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Memorandum M-2547

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

SUBJECT: GROUP 62 Section Leaders Meeting, November 30, 1953

To: Division 6 Group Leaders; Group 62 Staff Members

From: A. P. Kromer

Abstract: Discussions at Poughkeepsie this week should resolve open questions on order code, input equipment, display system, cost estimates, specifications, equipment construction, and other less significant points. Arrangements are being made to use transformers now held by Lincoln to provide 120v power during early period at Lexington to eliminate the need to have low voltage taps on power transformers on order for XD-1.

1. General

A large part of the time this week will be devoted to a series of meetings to be held at Project High at Poughkeepsie. Three principal items under discussion during these meetings will be:

- (1) An attempt to resolve various questions and to firm up an order code, which is judged to be satisfactory both by IBM and Group 61, for the FSQ-7.
- (2) To develop sufficient information to allow for design of the buffer between various inputs (other than radar inputs) and the input buffer drum. The amount and kind of data developed by a) card machines which will feed the computer, b) light gun, c) crossteling from the duplex machine, and d) the light cannon input must be considered.
- (3) To continue design of display system, certain information is needed from the operations and program group.

In addition to these meetings, review of the cost estimate, consideration of the core testing program, review of the schedules for construction of the prototypes, and review of the requirements in AFCRC Exhibit 1 will also be under discussion at various times during the week.

Persons from MIT who will visit Poughkeepsie for these discussions include Messrs. Forrester, Everett, Taylor, Brown, Israel, Kromer, Jacobs, Benington, Gray, Dodd.

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2. Output

A series of biweekly meetings will be held to discuss the design parameters and requirements for the various devices which will place output information on the phone lines. These will probably extend through February.

Memorandum M-2525, outlining specifications for the output buffer drum, has been circulated for comments. It is expected that a summary of comments or indications to proceed with design as outlined in this memo will be forwarded to IBM during the week.

3. Light Cannon

A preliminary proposal was released this week as a result of the study by Mayer, Morriss, and von Buelow. Final proposal will be available in approximately one week. During this time Mayer will visit IBM to discuss this with Housman.

4. SDV

IBM have raised a question regarding the freezing of the design for the SDV receiver-demodulator. Work they have done at their laboratory with the model furnished to them some time ago indicates some operational difficulties. They also understand that certain design changes in the SDV system are being considered by Division 2. Taylor will discuss this matter with them during his visit this week in an attempt to reach agreement on a method of proceeding which will enable IBM to take the necessary action regarding design and construction of equipment, while at the same time taking fullest possible advantage of work done in Division 2.

5. Circuits

Incorporation of a cathode-follower using the 7AK7 gate tube into the arithmetic element is up for consideration and decision this week. Also, the decision to eliminate the check register gate tubes in the arithmetic element should be finalized.

Deflection amplifier for display scopes using the 5998 type tube is being experimented with by Remis.

Another application for the type 5998 in connection with core stepping registers is under study by Gillette.

6. Power Supplies

The question of providing power at 120-208 volts during the initial installation and operation period of KD-1 in case M-G sets are

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not delivered on schedule has been investigated further, and it has been determined that Division 7 of Lincoln has transformers which will step down 4160 volts to 120 volts. These will be made available for the XD-1 equipment providing the cost of moving them and installing them on a temporary basis is handled by Division 6. This cost is estimated to be considerably less than the cost of having taps put on the large transformers now on order from Westinghouse. It was concluded that this would be a desirable arrangement, and as a result, Gano will take steps to have the present Lincoln purchase order on Westinghouse changed to call for a secondary voltage of 480--277 volts instead of 208--120 volts. This is expected to save about 30 per cent of the cost of the transformer.

In view of the above, it will be necessary to have the order which IBM has issued for M-G sets changed to specify motors operating at the higher voltage. Gano will work with Pat Beeby to have this done. This should effect a saving of approximately \$6,000 on each of the three M-G sets on order for XD-1.

Also, in the interest of reducing the cost of power equipment, it has been decided not to have the M-G sets operate in parallel. The reduction in the switch gear as a result of this will provide a saving of at least \$20,000, based on present estimates. IBM will initiate action to change outstanding purchase orders for this equipment.

7. Memory

Dave Brown indicated that latest scheduling at IBM indicates the completion of the testing of cores for the first bank of memory for XD-1 will be February 15 in place of January 1 as previously planned.

RCA expected to make initial large quantity deliveries of cores during the early part of November, but to date have had difficulty in repeating the performance of an earlier sample lot, and thus have not made any deliveries.

Fourteen of the 64 x 64 planes for the new MTC memory are completely fabricated. The initial lot of a sample of two pulse transformers from Sprague have been accepted and found to be satisfactory in tests here. Larger quantities are expected in the very near future.

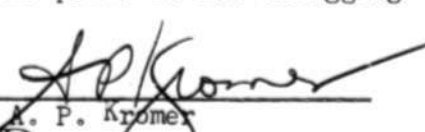
The core memory in WWI has operated a total of 28 days without a parity alarm.

8. MTC

In order to provide a number of trained systems technicians for operation of XD-1 at a later date, it has been decided to establish a training program in connection with MTC so that personnel from Lincoln will be available to supplement IBM's personnel during the prove-in and debugging period of the FSQ-7 (XD-1) at Lexington.

APK:jmm

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

Signed 

A. P. Kromer

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