

9C01A

CARD READER TIMING AND RELIABILITY TEST
FOR MODEL 250

A. UNIT TESTED - 711 CARD READER

1. PURPOSE OF TEST

- A. INITIALLY DETERMINE THE SPEED OF THE CARD READER PER CYCLE AND SUBSEQUENTLY TEST ALL PHASES OF TIMING TO DETERMINE MAXIMUM TIME BETWEEN VARIOUS OPERATIONS.
- B. TO DETERMINE RELIABILITY OF THE CARD READER WHILE REACHING FOR MAXIMUM TIME BETWEEN VARIOUS OPERATIONS.
- C. TO DETERMINE RELIABILITY OF THE CARD READER BY CAUSING THE CARD READER TO INTERMITTENTLY LATCH UP.

2. METHOD OF TEST

- A. KEYS 1-6 ARE USED TO INCREMENT TIMING, BETWEEN VARIOUS OPERATIONS
- B. WITH KEYS 1-6 UP, THE CARD READER READS EACH RECORD WITH NORMAL PROGRAMMING DELAYS.
- C. WITH SENSE SWITCH 5 DOWN, THE CARD READER IS INTERMITTENTLY LATCHED UP BETWEEN RECORDS.

B. MACHINE UNITS AND STORAGE AREA

1. UNITS REQUIRED

MF, CF, DSU, PRINTER, CR MODEL 250

2. STORAGE LOCATIONS

00030-02433 - CARD READER PROGRAM
05500-06476 - MODIFICATION PROGRAM
06500-07712 - ERROR PRINT PROGRAM

C. PROGRAM CONTROL

1. DECK

000	9LD01 LOW END LOADER
001 - 059	9C01
060 - 083	MODIFICATION PROGRAM

084 - 112 9DEPR DIAGNOSTIC PRINT SUBROUTINE
113 TRANSFER CARD TRA 00030
114 - 413 300 TEST CARDS
414 - 415 TWO BLANK CARDS

2. SENSE SWITCH CONTROL

3 UP PRINT ON ERROR OR MAXIMUM TIMING
3 DOWN HALT ON ERROR OR MAXIMUM TIMING
5 UP NORMAL PROGRAMMING DELAY BETWEEN 12 RIGHT
AND 9 LEFT
5 DOWN VARIABLE DELAYS BETWEEN 12 RIGHT AND SELECT
CAUSING INTERMITTENT LATCH-UP
6 UP LOAD NEXT DIAGNOSTIC AFTER TESTING ALL CARD
READERS ON LINE.
6 DOWN REPEAT TEST AFTER TESTING ALL CARD READERS
ON LINE

3. SENSE LIGHTS

1 ON ERROR INDICATED BETWEEN WORD READ FROM CARD
AND WORD IN STORAGE
2 ON INDICATES TEST HAS DETERMINED SPEED OF THE
CARD READER
3 ON INDICATES MAXIMUM TIME HAS BEEN REACHED
BETWEEN 11 RIGHT AND 12 LEFT ROWS.

4. *NOTE* KEYS MUST BE DEPRESSED ONE AT A TIME

1 UP NO EFFECT
1 DOWN INCREMENT TIME BETWEEN SELECT AND RESET
LOAD CHANNEL
2 UP NO EFFECT
2 DOWN INCREMENT TIME BETWEEN WORDS
3 UP NO EFFECT
3 DOWN INCREMENT TIME BETWEEN ROWS
4 UP NO EFFECT
4 DOWN INCREMENT TIME BETWEEN RECORDS
5 UP NO EFFECT
5 DOWN INCREMENT TIME BETWEEN 12 RIGHT TIME AND
EOR TIME
6 UP NO EFFECT
6 DOWN INCREMENT TIME BETWEEN 12 RIGHT TIME AND
SELECT

5. INDICATORS

AN INDICATOR 1 THROUGH 6 ON INDICATES A CORRESPONDING KEY HAS BEEN
DEPRESSED TO DETERMINE THE MAXIMUM TIMING OF AN OPERATIONS. INDICATOR

7 ON INDICATES THE TEST HAS DETERMINED THE SPEED OF THE CARD READER PER CYCLE.

D. NORMAL STOPS

01146 NO PRINTER ON LINE AND MAXIMUM TIMING HAS BEEN REACHED FOR ALL OPERATIONS EXCEPT THE TIME BETWEEN 12 RIGHT TIME AND EOR.
01147 NO PRINTER ON LINE AND MAXIMUM TIMING HAS BEEN REACHED BETWEEN 12 RIGHT TIME AND EOR
05517 ENTER CONTROL WORD IN KEYS TO INDICATE TESTING THE CARD READER AND THE NUMBER OF CHANNELS ON LINE. AT THIS STOP, TEST CARDS ARE TO BE RELOADED IN THE CARD READER IF MOER THEN ON PASS IS DESIRED.

E. ERROR STOP

06545 WORD READ FROM CARD AND WORD IN STORAGE DID NOT COMPARE CORRECTLY.

F. PRINT-OUTS

1. PROGRAM IDENTIFICATION IS PRINTED OUT INITIALLY IF A PRINTER IS ON LINE ON CHANNEL A.
2. AFTER 300 RECORDS HAVE BEEN READ BY THE CARD READER, PASS COMPETE IS PRINTED OUT IF A PRINTER IS ON LINE ON CHANNEL A.
3. TEST CARDS ARE PUNCHED TO INDICATE WHICH WORD FAILED IN A COMPARISION ERROR. THE DECIMAL SUM OF EVERY 2 OCTAL DIGITS EQALS THE WORD. THE ZERO ROW IS INDICATED BY THE DECIMAL SUM OF 10.

EXAMPLES 9 ROW 9L 727272727272 9R 27272727272
0 ROW 0L 737373737373 0R 37373737373

4. SEE THE PAGE FOLLOWING THE CONSTANT-DELAY TIME TABLES FOR EXAMPLES OF ALL PRINTOUTS.

G. COMMENTS

1. SEE PAGE 1 OF THE LISTING FOR INSTRUCTIONS ON HOW TO ENTER KEYS FOR TESTING OF CARD READERS ON A SINGLE OR MULTIPLE CHANNELS.
2. TO DETERMINE THE MAXIMUM TIMINGS BETWEEN VARIOUS OPERATIONS WITH NO PRINTER ON LINE ON CHANNEL A, DISPLAY XRB OR LOCATION 02254 AND CONSULT THE CONSTANT-DELAY TIME TABLE FOR THE TIMING COMPARABLE TO THE VALUE IN XRB OR LOCATION 02254. *NOTE* IF SENSE LIGHT 3 IS ON WHEN DETERMINING THE TIME BTWEEN ROWS, ADD SIX OCTALLY TO THE VALUE IN XRB OR LOCATION 02254 AND CONSTULT THE CONSTANT-DELAY TIME TABLE FOR TIMING BETWEEN ROWS SENSE LIGHT 3 IS TURNED ON ONLY IF MAXIMUM TIMING BETWEEN ROWS OCCURS BETWEEN 11 ROW RIGHT AN 12 ROW LEFT.

3. IF THERE IS A COMPARISON ERROR AND NO PRINTER ON LINE * SENSE LIGHT 1 ON-PROGRAM STOP AT LOCATION 06545 * THE VALUE IN XRB OR LOCATION 02255 SUBTRACTED OCTALLY FROM 455 WILL GIVE THE RECORD THAT FAILED AND THE VALUE IN XRA OCTALLY SUBTRACTED FROM 31 WILL GIVE THE WORD THAT FAILED. THE ACCUMULATOR WILL CONTAIN THE WORD READ FROM THE CARD AND THE MQ WILL CONTAIN THE CORRECT WORD IN STORAGE. XRC CONTAINS THE 2 S COMPLEMENT OF THE ADDRESS WHERE THE ERROR WAS DETECTED. TO CONTINUE PROGRAM, PUSH START.
4. TO TEST CARD READER RELIABILITY WITH NORMAL PROGRAMMING DELAY, RUN THE TEST WITH SENSE SWITCH 5 AND ALL KEYS UP. WITH SENSE SWITCH 5 DOWN AND ALL KEYS UP, THE ADDRESSES OF THE PROGRAM CAUSE A VARIABLE DELAY BETWEEN 12 RIGHT AND SELECT CAUSING INTERMITTENT LATCH UP BETWEEN RECORDS.
5. WHEN DETERMINING TIMING BETWEEN VARIOUS OPERATIONS, ONLY ONE KEY MAY BE DEPRESSED AT A TIME.
6. THE SPEED OF THE CARD READER IS THE INITIAL TEST OF THE PROGRAM AND IS NO UNDER CONTROL OF THE OPERATOR. AFTER THE FIRST PASS, THIS TEST IS BYPASSED.
7. WHEN TESTING THE TIME BETWEEN 12R AND SELECT, THE CARD READER SHOULD LATCH UP BEFORE REACHING MAXIMUM TIMING. IF THE CARD READER IS SLOW, IT MAY BE NECESSARY TO INCREASE THE PROGRAMMED DELAY OF 110 MS IN XRA FOR THE TIMING BETWEEN 12R AND 9L FOR THE I/O CHECK LIGHT TO BE ON AND THE TEST OPERATE CORRECTLY. AND INCREMENT OF 16 OCTAL TO THE ADDRESS OF THE INSTRUCTION IN LOCATION 01060 INCREASES THE DELAY BETWEEN 12R AND 9L BY ONE MILLISECOND.
8. THIS TEST HAS A MODIFICATION PROGRAM WHICH AUTOMATICALLY ALTERS THE PROGRAM FOR EACH CHANNEL ON LINE.
9. THE ARROW OPPOSITE THE TIMING IN THE CONSTANT-DELAY TIME TABLES INDICATES THE TIME MOST FREQUENTLY FOUND ON VARIOUS CARD READERS CHECKED.
10. IF AT ANY TIME IT IS DESIRED TO RELOAD THE PROGRAM UPON ITSELF, IT IS SUGGESTED THAT THE MACHINE BE CLEAR BEFORE PUSHING LOAD CARDS BUTTTON.

