



CARAMATE II

and

CARAMATE II SP

Guidebook

TAPE CASSETTE SYSTEM
1000 Hz. SEPARATE TRACK
SYSTEM, PER ANSI. SPEC. PH 7.4

SINGER
EDUCATION DIVISION

IMPORTANT SAFEGUARDS

When using your audiovisual equipment, basic safety precautions should always be followed including the following:

1. Read and understand all instructional material provided with this projector.
2. Close supervision is necessary when the projector is being used. Do not leave unattended for use by persons not fully acquainted with correct operating procedure.
3. Avoid touching the projection lamp or other projector parts which could be hot and may cause burns.
4. Do not operate the projector with a damaged or worn electrical power cord. If the projector has been dropped or damaged, have it checked by a qualified service technician.
5. If an extension cord is necessary, use a 3-wire grounding type cord with suitable current rating. Cords rated for less amperage than the projector will overheat.

6. Place and protect the power cord so that you and others will not trip over it. Avoid touching sharp stand edges and hot surfaces.
7. Carefully unplug the projector when not in use. Never yank cord to pull from the outlet... grasp plug and pull.
8. Let the projector cool before storing or moving.
9. The projector must not be operated in wet conditions that could cause electrical shock hazards.
10. The operator should not disassemble this projector beyond the instructions of routine maintenance described in this manual. If further disassembly is necessary, it should be done by a qualified service technician since incorrect disassembly and/or reassembly can cause electrical shock hazard.

SAVE THESE INSTRUCTIONS

TABLE OF CONTENTS

| | Page |
|---|------|
| SECTION I CARAMATE PROJECTOR | 5 |
| Reference Guide | 5 |
| Slide Controls | 6 |
| Tape Controls | 7 |
| Other Controls | 8 |
| To Show A Program W/Prerecorded Tape Cassette | 9 |
| Loading Slide Trays | 11 |
| Recording | 13 |
| SECTION II CARAMATE SP PROJECTOR | 17 |
| Reference Guide | 17 |
| Tape Controls | 18 |
| Lamp Remote Panel | 19 |
| Showing A Program W/Prerecorded Tape Cassette | 20 |
| Cueing Commentary To Slides | 21 |
| HOW TO USE THE SPECIAL FEATURES | 23 |
| Replacing Projection Lamp | 26 |
| Maintenance | 26 |
| Optional Accessories | 28 |
| Slide Format | 29 |

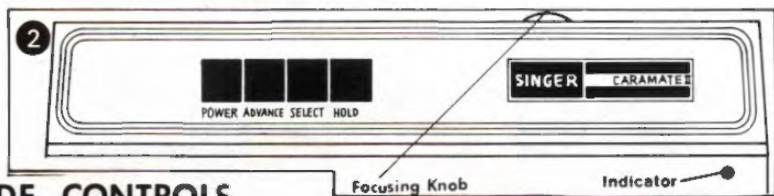
SECTION I-- CARAMATE PROJECTOR

This is your Singer Caramate... It is a rear screen (9 x 9) slide viewer with a synchronized tape cassette player. The Record model allows you to record your own cassette tapes and cue them to the slides for smooth showing of a complete program.

PLEASE TAKE THE TIME TO READ THESE OPERATING INSTRUCTIONS BEFORE YOU PROCEED

REFERENCE GUIDE





SLIDE CONTROLS

POWER: Turns power on and off...for lamp and tape player. (Orange indicator lens lights when lamp is on).

ADVANCE: Causes Carousel slide tray to advance. Also used to record advance cue pulses on tape when in record mode.

SELECT: When depressed and held, allows slide tray to be rotated freely for editing, showing slides out of sequence, or to rotate to restart (0) and removal of tray after partial program showing.

HOLD: Depress and hold button during a program to return the same slide to view.

FOCUSING KNOB: Turn to achieve best overall image sharpness.

REMOTE OUTLET: Lets you advance slide tray with the use of an accessory remote control cord. Cat. 8810

TAPE CONTROLS

RECORD: Depress together with PLAY button when recording commentary or cue pulse. (Record models only).

REWIND: Rewinds tape, rapidly.

FORWARD: Advances tape rapidly.

