Digital Computer Laboratory
Massachusetts Institute of Technology
Cambridge, Massachusetts

SUBJECT: MTC MEETING OF AUGUST 22, 1952

To: MTC Planning Group

From: R. R. Everett and W. A. Hosier

Date: August 22, 1952

Abstract: Decisions and progress relevant to the proposed Memory
                Test Computer (MTC) are summarized for distribution to
                those interested, and to trace development of the com-
                puter.

Present: R. Best   W. Ogden   R. Sims
                J. D. Crane   K. H. Olsen   H. Smead
                R. R. Everett   W. N. Papian   N. H. Taylor
                W. A. Hosier   H. J. Platt   R. von Buelow
                R. Hughes

     This meeting was held at the request of K. Olsen to report on
circuit work, which R. Best's group and his own have been doing. He
now proposes, for those MTC registers involving series delays propogated
from digit to digit (e.g. carries in accumulator and counters, parity
check in A-Register), to use only one extra tube per digit, a peaker:
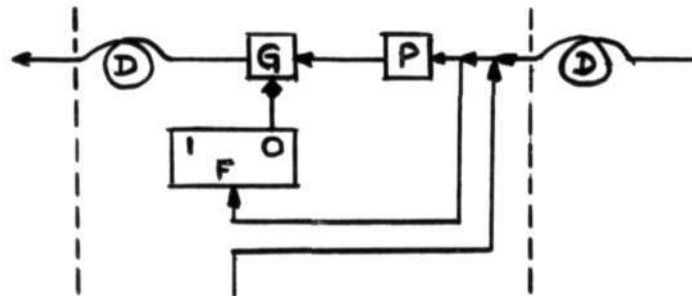
     H. Platt explained the modifications he has made on the standard
plug-in flip-flop to make it capable of driving as many as four gate
tubes (an estimated capacitive load of 80 $\mu\mu f$), delaying .1 μs after
receiving a .1 μs pulse before beginning to switch, and completing its
switching in .3 μs. Some seven circuit elements were changed in the
flip-flop to obtain this performance.

It was agreed that further data and tests of this circuit with gate tubes are needed; to ascertain how well the switching is synchronized to pass "on" pulses and reject "off" pulses; perhaps to build a counter of it and see how well it counts. Also, further tests are needed to see whether there is undesirable feedback from gate tubes to the flip-flop.

It was pointed out that production changes in 7AD7's have strengthened the grids but result in a more remote cut-off which must be taken into account in flip-flop applications.

Olsen emphasized again the intention to have nearly all digit transmission between registers done as levels rather than pulses, using read-in gates only. Taylor commented that this situation is made-to-order for using crystal gates; and, hopefully, it will be possible to try them out at a later stage.

Signed _____
R. R. Everett

Signed _____
W. A. Hosier

WAH/RRE/jmm