CONSTANT-DELAY TIME TABLES

CARD READER CYCLE

XRБ-LOC 02254	MILLISEC	XRБ-LOC 02254	MILLISEC
02607	230	3453	240
02661	231	3525	241
02733	232	3577	242
03005	233	3651	243
03057	234	3723	244
03131	235	3775	245
03203	236	4047	246
03255	237	4121	247
03327	238	4173	248
03401	239	4245	249

SELECT-RCH KEY 1 DOWN

XRБ-LOC 02254	MILLISEC	XRБ-LOC 02254	MILLISEC	XRБ-LOC 02254	MILLISEC
4360	55.0	5224	65.0	6070	75.1
4432	56.0	5276	66.0	6142	76.1
4504	57.0	5350	67.1	6214	77.1
4556	58.0	5422	68.1	6266	78.1
4630	59.0	5464	69.1	6340	79.1
4702	60.0	5546	70.1	6412	80.1
4754	61.0	5620	71.1	6464	81.1
5026	62.0	5672	72.1	6536	82.1
5100	63.0	5744	73.1	6610	83.1
5152	64.0	6016	74.1	6662	84.1

LEFT WORD-RIGHT WORD KEY 2 DOWN

XRБ-LOC 02254	USEC	XRБ-LOC 02254	USEC
10	300	15	420

11	324	16	444
12	348	17	468
13	372	20	492
14	396	21	526

BETWEEN ROWS KEYS 3 DOWN

XRB-LOC	02254	MILLISEC	XRB-LOC	02254	MILLISEC	XRB-LOC	02254	MILLISEC
511		8.0	573		9.2	655		10.4
516		8.1	600		9.3	662		10.5
523		8.2	605		9.4	667		10.6
530		8.3	612		9.5	674		10.7
535		8.4	617		9.6	701		10.8
542		8.6	624		9.8	706		11.0
547		8.7	631		9.9	713		11.1
556		8.8	636		10.0	720		11.2
561		8.9	643		10.1	725		11.4
566		9.0	650		10.2	732		11.4

* 11 RIGHT-12 LEFT SENSE LIGTH 3 ON

ADD 6 OCTALLY TO VALUE IN XRB OR LOC 02254 AND SEE ABOVE TABLE FOR TIME

BETWEEN RECORDS KEY 4 DOWN

XRB-LOC	02254	MILLISEC	XRB-LOC	02254	MILLISEC	XRB-LOC	02254	MILLISEC
52		85.0	374		90.0	706		95.0
124		86.0	446		91.0	770		96.0
176		87.0	520		92.0	1042		97.1
250		88.0	572		93.0	1134		98.1
322		89.0	644		94.0	1366		99.1

BETWEEN 12 RIGHT-EOR KEY 5 DOWN

XRB-LOC	02254	MILLISEC	XRB-LOC	02254	MILLISEC	XRB-LOC	02254	MILLISEC
14		5.0	73		6.0	141		7.0
23		5.1	100		6.2	150		7.1
30		5.2	105		6.3	155		7.2
35		5.3	112		6.4	162		7.4

42	5.4	117	6.5	167	7.5
47	5.6	124	6.6	174	7.6
54	5.7	131	6.8	201	7.7
61	5.8	136	6.9	206	7.8
66	5.9	105	6.3	213	8.0

BETWEEN 12 RIGHT-SELECT KEY 6 DOWN

XRB-LOC 02254 MILLISEC

640	30.0
656	31.0
674	32.0
712	33.0
730	34.0
746	35.0
764	36.0
1002	37.0

XRB-LOC 02254 MILLISEC

1020	38.0
1036	39.0
1054	40.0
1072	40.0
1110	40.0
1126	40.0
1144	40.0
1162	40.0

SAMPLE PRINTOUT

NOW PERFORMING DIAGNOSTIC 9C01

SPEED OF THIS CARD READER 238 MS PER CYCLE

MAXIMUM TIME BETWEEN SEL AND RESET LD CHANNEL 075.1 MS
CARD READER DISCONNECTING AT EOR TIME 224 ON INDEX

MAXIMUM TIME BETWEEN WORDS 9L AND 9R 327 USEC

MAXIMUM TIME BETWEEN ROWS 9R AND 8L 011.2 MS

MAXIMUM TIME BETWEEN RECORDS 098.1 MS
TIME MEASURED BETWEEN EOR AND 9 LEFT TIME

MAXIMUM TIME BETWEEN 12R TIME AND EOR TIME 007.5 MS

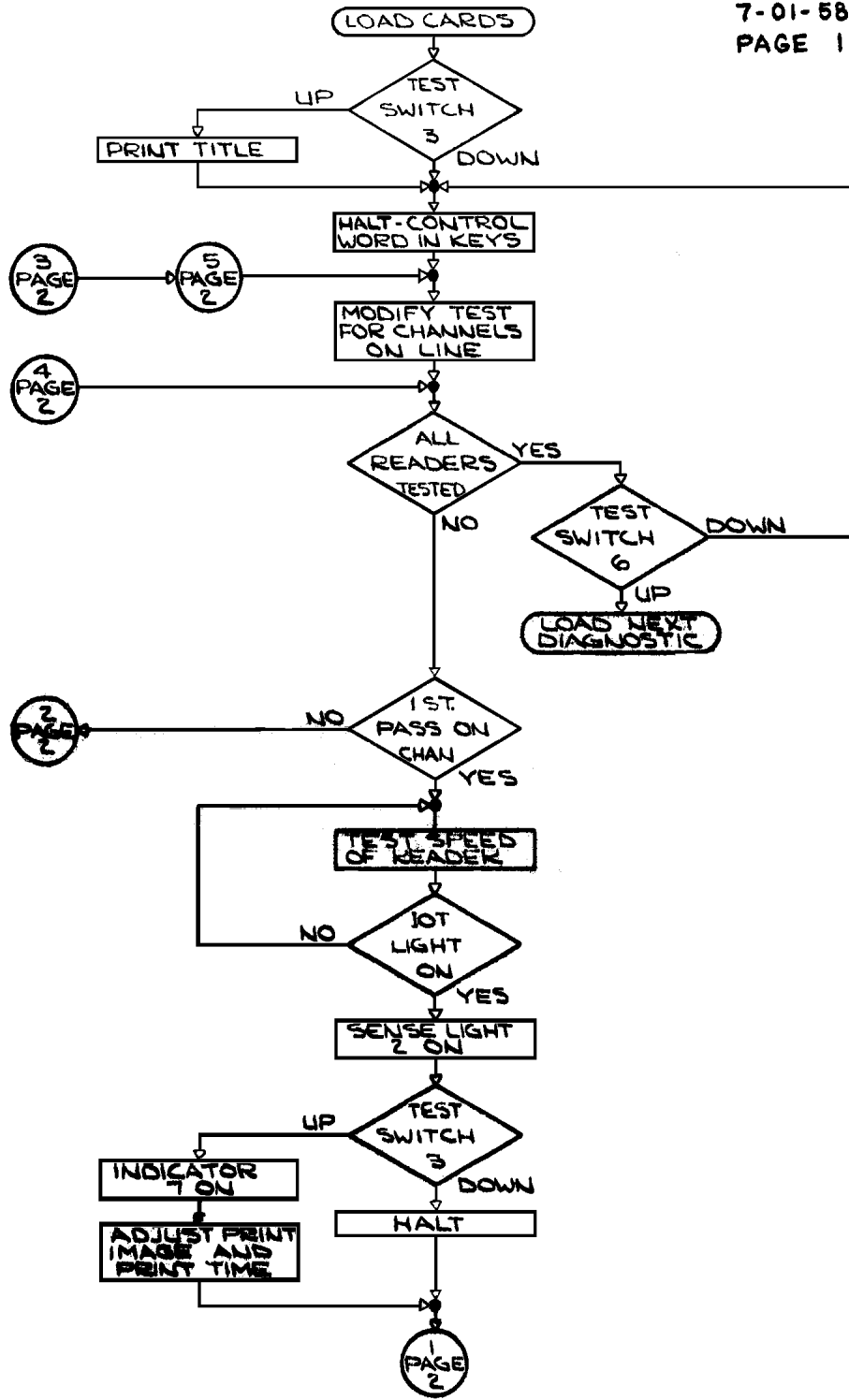
MAXIMUM TIME BETWEEN 12 RIGHT AND SELECT 041.0 MS

