

Memorandum M-2608

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

SUBJECT: Group 62 Section Leaders Meeting -- January 4, 1954

To: Division 6 Group Leaders; Group 62 Staff Members

From: A. P. Kromer

Abstract: Joint review of plans for power supply system take place this week. A meeting to develop specifications for telephone "data" circuits is scheduled for January 13. Engineering work on the various switching schemes required in a duplex central is underway. XD-1 will include these features if no delay in completion of engineering and construction of the prototype will result.

1. General

Norm Taylor indicated that on Wednesday, January 6, a meeting is scheduled at IBM Poughkeepsie to review the power supply system planned for FSQ-7 (XD-1). On Thursday, a meeting is scheduled to cover the philosophy of testing for plug-in units and other subassemblies.

2. Circuits

In connection with Lincoln releases for basic circuits it was agreed that such releases should include reference to the minimum tests that will be considered acceptable for each basic circuit. Initially, this information would be qualitative in nature, and after a complement of initial units (for example, 20) have been manufactured and measured, then quantitative test limits can be established.

A meeting last week resulted in agreement that IBM would concentrate on magnetic circuits for use in connection with read-write field switching for the drums. MIT's activity would be devoted to building a diode switch arrangement to be used in connection with the drum which will be added to MTC (gold bonded T-5 Transitron diodes will be used). It is expected that the diode switch can be operated and evaluated by the early part of February, at which time a decision must be made regarding the type of switch circuitry which will be used in the XD-1.

3. Data Transmission

A meeting is scheduled for Wednesday, January 13, at A.T.&T. Company in New York to discuss phone line transmission characteristics for data circuits. In addition to representatives from other portions of Lincoln, it is expected that Ed Rich will represent Group 61 and Taylor

Data Transmission (Continued)

and Rising will represent Group 62. IBM will also have representatives at this meeting.

In view of the intimate relationship between the modulator and demodulators used for transmission of output data on the phone lines, IBM has suggested that the development of this equipment be handled by some organization other than theirs. Division 2 of Lincoln will approach the phone company regarding the development and subsequent construction of this type of equipment. Final decision regarding IBM's activity in this field will be made after a reply from the phone company has been received.

4. Duplex Central

A meeting the last few days resulted in the following plan regarding incorporation of the various switching features that will be necessary in the duplex central into the XD-1 system. (XD-1 will not be a complete duplex central.) Primary importance will be placed on doing this work without introducing delay into completion of engineering for XD-1. If engineering of the switching features cannot be completed soon enough, release and construction of XD-1 will proceed without these features.

- (a) The logic and hardware necessary to switch the output from the display decoder of either computer A or computer B to the output system will be designed and built into XD-1. (The selection of hardware, i.e., relays and associated equipment, to perform the switching, still remains to be made.)
- (b) A drum field will be designated for crosschecking between computer A and computer B. This field and the associated circuitry will be designed and built into XD-1.
- (c) The initial design considerations for the manual inputs were made after the duplex central idea had been evolved. Therefore, the presently contemplated design for manual inputs is compatible with a duplex central.
- (d) It is probable that facilities necessary to read from the radar input core counters into two computers will be built into XD-1. This decision, however, is not definite.
- (e) The XD-1 will not have a marginal checking system or a power supply system similar to that for the duplex central.

5. Manual Inputs

It was agreed that it would be desirable to make a study of the need for gas tube registers for use with light gun and other manual inputs. Ken Olsen will undertake this study and prepare information which will serve as specifications for basic circuit development if it is found desirable and necessary to include this feature in the XD-1.

6. Display

A design specification for the display system, both tactical and DID, will be issued in the next few days so as to be available for review by IBM and MIT personnel. Upon completion of study and return of comments this specification will be revised if necessary and then used as a basis for concurrence by the Systems and Engineering Design Offices and subsequently for a design release from Lincoln to IBM.

Ralph Mork at IBM Vestal has prepared a specification for Charactrons. This has been delivered to Convair. Chuck Corderman, who is currently visiting Convair, is discussing this specification with their engineers.

John Newitt has issued M-2582 as a proposal covering a module plan for display console design, including both scopes and switching units. Mock-ups of the equipment discussed in this proposal are available in Barta Building for examination.

7. MTC

MTC is now back in operating condition. It is expected that the new 64 x 64 memory will be installed by January 18. It is further planned to have the drum connected to MTC and running by February 1.

Signed:


A. P. Kromer

Approved:


N. H. Taylor

APK/mmt

CC: J. W. Forrester, R. R. Everett