PLAY: Depress to play pre-recorded tape cassette, or together with RECORD button when recording commentary or cue pulses.

STOP/EJECT: Depressing this button lightly stops the tape. Depressing fully ejects tape cassette.



OTHER CONTROLS



VOLUME: Slide lever up or down for control of volume. Position is not important when recording.

VU METER: Offers visual indication of recording. (Record models only)

MIC: Microphone receptacle. (Record models only)

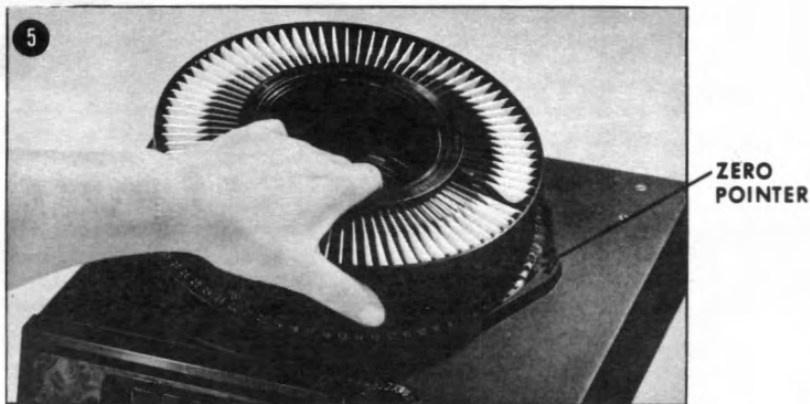
REMOTE TAPE: Receptacle (Mic-left receptacle only) provided for remote control of tape motor. (Playback models only)

EAR: Receptacle provided for using headphones.

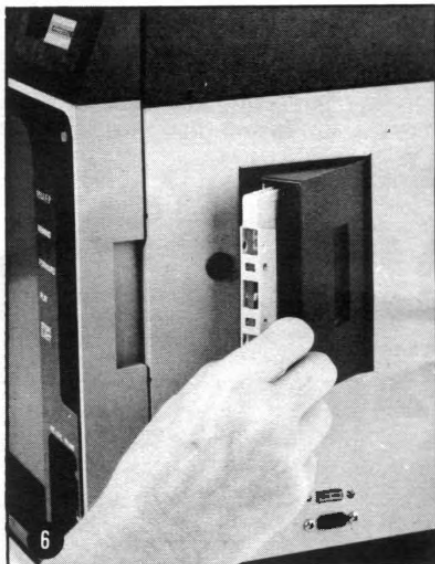
7 EASY STEPS TO SHOW A PROGRAM WITH PRE-RECORDED TAPE CASSETTE

1. Remove Power cord from storage compartment in rear of your Caramate and plug into grounded wall outlet.

2. Place loaded slide tray (see below) on Caramate with notch in tray rim at "0" opposite zero pointer (Fig. 5).



- 3.** Depress STOP/EJECT button fully to open cassette holder.
- 4.** Place pre-recorded cassette in holder as shown (Fig. 6), with label facing outward, or full tape reel at top. Close cassette holder.
- 5.** Depress POWER button.
- 6.** Depress PLAY button to start program.
- 7.** Adjust FOCUS and VOLUME.



LOADING SLIDE TRAYS

Your Caramate is equipped to use all Kodak Carousel*slide trays with 80 and 140 slide capacity and the Carousel Stack Changer. All will accept cardboard, plastic, or glass mounts but for best results, Eastman Kodak's recommendations should be followed.

80-Black tray, cardboard, plastic & thin glass (up to 1/16" thick)

80-Gray tray, thick glass, plastic, & most cardboard (up to 1/8" thick)

140-Tray, cardboard or plastic (not metal or glass)(up to 1/16" thick)

NOTE: 140 tray not recommended for heavy repeated usage.

NOTE: Warped slides could fit slot, but may strike or jam when returning to tray. If warped, slides should be straightened or remounted.

With any tray, slides having loose or sticky tape or sharp edge glass slides should not be used.

In low humidity static electricity may build up on tray and slides may not drop. This condition can be relieved by using a silicone spray on the tray when empty.

* T. M. EASTMAN KODAK CO.



