. January 2005



STRONG INTERNATIONAL

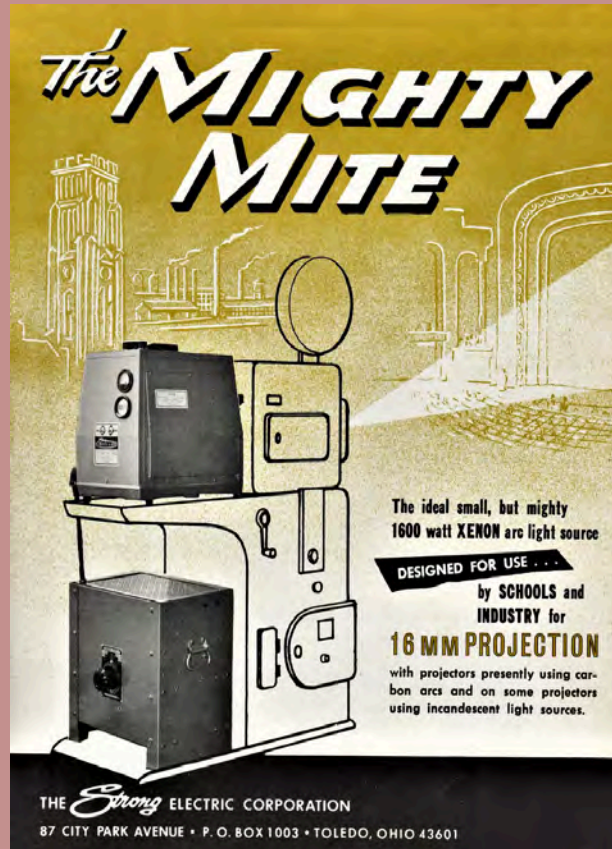
a division of Ballantyne of Omaha, Inc.

4350 McKinley Street

Omaha, Nebraska 68112 USA

Tel 402/453-4444 • Fax 402/453-7238

www.strong-cinema.com



The advertisement features a central illustration of a vintage projector, the 'The Mighty Mite', which is a compact, boxy device with a large lens and a handle. It is shown projecting a beam of light onto a stylized architectural drawing of a building. The background is a solid yellow color. The title 'The MIGHTY MITE' is prominently displayed at the top in a large, bold, sans-serif font. Below the title, the text 'The ideal small, but mighty 1600 watt XENON arc light source' is written. A black banner with white text reads 'DESIGNED FOR USE . . .'. Below this, it says 'by SCHOOLS and INDUSTRY for 16 MM PROJECTION'. At the bottom, there is a small paragraph: 'with projectors presently using carbon arcs and on some projectors using incandescent light sources.' The footer contains the company name 'THE Strong ELECTRIC CORPORATION' and the address '87 CITY PARK AVENUE • P. O. BOX 1003 • TOLEDO, OHIO 43601'.

The **MIGHTY MITE**

The ideal small, but mighty
1600 watt XENON arc light source

DESIGNED FOR USE . . .

by SCHOOLS and
INDUSTRY for
16 MM PROJECTION

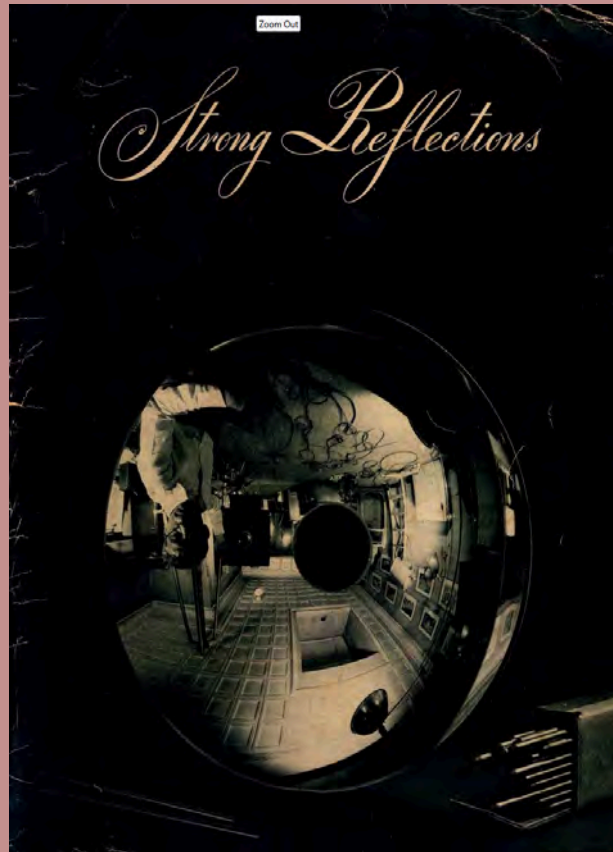
with projectors presently using carbon arcs and on some projectors using incandescent light sources.

THE *Strong* ELECTRIC CORPORATION
87 CITY PARK AVENUE • P. O. BOX 1003 • TOLEDO, OHIO 43601

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Strong

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STRONG "TUFOLD" REFLECTOR CARE & CLEANING INSTRUCTIONS

"TUFOLD" reflectors should be wiped off daily with a soft dry cloth. Be sure to dust off the rear surface occasionally also.

WHEN HANDLING THE REFLECTOR, care should be taken so as not to fingermark the coated surface. Oily deposits that might appear can be removed with the Isopropyl Anhydrous solution.

The following procedure should be used when the dusting does not remove all the soot and film from the reflector surface.

1. Wash the surface with liquid detergent and warm water. Rinse thoroughly and dry with a soft towel.
2. Then wash the surface with Isopropyl Anhydrous soaked cotton ball. Use fairly even strokes and dry thoroughly with a soft towel. If the Anhydrous dries before it is wiped off, repeat procedure No. 1.

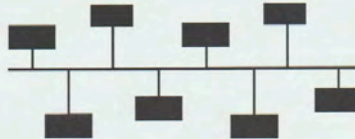
IF A MORE SEVERE CLEANING IS REQUIRED TO REMOVE THE SOOT AND FILM USE THE FOLLOWING PROCEDURE.

3. Mix together two heaping teaspoons of precipitated chalk - Grade USP and one level teaspoon of powdered Bon-Ami. Add to this a mixture of four parts water and one part household ammonia and stir. Add enough of the solution until a soft paste is formed.
4. Apply the paste with several cotton balls. Be sure to rub with even strokes. When the paste has turned chalky white, rub off with several more cotton balls. If some white powder is still visible, rub the surface with a soft towel.
5. After this is completed, it would be wise to rewash the reflector with the liquid detergent solution and dry with a soft towel.

TUFOLD WARRANTY

(Effective on all reflectors sold after July 15, 1962.)

During the first six months of use, dating from the time the reflector is shipped from our plant, if the screen light is appreciably reduced due to coating deterioration, Strong will replace without charge (other than transportation). If deterioration occurs after the first six months use and during the second six months period after shipment from the plant, replacement will be made at 25% of the selling price. If deterioration occurs during the third six months, replacement will be made at 50% of the selling price. If like condition occurs during the period of the fourth six months, replacement will be made at 75% of the selling price. NO WARRANTY is made with respect to breakage.



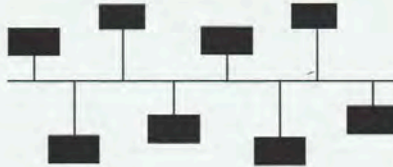
***RCM-10 Remote Control Monitor
RSM-10 Remote Status Monitor***

for CNA-100, CNA-150, CNA-200 Automations



BALLANTYNE OF OMAHA, INC.

September 1998



***CNA-200 Automation
Setup and Operation
Manual***



BALLANTYNE OF OMAHA

Revision 1.4
January 2005

INSTRUCTION MANUAL

FP-350

Cue Detector & Failsafe Switch

Types 51-98217 & 51-98243

Rev. July 2004



STRONG INTERNATIONAL

a division of Ballantyne of Omaha, Inc.

4350 McKinley Street

Omaha, Nebraska 68112 USA

Tel 402/453-4444 • Fax 402/453-7238

www.strong-cinema.com

INSTRUCTION MANUAL

XENON POWER SUPPLY

High Reactance Type HRPS

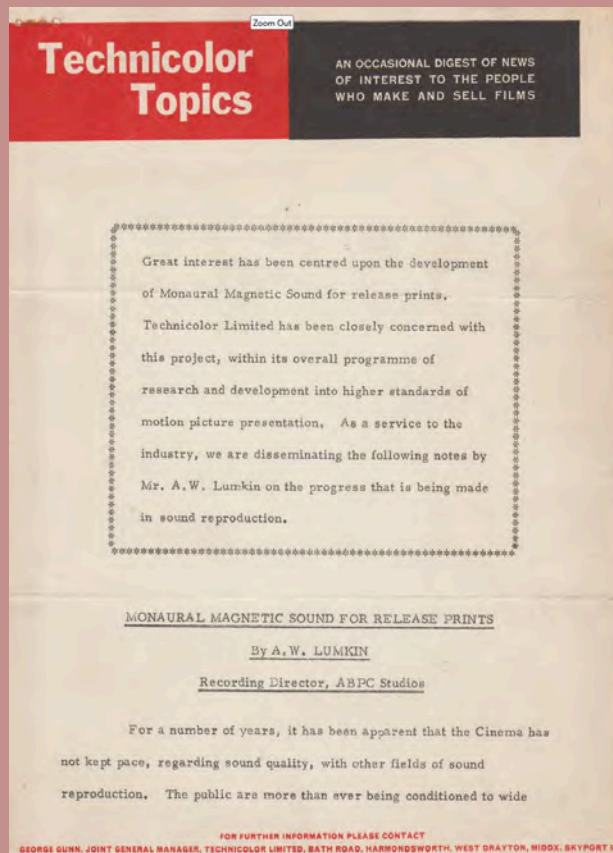
Rev. January 2005



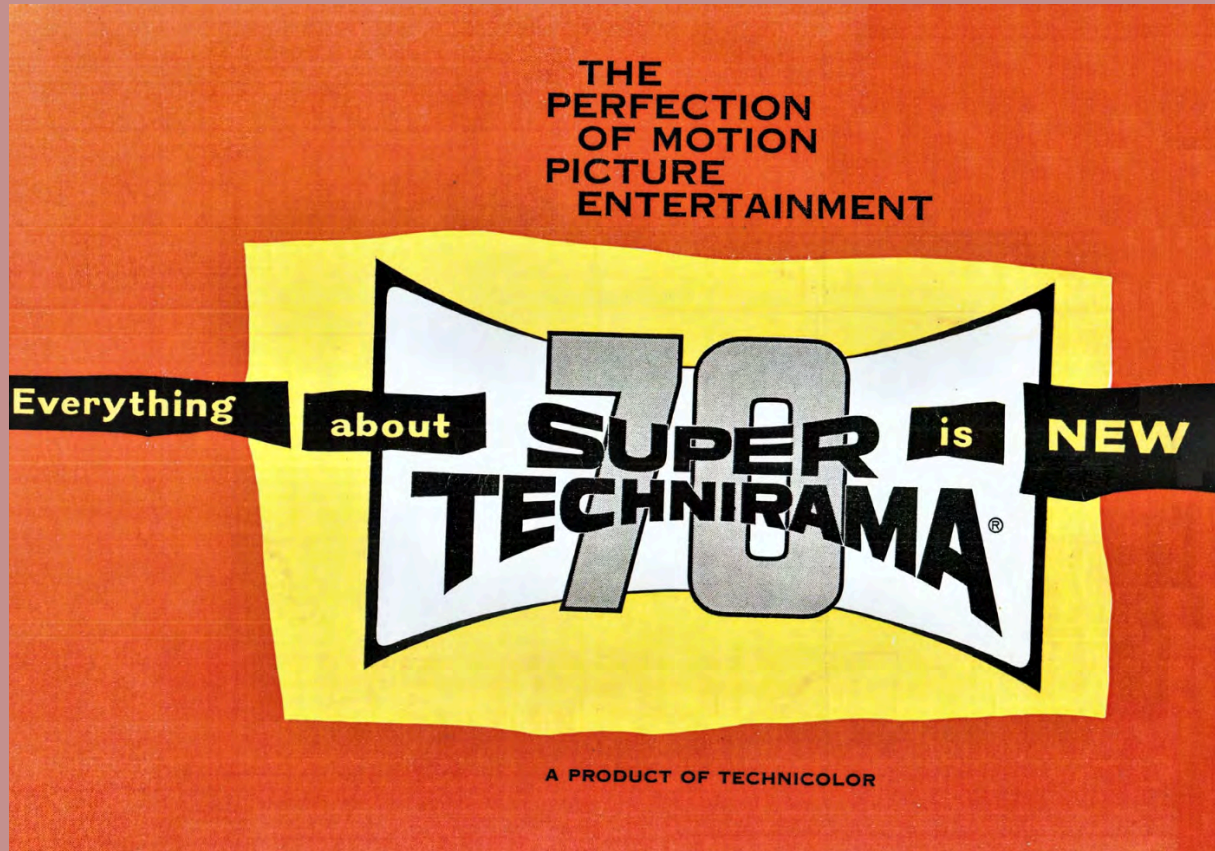
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Technicolor



Technicolor



Zoom Out

prexer

SEPT MODELES DE PROJECTEURS 35 mm

AP

Ces appareils sont en mesure de satisfaire toutes les exigences

AP61
AP61X
AP51
AP51X
AP70
AP71
AP70U

Tout ce qui caractérise aujourd'hui un appareil de classe universelle est renforcé dans les projecteurs AP

Fabrication de haute-précision présentant les tous derniers perfectionnements de la technique moderne:

- Image nette, stable et claire
- Son fidèle et pur, sans déformations
- Service aisé
- Sécurité de fonctionnement
- Vie durable
- Protègent au maximum le film contre l'usure
- Construction moderne et robuste
- Haut degré de précision
- Installation simple
- Facilité de surveillance pendant la fonctionnement
- Entretien facile
- Possibilité non compliquée de réparation

Ces 12 avantages en sont le critère de perfection garantissant la haute qualité des projecteurs AP.

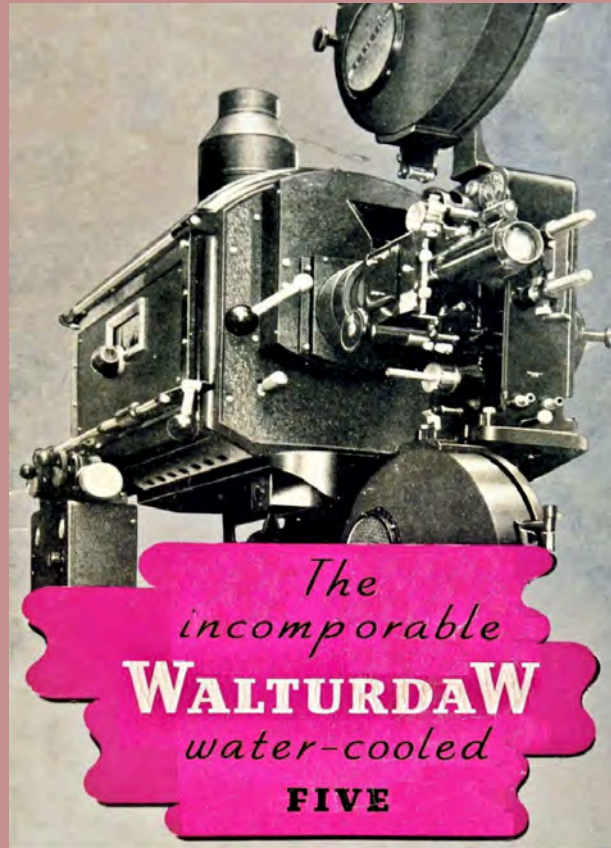
Leur prix très étudié en font des appareils très compétitifs.

VARIMEX

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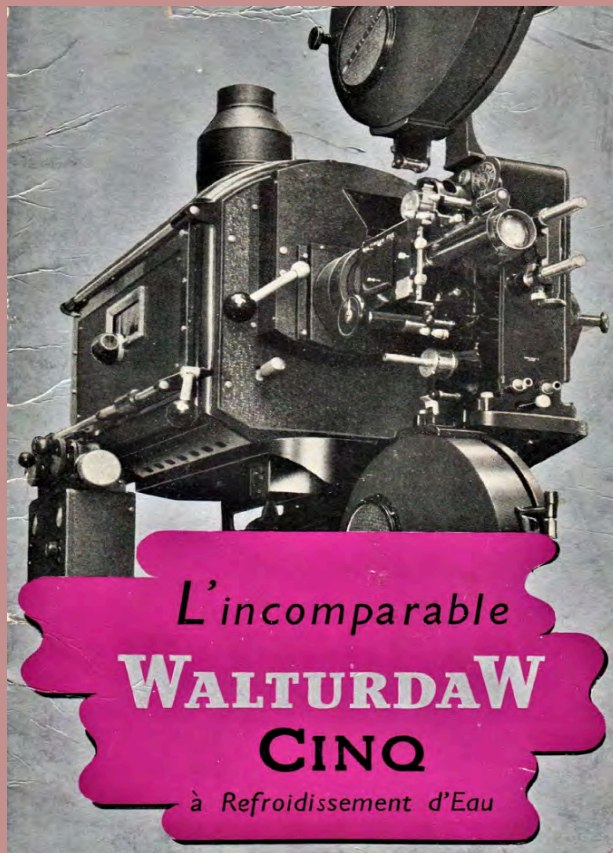
Walturdaw



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Walturdaw



Walturdaw

WALTURDAW SOUND EQUIPMENT.

The Walturdaw Cinema Equipment consists of the following items:-

- (a) One head amplifier equipment.
- (b) One power amplifier equipment.
- (c) Four heavy duty cinema type moving coil loudspeakers on baffles.
- (d) One pilot, steel clad, loudspeaker with volume control.
- (e) One double turn table equipment with metal supporting cabinets.

The equipment is designed to work as a whole and includes the two lengths of flexible high frequency cable connecting with the sound heads on the two projectors.

Head Amplifier Equipment.

This comprises a steel cabinet measuring 29½" high x 10½" wide x 6" deep, and houses the following equipment :-

Two three stage head amplifiers for amplifying the sound from the sound head to an output of approximately 1 volt. Each of the two amplifiers derives its heater and high tension current from the power amplifiers (referred to later). Each amplifier is self contained and very easily detachable from the front cover plate, which is hinged. The withdrawal of two plugs and the removal of four nuts enables the complete chassis to be taken away for replacement or service. The second amplifier in this equipment is intended as a stand by or an alternative.

In the same cabinet is a simple control panel comprising two pilot lights (showing which of the two amplifiers is in use); a change over switch (amplifier A to amplifier B operating in conjunction with the pilot light); a film/gram switch, and a stud type fader control engraved 0 to 20 with a 3 db control between studs. The volume control is of a very heavy duty stud type and is screened from dust and dirt by means of an inner detachable cover.

The whole unit is fixed to the wall between the two projectors and the two high frequency leads, (part of the equipment), are used to connection to the two sound heads.

Power Amplifiers.

The power amplifier equipment consists of a tall angle rack with sheet steel sides, top, and back, and can be housed anywhere within 200ft. of the head amplifier. The rack houses two high quality amplifiers A.C. driven, having an undistorted output of 30 watts.

Each amplifier is fitted with a meter and a meter switch whereby the anode feeds of each valve can be read without disturbing the programme. Also provided on the front panel are the mains switch and pilot light. Three other adjustable controls volume, bass and brilliance, are on the back of the amplifier and are pre-set.

Connection from the permanent wiring of the equipment to each amplifier is by means of a non-reversible plug.

Walturdaw Company Limited



A film projector advertisement (1912)

The **Walturdaw Company Limited** was a pre-First World War British film company.

The name comes from a conflation of the surnames of the company's founders, J.D. Walker, Edward George Turner, and G.H. Dawson.

The company manufactured film cameras and projectors, as well as dealing in a wide variety of equipment relevant to the "kinematograph industry" and distributing and producing films.

According to IMDb, Walturdaw started making films in 1901, their first being *The Life and Death of Queen Victoria*. However, the BFI suggests they only started making films in 1903. It appears that the company began trading in 1904. According to the Colonial Film: Moving Images of the British Empire website Walturdaw was considered to be one of the leading British firms before 1914. Walturdaw was the sales agent for a number of continental film companies, including German, Hungarian, Italian and Russian ones. At various times they had offices at 3 Dean Street and at various addresses in Gerrard Street, both in Soho.

In 1907 the company introduced their own synchronised sound film system, the Cinematophone.

In total Walturdaw made some 189 films. A number of these films were made in a studio in Sir Edward Watkin's pleasure grounds at Wembley Park, north-west London, after Walturdaw took over and adapted the old Variety Hall, a large wooden variety theatre, there in 1907. Others, such as *The Lusitania at Liverpool* (1907), were presumably filmed outdoors.

E.G. Turner later wrote "we were buyers and sellers of everything in the kinematograph industry, new or secondhand. There was one member, however, whose inclinations were photographically inclined, and so we took lease of Wembley Park and erected there something novel in the way of outdoor studios – a revolving platform, which allowed us to put up three sets of scenery at a time, when the wind allowed it, and each could be brought to the camera as required. Further, it was so constructed that we could always get the best of the light and sunshine. Ernest Howard took charge of this department – his lieutenants being J.B. McDowell and E. Bloomfield – these latter were our cameramen."

The company made a net profit of £1,160/0/8d in 1911-12, but although profits continued in the first years of the First World War it made a net loss in 1916.

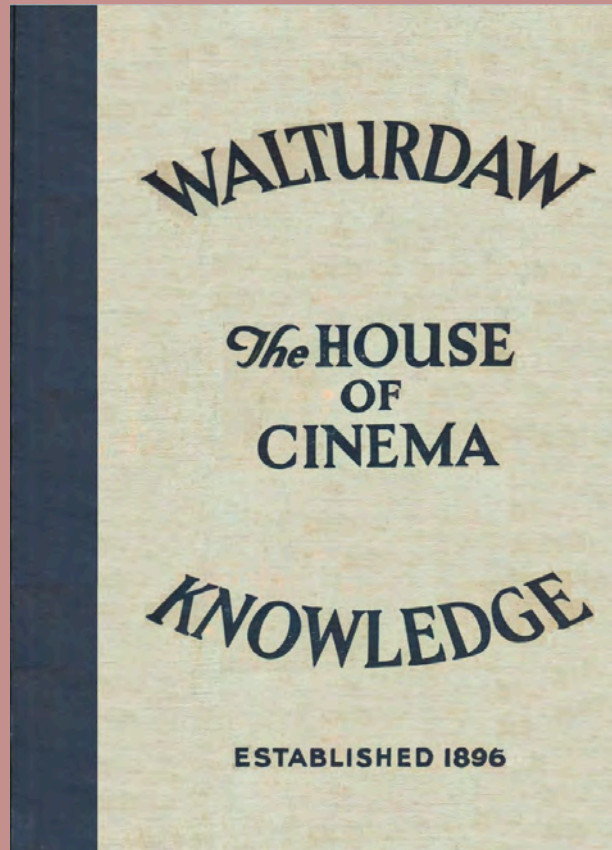
There were various legal problems about Walturdaw's licence, but they kept the studio until January 1911, when it was seriously damaged in a fire. Walturdaw stopped making films in the same year, but they continued as a distributor under the Walturdaw name until 1924.

The company was wound up on 17 June 1925.

