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19 November 1971

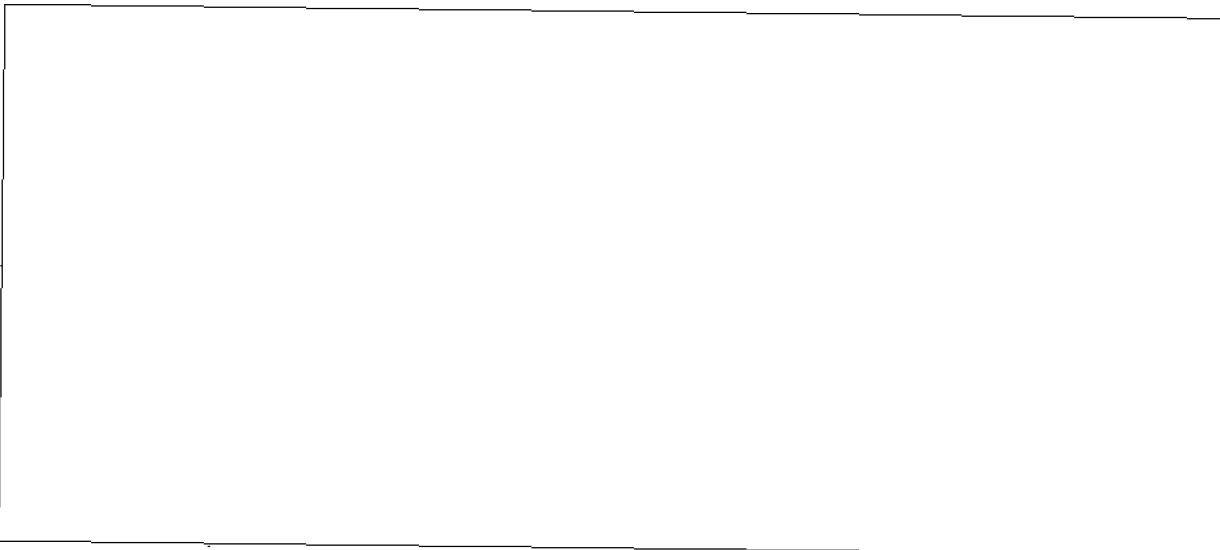
MEMORANDUM FOR: Director of Special Projects

SUBJECT : Zaman Program Weekly Report No. 70 -
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1.0 Status of the Program

A. Approximately 50 AFT images from the early November flights were reconstructed at the IPL during the past week. All imagery was acquired as "triplets" of a target scene, including a visible, broadband and IR frame. There were several sets of triplets of good quality that displayed differences between the visible and broadband spectral regions.

B. Eikonix presented results of the digital mensuration studies that incorporated system PSF and noise. The initial results on the ability to locate an edge were very encouraging showing only small degradations from the noiseless studies. The remaining phase of effort will involve the study of accuracy of measuring rectangles in the presence of noise.



(b)(1)
(b)(3)

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(b)(1)
(b)(3)

I. A briefing was presented to Major Alser, NRO, regarding the Wideband Data Privacy Study. The briefing covered the activities of the Phase I Privacy Techniques Evaluation Study as well as the progress of the design and feasibility demonstration breadboard presently underway.

J. The integrated collimator - OATC - transducer demonstration images were recorded and reproduced. The

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picture quality is good; the signal-to-noise ratio of the recorded images is approximately two.

and [redacted] Vice President, Corporate Development, [redacted] Vice President, Technology, of the Holmes & Narver, A&E firm, visited Hdqs. for two days to be briefed on the Z Program and to review program documents related to the ground facilities. Minor revisions to the proposed SOW were agreed upon and the formal RFP was couriered to the A&E's Anaheim, Calif. office. A technical and cost proposal should be sent to Hdqs. within ten days.

(b)(3)
(b)(3)

2.0 Activities This Week:

<u>Date</u>	<u>Subject</u>	<u>Location</u>	<u>Contractor (Other Agencies)</u>	<u>Hdqs. Rep.</u>
15 Nov	AFT Imagery	Camden, N. J.	RCA/IPL	Evans
15 Nov	NPIC Activities	DD/OSP		Roth
15 Nov	TSD Briefing	5G00		Roth
15 Nov	A&E Discussions	Hdqs.	[redacted]	Roth (b)(3)
15-19 Nov	SAMSO R/S Evaluation	Los Angeles, Calif.	SAMSO	[redacted] (b)(3)
16 Nov	NPIC/KMS Briefing	NPIC	NPIC, KMS	[redacted]
16 Nov	J. Martin Briefing	D/OSP		Roth
16 Nov	NRO Briefing	Rochester, N. Y.	EK, NRO	[redacted] (b)(3)
17 Nov	Digital Mensuration Review	Hdqs.	Eikonix	Evans
17 Nov	Mechanical/Electrical Design Reviews	Rochester, N. Y.	EK	[redacted] (b)(3)

