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[redacted]

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In Reply Refer To: T3774-65
9965-3302

23 September 1966

STAT [redacted]
Post Office Box 8031
Southwest Station
Washington, D.C. 20024

STAT Reference: 1) [redacted] Report 65-184, Amendment to Advanced Rear Projection Viewer, July, 1966

STAT 2) [redacted] Letter T3774-0046 dated 11 August 1966

Enclosure: Amendment to Advanced Rear Projection Viewer dated 23 September 1966 (4 copies)

Gentlemen:

Subject: Request For Proposal No. ED-12-66
"Advanced Rear Projection Viewer"

STAT [redacted] submits herein our firm fixed price proposal for the addition of an automatic film threading device and millimeter mensuration in the "Y" axis to the Advanced Rear Projection Viewer. The technical description of this change is presented in the enclosure, which supersedes in Reference 1) document submitted by the Reference 2) letter.

STAT [redacted] firm fixed price for this addition is [redacted] This price STAT is additive to our proposal previously submitted. All other terms and conditions of the reference letter remain unchanged.

If additional information is required, please contact [redacted] STAT
[redacted] STAT

Very truly yours,

[redacted] STAT

Supervisor,
Contract Administration

AWB:gc

STAT [redacted]

Declass Review by NGA.

[redacted]65-184 STAT
9965-3302

AMENDMENT TO

ADVANCED REAR PROJECTION VIEWER

[redacted] STAT

[redacted] STAT

23 September 1966

INTRODUCTION

This amendment describes additions to the Advanced Rear Projection Viewer which consist of an automatic film threading device, X-Y axes millimeter counters and displays, and an internal maintenance light. This supersedes the amendment dated July 1966 (refer to STAT [redacted] 65-184 dated December 1965).

FILM THREADING DEVICE

The film threading device, which facilitates film loading in the Advanced Rear Projection Viewer, consists of the following (see illustration):

1. A linear potentiometer located at the supply (feed) reel
2. A special take-up reel constructed with one fixed flange and one movable flange
3. A ball lead screw and nut which positions the movable flange on the take-up reel
4. A dc motor which drives the ball lead screw
5. A rotary potentiometer
6. A duty cycle amplifier
7. Forty-eight inches of 70-mm, 0.006-inch-thick mylar leader affixed to the take-up reel hub.

Operational Description

The reel of film to be viewed is placed on the supply side of the transport by the operator. The end of the film is attached with tape to the permanent mylar leader and the reel locking arm clamps the reel securely in place. The wiper of the linear potentiometer is attached to the reel locking arm and its position causes the dc motor, at the take-up reel, to drive the ball lead screw until the rotary potentiometer is nulled with the linear potentiometer at the supply reel. The movable flange is automatically positioned on the take-up reel for the proper width of film being used. When the reel locking arm is unlocked during the film loading operation, the movable flange is automatically positioned for the widest film (9 1/2 inches).

NOTE: FILM TRANSPORT STRUCTURE OMITTED FOR CLARITY. REFER TO FIGURE 3-12.