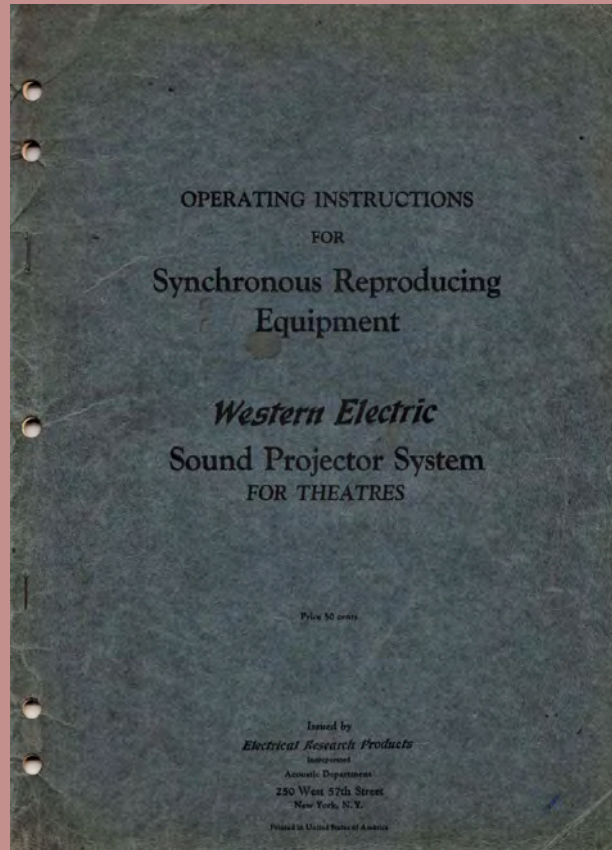
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Walturdaw

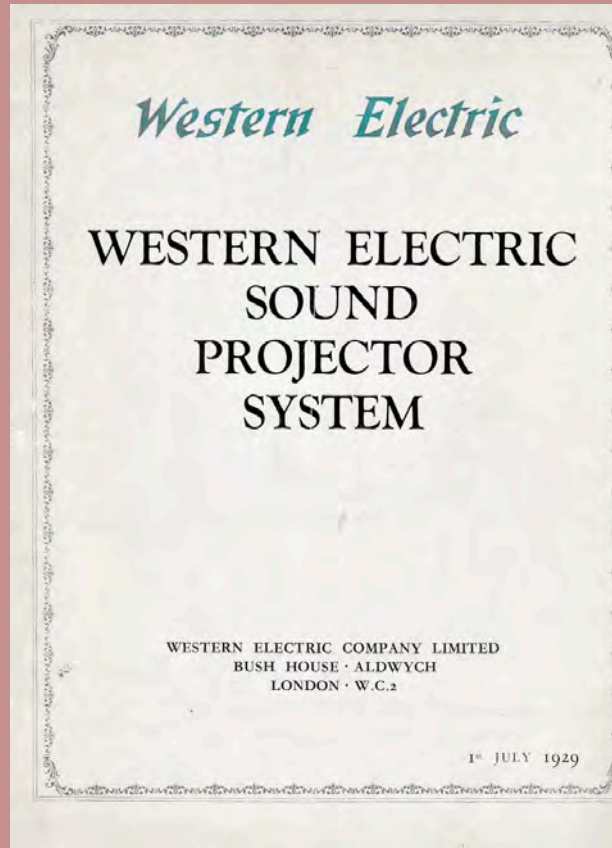
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Western Electric and Westrex

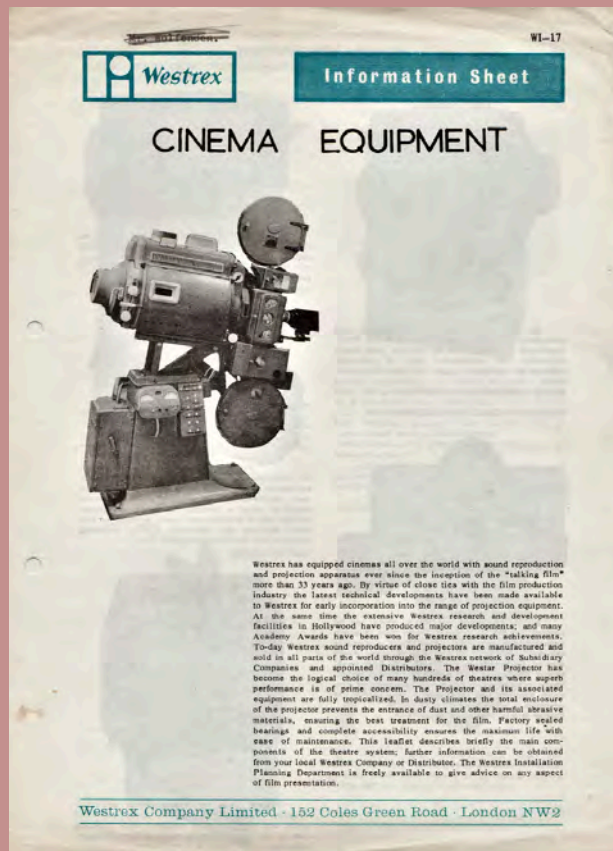


Western Electric and Westrex

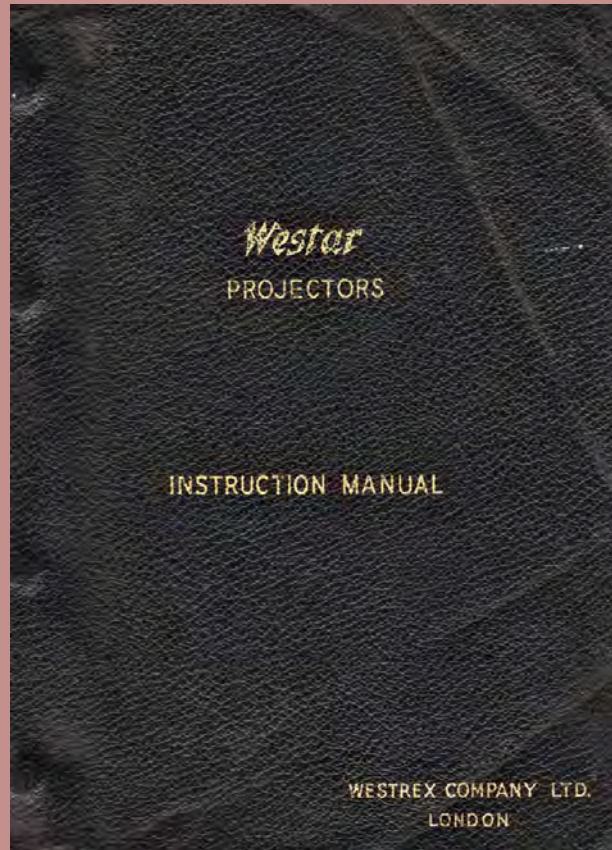


Western Electric and Westrex

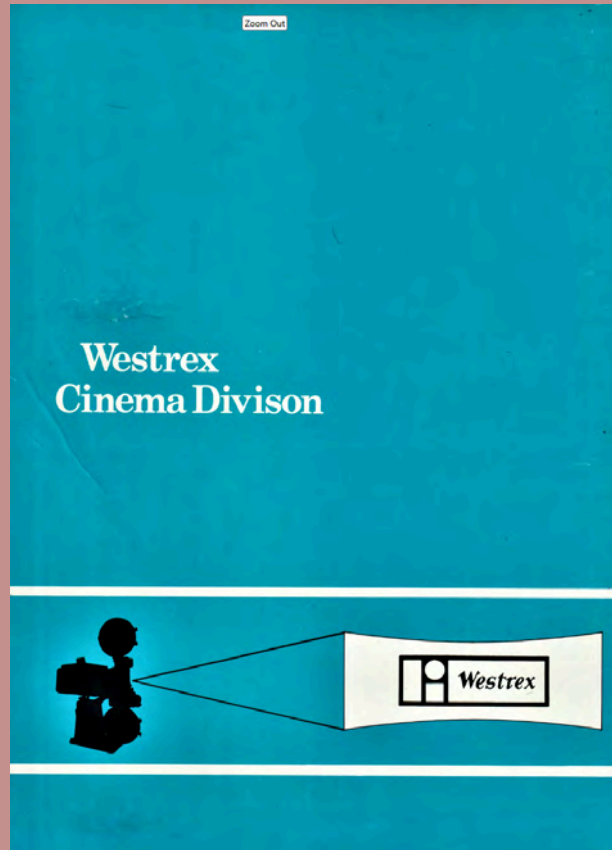




Western Electric and Westrex



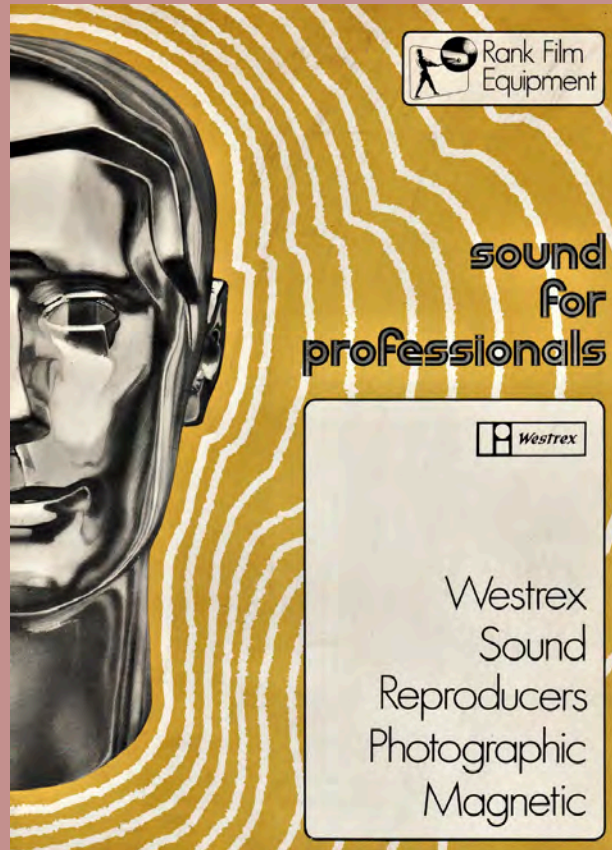
Western Electric and Westrex

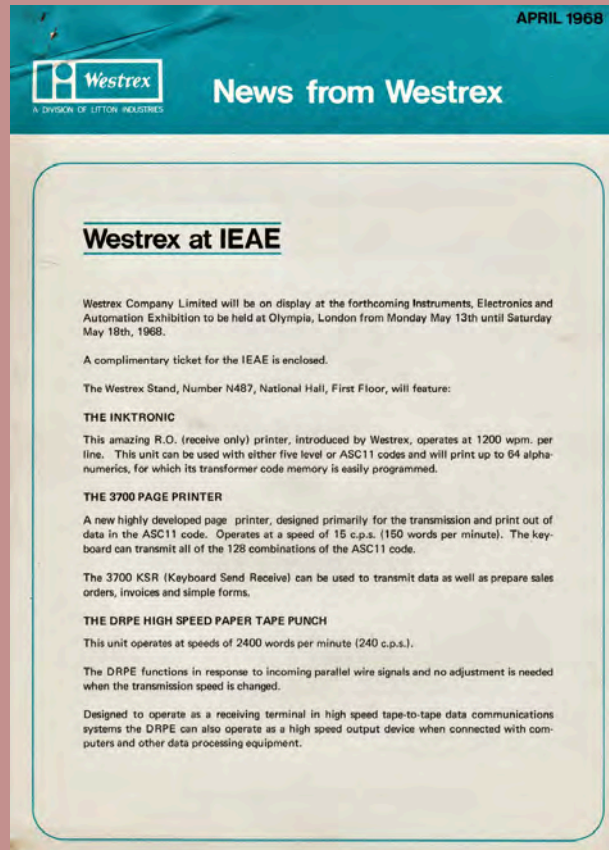


Western Electric and Westrex




Western Electric and Westrex



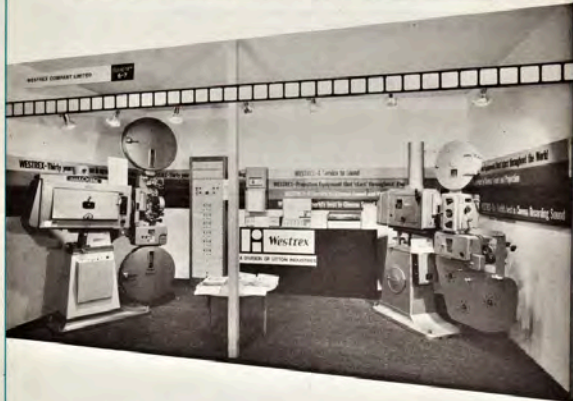


Western Electric and Westrex

SEPTEMBER 1968

 **About Westrex**
A DIVISION OF LITTON INDUSTRIES

WESTREX ON SHOW AT THE C.E.A. EXHIBITION




The new 70/35 mm 5000 Type Projector and associated sound equipment was given a first public showing at the C.E.A. Exhibition in Edinburgh on 11th and 12th June 1968. The straightforward design and excellent finish were favourably commented on by the many visitors. It was also given an honourable mention by Dr Knopp in his opening address.

I.F.I.P.
We had a highly successful display at the International Federation for Information Processing at the Waverley Market in Edinburgh from 5th to 10th August 1968. Marketing Personnel manning the stand were unanimous in the opinion that this was one of the most interesting and certainly the most hectic in which they had participated. The level of interest was high particularly in the Inktronic printer and the questions came thick and fast in many languages.


Western Electric and Westrex

WI - 8

 **Westrex**

Information Sheet

2001 TYPE -WESTAR PROJECTOR



The Westar 25 m.m. Projector was first introduced by Westrex in 1937. The steadiness of operation combined with easy access and simplicity of service made instant appeal, and today over 1,900 are installed in cinemas and projection rooms throughout the United Kingdom and abroad. After 14 years of constant usage the Westar Projector has more than proved its fundamental soundness of design and manufacture. The immediate accessibility of all working parts allows modifications or adaptations to be made on site, thus eliminating any necessity to return the Projector to the factory - this is especially appreciated by foreign users. The main drive shaft, vertical shaft and shutter shaft are all removable as complete units. All shaft assemblies are interchangeable with minimum loss of time. The gate is easily removable for cleaning and inspection. Intermittent oil cup and gauge are on operating side of mechanism. Only three points to lubricate - the grease sealed ball bearings are factory filled and require no additional lubrication.

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Western Electric and Westrex

Westrex 2000 Series 35mm Projection and Sound Systems


Technical Manual

Section 1 Installation
Section 2 Maintenance

33603—A

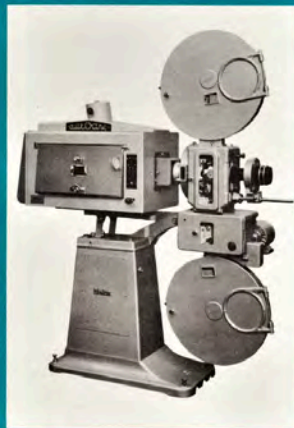


Western Electric and Westrex



Westrex
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Westrex Westar Thirty Five



The British-made 2001 is the latest in a famous line of Westar 20mm Projectors which were first introduced by Westrex more than 20 years ago. Because these machines were so reliable, robust and uncomplicated with their steadiness of picture presentation obtainable, and simplicity of service — that some thousands have been installed over the years in projection rooms throughout the United Kingdom and abroad, in every respect the Westar is already renowned for its fundamental soundness of design, manufacture and operation.

The modern version of the 2001 Type Westar has been developed to include all the major attributes of its predecessors. The immediate accessibility of all working parts allows modifications or adaptations to be made on site, thus eliminating any necessity to return the projector to the factory. This is especially appreciated by cinema users. The main drive shaft, vertical shaft and shutter shaft are all removable as complete units. All shaft assemblies are interchangeable with minimum loss of time. The gate is easily removable for cleaning and inspection.

The intermitted oil cup and gauge are on the operating side of the mechanism and there are only three points to lubricate. The grease-sealed ball bearings are factory fitted and require no additional lubrication.

The high quality of Westrex theatre equipment, together with the unrivalled backing of the Westrex service organisation, means that exhibitors and theatre managers can be assured of 100% operational success.

Cinema Division

Western Electric and Westrex



Westrex Sound and Scene



The Westrex 5000 Series of Projection equipments are the latest in a line of cinema sound and film projection apparatus which has been in the forefront of technical development since sound was first added to the motion picture more than forty years ago.

This new British made range has been designed expressly to cover comprehensively the requirements of all current and foreseeable formats for all types of Cinema Theatres.

The 5000 Series 35/70 Projector combines maximum facilities with straight forward design and rugged construction. It can project films in 70 mm and all 35 mm formats with minimum operator adjustment. Provision for automatic and/or remote control are a feature of the design.

The 5006-A Photographic Sound Reproducer Set incorporates a photo voltaic cell which provides greater freedom from background noise.

The 5008-A Magnetic Reproducer is available in either 4 or 4/6 track versions. The 5009 Series Amplifier Set caters for single track photographic and/or single track magnetic recordings.

Each amplifier channel is fully transistorised with a power output of 40 watts and extremely low noise and distortion factors.

Westrex will custom-engineer a modern installation that will guarantee your ability to keep up with all the cinema formats. Westrex representatives will be happy to go over your theatre's plan with you to show you how logical and how simple complete modernization can be.

Cinema Division

Western Electric and Westrex

Zoom Out

W1-19

 **Information Sheet**

WESTREX 90 SYSTEM



Not manufactured

The reduction of the number of changeovers and the introduction of remote control of the operating box equipment are modern developments towards the efficient presentation of a film programme. The Westrex Co. has developed the means by which these objectives can be achieved and, in keeping with Westrex tradition, existing Westrex equipment can be adapted to include these facilities. This latest Westrex achievement enables a full programme of three hours or more to be set up on two projectors and to remain on them until the next change of programme. The full programme can be presented, therefore, with only one change-over – and that can be automatic. In an operating box in which this Westrex method is used the addition of remote control is easily effected. With the Westrex control panel the operator is enabled to carry out remotely all the control functions normally required during a programme.

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Western Electric and Westrex

Zoom Out

AUGUST 1971

 **About Westrex**
A DIVISION OF LITTON INDUSTRIES

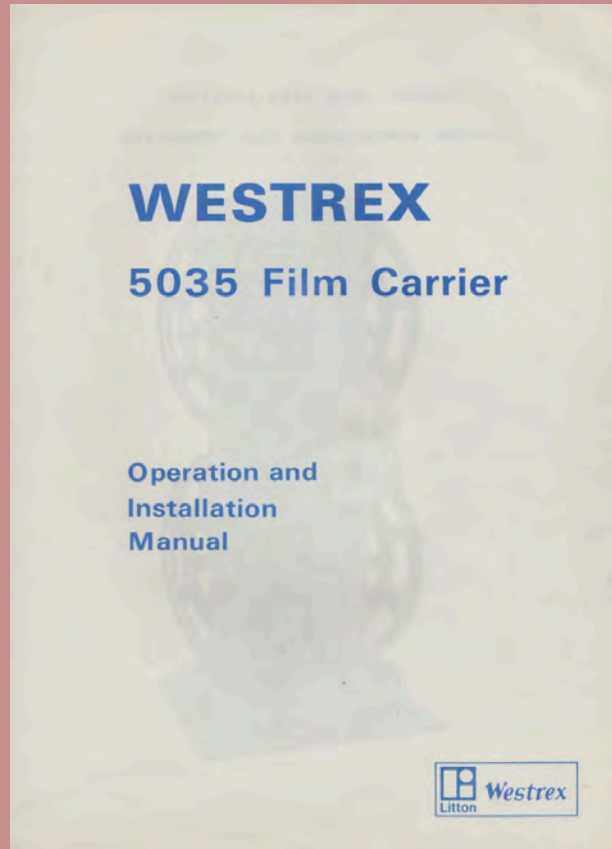
WESTREX FILM 71



WESTREX AT FILM 71

The Film 71 Conference and Exhibition was held at the Royal Lancaster Hotel London from the 21st – 25th June. The photograph shows part of our exhibit, included in which are the Cine-X Xenon Projection Lamp and the new Long Playing Film Attachment which allows 27,000 feet of film or approximately five hours showing time to be handled. This allows a normal complete programme to be shown without changeover. The whole mechanism revolves to allow the appropriate programme to be presented to the projector. To achieve optimum distribution of sound in the auditorium, several multi-cellular and acoustic lens types of high-frequency horn are available to suit auditoria of different size and shape.

Western Electric and Westrex



Western Electric and Westrex

Zoom In

DST/113



DATA SHEET
CINEMA DIVISION



5035 FILM CARRIER ASSEMBLY

PATENT APP. FOR

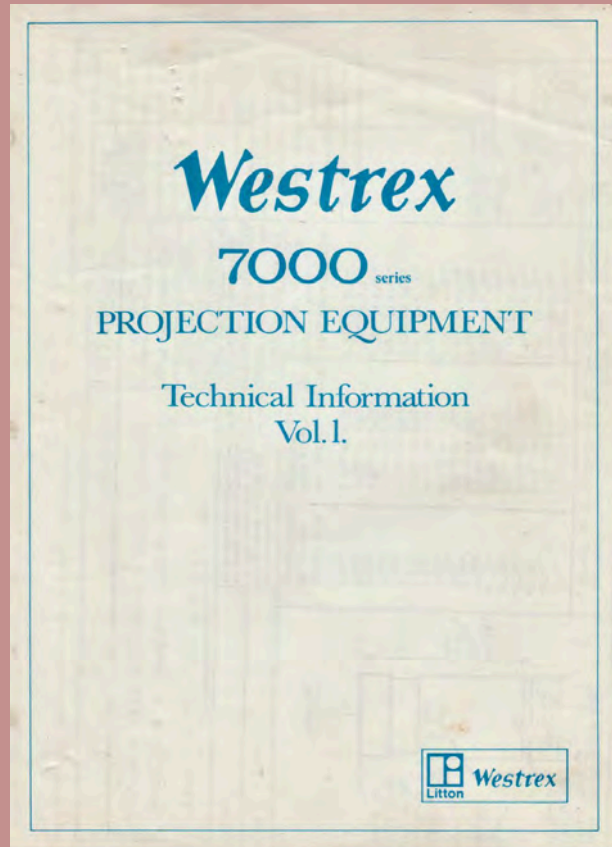
The 5035 Series of Film Carrier has been designed to cater for the need to run a complete film programme with minimum attendance and no changeovers. This is achieved by providing film capacity of 2 - 13,500 ft. Where the programme is longer than 2½ hours and there is no designated interval a convenient natural break can be chosen to allow the mechanism to be rotated and the incoming part of the programme fed into the Projector. This interval need be no longer than 2-3 minutes.

Re-winding and examination of the film can be carried out on the non-operating side of the Projector whilst the remainder or alternate programme is being projected.

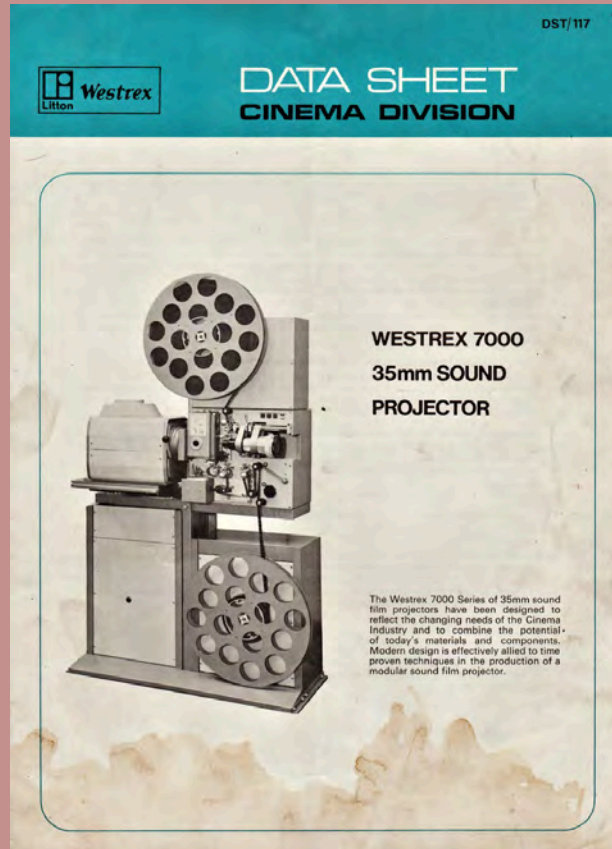
It is not obligatory to remove the reels from the mechanism as the extremely smooth control of speed allows the programme to be made up directly from the transit reels onto the large reels and reverse procedure carried out at the end of the film run. The reduced amount of manual handling of the film together with many fewer threading cycles greatly reduces the risk of film damage. A feature of the device is the very wide degree of speed control ranging from a few frames per second up to a re-wind capability of up to ten times normal projection speed, thus allowing a rapid and controlled re-winding.

A controllable braking system reduces the possibility of film damage in the event of a film joint parting in either the projection or re-wind mode.

Western Electric and Westrex



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Zoom Out DS/T 103

Westrex
A DIVISION OF LITTON INDUSTRIES


DATA SHEET
CINEMA DIVISION

5000A 35/70 mm FILM PROJECTOR

INTRODUCTION

The British-made Westrex 5000 series of system-engineered equipments has been designed to meet the needs of all current and anticipated formats for all types of cinema theatres.

