CARD READER ADDER

Customer Engineering Tests that involve the use of the Card Reader cannot be executed if the Adder Circuitry is not functioning properly. This is true even for tests that do not use Add, Subtract, Multiply, Divide, etc. operations. If trouble is experienced in card reading, it becomes necessary therefore to test the Adder Circuitry by manual means. This may be done as follows:

1. By use of the console, set up the following constants in the locations indicated:

Locations ------		219	220	221	222	332	333
Constants ------		9	0	1	0	8	0
	C		x	x	x	x	x
	B						
	A					x	
Bits--------	8	x	x		x	x	x
	4						
	2		x		x	x	x
	1	x		x			
Word Mark	M	x		x		x	

2. Manually set up the following instructions:

Inst. Addr.	OP	A	B	Remarks
400	L	220	111	Load 90 into accumulator
407	S	222	111	)
414	S	222	111	)
421	S	222	111	)
428	S	222	111	) Subtract 10 from accumu-
435	S	222	111	)
442	S	222	111	)
449	S	222	111	)
456	S	222	111	)
463	S	222	111	)
470	A	333	111	)
477	A	333	111	)Add 8 to accumulator
484	A	333	111	)
491	.	400		Stop and Branch
495				Word Mark

	RESULTS IN LOCATIONS 110								111							
	C	B	A	8	4	2	1	M	C	B	A	8	4	2	1	M
90				x			x	x	x			x		x		
80	x			x				x	x	x	x	x		x		
70	x				x	x	x	x	x	x	x	x		x		
60					x	x		x	x	x	x	x		x		
50					x		x	x	x	x	x	x		x		
40	x				x			x	x	x	x	x		x		
30						x	x	x	x	x	x	x		x		
20	x					x		x	x	x	x	x		x		
10	x						x	x	x	x	x	x		x		
00				x		x		x	x	x	x	x		x		
+0	x		x	x		x		x	x	x	x	x		x		
-0	x	x		x		x		x	x	x	x	x		x		
+8		x	x	x		x		x	x	x	x	x		x		
-8		x	x	x		x		x	x	x	x	x		x		

OP CODES
(L = C B 2 1 M
(S = A 2 M
(A = C B A 1 M
(. = C B A 8 2 1 M

3. Execute the program. To check results in Locations 110-111 after each instruction is executed, set Mode Switch to SINGLE CYCLE PROCESS, or I/E, or ADDR. STOP.

4. To scope routine, manually enter a "B" in Location 491; set PROCESS CHECK STOP switch to the OFF position.

B = C B A 2 M