80 SLIDE TRAY SHOWN

TO LOAD YOUR SLIDE TRAY

1. Turn tray up-side down to check that tray base is at "0" (Fig. 7). If it is not release the catch and rotate the base until the slide holder is at "0".
2. Turn locking ring in direction of arrow marked UNLOCK and remove ring (Fig. 8).
3. Insert slides, starting at slot #1 molded into the ring of tray, with tray on the CARAMATE, working from the front, hold the slide so image appears normal, then invert and insert into the tray.
4. After all slides have been inserted replace the locking ring (Fig. 8) and lock. Do not forget to replace this ring to prevent spilling the slides when moving the tray. Trays loaded properly for showing in the Kodak Carousel projector can be used directly with the Caramate.



LOCKING RING

RECORDING [RECORD MODELS]

Preparation of a program is best done in three steps.

A. Write a script. B. Record it on tape. C. Add the cue pulses.

1. Insert a new blank tape cassette (see Fig. 6)
2. Plug in microphone, making sure that microphone switch button is in the OFF position.
3. Depress POWER button.
4. Depress PLAY and RECORD buttons at the same time (Fig. 9).
5. Record your commentary, using the ON-OFF switch on the microphone to start and stop the tape transport.



6. Depress STOP/EJECT button lightly to stop the tape.

7. Remove the microphone.

8. Depress REWIND button to return tape to the beginning.

NOW YOU ARE READY TO CUE THE COMMENTARY TO YOUR SLIDES

1. Place loaded and edited slide tray on your Caramate.

2. Make sure microphone is removed, so that previous recorded audio will not be affected.

3. Depress POWER button to start the Caramate.

4. Depress PLAY & RECORD buttons at the same time. This will erase any cue pulses on the second track, but it will not affect the audio recording.

5. Listening to your commentary, depress ADVANCE button every time you want to advance to the next slide. This records the cue pulses for automatic slide changing.

6. Rewind tape and depress STOP/EJECT button fully to remove tape cassette.

NOTE: Both audio and cues can be recorded simultaneously with the microphone connected, however the method given is preferred for better program continuity.

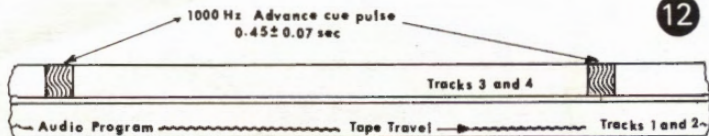
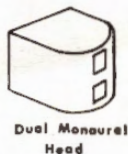
The CARAMATE projectors use a two track MONAURAL tape cassette on which the advance cue pulses are recorded on the upper half and the audio program is recorded on the lower half. Therefore only one program, in one direction can be recorded. Cassettes can not be reversed and played in the opposite direction. Your Caramate records and operates to specifications based on ANSI proposed standard PH 7.4 as listed below.

AUDIO PROGRAM

1. MONAURAL: Tracks 1 & 2 combined (lower half).
2. LEVEL: Nominally -4 ± 3 db ref. to a signal of -6 db relative to 250 nWb/m.

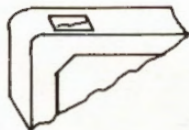
FILM ADVANCE

1. MONAURAL: Tracks 3 & 4 combined (upper half).
2. ADVANCE PULSE: 1000 hz. $\pm 5\%$.
3. CUE DURATION: $0.45 \pm .07$ sec.
4. CUE SPACING: 1.5 sec. min. between start of two adjacent cue pulses.
5. CUE LEVEL: -6 ± 3 db min. ref. at -6 db relative to 250 nWb/m at 315 hz.



12

NOTE: The Caramate is not designed to operate with tapes prepared for 50 hz. superimposed filmstrip system.