[redacted] 65-184

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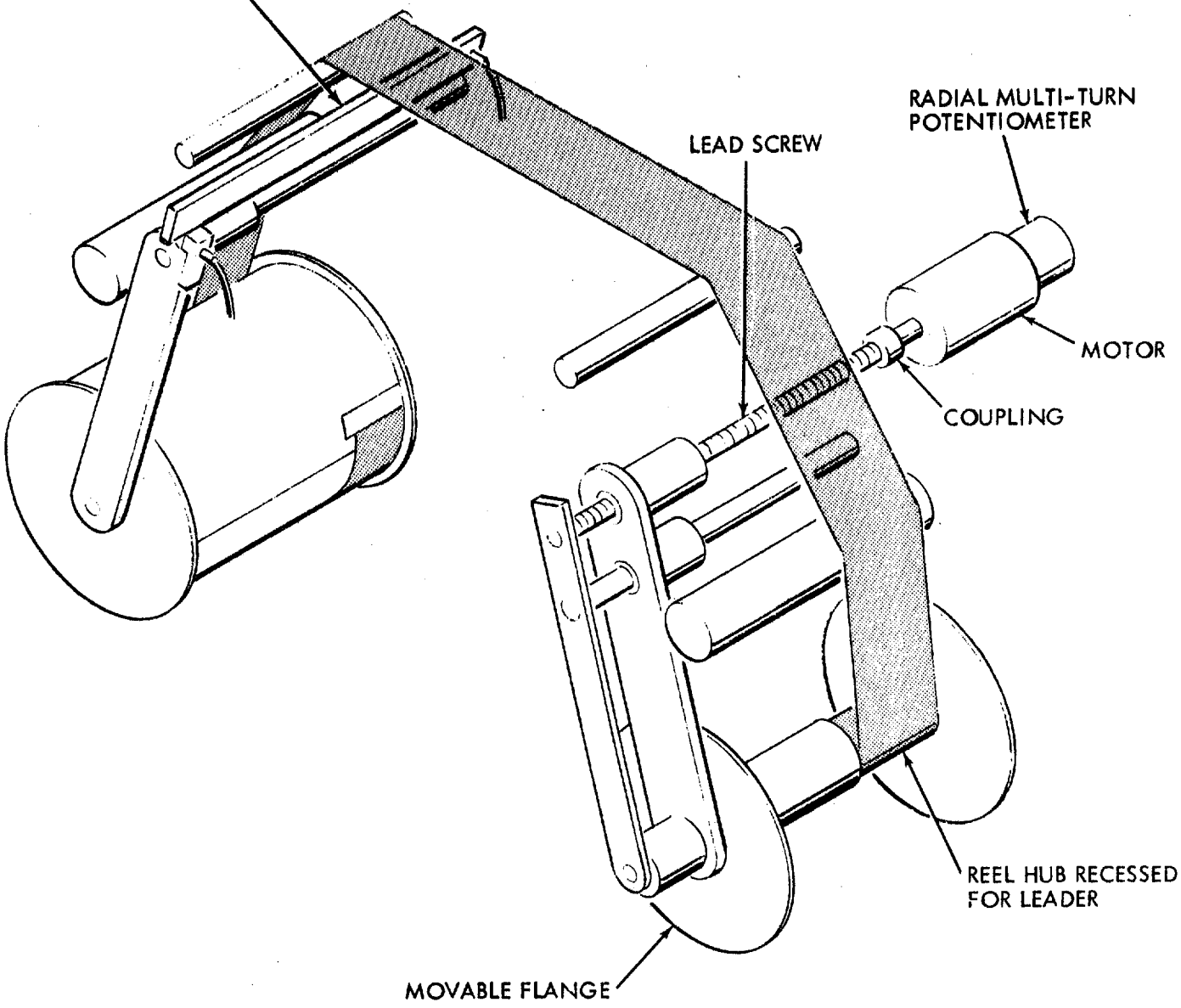

AUTOMATIC FILM THREADING DEVICE

Approved For Release 2005/05/02 : CIA-RDP78B04770A001900020008-3

The positioning of the movable flange on the take-up reel (the opening between the flanges) is commensurated with the tolerances allowable by AF Standard 51C17848, "Spools, Aerial Film."

The hub of the take-up spool is recessed to allow the mylar leader to be wound flush with the outside of the reel core, which prevents the film from winding at a taper. The mylar leader has a tensile strength of 25,000 psi. Based upon projected use, the mylar leader is expected to last the life of the viewer. However, if inadvertently damaged, the leader is detachable for replacement.

X-Y AXES MILLIMETER COUNTERS AND DISPLAYS

The counter system for the Advanced Rear Projection Viewer enables the operator to measure, in 1-mm increments, film distances in both axes to an accuracy of 0.5 mm in 40 inches.

Each axis consists of a rotary photoelectric pulser and an electronic counter indicator mounted on a control panel.

Mensuration input along the film is provided by a film driven metering roller, which, in turn, drives one of the rotary pulsers.

Input for the mensuration across the film is provided by the ball lead screw which translates the film transport. The rotary pulser is coupled to the lead screw.

The mensuration system along the film will be provided in lieu of the footage
STAT counter defined in [ ]65-184, page 3-15.

Detailed Description

Metering Roller - Y Axis Counter

The low inertia roller, with its circumference being equal to 120 mm provides input for the associated Photoelectric Rotary Pulser. The direction sensing pulser is driven directly by the metering roller shaft. Each revolution provides 120 signal pulses for the Y axis electronic counter indicator.

Ball Lead Screw - X Axis Counter

The rotary pulser is driven directly by the table translating ball lead screw, having a 5-mm lead, and provides five signal pulses per revolution for the X axis electronic counter indicator.

Electronic Counter Indicators

The up-down counters consist of electronic components which accept the pulses from the rotary photoelectric pulsers and indicate the accumulated count on a 5-digit and sign (plus or minus) display. A pushbutton zero-reset will be located on the control panel adjacent to each indicator.

ENCLOSURE AND INTERNAL MAINTENANCE LIGHT

The Advanced Rear Projection Viewer features a completely sealed enclosure, with slightly positive internal pressure achieved by filtered air.

An internal light is turned on each time the front access door is opened for film loading or viewer maintenance.