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Memorandum M-2595

Page 1 of 3
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Division 6 - Lincoln Laboratory
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

SUBJECT: Group 62 Section Leaders Meeting -- December 21, 1953

To: Division 6 Group Leaders; Group 62 Staff Members

From: A. P. Kromer

Abstract: Specifications for the display system, the power system and the internal memory will be prepared. Output system work will be coordinated by a joint MIT-IBM committee. The Order Code for FSQ-7 has been agreed upon by MIT and IBM programmers.

1. MTC

It is expected that the MTC computer will be placed back into operation this week, since the installation work to incorporate changes which will allow the MTC machine to work with drums and various display units is about completed. The equipment which has been added provides all the necessary logic to allow the MTC to become a test unit for drums and display elements.

2. Display

Specifications for the track display have been agreed upon between Group 61 and Group 62. These will be written up so as to prepare for a meeting early in January between MIT and IBM.

Information regarding a new matrix has been sent to Convair. It is now felt that the same matrix may be used in both the tactical display and DID tubes.

Discussions regarding equipment layout held at Poughkeepsie led to agreement that category and feature selection switching be in a central frame, and not in each console.

Corderman is in charge of all circuitry associated with display equipment, and Newitt will be set up (in place of Bassett as previously indicated) to coordinate the activity for all other aspects of the display console design, including such features as layout and kinds of switches, lighting, etc.

Corderman plans to visit IBM Vestal Laboratory on Wednesday, December 23, to discuss yoke design and Charactron specifications. Further, he plans to visit Convair and Hughes during the early part of January.

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Memorandum M-2595

Page 2 of 3

UNCLASSIFIED

3. Output

The work on outputs will be planned and coordinated by a committee which will set up a program for items to be developed and handled by engineering between January and July of 1954. This committee comprises D. C. Ross, R. Cypser and B. Housman of IBM, R. Hopkins and R. Jeffrey of MIT. It is their plan to develop and secure agreement on the output system design specifications by March 1, 1954, and determine the kinds of circuitry to be used in the various black boxes associated with output by April 1.

Since the TSQ-7 appears to be unavailable in the initial time period required for operation with XD-1, Enticknap and Rosen of Division 2, along with Raffensperger of IBM, are to undertake development of a substitute system for ground-to-ground data transmission.

Rising of Group 62 and Counihan of IBM will work on development of core circuitry to support the work of the above group. This core circuitry would be for use with phone line termination equipment.

A question exists regarding the need for time sharing of electronics in connection with outputs on the ground-to-air data link system. If time sharing is not required, it appears possible that some reduction in the total number of tubes may be achieved.

4. Inputs

The logical plan for handling input material having a slow data rate is still under consideration. As mentioned last week, it is felt that some saving in tubes may be achieved if this kind of information is handled in toggle-switch registers instead of having it go on to the input buffer drum.

IBM has raised the question regarding the need for intervention registers on the input system, and has requested the decision on this matter at the earliest possible date.

5. Power Supply

Previous estimates in the reduction of cost of some of the power equipment (through the changes in specifications to simplify the individual items and to reduce automatic parallel operation) have been confirmed by a revised quotation for the M-G sets received at IBM. The price on these units has been reduced from \$21,000 to approximately \$13,000 each.

Gano was asked to prepare an M-Note outlining the design specifications for the power system. He will issue, at an early date, a report covering power transformers, motor generator sets, the d-c supplies with the related associated switching and control. Following this he will issue an additional report covering the distribution system for power. This will include on-off switching, method of switching, marginal checking, relays, fusing, etc.

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Memorandum M-2595

Page 3 of 3

UNCLASSIFIED

6. Circuits

The circuit group has been doing work on the problem of pulse repetition frequency sensitivity of the input to flip-flop circuit. They are also working on the output stage of the magnetic amplifier for large scope units. Work to date indicates there is a possibility of using four 6161 type tubes to replace a total of five 5998 plus two 7AK7 plus one 5965 tubes.

Other circuits involved under work at the present time are delay line control for memory, drum timing pulse generator, circuits associated with a revised drum head and circuits for using the 7AK7 tube in connection with write switching for drum.

7. Order Code


The various groups at MIT and IBM Project High have reached agreement on Order Code for FSQ-7 (XD-1). IBM will issue a revision of their report TR-7 to incorporate the latest information which will serve as a basis for formal release by Lincoln for design and programming.

8. Memory

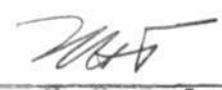
The first 64 x 64 plane for MTC-II memory is now operating in an array tester. It is expected that the remainder of the planes will be installed into the tester and placed into operation late this week or early next week.

A joint meeting between the IBM and MIT memory sections is planned for next week to review block schematics, timing diagrams and circuits which are proposed for XD-1 in order to get these items in shape to submit to the Systems Office and Engineering Design Office respectively, for concurrence on the work of the two memory groups.

Signed: _____


A. P. Kromer

Approved: _____


N. H. Taylor

APK/mmt

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

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