

WESTERN ELECTRIC REPOSITIONAL HEXADECIMAL INPUT
PROGRAM NO. J5-186

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WESTERN ELECTRIC REPOSITIONAL HEXADECIMAL INPUT

J.H. Boatwright

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Purpose: To input and store on the drum at any place a repositional Hex tape produced by Western Electric Repositional Hex punch and to compute a check sum of the program stored and compare this check sum against a check sum read from tape.

Operation: With the tape to be stored in either the High Speed or Flexo-writer reader, transfer to the starting address of this program.

Enter the start fill address and the modifier as one 8 digit decimal word,

LLLLMMMM' L = start fill; M = Modifier
Leading zeroes if any must be entered.

The program will now proceed to load the tape into memory, computing the check sum as it goes. All incoming words with a 1 at $q = 31$ will be loaded as they stand; words with a 0 at $q = 31$ will be modified by M. At the end of the loading area, when N sectors have been loaded, the check sum on tape will be compared with the computed check sum. If there is no error, a B.P. -32 halt will occur at 0106. If there is an error, a string of "e's" will be printed and then B.P. -32 halt.

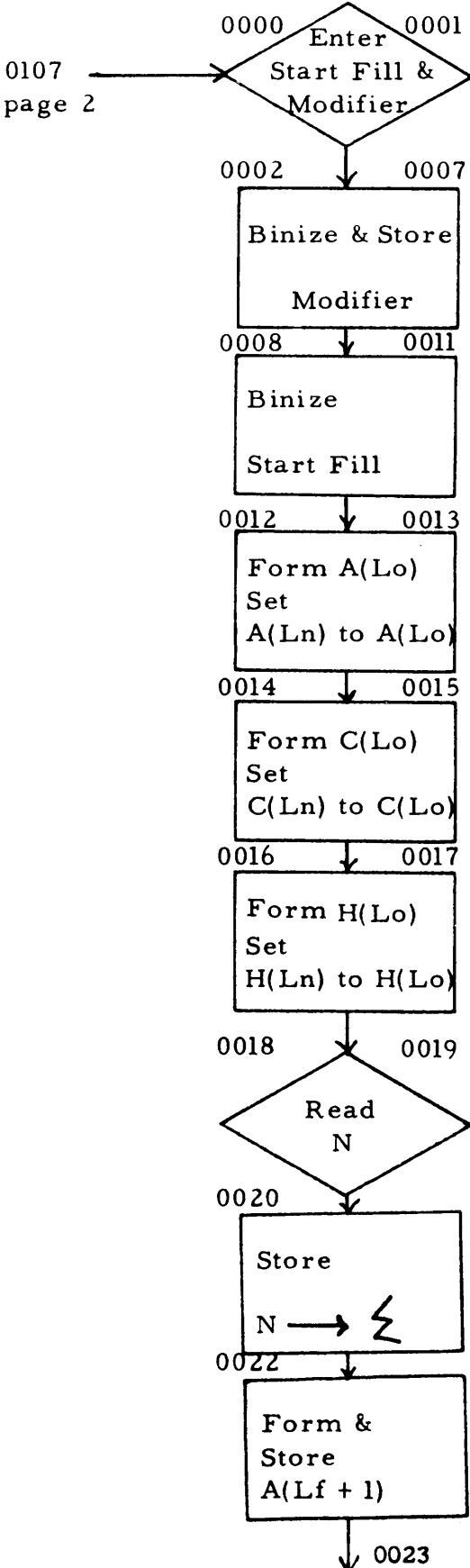
The tape to be loaded must contain:

