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

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SUBJECT: GROUP LEADERS' MEETING, January 18, 1954

To: Group Leaders

From: David R. Brown

Date: January 19, 1954

Present: May W. Forrester, D. R. Brown, S. H. Dodd, E. R. Everett,
J. G. Proctor, N. H. Taylor, C. R. Wiesner, and P. Youtz

Agenda:

1. Meeting with ADES on January 13
2. Etched-card layout for FSQ-7
3. Charactertron Development
4. ADES Review of FSQ-7 Time Schedules
5. MIT-IBM Release and Concurrence Policy
6. Basic Research Group
7. Laboratory for Insulation Research
8. Liaison with Ferrite Research Program at General Electric
9. Suppliers of Critical Items for FSQ-7
10. Visit by Bell Telephone Laboratories and Western Electric

1. Meeting with ADES on January 13

Taylor represented Division 6 at a meeting with ADES in New York on January 13. Also present were representatives of Division 2 and IBM. Bell Laboratories and APT are becoming more active in the ADES program. The meeting included twenty-two men representing the Bell System. A significant point raised at the meeting concerned the Lincoln Laboratory's proposed use of the phone lines. Representatives of the Bell System feel that a 6db gain in signal ratio can be achieved by reducing the data rate to one-half of the proposed rate.

2. Etched-card layout for FSQ-7

A review of the etched-card layout conducted three or four weeks ago indicated that some trouble might be caused by close spacing. This trouble might take either of two forms, surface leakage or silver migration. The layout has been changed to provide a slightly larger spacing but will not result in any significant improvement. Difficulty

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from surface leakage may be overcome by coating the cards with some insulating material. Life tests are underway to study the possibility for silver migration. D. Brown will review the accelerated life tests being conducted by C. Watt and check with Division 3, the MIT Chemistry Department, or any other organizations which may be able to assist us in determining the potential danger due to silver migration.

3. Charactron Development

Convair is now concentrating on making and selling the Charactron and has a special building for this program. IBM has delayed in sending a contract to Convair for Charactron development. Technical specifications prepared by Youtz and G. Cordeman early in December were not sent to Convair until January 11 or 12. Convair, however, has been using its own funds to keep the program going and has a contract with the Bureau of Ships. Mr. G. T. Carlack, manager of the Charactron program, plans to visit IBM on January 20 and 21.

A group under Dr. Andrew Haeff at Hughes Laboratories is making considerable progress in developing a tube suitable for a flisker-free DID. This is a 5-inch tube called the Typotron which combines the Charactron gun and a storage surface. The main problem with this tube is the storage surface, which will limit the tube's life. The cost for tubes made in the Laboratory is approximately \$1,300 each. A thorough evaluation and life tests should be conducted before any decision is made to use this tube for DID.

Hughes also has a Memotron which has the Typotron storage surface without the Charactron gun.

IBM has not placed an order with Corning for glass envelopes. An increased amount of work for color TV at Corning is resulting in longer delivery times. Delivery times have increased from ten to twelve weeks during the last month.

4. ADES Review of FSQ-7 Time Schedules

ADES is to have responsibility for procuring FSQ-7's for the Air Defense System. Since IBM is to be a sole source of FSQ-7's, ADES feels it must have a free hand to investigate IBM production schedules and facilities. First, however, their interest will be in XD-1 and XD-2. ADES is anxious to obtain detailed time schedules for the XD-1 and XD-2 program. Perhaps IBM should prepare summary schedules to present to ADES. Two parts of the system have weaknesses, the drum writing circuits and the display distribution system, and should be redesigned before pressure from ADES makes such redesign impossible.

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5. MIT-IBM Release and Concurrence Policy

A question has arisen concerning release and concurrence policy for IBM construction practice. A list of items which require MIT review should be prepared. On most aspects of construction practice, however, IBM can be given a free hand to proceed without advance review by MIT. MIT should critically observe all construction practice, however, and make recommendations when any serious difficulties appear.

6. Basic Research Group

Forrester discussed the basic research group with Professor G. Brown on January 11 and later with Professor W. Linvill. Brown encourages the formation of such a group but is concerned with its tie-in with Division 6. Space will be available in Building 10. W. Linvill has been asked to prepare a proposal for formation of the group. MITC will not move to Building 10 but is expected to move to Lexington sometime between May and September.

7. Laboratory for Insulation Research

D. Brown reviewed Division 6 cooperation with the Laboratory for Insulation Research during a meeting with Professor von Hippel on January 12. Professor von Hippel is concerned that measurements made in the Laboratory for Insulation Research might be used as a basis for general scientific papers by staff members of Division 6. Division 6 interest, however, is in rectangular-loop materials for digital computer applications and any scientific papers submitted by Division 6 staff members will relate directly to this problem. Cooperation will continue between Division 6 and the Laboratory for Insulation Research.

8. Liaison with Ferrite Research Program at General Electric

Dr. P. Russel and Dr. J. Blank from the General Electric Laboratories at Syracuse are working on a ferrite research program under contract with Wright Field. Many of their interests coincide with the interests of Group 63. An interchange of information is underway.

9. Suppliers of Critical Items for FSQ-7

Several companies are engaged in development of critical components for FSQ-7 and should receive special consideration. Well coordinated liaison among the supplier, IBM, and MIT is essential. These suppliers include General Ceramics, Convair, Corning, and General Electric.

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10. Visit by Bell Telephone Laboratories and Western Electric

On February 4, representatives of Bell Telephone Laboratories and Western Electric will visit the laboratory to discuss the Cape Cod test program.

Signed David R. Brown
David R. Brown
Secretary

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