

C E R T I F I E D


Ref: 552-0D-263

13 October 1965



Progress Report - September 1965
Projects 552 and 552A

Gentlemen,

Enclosed are three (3) copies of  Progress Report on Projects 552 and 552A for the period September 1965.

Very truly yours,



Vice President - Operations

LHB/de

Enc: (3) P.R.

Cert. #743906

**Declass Review by
NIMA/DOD**

997023

C/ISS

Paul pls note my comments!

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PROGRESS REPORT
For
VERSATILE, HIGH PRECISION STEREO
POINT TRANSFER DEVICE

Period Covered: September 1965
Dated: 12 October 1965
Job No.: #552, #552A
Document No.: OD-261

PROGRESS REPORT

For

VERSATILE, HIGH PRECISION STEREO
POINT TRANSFER DEVICE

Work this month has been to update assembly of Point Transfer Device and companion Stereo Viewers. Assembly and modification phases should be completed during next reporting period while final optical and electrical adjustments are in progress on machine to be shipped next, 552A #102. Because of the large number of adjustments required, schemes and tools are being standardized to get uniform and optimized performance in the end products. Emphasis has been placed on procedures and equipment that permit adjustments to take place on the machine rather than in the laboratory so that installation and servicing requires the least possible disassembly of a system.

OBJECTIVE ASSEMBLY

The Objective Assembly optics in the Point Transfer Device are in their preliminary adjustment stage. One problem observed is the blue-green color given the image by the dichroic film in the beam splitter used to put the laser imagery on the optical axis. Since there was great concern in the past about the color seen at the open gate illumination, improvements to reduce filtering of visible light will be investigated. The problem is to obtain sharp division between highly efficient reflection for the laser (infrared) light path and high transmission with the visible light that is not reflected. Because the filter reflects more visible red light than desirable, the image has a

blue-green character. Opposing this goal is our problem to find an arrangement to eliminate ghosts and image distortions. For example, a piece of glass arranged at 45 degrees to the optical path with a specimen dichroic coating on one side, and anti-reflective coating on the other, may exhibit sharply defined IR reflection properties but introduce a ghost and some astigmatism. The cube eliminates the latter, but blurs the reflection properties. One solution may be to separate the members of the beam splitter slightly, allowing a minimum of ghost spacing and astigmatism, and creating a film-air interface improving IR reflecting properties.

ENCODER-COUNTER SUBSYSTEM

Duck!

In setting up the customer supplied equipment to check-out the encoders on the Point Transfer Device, several "missing links" were noticed that prevented mating of counter to encoder; i.e., the switches to reset and preset, and an electronic element to shape and amplify signals from the encoders. The switches are a panel layout oversight and can now only be placed on another panel, preferably near the counter electronics. The pulse shaping network, electronic module 15-EL-44, is to be customer supplied equipment. Two short comings are noticed: power supply capability provided by the counters for this network has less output on some of the voltage levels specified for the 15-EL-44, and module pulse output is one half specified width that counter requires for reliable operation. In spite of these, customer tells us system will work safely and reliably. We then are proceeding to check out encoders, install in temporary rack, mount panel switch, and will advise customer of type and length of cables required on system for encoder connection.

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It is suggested that the four (4) required electronic modules be rack mounted to simplify installation and interconnection, and should be forwarded to use for above work during the next reporting period.

Work for Next Reporting Period

- 1) Complete updating assembly work of all machines.
- 2) Continue final adjustment and debugging 552A #102.
- 3) Commence final adjustment 552 #101.