

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

To: MTC Engineers

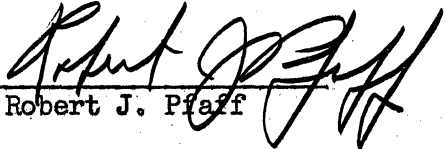
From: R. J. Pfaff

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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


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

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. <i>DOES NOT CHECK PATTERN IN WORSE MANNER, HOWEVER</i>	
Octal	
MP-2	

↑
 LOADING PROGRAM
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 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	Get next address
	6	ca	5	and see if 1024
	7	ad	1	registers have been
	10	st	5	filled.
	11	su	34	
	12	tn	4	
	13	ca	35	Preset
	14	st	16	LR
	15	ca	37	
LR	16	id	x	Check
	17	tr	21	Reg. X
	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	
	26	tr	13	
	27			
	30			
	31			
	32			
	33	id	4000	st 0 (=id 4000)
	34	st	40 00	
	35	id	20 00	
	36	st	20 00	
	37	xx	xx xx	Number to be stored and tested
Note: To check one register, "A", over and over again, make 16 ordinary register (not LR) and put in "id A".				

entry	#	op.	address	Notes
	0			0.00000 XXXXX
	1			0.00001
	2	ca	37	Preset LR
	3	st	23	
	4	ca	23	
	5	cr	22	Sense
	6	tn	10	digit 14
	7	ad	34	
	10	cr	4	Sense
	11	tn	13	digit 10
	12	ad	35	
	13	cr	1	Sense
	14	tn	16	digit 9
	15	ad	36	
	16	cr	32	Sense
	17	tn	22	Sum
	20	cs	0	Ca "0" or "1"
	21	tn	23	depending
	22	ca	0	on sum.
LR	23	st	x	[id x]
	24	ca	23	
	25	ad	1	Get next
	26	st	23	address
	27	su	33	and check
	30	tn	4	it.
	31	ha		[tr 2]
	32			
	33	st	40 00	[id 4000]
	34			0.40000
	35			0.02000
	36			0.01000
	37	st	20 00	[id 2000]
Note: To change to checking program, change registers 31, 33, and 37 as indicated in parenthesis.				
<i>REG. 0 IS arbitrary except do not use +0 or = 0.</i>				

SA-54940