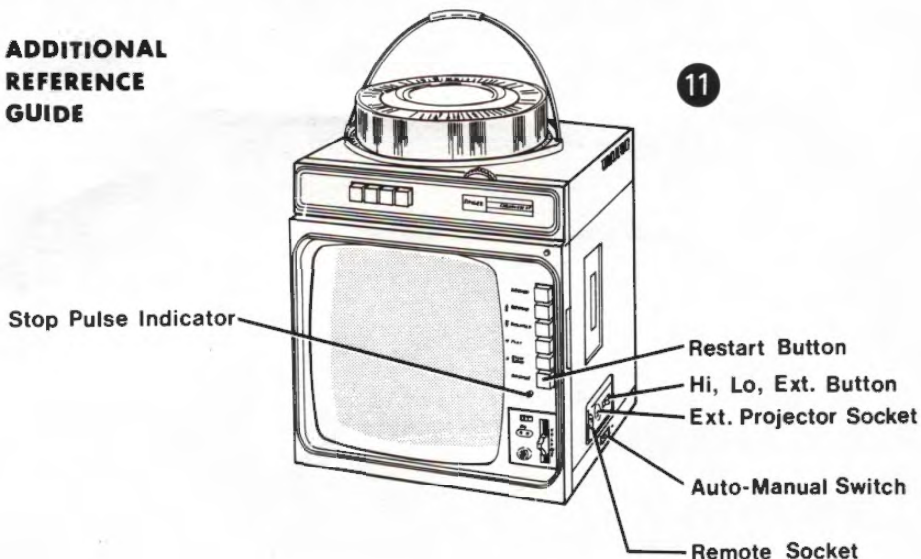


To prevent accidental program erasure on completed programs, remove the plastic tabs on the back of the cassette. To record with plastic tabs missing, place a small piece of tape over tab openings.

PROJECTION LAMP: CAR-Type, 150 watt. Normal life 15 hours
with standard Caramate life extender circuit 75 hours.

SECTION II-- CARAMATE SP PROJECTORS

ADDITIONAL REFERENCE GUIDE



TAPE CONTROLS

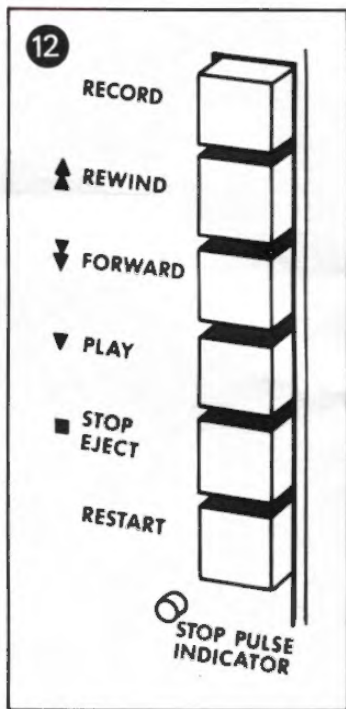
The controls "RECORD, REWIND, FORWARD, PLAY and STOP/EJECT are the same as shown on page 7.

ADDITIONAL CONTROLS

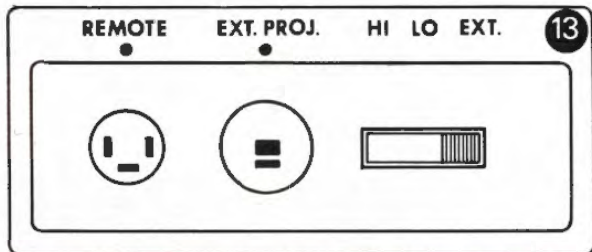
RESTART: Depressing this button when recording creates the stop pulse (but does not stop the tape). Depressing this button when playing, restarts the program after tape has stopped from a stop pulse signal.

STOP INDICATOR: Upon detection of a 150 hz. cue pulse on tape, this indicator lights, indicating tape deck has stopped in response to cue pulse signal.

OTHER CONTROLS: For VOLUME, MIC, VU Meter, EAR and Remote Tape refer to page 8.



LAMP REMOTE PANEL



REMOTE: Receptacle for using REMOTE CONTROL-STOP/START accessory (cat. 8859) for remote advance and restart. This accessory may be used in record mode to record slide change and stop cue pulses.

EXT. PROJ.: Receptacle to provide slide change pulses to an external slide or filmstrip projector from Caramate tape deck, when Hi-Lo switch (described below) is in EXT. mode. (use accessory cord cat. 8861)

HI-LO-EXT: Switch used to provide Hi or Lo lamp lighting, with switch in EXT. position the fan will continue to operate but projection lamp will not be energized and the internal slide change mechanism will not operate, this allows use of Caramate sound with a front screen projector for large groups, while eliminating any possible distracting noise or light from the Caramate.

