Digital Computer Laboratory
Massachusetts Institute of Technology
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Subject: Memory Digits and Read-Write System, PB No. 62

To: N. H. Taylor

From: N. Edwards and W. Papian

Date: April 8, 1953

This note is intended to satisfy item 1 (General Description of Function Needed) of the WWII Time Schedule on this subject.

The Memory Digits and Read-Write System delivers the word from a selected memory register into the Memory Buffer Register; it later writes the contents of the Memory Buffer Register into the selected memory register. These functions are performed at the direction of the computer. The general form of the System is illustrated in the attached block diagram. Whether a Digit Plane Driver will be a large vacuum tube directly coupled to the load, or coupled via a linear or a saturable-core transformer, and what type of feedback will be used to obtain current regulation, are some of the basic questions to be answered in the near future.

The drivers (one per digit plane) will have to deliver rectangular current pulses about 1/2 ampere high and about 1 1/2 μseconds long during the Write part of the cycle and somewhat shorter pulses during the post-write disturb part, all under the direction of the computer. The sensing panels (one per digit plane) will have to accept signals (of the order of 50 millivolts) from the digit planes during readout, amplify them, rectify them, discriminate (possibly using a sampler pulse) between ONES and ZEROS, and deliver the information to the Memory Buffer Register.

Cross reference is made to related jobs PB Nos. 19, 20, 64, and 65.

Signed NE
N. Edwards

Signed WP
W. Papian

Approved NHT
N. Taylor

NE:WP/bs
Drawing attached: SA-37441

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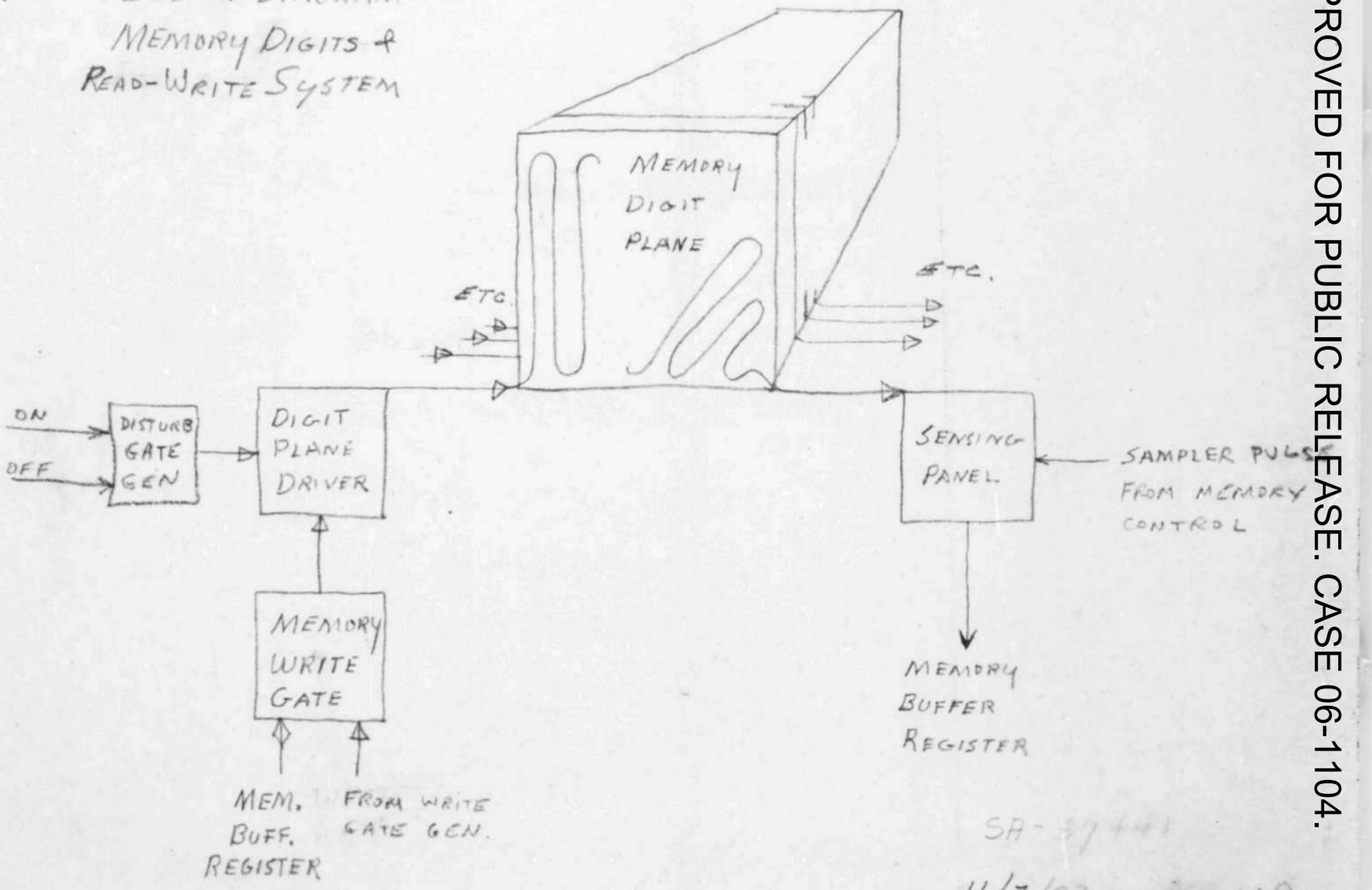
BLOCK DIAGRAM — MEMORY DIGITS & READ-WRITE SYSTEM



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