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Memorandum M-2766

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Auth: DD254
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Date: 2-1-60

Division 6 - Lincoln Laboratory
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

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SUBJECT: SUMMARY OF MIT-IBM COLLABORATION ON DESIGN OF AN/FSQ-7 (XD-1)
COMBAT INFORMATION CENTRAL, MARCH 1 THRU MARCH 31, 1954

To: J. W. Forrester, R. R. Everett, J. C. Proctor, C. R. Wieser,
N. H. Taylor, D. R. Brown, S. H. Dodd, P. Youtz

From: A. P. Kromer

Date: April 8, 1954

Abstract: The Typotron tube was selected for Digital Information Display units. Engineering development work is continuing and has led to approval by Lincoln of the specifications for a number of portions of the system. Planning for the Duplex Central design and production has been initiated.

Engineering Visits

During the month of March IBM people working on the Project spent approximately 107 man days in Cambridge, while MIT people spent approximately 127 man days at IBM (Poughkeepsie and Endicott). These figures include two MIT people full time at Poughkeepsie and one IBM man full time at Cambridge.

To facilitate the frequent travel between the various locations, IBM instituted regular airplane service during this month. Such service was planned for eight days (two per week) during the month and was actually operated on six days, the remaining trips being cancelled due to poor weather. A total of 46 trips were made by MIT people. This represents 68% utilization of the space available in the IBM plane.

Exchange of Publications

During this period we forwarded to IBM 37 M Notes and other miscellaneous memoranda and drawings.

We have received from IBM 13 H Notes, 5 IM Reports, 6 CRR Bulletins, 2 TR Reports, 3 Project High Biweekly Reports, 1 Engineering Progress Report and 25 miscellaneous documents and test reports.

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General Comments

Close collaboration between the two engineering groups has continued. Work during the month has placed particular emphasis on prove in and evaluation of the circuits associated with the magnetic core memory; review of the logical design for the central display equipment frames; further development of the physical design and configuration of the display consoles; study of the internal communications system and equipment to suit both operations and maintenance activities; planning for the installation of XD-1 in Building F, Lexington; and further development on components to improve reliability and availability (tubes and cores). Additional information on the engineering work is covered in Division 6 Memorandum M-2730.

The Hughes tube with permanent storage surface (Typotron) was selected for use as a display medium for digital information (tabular totes). This decision was reached after a demonstration was held with this tube operated by the MTC computer.

During the month formal Lincoln approval was furnished to IBM covering design specifications for; program element; video mapper; maintenance console; output frame; area discriminator; drum system; power supplies and warning lights. Also, agreement was reached regarding equipment layout in the operations rooms on the second floor of the XD-1 Building and for minor revisions in the previously agreed upon layouts of equipment on the first floor and the basement of the building.

The joint engineering group set up to study the necessary modifications and additions required to convert the XD-1 design into a duplex AN/FSQ-7 system have had a series of meetings. An initial report covering the results of this study is expected to be issued early in May. Joint work between Lincoln, IBM and ADES has been instituted regarding the planning for production of the initial duplex units and for layout of this equipment in a suitable building.

IBM and the Air Force (AMC) reached agreement on March 5 regarding the letter of intent contract covering the first two duplex units.

Signed: _____


A. P. Kromer

Approved: _____


N. H. Taylor

APK:hpm

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