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Memorandum 6L-259

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Division 6 - Lincoln Laboratory
Massachusetts Institute of Technology
Lexington 73, Massachusetts

CLASSIFICATION CH-NG D TO:
Auth: DD-254
By: RRQ
Date: 3-15-60

Subject: Group Leaders' Meeting - May 7, 1956
To: Group Leaders and Associate Group Leaders
From: C. W. Farr
Date: May 8, 1956
Present: R. R. Everett, H. D. Benington, D. R. Brown
W. J. Canty, C. L. Corderman, S. H. Dodd
C. W. Farr, K. E. McVicar, B. E. Morriss, Jr.,
W. N. Papian, J. C. Proctor, N. H. Taylor
P. Youtz
Agenda: 1. Time Cycle and Tracking Capacity
2. Personnel
3. Philco Subcontract
4. Test Demonstration--XD-1

1. Time Cycle and Tracking Capacity

Benington stated that T. A. Puorro, (IBM) has been placed in charge of the "cost accounting" study in Group 67 to determine the optimum tracking capacity to be used as an objective initially in the system. Benington predicted a decision this week; it will probably be in the 100 to 200 track range. Benington said that a committee composed of Benington, Bailey, Kirshner and Shoolman is guiding the assembly check work.

Discussion shifted to delays in parameter checkout due to XD-1 Computer difficulties. These difficulties are characteristic of this phase in XD-1 operation and programming; in case IBM reliability programs do not pick up a computer failure, pressure is exerted on the programmers to look for a programming error. Canty suggested that Group 67 request a machine shut-down as soon as they are convinced that the computer is at fault; at the same time Group 67 must furnish all available information to indicate possible sources of

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difficulty, and a Group 67 representative must be available on a stand-by basis while IBM is trouble-shooting--otherwise, through misunderstanding, it is likely that the trouble will not be located and further delay may result.

Benington stated that the original approach to the time cycle and tracking capacity question had been found unworkable; he believes that present efforts will produce a valid answer this week.

Papian commented on a memorandum from Hosier regarding IBM action on a 256 by 256 memory. Everett explained that Hosier has been assigned to study space, power, and other requirements which would result from adding two standard (64 by 64) memory units to FSQ-7 starting with McGuire; he said that 256 by 256 memory should not be considered for any requirements within a year. Taylor estimated 1 1/2 to 2 1/2 years for IBM to make a 256 by 256 memory available for McGuire. Although Papian expects that tests of the 256 by 256 memory plane at Lincoln will have been satisfactorily completed within a month, Taylor feels that a four month test program is needed before setting in motion a major production program on 256 by 256 memory units for operational subsectors. Everett predicted an urgent demand this summer for additional memory capacity at McGuire.

2. Personnel

Proctor requested approval for an additional non-staff person in the Document Room. Division total is 508 plus 10 outstanding offers, (total 550 including outstanding requisitions). Proctor stated that the Document Room has handled its current load by working several Saturdays overtime. Discussion pointed up the fact that Group 67 documents are being handled largely within Group 67, including reproduction, collating and distribution. Accordingly Everett suggested that approval of the additional file clerk be deferred awaiting evidence of over-load on the Document Room; members were requested to report promptly to Proctor evidence of Document Room over-load.

Morriss brought up the procedural question of issuing a correction sheet along with an M-note change; the PCO will issue an announcement confirming this procedure.

3. Philco Subcontract

Brown reported on the Philco quarterly meeting last week, relating to the \$240,000 per year subcontract for research and development of surface barrier transistors, due to expire July 15. Brown stated that reliability of surface barrier transistors for computer circuits has now been established at Lincoln. Philco has invented a new "shallow alloy" transistor (company confidential--not yet even announced to Sprague, their licensee); the new transistor has improved emitter efficiency producing higher gain at high current. It is expected

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that a gain of 50 to 60 at peak current can be obtained in comparison with gains of 5 to 6 previously attainable. Brown stated that the new transistor permits operation at higher gain or at higher speed or at higher voltage. A few of the new transistors have been experimentally produced and delivered to Lincoln; our results indicate speeds of 200 to 300 Mc., approximately 3 times surface barrier transistor speed.

Philco is anxious to continue the subcontract with Lincoln, and indicated an existing group of approximately 10 people available for continuing this work. Philco indicates that its R&D services are much in demand.

Everett stated that a symposium for the various transistor groups at Lincoln is being organized by Davenport as a result of Everett's discussion of the Philco subcontract at the Steering Committee last week; Everett is urging prompt scheduling of this symposium.

4. Test Demonstration--XD-1

Canty stated that XD-1 will be testing from 4 p. m. until midnight May 7; he invited members of the meeting to visit Building F during the test.

CWF:ssm

C. W. Farr
C. W. Farr, Secretary

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