The 5000-A 35/70mm Projector combines maximum facilities with rugged, enduring construction. It can project films in 70mm and in all 35mm formats with minimum operation adjustment. Future developments will include the provision for automatic and/or remote control.



MAIN FEATURES

The open-type mechanism of the 5000A Projector (for both 35 and 70mm film) incorporates the following important features:

- (a) Triple lens turret for 70mm diameter lenses.
- (b) Single rear shutter.
- (c) Picture changeover device.
- (d) Water-cooled gate mounting.
- (e) Easy access for inspection or cleaning.
- (f) Interchangeable gate assemblies and pad arms for 35mm and 70mm film.
- (g) One each interchangeable 35mm standard, 35mm Cinemascope and 70mm aperture plates with pilot aperture.
- (h) Toothed rubber belt drive for smooth power take-off from sound reproducer.

SPECIAL POINTS

1. The application of the projector and its associated Westrex sound reproducers (See Data Sheets DS/T 105 and 106) can be changed with a minimum of operator effort for 35 or 70mm film, employing any aspect ratio.
2. Three 70mm diameter lenses are rapidly interchangeable by use of the triple lens turret. Or the lens turret can be replaced by a single lens mount for 101.60mm diameter lenses (used with 70mm film where a shorter focal length lens is required). There is independent focussing for each of the three lenses.

Western Electric and Westrex

DS/T 104

DATA SHEET CINEMA DIVISION

5000C 35/70mm FILM PROJECTOR

INTRODUCTION

The British-made Westrex 5000 series of system-engineered equipments has been designed to meet the needs of all current and anticipated film formats for all types of cinema theatres.

The 5000 C35/70mm Film Projector has an open-type mechanism. It combines maximum facilities with rugged, enduring construction. It can project films in 70mm and in all 35mm formats with minimum operator adjustment. Provisions for automatic and/or remote control are a feature of the design.

MAIN FEATURES

The open-type mechanism of the 5000C Projector (for both 35mm and 70mm film) incorporates the following features:

- (a) Single lens mount for 101.6mm diameter lenses (5005A).
- (b) Single rear shutter.
- (c) Picture changeover device.
- (d) Water-cooled gate mounting.
- (e) Easy access for inspection and cleaning.
- (f) Interchangeable gate assemblies and intermittent pad arms for 35mm and 70mm film.
- (g) One each interchangeable 35mm standard, 35mm CinemaScope and 70mm aperture plates with pilot aperture.
- (h) Low voltage framing lamp.
- (i) Toothed rubber belt drive for smooth power take off from the 5006 Photographic sound reproducer.

SPECIAL POINTS

1. The mode of the Projector and its associated Westrex sound reproducers (see Data Sheets DS/T 105 and 106) can be set with a minimum of operator effort for 35mm or 70mm film, employing any aspect ratio.
2. The single lens mount and focussing device cater for a choice of 101.6mm lenses.

Western Electric and Westrex

WI-2

 **Westrex**

Information Sheet

REVERSING PROJECTOR

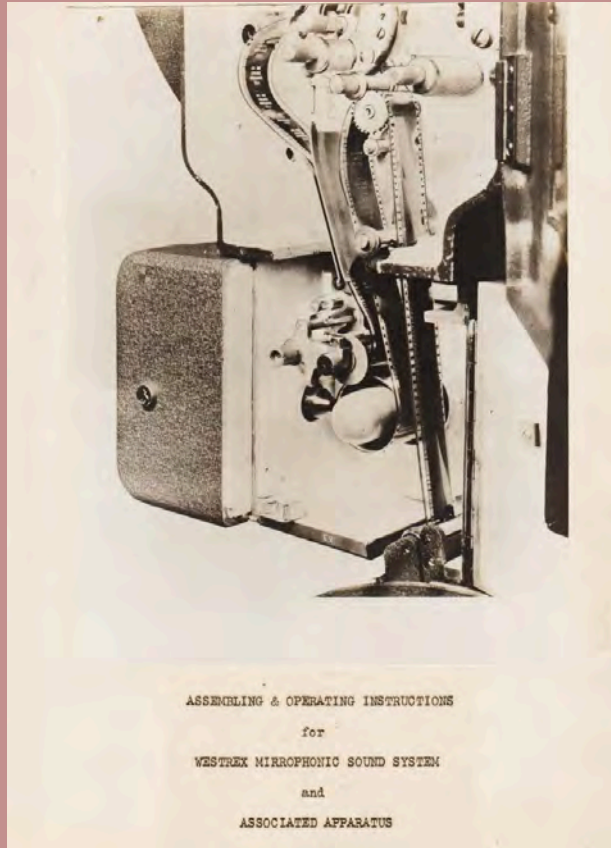


When showing pictures on film to selected personnel it is often necessary to stress certain sections, consequently the particular sequence is desired to be shown repeatedly; this is especially useful for editing purposes. Normally repeated showing of even a few feet of film requires complete re-winding and re-showing of the whole length of film, thus causing considerable delay.

To obviate this and make available instant and repeated showings of any part or sequence, Westrex has developed the "Reversing Projector" which can be operated "forward" or "reverse" at any given time or point during the run. This can be controlled either by the Projectionist or remotely by the Executive from a Remote Control Unit placed to hand and operated by pressing the appropriate buttons, clearly marked "Stop", "Reverse" and "Forward". These buttons can be operated without pause, and an automatic time delay of 10 seconds ensures that no damage is caused to film or mechanism.

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Information Sheet

W1-7


35mm. PHOTO-TRACK SOUND REPRODUCER 2003-C



The Film transport employs a tight loop system with a hydro flutter-suppressor which was the subject of an award given by the Academy of Motion Picture Arts and Sciences. The drive consists of a flexibly mounted motor fitted with a double "V" pulley. Two matched "V" belts transmit the drive to the main shaft of the Reproducer. A range of drive motors is available to cater for most power supplies. Two exciter lamp brackets are provided so that both can be adjusted for correct focus and immediate replacement can be effected should a lamp fail. A pre-amplifier is not fitted in the reproducer but a switch is provided to control the exciter lamp for sound change-over. Adaptation can be provided for reproducing from 200mil push-pull photo track or magnetic track recordings. In addition, lower spool assemblies can be supplied for double film operation as an alternative to the normal 18 in. lower spool boxes. For studio or pre-view theatre purposes synchronous drive motors and electrical interlock systems can be provided for two or more machines and/or dummy heads. This reproducer is British made throughout and similar in design to the Westrex 26 of American origin.

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WESTREX
A DIVISION OF WESTERN ELECTRIC

DATA SHEET

CINEMA DIVISION

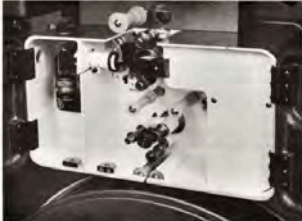
DS/T 105

5006A PHOTO SOUND REPRODUCER

INTRODUCTION

The British-made 5006A Photo-Track Sound Reproducer forms part of the Westrex 5000 series of system engineered equipments, designed to meet the needs of all current and anticipated film formats for all types of cinema theatres.

The Westrex 5006A Photo Sound Reproducer is designed for use with 35mm single photo sound track film and supports the Westrex 5000 Projector. It employs a photo-voltaic cell giving an exceptionally high signal to noise ratio. The film transport employs a specially designed tight loop system with a flutter-suppressor which was the subject of an award given by the Academy of Motion Picture Arts and Sciences. The 5007A drive consists of a resilient mounted induction motor (a separate item) fitted with a double "V" pulley. Two matched "V" belts transmit the drive to the main shaft of the reproducer. Drive motors are available to cater for most power supplies. Two exciter lamp brackets are provided so that both can be adjusted for correct focus, and immediate replacement can be effected should a lamp fail. For studio or pre-view theatre purposes synchronous drive motors and electrical interlock systems can be provided to lock together two or more similarly equipped machines.



MAIN FEATURES

The 5006A Photo Sound Reproducer incorporates the following features:

- Photo-voltaic cell.
- Pre-settable exciter lamp assembly.
- Toothed rubber belt drive from reproducer to 5000 type Projector.
- Twin "V" belt drive from the 5007A Drive Motor Assembly.
- Simple by-pass for 70mm film.

SPECIAL POINTS

- The photo-voltaic cell, with the large output and little or no hiss, has enabled Westrex to achieve a signal to noise ratio comparable to that obtained from magnetic film reproduction.
- The unit has few moving parts and is easy to service. It features protective doors, both for the exciter lamp and the film compartment.
- The twin "V" belt drive from the 5007A motor follows a successful principle utilised in previous Westrex 35mm sound reproducers refined to provide adjustment for accurate film speed.

Western Electric and Westrex

DS/T 106

DATA SHEET CINEMA DIVISION

5008A, B & C MAGNETIC SOUND REPRODUCER

INTRODUCTION

The British-made 5008A, B or C Magnetic Sound Reproducers form part of the Westrex 5000 series of system-engineered equipments designed to meet the needs of all current and anticipated film formats for all types of cinema theatres.

The Westrex 5008 A, B or C Magnetic Sound Reproducer fits easily on top of the projector. These are rugged double drum pull-through scanning mechanisms for magnetic reproduction and incorporate a free-running composite sprocket for 35 or 70mm film and easily interchangeable single, four or six track plug in magnetic head assemblies.

TYPES

The difference between the 5008A, B and C Reproducers are as follows:-

- (1) The plug-in Magnetic Head and Azimuth Mount in 5008A cater for single-track 35mm reproduction.
- (2) The plug-in Magnetic Head and Azimuth Mount in 5008B cater for 4-track 35mm CinemaScope reproduction only.
- (3) The plug-in Magnetic Head and Azimuth Mount in 5008C cater for 6-track 70mm Todd A.O. reproduction only.

NOTE. The 5008C can have a 4-track 35mm Magnetic Head assembly for CinemaScope, interchangeable with the 6-track 70mm Todd A.O. Head.

MAIN FEATURES

The pull-through type 5008 Magnetic Reproducer mechanism incorporates the following features:


- (a) Efficient versatility in catering for full range of 35 and 70mm formats.
- (b) Plug-in magnetic replay heads having adjustable Azimuth Mounting.
- (c) Double-drum scanning system ensuring minimum "wow" and "flutter".

SPECIAL POINTS

1. The fully stabilised pull-through drive scanning mechanism (as opposed to the driver mechanism) isolates the reproducer from mechanical interference that might otherwise be transmitted from the projector. The composite 35/70mm sprocket is free-running on its own shaft to enable the film to pull it round.

Western Electric and Westrex

DS/T 107

 **Westrex**
A DIVISION OF EDITION INDUSTRIES

DATA SHEET
CINEMA DIVISION

5009A & B SINGLE CHANNEL PHOTO/MAG. WALL MOUNTING AMPLIFIER SYSTEM

INTRODUCTION


The British-made 5009A and B Single Channel Photo/Mag. Wall Mounting Amplifier System forms part of the new Westrex 5000 series of system-engineered equipments, designed to meet the needs of all current and anticipated film formats for all types of cinema theatres.

The Westrex 5009 type is wall mounting and features a solid state amplifier with control system, employing silicon transistors throughout. The assembly is designed to achieve a low-distortion figure with a high factor of stability. Provision is made for the fitting of an extension or auditorium "Fader".

SYSTEMS A & B

The 5009A system caters for photo track reproduction only from 2 projectors.

The 5009B system caters for photo track and single track Magnetic Reproduction from 2 projectors.



MAIN FEATURES

The wall mounting Amplifier and Control Systems incorporate the following units:

- Two transistor Photographic Reproduction pre-amplifiers to work from a photovoltaic cell.
- Two transistor low level line amplifiers.
- Two interchangeable transistor 40 watt power amplifiers each with a power supply unit (one for the auditorium loudspeaker drive and one for the projection room monitor loudspeaker drive).
- One Control Panel with operational mode selection switches for two machines, machine changeover relay, master fader, auxiliary input (Disc Reproducer) switch and remote fader switch.
- Two transistor Magnetic Reproduction pre-amplifiers. (For type B only).

SPECIAL POINTS

- The circuitry of the 5009 is designed to achieve distortion of less than 0.1 per cent; stability against temperature and open circulated load; protection of the power transistors against inadvertent load short-circuit; and a signal to noise ratio not previously practicable.

Western Electric and Westrex

DS T 108

DATA SHEET CINEMA DIVISION


5011A & B and 5012A & B MULTI-TRACK SOUND AMPLIFIER SYSTEMS

INTRODUCTION

The British-made 5011 A & B and the 5012A & B Single Track Photographic and Multi-Track Magnetic Sound Amplifier Systems form part of the Westrex 5000 series of system-engineered equipments, designed to meet the needs of all current and anticipated film formats for all types of cinema theatres.

The Westrex 5011A & B and the 5012A & B Single Track Photographic and Multi-Track Magnetic Sound Amplifier Systems cater for all current single and multi-track film recordings and feature compact plug-in modules to facilitate servicing and easy replacement. The "A" versions are floor-mounting in one cabinet, and "B" versions are wall-mounting in two cabinets. This offers maximum choice to exhibitors in locating the equipment in the operating box.

DS/T 109

 **DATA SHEET**
CINEMA DIVISION

5010A BACK STAGE AUDITORIUM LOUDSPEAKER

INTRODUCTION

The British-made 5010A Back Stage Auditorium Loudspeaker is part of the Westrex series of system-engineered equipments designed to meet the needs of all current and anticipated film formats for all types of cinema theatres.

The Westrex 5010A is a high-quality Duplex stage loudspeaker system, the design of which is based on many years of experience and very recently up-dated to take advantage of new magnetic materials and plastics. It offers separate high-efficiency units for bass and treble reproduction, the response of which can be balanced and directed as required by the auditorium.

Also available is the 5010B in kit form, without the baffle woodwork 20B4C. A set of drawings accompanies each kit so that the baffle can be made locally. This is particularly useful to overseas customers.


MAIN FEATURES

The 5010A Back Stage Auditorium Loudspeaker incorporates the following units:

- (a) Two 2080-F low-frequency loudspeaker units.
- (b) One 2090-G high-frequency loudspeaker unit.
- (c) One 2084-C low-frequency baffle assembly.
- (d) One 2092-B 12-cell high-frequency horn.
- (e) One 31772-C 675 HZ cross-over network.

SPECIAL POINTS

1. The high-quality Duplex system has been updated by the employment of ceramic magnets for both the high-frequency and the low-frequency units.
2. To achieve optimum distribution of sound in the auditorium, several multi-cellular and acoustic lens types of high-frequency horn are available to suit auditoria differing in size and shape.
3. Among types available are a 12-cell fibreglass assembly, an 8-cell fibreglass assembly, and a single-cell fibreglass horn with acoustic lens for wide-angle distribution of high-frequency sound.
4. The low-frequency assembly consists of two 15" direct radiators, mounted in a matching baffle.
5. The baffle is designed for side entry, so that the low-frequency units can be easily serviced.



Zoom Out DS 112

Westrex
A DIVISION OF EMI RECORD INDUSTRIES


DATA SHEET
CINEMA DIVISION

2567E, F, G & H TYPES OF DISC REPRODUCER

INTRODUCTION
The Westrex 2567 Type is a sophisticated and dependable 4-speed Disc Reproducer available in monophonic or stereophonic/monophonic form.

TYPES

- (1) 2567 E provides 4 speeds and a monophonic output. It is for operation from a 240 V, single-phase 50 HZS supply.
- (2) 2567 F provides 4 speeds and a stereophonic/monophonic output. It is for operation from a 240 V, single-phase 50 HZS supply.
- (3) 2567 G provides 4 speeds and a monophonic output. It is for operation from a 110V, single-phase 60 HZS supply.
- (4) 2567 H provides 4 speeds and stereophonic/monophonic output. It is for operation from a 110V, single-phase 60 HZS supply.

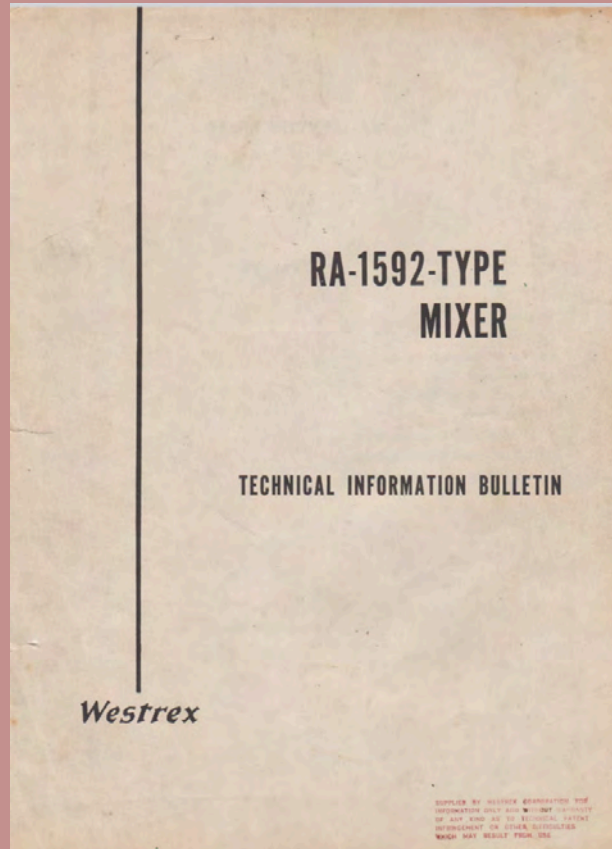


MAIN FEATURES
The 2567 mono/stereo, 4 speed Transcription Disc Reproducer has design features which include plug-in transistor pre-amplifiers, volume control, separate treble and bass tone controls, and power supply unit.

SPECIAL POINTS

1. The 4 speed transcription turntable is by Goldring Lenco (Model GL 70).
2. The light weight, high-quality pick-up arm incorporates a device for raising and lowering the pick-up and for locating the start of the groove.
3. The set contains its own monophonic/stereophonic pre-amplifiers, with separate high-frequency and low-frequency tone controls and a numbered master volume control.
4. The transistorised pre-amplifiers are designed as plug-in modules.
5. The diamond/sapphire stylus in the cartridge are of measured quality and give characteristics commensurate with Westrex's high standards of reproduction. An alternative cartridge can be supplied if a strong preference is expressed for a particular type from which the high performance can be maintained.
6. The operational output from each amplifier is in the order of -10 DBM to 0 DBM into a 600 ohm line. This is more than adequate to modulate fully the Westrex power amplifier system to provide spectacular sound reproduction through the Westrex 5010 or 5013 Auditorium Loudspeaker System.

Western Electric and Westrex



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Western Electric and Westrex

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Wotan



**Putting cinema action
in the best light for 30 years.**

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WOTAN XBO xenon short-arc lamps for cinema projection

**Guide to fitting,
operation, maintenance
and troubleshooting**



WOTAN

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Instructions for Use of Xenon Lamps XBO

When handling the lamp, please follow the instruction for operation of the equipment!

Insert lamp with protective cover in the lamp housing. Pay attention to the permissible burning position of the lamp. When inserting and connecting the lamp, no twisting or bending forces should be transferred to the lamp body. Make sure of a good fit of the current connectors. All flexible leads must be run with traction relief.

Before taking the protective cover off the lamp, put on a protective mask and leather gauntlets.

If the quartz body of the lamp was accidentally touched, clean it with alcohol and then with distilled water. Please wear protective mask and gauntlets when doing this job. Do not use cleaning rags but cotton wool or kiames tissue to avoid damages to the surface of the quartz envelope.

When installing lamps XBO 700 W/H/S, XBO 700 W/H/S/C, XBO 1000 W/H/S, XBO 1000 W/H/S/C, XBO 1600 W/H/S, and XBO 1600 W/H/S/C, the attached flat washer is to be fitted upon the threaded pin on the cathode side. Removal of the plateating flat washer (after half the average lamp life) will allow a rotation of the lamp by exactly 180° (see also section 4. Maintenance of Lamp). When screwing the lamps into their cathode-side support, the protective cover may be used as a tool. For this purpose, the protective cover is provided with two recesses which are catching the two metal pins on the side of the cathode base.

After having inserted the lamp and connected the current leads, please check if there is enough play in direction of lamp axis. To avoid mechanical stresses, the lamp must be able to freely expand when warming-up during operation.

Before initial operation, polarity of the electric connection should be checked so as to avoid reversed polarity.

The lamp housing must be closed during ignition and operation of lamp. When an auxiliary mirror is used, it should be focussed correctly against the luminous arc (please observe instruction for operation of the equipment).

The current of these lamps may be varied within a certain range (as stated in the table) without causing a change in the spectrum of the radiation. The maximum current values as stated in the table should never be exceeded.

When operating lamps with forced cooling, care should be taken that the velocity of the cooling air stream is high enough. Therefore, in many cases an exhaust ventilation will be necessary in addition to the blower installed in the device. The base temperature should never exceed 230° C (independently of operation with convection or forced cooling).

When running these lamps in horizontal position, the deflection of the luminous arc caused by the convective gas stream within the discharge vessel should be compensated for by an appropriately dimensioned magnetic field.

For reasons of safety, it is strongly recommended to replace the lamps at the latest after the average life stated in the catalog has been exceeded by 25 %.

Oper. main switch. Do not open lamp house until at least 10 minutes after switching-off the lamp. At operation with forced cooling, the blower should be kept running for at least 5 minutes after switching-off the lamp.

Please follow the instruction for operation of the equipment.

When working on the equipment while the lamp house is open, fit the protective cover around the lamp, and wear protective mask and gauntlets. Check the contact surfaces of lamp and connecting pins for cleanliness at regular intervals. If need be, clean them. Contact resistances may lead to scorching of the bases and consequently to a premature failure of the lamp. If an auxiliary mirror is used, it should be carefully refocused after the maintenance work is finished. Dust accumulating on the discharge vessel after several operating hours should be removed with a soft hair-brush.

Since at horizontal burning position the Xenon lamp will broaden on one side (upper part), it is to be rotated by 180° after half the average life. A flat washer is attached to lamps XBO 700 W/H/S, XBO 700 W/H/S/C, XBO 1000 W/H/S, XBO 1000 W/H/S/C, XBO 1600 W/H/S, and XBO 1600 W/H/S/C which is to be removed from the threaded pin on the cathode side after half the average life. Re-screwing will result in a rotation of the lamp through 180°.

Fit the protective cover around the cooled-off lamp and follow the safety precautions as described under item 1).

Burnt-out lamps may either be returned to the lamp manufacturer in their protective cover and original package or be destroyed as follows: Wrap lamp without protective cover in a large, thick cloth (e.g. a new dry scrubbing cloth), put it on a hard underlay and smash it with a hammer. The safety precaution must be observed.

Mechanically destroyed lamps should be packed separately, i.e. not in the protective cover.

The warranty is covered by our Terms of Delivery.

Please note: The lamps are covered by a warranty only when the auxiliary equipment used meets the specifications established by the lamp manufacturer.

In the event of claims, please complete in detail the questionnaire accompanying each lamp and return it together with the rejected lamp to your supplier who will pass it on to the lamp manufacturer. No liability is accepted for XBO lamps which became unusable due to in-expert handling, particularly non-observance of these instructions, or due to damage during transport.

