

Memorandum M-2134

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Digital Computer Laboratory
Massachusetts Institute of Technology
Cambridge, Massachusetts

SUBJECT: MTC TESTS ON MAGNETIC MEMORY - LOAD AND CHECK PROGRAM FOR ALL
ONES OR ZEROES

To: MTC Engineers

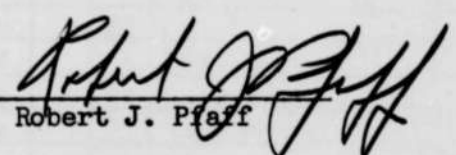
From: R. J. Pfaff

Date: May 5, 1953

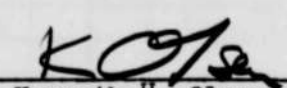
A program designated MP-1 is attached to this Memorandum. Its purpose is to load every register in magnetic memory with the number stored in Register 37. It then proceeds to cycle through the memory, checking each register against Register 37. Once loading is complete no new information is read into the memory. When a failure occurs, a "one" in the Accumulator will designate the digit that failed and the Memory Address Register will contain the address of the faulty register. This check is exclusive of parity check.

It should be noted that putting the same number in each register will result in each plane containing all "one's" or all "zeroes".

Signed


Robert J. Pfaff

Approved


Kenneth H. Olsen

RJP:jrt

Attached: Memory Test Programs MP-1 and MP-2 SA-54940

APPROVED FOR PUBLIC RELEASE. CASE 06-1104.

PROGRAM TITLE Memory Test Programs MP-1 and MP-2

WORK SHEET # _____

SA-54740

Block Machine Address _____

Description: Each core in a plane holds the same information; all 1's or all 0's. Consequently each register holds the same number.

Octal _____

MP-1

Block Machine Address _____

Description: Loads memory with worst pattern and halts. Change 3 registers and it checks the pattern. *DOES NOT CHECK PATTERN IN WORSE MANNER, HOWEVER*

Octal _____

MP-2

LOADING PROGRAM
*
CYCLIC CHECK PROGRAM

entry	#	op.	address	Notes
	0			
	1			0.00001
	2	ca	36	Preset LR
	3	st	5	
	4	ca	37	
LR	5	st	x	
	6	ca	5	and see if 1024
	7	ad	1	registers have been
	10	st	5	filled.
	11	su	34	Preset LR
	12	tn	4	
	13	ca	35	
	14	st	16	
	15	ca	37	Check Reg. X
LR	16	id	x	
	17	tr	21	
	20	ha		
	21	ca	16	Get next address
	22	ad	1	and see if 1024
	23	st	16	registers have been
	24	su	33	checked
	25	tn	15	Number to be stored and tested
	26	tr	13	
	27			
	30			
	31			
	32			
	33	id st	a (=id 4000)	
	34	st	40 00	
	35	id	20 00	
	36	st	20 00	
	37	xx	xx xx	

Note: To check one register, "A", over and over again, make 16 an ordinary register (not LR) and put in "id A".

entry	#	op.	address	Notes
	0			0.00001 XXXXX
	1			0.00001
	2	ca	37	Preset LR
	3	st	23	
	4	ca	23	Sense digit 14
	5	cr	22	
	6	tn	10	
	7	ad	34	Sense digit 10
	10	cr	4	
	11	tn	13	
	12	ad	35	Sense digit 9
	13	cr	1	
	14	tn	16	
	15	ad	36	Sense Sum
	16	cr	32	
	17	tn	22	
	20	cs	0	Ca "0" or "1" depending on sum.
	21	tp	23	
	22	ca	0	
LR	23	st	x	[id x]
	24	ca	23	Get next address and check it.
	25	ad	1	
	26	st	23	
	27	su	33	
	30	tn	4	[tr 2]
	31	ha		
	32			[id 4000]
	33	st	40 00	
	34			
	35			
	36			
	37	st	20 00	

Note: To change to checking program, change registers 31, 33, and 37 as indicated in parenthesis.

REG. 0 IS ARBITRARY EXCEPT DO NOT USE +0 OR -0.

SA-54740