The original documents are located in Box 5, folder “Audiovisual Equipment - Singer Catalog” of the John Marsh Files at the Gerald R. Ford Presidential Library.

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SINGER EDUCATION DIVISION
EDUCATION SYSTEMS, ROCHESTER, NEW YORK 14603 (FORMERLY GRAFLEX INC.)

GSA Catalog '75 FRONT SCREEN PROJECTORS

Authorized
General Service Administration
Federal Supply Schedule
Price List Catalog
CONTRACT NO. GS-OS-29402
DECEMBER 1, 1974 - NOVEMBER 30, 1975
FSC GROUP 67 PART III
SECTION B CLASS 6730
(See Inside Cover Sheet)
GENERAL SERVICES ADMINISTRATION
FEDERAL SUPPLY SERVICE
AUTHORIZED FEDERAL SUPPLY SCHEDULE CATALOG
CONTRACT GS-OOS-29402

FSC GROUP 67 PART III SECTION B
CLASS 6730: Photographic PROJECTION Equipment

PERIOD — DECEMBER 1, 1974 through NOVEMBER 30, 1975
AS AMENDED through FEBRUARY 15, 1975

SINGER EDUCATION SYSTEMS (LARGE BUSINESS)
3750 MONROE AVENUE
ROCHESTER, NEW YORK 14603
(716) 586-2020

SPECIAL ITEM NUMBERS: 20-206 Projection Sets, 16mm Sound, Motion
20-305 Projectors, Still Picture, 35mm without sound
20-308 Projectors, Still Picture, 35mm, with sound

MAXIMUM ORDER LIMITATION ANY SINGLE ITEM: $25,000
MINIMUM ORDER LIMITATION: $25

GEOGRAPHIC COVERAGE: 48 States, Alaska, Hawaii, Puerto Rico, DC.

POINT OF PRODUCTION: Rochester, New York

PRICES SHOWN HEREIN ARE NET (Discount deducted)
QUANTITY DISCOUNTS SHOWN ON PRICE PAGES

TERMS: Net 30 Days
FOREIGN ITEMS: None
DELIVERY: 30 Days

FOB POINTS: SPEC. ITEM 20-206

SALES OFFICE:

ORDERING AND PAYMENT ADDRESS
SALES INFORMATION OFFICE
SINGER
Education Systems
3750 Monroe Avenue
Rochester, New York 14603
(716) 586-2020—TELEX 978227

WARRANTY PROVISIONS: See Page 22
EXPORT PACKING CHARGES: COMMERCIAL - ADD 5% MILITARY SPEC - ADD 8%

SERVICE POINTS:

Home Office: Midwest Region: Eastern Region: Singer Audiolvisual Ltd.
3750 Monroe Avenue 8220 N. Austin Avenue 1406 Bergen Blvd. 550 Hopewell Avenue
Rochester, New York 14603 Morton Grove, Illinois 60053 Ft. Lee, New Jersey 07024 Toronto M6E256, Ontario, Canada
(716) 586-2020 (312) 947-1200 (416) 781-5554

OR CHECK YOUR YELLOW PAGES FOR SINGER EDUCATION SYSTEMS SERVICE CENTERS

CONTENTS

Federal Supply Schedule Price List .................................................. 38
Insta-Load SL 35mm Sound Lens .............................................. 39
Insta-Load SL 35mm Sound Lens w/adapter ................................ 40
Insta-Load SL 35mm Sound Lens w/audio compounds ................. 41
Insta-Load, 1115AN (Navy) .................................................... 42
Anagographic nude accessory lens .......................................... 43
Singer 16-1000 Series Projectors (101 & 102) .......................... 44
Accessories, Singer 16 Projectors ........................................... 45
Lens Projection Guide (projection distance vs. size) .................. 46
Auto Light Projector, 1100 .................................................. 47

Singer Magnetic Sound Projector, 8900 .................................. 48
Modifications Available for 16mm projections ....................... 49
Replacement Lamps .......................................................... 50
Instructor Filmstrip/Sound Projector ....................................... 51
Filmstrip/Slide Projector, 600 & 700 .................................... 52
Filmstrip/Slide Projector Accessories .................................. 53
School Master Accessories .................................................. 54

SINGER 16 - 1000 SERIES AND 810R

3715-1 Singer 16 ............................................................. 1015
3716-1 Singer 16 w/speaker cover ..................................... 1016
3716-2 Singer 16 ** ......................................................... 1017
3716-3 Singer 16 w/speaker cover ..................................... 1018
3716-4 Singer 16 ** ......................................................... 1019
3631-1 Singer 16 Optical and Magnetic Sound .................. 920R

ACCESSORIES FOR INSTA-LOAD 1100 SERIES

8739 Lift Off Speaker Cover .................................................. 10
8739 Dust Cover ............................................................. 11
8740 Lens Adapter for Insta-Load ....................................... 12
8741 2 inch Insta-Load Lens f/1.4 ..................................... 13
8742* Zoom Converter ...................................................... 14
8743 5/8" Insta-Load Lens f/1.2 .......................................... 15
8744 1 inch Insta-Load Lens f/1.9 ....................................... 16
8745 1 1/2 inch Insta-Load Lens f/1.6 .................................. 17
8746 2 1/2 inch Insta-Load Lens f/1.6 ................................. 18
8748 3 inch Insta-Load Lens f/2.0 ....................................... 19
8749 4 inch Insta-Load Lens f/1.8 ....................................... 20

