

Memorandum 6M-3271

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

SUBJECT: XD-1 TEST SPECIFICATIONS

To: See Distribution List

From: J. A. O'Brien

Date: 10 January 1955

Approved:

N. H. Taylor
N. H. Taylor

A section is being organized within Group 62 to write test specifications for the XD-1 equipment for the purpose of evaluating the performance of that equipment. The specifications will be written to assist in obtaining the following objectives:

1. To monitor performance to insure that the status of the machine is known.
2. To insure that the system is in good operating condition before a new section is added to it.
3. To provide test results to be used as a basis for machine acceptance.
4. To provide goals to work toward assembly and testing of the various sections of the computer system, and to indicate which parts of the system are weak, if any, and should be concentrated upon.

In order to achieve the above objectives a series of tests will be written, one for each step in the assembly of the system. In general, a test will consider the following items:

1. Equipment reliability

The reliability of the equipment for a period time, probably two weeks initially, prior to the time of test. Data for this would be extracted from the log book. The measure of reliability being the percentage of assigned time that the equipment was effective in performing the assigned operations; program checking, or being used to check new equipment.

2. History of voltage margins

In order to determine the status of voltage margins it is necessary to know how they have varied over the previous weeks and what their magnitudes are. Daily marginal checking tests will have to be made, both manual and automatic, in order to provide complete data.

3. A run of specific programs

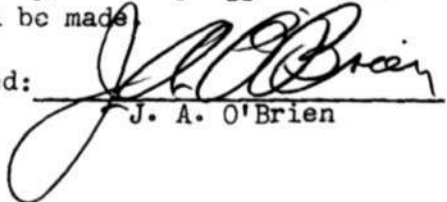
IBM is building up a file of maintenance programs to include extensive check on any and all portions of the equipment. A group of these programs will be selected pertaining to the equipment being concentrated upon. The ease with which such a series is successfully operated is part of the measure of the machine status.

4. An extended run of a comprehensive program

The machine will be expected to operate about four to six hours continuously, carrying out a program which may be made up of several programs tied together and designed to thoroughly check every portion of the operating system. The time for this operation will be scheduled ahead of time, and the number of stoppages, if any, and their extent and causes will be recorded.

5. Shock tests

As long as it may be considered necessary, a test of machine operation while tubes are tapped and pluggable units unplugged or replaced, will be made.

Signed: 

J. A. O'Brien

JAO/rb

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J.W. Forrester
R.R. Everett
S.H. Dodd
N.H. Taylor
C.R. Wieser
Group 62 Staff

IBM at Poughkeepsie

R.P. Crago
E.H. Goldman
W.L. Jackman
L.R. Walters

IBM at Lexington

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