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Division 6 - Lincoln Laboratory
Massachusetts Institute of Technology
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From: Division 6 Staff

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SECTION I - CAPE COD SYSTEM

1.1 Group 61

1.10 General

(R.J. Horn, Jr.) (CONFIDENTIAL)

Summary

Plans for testing the IBM (XD-1) mapper console at MIT in February are nearly complete.

The buffer drum will be used on a continuous basis around the middle of February. Present plans are for the drum to accept data from S. Truro, Mark X, and any 2 gap-filler radars. The auxiliary memory fields of the drum will be used for the past-history display program.

The Mark X tracking program is now operative. A program which displays to the track monitors the command heading of all interceptor tracks which are in tracking trouble is also operative.

An expanded display has been provided to make initiation on interceptors easier. Semiautomatic procedures to improve the initiation on interceptor aircraft are being studied.

Proposals for an automatic manual identification system and automatic identification-priority filtering have been prepared.

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1.3 Group 651.31 Activities of Group 65

(P. Youtz) (CONFIDENTIAL)

In December a Charactron tube, Cht 11, was reprocessed with a small-angle electrostatic-deflection system in the deflection-yoke region for character compensation, character position, and making vectors. Although the parameters in the electron-optic system were not optimum, this tube demonstrated the feasibility of electrostatic compensation. It was recommended that electrostatic compensation be written into the specification for the Charactron tube. This tube was evaluated by C. L. Corderman.

Another Charactron tube, Cht 12, was reprocessed to attain an improvement in registration and compensation. The electron optics of this tube were chosen so that the electron rays deflected from the first/second set of section plates focussed in the center of deflection of the first/second set of compensation plates by the convergence coil. It was thought that there would be no misregistration problems, since the beam would be traveling along the axis of the tube as it entered the deflection field independent of which symbol was chosen. This tube was evaluated by C. L. Corderman of Group 62 and Frank Rodgers of Group 25. Several tubes will be scheduled for processing with a better selection of the electrode parameters.

Work is continuing in the Group on the helical-dag coating for the Charactron tube.

Several trips were made in behalf of the Charactron program. A four-day visit was made to Convair to discuss the technical specifications of the 19-inch Charactron and to review the program for the construction of these tubes. A trip was made to Corning to discuss the 19-inch and 5-inch bulb requirements with the Corning engineers.

Hughes Aircraft was visited to discuss the status of the Typetron program. We brought four Typetron tubes back with us. These tubes will be put on a life-test rack which is under construction in Room 026.

Together with the Receiver-Tube Group I visited the General Electric Plant at Owensboro on 11 and 12 January to discuss the progress and status of the Z-2177 (improved 5965) tube program.

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1.33 Research and Development

(J. S. Palermo) (UNCLASSIFIED)

The many helical ink coatings produced during this period have been unsuccessful insofar as the resistances were too high. Readings of 200 to 500 megohms, which are easily obtained after inking, measured infinity after the bakeout process.

Microscopic examinations of many samples of ink for spiral coatings revealed considerable crazing which resulted in discontinuity of the carbon. Modifications of the Tektronix ink formula 32 were prepared and tested. Although some adequate samples have been produced, research and development of the formula and technique will continue.