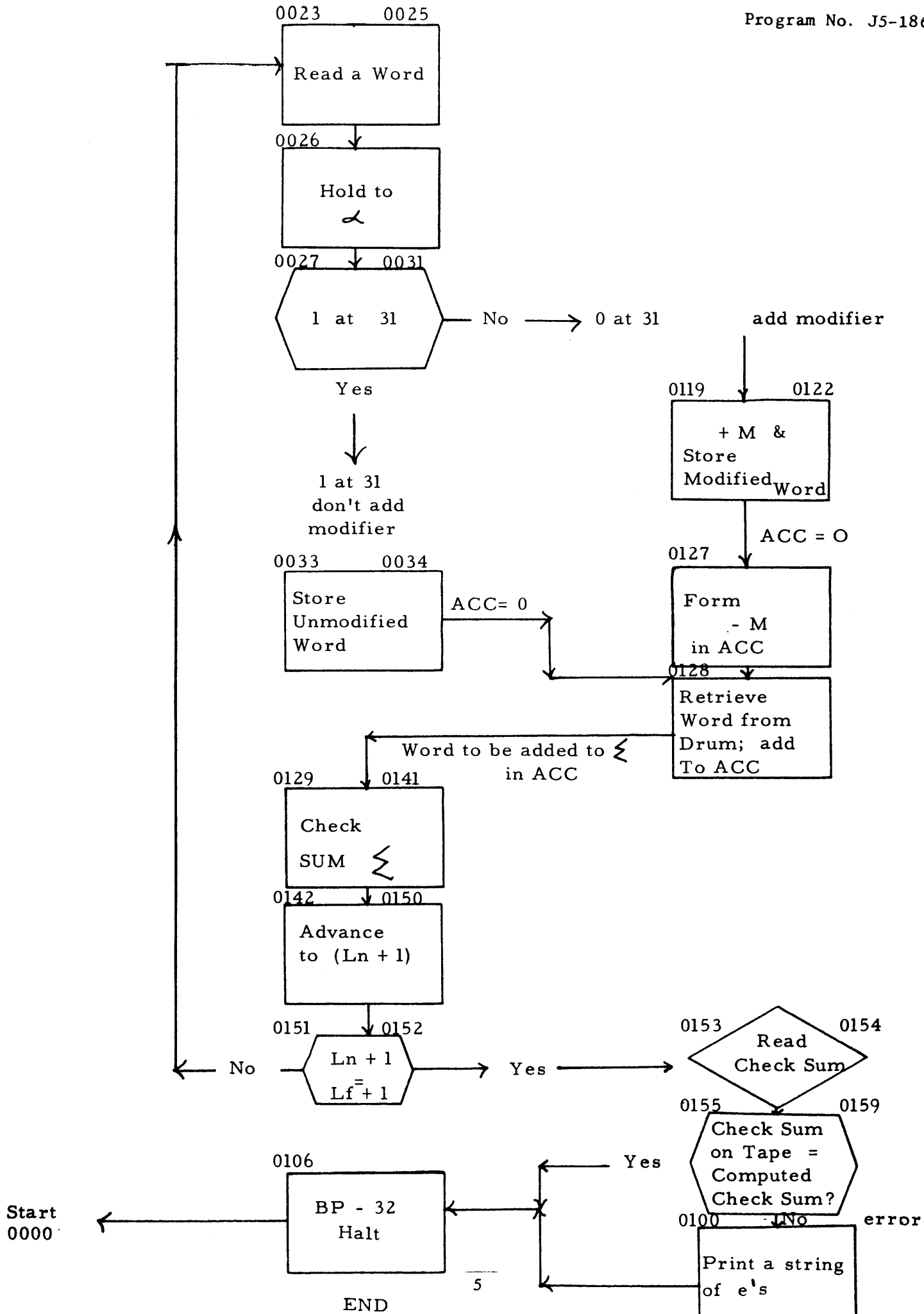
- (1) N where N = the number of sectors to be filled in TTSS form.
Ex: If 128 sectors (2 tracks) are to be filled, N will = 0200. N is punched with a 1 at 31 and is contained in the check sum.
- (2) Data punched in Hex Words with a 1 at 31 will not be modified. Words with a 0 at 31 will be modified by M.
- (3) A check sum This check sum contains N and is punched with a 1 at $q = 31$.

Stops: A BP-32 halt in 0106. End of load or error. A start compute will transfer back to 0000.

Storage: 2 Tracks

Time: With the High-Speed Reader, about 16 sec. per track.





END

LGP-30 CODING SHEET
NO. 2

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JOB NO. _____ PROG. NO. _____ PREP. BY _____ CK'D. BY _____ DATE _____

PROBLEM Repositional Hex Input TRACK _____

PROGRAM INPUT CODES	STOP	LOCATION	INSTRUCTION OP. ADDRESS	STOP	CONTENTS OF ADDRESS	NOTES
		<input checked="" type="checkbox"/>				
		00, 32			Vacant	
		33	B 0 1 6 2		a	← 0031 don't add modifier
		34	C (L n)		store to Ln	0017 0148
		35	U 0 1 2 8	<input checked="" type="checkbox"/>	→ begin check sum	0009
		36	X Y 0 0 0 0		1, 14	0005 0011 ← Begin binize
		37	E 0 1 1 2		3wwwj	
		38	H 0 1 6 3		N	
		39	E 0 1 1 1	<input checked="" type="checkbox"/>	3J3JO	
		40	M 0 1 1 0		K000 0000	
		41	A 0 1 6 3		N	
		42	H 0 1 6 3		N	
		43	E 0 0 6 1	<input checked="" type="checkbox"/>	00WWWW00	
		44	M 0 0 6 3		F000 0000	
		45	A 0 1 6 3		N	
		46	(U		Binize exit	0004 0010
		47		<input checked="" type="checkbox"/>	Vacant	
		48	X A 0 0 0 0		Constant	0012
		49			Vacant	
0 0 0 0 0 0 0 1		50			Σ 0020 0135 0141 0155	
		51	A 0 1 1 6	<input checked="" type="checkbox"/>	1, 1 0129	from check sum
		52	U 0 1 3 1		→ to " "	
		53			0024	
		54			Vacant	
		55		<input checked="" type="checkbox"/>	"	
		56	X Z (0 0 0 0)		Modifier ZM	0006 0127
		57	X Z (0 0 0 0)		" "	0007 0121
		58	A 0 1 1 6		1, 1	0138 0140 ← from check/sum
		59	U 0 1 4 1	<input checked="" type="checkbox"/>	→ to " "	
0 0 0 0 0 0 0 4		60	(2 0 0 0 0 0 0 0)		W1 W2	0002 0008
		61	w w w w 0 0		Content	0043
		62			1, 29	0003 0147 0102
		63	f 0 0 0 0 0 0 0 0	<input checked="" type="checkbox"/>	Constant	0044