1. Installation of Lamp

XBO 700 W/H/S, 700 W/H/S/C
XBO 1000 W/H/S, 1000 W/H/S/C
XBO 1600 W/H/S, 1600 W/H/S/C

2. Operation of Lamp

XBO 150 W/H/S, 150 W/H/S/C
XBO 500 W/H, 2000 W/H
XBO 3000 W/H
XBO 1000 W/HTP, 2000 W/HTP
XBO 3000 W/HTP, 4000 W/HTP

3. Switching-off the Lamp

4. Maintenance of Lamp

horizontal burning position

5. Removal of Lamp

6. Burnt-out Lamps

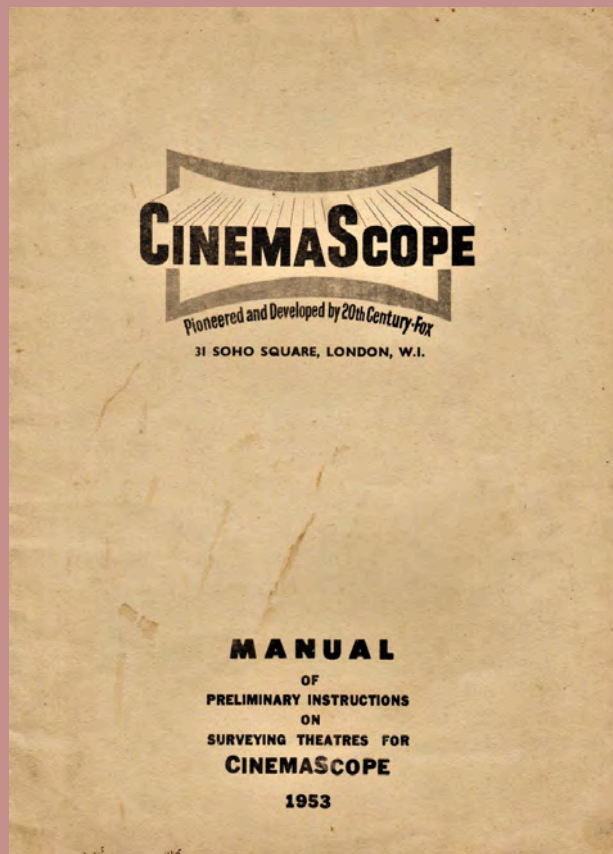
7. Warranty

Printed in Germany

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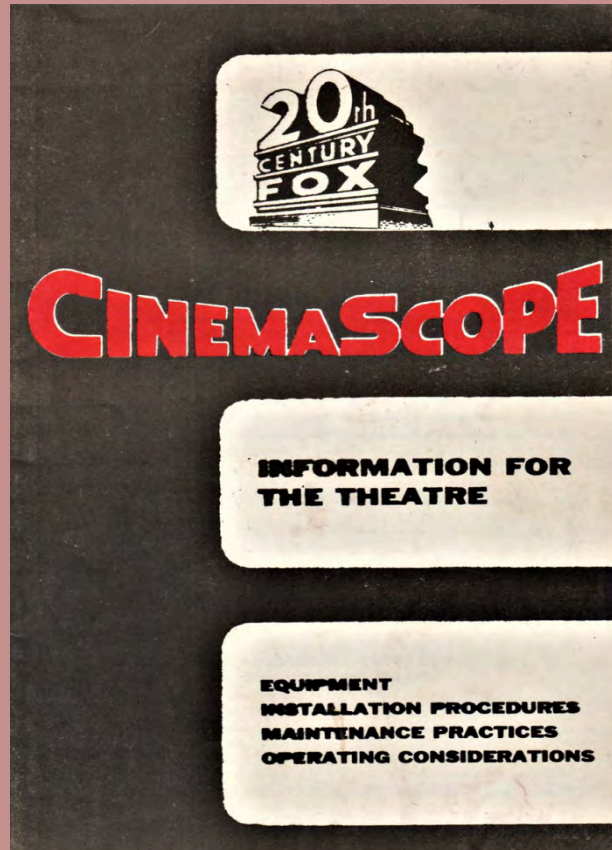
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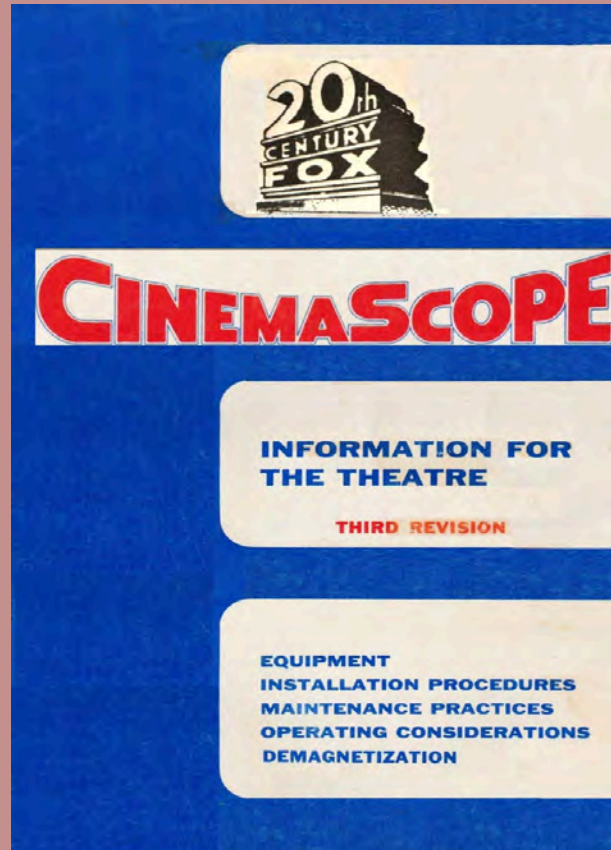
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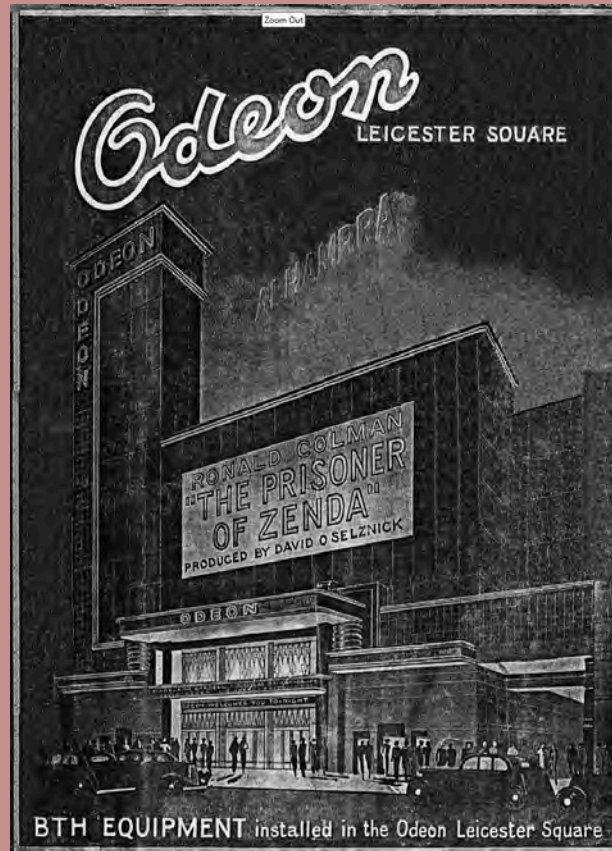


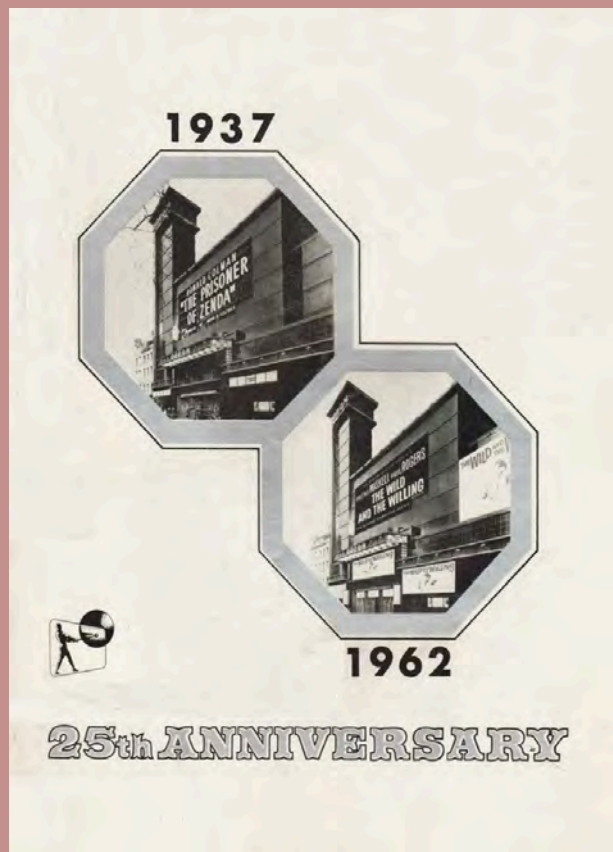
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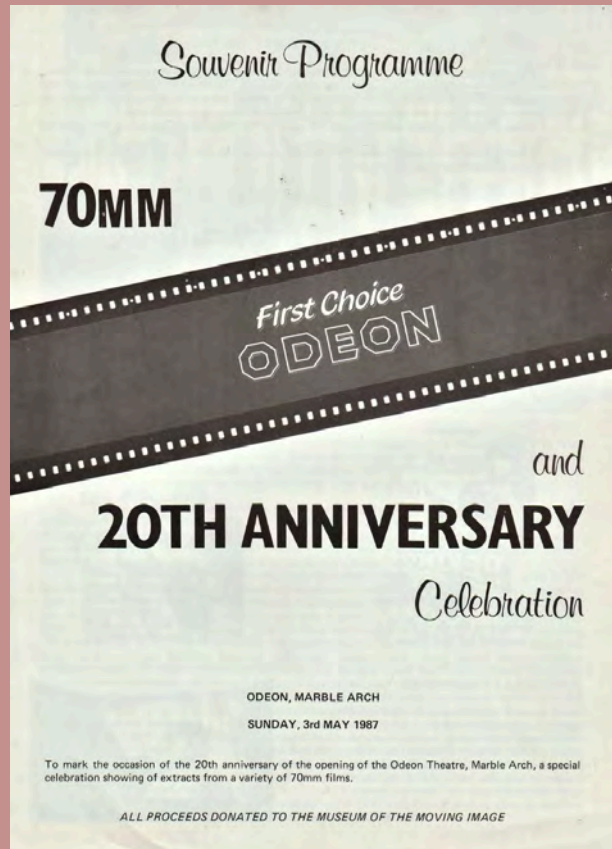
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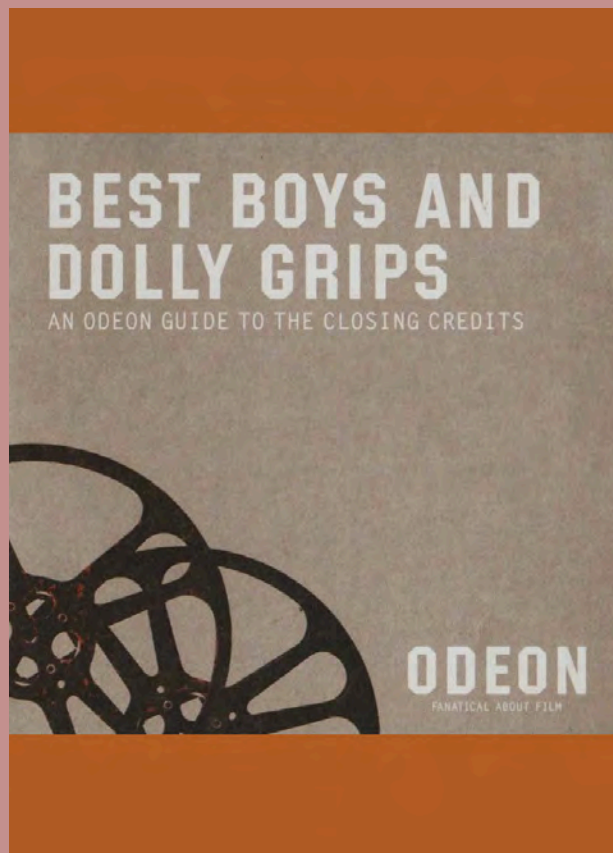




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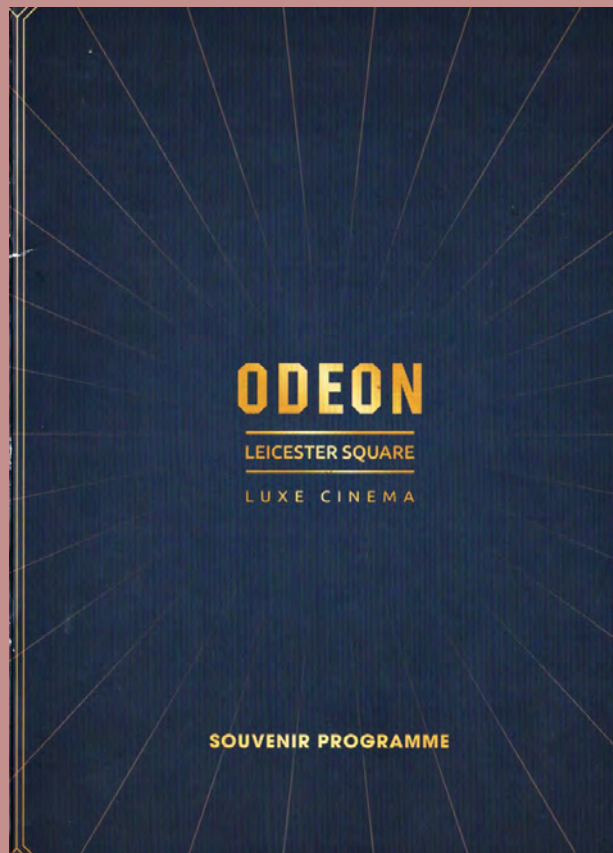
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28 MM



FILM



CATALOGUE

STATUTORY RULES AND ORDERS,
1923, No. 983.

CINEMATOGRAPH, ENGLAND.

REGULATIONS, DATED JULY 30, 1923, MADE BY THE SECRETARY OF
STATE UNDER THE CINEMATOGRAPH ACT, 1909 (9 EDW. 7.
c. 30).

In pursuance of the Cinematograph Act, 1909, I hereby make
the following Regulations :—

PART I.

GENERAL.
DEFINITIONS.

1. In these Regulations—

- (a) The word "*building*" shall be deemed to include any booth, tent or similar structure.
- (b) The expression "*new building*" means a building newly erected or adapted after the date on which these regulations come into force for the purpose of cinematograph exhibitions.
- (c) The expression "*cinematograph exhibition*" includes any exhibition to which the Act applies.

SEATING AND EXITS.

2.—(a) No building shall be used for cinematograph exhibitions unless it be provided with an adequate number of exits clearly indicated and so placed and maintained as readily to afford the audience ample means of safe egress.

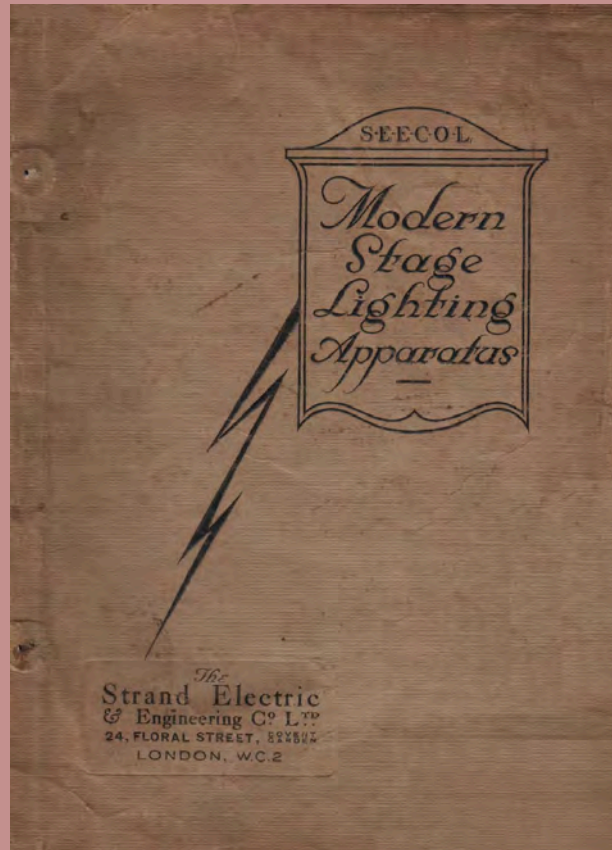
(b) The doors of all exits shall be so constructed and maintained as easily to open outwards on being pressed from within.

(c) The seating in the building shall be so arranged as not to interfere with free access to the exits.

(d) The gangways, the staircases, and the passages leading to the exits, shall, during the presence of the public in the building, be kept clear of obstructions. No person shall be allowed to stand or sit in any of the gangways intersecting the rows of seats, or in the space between the front row of seats and the screen; and if standing be permitted by the licensing authority in any other gangway or portion of the auditorium, sufficient room shall be left to allow persons to pass easily to and fro.

STAFF.

3.—(a) The licensee or some responsible person nominated by him in writing for the purpose shall be in charge during the whole



Open House London
Architecture Up Close
Always free, always September

Zoom In



What is IMAX?

The IMAX Experience®

The term 'IMAX' comes from the words 'Image Maximum'. The size, scale and advanced technology of IMAX combine to create the illusion that the audience is immersed in the picture, actually experiencing the film rather than simply watching it.

How IMAX works

IMAX screen

At 20m high (nearly the height of five double-decker buses) and 26m wide, the screen at the RFI IMAX is the largest screen in Britain and encompasses the audience's peripheral vision, providing a visually stunning cinematic experience.



The largest film on the right is IMAX film, 70mm film top left and 35mm film bottom left.

IMAX film format

The IMAX film format is called 15perf/70mm - the width of the film is 15 perforations wide and the height of the film is 70mm. Each IMAX frame is 10

times larger than conventional 35mm film. No soundtrack is added to the film as this would take up valuable picture area.

IMAX projector

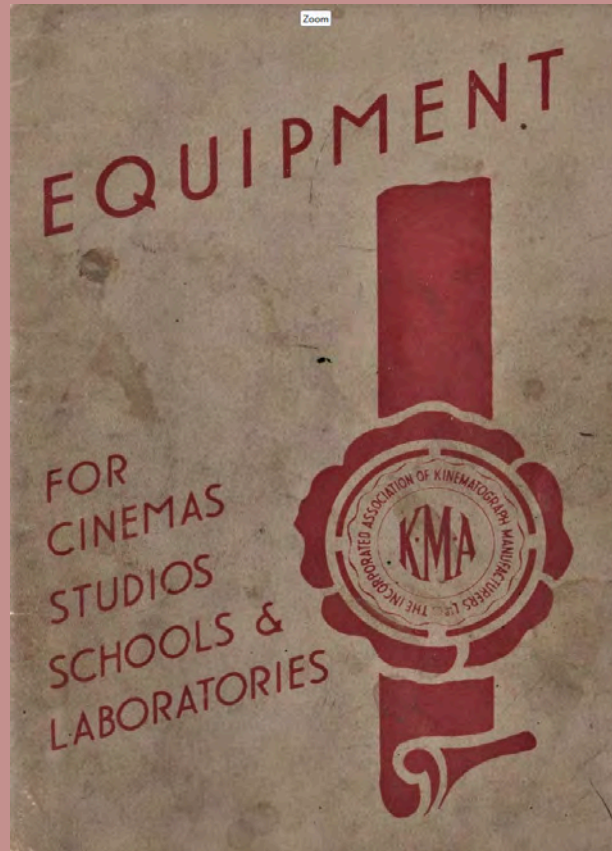
The IMAX projector is the most advanced, precise and powerful projector system in the world. Film travels through the projector at a rate of 334 feet per minute (compared to only 90 feet a minute for 35mm film). IMAX film moves horizontally through the projector (unlike 35mm which moves vertically) in a continuous wave-like motion called 'Rolling Loop.'

During projection, each frame is positioned on fixed registration pins and a vacuum holds the film flat against the rear lens element. This system keeps the film perfectly still, further enhancing the audience's illusion of being amidst the on-screen action.

IMAX sound system

The sound system is also larger than life. The Sonics system, specifically designed for IMAX theatres, eliminates variations in volume and sound quality over the theatre seating area. This allows all members of the audience to experience superb sound quality regardless of where they may be seated.

Six tracks of sound are sent to large cluster speakers around the theatre and a huge bass speaker behind the screen. The screen is perforated with thousands of tiny holes to allow the sound to flow through freely. The digital soundtrack is loaded from a DVD disk onto a computer, which locks the projector and soundtrack together to control the show.



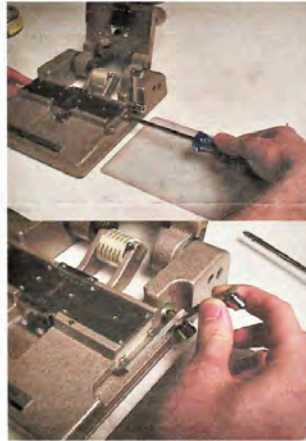
Film-Tech

Splicing Tips

Do your splices have an audible "pop" in the sound? How about early splice failure? Try these tips.

The following are two basic tips for making a better splice. The first is a slight modification to the splicer itself and the second is a different approach to actually splicing.

Note: we will be using the Neumade model 35SS splicer for our demonstration and the following tips are assuming the splicer is in good working order. **Please enlarge your browser's window to fill the entire screen to properly view these pictures.**



The basic idea behind the splicer modification is to realign the cutter blade. First, remove the two screws holding this cutter assembly onto the splicer as shown above.





WORKING TOGETHER FOR EXCELLENCE
Some Background on TAP
And the Standards for Motion Picture Exhibition

by Ross Hering and Jane Mutony
Lucasfilm Ltd.

Reprinted from the 1989 *Encyclopedia of Exhibition*
with permission from the National Association of Theatre Owners,
4605 Lankershim Blvd., Suite 340, North Hollywood, CA 91602. (818) 506-1778

PROJECTIONIST'S GLOSSARY

A

A.C.:

This is the accepted abbreviation for Alternating Current. The standard electrical supply that is delivered by the generating company to the cinema. It is so called because it flows first in one direction and then the other 50 times a second.

ACETATE FILM:

Film whose base is composed chiefly of cellulose acetate. Commonly referred to as safety film.

AMPERE:

Unit of electrical current which represents the quantity or volume of current flowing in a circuit.

AMPLIFIER:

A device which builds up weak electrical signals in the audio range to stronger ones capable of driving a loud speaker.

ANALOGUE SOUND:

Is when sound waves are converted into electrical impulses and stored on a medium such as magnetic tape as magnetised sections varying with frequency and intensity. On replay these magnetised fields are converted back to electrical impulses and amplified.

ANAMORPHIC LENS:

A lens which magnifies normally by a factor of two in the horizontal plain only. It is used to unsqueeze the image on a CinemaScope film back to its original ratio of 1:2.35.

ANODE:

Is the positive terminal of an electrical device.

APERTURE PLATE:

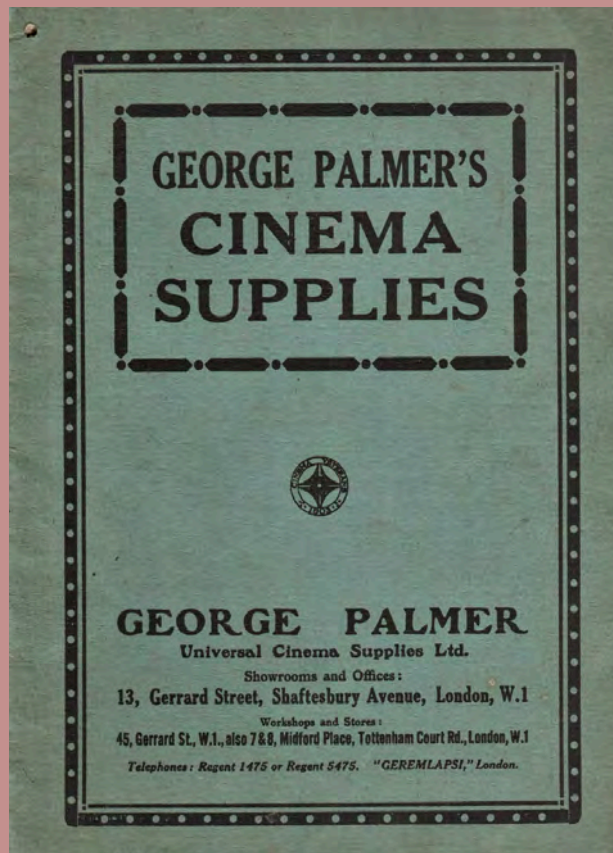
A metal plate inserted into the projector to set the aspect ratio.

ARC:

Flame emanating from the electrodes in a xenon lamp.

ASPECT RATIO:

The ratio between the width and the height of a projected image such as 2.35:1 for CinemaScope.





Format: gauges Zoom Out

299	(01)
1.3.70	

(08) 8mm

(08) Standard 8

1 Now virtually defunct. Uses 16mm double perf stock, with perforations every frame (ie: twice the number on 16mm), double run. Standard running speed (silent) : 16 fps.

(68) Super 8

2 Uses 8mm single run film, usually in cassette form. The perforations are turned through 90° to allow greater image width. The frame depth is also increased and the resolution consequently improved.

(05) 9.5mm

3 Also virtually defunct. Developed as an amateur gauge between the wars, when it was much used, but later superseded by 8mm. Easily identifiable: the frame is the same width as the film, and the perforations are between each frame in the centre of the film. Not really suitable, therefore, for sound film though tracks can be added to the edge.