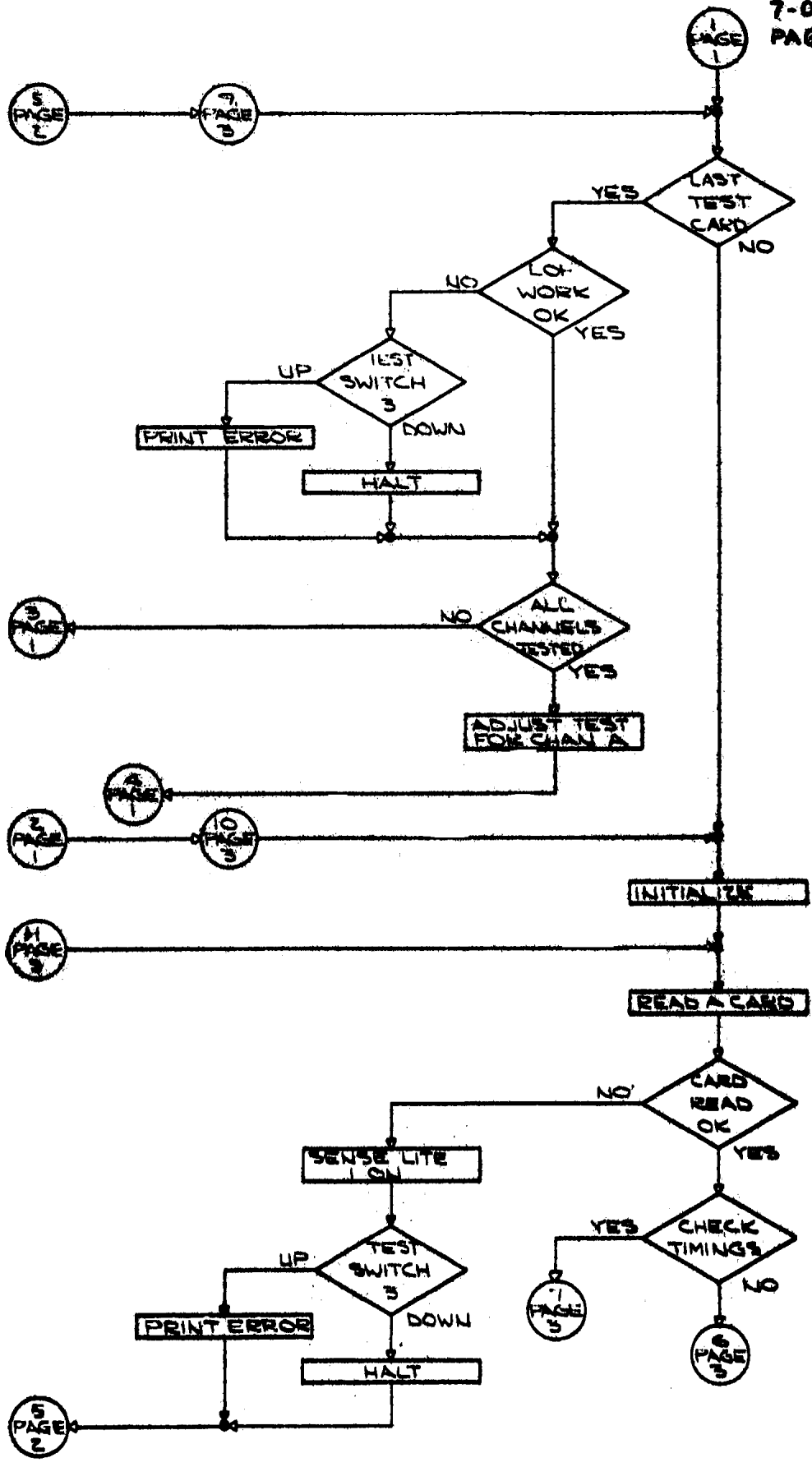
TEST LOC 00710, OPN RCDA ,ERROR LOC 00720, 0 LOC 002000000110,SW 000001
MSE 1000, COMP ERROR, WORD GENERATED 101 111 101 111 101 111 101 111 101 111
XEC 00453, WORD 00030, WORD READ 101 111 101 111 101 111 101 111 101 110
INDS 000000700001, KEYS 000000700001

PASS COMPLETE FOR CARD READER ON CHANNEL A 9C01

PASS COMPLETE FOR CARD READER ON CHANNEL C 9C01

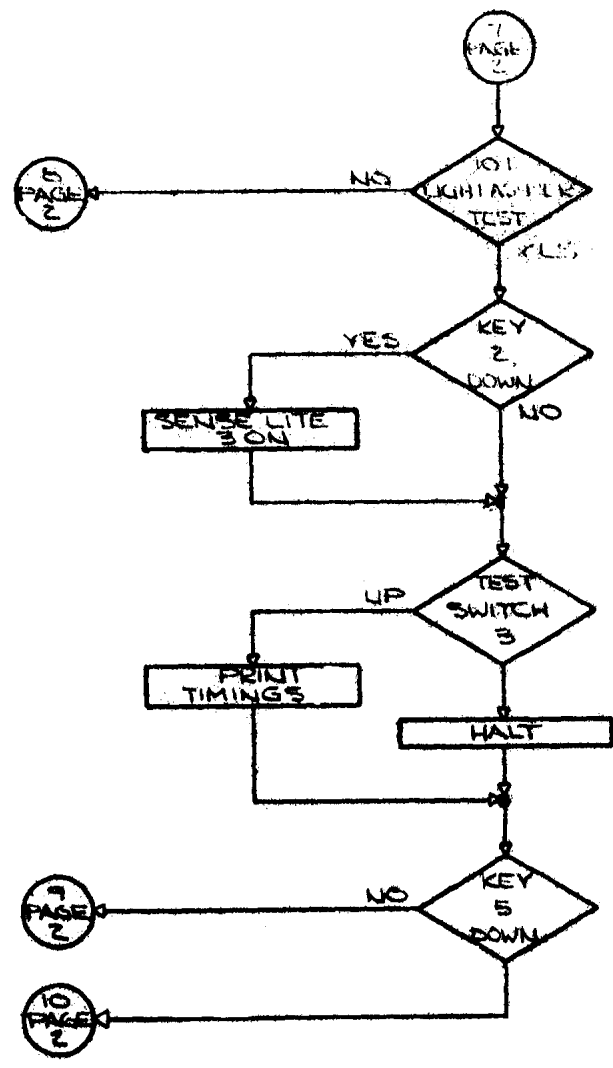
PASS COMPLETE FOR CARD READER ON CHANNEL E 9C01





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CARD READER

SWITCH
5
UP

9C01A

*CARD READER TIMING AND RELIABILITY TEST

00030 ORG 24

PROGRAM IDENTIFICATION

00030 0760 00 0 00163 SWT 3
00031 0020 00 0 01534 TRA PI7

*ADJUST CARD READER TEST FOR CHANNELS A,C OR E

00032 0074 00 4 05514 MP TSX IOC,4 TO ENTER CONTROL
WORDS IN KEYS

*WITH A PROGRAM STOP AT LOCATION 05517, ENTER INTO KEYS INFORMATION
*DESIGNATING THE NUMBER OF BUFFERS ON LINE THAT HAVE CARD
*READERS TO BE CHECKED. IF A PASS HAS BEEN MADE ON THE CARD READERS.
*RELOAD CARDS 114-413 AND READY READERS.

* CHANNEL A ON LINE KEYS 20 AND 35

*TO TEST CARD READERS ON CHANNELS OTHER THEN A, THERE IS AN ADDITIONAL
*PROGRAM STOP FOR EACH CHANNEL. PUSH START AFTER EACH STOP.

* CHANNEL C ON LINE KEYS 19 AND 35
* CHANNEL E ON LINE KEYS 18 AND 35
* CHANNELS A AND C ON LINE KEYS 19,20 AND 35
* CHANNELS A AND E ON LINE KEYS 18,20, AND 35
* CHANNELS C AND E ON LINE KEYS 18,19 AND 35
* CHANNELS A,C AND E ON LINE KEYS 18,19,20 AND 35

00033 0441 00 0 05500 LDI CTRL1 CONTROL WORD FOR CHAN A
00034 0056 00 100001 RNT 1,1 IS CHANNEL A ON LINE
00035 0020 00 0 00037 TRA *+2 NO
00036 0020 00 0 00043 TRA *+5 YES
00037 0074 00 4 05512 TCTX TSX CTX,4 NO-ADJUST ADR FOR CHAN C,E
00040 0011 62 0 00060 HTR CRS,0,FILE 1ST AND LAST ADDRESS
TO BE ADJUSTED

00041 0500 00 0 05503 CLA IOCT L NO OF BUFFERS
00042 0100 00 0 01202 TZE SEN6 ALL CARD READERS
HAVE BEEN CHECKED

00043 0500 00 0 02372 CLA K1
00044 0601 00 0 00000 STO 0

CARD READER TEST

00045 0500 00 0 02370 CLA K+3 L +454
00046 0601 00 0 02255 STO SX+1
00047 0400 00 0 02363 ADD KK+10 L +1
00050 0601 00 0 06557 STO RECNO SET RECORD NUMBER CONSTANT

00051 0500 00 0 02365 CLA K L +30

00052	0400	00	0	02363		ADD KK+10	L +1
00053	0601	00	0	06556		STO WDNO	SET WORD NUMBER CONSTANT
*CHECK SPEED OF CARD READER							
00054	0500	00	0	02350		CLA K0+19	
00055	0601	00	0	02234		STO RDRDY	
00056	0760	00	0	00005		IOT	TURN OFF I/O CHECK LIGHT
00057	0020	00	0	00060		TRA *+1	
00060	0762	00	0	01321	CRS	RCDA	SELECT CARD READER
00061	0540	00	0	02257		RCHA CW	9 L CONTROL WORD TO BUFFER
00062	0544	00	0	02260		LCHA CW+1	9 L CONTROL WORD EXECUTED
*MOVE CARD READER TO EOR WITHOUT TRANSMITTING WORDS TO STORAGE							
*AT EOR TIME BRING IN 9 LEFT COTNROL WORD TO BUFFER							
00063	0074	00	4	01155		TSX REDUC,4	TO REDUCE RECORD COUNT
00064	0774	00	2	00002		AXT 2,2	L 2 IN XRB
00065	0774	00	1	07756		AXT 4078,1	L 7756 IN XRA
00066	2	00001	1	00066		TIX *,1,1	TOTAL DELAY
00067	2	00001	2	00065		TIX *-2,2,1	OF 196 MS
00070	0534	00	3	02234		LXA RDRDY,3	L DELAY CONSTANT TO XR
00071	2	00001	1	00071		TIX *,1,1	DELAY
00072	0544	00	0	02260		LCHA CW+1	9 R CONTROL WORD TO BUFFER EXECUTE 9 LEFT WORD
00073	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00074	0074	00	4	01137		TSX LINE-3,4	YES
00075	0020	00	0	00103		TRA CRS1	NO
00076	0500	00	0	02334		CLA K0+7	L +576714
00077	0601	00	0	02252		STO P+4	
00100	0441	00	0	01502		LDI PI+4	TURN ON INDICATOR 7
00101	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00102	0020	00	0	01300		TRA PR1	TO TIMING PRINT ROUTINE
00103	0074	00	4	01155	CRS1	TSX REDUC,4	TO REDUCE RECORD COUNT
00104	0500	00	0	02234		CLA RDRDY	ADD
00105	0400	00	0	02332		ADD K0+5	1 MS
00106	0601	00	0	02234		STO RDRDY	TO DELAY
00107	0020	00	0	00062		TRA CRS+2	
00110	0074	00	4	01155		TSX REDUC,4	TO REDUCE RECORD COUNT
00111	0500	00	0	02325	TIME	CLA K0	SET