SHOWING A PROGRAM WITH PRERECORDED TAPE CASSETTE

1. Follow steps 1 thru 4 on page 6.
2. Set LAMP switch to desired position.
3. Depress POWER button.
4. Depress PLAY button to start the program.
5. Adjust FOCUS and VOLUME.
6. If a 150 hz. signal is sensed the tape will stop, and the picture will remain on the screen. The STOP indicator (below the restart button) will light.
7. To restart program, depress RESTART button.

LOADING SLIDE TRAYS

To load your slide tray follow SLIDE TRAY information starting on page 9.

RECORDING

To record, follow steps 1 thru 8 on page 11.

NOW YOU ARE READY TO CUE THE COMMENTARY TO YOUR SLIDES

- 1.** Place loaded and edited slide tray on your CARAMATE SP.
- 2.** Make sure microphone is removed so that previous recorded audio will not be affected.
- 3.** Depress POWER button to start projector
- 4.** Depress PLAY & RECORD buttons at the same time. This will erase any cue pulses on the second track but it will not affect the audio recording.
- 5.** Listening to your commentary depress and hold ADVANCE button for approximately .5 sec. for each slide advance wanted. This will place the 1000 hz. advance pulse on the upper track.
- 6.** Depress and hold RESTART

button for approx. .5sec. to create stop pulse. The stop indicator will not light up. To prevent voice run down effect, when the tape stops interrupt the audio a second or two before the stop pulse is applied to the tape

- 7.** Rewind tape and depress STOP /EJECT button fully to remove the tape cassette.

NOTE: Both the audio and cues can be recorded simultaneously with the microphone connected, however the method given is preferred for better program continuity.

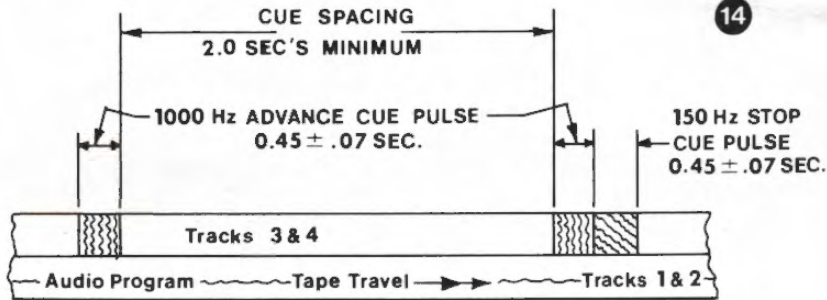
Pulses may be recorded either simultaneously as described above or independently through the use of REMOTE CONTROL accessory cat. 8859.

The CARAMATE SP records and operates to the same specifications as described for the CARAMATE projector on page 13 with the following additions.

Stop pulse : 150 hz. $\pm 5\%$

Stop Pulse Duration: $0.45 \pm .07$ seconds for advance and program stop pulse.

Stop Pulse Cue Spacing: 2.0 seconds minimum between the end of one pulse and start of another.



CARAMATE SP PROJECTION LAMP [150 WATT]

CAR Type

DFP Type

Hi-Position----- 15 hours-----500 hours*

Lo-Position----- 75 hours*-----1500 hours

*NOTE: Approximately same light. Units supplied w/CAR type

HOW TO USE THE SPECIAL FEATURES

AUTO-MANUAL SWITCH

In AUTO position unit will play synchronized tapes. In the MANUAL position any tape may be played without actuating the slide advance mechanism motor automatically.

SCREEN MASKS

Screen masks are provided to cover the unused screen area when a complete horizontal or vertical format is used which does not completely fill the viewing screen.

EDITING SLIDES

Place loaded slide tray on Caramate and remove the locking ring from tray. Turn **POWER** on and use the **ADVANCE** button to view slides one by one. To edit a slide depress **SELECT** button. The slide will be raised for easy removal.

SYNCHRONIZING SLIDES WITH TAPE

Depressing the **FORWARD** button of the tape controls will advance tape rapidly for partial showing of a program.