(16) 16mm

4 Available in negative or reversal, black and white or colour.

5 Single or double perforation, the perforation being on the edge of the film, adjacent to the frame line.

6 The optical sound track is accommodated on the opposite side to the perforations on single-perf film.

(35) 35mm

7 Four perforations per frame, the frame line being midway between two pairs of corresponding perforations.

8 In 16 fps silent film, the whole area between the perforations, with the frames touching.

Academy

9 In sound films, a portion of the frame is masked off on the left of the picture area to accommodate the sound track, and a corresponding amount is also masked between each frame, to maintain the 1.33:1 aspect ratio. The whole picture area is shown.

Misc

W60

Furse

CURTAIN TRACKS

ALL METAL TUBULAR

See other half of track overlaid.




FIG. 1

STANDARD METHOD OF FIXING: Four types of standard fixings are available, as follows:—

TYPE A—Saddle Fixing: This enables the track to be fastened direct to wooden joists, etc. See overlaid.
 TYPE B—Sling Fixing: The track can be suspended from wire or hemp ropes, which are secured to the rings provided.
 TYPE C—Bolt Fixing: These bolts allow the track to be fastened to brackets or on to gilder plates.
 TYPE D—Clamp Fixing: The clamp enables the track to be fastened direct to a counterweight barrel of same dia. as main track tube. See overlaid.

These alternate methods of fixing are illustrated in figures 2 & 3, and the type required should be stated.

LENGTH OF TRACK: The track lengths given in the Price List refer to the actual length available for use, with the runners (apart from the centre overlap), and the overall length of the track is therefore a little greater. Fixed end Pulleys are supplied when the track is operated by sash cord, and a Spring Tension Assembly on the end wheels when for use with Flexible Steel Wire Rope. The overall length of track may be obtained by adding the following measurements to the length of travel as given in Price List.

Light	Type Track — 8" Fixed End Wheels 13" Spring Back Wheels.
Medium	— " — 8" — " — 16"
Heavy	— " — 8" — " — 16"
Extra Heavy	— " — 11" — " — 22"

The two separate halves of all tracks can be brought closer together without detriment, and suspended as a shorter track with a greater centre overlap. Tracks exceeding 42ft. in overall length are sent out in 4 sections, rigid and bolted joints being provided on the sub-sections. This feature facilitates transport and handling of the equipment.

CENTRE OVERLAP. A centre overlap is allowed in all sizes, and is additional to the track length given in the price list. The standard centre overlaps are as follows:—

Light Type 2' 0"; Medium Type 3' 0"; Heavy Type 3' 6"; Extra Heavy Type 3' 6".

For example, a Curtain Track ordered as a 30 ft. Medium Type Track, would be sent out in two lengths, each with 16 ft. 6 in. of runner travel, which allows 3 ft. 0 in. of centre overlap.

RUNNERS. The runners comprise hard-wood bobbins, slide on the tubular rails of the track and carry swivel attachments to which are fixed the snap hooks provided on the draperies or scenic cloths. A pair of Master Runners is included with each track, and in addition, loose Runners for approximately each foot of track, including the centre overlap.

HAND OPERATION. Tracks can be hand operated by means of an Endless Sash Cord with Stage Pulley Block, and the price includes the supply of these accessories. Smoother hand operation is obtained however by means of a wall and floor winch and in this case, the hauling rope must be of the flexible steel wire rope type. Flexible wire rope is charged as an extra, but credit is allowed for the Sash Cord and Stage Pulley Block.

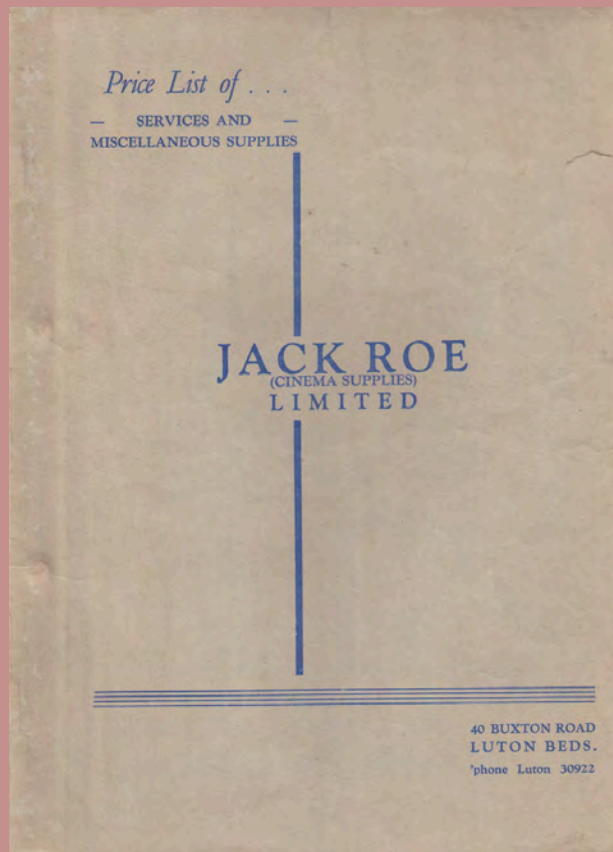
ELECTRICAL OPERATION. Furse tracks are the most suitable type for Curtains moved electrically. Suitable Motor Driven Curtain Controllers are listed on other pages, and if tracks are ordered at the same time as an Electric Curtain Controller, they are supplied with the Spring Tension Assembly on the end wheels, (as illustrated), without additional charge. The flexible steel wire rope is included in the price of the Electric Curtain Control Gears.

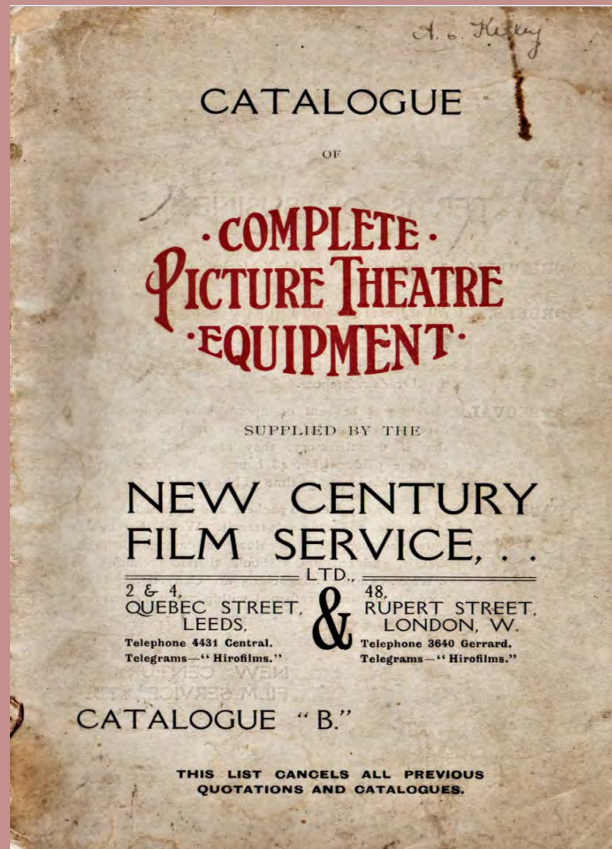
LONDON: F. CARTER & PERRET, 4, MARK LANE, E.C.3.
 W. J. FURSE & CO. LIMITED, 10, MOORE STREET, MANCHESTER.
 TRAFFIC STREET, L. 10/11, 12, NOTTINGHAM.
 Their Engineering Plant Manufacturers, Stage Fixings and Control Equipment Manufacturers.

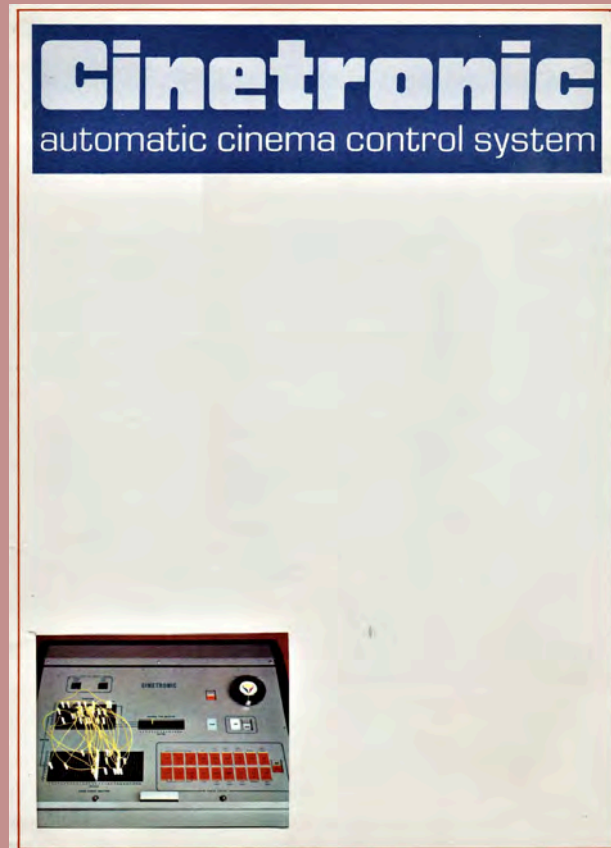
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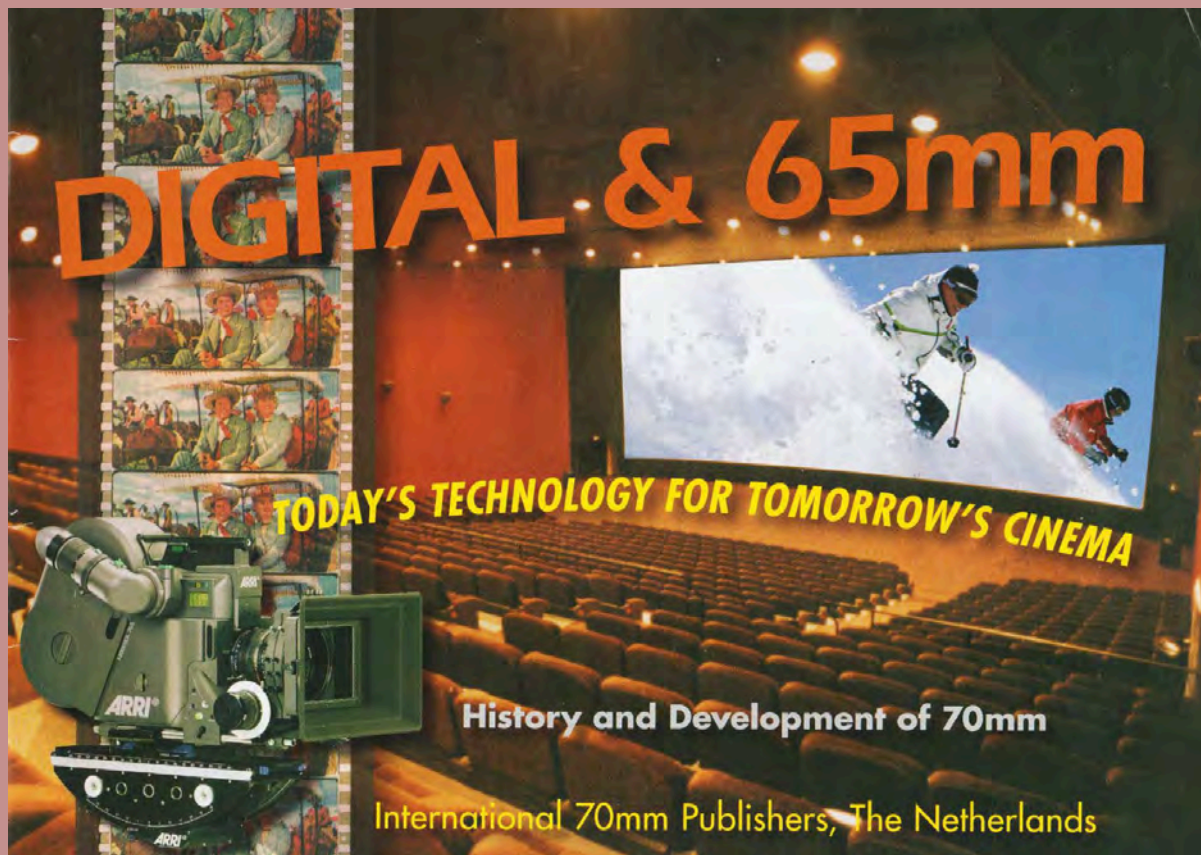


70 mm PROMOTION

"Enhancing the Moviegoing Experience through Superior 70mm Presentation"



The International
70mm Publishers
The Netherlands





Misc

Zoom Out

In the Splendour of 70 mm

In the first part of this article **Grant Lobban*** describes the events surrounding the introduction of 70 mm film and its eventual acceptance as the cinema's premier projection format. Also illustrated are the various print types which have appeared since its introduction in 1955. The second part of the article will appear in the January 1987 issue of 'Image Technology'.

A previous article* "Preserving Wide Film History" described the early efforts made by the major Hollywood studios to introduce larger and wider screens into the cinemas during the late 1920s and early 1930s. The various methods proposed all used film widths greater than the standard 35 mm gauge. Fox and M-G-M chose 70 mm for their "Grandeur" and "Realist" processes. Paramount and most of the other studios promoted various 65 mm formats.

Although a number of wide-screen feature films were made, including 70 mm versions of *THE BIG TRAIL* (Raul Walsh, 1930) and *BILLY THE KID* (King Vidor, 1930), the exhibitors would not have anything to do with the new systems. They had already spent large sums of money converting to sound and were not prepared to find any more cash for new projectors and screens. Faced with this show of resistance and the onset of the depression, the producers mutually agreed to abandon their big screen projects "until such a time as it is necessary again to provide an added attraction to the public".

Although rejected for commercial use, the idea of using wide-gauge film was subsequently taken up by the U.S. military for instrumentation and aerial photography purposes. This was fortunate for some of the equipment manufacturers, like the Mitchell Camera Company, who found a new market for many of the wide-film cameras they had constructed.

For the next twenty years little was heard of wide film. In 1938 DeBrie, who had made 65 mm cameras for Paramount in 1930, held a demonstration in an attempt to revive interest, but to no avail. Shortly after the war in 1945, Fox drew up plans for a new 90 mm format which provided extra space for not only a wider picture, but also three separate optical sound tracks. A demonstration film was produced to show the potential of

Grant Lobban is a Film Assistant in the BBC Film Department.

* *The BKSSTS Journal* April 1985

stereoscopic sound, but no money was seen or heard of it.

At this time one experimented with working on a large-screen system which was ultimately to have a profound effect on the film industry. His name was Fred Waller and his invention was Cinemascope.



Fox Grandeur 70mm print: "The Big Trail" 1930.

It did not involve wide film, but projected three synchronised 35 mm films onto a deeply curved screen. The three images were edge-blended together to form a single panoramic picture with an 140 degree angle of view giving the viewer the sensation of "being in the picture". In the late 1940s the system was demonstrated to representatives from the main studios who were impressed, but considered it impractical for general theatre use. Undaunted, Waller continued to develop the process. A screen was constructed made up of 1100 vertical slats, each angled in such a way to prevent cross-reflections from degrading the picture on the deeply curved screen. Recording engineer Harold E. Reeves took on the task of devising a sound system to match the realism of the "visuals". His multi-directional "Cinemascope" was recorded and replayed using a separate fully-coated 35 mm magnetic film run interlocked to the three picture films. This sound film contained six individual tracks, five were led to speakers spread out behind the screen and the sixth to numerous others distributed around the auditorium. Later the number of tracks was increased to seven providing directional "surround sound" effects.

The arrival of Eastmancolor in 1950 added colour to the system and after further demonstrations, backers were found from outside the film industry. Among them was Michael Todd, a theatrical impresario with a sense of showmanship to match Cinemascope's spectacle. He went on to supervise the filming of eleven of the thirteen sequences which were put together to form the first Cinemascope film.

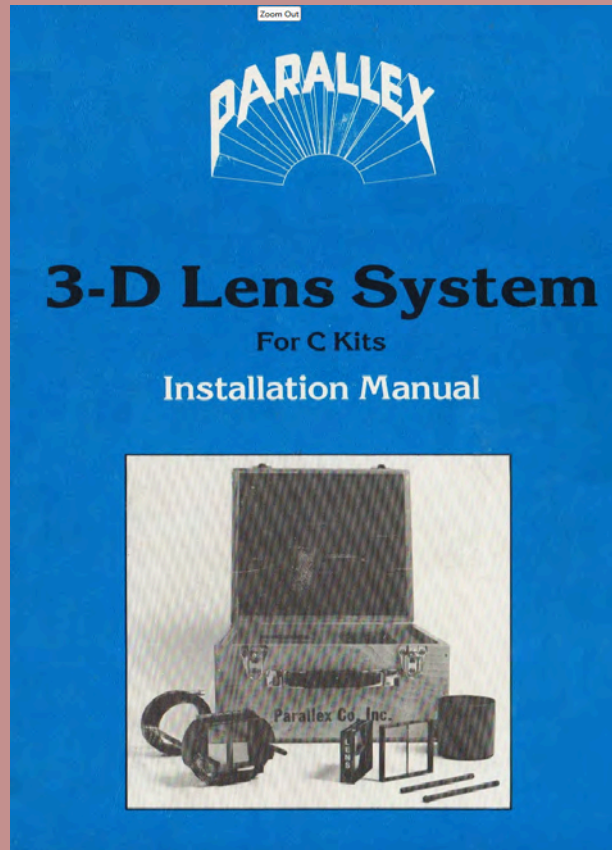
Cinemascope made its public debut on the 30th September, 1952 at the Broadway Theatre in New York. The first production *THIS IS CINEMASCOPE* started with a few brief excerpts from pre-Cinemascope films and then, with a flourish, the screen expanded to its full dimension of 65 by 25 feet and the

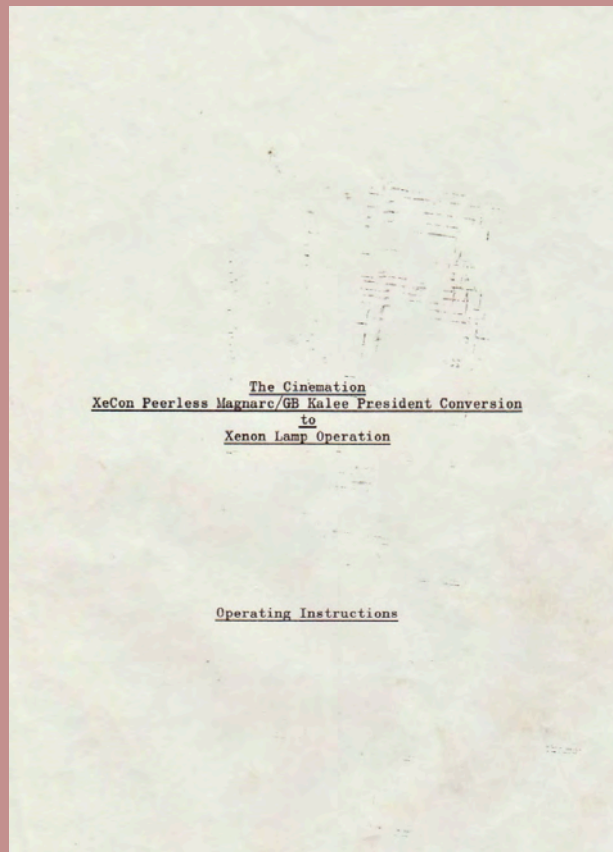
audience was sent on the famous roller-coaster ride. They were thrilled by the sensation and Cinemascope was an immediate success and soon other theatres in the principal American cities were equipped to show it. Its success coincided with a general decline in cinema audiences who were now staying at home watching television for "free".

The film companies looked with envy at Cinemascope's capacity losses and decided to woo the public back again by reviving its own dormant "attractions". The first of these was dual-film 3-D and before the public had tired of peering through the polarised spectacles, over sixty stereoscopic films had been produced during 1953 alone. After this short spell of popularity, 3-D was put to one side again in favour of simply changing the shape and size of the screen.

First off the mark was Twentieth Century-Fox with "CinemaScope", its new "modern miracle you see without glasses". As this statement was to confuse many people who already wore spectacles, it had to be changed to "Special Glasses".

Despite the studios earlier work with wider film, they had adopted Henri Chretien's "Hypergonal" anamorphic lens which was powered over by





Misc



COMPACT CONSTRUCTION — PORTABILITY: Slender, rectangular steel construction requires approximately 1½ square feet of floor space. Sets up to the porthole. The ¼" thick aluminum base can be logged to the floor. With a swivel head, easily disengaged from body, the entire spot lamp can be readily hoisted in an arena basket. Its compact construction R2180-3 Silicon Power Supply, uses less than 1 square foot of space adjacent to L-370.



An elapsed time meter, a 0-50 D.C. Ammeter, A.C. power switch, and ignition switch are recessed in right side panel to prevent breakage. Hinged door provides access to entire inner construction. Polarized D.C. jack pin connections and grounded A.C. input receptacle are located in opposite panel for power supply connection. Power supply is relay actuated by A.C. switch on spot lamp.

Equipped with carrying handles, with two bail type handles on one side to provide easy removal from packing box, especially designed for rental purposes.

SWIVEL HEAD — BALLBEARING MOUNTED: Only the head swivels a full 180° (90° left and 90° right) with finger-touch control. Reflector tilts 30° up and 45° down. Two spring loaded knobs allow for any degree of reflector tensioning.

L-370 AND R-2180-3

CAMMED IRIS AND MOVABLE LENS (Patents Pend.): The L-370 Super Spot is designed with a cam affixed to the movable lens carriage and to the iris. The movable carriage is extended almost all the way, upward, (or out), before iris closes automatically. This guarantees maximum light output, as light loss is eliminated because the iris remains open until lens is in far-most position.

Though heat generated at iris is low, because of the dichroic lamp reflector, iris blades are of high grade nickel-chrome alloy to prevent heat damage. Dissolver diminishes light with single control.

L-370 XENON LAMP ASSEMBLY — OZONE FREE — COOL: The elliptoidal 500 watt Xenon Lamp mounts vertically, in body, throwing a tremendous amount of light into spot reflector mounted in the head. Heat passes through rear of dichroic reflector. Xenon color temperature, 3600° to 6000° K., is perfect for colored filters. Vertical lamp position is ideal, as arc tail flame cannot arch quartz envelope, resulting in increased lamp life.

SIX COLOR BOOMERANG — COLOR CODED: The L-370 is equipped with a noiseless six-color boomerang. Each inexpensive color filter, protected on both sides to prevent gelatin damage, snaps into boomerang slide. Each slide arm is color coded for instant color selection.

BLIND CLING: A protractor scale and pointer are affixed to the "Super Spot" base for horizontal spot location. A related vertical scale is located along side of reflector tilt control handle on the swivel head. Spot a specific location, and note spot angles on both scales. In a performance, the manual douser is closed, the lamp lighted, and positions of both scales set. When the douser is opened, spot will be in exact location. Protractor scale is visible through a "peep door" at top of "Super Spot" body.