*Fits Insta-Load Lenses 1 1/2", 2", 2 1/2" and 3"
**MODIFICATIONS FOR INSTA-LOAD 1100 SERIES**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
<th>48 Contiguous States</th>
<th>Alaska Hawai’i Puerto Rico</th>
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<td>19-301</td>
<td>Remote Reverse</td>
<td>$180.00</td>
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<td>19-316</td>
<td>Microphone Input</td>
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<td>19-317</td>
<td>Remote Forward-Off-Reverse</td>
<td>$194.80</td>
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<td>19-318</td>
<td>Remote Focus</td>
<td>$180.00</td>
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<tr>
<td>19-319</td>
<td>Focus Gear Fitted To Customers 1100 Series Projector Lens</td>
<td>$62.00</td>
<td>$62.00</td>
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<tr>
<td>19-400</td>
<td>Low Voltage Control of On-Off and Lamp on With 30 Foot Cable and Hand Control</td>
<td>$55.00</td>
<td>$55.00</td>
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<tr>
<td>19-401</td>
<td>Remote Focus or Reverse Switch in 19-400 - Projector Must Be Modified</td>
<td></td>
<td></td>
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<tr>
<td>19-402</td>
<td>Additional Cable For 19-400 - Per Foot</td>
<td></td>
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<tr>
<td>19-407</td>
<td>Install 19-400 Remote Control in Projector</td>
<td>$32.00</td>
<td>$32.00</td>
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<tr>
<td>19-413</td>
<td>Changeover For Insta-Load 1100 Series Projector</td>
<td>$95.00</td>
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<td>Additional Cable For Changeover - Per Foot</td>
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<td>Changeover Socket Installed in Insta-Load 1100 Series Projector</td>
<td>$42.00</td>
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<tr>
<td>19-508</td>
<td>Selsyn Interlock</td>
<td>$754.00</td>
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<td>19-510</td>
<td>Automatic Douser</td>
<td>$63.00</td>
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<tr>
<td>19-515</td>
<td>O dbm 600 Ohm Balanced Output</td>
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<tr>
<td>19-516</td>
<td>Non-resettable Time Meter Installed</td>
<td>$50.00</td>
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<td>19-517</td>
<td>Rear Screen Mirror - Insta-Load</td>
<td>$31.50</td>
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<tr>
<td>19-519</td>
<td>Fit Lens Bracket or Mirror to Projector</td>
<td>$11.00</td>
<td>$11.00</td>
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<tr>
<td>19-520</td>
<td>Automatic Changeover Fitted to 2 16mm Projectors</td>
<td>$300.00</td>
<td>$300.00</td>
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<tr>
<td>19-521</td>
<td>16D Anamorphic Lens for Wide Screen Projection</td>
<td>$150.00</td>
<td>$150.00</td>
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<tr>
<td>19-529</td>
<td>Auto Loop Restorer Modification</td>
<td>$185.00</td>
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**ACCESSORIES FOR SINGER 16MM 1000 SERIES**

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<th>Catalog Number</th>
<th>Description</th>
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<tr>
<td>3220 †</td>
<td>Extension Speaker</td>
<td>$94.00</td>
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<tr>
<td>3601</td>
<td>Zoom Lens 35mmx60mm 1/1.5</td>
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<td>3602</td>
<td>1 inch lens 1/1.9</td>
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<tr>
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<td>1 1/2 inch lens f/1.6</td>
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<td>2 inch lens f/1.6</td>
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<td>2 1/2 inch lens f/1.8</td>
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<td>3 inch lens f/2.0</td>
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<td>3 1/2 inch lens f/2.5</td>
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<td>4 inch lens f/2.8</td>
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<td>5/8 inch lens f/3.0</td>
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<td>3611</td>
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<td>3694</td>
<td>Aperture Brush</td>
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<td>3722-1</td>
<td>Lift Off Speaker Cover</td>
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<td>3727</td>
<td>Dust Cover</td>
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**MODIFICATIONS FOR SINGER 16MM 1000 SERIES**

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<tr>
<td>19-330</td>
<td>Remote Focus 1000 Series Projector</td>
<td>$140.00</td>
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<tr>
<td>19-331</td>
<td>Remote Reverse</td>
<td>$180.00</td>
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<tr>
<td>19-332</td>
<td>Focus Gear Fitted To Customers 1000 Series Lens</td>
<td>$25.00</td>
<td>$25.00</td>
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<td>19-334</td>
<td>Microphone Input</td>
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<td>19-337</td>
<td>Remote Forward-Off-Reverse</td>
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<td>19-400</td>
<td>Low Voltage Control of On-Off and Lamp on With 30 Foot Cable and Hand Control</td>
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<td>Remote Focus or Reverse Switch in 19-400 - Projector Must Be Modified</td>
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<td>19-402</td>
<td>Additional Cable For 19-400 - Per Foot</td>
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<td>$18.00</td>
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<td>19-404</td>
<td>Changeover for Singer 16 Model 1020 Projector</td>
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<td>$95.00</td>
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<td>Changeover for Singer 16 Model 1040 Projector</td>
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<tr>
<td>19-406</td>
<td>Changeover Or Line Voltage Socket Installed in 1000 Series Projector</td>
<td>$45.00</td>
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<td>19-407</td>
<td>Install 19-400 Remote Control in Projector</td>
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<td>$32.00</td>
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**FILMSTRIP PROJECTOR, NO SOUND** Special Item No. 20-305