00112	0601	00	0	02235	STO SELDY	
00113	0500	00	0	02326	CLA K0+1	UP
00114	0601	00	0	02236	STO WORDY	
00115	0500	00	0	02330	CLA K0+3	ALL
00116	0601	00	0	02240	STO ROWD1	
00117	0500	00	0	02327	CLA K0+2	THE
00120	0601	00	0	02237	STO ROWDY	
00121	0500	00	0	02364	CLA KK+11	INITIAL
00122	0601	00	0	02241	STO CONDY	
00123	0502	00	0	02351	CLS KK	TIMING
00124	0601	00	0	02242	STO EORDY	
00125	0500	00	0	02331	CLA K0+4	UNITS
00126	0601	00	0	02243	STO KONDY	
00127	0500	00	0	02365	CLA K	INITERMITTENT
00130	0402	00	0	02363	SUB KK+10	LATCH UP
00131	0601	00	0	02245	STO NUM	CONSTANT
00132	0760	00	0	00140	SLF	SENSE LIGHTS OFF
00133	0441	00	0	02364	LDI KK+11	ALL INDICATORS OFF
00134	0760	00	0	00005	IOT	TURN OFF I/O CHECK LIGHT
00135	0020	00	0	00136	TRA *+1	
00136	0074	00	4	00730	TSX CLEAR,4	CLEAR CARD IMAGE AREA
*CHECK TIMING BETWEEN SELECT AND RESET LOAD CHANNEL						
00137	0762	00	0	01321	CR RCDA	SELECT CARD READER
00140	-0320	00	0	00000	ANA	36 USEC DELAY
00141	0534	00	3	02235	LXA SELDY,3	L DELAY CONSTANT TO XR
00142	2	00001	1	00142	TIX *,1,1	DELAY 55 MS
00143	0540	00	0	02261	RCHA CW1	9 L CONTROL WORD TO BUFFER
00144	0544	00	0	02262	LCHA CW1+1	9 R CONTROL WORD TO BUFFER FOR SYNCHRONOUS OPERATION
00145	0760	00	0	00005	IOT	IS I/O CHECK LIGHT ON
00146	0074	00	4	01142	TSX LINE,4	YES
00147	0020	00	0	00154	TRA CR1	NO
00150	0500	00	0	02340	CLA K0+11	L +140
00151	0601	00	0	02252	STO P+4	STORE TIMING VALUE
00152	0074	00	4	01150	TSX SAVE,4	TO SAVE XRB ROUTINE
00153	0020	00	0	01300	TRA PR1	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 9 LEFT AND 9 RIGHT

00154	0534	00	3	02236	CR1	LXA WORDY,3	L DELAY CONSTANT TO XR
00155	2	00001	1	00155		TIX *,1,1	DELAY 300 USEC
00156	0544	00	0	02263		LCHA CW1+2	8 L CONTROL WORD TO BUFFER
00157	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ONE
00160	0074	00	4	01142		TSX LINE,4	YES
00161	0020	00	0	00172		TRA CR2	NO

SAVE CARD LOCATIONS TESTING

00162	0600	00	0	02246		STZ P	
00163	0600	00	0	02250		STZ P+2	
00164	0500	00	0	02351		CLA KK	L -11
00165	0601	00	0	02247		STO P+1	
00166	0601	00	0	02251		STO P+3	
00167	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00170	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00171	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 9 RIGHT AND 8 LEFT

00172	0534	00	3	02237	CR2	LXA ROWDY,3	L DELAY CONSTANT TO XR
00173	2	00001	1	00173		TIX *,1,1	DELAY 8 MS
00174	0544	00	0	02264		LCHA CW1+3	8 R CONTROL WORD TO BUFFER
00175	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00176	0074	00	4	01142		TSX LINE,4	YES
00177	0020	00	0	00211		TRA CR3	NO

SAVE CARD LOCATIONS TESTING

00200	0600	00	0	02246		STZ P	
00201	0600	00	0	02250		STZ P+2	
00202	0500	00	0	02351		CLA KK	L -11
00203	0601	00	0	02247		STO P+1	
00204	0402	00	0	02361		SUB KK+8	L -1
00205	0601	00	0	02251		STO P+3	STORE A -10
00206	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00207	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00210	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 8 LEFT AND 8 RIGHT

00211	0534	00	3	02236	CR3	LXA WORDY,3	L DELAY CONSTANT TO XR
00212	2	00001	1	00212		TIX *,1,1	DELAY 300 USEC
00213	0544	00	0	02265		LCHA CW1+4	7 L CONTROL WORD TO BUFFER
00214	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON

00215 0074 00 4 01142 TSX LINE,4 YES
00216 0020 00 0 00227 TRA CR4 NO

SAVE CARD LOCATIONS TESTING

00217 0600 00 0 02246 STZ P
00220 0600 00 0 02250 STZ P+2
00221 0500 00 0 02352 CLA KK+1 L -10
00222 0601 00 0 02247 STO P+1
00223 0601 00 0 02251 STO P+3

00224 0074 00 4 01152 TSX VALUE,4 TO TIMING VALUE ROUTINE
00225 0074 00 4 01150 TSX SAVE,4 TO SAVE XRB ROUTINE
00226 0020 00 0 01244 TRA PR TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 8 RIGHT AND 7 LEFT

00227 0534 00 3 02237 CR4 LXA ROWDY,3 L DELAY CONSTANT TO XR
00230 2 00001 1 00230 TIX *,1,1 DELAY 8 MS

00231 0544 00 0 02266 LCHA CW1+5 7 R CONTROL WORD TO BUFFER

00232 0760 00 0 00005 IOT IS I/O CHECK LIGHT ON
00233 0074 00 4 01142 TSX LINE,4 YES
00234 0020 00 0 00246 TRA CR5 NO

SAVE CARD LOCATIONS TESTING

00235 0600 00 0 02246 STZ P
00236 0600 00 0 02250 STZ P+2
00237 0500 00 0 02352 CLA KK+1 L -10
00240 0601 00 0 02247 STO P+1
00241 0402 00 0 02361 SUB KK+8 L -1
00242 0601 00 0 02251 STO P+3 STORE A -7

00243 0074 00 4 01152 TSX VALUE,4 TO TIMING VALUE ROUTINE
00244 0074 00 4 01150 TSX SAVE,4 TO SAVE XRB ROUTINE
00245 0020 00 0 01244 TRA PR TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 7 LEFT AND 7 RIGHT

00246 0534 00 3 02236 CR5 LXA WORDY,3 L DELAY CONSTANT TO XR
00247 2 00001 1 00247 TIX *,1,1 DELAY 300 USEC

00250 0544 00 0 02267 LCHA CW1+6 6 L CONTROL WORD TO BUFFER

00251 0760 00 0 00005 IOT IS I/O CHECK LIGHT ON
00252 0074 00 4 01142 TSX LINE,4 YES
00253 0020 00 0 00264 TRA CR6 NO

SAVE CARD LOCATIONS TESTING

00254 0600 00 0 02246 STZ P
00255 0600 00 0 02250 STZ P+2
00256 0500 00 0 02353 CLA KK+2 L -7
00257 0601 00 0 02247 STO P+1

00260	0601	00	0	02251		STO P+3	
00261	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00262	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00263	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE
*CHECK TIMING BETWEEN 7 RIGHT AND 6 LEFT							
00264	0534	00	3	02237	CR6	LXA ROWDY,3	L DELAY CONSTANT TO XR
00265	2	00001	1	00265		TIX *,1,1	DELAY 8 MS
00266	0544	00	0	02270		LCHA CW1+7	6 R CONTROL WORD TO BUFFER
00267	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00270	0074	00	4	01142		TSX LINE,4	YES
00271	0020	00	0	00303		TRA CR7	NO

SAVE CARD LOCATIONS TESTING

00272	0600	00	0	02246		STZ P	
00273	0600	00	0	02250		STZ P+2	
00274	0500	00	0	02353		CLA KK+2	L -7
00275	0601	00	0	02247		STO P+1	
00276	0402	00	0	02361		SUB KK+8	L -1
00277	0601	00	0	02251		STO P+3	STORE A -6
00300	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00301	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00302	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 6 LEFT AND 6 RIGHT

00303	0534	00	3	02236	CR7	LXA WORDY,3	L DELAY CONSTANT TO XR
00304	2	00001	1	00304		TIX *,1,1	DELAY 300 USEC
00305	0544	00	0	02271		LCHA CW1+8	5 L CONTROL WORD TO BUFFER
00306	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00307	0074	00	4	01142		TSX LINE,4	YES
00310	0020	00	0	00321		TRA CR8	NO

