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AB/OSP

STANDARDS

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Copy 11 of 11  
4 December 1970



MEMORANDUM FOR: Director, Office of Special Projects

SUBJECT : Z Program Weekly Report No. 20,  
30 November - 4 December 1970

1. Activities completed this week:

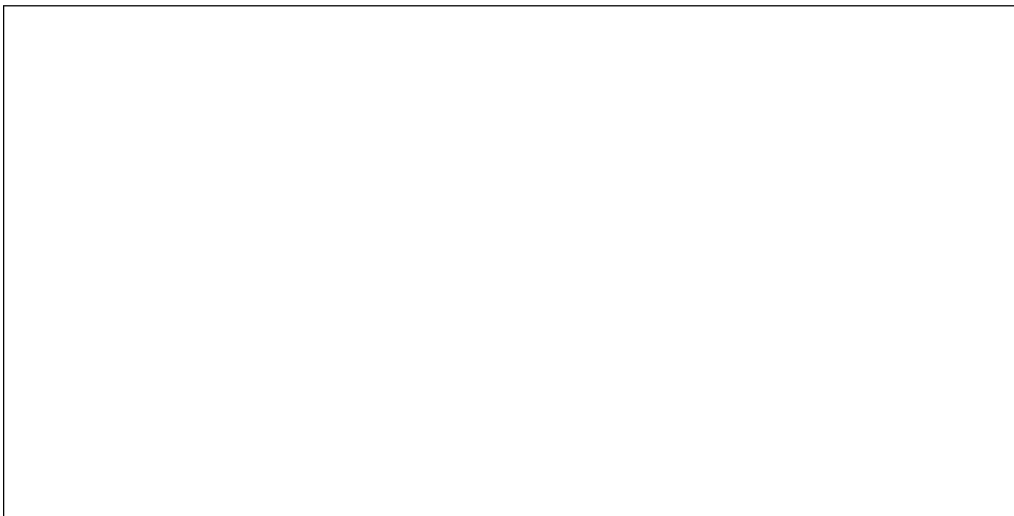
a. Imaging Satellite

(1) The following I/S contractor site visits were conducted during the week:

- 30 Nov - 1 Dec - TBC (Seattle, Wash.)
- 2 Dec - 3 Dec - LMSC (Sunnyvale, Calif.)
- 4 Dec - 5 Dec - NAR (Seal Beach, Calif.)

The visits will be documented in a memorandum.

b. Relay Satellite



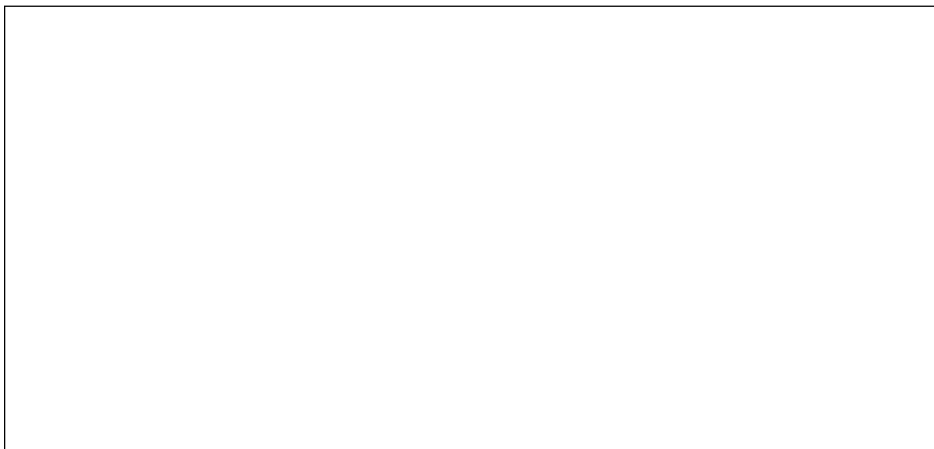
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(b)(1)

c. Processing Facility

(1) The P/F contractors were visited by the site visitation teams on the following days:

30 November - GD  
2 December - LTV  
4 December - RCA

Reports of the visits will be documented in a memorandum.

(2) Ampex requested a proposal from Motorola for an unclassified subcontract to design and develop high-speed electronic components for a wideband digital tape recorder. The statement of work is being sent to Z/OSP.

(3) The visit to LTV in Dallas, Texas on 24 November by [redacted] (Aerospace) included detailed discussions of certain P/F design features. An area of relative LTV weakness is automatic testing of the processing channels during an imaging pass and consequent switching in of redundant components. Heretofore, LTV has concentrated on a prepass test sequence with only failure monitoring during the pass.