**SCHOOLMASTER PROJECTORS**

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<th>Catalog Number</th>
<th>Description</th>
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<td>3819</td>
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<td>D</td>
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<td>3829</td>
<td>SM-750 3 wire</td>
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**SM-1000 PROJECTORS**

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<tr>
<td>3810</td>
<td>SM-1000 Manual</td>
<td>D</td>
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<td>3900</td>
<td>SM-1000 Remote</td>
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**SM-400 PROJECTORS**

<table>
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<tr>
<td>3521</td>
<td>SM-400 3 wire</td>
<td>E</td>
</tr>
<tr>
<td>3501</td>
<td>SM-400 3C wire</td>
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**SCHOOLMASTER PROJECTORS**

<table>
<thead>
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<th>Catalog Number</th>
<th>Description</th>
<th>Code 1-11</th>
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<tbody>
<tr>
<td>3533</td>
<td>SM-400 3C wire kit</td>
<td>E</td>
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<tr>
<td>3503</td>
<td>SM-400 3C wire kit Inc. 3519, 3542</td>
<td>E</td>
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<tr>
<td>3504</td>
<td>SM-400 3C wire kit Inc. 3990, 3524</td>
<td>E</td>
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</tbody>
</table>
The SINGER Insta-load 16mm projector

Insta-Load 16mm projector lets you do things with 16mm film you've never done before!

FEATURES
- Fast - forward and reverse
- In-path rewind
- Instant loading
- Film counter
- Single master control
- Random access capability
- Pushbutton console
- Fast mode interlock

SPECIFICATIONS
- 15-watt RMS (30W peak music power)
- Solid state amplifier
- Optical sound pickup
- Two thousand foot reel capacity
- Optical frame control
- Fiberglass case
- Sound Loop resetting
- Automatically attached 9' power cord
- Blower cooled
- 50,000 Hz of sound
- 3-blade shutter
- 2' 1/2.5 lens; other lenses from 1/2" to 4", including zoom converter available
- New low voltage 50-hour EJL lamp ENE (15 hour lamp opt.)
- Projects still frames*
- Rack and pinion elevation
- Weight 36 1/2 lbs.
- Two built-in 5" oval speakers

Model 1170A

Convenient Console Allows Fingertip Control Of All Projection Functions.

Fast Mode Interlock... built-in safety light regulates pushbutton and lever function.

Footage Counter ....... keeps track of important film segments, accurate to within 2 ft.

CATALOG NUMBERS
- Model 1160A (60 cycle, 117 volt) ... Cat. No. 8704
- Model 1160A (with lift off cover speaker) ... Cat. No. 8705
- Model 1170A (60 cycle, 117 volt) ... Cat. No. 8724
- Model 1170A (with still picture control and lift off cover speaker) ... Cat. No. 8725
- Model 1171A (with still picture control and lift off cover speaker) ... Cat. No. 8726

Available in 220 or 240 volt 50 Hz. - please specify
Insta-Load Projectors
Models 1115A and 1120A

FEATURES
- Projects still frames
- Reverse operation
- Instant loading
- 2" f/1.4 lens
- Optical frame control
- Sound loop resetting
- 3 blade shutter
- Permanently attached, fold down reel arms
- In-path rewind
- Push button controls
- Blower cooled
- Optical sound pickup
- 15 watt RMS power output (30 watt peak music power rating)
- Twin 5" oval speakers
- 50-15,000 Hz Audio Response
- Fiberglass case
- Weight 36½ lbs.

Singer Insta-Load Projector
Model 1115AN

This projector is a modified Model 1115A. The Model 1115AN incorporates fuses on each side of the power supply circuit. Requirements of Electromagnetic Interference Standards Mil. Std. 461A, 462 and 463 are met. Other Navy safety requirements are met.

The following "STARTER KIT" containing back-up items is suggested when supply sources not readily available.

** Starter Kit .......... Cat. No. 8756 .......... $79.69

consists of:

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit Price</th>
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<tbody>
<tr>
<td>6 42762-P1 EJL Projection Lamp (approx. 80 hours each)</td>
<td>$9.96</td>
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<tr>
<td>3 33036-P2 BSW Exciter Lamp</td>
<td>2.64</td>
</tr>
<tr>
<td>3 42981-P2 Take-Up Belt</td>
<td>1.20</td>
</tr>
<tr>
<td>3 42981-P1 Supply Belt</td>
<td>1.20</td>
</tr>
<tr>
<td>3 42901-P1 Drive Belt</td>
<td>2.70</td>
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<tr>
<td>1 39479-P2 Instrument Oil</td>
<td>2.00</td>
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<tr>
<td>1 7402PRJ Navy Service Manual for Model 1115AN Projector</td>
<td>12.50</td>
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NOTE: Individual items may be ordered as needed