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<u>Date</u>	<u>Subject</u>	<u>Location</u>	<u>Contractor (Other Agencies)</u>	<u>Hdqs. Rep.</u>
17 Nov	Logistics Support	Hdqs.	[Redacted]	Roth (b)(3)
18 Nov	ICA Technical Review	Hdqs.	EK/ICA	[Redacted] (b)(3)
18 Nov	AFT Program	Baltimore, Md.	WEC	[Redacted]
18 Nov	Calibratibility Discussions	Baltimore, Md.	WEC	[Redacted]
19 Nov	New Detector Simulations	Hdqs.	DD/OSP	[Redacted]
19 Nov	Recorder Technical Direction Meeting	Ampex	Ampex	[Redacted]
19 Nov	Source Selection	DD/S&T		Roth
19 Nov	Site Planning	Hdqs.	[Redacted]	Roth (b)(3)
19 Nov	Surplus TDPS Equipment Survey	Redondo Beach, Calif.	TRW	[Redacted] (b)(3)

3.0 Activities Next Week:

<u>Date</u>	<u>Subject</u>	<u>Location</u>	<u>Contractor (Other Agencies)</u>	<u>Hdqs. Rep.</u>
22 Nov	NPIC Discussion	Hdqs.	Dietel	Evans
22-26 Nov	R/S Evaluation	SAMSO	SAMSO	[Redacted] (b)(3)
23 Nov	Site Meeting	Ft. Belvoir, Va.	Military	Roth

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4.0 Technical Details:

A. I/S Segment

(1) The I/S Flight Computer Breadboard Program continues to progress in orderly fashion. Two LSI devices have been demonstrated operating at design speed and two more are due out of production for evaluation next week. The possibility of a strike at Autonetics exists but the potential effect on the Breadboard Program is predicted as minor. Bargaining negotiations are continuing.

(2) A review of the EK command electronics was conducted with a number of areas for potential reduction in system complexity identified. Two specific examples are:

(a) EK has selected a linear actuator control scheme involving six separate storage registers and countdown circuits to drive each actuator through the required number of steps. This subsystem is used once on an early orbit to initially set up the secondary mirror position. Maximum projected use is once a month. It is much simpler to let the I/S command system issue the required number of steps one at a time, thus performing the memory and counting functions in the flight computer.

(b) The use of differential line drivers and receivers for the command interfaces was downgraded by EK because it infers the use of an isolated power supply for these devices on EK's side of the electrical interface. All I/S designs use a large number of DC-to-DC converters and yet EK was under the impression that these are unreliable items to be avoided.

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B. Ground Segment

(1) The vendor-supplied spinner remains the critical path for the LIR technology contract. RCA has conditionally accepted the unit and has begun testing of the spinner using their LBIR. Preliminary results indicate banding. Additional testing is underway to determine the cause of the banding which could be due to either out of spec face-to-axis angle or incorrect balancing. RCA is exploring various options with the vendor.

C. Relay Satellite



(b)(1)
(b)(3)

D. System Analysis

(1) [redacted] briefed KMS personnel at NPIC on 16 November. The Briefing consisted of a brief system overview, the functional processing steps in the P/F with emphasis on the data rates and formats at various points in the processing flow, and a review of current Program Office efforts in the area of magnetic tape recording. KMS is currently under contract to NPIC to perform a feasibility study on data storage and retrieval techniques to support CRT displays of images for photointerpretation.

(b)(3)

A handwritten signature in cursive script that reads "Charles E. Roth, Jr." with a small "JCR" monogram below it.

CHARLES E. ROTH, JR.
PROGRAM DIRECTOR
Z PROGRAM

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A rectangular stamp with the word "ZAMAN" in large, bold, capital letters. Below it, the word "PROGRAM" is written in a smaller font. The stamp appears to be a carbon copy or a stamp from a filing system.

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Distribution:

Orig - D/OSP
2 - DD/OSP
3 - PD/Z/OSP
4 - C/PAD/OSP
5 - C/CS/OSP
6 - C/SS/OSP
7 - SA/IS/OSP
8 - C/SB/PAD/OSP
9 - C/TS/OSP
10 - DC/D&AD/OSP
11 - RB/OSP

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~~ZAMAN SECRET~~