

REPRODUCTION

RIPPLE PUNCH

A. PURPOSE OF TEST

TO TEST THE PUNCHING CIRCUITRY BY PUNCHING EVERY PUNCHABLE CHARACTER IN EVERY COLUMN OF THE CARD IN RIPPLE FASHION.

B. LOADING PROCEDURES

1. PLACE TEST IN 1402 READ HOPPER AND DEPRESS LOAD KEY.
2. WHEN RUNNING FROM TAPE, ENTER A 1 IN 1262

C. PROGRAM CONTROL

1. SENSE SWITCHES

- B ON FOR SCOPING OF THE PUNCHING OPERATION FOR ONE CARD
OFF TO CONTINUE
- D ON TO REPEAT THE PROGRAM FOR THE ENTIRE TEST
OFF TO CONTINUE

D. TEST PROCEDURE

THERE ARE NO DETAIL CARDS IN THIS TEST. A 60-CHARACTER TABLE IS LOADED FROM CONSTANT CARDS 10 AND 11.

THE PROGRAM IS EXECUTED IN THE FOLLOWING MANNER:

THE 60-CHARACTER TABLE, STORED BY THE PROGRAM IN LOCATIONS 701-760, IS EXPANDED TO A 180-CHARACTER TABLE IN LOCATIONS 701-880. A CARD COUNTER IS THEN STARTED AT 780 AND IS USED IN AN INSTRUCTION TO MOVE 80 CHARACTERS STORED IN LOCATIONS 701-780 INTO THE PUNCH AREA. A TEST IS NEXT MADE FOR NO-ZONE IN LOCATION 101. IF ZONE IN 101 THE PROGRAM PROCEEDS TO PUNCH THE TABLE. IF NO-ZONE THE PROGRAM BRANCHES TO A PUNCH AND BRANCH INSTRUCTION. A FAILURE TO BRANCH WILL STOP THE MACHINE.

THE 780 IN THE CARD COUNTER IS THEN COMPARED WITH 839 STORED BY THE PROGRAM IN LOCATIONS 609-611. AN UNEQUAL COMPARISON ALLOWS EXECUTION OF AN INSTRUCTION TO ADD A "1" TO THE CARD COUNTER, THUS INCREASING IT FROM 780 TO 781, AND A SECOND CARD IS PUNCHED WITH 80 CHARACTERS STORED IN LOCATIONS 702-781, AND SO ON, UNTIL THE NUMBER IN THE CARD COUNTER IS 839. IN THE MEANTIME, WITH SENSE SWITCH "D" SET TO THE OFF POSITION, THE 60 CARDS WILL BE PUNCHED WITH THE 60-CHARACTER TABLE IN RIPPLE FASHION. RIPPLE PUNCHING MAY BE CONTINUED INDEFINITELY BY SETTING SENSE SWITCH "D" TO THE ON POSITION.

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DIAGNOSTIC FUNCTION TEST

D. (CONTINUED)

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EXAMPLE OF 60-CHARACTER TABLE RIPPLE- PUNCHED:

AKT4 BLU5#CMV6 DNW7ΔEOX8 FPY9^TSGQZO HR#^m1-@&\$%1[†].* / 2 X JS3δAKT4 BLU5#CMV6 DNW7 ETC.

KT4 BLU5#CMV6 DNW7ΔEOX8 FPY9^TSGQZO HR#^m1-@&\$%1[†].* / 2 X JS3δAKT4 BLU5#CMV6 DNW7 ETC.

T4 BLU5#CMV6 DNW7ΔEOX8 FPY9^TSGQZO HR#^m1-@&\$%1[†].* / 2 X JS3δAKT4 BLU5#CMV6 DNW7 ETC.

4 BLU5#CMV6 DNW7ΔEOX8 FPY9^TSGQZO HR#^m1-@&\$%1[†].* / 2 X JS3δAKT4 BLU5#CMV6 DNW7 ETC.

BLU5#CMV6 DNW7ΔEOX8 FPY9^TSGQZO HR#^m1-@&\$%1[†].* / 2 X JS3δAKT4 BLU5#CMV6 DNW7 ETC.