** Preventive Maintenance Lube Kit Part #39479-G3F $26.50

*** $5320 Tool Kit $86.00

*** 8755 Basic Parts Kit (Supports five 1115AN's) 202.00

** Not on Contract

Insta-Load Accessories

** Available in 220 or 240 volt 50 Hz - please specify

INSTA-LOAD LENSES
2" f/1.4 ........... Cat. No. 8741
5/8" f/1.0 ........... Cat. No. 8742
1" f/1.0 ............ Cat. No. 8743
1-1/2", f/1.6 ......... Cat. No. 8744
2-1/2", f/1.6 .......... Cat. No. 8745
3" f/1.0, .......... Cat. No. 8746
4" f/1.6 ........... Cat. No. 8747

LENS ADAPTER
Lens Adapter .......... Cat. No. 8748
(Adapts Singer 16mm lenses to all 1100 Series projectors)

ZOOM CONVERTER
Zoom Converter .......... Cat. No. 8749

This optical device permits projection versatility when projectors are moved from one location to another location. The Zoom Converter simply screws onto the fixed lens to vary the focal length from .75 to 1.25 times the fixed focal length. The projected image is modified to fit the circumstances. Designed to fit any Insta-Load lens up to 3", the Zoom Converter provides high resolution at low cost.

APERTURE CLEANING BRUSH ............... Cat. No. 3694

Anamorphic adapter lens for 16mm Projectors

The supplementary anamorphic lens allows the projection of 16mm pictures. It will work with all regular projection lenses with focal lengths of 1½ through 4 inches.

The 1115AN Projector chassis is prepared for finger-screw attachment of the Anamorphic Lens mounting bracket.

Anamorphic supplementary lens .......... 19-521

Anamorphic lens mounting bracket (specify if for 1100 or 1000 series Projector (not necessary on 1115AN).) .......... 19-504

Fitting anamorphic bracket to projector .......... 19-519
Singer 16 / 1000 Series Projectors

Instant warm-up. Full audio response. Gentle film handling. Extra screen brightness. The 1015 and 1020 projectors have many engineering advancements exclusive in the field, plus the Singer tradition of reliability. A solid state amplifier gives smooth, instant sound without hum, hiss or other distracting noise. The controls, and there are fewer of them, are clearly marked and easily accessible. Reel arms are permanently attached and fold neatly out of the way when projector is not in use.

Features
- Reverse Operation
- Automatic Soundhead Threading
- Optical Frame Control
- Sound Loop Resetting
- 3 Blade Shutter
- Permanently attached, fold down reel arms
- Rewind without reel transfer
- Accepts anamorphic and zoom lenses
- 365 Screen Lumens capability
- Blower cooled
- Optical Sound pickup
- Power output - 10 watts (20 watt Peak Music Power Rating)
- Dual 5" built-in Speakers
- 50 to 15,000 Hz Audio Response
- Fiber glass case
- Permanently attached 9' Power Cord
- 2" f/1.6 standard lens
- Sound-Silent Projection

Model 1015
Cat. No. 3715-1
Model 1015 with extra lift-off cover speaker
Cat. No. 3730-1

Model 1020
Features same advantages found in the Model 1015 & 1000 with the following additions:
- Projects still frames
- Automatic 2-3 blade shutter
- 462 Screen Lumens capability

Model 1020 (60 cycle, 117 volt operation)
Cat. No. 3708-1
Model 1020 with extra lift-off cover speaker
Cat. No. 3731-1

Export Models also available.

Singer 16mm Accessories

Lenses
Fine Quality Wide Range
5/8", 1/2.0............. Cat. No. 3810
1", 1/1.9.............. Cat. No. 3802
1 1/2", 1/1.6........... Cat. No. 3803
2", 1/1.6............. Cat. No. 3804
2 1/2", 1/1.8........... Cat. No. 3805
3", 1/2.0............. Cat. No. 3806
3 1/2", 1/2.5........... Cat. No. 3807
4", 1/2.8............. Cat. No. 3808
2" Cinemascope......... Cat. No. 3811

Zoom Lens
Zoom Lens 1/1.5....... Cat. No. 3801
(Provides coverage 35 to 60mm)

Lens Projection Guide

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<thead>
<tr>
<th>SCREEN WIDTH</th>
<th>PROJECTION DISTANCE</th>
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<td>50&quot;</td>
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<tr>
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<td>1 1/2&quot;</td>
<td>13&quot;</td>
</tr>
<tr>
<td>2&quot;</td>
<td>17&quot;</td>
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<tr>
<td>2 1/2&quot;</td>
<td>22&quot;</td>
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<tr>
<td>3&quot;</td>
<td>26&quot;</td>
</tr>
<tr>
<td>4&quot;</td>
<td>35&quot;</td>
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Speakers
Extension speakers available for use with projectors, tape recorders, record players.

