

RECOMP II USERS' PROGRAM NO. 1121

PROGRAM TITLE: HOLLERITH TO BAUDOT CONVERSION

PROGRAM CLASSIFICATION: Subroutine

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PURPOSE: To read 12-bit Hollerith-coded characters from IBM cards, reduce them to their 5-bit baudot equivalent, and pack these baudot characters (up to 7) together to form a standard alphanumeric format word, such as is formed by the typewriter alphabetic input instruction, RDY 777X, ($1 \leq x \leq 7$).

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Reads 12-bit Hollerith-coded characters from IBM cards, reduces them to their 5-bit baudot equivalent, and packs these baudot characters (up to 7) together to form a standard alphanumeric format word, such as is formed by the typewriter alphabetic input instruction, RDY 777X, ($1 \leq x \leq 7$).

CALLING SEQUENCE

1. Using SM/I's trapping mode interpretative routine, 108R:

RCD 000N.0

2. For use without the trapping mode feature: (the transfer instruction must be in right 1/2 word)

TRA (location of this routine)
PZE 000N.0

In both cases, N denotes the number of characters to be read in.

Enter with anything in the A and R registers;
Exit with garble in the R register and the baudot characters in the right of the accumulator, exactly as they would appear after execution of the alphabetic typewriter input instruction, RDY 777N.0.

RESTRICTIONS:

1. Up to seven characters (letters or numbers) will be handled correctly.
2. Figure and letter shifts will not be inserted. For example: "3 D" would enter as "ED" or "3\$", depending on whether one assumes figures or letters case.
3. Special IBM symbols with more than one punch in columns one through nine will not be converted correctly, and will generate garble. A blank column will generate a "space" code.

STORAGE:

50 (octal) sectors, relocatable to any even eight word location (XXX0.0), using SM/I's 127 R (RUG 1082), which temporarily uses three

additional words at the end of this routine for a modification "matrix".

TIME:

Approximately 190 ms per column, or 15 seconds per card.

DESCRIPTORS:

Hollerith, baudot, cards, input, code, teletype, conversion, IBM

Program No. 163R Title Hollerith to Baudot Conversion (Read Card)

Programmed by: W. Wellman

Date April 18, 1962

Loc'n	Cm'd	Addr.	Contents	Accumulator	b	Remarks
00	CTV	02.0				
	SAX	77.7.1.0	garble			
1	ADD	77.7.3.0		return loc'n		
	TRA	77.7.2.0				
2	STO	77.7.3.0				
	CTL	3.00				
3	STA	0.7.1	exit			
	CLA	00.0.1.0	(code)	code		
4	EXT	77.7.6.0		m @ 18		
	ARS	00.2.3.0		m @ 37		
5	CTV	1.0.0				
	TRA	77.6.3.0				→ 33
6	-00	00.0.7.0				
	-00	0.00.0.0	nash			
7	CLS	77.7.1.1	word			
	TRA	---	EXIT	baudot word		
1.0	-00	00.0.0.0				
	-00	00.1.7.1	-31 @ 39			
1	+00	0000.0				
	-00	0.0.00.0	word			
2	+00	0.0.00.0				
	-00	00.0.0.0	+0			
3	+00	0000.0				
	-00	00.2.2.0	+36 @ 39			
4	+00	0000.0				
	-00	000.2.0	+1 @ 37			
5	-00	0.0.7.00	bits 0, 11, 12			
	-00	37.7.4.0	bits 9, 8, ..., 2, 1			
6	-13	0.00.0.0	m in loop			1
	-00	0.0.0.2.0		0 - - - space		
7	-16	4.0.0.0.0	Tempsts in loop			
	+30	0.6.1.3.1		1 - J A I		
2.0	-0.2	40.00.0				baudot characters
	+70	62.1.1.1		S - K B 2		at b's of
1	-1.0	000.0.1				7, 15, 23, 31, 39
	-2.0	34.0.0.1		T - L C 3		
2	-0.3	40.0.0.1				
	+40	2.2.0.5.0		U - M D 4		
3	-1.7	00.0.0.0				
	+40	0.2.1.0.0		V - N E 5		
4	-1.1	40.0.0.1				
	+00	32.1.2.1		W - O F 6		
5	-1.6	400.0.1				
	-60	6.4.0.3.1		X - P G 7		
6	-1.2	40.0.0.1				
	-70	50.0.3.0		Y - Q H 8		
7	-1.0	4.0.0.0.0				
	+20	1.4.1.4.0		Z - R I 9		

v

Program No. 163R Title _____

Programmed by: _____ Date _____

Loc'n	Cm'd	Addr.	Contents	Accumulator	b	Remarks
L . 30	C.LA	7.7.7.1.0	w			
...	ALS	00.0.5.0				pack in character
. 1	ADD	7.7.7.7.1	character			
...	S.TO	7.7.7.1.0	w	Word		
. 2	C.LA	7.7.7.6.1	n			bump down m = characters to go
...	SUB	7.7.7.4.1	1			
. 3	T.Z.E	..0.7.0	→ to exit			
...	S.TO	7.7.7.6.0				
. 4	R.D.Y	7.7.7.1.0		Hollerith		
...	S.TO	7.7.7.2.0	tempsto			
. 5	F.C.A	7.7.7.2.0				38 → R
...	E.X.T	7.7.7.5.0		drop 0, 11, 12		
. 6	SUB	7.7.7.4.1	1@37	add in 0 bit		
...	F.N.M	0.0.0.0.0				
. 7	C.T.L	..4.0.0				
...	T.R.A	7.7.6.0.0				
L ₂ . 40	X.A.R	00.0.0.0.0	→			
...	ALS	00.0.1.0				
. 1	ADD	7.7.6.6.0				
...	S.TA	7.7.6.4.1				
. 2	C.LA	7.7.7.2.0		Hollerith		
...	ALS	00.3.0.0	24 decimal			
. 3	E.X.T	7.7.7.5.0		H 0, 11, 12 only		
...	S.TA	7.7.6.5.0				
. 4	ARS	0000.0				
...	C.LA	~~~~	(table loc'n)			
. 5	ARS	~~~~	8 x 0, 11, 12			
...	E.X.T	7.7.7.0.0		character @ 37		
. 6	S.TO	7.7.7.7.0		(baudot)		
...	X.A.R	1.6.0	table loc'n			NOP
. 7	C.T.L	..3.0.0				
...	T.R.A	7.7.6.0.0				→ 30