JOB NO. _____ PROG. NO. _____ PREP. BY _____ CK'D. BY _____ DATE _____

PROBLEM Repositional Hex Input TRACK _____

PROGRAM INPUT CODES	STOP	LOCATION	INSTRUCTION OP. ADDRESS	STOP	CONTENTS OF ADDRESS	NOTES
	<input checked="" type="checkbox"/>	01	B 0 1 2 6		-8,29 0156 0159	← To print error
		01	X P 3 7 1 6		e 0104	
		02	A 0 0 6 2		1,29	
		03	X Z 0 0 0 0	<input checked="" type="checkbox"/>	Delay	
		04	T 0 1 0 1		→ Print another e	
		05	U 0 1 0 6			
		06	X Z 3 2 0 0		Halt at end of tape or error Halt 0105 0158	
		07	U 0 0 0 0	<input checked="" type="checkbox"/>	To start	
		08	X B 0 0 0 0		dummy	0014
		09	X A ()		A(L _f + 1)	0022 0151
, 0 0 0 0 0 0 9		10	k 0 0 0 0 0 0 0 0		Constant	0040
		11	3 j 3 j 0	<input checked="" type="checkbox"/>	"	0039
		12	3 w w w j		"	0037
		13			1,30"	0027 0134
		14			1,30"	0028
		15		<input checked="" type="checkbox"/>	1,30"	0029 0157
		16	4 0 0 0 0 0 0 0 0		1,1"	0051 0058 0130 0137 0144
		17			Vacant	
		18	3 w w w w w w w q		1,1 - 1,30	0132 0139
		19	B 0 1 6 2	<input checked="" type="checkbox"/>	a	0030 ← here to add mod- ifier
		20	U 0 1 2 1			
		21	A 0 0 5 7		ZM add modifier	0120
		22	X C ()		Store to C(L _n)	0015 0150
		23	U 0 1 2 7	<input checked="" type="checkbox"/>	→ to check sum	
		24			Vacant	
		25			"	
, 0 0 0 0 0 0 1		26	W W W W W W Q 0		-8,29	0100
		27	S 0 0 5 6	<input checked="" type="checkbox"/>	ZM, ^{Form} -ZM	0123 modifier from word just Lodged
		28	X A []		A(L _n)	0013 0021 0142 0149 0128 don't / add modifier
begin check sum		29	T 0 0 5 1		→ - word	
		30	S 0 1 1 6		1,1	
		31	T 0 1 4 4	<input checked="" type="checkbox"/>	→ To add 1	1 0052

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PROBLEM Repositional Hex Input TRACK _____

PROGRAM INPUT CODES	STOP	LOCATION	INSTRUCTION OP. ADDRESS	STOP	CONTENTS OF ADDRESS	NOTES
		<input checked="" type="checkbox"/>				
		01 32	S 0 1 1 8		1,1 - 1,30	
		33	T 0 1 4 4		→ To add 1,1	
		34	A 0 1 1 3		1,30	
		35	A 0 0 5 0	<input checked="" type="checkbox"/>	Σ check sum 0145	
		36	U 0 1 3 7			
		37	S 0 1 1 6		1,1	0136
		38	T 0 0 5 8		→ To add 1,1	
		39	S 0 1 1 8	<input checked="" type="checkbox"/>	1,1 - 1,30	
		40	T 0 0 5 8		→ To add 1,1	
		41	C 0 0 5 0		Σ	0059
		42	B 0 1 2 8		A(Ln) prepare to advance to store	
		43	U 0 1 4 7	<input checked="" type="checkbox"/>	in (Ln + 1)	
		44	A 0 1 1 6		1,1	0131 0133 from check sum
		45	U 0 1 3 5			→ to " "
		46			Vacant	
		47	A 0 0 6 2	<input checked="" type="checkbox"/>	1,29	0143
		48	Y 0 0 3 4		C(Ln + 1) advance to	
		49	Y 0 1 2 8		A(Ln + 1) (Ln + 1)	
		50	Y 0 1 2 2		C(Ln + 1)	
		51	S 0 1 0 9	<input checked="" type="checkbox"/>	A(L _f + 1) Test for end of Load area	
		52	T 0 0 2 3		→ NOT end	
		53	X,P 0 0 0 4		End	
		54	X,I 0 0 0 0		Read check sum from tape	
		55	S 0 0 5 0	<input checked="" type="checkbox"/>	Σ check sum	
error		56	T 0 1 0 0		→ check sum on tape ≠ computed sum	
		57	S 0 1 1 5		1,30	
		58	T 0 1 0 6		→ check sum on tape = computed sum	
error		59	U 0 1 0 0	<input checked="" type="checkbox"/>	→ NOT equal	
		60			Vacant	
		61			Vacant	
		62			a	0026 0033 0119
		63		<input checked="" type="checkbox"/>	N	0038 0041 0042 0045