Dust Cover
Attractive, beige lightweight vinyl Singer 16 Models........ Cat. No. 3737
Lift-off cover speaker........ Cat. No. 3722-1
Aperture Cleaning Brush........ Cat. No. 3694
FEATURES

Arc Light Projection for TOTAL SCREEN ILLUMINATION

Model 1180A ... NOW SUPPLIED WITH FAST-FORWARD AND REVERSE FEATURES OF THE MODELS 1160A OR 1170A (See Page 7)

SPECIFICATIONS

SOUND SYSTEM
- Optical Sound Pickup
- Speaker Output for 4-16 ohm speaker systems
- Microphone—Phono Input
- 20-20,000 Hz Audio Response
- Amplifier Power Output—10 watt (20 watt peak music power rating) transistor
- Dual 5" oval built-in speakers

OPTICAL SYSTEM
- Arc Lamp—low pressure type encased in quartz tube
- Lamp Life rated at 25 hrs.
- Lamp Power Consumption—37 volts, 1000 lumens, (20 watts)
- Over 2000 open shutter screen lumens, over 1000 screen lumens with shutter running
- Solenoid operated safety shutter
- Average corner to center screen illumination ratio 45%

FEATURES

- Fast Forward/Fast Rewind
- Push Button Controls
- Forward-Reverse Operation
- Optical Framing Control
- Automatic Soundhead Loading
- Sound Loop Resetting
- rewind without Reel Transfer
- Permanently attached, fold down reel arms
- Maximum reel Capacity 2000 ft.
- 2.5"/1.6 lens
- Accepts anamorphic and zoom lenses
- Blower cooled
- Fiber Glass Case
- Projector Power Requirements—8 amperes, 105-125 volts, 60 cycles

Cat. No. 19-523

INSTALOAD 16mm XENON PROJECTORS*

Magnetic Sound Projector 0920R

Singer 16 Magnetic Sound Projectors dramatically extend the quality of film presentation ... broaden the entire range of film production, at a moderate price! Singer combines the exclusive features of Singer 16 optical sound projectors with Magnetic Playback and Magnetic Record and Playback Capability. Singer sound magnetic projector 0920R offers 3 projection options ... magnetic sound, optical sound, silent projection.

FEATURES:

- Optical Sound Pickup
- Optical Frame Control
- 50-15,000 Hz Audio Response
- Microphone Phono Input
- Dual 5" oval built-in speakers
- Fiber glass case
- Permanently attached 9' Power Cord
- Projects still frames
- Reverse Operation
- Automatic Soundhead loading
- Sound Loop Resetting
- Automatic 2-3 blade shutter
- Permanently attached, fold down reel arms
- Rewind without reel transfer
- Push Button Controls
- Accepts anamorphic and zoom lenses
- 462 Screen Lumen capability
- Blower Cooled
- Power Output-8watt (20 watt Peak Music Power Rating) transistor
- Produce magnetic sound tracks for 16mm films
- Mix and edit sound for accompanying narrative
- Change commentary on magnetic sound track
- Add 60 or 100 Mill magnetic stripe for background music or sound effects
- Level meter to indicate actual recording level
- Accident proof erase controls,
- Dynamic microphone

SPECIFICATIONS

Magnetic Sound Playback: Two stage preamplifier; solid state with feed back and low frequency suppression at output. Voltage gain, 25 ± 3 db. The Preamplifier frequency response is designed to complement the play-back head response. Overall frequency response up to 15,000 c.p.s. is achieved. Noise level is less than 100 microvolts at output.

Magnetic Sound Record: The solid state record amplifier provides for a record head current of more than one milliamper from an input of one millivolt into the amplifier.

Recording Level Meter: VU (volume unit) Meter is calibrated so that one milliamper of record head current occurs at the green-red line of demarcation. This is 12 db. below the tape saturation.

Erase Head Control: Movement of the selector arm to any other position than record, automatically raises the erase head. It's impossible to erase a recording unintentionally.

Model 0920R Magnetic Record & Playback (117 Volts, 60 cycles) ............... Cat. No. 3631-1

Cat. No. 8757

12

13
Modifications Available For 16mm Projectors

Remote On/Off Control
For 16mm Projectors

This remote control will fit all Singer 16mm projectors to provide remote operation of the projector. Controls include projector run-stop and lamp on-off when those controls are normally available on the projector.

The remote control operates on 24 Volts and comes complete with a hand control with 30 feet of cable. Special length cables are available on special order.

16mm Remote Control
All Models ................................. 19-400
Installation Charge ......................... 19-407
Extra cable beyond 30 feet (specify length) .... Cat. No. 19-402
Extra switch for remote focus or reverse (projector must be modified to accommodate these functions) .... Cat. No. 19-401

Remote Focus for Singer 16 Projectors

A Remote Focus device allows the operator to control focusing on a Singer 16 projector from any distance.

Control for the Remote Focus device may be provided by a separately available hand-held remote control action switch or through remote panels in media systems.

This low voltage accessory can be fitted to all Singer 16mm lenses.

Singer 16mm Remote Focus
Model 1000 Series ......................... Cat. No. 19-300
Insta-Load Remote Focus
Model 1100 Series ......................... Cat. No. 19-315

Anamorphic adapter lens for Singer 16mm Projectors

The Sankor supplementary anamorphic lens allows the projection of cinemascope pictures with the Singer 16mm projectors. It will work with all Singer regular projection lenses with focal lengths of 1½ through 4 inches.

The mounting bracket is easily attached to the projector and provides a stable mount for the supplementary anamorphic lens.

Anamorphic lens mounting bracket for Singer 16 Model 1000 Series .................. Cat. No. 19-526
Sankor 16D anamorphic supplementary lens for Model 1100 Series ................. Cat. No. 19-521
Fitting anamorphic bracket to projector .............................................. Cat. No. 19-519

Singer 16 Rear Screen Projection Mirror
Use a mirror on the Singer 16 for rear screen projection.