The advertisement features a dark background with three silhouettes of people. The central figure is a woman in a light blue suit, flanked by two men in grey suits. White puzzle pieces are interlocked between the figures, symbolizing the integration of automation into the workforce. The text is centered and reads:

**MULTIPLY
YOUR
MANPOWER**
(WITHOUT INCREASING YOUR STAFF)

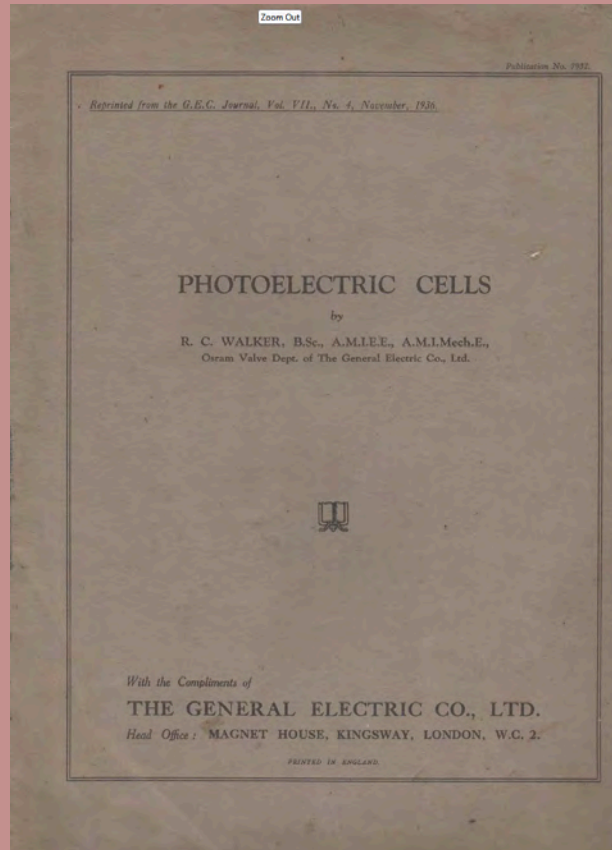
**FOR HIGHER PROFITS
LOWER COSTS**

XETRON[®]
AUTOMATION SYSTEMS

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SHOWCASE
CINEMAS
TERMINOLOGY

S

NEW
from



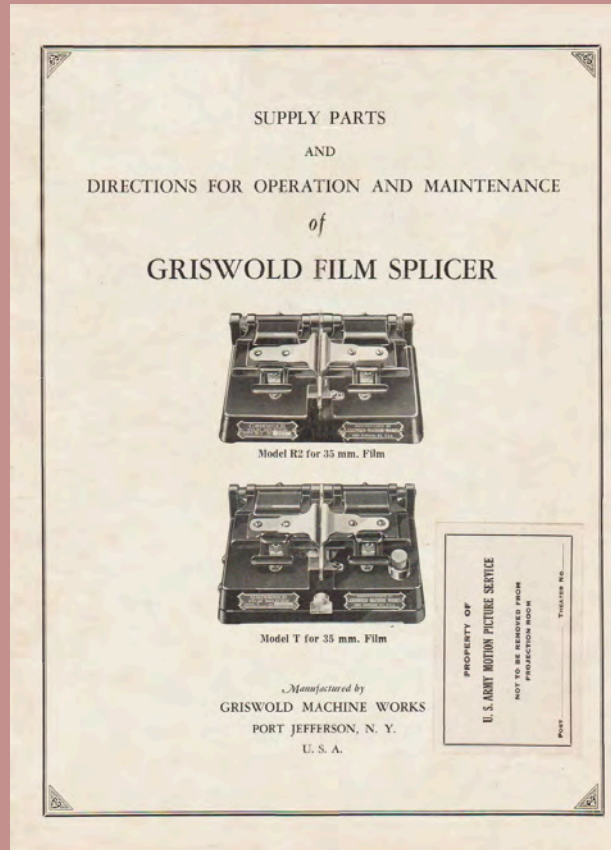
Rank Strand Cinema
P.O. Box 31, Great West Road, Brentford, Middlesex, TW8 9RH.
Telephone: 01 566 9222 Telex: 27976, Cables: Rankaudio Brentford.



**THE RANK STRAND
STEREO PROCESSOR**
now brings stereophonic sound
reproduction within the reach of
every cinema owner

Although excellent stereo optical sound systems have been on the market for several years, their main disadvantage has been their high cost which has limited their appeal to all but the prestige houses who could afford them. On top of a high equipment cost these systems require very specialized installation which in turn has increased the total outlay still further.

The Rank Strand Stereo Processor has therefore been developed as a simple-to-install, pre-aligned unit to provide 4-track sound (centre, left, right and effects) from stereo encoded optical 35mm prints, when used in conjunction with either our own Cinemeccanica amplifier racks or the customers existing 4 or 6 track equipment.

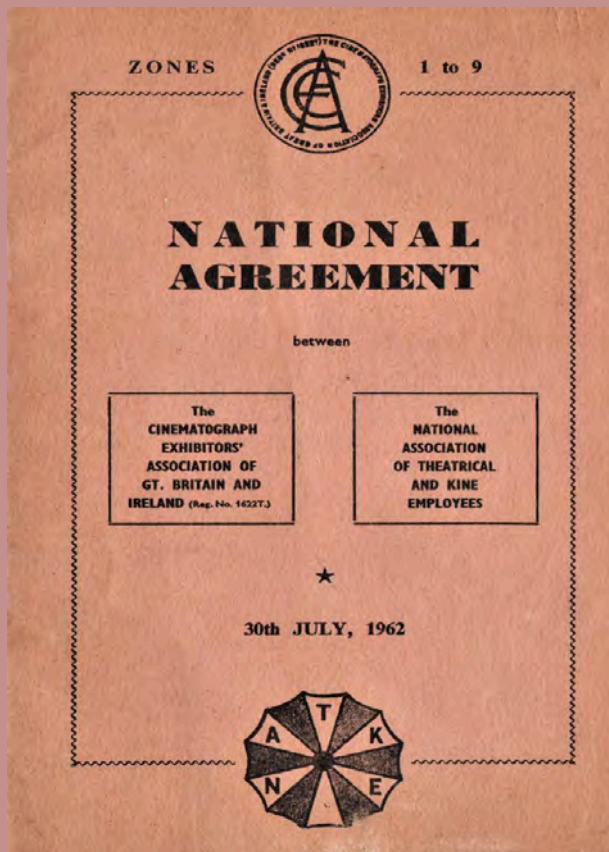


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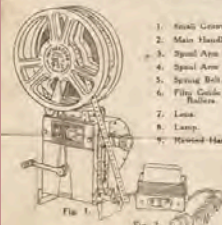






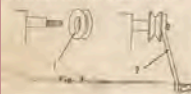


A wrapped and sealed packet of accessories is enclosed with the projector and comprises the following parts:



1. Small Grooved Pulley.
2. Main Handle.
3. Spool Arm with Spindle.
4. Spool Arm Retaining Nut.
5. Spring Bolt.
6. Film Guide Bracket with three rollers.
7. Lens.
8. Lamp.
9. Movable Handle.

PREPARING THE PROJECTOR.



Place the small grooved pulley (1) on the handle shaft, so that the larger hole fits over the shaft; then insert the spool handle (2) which locks the pulley (1).



The Spool Arm (3) fits over the thread protruding from the left hand side of the top bracket and runs on the top of the main body of the machine. It is held in place by the Retaining Nut (4).

When correctly positioned the spool handle is vertically over the main handle and the large grooved pulley on the arm coincides with the small pulley just fixed with the main handle.

When this assembly has been completed there is no need to remove the same except in case, when necessary, it will be along the top of the projector must require for further use.



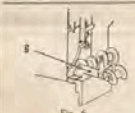
The spring bolt (5) is then placed over the rear portion of pulley. Allow a half inch so that the bolt is engaged.

INSTRUCTIONS FOR THE USE OF THE PATHÉSCOPE ACE PROJECTOR

The Ace Projector consists of two principal parts.

(I) The Projector—Fig. 1. (II) The Transformer—Fig. 2.

The transformer model is for use on A.C. Mains only and on no account must it be connected to a D.C. supply. If your supply is D.C. (Direct Current), a resistance must be used. These can be supplied in special cases at a small extra charge.



The film guide bracket (6) is fixed between the front plate and the front foot of the projector. This is pushed on as far as possible.



To fit the lens (7) slide it into the lens mount with the small leveling pin at the bottom so that it enters the slot. When the bottom of the slot has been reached twist the lens in a clockwise direction, and the pin will enter the bottom slot ready for focusing.

POSITIONING AND CONNECTING THE PROJECTOR.

Place the projector facing the screen at a height approximating only to that of the bottom of the screen. A distance of 6 ft. from the screen will give a picture about 2 ft. wide.

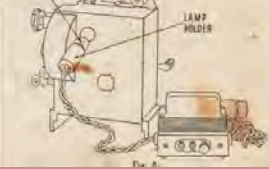
SETTING THE TRANSFORMER

Before connecting to your mains supply make sure that the transformer is set to suit your voltage. The reversible plug which is used to connect into the 240/250 volt socket should be removed and inserted into the socket which carries your voltage. For example a 230 volt supply must have the plug in socket marked 230, or a 240 volt supply in the socket marked 240/250.

It is advisable to place both projector and transformer on a table and to prevent slipping and to avoid heating as mentioned in the table.

When the transformer has been correctly set, connect into the lampholder (Lamp 8) similarly to an ordinary hand torch bulb. Push the lampholder into position (Fig. 8), switch on supply and turn main handle (1) slowly until the picture is clear.

To obtain the best illumination of the screen, adjust the position of the lamp by holding the lamp holder and sliding it slowly in or out until the screen is perfectly illuminated. At the same time it may be necessary to reset the lampholder slightly to obtain this effect. See further NOTE.



NOTE.

In order that the full amount of light may be utilized it is essential that the elements of the lamp be placed central to the optical system. This position can be found very quickly in the following manner:

1. Take out the lens 6, by turning in an anti-clockwise direction and pulling forward until the pin comes out of its slot.
2. On the screen will then be seen the images of two long elements. One of these is the filament in the lamp itself, and the other one is the reflection from the screen.
3. Move the lampholder as mentioned previously until these two images are superimposed one on the other in the center of the screen. This is the best position for the filament.
4. Replace the lens and re-focus.



Fig. 9

TO THREAD THE FILM

Close the lens and by depressing lever (Fig. 9) see that the film is in the center of the guide.

Place the full reel of film on the spindle at the back of the projector so that the end of the film is in the center of the guide. Line up the two holes in the spool spindle and gently push down the reel. The film will expand and grip the reel firmly. See that the brake arm (Fig. 9) is resting on the outer edge of the reel. Pull off approximately 2 ft. of film from the reel and place it under the roller immediately under the reel and over the roller on the brake arm, straight down the guide and under the roller on the front of the film guide bracket (Fig. 6).

Close the guide by releasing lever to hold the film in position while the rest of the circumference is carried out. The film should slide easily in the guide and the pressure should be perfectly flat against the front plate.

USING SMALLER REELS

The O. and M. size reels can readily be used in the same manner as described and illustrated in the text. The lightness of the reels makes the brake arm unnecessary, but the threading of the film must follow the same path as with the large reels. We recommend that after the first viewing of any small films they should be joined together on a large reel so that entire programme can be viewed without constant stoppages. The film taken on our Motocamera can form films and reels can be joined in the same manner. Spare large reels are available at all our dealers for this purpose.



Fig. 10

The projector handle should be turned steadily at four times per second and the machine started with the other hand.

REWINDING THE FILM

When a film has been projected, so that it is necessary to rewind it, it can be used again. It is advisable to complete the whole programme and rewind all the film together at the end.

To do this, turn the projector until the lens is toward you. Place the film on the reel on the left hand side of the projector with the film hanging down in the front. Pass the film round the two corners of the guide bracket, upwards over the roller on the brake arm, and round the back of the empty reel on the right hand side of the projector. Slightly withdraw the lens until the back is flush with the back of the lens bracket. Insert the cranked handle (1) into the spool and turn the handle in a clockwise direction until the film is completely rewound.

Take care that the film runs on the rollers in order to obtain satisfactory.

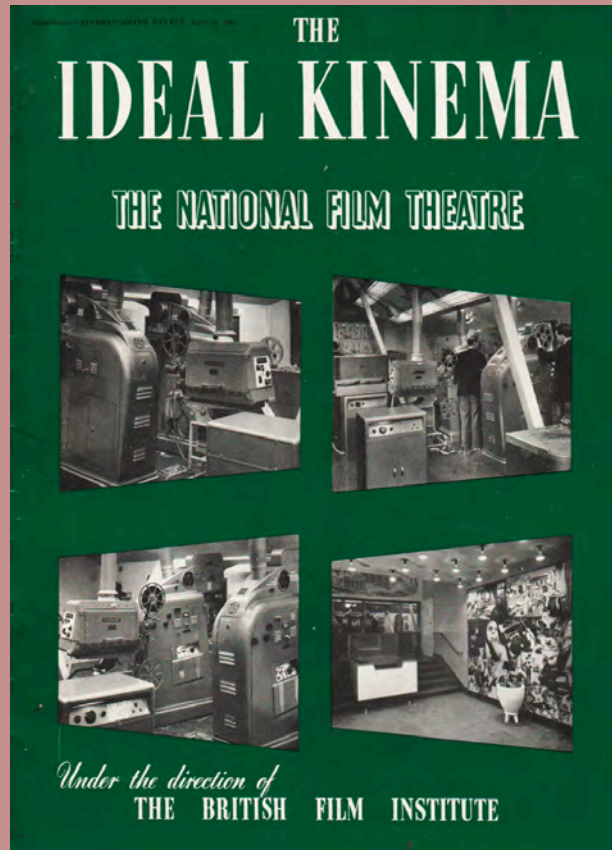


Fig. 11

JOINING SHORTER FILMS

To facilitate the assembly of smaller films on to the larger reels, we recommend the use of the Pathéscope Film Joiner and Pathéscope Film Connector. A correct join cannot be made unless the perforations in the film are accurately positioned. Full instructions are enclosed with the machine so that a perfect join can be made in the shortest possible time.

With this instrument, films supplied by our Teling service can be inserted in your own film taken on the Motocamera so that continuity can be given in these interesting films.



Circuits and diagrams

- British Acoustic fader amplifier
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- Cinemeccanica POS/65 optical
preamplifier module
- Cinemeccanica Victoria 8
- Cinemeccanica Vic 8 Zipper
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- GB 609 amplifier circuit
- Nevelin mercury arc rectifier
- RCA motor wiring for 2D/3D

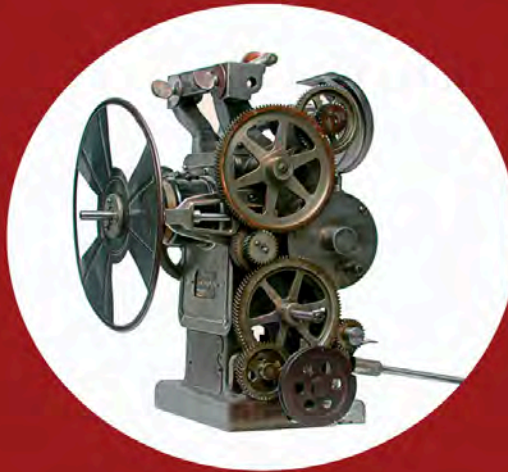
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- RCA motor wiring for 2D/3D

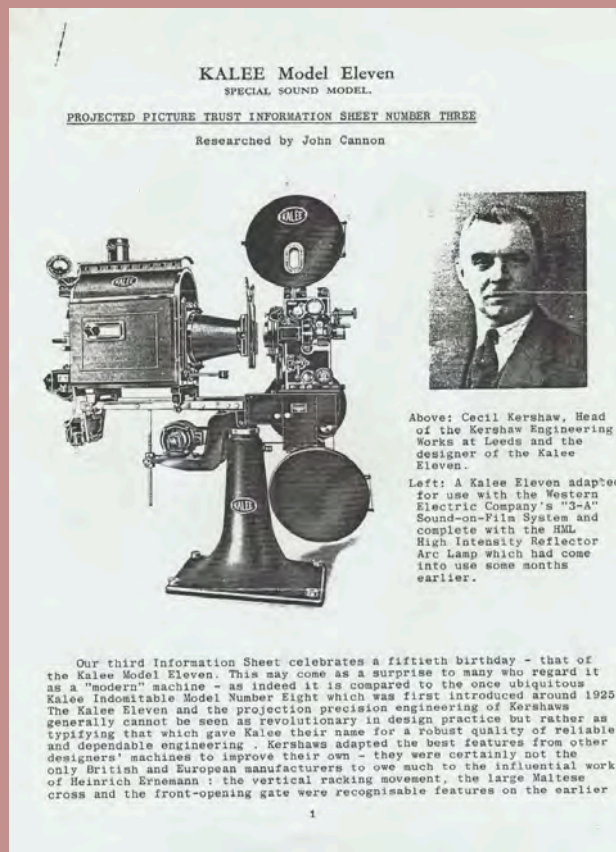
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The Power's projector



Information Sheet Number Two
Researched by John Cannon
Republished 2022
Edited by Dion Hanson



PPT Information sheets

[Zoom Out]

INFORMATION SHEET 4 TECHNICOLOR

by NORMAN FISHER
Edited by Bernard King
ISSN 0265-6418



The name **TECHNICOLOR** stands for the longest theme in the development of colour in motion-picture photography, and in related film technology, linked to the names of Herbert & Natalie Kalmus. Technicolor became synonymous with colour on the cinema screen to many millions of filmgoers over the world for some 25 years. Other colour systems came and went. Technicolor, with its links to Kodak, Eastmancolor, and TV electronics, is still alive and with us.

1923 marked the 102nd anniversary of the birth of Herbert T. Kalmus in Chelsea, Massachusetts, U.S.A. 1881.

EARLY DAYS

1897. W. Bennetto in Italy files Patent No. EP. 26920 for "a system of semi-dialytic separation colour photography". There is no record that it was put into practice at the time, but through Kalmus it became the basic principle of the Technicolor system.

1902. Herbert Kalmus marries Natalie, whose name was later to become an essential part of the credit titles of virtually every Technicolor picture as 'Colour Director'.

1909-1912. Herbert Kalmus, educated at Massachusetts Institute of Technology, specialising in Physics, studying in Switzerland, became Professor of Physics at Queen's University, Ontario.

1913-1915. Kalmus now Professor of Chemistry and Metallurgy and Director of Canadian Government Research Laboratories.

1915. Kalmus now partner in Research/Engineering Company, Kalmus, Comstock & Westcott of Boston, Mass. - amongst other things, machine tool makers. Kalmus vice-president and Chief Engineer. ECW shortly became The Exolon Co. Through the Kalmus interest in a practical method of putting colour on the cinema screen, Exolon acquired the 1897 Bennetto patent with the ability to make it work. Years of development follow.

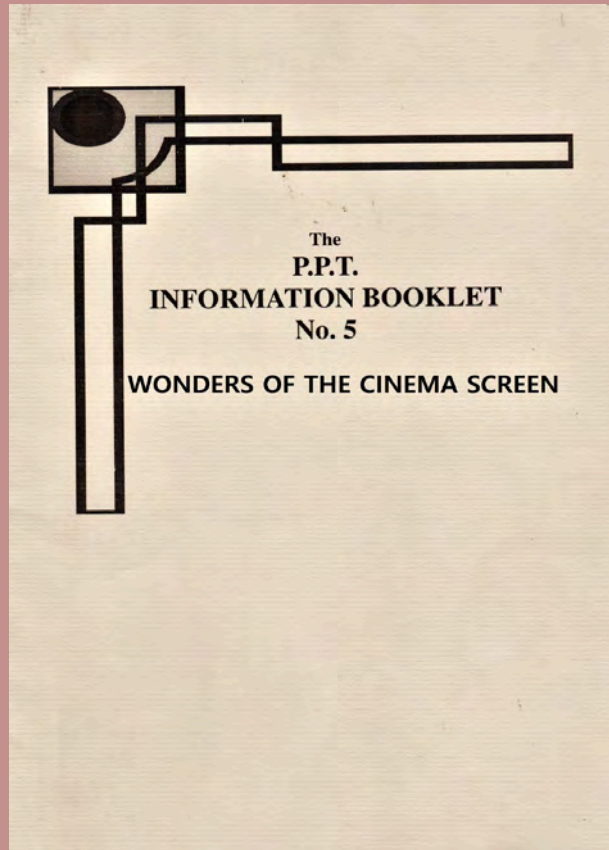
1917. The name Technicolor Motion Picture Corporation appears. Liaison established with DuPont and Eastman Kodak for supply of special filmstocks and chemical processes. Short experimental films were made, using a bi-pack system, probably none of which were publicly shown. It is said that Natalie acted in one of them. One for the archives!



Natalie Kalmus

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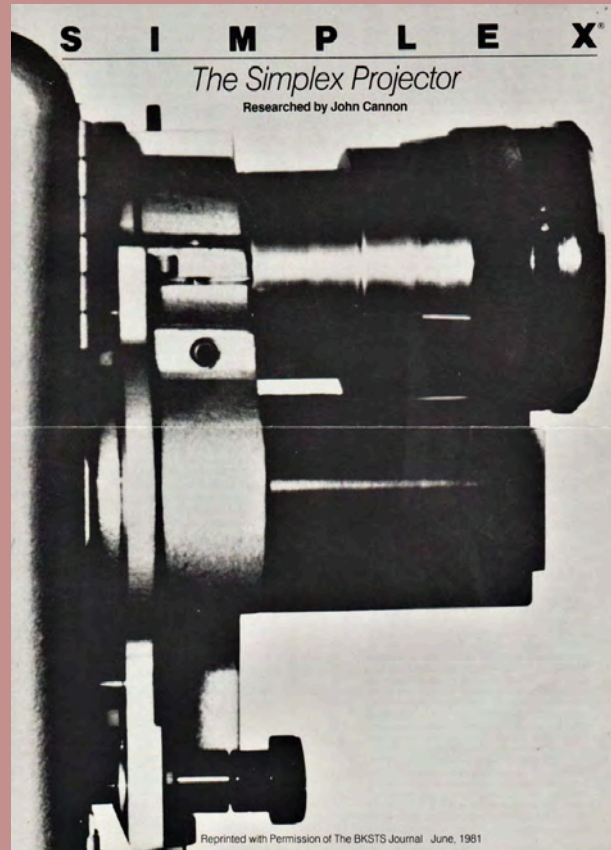
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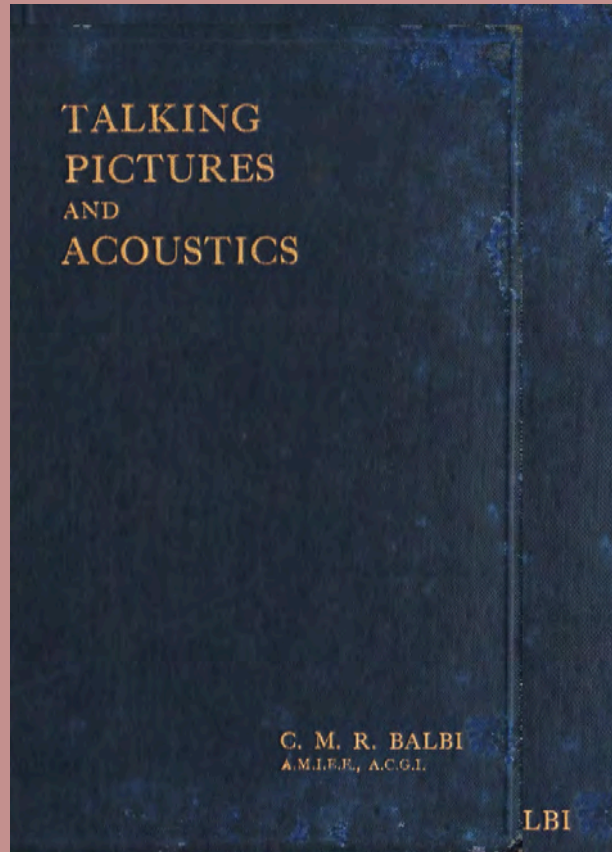
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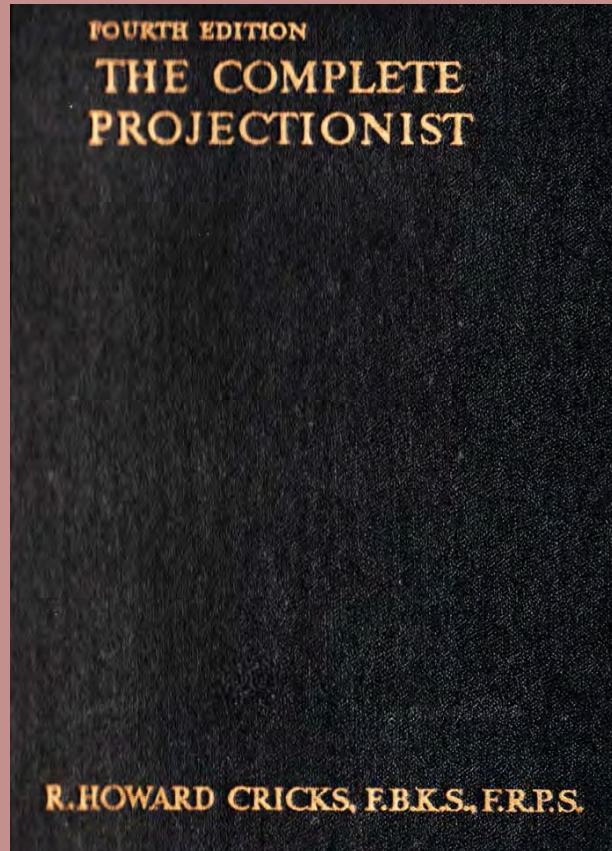
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the USA.