THE FOLLOWING SPECIAL CHARACTERS IN THE ABOVE TABLE ARE PUNCHABLE BUT NOT PRINTABLE:

- # GROUP MARK (12-7-8)
- Δ DELTA (11-7-8)
- ^T TAPE SEGMENT MARK (0-7-8)
- ^m TAPE MARK (7-8)
- † RESET ADD (12-0) --- THIS PRINTS AS AN "E"
- δ RESET SUBTRACT (11-0) --- THIS PRINTS AS A "-"

E. STOPS

500 IN STORAGE ADDRESS REGISTER: ERROR IF NO PUNCH AND BRANCH.

F. PRINTOUTS

NONE

G. COMMENTS

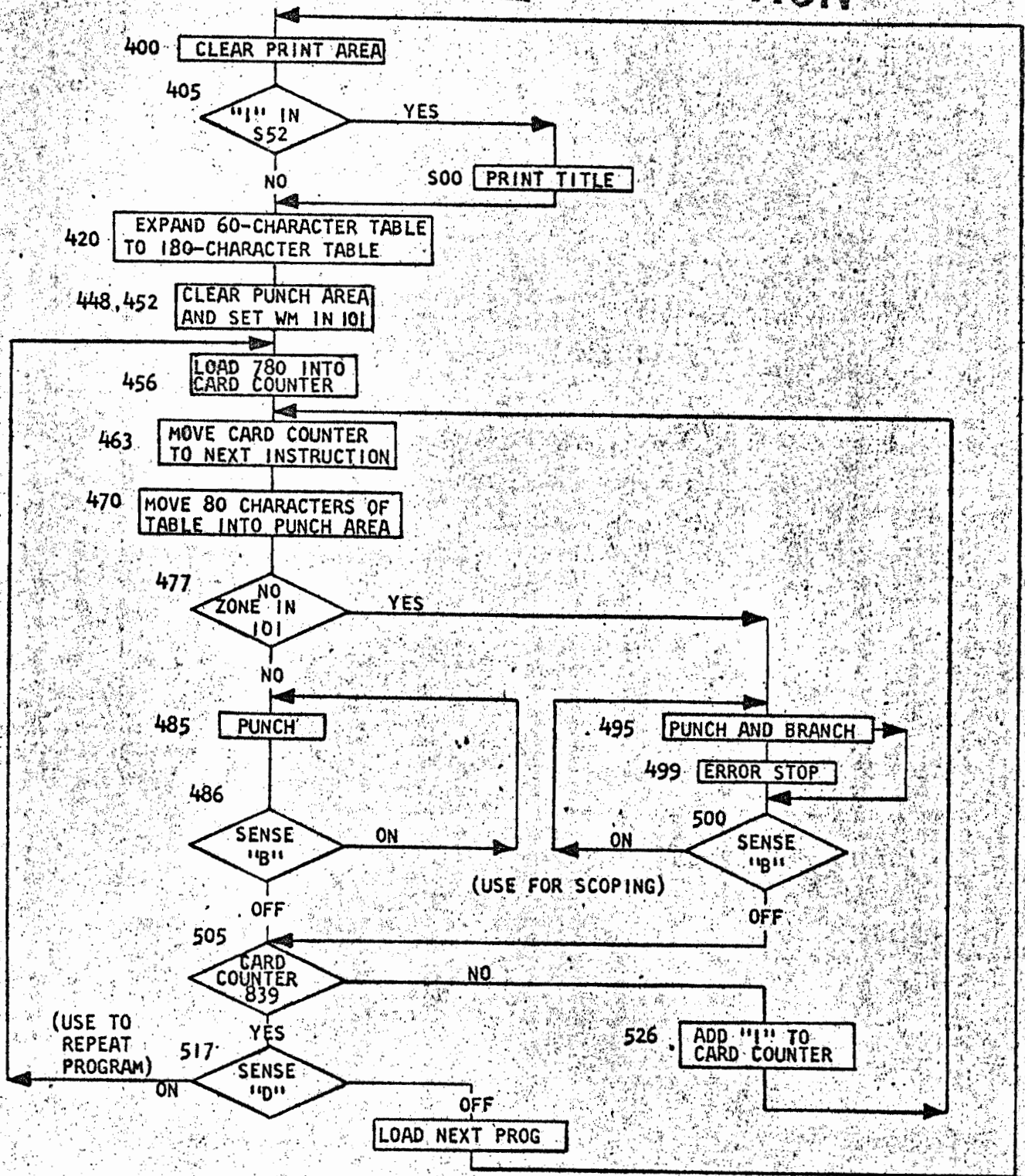
IF DESIRED THE 60 CARDS PUNCHED IN THIS TEST MAY BE CHECKED BY THE 1401 BY USING THEM AS DETAIL CARDS FOR THE RIPPLE READ TEST (BLOCK NUMBER 1040) IN LIEU OF THOSE NORMALLY SUPPLIED WITH THAT TEST.

NOTE: IF THESE CARDS ARE USED WITH BLOCK NUMBER 1040, IT IS VERY IMPORTANT THAT THEY BE KEPT IN THE SAME ORDER AS THEY ARE PUNCHED; OTHERWISE THE RIPPLING PATTERN WILL NOT BE MAINTAINED, THUS RESULTING IN ERROR PRINT-OUTS.