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Several areas of relative strength were apparent. Detection response equalization has received much attention with both quantitative and qualitative evaluation of different response curve interpolation techniques. LTV has shown that errors of around 5% in calibration light levels do not affect the accuracy of the response equalization when linear interpolation is used. In the area of hardware breadboarding, LTV's laser image scanner and reconstructor is now working and the digital logic modular subsystem using MECL III components is still operating without failure at 270 MB/S.

d. Engineering

(1) Lightweight mirror status as of 1 December:

Eastman Kodak - now at  $.124 \lambda$  rms, estimated completion at  $.02-.03 \lambda$  by 31 December.

Itek - now at  $7.5 \lambda$  peak-to-valley, estimated completion at  $.02-.03 \lambda$  by 6 March.

(2)

participated in the 1-2 December design review for the June 1971 delivery at TRW. Details will be included in a separate memorandum.

(b)(3)

e. System Analysis

(1) F. Evans and  reviewed the status of the IPL activities at RCA in Camden, N. J. on 1 December with prime emphasis on an overview of all software activities. In general all software is in good shape and has been designed to allow for a maximum flexibility in operations and ease in accomplishing required modifications. Various options were discussed that address better utilization of the Spectra 70/45 and

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MAC-16 computers to support both array tests and generation of simulated imagery.

(2) F. Evans presented a briefing on the EOI/G<sup>3</sup> Image Quality Comparison study to the DIA/SAC Panel at the Pentagon on 2 December. The study was of notable interest to the Panel and stimulated numerous questions and discussions. L. Dirks also commented on the impact of the key image quality parameters on system design.

(3) [redacted] from NPIC met with F. Evans and [redacted] on 2 December at Headquarters to discuss the use of digital data tapes in an NPIC research activity looking into the feasibility of using CRT displays. F. Evans provided a brief summary of type of data available and agreed to provide the format of the data. [redacted] indicated the need for data tapes about March 1971 for use by their contractors. The key objective of their effort appears to be the determination of available size, resolution and speed of CRT's for use with EOI imagery. [redacted] will monitor the NPIC activity.

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2. Projected activities for the week of 7 December 1970:

a. 4 December 1970: WEC will be at Headquarters to discuss the use of test equipment on the photodiode array development program.

b. 7 December 1970: C. Roth will brief the Land Panel at Boston, Mass.

c. 8 December 1970: [redacted] will participate in a Critical Design Review of the CMG Evaluation Laboratory at the Honeywell Corporation in Minneapolis, Minn.

d. 8 December 1970: [redacted] will review the software for the Image Processing Laboratory (IPL) at RCA in Camden, N. J.

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e. 8 December 1970: Ampex will be at Headquarters to present their first progress report on their spaceborne tape recorder development program.

f. 8 December 1970: Eastman Kodak and Itek will be at Headquarters to participate in an interface meeting concerning the installation of the collimator at Eastman Kodak.

g. 8-9 December 1970: Aerospace personnel will be at Headquarters to review R/S trade study results from SAMSO contractors with Z/OSP staff members.

h. 9 December 1970: [ ] will conduct a review of technical progress on the photodiode array development program at the WEC in Baltimore, Md. (b)(3)

i. 9 December 1970: F. Evans and [ ] will review the Image Chain Analysis (ICA) analytical model software at Eastman Kodak in Rochester, N. Y. (b)(3)

j. 10 December 1970: [ ] will be at BTL in Murray Hill, N. J. to participate in discussions concerning IMPATT diode development and production techniques that will involve BTL and Texas Instruments with SAMSO present. (b)(3)

k. 10 December 1970: [ ] will be at Headquarters to discuss future plans for CMG development. (b)(3)

l. 10 December 1970: [ ] will review the work being done on the active optics program at Itek Corporation in Lexington, Mass. (b)(3)

m. 10-11 December 1970: The I/S site visitation team will visit General Electric in Valley Forge, Pa.

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3. Projected travel plans from 7 December 1970 to 18 December 1970:

a. 7 December 1970: C. Roth will be in Boston, Mass.

b. 8 December 1970: [ ] will be at RCA in Camden, N. J. (b)(3)

c. 8-9 December 1970: [ ] will be at Honeywell Corporation in Minneapolis, Minn. (b)(3)

d. 9 December 1970: [ ] will be at WEC in Baltimore, Md. (b)(3)

e. 9 December 1970: F. Evans and [ ] will be at Eastman Kodak in Rochester, N. Y. (b)(3)

f. 10 December 1970: [ ] will be at Itek in Lexington, Mass. (b)(3)

g. 10 December 1970: [ ] will be at BTL in Murray Hill, N. J. (b)(3)

h. 10-11 December 1970: The site visit team will be at GE in Valley Forge, Pa.

4. Agenda planned for the 7 December Z Program Meeting:

a. P/F site visits

b. GD autocalibration interface with the IPL and transducer contractors

c. Plan for review of SAMSO Trade Study documentation

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5. Personnel staffing actions:

a. One applicant interview was conducted at Headquarters.

b. [ ] is planning an applicant interview in Los Angeles, Calif. on 4 December.

(b)(3)

CHARLES E. ROTH, JR.  
PROGRAM DIRECTOR  
Z PROGRAM

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