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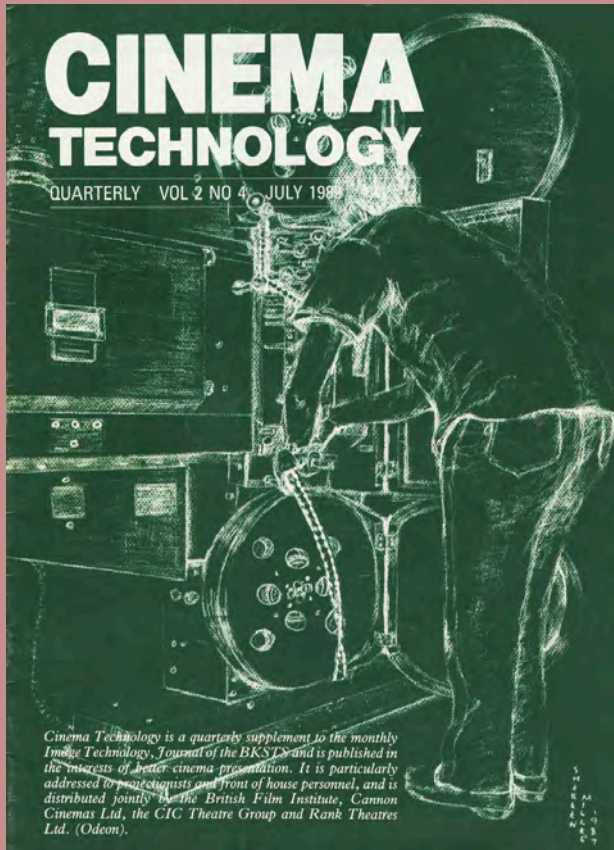
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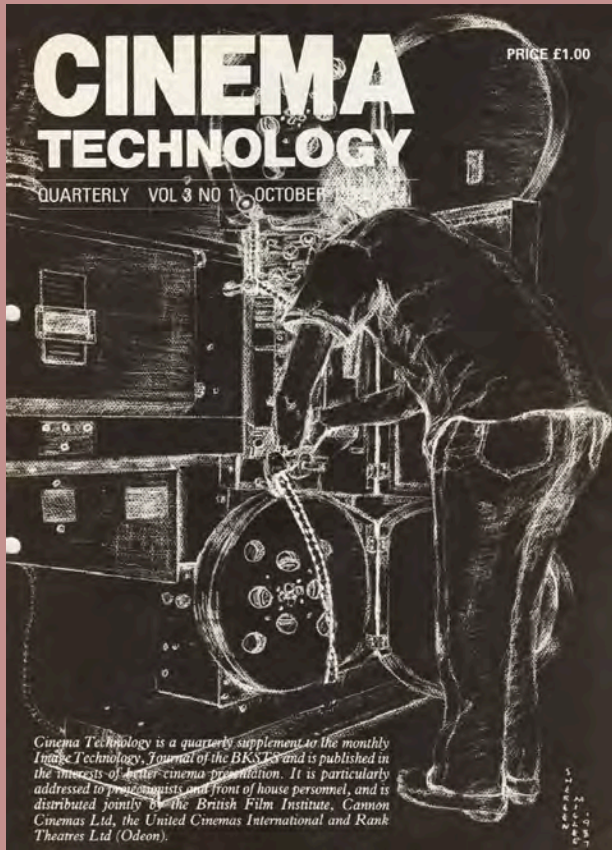
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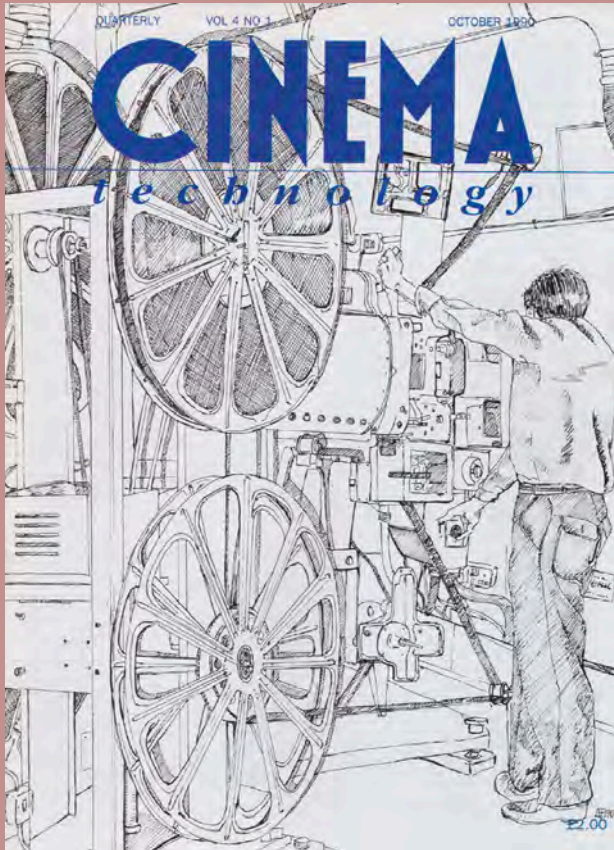
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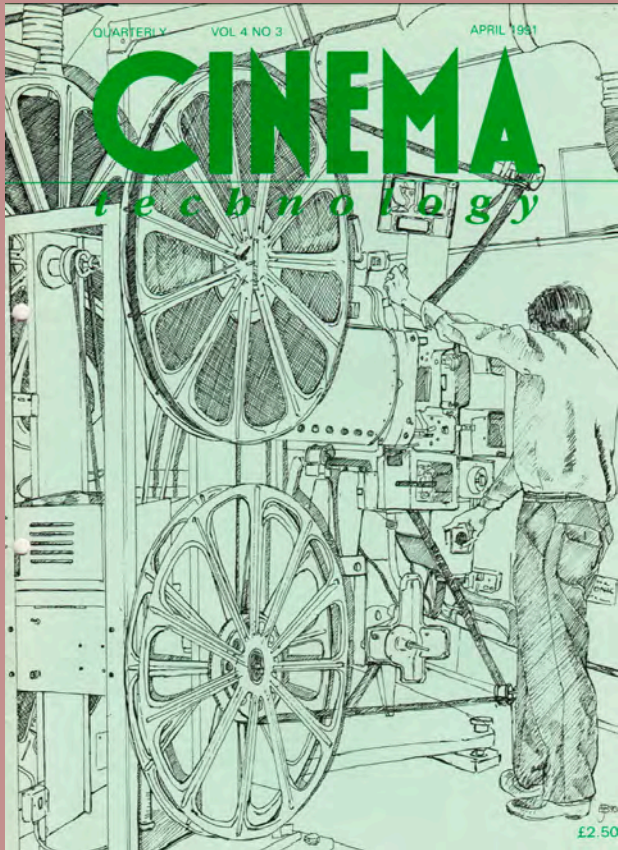
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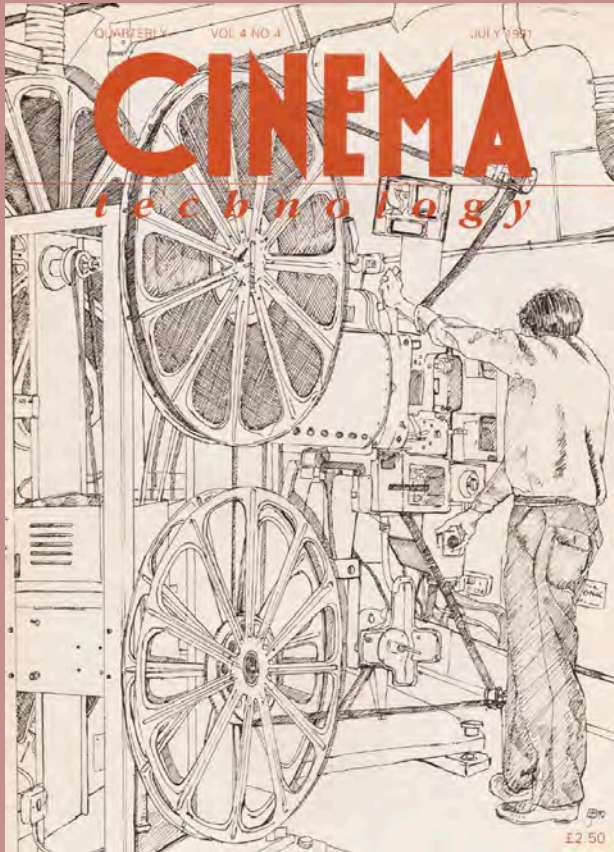
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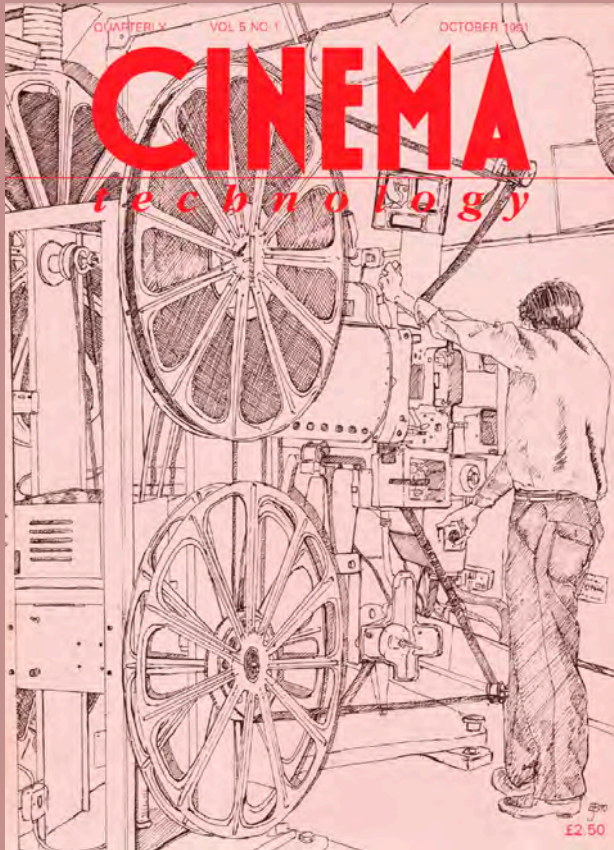
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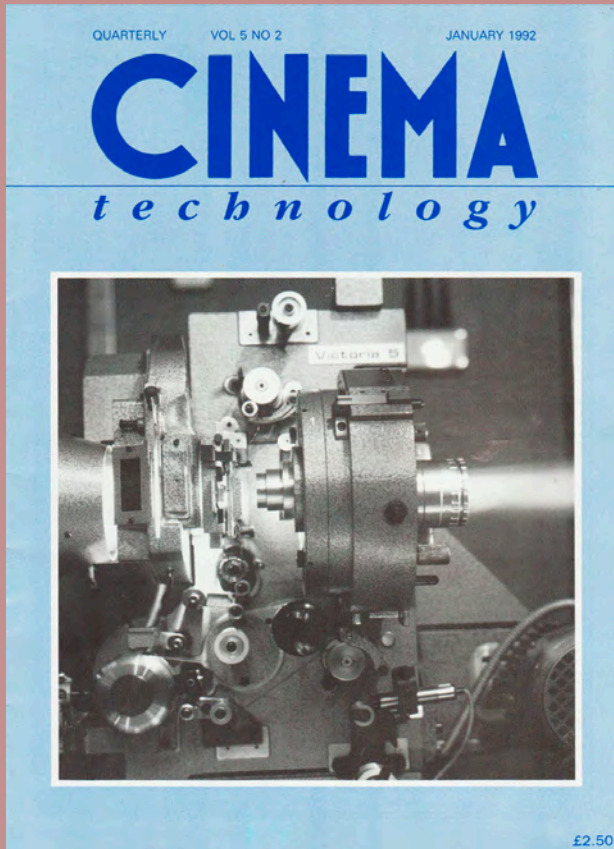
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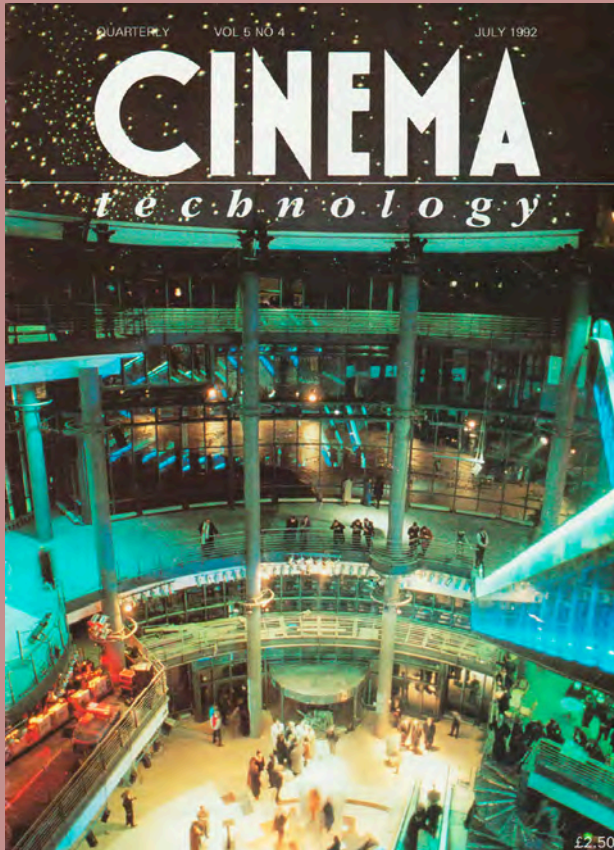
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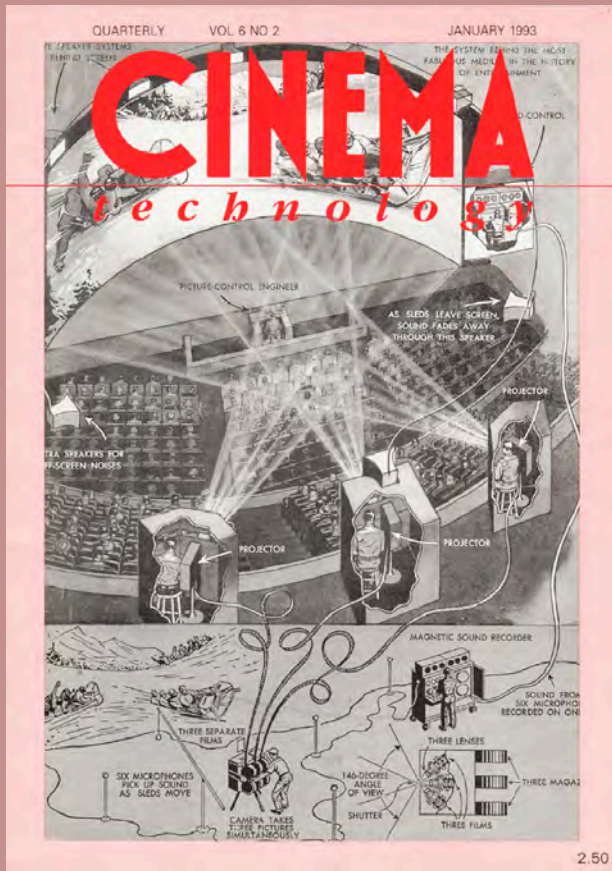
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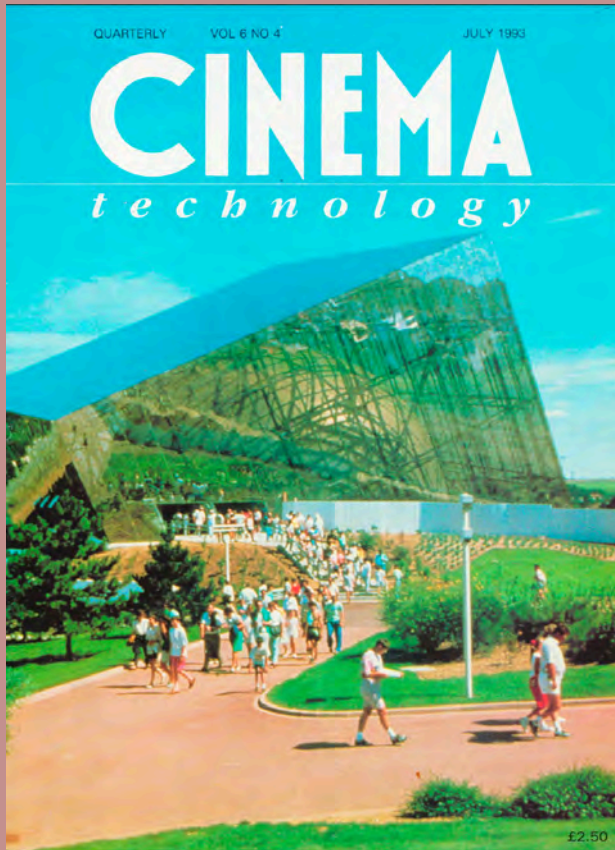
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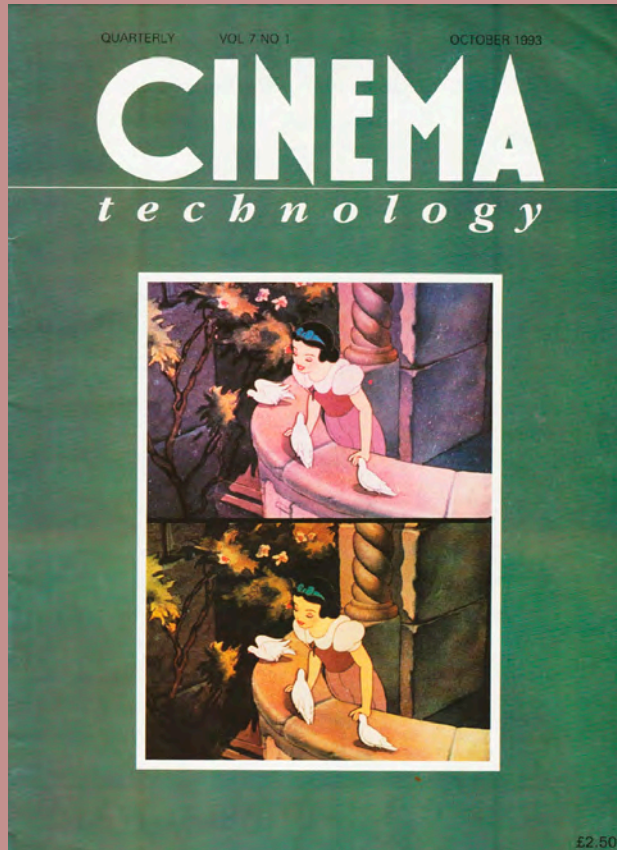
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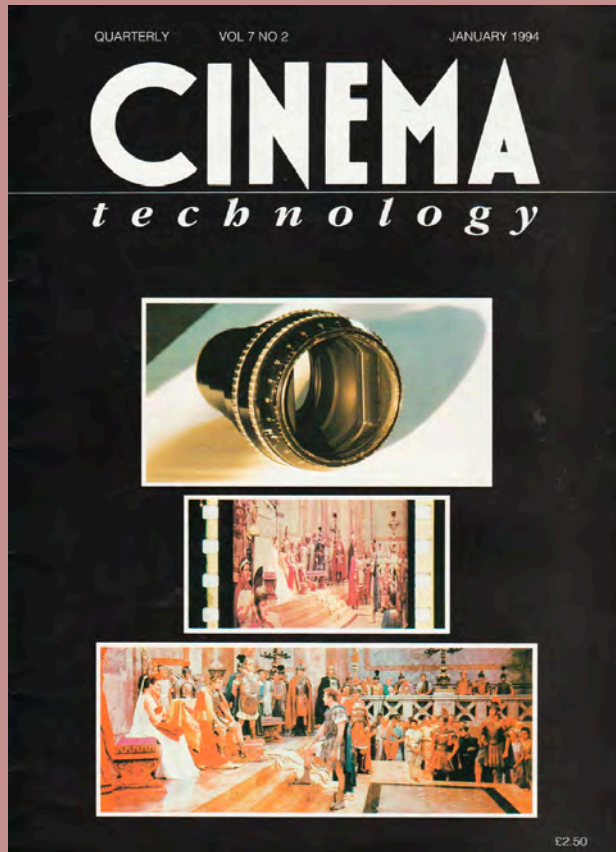
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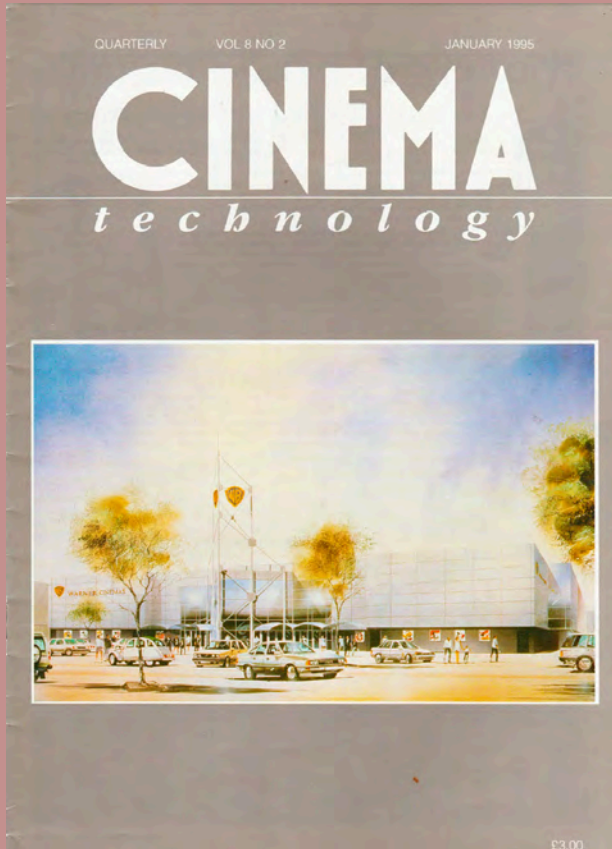
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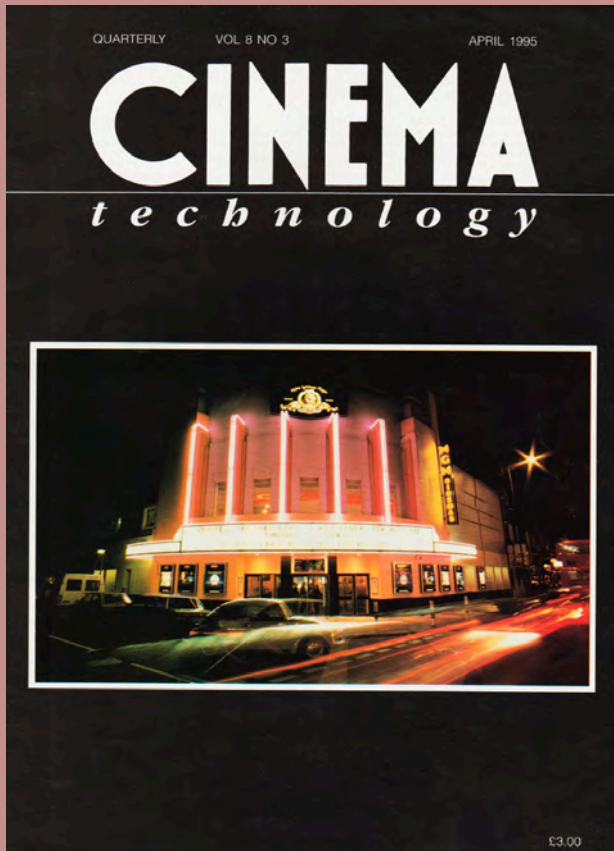
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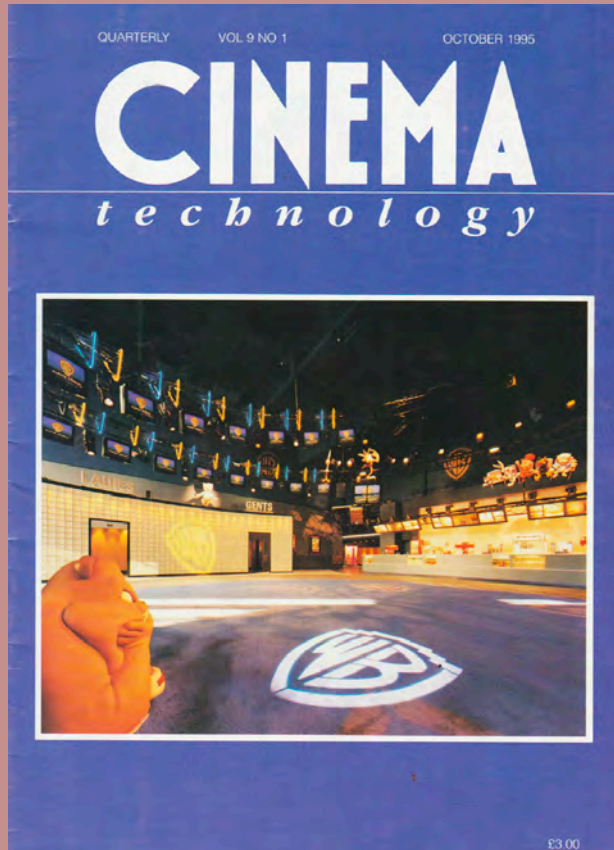
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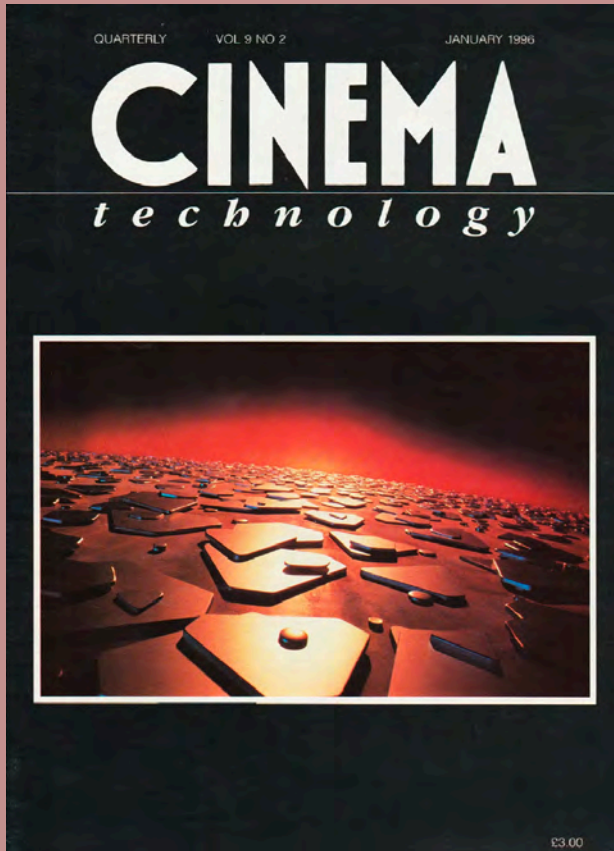
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NEWS FROM ALL AROUND

Smaller Cinemas get THX

Lucasfilm has announced that it is to launch the Screen Channel System, which has been especially designed to provide smaller cinemas with the benefits of THX sound quality that have previously only been available to major cinemas. Screen Channel uses small speaker components that are only about 25cm deep, so that they can be readily fitted into the limited space that is available in many smaller cinemas. The system is designed for cinema auditoriums of up to about 1500 cubic metres volume, and should reduce costs both for existing cinemas being re-fitted and for new buildings: the small physical size makes it ideal for many new multiplex designs. The first equipment to be approved for use in Screen Channel applications is made by Electro-Voice. As usual with Lucasfilm THX systems, all installations will provide a tight frequency response over a wide audio range (typically 40Hz - 20kHz), and the speakers will be able to handle the available power without distortion.