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RIPPLE PUNCH FLOW CHART

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1401 DATA PROCESSING SYSTEM
DIAGNOSTIC FUNCTION TEST

PART NO. 451420
SHEET 4 OF 5
BLOCK NO. 1030B

PROGRAM LISTING FOR USE WITH FLOW CHART

RIPPLE PUNCH

1030B

REPRODUCTION

INSTRUCTION ADDRESS	OP	A	B	REMARKS
377 377	B	400	S621	USE WHEN TESTS ARE RUN FROM TAPE
385 385	B	S88		..
400 400	/	332		START TEST
404 404	/			..
405 405	B	500	S521	BR TO TITLE PRINT ROUTINE IF 1 IN S52
413 413	B	420		BRANCH TO CONTINUE
420 420	D	721	741	EXPAND TABLE FROM 701-760 TO 701-880
427 427	L	760	820	..
434 434	L	760	880	..
441 441	D	761	821	..
448 448	/	180		CLEAR PUNCH AREA
452 452	.	101		SET WM IN PUNCH AREA
456 456	L	607	614	LOAD CARD COUNTER
463 463	M	614	473	MOVE CARD COUNTER INTO NEXT INSTRUCTION
470 470	M	780	180	*MOVE TABLE INTO PUNCH AREA
477 477	V	495	1012	BR TO PUNCH AND BRANCH IF NO ZONE IN 101
485 485	.			PUNCH
486 486	B	485	B	B ON TO SCOPE SS
491 491	B	505		BRANCH TO TEST FOR LAST CARD
495 495	.	500		PUNCH + BRANCH
499 499	.			ERROR STOP IF NO BRANCH
500 500	B	495	B	B ON TO SCOPE SS
505 505	C	611	614	COMPARE CARD COUNTER WITH 839
512 512	B	526	/	BRANCH TO ADD 1 IF NOT 839
517 517	B	456	D	D ON TO REPEAT TEST SS
522 522	B	537		BRANCH TO READ NEXT RECORD
526 526	A	608	614	ADD 1 TO CARD COUNTER
533 533	B	463		BRANCH TO PUNCH NEXT CARD
537 537	/	180		CLEAR ANY GM WM
541 541	B	348		GO TO NEXT TEST
605 605	.	7	80	CONSTANT TO START CARD COUNTER
608 608	.	1		CONSTANT TO INCREMENT CARD COUNTER
609 609	0	39		CONSTANT TO STOP CARD COUNTER
612 612	X	XX		CARD COUNTER
701 701	A	KT4	BLU5 CMV6 DNW7	TABLE TO BE RIPPLE PUNCHED
721 721	E	OX8	FPY9 GQZ0 HR+#	..
741 741	I	..2	+\$21+..*/2 DJS3-	..

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TABLE OF UNPRINTABLE CHARACTERS

LP-LEFT PARENTHESIS	12 5 8	SE-SEMICOLON	11 6 8	DE-DELTA	11 7 8
WS-WORD SEPARATOR	0 5 8	LT-LESS THAN	12 6 8	PZ-PLUS ZERO	12 0
TS-TAPE SEGMENT MARK	0 7 8	GT-GREATER THAN	6 8	TM-TAPE MARK	7 8
GM-GROUP MARK	12 7 8	MZ-MINUS ZERO	11 0	CO-COLON	5 8
RP-RIGHT PARENTHESIS	11 5 8	AP-APOSTROPHE	0 6 8		

.008015,022029,033033N	1001	RIPPLE PUNCH	10308	0A
.008015,022029,033033N	1001	SET WORDMARK CARD	10308	02
L067367,340344,348349,357361	1001,008012,001100118361080A8420/340080		10308	03
L068412,385400,404405,413413	1001B400S621BS88 /332/BS00S521		10308	04
L071451,420427,434441,448452	1001B420 #721741L760820L760880#761821/180		10308	05
L071490,456463,470477,485486	1001,101L607614M614473M780180V49510124B485#		10308	06
L063521,495499,500505,512517	1001B5054500.B495BC6116148526/84560		10308	07
L072561,526533,537541,541541	1001B537A6086148463/180B348		10308	08
L072639,605608,609612,612612	1001 7801839XXX		10308	09
L072740,721741,741741,741741	1001AKT4 BLU5GCMV6 DNW7DEOX8 FPY9TGQZO HR#M		10308	10
L072780,001001,001001,001001	10011-.,a +s#1P.*/2 #JS3M		10308	11
L053S20,S01S05,S12S13,S17S21	10012,049L0762762/2772420		10308	12
/333080N	CLEAR WORDMARK CARD		10308	13
.019027,031,038042B031T98GB40QL046352BWO48S88	RIPPLE PUNCH		10308	14

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