Anamorphic Lens Mounting Bracket for 1100 Series ................................................. 19-506
Fitting Charge for 1100 (not needed for 1000) ........................................ 19-519

No special installation is required. The rear screen mirror is easily removed for storage.

This is a special front surface mirror that is designed to provide maximum reflection. It resists scratching because it is silicone monoxide coated. The rear screen mirror is usable with all Singer 16 projection lenses.

Model 1000 Series Rear Screen Projection Mirror ................................................. 19-506
Model 1100 Insta-Load Series Fitting Charge for 1100 .................................. 19-518

Anamorphic lens mounting bracket for 1100 Series ................................................. 19-506
Fitting anamorphic bracket to projector .............................................. Cat. No. 19-519

 Catalog No.

Fitting Charge for 1100 (not needed for 1000) ........................................ 19-519

Dual Front Projection System for use as dual system in a large auditorium or as two individual systems in a split auditorium.
Replacement Lamps

<table>
<thead>
<tr>
<th>PROJECTOR</th>
<th>PART NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>ANSI TYPE</th>
<th>BASE</th>
<th>PRICE</th>
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<td>INSTANT LOAD</td>
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<td>DLR</td>
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<tr>
<td>GRAFLEX 16</td>
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<td>250</td>
<td>21.5</td>
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<td>OKM</td>
<td>50.95</td>
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<tr>
<td>GRAFLEX 16 ARC</td>
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<td>37.5</td>
<td>(25 hr)</td>
<td>MARC 300/16A</td>
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<td>(In sets only)</td>
<td>41356-P2</td>
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<td>800 SERIES</td>
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<td>BRK</td>
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<td>.2A</td>
<td>7</td>
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<td>800 SERIES</td>
<td>38393</td>
<td>.9C</td>
<td>(3000 hr)</td>
<td>#44</td>
<td>MIN. BAY</td>
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<td>900 EXPORT</td>
<td>39311-P2</td>
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<td>MIN. SCREW</td>
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<td>ALL OTHERS</td>
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<td>656</td>
<td>MIN. SCREW</td>
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</table>

The Instructor

35mm Synchronized Filmstrip/Sound Projector

SYNCHRONIZED CASSETTE SOUND: ... another important dimension for MEDIUM or LARGE GROUP 35mm filmstrip instruction.

The Instructor is exactly what its name implies, a perfect example of Singer engineering skill that blends sight and sound into effective group instruction. What makes the Instructor do so much so well is a unique combination of elements: A low-profile, space-saving design that never gets in the way of the presentation; automatic can-to-can loading that’s quick, foolproof and eliminates rewinding; 750 watts of picture power that permits presentations in fully-lighted rooms; a modern cassette system that puts sound reproduction on par with picture quality. Add today’s most-wanted safety and operating convenience features, and the Instructor stands out as the industry’s foremost front-screen filmstrip projector.

CASSETTE SOUND: The Instructor incorporates all the elements of superior audio support. Its trim tape deck conveniently locates standard 2-track cassette and houses 5 full watts of audio output. Sound sync is accomplished on 50 Hz and cued with inaudible tone superimposed on audio tape track. Full pushbutton controls complete with stop/eject, play, rewind, fast-forward. Speakers include large 3x5 oval built in, plus accessory 4x6 oval available in lift-off cover with 30 ft. power cord. Remote ¼” speaker jack disengages built-in speaker when active.

AUTOMATIC LOADING: The can-to-can concept blends the best of operating convenience and film safety into a single load motion. It’s the last word in loading ease. Hands never touch a live frame. Even the inexperienced operator can slot load and frame the can, ready for the next show in seconds. Then it’s all automatic. The filmstrip simply rewinds into the can, ready for the next showing or storage. Filmstrips stay clean, last longer, are seldom exposed to damage.

CONVENIENCE FEATURES THAT ARE QUICK-RESPONSIVE-SAFE

AUXILIARY LENS
3" F/3.5, 5" F/2.8, 7" F/3.5 available to insure a wide variety viewing locations.

ELEVATION CONTROL
Fingertip response from 0 to 11 degrees is quick, positive. Non-mar rubber pads protect projection surface, insure projector stability.

SAFETY COOLING
Advanced squirrel cage blower disperses heat away from operator. Lamp encased in full-length vent, may be ejected in mid-presentation without touching.

REMOTE CONTROL
May be operated from up to 30 ft. from projector. Remote advance is “whisper” quiet, no annoying click to distract attention.