SAVE CARD LOCATIONS TESTING

00311	0600	00	0	02246		STZ P	
00312	0600	00	0	02250		STZ P+2	
00313	0500	00	0	02354		CLA KK+3	L -6
00314	0601	00	0	02247		STO P+1	
00315	0601	00	0	02251		STO P+3	
00316	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00317	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00320	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 6 RIGHT AND 5 LEFT

00321	0534	00	3	02237	CR8	LXA ROWDY,3	L DELAY CONSTANT TO XR
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00322	2	00001	1	00322	TIX *,1,1	DELAY 8 MS
00323	0544	00	0	02272	LCHA CW1+9	5 R CONTROL WORD TO BUFFER
00324	0760	00	0	00005	IOT	IS I/O CHECK LIGHT ON
00325	0074	00	4	01142	TSX LINE,4	YES
00326	0020	00	0	00340	TRA CR9	NO

SAVE CARD LOCATIONS TESTING

00327	0600	00	0	02246	STZ P	
00330	0600	00	0	02250	STZ P+2	
00331	0500	00	0	02354	CLA KK+3	L -6
00332	0601	00	0	02247	STO P+1	
00333	0402	00	0	02361	SUB KK+8	L -1
00334	0601	00	0	02251	STO P+3	STORE A -5
00335	0074	00	4	01152	TSX VALUE,4	TO TIMING VALUE ROUTINE
00336	0074	00	4	01150	TSX SAVE,4	TO SAVE XRB ROUTINE
00337	0020	00	0	01244	TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 5 LEFT AND 5 RIGHT

00340	0534	00	3	02236	CR9 LXA WORDY,3	L DELAY CONSTANT TO XR
00341	2	00001	1	00341	TIX *,1,1	DELAY 300 USEC
00342	0544	00	0	02273	LCHA CW1+10	4 L CONTROL WORD TO BUFFER
00343	0760	00	0	00005	IOT	IS I/O CHECK LIGHT ON
00344	0074	00	4	01142	TSX LINE,4	YES
00345	0020	00	0	00356	TRA CR10	NO

SAVE CARD LOCATIONS TESTING

00346	0600	00	0	02246	STZ P	
00347	0600	00	0	02250	STZ P+2	
00350	0500	00	0	02355	CLA KK+4	L -5
00351	0601	00	0	02247	STO P+1	
00352	0601	00	0	02251	STO P+3	
00353	0074	00	4	01152	TSX VALUE,4	TO TIMING VALUE ROUTINE
00354	0074	00	4	01150	TSX SAVE,4	TO SAVE XRB ROUTINE
00355	0020	00	0	01244	TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 5 RIGHT AND 4 LEFT

00356	0534	00	3	02237	CR10 LXA ROWDY,3	L DELAY CONSTANT TO XR
00357	2	00001	1	00357	TIX *,1,1	DELAY 4 MS
00360	0544	00	0	02274	LCHA CW1+11	5 R CONTROL WORD TO BUFFER
00361	0760	00	0	00005	IOT	IS I/O CHECK LIGHT ON
00362	0074	00	4	01142	TSX LINE,4	YES
00363	0020	00	0	00375	TRA CR11	NO

SAVE CARD LOCATIONS TESTING

00364	0600	00	0	02246		STZ P	
00365	0600	00	0	02250		STZ P+2	
00366	0500	00	0	02355		CLA KK+4	L -5
00367	0601	00	0	02247		STO P+1	
00370	0402	00	0	02361		SUB KK+8	L -1
00371	0601	00	0	02251		STO P+3	STORE A -4
00372	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00373	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00374	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE
*CHECK TIMING BETWEEN 4 LEFT AND 4 RIGHT							
00375	0534	00	3	02236	CR11	LXA WORDY,3	L DELAY CONSTANT TO XR
00376	2	00001	1	00376		TIX *,1,1	DELAY 300 USEC
00377	0544	00	0	02275		LCHA CW1+12	3 L CONTROL WORD TO BUFFER
00400	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00401	0074	00	4	01142		TSX LINE,4	YES
00402	0020	00	0	00413		TRA CR12	NO
SAVE CARD LOCATIONS TESTING							
00403	0600	00	0	02246		STZ P	
00404	0600	00	0	02250		STZ P+2	
00405	0500	00	0	02356		CLA KK+5	L -4
00406	0601	00	0	02247		STO P+1	
00407	0601	00	0	02251		STO P+3	
00410	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00411	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00412	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE
*CHECK TIMING BETWEEN 4 RIGHT AND 3 LEFT							
00413	0534	00	3	02237	CR12	LXA ROWDY,3	L DELAY CONSTANT TO XR
00414	2	00001	1	00414		TIX *,1,1	DELAY 8 MS
00415	0544	00	0	02276		LCHA CW1+13	3 R CONTROL WORD TO BUFFER
00416	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00417	0074	00	4	01142		TSX LINE,4	YES
00420	0020	00	0	00432		TRA CR13	NO
SAVE CARD LOCATIONS TESTING							
00421	0600	00	0	02246		STZ P	
00422	0600	00	0	02250		STZ P+2	
00423	0500	00	0	02356		CLA KK+5	L -4
00424	0601	00	0	02247		STO P+1	
00425	0402	00	0	02361		SUB KK+8	L -1
00426	0601	00	0	02251		STO P+3	STORE A -3
00427	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE

00430 0074 00 4 01150 TSX SAVE,4 TO SAVE XRB ROUTINE
00431 0020 00 0 01244 TRA PR TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 3 LEFT AND 3 RIGHT

00432 0534 00 3 02236 CR13 LXA WORDY,3 L DELAY CONSTANT TO XR
00433 2 00001 1 00433 TIX *,1,1 DELAY 300 USEC

00434 0544 00 0 02277 LCHA CW1+14 2 L CONTROL WORD TO BUFFER (2277)

00435 0760 00 0 00005 IOT IS I/O CHECK LIGHT ON
00436 0074 00 4 01142 TSX LINE,4 YES
00437 0020 00 0 00450 TRA CR14 NO

SAVE CARD LOCATIONS TESTING

00440 0600 00 0 02246 STZ P
00441 0600 00 0 02250 STZ P+2
00442 0500 00 0 02357 CLA KK+6 L -3
00443 0601 00 0 02247 STO P+1
00444 0601 00 0 02251 STO P+3

00445 0074 00 4 01152 TSX VALUE,4 TO TIMING VALUE ROUTINE
00446 0074 00 4 01150 TSX SAVE,4 TO SAVE XRB ROUTINE
00447 0020 00 0 01244 TRA PR TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 3 RIGHT AND 2 LEFT

00450 0534 00 3 02237 CR14 LXA ROWDY,3 L DELAY CONSTANT TO XR
00451 2 00001 1 00451 TIX *,1,1 DELAY 8 MS

00452 0544 00 0 02300 LCHA CW1+15 3 R CONTROL WORD TO BUFFER

00453 0760 00 0 00005 IOT IS I/O CHECK LIGHT ON
00454 0074 00 4 01142 TSX LINE,4 YES
00455 0020 00 0 00467 TRA CR15 NO

SAVE CARD LOCATIONS TESTING

00456 0600 00 0 02246 STZ P
00457 0600 00 0 02250 STZ P+2
00460 0500 00 0 02357 CLA KK+6 L -3
00461 0601 00 0 02247 STO P+1
00462 0402 00 0 02361 SUB KK+8 L -1
00463 0601 00 0 02251 STO P+3 STORE A -2

00464 0074 00 4 01152 TSX VALUE,4 TO TIMING VALUE ROUTINE
00465 0074 00 4 01150 TSX SAVE,4 TO SAVE XRB ROUTINE
00466 0020 00 0 01244 TRA PR TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 2 LEFT AND 2 RIGHT

00467 0534 00 3 02236 CR15 LXA WORDY,3 L DELAY CONSTANT TO XR
00470 2 00001 1 00470 TIX *,1,1 DELAY 4 MS

00471 0544 00 0 02301 LCHA CW1+16 1 L CONTROL WORD TO BUFFER

00472	0760	00	0	00005	IOT	IS I/O CHECK LIGHT ON
00473	0074	00	4	01142	TSX LINE, 4	YES
00474	0020	00	0	00505	TRA CR16	NO

SAVE CARD LOCATIONS TESTING

00475	0600	00	0	02246	STZ P	
00476	0600	00	0	02250	STZ P+2	
00477	0500	00	0	02360	CLA KK+7	L -2
00500	0601	00	0	02247	STO P+1	
00501	0601	00	0	02251	STO P+3	
00502	0074	00	4	01152	TSX VALUE, 4	TO TIMING VALUE ROUTINE
00503	0074	00	4	01150	TSX SAVE, 4	TO SAVE XRB ROUTINE
00504	0020	00	0	01244	TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 2 RIGHT AND 1 LEFT

00505	0534	00	3	02237	CR16 LXA ROWDY, 3	L DELAY CONSTANT TO XR
00506	2	00001	1	00506	TIX *,1,1	DELAY 300 USEC
00507	0544	00	0	02302	LCHA CW1+17	1 R CONTROL WORD TO BUFFER
00510	0760	00	0	00005	IOT	IS I/O CHECK LIGHT ON
00511	0074	00	4	01142	TSX LINE, 4	YES
00512	0020	00	0	00524	TRA CR17	NO

SAVE CARD LOCATIONS TESTING

00513	0600	00	0	02246	STZ P	
00514	0600	00	0	02250	STZ P+2	
00515	0500	00	0	02360	CLA KK+7	L -2
00516	0601	00	0	02247	STO P+1	
00517	0402	00	0	02361	SUB KK+8	L -1
00520	0601	00	0	02251	STO P+3	STORE A -1
00521	0074	00	4	01152	TSX VALUE, 4	TO TIMING VALUE ROUTINE
00522	0074	00	4	01150	TSX SAVE, 4	TO SAVE XRB ROUTINE
00523	0020	00	0	01244	TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 1 LEFT AND 1 RIGHT

