

Memorandum M-2319

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Digital Computer Laboratory
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SUBJECT: PROCEDURE FOR HANDLING CORES DURING TESTING PROGRAM

To: Group 63 Staff

From: J. W. Schallerer

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Abstract: A procedure for handling large numbers of ferrite cores during the testing program is outlined in this memorandum.

Definitions:

I. Automatic Core Tester

The automatic core tester is the testing unit that has an automatic core handling device and the necessary electronics to decide whether a core is good or bad.

II. Semi-automatic Core Tester

This testing unit has an automatic core handling device but does not have the necessary electronics to make good and bad decisions. An operator is therefore required to operate and make the decision.

III. Evaluation Tester

This testing unit has no automatic handling device or decision logic. It is completely manual in operation and will be used to measure delta and temperature characteristics of the cores.

Procedure:

When the cores arrive at MIT for 100-percent testing, the following procedure will be followed.

I. The cores will be logged-in with the following information:

- A. Date received
- B. Lot number
- C. Number of cores in lot
- D. Expected yield according to manufacturers' preliminary tests
- E. Firing date
- F. Remarks

II. A random sample of 5 percent (min. 100, max. 500) will be taken from each lot and tested for V_1 at three currents. Twenty-five percent of the random sample must test good. If the lot checks good, the acceptable cores from the sample will be used to check the delta and temperature characteristics of the lot. If less than 25 percent test good in the sample, a second sample of 10 percent (min. 200, max. 1,000) will be taken. The combined yield of the two samples should be 25 percent or more before testing for delta and temperature characteristics. If the combined yield is still less than 25 percent, the lot will be rejected.

III. After a lot has been sample tested acceptable, the good cores will be checked for delta and temperature characteristics. The variables tested and the conditions of testing are given in E-563.

IV. The results of the sample tests, delta, and temperature tests will be recorded in the log. If the lot fails to meet any of the specifications in the above tests, it will be rejected before 100-percent testing.

V. A lot that meets all specifications will then be 100-percent tested. The automatic core tester will be used for this test. The results of this test will be recorded in the log, giving total cores and the number of good cores found in the lot.

VI. Since the automatic tester is not capable of discriminating against disturb sensitive cores, all good cores will have to be checked visually. A semi-automatic tester will be used for this test. This test will also provide a check on the accuracy of the automatic tester.

Signed J. W. Schallerer
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Approved DRB
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JWS/jk