Should your slides get out of sequence with the commentary on tape depress **HOLD** button to return the same slide to view until commentary on tape has caught up. Or depress and hold the **ADVANCE** button to advance slides continuously for catching up with the commentary on tape.

INTERRUPTING PROGRAM FOR COMMENTARY [RECORD MODELS]

With the microphone connected and the projector in the **PLAY** mode, the program can be stopped by placing the **ON/OFF** switch on the microphone in the **OFF** position, allowing voice comment interspersed with the program. To continue the program, place the switch in the **ON** position.

RECORDING WITH SPECIAL REMOTE CONTROL (SP MODEL)

Proceed basically as previously listed but using remote hand set plugged into remote socket.

PLAY A PROGRAM WITH REMOTE CONTROL (SP MODEL)

Proceed as in regular program play. Control extra advances with remote advance switch. Depress RESTART button to restart program after cued stop.

EMERGENCY SLIDE TRAY REMOVAL

To remove a tray when slide changer does not function because of jamming, turn coin slotted screw in bottom center of slide tray in either direction as far as it will go. While holding screw in this position, lift off the slide tray. When a tray is removed in this manner the lock in the bottom is no longer engaged by notch in metal retainer. Turn tray upside down (see Fig. 7) and rotate base until slide holder is returned to "0". Then remove the cause of malfunction and replace slide tray.

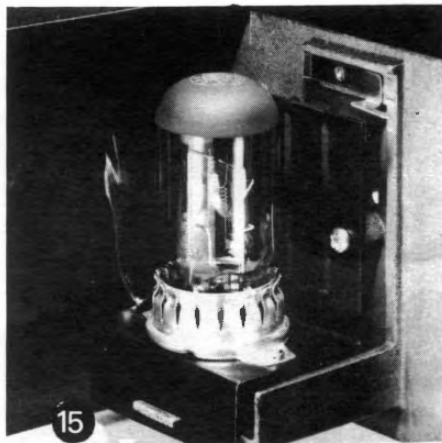
REPLACING PROJECTION LAMP

1. Remove power cord from grounded wall outlet.
2. Open access door in rear of Caramate (Fig. 15). Pull lamp straight up. CAUTION lamp may be hot. Align ridge on center pin of replacement lamp with groove in socket. Push down firmly until it is seated fully.

MAINTENANCE LUBRICATION

All bearings are self lubricating and require no oiling.

The mechanism should be serviced after 1000 hrs. normal use or sooner if unit is used heavily, by an authorized SINGER EDUCATION DEALER.



CLEANING

For periodic cleaning of the recording or playback heads use a commercially available cleaning tape or moisten a clean cotton swab with denatured alcohol (ISOPROPYL) and wipe head carefully. DO NOT use any sharp objects that will scratch or mark the head. Also wipe rollers and belts, the unit should be running while cleaning these parts.

ADDITIONAL INSTRUCTION

When using the Remote Tape Control, Cat. 8811 with your unit, there is a slight possibility that when stopping the unit you may activate the stop pulse circuitry and the restart light will come on. Simply turn the Remote switch on and depress the green restart button to resume operation.

OPTIONAL ACCESSORIES

REMOTE SLIDE CONTROL (cat.8810)

Plug into outlet provided on the right side of Caramate. Depress switch lightly to advance one slide. Use this control for untaped presentation or with audible cues. Cues can not be recorded by advancing slides using this remote control.

EXT.INTERCONNECTING CORD (cat.8861) (SP models only)

This cord when connected provides sound and slide change impulses to an external projector from the Caramate tape deck.

REMOTE TAPE CONTROL (cat.8811)

Plug into smaller of the two MIC receptacles. Allows you to start and stop the tape remotely, provided POWER is on and PLAY button has been depressed.

STOP-START ADVANCE REMOTE CONTROL (cat.8859)(SP models)

This remote control allows you to advance and restart remotely, provided the power is on and the PLAY button has been depressed. This control may also be used to record slide change and stop pulses when the Caramate SP is in the RECORD mode.

