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NPIC/TDS/D/6-1691
28 November 1966

MEMORANDUM FOR: Assistant for Photographic Analysis, NPIC

ATTENTION: [redacted] 25X1

SUBJECT: Advanced Film Viewing Light Tables with Translating Microscope Carriage and High Intensity Tracking Light Sources

1. In the latter part of 1963 various individuals of your organization were given the opportunity to make suggestions for the improvement of an 9 x 40 Advanced Film Viewing Light Table.

2. As a result of these discussions, the attached Development Objectives entitled, "Advanced Film Viewing Light Table with Translating Microscope Carriage and High Intensity Tracking Light Sources" dated 27 March 1964 were formulated. This document was submitted to industry and, after a competitive evaluation of the resulting proposals was made, it was decided to initiate a parallel effort for this development. From the start it was recognized that of the two contractors selected [redacted] had the higher probability of success; nevertheless, because of the importance of this effort [redacted] was selected as an alternate or "back-up" supplier. 25X1 25X1

3. After two and a half years of intense monitoring by this office and extensive inputs from your organization, one of the light tables has been delivered and the other is due shortly. All of the requirements of the Development Objectives have been more or less satisfied; but, as a consequence, the light tables have become relatively complicated in comparison to existing equipment. These units can therefore serve as a "test bed" to determine if all or part of the advanced features should be incorporated into a production version of an advanced light table; e.g., the better features of each light table can be combined into a single production version and the undesirable features eliminated thereby reducing both complexity and cost.

4. Although most of the advanced features are direct and straight-forward solutions, some deserve discussion.

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A. The [redacted] Light Table

1. The film transport system can be operated in three modes (manual, power-assisted or fully powered) and allow the operator to control the film from a single handwheel in a number of different transport modes. Any combination of film motions can be accomplished with this transport system. The three separate mode feature was incorporated to determine which method is preferred. It is felt that the sensitivity of any mode can be improved when the other two are eliminated.

2. The masking shades are easily operated; however, the center shade is probably better implemented in the [redacted] version. These shades eliminate the stray light from the edges of the film format.

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3. The simple push-button film reel holders seem to be an improvement.

4. The film holddown techniques has been devised which eliminates the curling of the film by applying a small uniform tension to the film.

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5. The tracking light source employed in the [redacted] Light Table has the problem of creating a small shadow around the high intensity spot. While this will not effect the microscope viewing mode the shadow can be seen when the spot is being positioned. The [redacted] approach was to use a small high intensity cold cathode light grid. The difference in approach will allow the photo interpreter to select which solution best satisfies his problem.

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B. The [redacted] Light Table

1. The excessive friction in this manual film transport shows that some method of power assist is mandatory. As in the [redacted] Light Table, all combinations of film transport functions can be accomplished.

2. The film reel brackets are positioned simultaneously which eliminates film tracking problems. The masking shades could be attached to this mechanism so that the shades would automatically be positioned when the reel brackets are positioned.

3. The implemention of the microscope movement appears to be very satisfactory on this light table. The excessive friction in the [redacted] movement has been reduced considerably, thereby permitting a uniform motion for scanning, but retaining the required measuring accuracy.

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4. The [redacted] light source has a very large dimming range completely without flicker.

5. These instruments will be sent to you shortly for evaluation and comment. Constructive criticism is sincerely requested on all of the features of the two light tables from the standpoint of the desirability of combining all of the better features into a single advanced light table prior to production. Comments should be directed to [redacted] TDS/DS.

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Attachment: As Stated

Distribution:
Orig & 1 - Addressee
3 - TDS/DS

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NPIC/TDS/DS [redacted] (29 Nov. 1966)