

~~TOP SECRET~~

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7.3.1

PROGRAM CORONA
CORONA (KH-4)

Declassified and Released by the N R C

SECURITY:

In Accordance with E. O. 12958

OPERATIONAL: CORONA
EXPLOITATION: ~~KEYHOLE~~ (T.S. RUFF)

on NOV 26 1997

MISSION: Reconnaissance

TYPE OF SENSOR: Stereo convergent panoramic system utilizing two cameras scanning transverse to the line of flight.

LENS AND FOCAL LENGTH: Petzval design f/3.5, F.L. 24", t/4

FORMAT SIZE: 2.25" x 29.325"

RESOLUTION: 175 1/mm on lens bench - high contrast targets
(see remarks)

GROUND COVERAGE PER MISSION:

LATERAL: 70° total (172 nm)
LENGTH: 30,657 nm

OPERATIONAL ALTITUDE: 123 nm

VEHICLE VELOCITY: 24,500 ft/sec

Handwritten: KH-4

FILM DATA:

TYPE: S.O. 132
FOOTAGE: 7,800' of 3 mil film
WIDTH: 70 mm

SCALE OF PHOTOGRAPHY AT NADIR: 1/375,000

IMAGE MOTION COMPENSATION: Accomplished by translating lens at the same time the sweep is generating an exposure. *THE PATH OF THE P.P. IS A SINE FUNCTION. SYSTEM IS DESIGNED FOR A FLAT, NON-ROTATING GROUND*

DATA CHAMBER: Time to milliseconds - an ephemeris is published
frequency marks - 200 cps.

IST SCHEDULES: Current program

DATE OPERATIONAL: --

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CONTRACTORS AND SUBCONTRACTORS:

PRIME/SUB/ASSOCIATE: LMSC and Itek are associate contractors
CAMERA: Itek
FILM: E.K.
VEHICLE: Thor (Douglas) and Agena B and D (Lockheed)

REMARKS: A stellar/framing camera will be added after M-13

For computing coverage at 123 nm altitude

1. Assume 2.6' of film/frame
2. 10.35 nm useful advance per frame (10% overlap)
3. 2,962 frames

Resolution - 14 August

Itek believes we are getting 125 1/mm at 2:1 contrast-dynamic.

Lockheed has stated that we are getting 90 1/mm at 2:1 contrast-dynamic based on tests. Itek feels these tests are equipment limited and their number of 125 is obtained in orbit - they believe the space environment to be as good as a lens bench.

Based on 125 1/mm - 2:1 contrast-dynamic = GR.DET SIZE 9.8'

Based on 90 1/mm - 2:1 contrast-dynamic = GR.DET. SIZE 13.6'