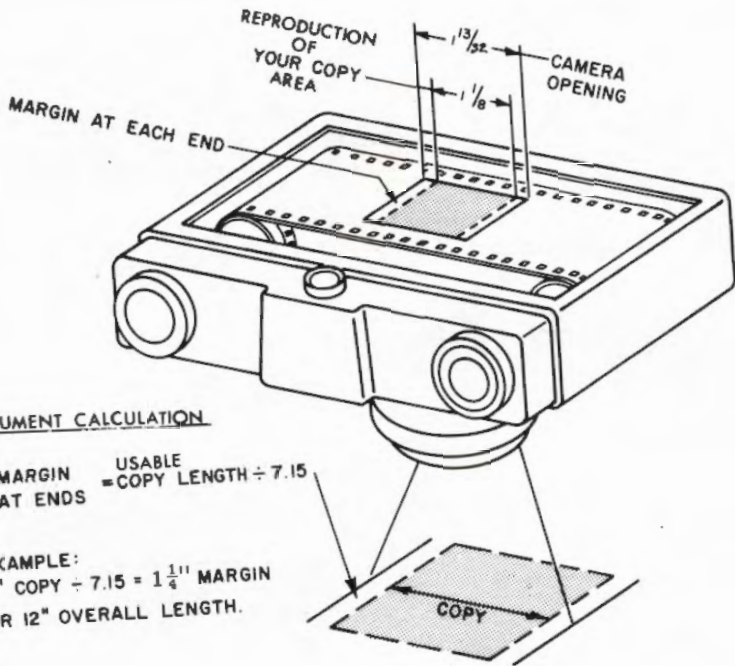
SLIDE PRODUCING FORMAT

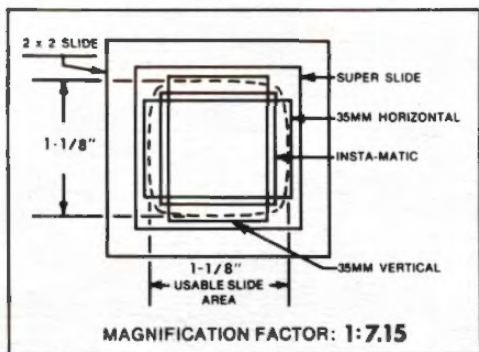
- A. The film negative (35mm) in your camera will photograph your original material on an area $1-13/32''$ wide of which only $1-1/8''$ will be displayed on the Caramate screen due to normal cropping. (See camera diagram).
- B. In order to be sure all material you wish to display is within this $1-1/8''$ area, you must add a margin to the original Document and focus to include this margin.
- C. To calculate what margin is required, use the following simple formula.

Material Length \div 7.15 = Margin at ends.

Example: $9''$ copy \div 7.15 = $1\frac{1}{4}''$ Margin.

If you have material that is 9 inches wide and you must display all of it (such as figures, graphs, etc.) you must divide the 9 inches by 7.15. This means you must add a $1\frac{1}{4}''$ margin on each side of the copy and focus to include this margin to be sure all $9''$ of your required material falls within the $1-1/8''$ film area.





Usable information area on 2 x 2 slide format
when used with CARAMATE.

INTERNATIONAL MODELS

If you own an INTERNATIONAL MODEL that operates on 220/240 volts, 50 hz. the following is IMPORTANT.

DESIGNATION. WIRE COLOR

NEUTRAL (LO) BLUE

LIVE (HOT). BROWN

GROUND (EARTH) GREEN/YELLOW

SERVICE DEPARTMENTS

Home Office

3750 Monroe Avenue
Rochester, N.Y. 14603
Phone: (716-586-2020)

Eastern Region

1406 Bergen Blvd.
Ft. Lee, N.J. 07024
Phone: (201-947-0666)

Singer Audiovisual Ltd.

Unit 10, 705 Progress Avenue
Scarborough, Ontario M1H-2X1
Phone: (416-431-4975)

YOUR EDUCATION SYSTEMS WARRANTY

Education Systems merchandise is warranted to the initial purchaser by The Singer Company, 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 (lamps are not included) (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 by 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 60 days from date of purchase. Liability under this warranty is limited to repair or replacement of defective part or merchandise. Return for servicing should be made through your Education Systems dealer. 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.