Special media services section for photokina'96

Reflecting what is happening at other exhibitions aimed at our industry, photokina'96 will have a special section dedicated to media services, focusing on information and presentation technology, professional video technology, radio-visual image communications and production technology. It is hoped to attract multimedia producers, media agencies and systems suppliers, providers of technical media services and equipment, operators of copying plants for films, videos and CDs, and also media academics and training institutions. photokina'96 takes place in Cologne from 18th-25th September.

Information: Tel: +49 221 821 2494
Fax: +49 221 821 2105

70mm News - Hamlet begins

Following the interest in 70mm rekindled by the demonstrations and discussions at and after the 1995 Rob Hammett/BKSTS Film Forum Seminar, Kenneth Branagh was persuaded that 70mm would be a first-class vehicle for his next film. Shooting has begun on the latest star-studded Kenneth Branagh epic, a 65/70mm version of 'Hamlet'. The studio work will take place at Shepperton, but much of the film will be shot on location around the country. British cinematographer Alex Thomson BSC will be photographing the epic Shakespeare play in Panavision Systems 65, and theatres will be presenting the finished product in Panavision Super 70.

According to early publicity releases, sound is being recorded 'in 6-track, Dolby Stereo, and will be presented in DTS 70mm Socratic Digital Stereo'. If all goes according to plan the film should be ready by the end of 1996, and there seems little doubt that it will be a front-runner for Academy Award nominations. Such a prestigious film and film-maker should also ensure that the rewards that 70 mm can provide will gain widespread publicity, which can only good for the future of this exciting medium.

Information: Tel: 0171 494 3474

Todd-AO & Cinerama at Bradford Festival

At the 1996 Wide Screen Festival in March, three Todd-AO films were screened, as well as the 3-strip Cinerama production 'How the West was Won' and 'This is Cinerama'. The Todd-AO films were 'Hello Dolly', 'Around the World in 80 Days', and 'These magnificent men in their flying machines'. Visitors were also able to see the ongoing *Magic Behind the Screen* exhibition.

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Cinema Technology is a quarterly supplement to the monthly *Journal of the Moving Image Society* *Image Technology*, and is published in the interests of better cinema presentation. It is distributed jointly by the British Film Institute, MGM Cinema Limited, Rank Screen Advertising, United Cinemas International, Warner Brothers Theatres, Odéon Cinéma Limited, and the BKSTS, the Moving Image Society. It is published quarterly by the BKSTS, The Moving Image Society, 63-71 Victoria House, Southampton Row, London WC1B 4DA.

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Tel: 01990 610344
Advertising: Alan Fuller
Tel: 0171 643 0777
Fax: 0171 613 1106
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NEWS FROM ALL AROUND

Virgin Group to sell its smaller cinemas

There was a great deal of speculation after Richard Branson bought up the MGM cinema chain last year, as to what his long-term intentions would be for the 120 cinemas. It is now understood that Virgin will be selling on most of the smaller cinemas, perhaps as many as 80 sites, to a venture capital group. If all goes according to current plans Virgin will be left with about 20 city centre cinema sites and 18 multiplexes.

It was at first thought that Virgin might convert the whole MGM chain to Virgin cinemas, but approaches from venture-capital groups led to a change of mind, and it now seems that the money raised by the sale of the smaller cinemas will be used to speed up the growth in the number of new Virgin multiplexes, bringing even more competitors to this currently very fashionable market. The first cinema site in the UK to bear the Virgin label is expected to open soon in Rochester, and work has already begun on providing extra screens at some of the London cinemas, including the Fulham Road site. As reported in the April issue of Cinema Technology, the very first Virgin cinema opened in Dublin last year, with some interesting new features such as interactive 'bookings' where customers can choose to see samples of the latest movies before making their bookings.

And then... Management buy-in of ABC Cinemas

In a deal valued at £68 million, 50 British MGM cinemas are to be sold to a management team led by Barry Jenkins, who ran all the MGM cinemas until 1993, and financed by CIN/Gen. The ABC Cinemas formed part of MGM Cinema, which was sold in 1995 to a consortium led by Virgin. Other well-known

names on the new management team include Robert Wabey, Operations Director, Alan McCann, Technical Director, George Rymar, Booking Director, and Robert Stanceby, Finance Director. The financing of the deal was led and underwritten by CIN/Gen and debt provided by a small syndicate of banks led by the Bank of Scotland.

Barry Jenkins, the newly appointed Chief Executive of ABC Cinemas, highlighted the importance of the company in the UK cinema industry, and in its future direction. He said that ABC Cinemas account for 16% of all UK cinema sites, and approximately 13% by total attendance. The new group plans to develop the cinema and to find new multiplex developments. Details: 0171 912 1717.

Kodak goes into the exhibition business as it opens a new cinema in Moscow

Getting about as far away as is possible from a West End site, and bringing a whole new meaning to 'vertical integration' in the film business, Eastman Kodak has announced plans to open what is its very first cinema, claimed to be one of the world's most modern, in Park Lane Square, Moscow. The 499-seat cinema is scheduled to open in September, and seems set to provide Moscow cinemagoers with a memorable experience. The cinema is to have a 'state of the art' projection system, with digital surround sound, and a forty-foot screen. The cinema will be managed by GRE (Golden Ring Entertainment), who are Kodak's partners in this venture.

Although Russians have a long history of film-making and of going to the cinema, the number of screens fell catastrophically in the last decade, from about 125,000 in 1990, and the number of Russian films produced each year has fallen from hundreds to a handful. The film production industry and the cinema were heavily subsidised by the former communist

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Hardly a Harrowing experience!

The great outdoor movies

BFI's architectural convention

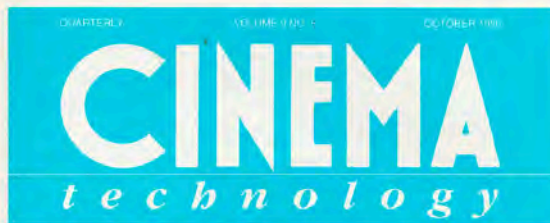
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Editor: Tim Slater
Tel: 01980 610544
Advertising: Alan Pallen
Tel: 0171 633 1017
Fax: 0171 633 1108
Subscription: Jessica Storey
Tel: 0171 242 8400
Fax: 0171 485 3506

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Editor: Jim Slater
Tel: 01980 610544
Advertising: Alan Paller
Tel: 0171 613 0717
Fax: 0171 613 1168
Subscriptions: Jessica Stacey
Tel: 0171 242 6400
Fax: 0171 405 3560

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NEWS FROM ALL AROUND

New life for Standard-8

BKSTS members with classic amateur movie making equipment hidden away in the loft may be interested to know that Standard-8 colour film is now available again. The Widescreen Centre in London can supply Cinecolor, a fast, tungsten balanced colour film for users of Standard-8, sometimes called Regular-8, double run movie film. Cinecolor utilizes Estimote's latest technology, and is rated at 125 ASA(ISO), making it suitable for use in reasonably low-light situations. Designed for tungsten lighting at approximately 3200 Kelvin, a Wratten 85B salmest peak conversion A-D filter can be used to make it suitable for daylight use (approximately 5600 Kelvin), when the speed rating becomes 80ASA. The film comes in 7.4 metre lengths, which when run twice through the camera provides a finished length of about 15 metres, roughly equivalent to the 50 ft that resulted from the old 25B load. The cost for a 7.4 metre length is £12.60, and processing, splitting, joining, and return of the film on a projection reel costs a further £12.60. Details 0171 933 2500



New Autotracking Camera

A new Sony camera features autotracking for videoconferencing and surveillance markets. Picture this: You are in a video conference with a colleague when you notice that the

system's camera follows you as you move from the table to the flip chart. The odd thing is that no one is operating the camera - it follows you automatically, keeping you in picture constantly. No, this isn't a gimmick from some James Bond movie! It is Sony Broadcast & Professional's latest addition to its range of video communication colour cameras.



Ideal for video conferencing, remote surveillance and distance learning applications, this latest addition represents Sony's top of the range intelligent pan & tilt colour camera. Designated EVI-D31 (PAL version) and EVI-D30 (NTSC), the cameras feature a sophisticated 12 times optical zoom, high-speed auto focus lens, a wide range pan and tilt mechanism and automatic object tracking and motion detection functions.

The automatic tracking (AT) mode on the camera allows the user to protect the colour and shape of an object in the camera's memory and as it will then follow that object about the room. For example, it will follow someone's jacket as they move around the room.

AT Zoom mode will also keep the size of the object constant as it moves away or towards the camera, keeping a perfectly framed image for those watching the camera output.

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The great outdoor movies

New school for projectionists

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NEWS FROM ALL AROUND

£15 Million to build South Bank's World of Cinema

Thanks to a cash injection of £15 million from the National Lottery, the BFI will be able to enhance its Museum of the Moving Image by building an IMAX cinema next door. Situated in 'The Bullring', the huge circular 'hole below the road' outside Waterloo Station, the 500 seater IMAX cinema will have a screen ten times larger than a standard cinema screen, and will cost some £19M to build and to equip.

BFI IMAX will thus be one of the few venues in the UK able to show films that were originally designed for the big screen, including classics like *2001* (a new print is shortly to be delivered), and *Lawrence of Arabia*. The BFI also intends to develop a new large format feature film especially for showing at the new IMAX theatre. An incidental benefit of the new cinema is that its construction will mark the beginning of the regeneration of the area around Waterloo Station, making it a wonderful gateway to the South Bank.

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Artists impression of new South Bank IMAX.

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Editor: Jim Slater
Tel: 01990 610344
Advertising: Alan Fuller
Tel: 0171 613 0717
Fax: 0171 613 1108
Subscriptions: Jessica Stacey
Tel: 0171 242 8400
Fax: 0171 405 2560

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NEWS FROM ALL AROUND

Warner Bros. take on British 'eyes and ears'

David Heymann has signed a 'first look' agreement with Warner Bros. to identify British and Western European creative material, potential co-productions, small films and financiers for development through his company, Heylun Films.

Heymann, who is British, and who has spent the past 17 years in the United States, nine of them in Hollywood, will be based in London. During the last 1980s, he served as production executive at Warner Bros., later moving to United Artists as vice-president, production. He then became an independent producer, and his film *The Drowning* won the 'Best Picture' award at the Deauville Film Festival in 1996.

David will be Warner Bros. 'eyes and ears' in Great Britain, and will be the company's liaison between England and the United States. He will help to secure financing for certain productions and will develop properties from the huge existing Warner Bros. library, concentrating on things that can be more effectively produced in the UK than in the US. He will also help Warner Bros. to become familiar with writers, film makers and other members of the British motion picture community, helping the company to bring a wide variety of stories to the screen. Warner Bros. claims that the agreement is an acknowledgement of their increasingly global audience, and their awareness of the immense pool of talent and material within the United Kingdom.

*Details: Warner Bros., Burbank, California
Tel: 601 818 954 6290*

Vertigo re-released in 70mm with DTS sound

The Lumiere Cinema in St Martin's Lane, London was the venue for the recent charity

gala performance screening of Alfred Hitchcock's 1958 classic *Vertigo*. Starring James Stewart and Kim Novak, the film was resurrected for a strictly limited release in 70mm, with composer Bernard Herrmann's celebrated score enhanced by the addition of a newly-remastered DTS (Digital Theater Systems) soundtrack by restorers Robert Harris and James Katz.

NFTVA shows rare film & TV footage of politicians

The National Film and Television Archive showed rare footage, including a secret 1954 screen test that then prime Minister Winston Churchill wanted destroyed, at the NFT in March. A series of clips was used to illustrate the NFTVA's 1997 Ericc Lindgren Memorial Lecture entitled *The Twentieth Century Torture Chamber: Screening the Politicians*. The lecture, broadcasted Michael Cockerill, told how cameras were first allowed into 10 Downing St. more than 75 years ago, and illustrated his talk with a fascinating range of film and TV clips, including Harold Macmillan describing television as 'a 20th century torture chamber', Winston Churchill's screen test, taken in 1956, and a clip of Margaret Thatcher preparing nervously for a big election interview.

The NFTVA archive holds over 200,000 titles dating from 1895 to the present day.
*Details: Lt. Clanchen, BFI Press Office
0171 957 9620*

Record growth for Dolby Digital

Dolby's on-film digital soundtrack technology is growing in popularity worldwide. At the start of this year more than 820 film titles with Dolby digital soundtracks had been released or announced, and over 8200 Dolby digital processors have now been sold.

Contents include:

Meet the chief

A degree of success for Dolby's latest cinema sound processor

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"Bordello museum" reveals cine wonder of yesteryear

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Editor: Jim Slater
Tel: 0171 613 0714
Advertising: Alan Fuller
Tel: 0171 613 0713
Fax: 0171 613 1108
Subscriptions: 1b.a.
Tel: 0171 242 8400
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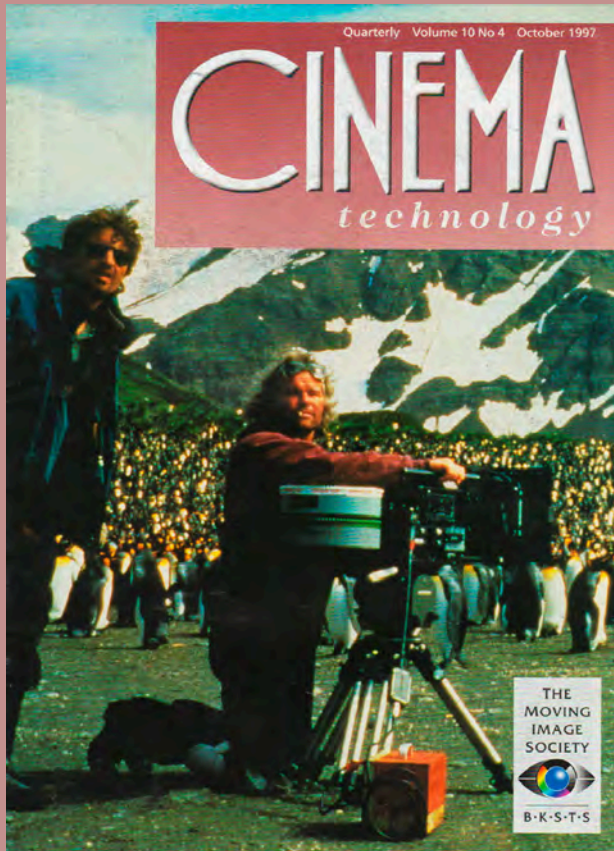
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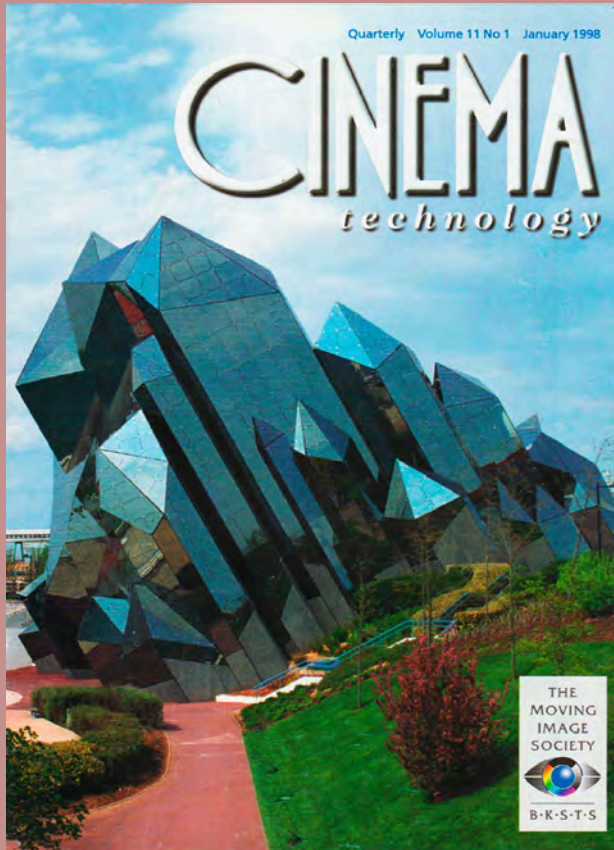
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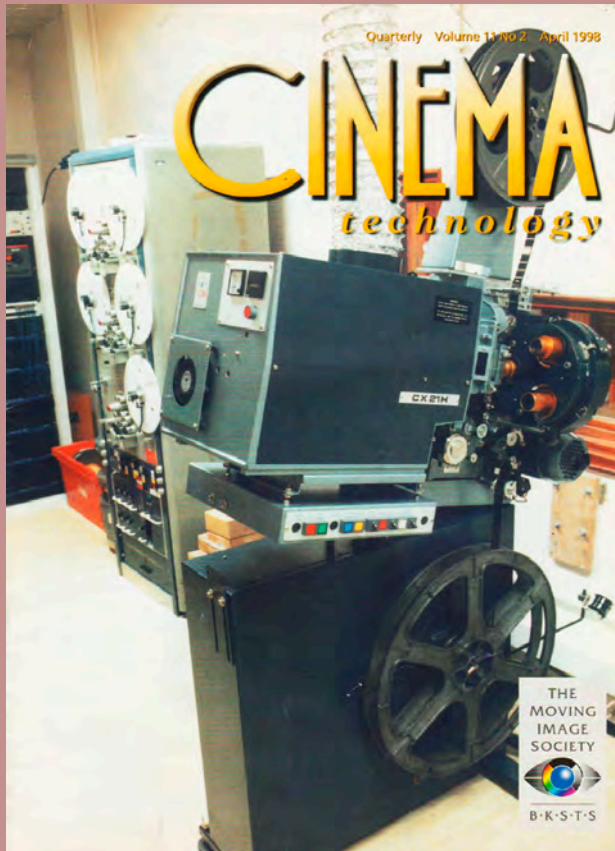
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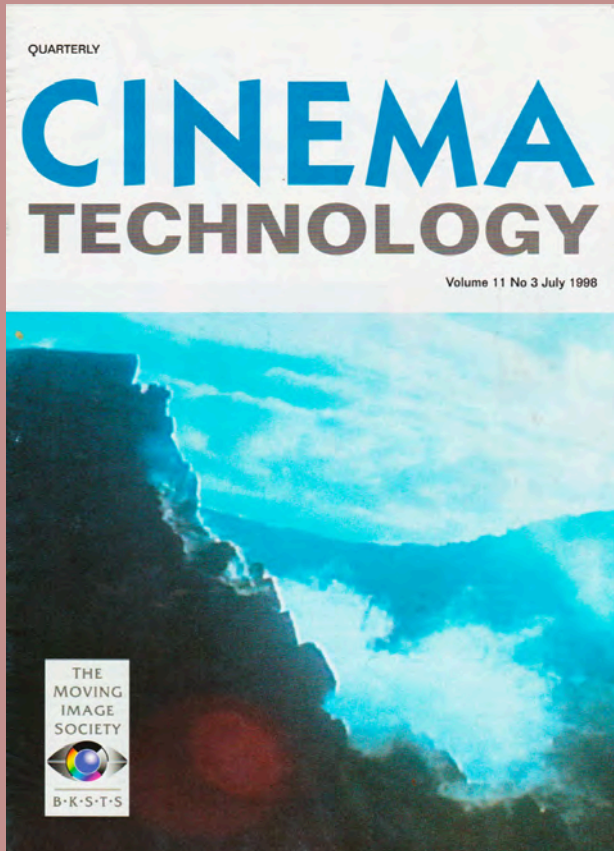
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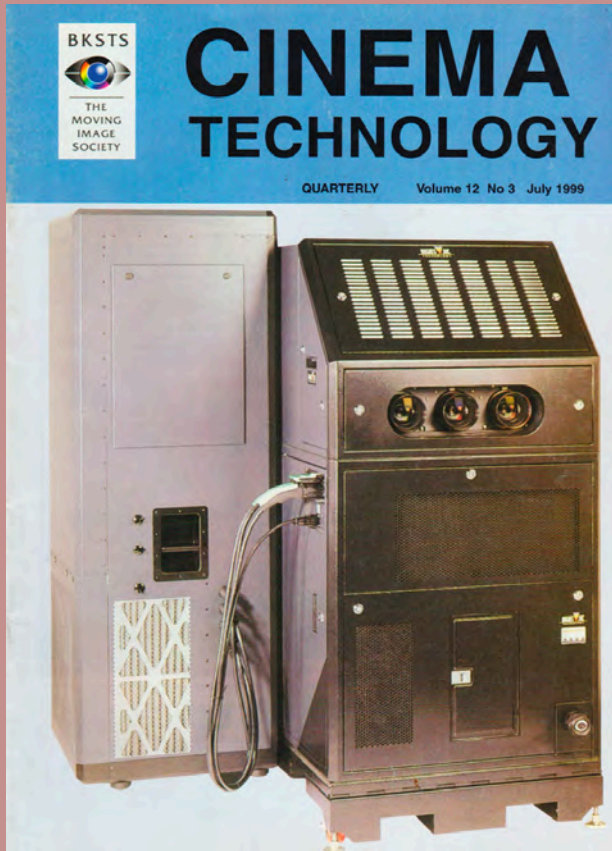
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