

August 1967
17 ~~1967~~ 1967

PLEASE ACKNOWLEDGE RECEIPT FOR THE MATERIAL LISTED BELOW:

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3, 4, 5 of 3 cys Page 1 of 2 Pages w/encls
July Progress Report 1967 dtd 11 Aug 1967

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25 Aug 1967
DATE

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11 August 1967

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[Redacted]

Subject: July Progress Report, [Redacted]

[Redacted]

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In the study of Distortion Feedback Servo Loop Stability, approximately 46 percent of the work is now complete, while the Registration Correction Accuracy Program is approximately 82 percent complete. The Image Dissector Scan Distortion Program is approximately 75 percent complete. The 95 percent completion of this item reported in the June Progress Report was misleading, as this was intended to apply only to the circuit design and construction phase and not to the overall program which includes testing. The actual percent completion figure in June should have been 42 percent.

1. Technical Progress:

- 1.1 A detailed test plan (see Enclosure I) was developed, and item 1 of that plan has been completed. The testing has not progressed as rapidly as anticipated due to conflicting schedules of the personnel involved, but no delay in completion is expected.
- 1.2 A detailed test plan (see Enclosure II) has been prepared for this phase also.

Special photographic materials have been prepared which aim to eliminate systematic errors believed to originate in the plate transport. These materials contain conjugate stereo imagery at the same general locations on the plate relative to the transport as is the case in identical photographs.

The correlator was bore sighted with the floating mark system by electronic/optical methods which will be discussed in detail in the Final Technical Report.

GROUP 1
Excluded from automatic downgrading
and declassification

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1.3 The circuitry necessary for automatically closing the parallax servo loop in the video-correlation breadboard for [redacted] has been completed. Initial testing of this loop indicates a pull-in range of approximately 10 percent.

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The determination of servo loop constants for closing the scale and skew correcting servo loops is underway.

2. Next Month:

2.1 Testing will continue as on the test plan, and lock-on limits will be determined.

2.2 Parallax measurements will be made of same object points under different scale conditions and different zoom conditions. This will be followed by reduction and analysis of the data.

2.3 The scale and skew correcting servo loops will be closed automatically and tests on stability and pull-in ranges will be made. As discussed in the June Report these tests will be coincident with [redacted] tests.

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3. Pending, unresolved technical problems; none.

4. Pending, unresolved contractual problems; none.

5. No agreements of record .

6. No proposed changes.

7. No unanswered or unresolved matters.

Sincerely,

[redacted signature box]

Project Manager

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[redacted box]

Enclosures:

1. Proposed Test Plan
2. Experimental Program Diagram

Next 2 Page(s) In Document Exempt

PROPOSED TEST PLAN FOR PROJECT

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1. Determine optimum combination of focus and intensity for gross scales of 3, 4 and 5. (This determines raster and spot sizes).
2. Determine lock-on limits for translation scale and skew independently.
3. Determine lock-on limits for combinations of translation, scale and skew.
4. Determine effects of gross scale changes on lock-on limits.
5. Vary feedback values and determine effect on speed of lock-on and lock-on limits.
6. Determine effects of P/V count as a feedback parameter.

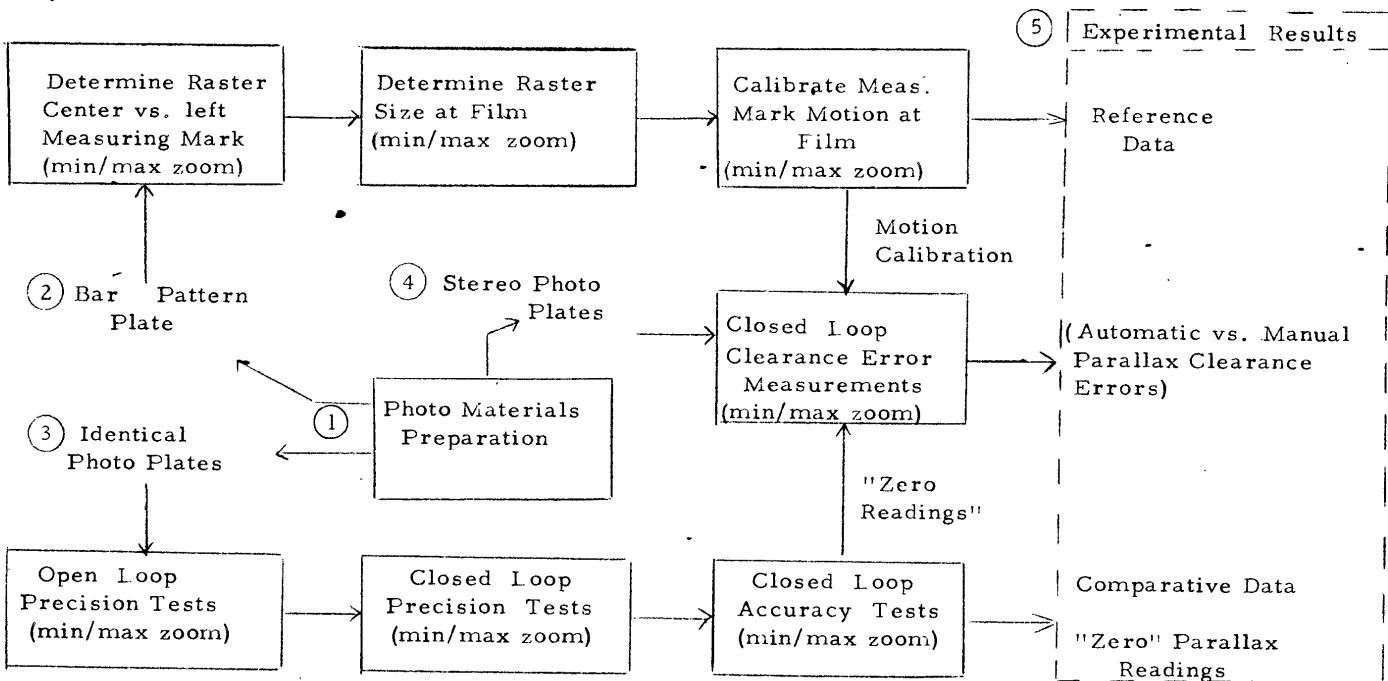
All of these tests will be repeated for different types and densities of imagery, and rotations will be made in image insertion to note effects on correlation of the direction of picture highlights.

Programming is underway to allow stepping of the right (undistorted) raster between successive scan sets to simulate correlation action during dynamic scanning process. The tests outlined above will be repeated for this condition.

These tests should lead to a determination of optimum feedback values for both the static and dynamic scanning cases and the lock-on ranges as a percentage of raster size associated with each.

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NOTE: Stereo Plate Characteristics:

- Camera - RC5a
- Focal Length - 6 inches
- Altitudes - 5, 10 & 15 thousand feet
- Attitude - Vertical
- B/H Ratio - 0.6

EXPERIMENTAL PROGRAM DIAGRAM

Enclosure II

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