ELECTRICAL AND MECHANICAL SPECIFICATIONS:

- Lens 5" F/3.2
- Lamp DLN 750w, 120v
- Power 117v, 60 Hz, 900w max.
- Height 8½”, Width 13¼”, Length 14”
- Weight 20 lbs.
- UL and CSA listed
Filmstrip/Slide Projectors

SM-1000 PROJECTOR

FEATURES:
- Projects filmstrips or 2 x 2 slides
- Standard ASA code CAL 300-watt Proximity Reflector Lamp
- Three-Position Rotating Switch
- Cooling fan and lamp on (3) fan only (3) fan and lamp off
- Singer exclusive high efficiency condensing and optical system
- 3-inch 1/3.0 Projection Lens, for rapid, wide-range, push-pull focus
- Optically curved, glassless Filmstrip Gate made of Stainless steel. Easily removed for slide projection.
- Whisper-quiet Cooling System by motor driven fan, safety placed under projection control
- 2 condenser lenses
- Self-contained storage for easy handling
- All moving parts shielded for safety. External surfaces always cool to touch
- Three-position switch for fast cooling
- Durable, die cast aluminum frame. Two-tone beige and brown finish
- Remote model equipped with 30' cord and 2-position switch for fingertip selection for forward/reverse or free running rate
- Curved, glassless filmstrip channel eliminates cleaning problems and prevents popping
- Singer accessories custom-designed to fit both models
- Complete with 10' 3 wire power cord

SM-1000 Projector Cat. No. 3920
SM-100 Projector (Remote Control) Cat. No. 3900

SM-400 PROJECTOR

FEATURES:
- Projects 2 x 2 slides or filmstrip.
- Single lever independent-of-advance-knob Framing.
- Positive, screw adjustment Elevation Control.
- Pull-up Film Retainer. Holds filmstrip without binding.
- Remote operation: Push button with forward/reverse selection switch on 30' cord.
- Listed by Underwriters Laboratories and Canadian Standards Association.

SM-400 (50-60 cycle, 117 volt operation 3-wire).

SM-400RC with filmstrip take-up and 30' remote control cord (50-60 cycle, 117 volt operation 3-wire).

SM-400 MANUAL KITS:
Cat. No. 3532
Cat. No. 3532 - SM-400 Projector
Cat. No. 3534 - Frame Plate with lamp, 3 out of 4
Cat. No. 3535 - Pull-up Film Retainer
Cat. No. 3536 - Frame Plate (without lamp)
Cat. No. 3537 - 1/3.0 Projection Lens
Cat. No. 3538 - Frame Plate (with lamp)
Cat. No. 3539 - Frame Plate (with lamp and lamps off)
Cat. No. 3540 - Frame Plate (without lamp and lamps off)
Cat. No. 3541 - Frame Plate (with lamp and lamp off)
Cat. No. 3542 - Frame Plate (with lamp and lamp off)

SM-400RC REMOTE CONTROL KITS:
Cat. No. 3503 - SM-400RC Kit Includes:
Cat. No. 3503a - Remote control with forward/reverse switch
Cat. No. 3503b - Remote control with forward/reverse switch and remote control
Cat. No. 3503c - Remote control with forward/reverse switch and remote control and remote control
Cat. No. 3503d - Remote control with forward/reverse switch and remote control and remote control and remote control
Cat. No. 3503e - Remote control with forward/reverse switch and remote control and remote control and remote control and remote control

School Master Projector

School Master 750 Watt Projectors

FOR MANUAL OPERATION - Standard 750 watt
School Master (Manual) (Model 100) Weighs 11 lbs., 12½" long x 7½" wide x 10½" high (60 cycle, 117 volt operation).

Cat. No. 3829 (3 wire)

SCHOOL MASTER 750 (Manual) KIT Includes School Master 750 Projector, Standard Carrying Case (Cat. No. 3812) and Semi-Automatic Slide Changer (Cat. No. 3876).

Cat. No. 3822 (3 wire)

FOR REMOTE CONTROL - 750 RC, (Model 101) includes all features forelisted, plus push button remote advance control on 15' cord. Weighs 13 lbs., 4 oz. 12½" long, 9¼" wide, 10½" high (60 cycle 117 volt operation).

Cat. No. 3827 (3 wire)

SCHOOL MASTER 750 (Remote) KIT Includes School Master 750 Remote Projector, Combination Carrying Case (Cat. No. 3825) and Semi-Automatic Slide Changer (Cat. No. 3876).

Cat. No. 3833 (3 wire)

School Master 500 Watt Projectors

FOR MANUAL OPERATION - Standard 500 Watt lamp School Master (Manual) (Model 102) Weight, 7 lbs., 12 oz. 12½" x 15½" x 8½" dimensions.

Cat. No. 3819 (3 wire)

SCHOOL MASTER 500 (Manual) KIT Includes School Master 500 Projector, Standard Carrying Case (Cat. No. 3800), and Semi-Automatic Slide Changer (Cat. No. 3876). (60 cycle, 117 volt operation.)

Cat. No. 3833 (3 wire)

FOR REMOTE CONTROL - 500RC, (Model 103) includes all features forelisted, plus push button remote advance control on 15' cord. Weighs 8 lbs., is 12½" long, 8½" wide, 8½" high.

Cat. No. 3820 (3 wire)

SCHOOL MASTER 500 (Remote) KIT Includes School Master 500 Remote Projector, Combination Carrying Case (Cat. No. 3822) and Semi-Automatic Slide Changer (Cat. No. 3876). (60 cycle, 117 volt operation.)

Cat. No. 3833 (3 wire)
Filmstrip/Slide Projector Accessories

OPTIONAL CARRYING CASES - SM400
Attractive convenient way to carry the projector. Stores the projector, semi-automatic slide changer, a spare lamp, four filmstrips in cans, and a selection of slides.

Manual Case .................. Cat. No. 3543
Remote Case ................. Cat. No. 3542

STACK TYPE SLIDE CHANGER - SM-400 and SM-1000
Shows stack of 25 cardboard mounted slides in sequence - automatically. Simple push-pull motion selects and centers slides - returns them to original order. Does not interfere with filmstrip projection. May be left in place when showing filmstrips.