00524	0534	00	3	02236	CR17 LXA WORDY, 3	L DELAY CONSTANT TO XR
00525	2	00001	1	00525	TIX *,1,1	DELAY 300 USEC
00526	0544	00	0	02303	LCHA CW1+18	0 L CONTROL WORD TO BUFFER
00527	0760	00	0	00005	IOT	IS I/O CHECK LIGHT ON
00530	0074	00	4	01142	TSX LINE, 4	YES
00531	0020	00	0	00542	TRA CR18	NO

SAVE CARD LOCATIONS TESTING

00532	0600	00	0	02246	STZ P	
00533	0600	00	0	02250	STZ P+2	

00534	0500	00	0	02361		CLA KK+8	L -1
00535	0601	00	0	02247		STO P+1	
00536	0601	00	0	02251		STO P+3	
00537	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00540	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00541	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE
*CHECK TIMING BETWEEN 1 RIGHT AND 0 LEFT							
00542	0534	00	3	02237	CR18	LXA ROWDY,3	L DELAY CONSTANT TO XR
00543	2	00001	1	00543		TIX *,1,1	DELAY 8 MS
00544	0544	00	0	02304		LCHA CW1+19	0 R CONTROL WORD TO BUFFER
00545	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00546	0074	00	4	01142		TSX LINE,4	YES
00547	0020	00	0	00561		TRA CR19	NO

SAVE CARD LOCATIONS TESTING

00550	0600	00	0	02246		STZ P	
00551	0600	00	0	02250		STZ P+2	
00552	0500	00	0	02361		CLA KK+8	L -1
00553	0601	00	0	02247		STO P+1	
00554	0402	00	0	02361		SUB KK+8	L -1
00555	0601	00	0	02251		STO P+3	STORE A -0
00556	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00557	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00560	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 0 LEFT AND 0 RIGHT

00561	0534	00	3	02236	CR19	LXA WORDY,3	L DELAY CONSTANT TO XR
00562	2	00001	1	00562		TIX *,1,1	DELAY 300 USEC
00563	0544	00	0	02305		LCHA CW1+20	11L CONTROL WORD TO BUFFER
00564	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00565	0074	00	4	01142		TSX LINE,4	YES
00566	0020	00	0	00577		TRA CR20	NO

SAVE CARD LOCATIONS TESTING

00567	0600	00	0	02246		STZ P	
00570	0600	00	0	02250		STZ P+2	
00571	0500	00	0	02362		CLA KK+9	L -0
00572	0601	00	0	02247		STO P+1	
00573	0601	00	0	02251		STO P+3	
00574	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00575	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00576	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 0 RIGHT AND 11 LEFT

00577	0534	00	3	02237	CR20	LXA ROWDY,3	L DELAY CONSTANT TO XR
00600	2	00001	1	00600		TIX *,1,1	DELAY 4 MS
00601	0544	00	0	02306		LCHA CW1+21	11R CONTROL WORD TO BUFFER
00602	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00603	0074	00	4	01142		TSX LINE,4	YES
00604	0020	00	0	00616		TRA CR21	NO

SAVE CARD LOCATIONS TESTING

00605	0600	00	0	02246		STZ P	
00606	0500	00	0	02362		CLA KK+9	L -0
00607	0601	00	0	02247		STO P+1	
00610	0500	00	0	02361		CLA KK+8	L -1
00611	0601	00	0	02250		STO P+2	
00612	0601	00	0	02251		STO P+3	
00613	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00614	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00615	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 11 LEFT AND 12 RIGHT

00616	0534	00	3	02236	CR21	LXA WORDY,3	L DELAY CONSTANT TO XR
00617	2	00001	1	00617		TIX *,1,1	DELAY 300 USEC
00620	0544	00	0	02307		LCHA CW1+22	12L CONTROL WORD TO BUFFER
00621	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00622	0074	00	4	01142		TSX LINE,4	YES
00623	0020	00	0	00634		TRA CR22	NO

SAVE CARD LOCATIONS TESTING

00624	0500	00	0	02361		CLA KK+8	L -1
00625	0601	00	0	02246		STO P	
00626	0601	00	0	02247		STO P+1	
00627	0601	00	0	02250		STO P+2	
00630	0601	00	0	02251		STO P+3	
00631	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00632	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00633	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 11 RIGHT AND 12 LEFT

00634	0760	00	0	00004	CR22	ENK	KEYS TO MQ
00635	0131	00	0	00000		XCA	MQ TO ACCUMULATOR
00636	0044	00	0	00000		PAI	ACCUMULATOR TO INDICATORS
00637	-0056	00		100000		LNT 100000	CHECK TIME BETWEEN WORDS
00640	0020	00	0	00650		TRA CR22A	NO
00641	0020	00	0	00642		TRA *+1	YES
00642	0534	00	3	02240		LXA ROWD1,3	L DELAY CONSTANT TO XR

00643	2	00001	1	00643		TIX *,1,1	DELAY 8 MS
00644	0544	00	0	02310		LCHA CW1+23	12R CONTROL WORD TO BUFFER WITH S AND 2 TRIGGER ON
00645	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00646	0020	00	0	00654		TRA CR22A+4	YES
00647	0020	00	0	00670		TRA CR23	NO
00650	0534	00	3	02240	CR22A	LXA ROWD1,3	L DELAY CONSTANT TO XR
00651	2	00001	1	00651		TIX *,1,1	DELAY 8 MS
00652	0544	00	0	02311		LCHA CW1+24	12R CONTROL WORD TO BUFFER WITH 1 AND 2 TRIGGER ON
00653	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00654	0074	00	4	01141		TSX LINE-1,4	YES
00655	0020	00	0	00710		TRA CR24	NO

SAVE CARD LOCATIONS TESTING

00656	0500	00	0	02361		CLA KK+8	L -1
00657	0601	00	0	02246		STO P	
00660	0601	00	0	02247		STO P+1	
00661	0601	00	0	02250		STO P+2	
00662	0400	00	0	02361		ADD KK+8	L -1
00663	0601	00	0	02251		STO P+3	STORE A -2
00664	0500	00	0	02341		CLA K0+12	L +374
00665	0601	00	0	02252		STO P+4	
00666	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00667	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE

*CHECK TIMING BETWEEN 12 LEFT AND 12 RIGHT

00670	0534	00	3	02236	CR23	LXA WORDY,3	L DELAY CONSTANT TO XR
00671	2	00001	1	00671		TIX *,1,1	DELAY 300 USEC
00672	0544	00	0	02261		LCHA CW1	WITH S AND 2 TRIGGERS ON 9 LEFT CONTROL WORD TO BUFFER PREVENTING DISCONNECT OF CR
00673	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
00674	0074	00	4	01142		TSX LINE,4	YES
00675	0020	00	0	00710		TRA CR24	NO

SAVE CARD LOCATIONS TESTING

00676	0500	00	0	02361		CLA KK+8	L -1
00677	0601	00	0	02246		STO P	
00700	0601	00	0	02250		STO P+2	
00701	0400	00	0	02361		ADD KK+8	L -1
00702	0601	00	0	02247		STO P+1	STORE A -2
00703	0601	00	0	02251		STO P+3	

00704	0074	00	4	01152		TSX VALUE,4	TO TIMING VALUE ROUTINE
00705	0074	00	4	01150		TSX SAVE,4	TO SAVE XRB ROUTINE
00706	0020	00	0	01244		TRA PR	TO TIMING PRINT ROUTINE
00707	512324216060					BCD 1RCDA	CHECK INFORMATION
							READ FROM CARD
00710	0534	00	1	02365	CR24	LXA K,1	L 30 IN XRA
00711	0534	00	2	02255		LXA SX+1,2	RECORD NUMBER TO XRB
00712	0500	00	1	02204		CLA CI+24,1	WORD READ FROM CARD
00713	0560	00	1	02234		LDQ CBI+24,1	WORD IN STORAGE
00714	0340	00	1	02234		CAS CBI+24,1	
00715	0020	00	0	00717		TRA *+2	ERROR
00716	0020	00	0	00723		TRA *+5	OK
00717	0760	00	0	00141		SLN 1	TURN ON SENSE LIGHT 1
00720	0074	00	4	06502		TSX ERROR-2,4	TO ERROR ROUTINE
00721	0761	00	0	00710		NOP CR24	
00722	0020	00	0	00000		TRA 0	IF ERROR, SELECT CARD READER
00723	2	00001	1	00712		TIX CR24+2,1,1	CHECK ENTIRE RECORD
00724	-2	00001	2	01162		TNX FILE,2,1	REDUCE RECORD COUNT UNTIL LAST CARD HAS BEEN READ
00725	0634	00	2	02255		SXA SX+1,2	SAVE RECORD COUNT
00726	0074	00	4	00730		TSX CLEAR,4	CLEAR CARD IMAGE AREA
00727	0020	00	0	00734		TRA CLEAR+4	
00730	0534	00	1	02365	CLEAR	LXA K,1	L 30 IN XRA
00731	0600	00	1	02204		STZ CI+24,1	CLEAR CARD
00732	2	00001	1	00731		TIX *-1,1,1	IMAGE AREA
00733	0020	00	4	00001		TRA 1,4	
*INCREMENT DELAY CONSTANTS TO INCREASE DELAYS							
00734	-0056	00		200000		LNT 200000	INCREASE DELAY BETWEEN SELECT AND RESET LD CHAN
00735	0020	00	0	00744		TRA CR25	NO
00736	0500	00	0	02235		CLA SELDY	ADD
00737	0400	00	0	02332		ADD K0+5	ABOUT
00740	0601	00	0	02235		STO SELDY	1 MS
*DELAY ABOUT 10 MS AFTER 12 RIGHT TIME NO LAOD CHANNEL WAITING							
*DISCONNECT AND RESELECT THE CARD READER							
00741	0774	00	1	02056		AXT 1070,1	L 2056 IN XRA
00742	2	00001	1	00742		TIX *,1,1	DELAY
00743	0020	00	0	00137		TRA CR	
00744	-0056	00		100000	CR25	LNT 100000	INCREASE DELAY BETWEEN WORDS
00745	0020	00	0	00756		TRA CR26	NO
00746	0500	00	0	02236		CLA WORDY	ADD

