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Division 6 - Lincoln Laboratory
 Massachusetts Institute of Technology
 Lexington 73, Massachusetts

SUBJECT: GROUP LEADERS' MEETING, August 30, 1954

To: Group Leaders

From: David R. Brown

Date: August 31, 1954

Present: R. R. Everett, D. R. Brown, S. H. Dodd, A. P. Kromer, W. K. Linvill,
J. C. Proctor, and C. R. Wieser

- Agenda: 1. Funds for Maintenance of AN/FSQ-7(XD-1) and (XD-2)
 2. Funds for Direction Centers
 3. IRE West Coast Convention
 4. Building 10 Research Program
 5. Courses for Special Students
 6. Security
 7. Selective Service
 8. Division 6 Components Stockroom

1. Funds for Maintenance of AN/FSQ-7(XD-1) and (XD-2)

A meeting was held during the week of August 23 to discuss the funding of supply and maintenance for XD-1 and XD-2. This is to be done by ARDC through AFCRC. AFCRC is to prepare an estimate for fiscal 1956, including electric power and telephone lines for XD-1.

2. Funds for Direction Centers

The construction of direction-center and combat-center facilities was discussed at a meeting on August 27. Nineteen-million dollars have been allocated for technical facilities, but an effort will be made to increase this to \$25,000,000. This amount will cover the architectural design of the first seven direction centers and two combat centers, plus the complete construction of five direction centers and one combat center.

At a meeting held August 27, ADES representatives (V. B. Bagnall, J. H. Moore, E. B. Erikson, and C. W. Halligan) were informed of the status of various supplementary programs such as fine-grain data, data transmission links, etc., by Division 2.

3. IRE West Coast Convention

Five representatives of Division 6 (D. R. Brown, E. U. Cohler, J. R. Freeman, D. J. Eckl, and R. L. Walquist) attended the IRE West Coast Convention during the week of August 23.

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North American Aviation is working on a computer to be carried in a missile. This is a transistorized digital differential analyzer with a magnetic-disc memory. The transistor circuitry has wide margins, using six junction transistors per flip-flop. The basic prf is 160,000 cps. The principle difficulties are with the magnetic-disc memory. Uniform performance of the recording heads has not been achieved. A magnetic-disc memory ordered by Division 2 has not been completed.

Hughes has two computer activities--one commercial and one military. The military computer is an airborne general-purpose digital computer. Some effort is being made to transistorize the existing vacuum-tube model. Point-contact transistors are used and some difficulties are being encountered in obtaining a continuous supply of point-contact transistors.

International Telemeter's memory for the Rand computer is making satisfactory progress and delivery is expected on schedule. Most of the memory planes have been constructed. International Telemeter is now pushing its 16,384-word, sequential-address, magnetic-core memories to replace magnetic drums. They believe that these memories, having a capacity of 655,360 bits, can compete with present magnetic drums.

A visit to Librascope yielded little information. Evidently they have developed magnetic-core stepping registers using ferrite memory cores with several hundred turns on each core. They believe Ferroxcube cores to be superior to General Ceramics cores.

Progress in the development of circuit techniques for digital computers in the aircraft laboratories appears to be handicapped by an excessive concern for patent rights and proprietary information.

Magnetics, Inc. has been able to make improved molybdenum-Permalloy metal-ribbon cores by using stainless-steel bobbins. Samples of these cores are being obtained.

Progress in the development and production of silicon-junction transistors at Texas Instruments is encouraging. These transistors appear to be faster than germanium-junction transistors and production capacity is adequate to meet present needs, approximately 100 transistors per day.

D. R. Brown and R. L. Walquist spent some time interviewing applicants who had contacted our laboratory previously, and several new applicants contacted during the convention. Placement officers at Cal Tech, UCLA, and USC were contacted and preliminary arrangements made for interviewing future graduates.

4. Building 10 Research Program

The research program in Building 10 is being set up so that a minimum of administrative work will be required. Each graduate student will have supervision from a faculty member of the EE department and a

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Lincoln Laboratory staff member. The research undertaken will be that most suitable for graduate research and most likely to benefit from the academic atmosphere. Research requiring security precautions will be kept to a minimum. W. K. Linvill will be the project supervisor of a DIC project of the Digital Computer Laboratory. The DIC project will be financed by a purchase order from the Lincoln Laboratory.

5. Courses for Special Students

Two courses, 6.567 and 6.623, will be offered at the Lincoln Laboratory on Tuesday and Thursday of the fall term, 8:30 to 10:00 am. During the spring term, W. K. Linvill and R. B. Adler may present courses. J. C. Proctor is issuing a memorandum to Division 6 staff to explain the registration procedure.

6. Security

Many security violations have been reported in Division 6. Group Leaders should contact violators.

7. Selective Service

An Air Force officer of the AMC has indicated that AMC's help in obtaining deferments for Lincoln Laboratory staff members cannot be counted on in the future. The most promising arrangement appears to be the assignment of military personnel to the Lincoln Laboratory.

8. Division 6 Components Stockroom

A proposal has been made for the absorption of the Division 6 components stockroom by the Division 1 stockroom. At the present time component inspection is more thorough in the Division 6 stockroom than in the Division 1 stockroom. If the consolidation is to take place, more inspection will be necessary in the Division 1 stockroom.

Signed David R. Brown
David R. Brown
Secretary

DRB/jk

cc: A. P. Kromer
W. K. Linvill

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