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25 January 1961

MEMORANDUM FOR: Mr. John Parangosky, DFD-DD/P

SUBJECT: Trip Report - [redacted]

1. Purpose: To attend a conference at Itek Corporation on the status of the C[111] program.

2. General:

a. C[111] Status - The April date previously established appears to still be possible. The only real cause for concern was the lack of decision on which clock to use. The decision on using the "A" clock had not been communicated to Itek in time for the meeting. The Itek group knew almost nothing about the "A" clock and were concerned with mounting problems, etc., if the "A" clock were chosen.

b. Characteristics of the "Boston" Clock

(1) Accuracy - 1/200th of a second. This is accomplished by coupling to timing "pips" (200 per second), reading clock to tenths of seconds, and interpolating by counting timing "pips".

(2) Reliability - No operational experience, but tests have shown very high reliability.

(3) Reset Capability - Can be reset in orbit if command channel can be made available.

(4) Drift - 1×10^{-6} (same as C[1]).

(5) Readout - Clock or digital.

c. C[111] Characteristics:

(1) The following camera characteristics differ from C[1] and are of interest to TRW for computer program changes and exploitation planning.

(2) There are 200 timing "pips" per second instead of 160 "pips" per second on the C^{1}.

(3) The lens system rotates continuously and the chimney oscillates.

(4) The sweep direction is opposite to that in the C^{1}. (C^{III} sweeps from left to right in the camera.)

(5) Lens #1 resolves 475 lines per millimeter on the bench and 158 lines per millimeter on S.O. 1221 film.

(6) Sweep time is approximately 14% slower.

(7) A lens - "flattener" - is located right at the image plane. It has its own cam for IMC.

d. IMC Problems - Some time was spent with Mr. Wolf of Itek discussing IMC on C^{1} and C^{III}. Previously a great deal of confusion existed on whether IMC or FMC was provided. Most of the data available indicated FMC, though IMC seemed to be the most plausible. The discussion resolved the problem - IMC and not FMC is provided on C^{1} and C^{III}.

e. LMSD Computer Services - [redacted] and [redacted] talked about the possibility of LMSD providing PIC computer services. This seems to be a very interesting possibility. LMSD not only has the equipment and mathematicians, astronomers, etc., but also has people already cleared operationally and familiar with photogrammetric analysis. The undersigned recommends LMSD be contacted to further this discussion.

f. Camera Relative Orientation - It is believed that the present system of camera orientation accomplished on the West Coast is useful only to determine the orientation between the vehicle and the camera system and does not determine the relative orientation between the three cameras. The orientation procedure now accomplished by LMSD should be evaluated and the requirement for the vehicle/camera orientation should be reviewed.

PIC must communicate with DPD-DD/P concerning the continued requirement for camera logs for the C^{III} program. This log must include depression angles of the horizon cameras, as the present C^{1} log does.

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