00747	0400	00	0	02363	ADD KK+10	24
00750	0601	00	0	02236	STO WORDY	USEC
00751	-0320	00	0	00000	ANA	36 USEC DELAY
00752	0774	00	1	06414	AXT 3340,1	L 6414 IN XRA
00753	2	00001	1	00753	TIX *,1,1	DELAY 85 MS
00754	0544	00	0	02262	LCHA CW1+1	9 R NEXT RECORD TO BUFFER
00755	0020	00	0	00147	TRA CR+8	READ NEXT RECORD
00756	-0056	00	0	040000	CR26 LNT 40000	INCREASE DELAY BETWEEN ROWS
00757	0020	00	0	00777	TRA CR27	NO
00760	0500	00	0	02237	CLA ROWDY	ADD
00761	0402	00	0	02355	SUB KK+4	
00762	0601	00	0	02237	STO ROWDY	ABOUT
00763	0500	00	0	02240	CLA ROWD1	
00764	0402	00	0	02355	SUB KK+4	1/10 MS
00765	0601	00	0	02240	STO ROWD1	
00766	-0320	00	0	00000	ANA	36 USEC DELAY
00767	0774	00	1	00021	AXT 17,1	L 21 IN XRA
00770	2	00001	1	00770	TIX *,1,1	DELAY 5 MS FROM 12 R TIME

*AT EOR TIME-224 ON INDEX, LOAD CHANNEL INSTR FOR 9L OF NEXT RECORD

00771	0544	00	0	02261	LCHA CW1	9L CONTROL WORD TO BUFFER
00772	-0320	00	0	00000	ANA	36 USEC DELAY
00773	0774	00	1	06722	AXT 3538,1	L 6722 IN XRA
00774	2	00001	1	00774	TIX *,1,1	DELAY 85 MS

00775	0544	00	0	02262	LCHA CW1+1	9 R NEXT RECORD TO BUFFER
00776	0020	00	0	00147	TRA CR+8	READ NEXT RECORD

*CHECK TIMING BETWEEN RECORDS FROM EOR TIME TO 9L TIME

00777	-0056	00	0	020000	CR27 LNT 20000	INCREASE DELAY BETWEEN RECORDS
01000	0020	00	0	01025	TRA CR28	NO
01001	-0320	00	0	00000	ANA	36 USEC DELAY
01002	0774	00	1	00024	AXT 20,1	L 24 IN XRA
01003	2	00001	1	01003	TIX *,1,1	DELAY 5 MS FROM 12 R TIME

*AT EOR TIME-224 ON INDEX. LOAD CHANNEL INSTR FOR 9L OF NEXT RECORD

01004	0544	00	0	02261	LCHA CW1	9L CONTROL WORD TO BUFFER
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*COMMENCE WITH 42 MS DELAY THRU LOAD CHANNEL INSTRUCTION

01005	0500	00	0	02241	CLA CONDY	ADD
01006	0400	00	0	02332	ADD K0+5	ABOUT
01007	0601	00	0	02241	STO CONDY	1 MS
01010	0774	00	1	06644	AXT 3492,1	L 6644 IN XRA

01011	2	00001	1	01011	TIX *	,1,1	DELAY
01012	-0320	00	0	00000	ANA		36 USEC DELAY
01013	0534	00	3	02241	LXA CONDY,	3	L DELAY CONSTANT TO XR
01014	2	00001	1	01014	TIX *	,1,1	DELAY
01015	0544	00	0	02262	LCHA CW1+1		9 R NEXT RECORD TO BUFFER
01016	0760	00	0	00005	IOT		IS I/O CHECK LIGHT ON
01017	0074	00	4	01142	TSX LINE,	4	YES
01020	0020	00	0	00154	TRA CR1		
01021	0500	00	0	02337	CLA K0+10		L +244040
01022	0601	00	0	02252	STO P+4		
01023	0074	00	4	01150	TSX SAVE,	4	TO SAVE XRB ROUTINE
01024	0020	00	0	01300	TRA PR1		

*CHECK TIMING BETWEEN 12 RIGHT AND END OF RECORD

01025	-0056	00		010000	CR28	LNT 10000	INCREASE DELAY BETWEEN 12 RIGHT AND END OF RECORD
01026	0020	00	0	01052	TRA CR29		NO
01027	0500	00	0	02242	CLA EORDY		ADD
01030	0402	00	0	02355	SUB KK+4		ABOUT
01031	0601	00	0	02242	STO EORDY		1/10 MS
01032	-0320	00	0	00000	ANA		36 USEC DELAY
01033	0534	00	3	02242	LXA EORDY,	3	L DELAY CONSTANT TO XR
01034	2	00001	1	01034	TIX *	,1,1	DELAY 5 MS FROM 12 R TIME
01035	0544	00	0	02261	LCHA CW1		9L CONTROL WORD TO BUFFER
01036	0760	00	0	00005	IOT		IS I/O CHECK LIGHT ON
01037	0074	00	4	01142	TSX LINE,	4	YES
01040	0020	00	0	01045	TRA CR28A		NO
01041	0500	00	0	02333	CLA K0+6		L +5230
01042	0601	00	0	02252	STO P+4		
01043	0074	00	4	01150	TSX SAVE,	4	TO SAVE XRB ROUTINE
01044	0020	00	0	01300	TRA PR1		TO TIMING PRINT ROUTINE
01045	0774	00	1	06720	CR28A	AXT 3536,1	L 6720 IN XRA
01046	2	00001	1	01046	TIX *	,1,1	DELAY 85 MS
01047	-0320	00	0	00000	ANA		36 USEC DELAY
01050	0544	00	0	02262	LCHA CW1+1		9R CONTROL WORD TO BUFFER
01051	0020	00	0	00147	TRA CR+8		

*CHECK TIMING BETWEEN 12 RIGHT TIME AND SELECT

01052	-0056	00		004000	CR29	LNT 4000	INCREASE DELAY BETWEEN 12 RIGHT AND SELECT
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01053	0020	00	0	01112		TRA CR30	NO
01054	0762	00	0	01321		RCDA	SELECT CARD READER
01055	0540	00	0	02321		RCHA CW9	9 LEFT THRU 12 RIGHT CONTROL WORDS
01056	0060	00	0	01056		TCOA *	READ ENTIRE CARD
01057	0074	00	4	01155		TSX REDUC,4	TO REDUCE RECORD COUNT
01060	0774	00	1	02777		AXT 1535,1	L 2777 IN XRA
01061	1	00001	1	01062		TXI *+1,1,1	XRA NOW 3000
01062	0534	00	2	02243		LXA KONDY,2	L DELAY CONSTANT TO XRB
01063	1	00016	2	01064		TXI *+1,2,14	ADD 1 MS DELAY
01064	0634	00	2	02243		SXA KONDY,2	SAVE CONSTANT
01065	2	00001	2	01071	CR29B	TIX *+4,2,1	CHECK INCREASED
01066	-3	00000	2	01072		TXL *+4,2,0	TIMING DELAY BETWEEN 12 RIGHT AND SELECT WHILE KEEPING TIMING
01067	0762	00	0	01321		RCDA	DELAY BETWEEN 12 RIGHT AND 9 LEFT CONSTANT
01070	1	77777	2	01072		TXI *+2,2,32767	
01071	0761	00	0	00000		NOP	
01072	2	00001	1	01065		TIX CR29B,1,1	
01073	0540	00	0	02322		RCHA CW10	9 LEFT THRU 12 RIGHT CONTROL WORDS
01074	0060	00	0	01074		TCOA *	READ ENTIRE CARD
01075	0534	00	2	02243		LXA KONDY,2	L DELAY VALUE IN XRB
01076	0760	00	0	00005		IOT	IS I/O CHECK LIGHT ON
01077	0020	00	0	00710		TRA CR24	YES
01100	0074	00	4	01142		TSX LINE,4	NO
01101	0761	00	0	00000		NOP	
*CONVERT 6 CYCLE DELAY CONSTANT TO 2 CYCLE							
01102	0560	00	0	02243		LDQ KONDY	6 CYCLE CONSTANT
01103	0200	00	0	02357		MPY KK+6	L -3
01104	0131	00	0	00000		XCA	PRODUCT TO ACCUMULATOR
01105	0760	00	0	00002		CHS	
01106	0601	00	0	02254		STO SX	SAVE CONVERTED CONSTANT
01107	0500	00	0	02343		CLA K0+14	L +60
01110	0601	00	0	02252		STO P+4	
01111	0020	00	0	01300		TRA PR1	TO TIMING PRINT ROUTINE
*TEST SENSE SWITCH 5 TO CHECK CARD READER RELIABILITY							
*READING WITH NORMAL DELAYS OR WITH VARIABLE DELAYS							
*CAUSING CARD READER TO INTERMITTENTLY LATCH UP							
01112	0760	00	0	00165	CR30	SWT 5	TEST SENSE SWITCH 5