...................... Cat. No. 3519

SINGLE SLIDE CHANGER - SM-400 and SM-1000
Easy to use single slide changer does not interfere with filmstrip projection. May be left in place when showing filmstrips. Permits complete flexibility in presentations.

...................... Cat. No. 3960

OPTIONAL FILMSTRIP FEED/TAKE-UP KIT - SM-400
Eliminates manual rewinding of filmstrips. Filmstrip feeds directly from the can, through the projector, then winds up automatically, ready for the next showing.

...................... Cat. No. 3516

LENSES - SM1000
Long lens, short lens, normal lens ... take your pick from among Singer SM-1000's four high-quality, bright image designs. Ready to meet your exacting requirements are:

3" f/2.5 lens .................. Cat. No. 3975
5" f/3.5 lens .................. Cat. No. 3976
5" f/3.2 lens (Standard) ........ Cat. No. 3977
7" f/3.5 lens .................. Cat. No. 3978

SERIES "00" PROJECTOR LENSES
Lenses for SM-400 Projectors

2", f/3.5 .................. Cat. No. 3845
3", f/3 .................. Cat. No. 3847
4", f/3.5 .................. Cat. No. 3848

School Master Accessories

CARRYING CASES
Combination Carrying Case for School Master 500 (Model 102) with Airequipt Changer or School Master 500 Remote (Model 103) Projector. Accommodates early School Master 300 with Airequipt Changer and early School Master 300 Remote Projectors.

...................... Cat. No. 3822

Combination Carrying Case for School Master 750 (Model 101) with Airequipt Changer or School Master 750 Remote (Model 101) Projector. Accommodates early School Master 500 with Airequipt Changer or early School Master 500 Remote Projector.

...................... Cat. No. 3825

Standard Case for School Master 500 (Model 102). Accommodates earlier School Master 300.

...................... Cat. No. 3802

Standard Case for School Master 750 (Model 100). Accommodates earlier School Master 500.

...................... Cat. No. 3812

REWIND TAKE-UP
For School Master Projectors. Automatically rewinds film into container ready for next showing. Fits early School Master 300 and School Master 500, as well as, current School Master 500 and School Master 750.

...................... Cat. No. 3880

...................... Cat. No. 3879

SEMI-AUTOMATIC SLIDE CHANGER (SCSA)
For all School Master Projectors.

...................... Cat. No. 3876

AIREOQUIPT MAGAZINE
Holds 36 slides for use with Airequipt Automatic Slide Changer.

...................... Cat. No. 3873

SERIES "S" LENSES
For School Master Projectors.

3", f/3.5 .................. Cat. No. 3573
5", f/3.5 .................. Cat. No. 3572
# Replacement Lamps

(Not on Contract)

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<tr>
<th>PROJECTOR</th>
<th>PART NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>ANSI TYPE</th>
<th>BASE</th>
<th>PRICE</th>
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<td>SCHOOLMASTER 500</td>
<td>37785-P1</td>
<td>500</td>
<td>120</td>
<td>(25 hr)</td>
<td>TRU-FOCUS</td>
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<td>(CURRENT)</td>
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<td>TRU-FOCUS</td>
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<td>(Early Model 49)</td>
<td>37785-P3</td>
<td>500</td>
<td>120</td>
<td>(25 hr)</td>
<td>TRU-FOCUS</td>
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<tr>
<td>SCHOOLMASTER 750</td>
<td>37778-P1</td>
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<td>(25 hr)</td>
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<td>SM-1000</td>
<td>41102-P1</td>
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<td>TRU-FOCUS</td>
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**YOUR EDUCATION SYSTEMS WARRANTY**

Education Systems merchandise is warranted to the initial purchaser by Education Systems and the Education Systems dealer to be free from manufacturing defects in material and workmanship under normal use and service for a period of one year after sale (90 days in case of electronic components). This warranty does not apply to any Education Systems equipment which has been tampered with or repaired by persons other than authorized Education Systems service stations or which has been subjected to misuse or abuse or which has not been registered with Education Systems by means of a registration card within 90 days from date of purchase. Liability under this warranty is limited to repair or replacement of defective part or merchandise. Returns for servicing should be made to point of purchase. Transportation charges are payable by the owner and Education Systems is not responsible for damage in shipment. EXCEPT AS EXPRESSLY SET FORTH HEREIN NO OTHER WARRANTIES ARE MADE BY EDUCATION SYSTEMS OR YOUR EDUCATION SYSTEMS DEALER WITH RESPECT TO EDUCATION SYSTEMS MERCHANDISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY. No liability is assumed for expenses or damages resulting from interruptions in operation of equipment, nor for incidental or consequential damages of any nature.
SINGER audiovisual equipment for every education and training need

See SINGER Contract GS-OOS-30064 for the above REAR SCREEN Projectors, Multi-media Equipment, Reading Machines and Reading Software —
FSC Group 69
CLASS 6910 Training Aids
CLASS 6930 Training Devices

SINGER
EDUCATION DIVISION
EDUCATION SYSTEMS
3750 MONROE AVENUE
ROCHESTER, N.Y. 14603
(716) 589-3020