01113	0020	00	0	01126	TRA	*+11	NORMAL DELAY
01114	0500	00	0	02245	CLA	NUM	
01115	0400	00	0	02363	ADD	KK+10	L +1
01116	0601	00	0	02245	STO	NUM	SAVE
01117	0621	00	0	01120	STA	*+1	
01120	0500	00	0	00000	CLA		
01121	0734	00	1	00000	PAX	0,1	ADDRESS TO XRA
01122	2	00001	1	01122	TIX	*,1,1	DELAY
01123	0774	00	1	01424	AXT	788,1	L 1424
01124	2	00001	1	01124	TIX	*,1,1	DELAY
01125	0020	00	0	00137	TRA	CR	TO SELECT CARD READER
01126	0774	00	1	00013	AXT	11,1	L 13 XRA
01127	2	00001	1	01127	TIX	*,1,1	DELAY 5 MIS FROM 12 R TIME
01130	-0320	00	0	00000	ANA		36 USE DELAY

*AT EOR TIME-224 ON INDEX, LOAD CHANNEL INSTR FOR 9L OF NEXT RECORD

01131	0544	00	0	02261	LCHA	CW1	9L CONTROL WORD TO BUFFER
01132	-0320	00	0	00000	ANA		36 USEC DELAY
01133	0774	00	1	06722	AXT	3538,1	L 6722 IN XRA
01134	2	00001	1	01134	TIX	*,1,1	DELAY 85 MS
01135	0544	00	0	02262	LCHA	CW1+1	9R CONTROL WORD TO BUFFER
01136	0020	00	0	00147	TRA	CR+8	

*CHECK FOR PRINTER ON LINE

01137	0760	00	0	00142	SLN	2	TURN ON SENSE LIGHT 2
01140	0020	00	0	01142	TRA	LINE	
01141	0760	00	0	00143	SLN	3	TURN ON SENSE LIGHT 3
01142	0760	00	0	00163	LINE	SWT 3	TEST SENSE SWITCH 3
01143	0020	00	4	00002	TRA	2,4	YES-PRINT
01144	0074	00	4	01150	TSX	SAVE,4	
01145	-0056	00		010000	LNT	10000	INDICATOR POSITION 5 ON
01146	0000	00	0	00110	HTR	TIME-1	
01147	0000	00	0	00111	HTR	TIME	
01150	0634	00	2	02254	SAVE	SXA SX,2	SAVE XRB
01151	0020	00	4	00001	TRA	1,4	
01152	0500	00	0	02342	VALUE	CLA K0+13	L +154
01153	0601	00	0	02252	STO	P+4	SAVE TIMING VALUE
01154	0020	00	4	00001	TRA	1,4	
01155	0534	00	2	02255	REDUC	LXA SX+1,2	L RECORD COUNT TO XRB
01156	-2	00001	2	01162	TXN	FILE,2,1	REDUCE RECORD COUNT UNTIL LAST CARD HAS BEEN READ
01157	0634	00	2	02255	SXA	SX+1,2	SAVE RECORD COUNT
01160	0020	00	4	00001	TRA	1,4	
01161	632526216060				BCD	1TEFA	CHECK FOR FALSE EOF
01162	0030	00	0	01164	FILE	TEFA *+2	NEVER AN EOF HERE

01163	0020	00	0	01166	TRA	*+3	SHOULD NOT TRANSFER
01164	0074	00	4	06502	TSX	ERROR-2,4	OK-NO TRANSFER
01165	-3	00000	4	01162	TXL	FILE,4	
01166	0760	00	0	00163	SWT	3	IS PRINTER ON LINE
01167	0074	00	4	01213	TSX	PASS,4	YES-PRINT PASS COMPLETE
01170	0500	00	0	05503	CLA	IOCT	L NO OF BUFFERS
01171	0402	00	0	02363	SUB	KK+10	L +1
01172	0601	00	0	05503	STO	IOCT	ALL CARD READERS HAVE BEEN CHECKED
01173	0100	00	0	01175	TZE	*+2	YES
01174	0020	00	0	00037	TRA	TCTX	NO-GO CHECK OTHERS
01175	0500	00	0	02431	CLA	IOCTL	L CONTROL WORD
01176	0601	00	0	05500	STO	CTRL1	FOR CHANNEL A
01177	0600	00	0	05501	STZ	CTRL2	AND CLEAR CONTROL
01200	0600	00	0	05502	STZ	CTRL3	WORDS FOR CHANNEL C,E
01201	0020	00	0	00037	TRA	TCTX	ADJUST TEST FOR CHAN A
01202	0760	00	0	00166	SEN6	SWT 6	TEST SENSE SWITCH 6
01203	0020	00	0	01207	TRA	*+4	TO LOAD NEXT PROGRAM

*BYPASS CARD READER SPEED TEST AFTER FIRST PASS

01204	0500	00	0	02433	CLA	IOCTL+2	L TRA TIME
01205	0601	00	0	00047	STO	TCTX+8	
01206	0020	00	0	00032	TRA	MP	REPEAT TEST

*RUN OUT CARDS IN READER AND RELOAD CARDS TEST AND BLANK CARDS
 *IN HOPPER AND READY CARD READER.SET KEYS AS PER INSTRUCTIONS
 *AFTER LOCATION 00032 AND PUSH START.

01207	0762	00	0	01321	RCDA		LOAD
01210	0540	00	0	02256	RCHA	CWA	THE
01211	0544	00	0	00000	LCHA	0	NEXT
01212	0020	00	0	00001	TRA	1	PROGRAM
01213	0441	00	0	00137	PASS	LDI CR	SELECT INSTR TO IND
01214	0056	00	0	012311	RNT	5321,0	TESTING ON CHANNEL E
01215	0020	00	0	01217	TRA	*+2	NO
01216	0020	00	0	01230	TRA	FIX	YES
01217	0056	00	0	006371	RNT	3321,0	TESTING ON CHANNEL C
01220	0020	00	0	01222	TRA	*+2	NO
01221	0020	00	0	01236	TRA	FIX1	YES

*ADJUST PASS COMPLETE PRINT IMAGE FOR CHANNEL A

01222	-0500	00	0	02432	CAL	IOCTL+1	L 777777074000
01223	0320	00	0	02141	ANS	IMAG8+13	ADJUST 3R ROW
01224	0320	00	0	02135	ANS	IMAG8+9	ADJUST 5R ROW
01225	-0500	00	0	02425	CAL	BIT+7	L 000000200000
01226	-0602	00	0	02145	ORS	IMAG8+17	ADJUST 1R ROW
01227	0020	00	0	01540	TRA	PI8	

*ADJUST PASS COMPLETE PRINT IMAGE FOR CHANNEL E

01230	-0500	00	0	02432	FIX	CAL IOCTL+1	L 777777074000
01231	0320	00	0	02141		ANS IMAG8+13	ADJUST 3R ROW
01232	0320	00	0	02145		ANS IMAG8+17	ADJUST 5R ROW
01233	-0500	00	0	02425		CAL BIT+7	L 000000200000
01234	-0602	00	0	02135		ORS IMAG8+9	ADJUST 5R ROW
01235	0020	00	0	01540		TRA PI8	

*ADJUST PASS COMPLETE PRINT IMAGE FOR CHANNEL E

01236	-0500	00	0	02432	FIX1	CAL IOCTL+1	L 777777074000
01237	0320	00	0	02135		ANS IMAG8+9	ADJUST 5R ROW
01240	0320	00	0	02145		ANS IMAG8+17	ADJUST 1R ROW
01241	-0500	00	0	02425		CAL BIT+7	L 000000200000
01242	-0602	00	0	02141		ORS IMAG8+13	ADJUST 3R ROW
01243	0020	00	0	01540		TRA PI8	

*ADJUST CARD LOCATION INSERTION ROUTINE

01244	0500	00	0	02373	PR	CLA K1+1	L HTR P
01245	0621	00	0	01266		STA PRA1+1	
01246	-0056	00	100000			LNT 100000	INDICATOR POSITION 2 ON
01247	0020	00	0	01255		TRA *+6	NO
01250	0500	00	0	02375		CLA K1+3	L ORS IMAG1+19,4
01251	0601	00	0	01273		STO PRA1+6	INSTR FOR INDICATOR 2 ON
01252	-0500	00	0	02402		CAL K1+8	L ANS IMAG1+21,1
01253	0601	00	0	01263		STO PRA+2	INSTR FOR INDICATOR 2 ON
01254	0020	00	0	01261		TRA PRA	
01255	0500	00	0	02376		CLA K1+4	L ORS IMAG2+19,4
01256	0601	00	0	01273		STO PRA1+6	INSTR FOR INDICATOR 3 ON
01257	0500	00	0	02403		CLA K1+9	L ANS IMAG2+21,1
01260	0601	00	0	01263		STO PRA+2	INSTR FOR INDICATOR 3 ON

*MASK CARD IN CORRECT IMAGE

01261	0534	00	1	02366	PRA	LXA K+1,1	L 24 IN XRA
01262	-0500	00	0	02426		CAL MASK	L 477177777777
01263	+000000000000					OCT	MASK CARD LOCATIONS
01264	2 00002	1	01263			TIX *-1,1,2	IN PRINT IMAGE

*INSERT CARD LOCATIONS IN PRINT IMAGE

01265	0534	00	1	02356	PRA1	LXA KK+5,1	L 4 IN XRA
01266	0500	00	0	00000		CLA	L STORED VALUE
01267	0120	00	0	01274		TPL PRA2	SKIP LOCATION INSERTION
01270	0767	00	0	00001		ALS 1	DOUBLE VALUE
01271	0734	00	4	00000		PAX 0,4	PUT ACCUMULATOR IN XRC
01272	0500	00	1	02422		CLA BIT+4,1	L LOCATION BIT
01273	+000000000000					OCT	INSERT PRINT IMAGE
01274	0500	00	0	01266	PRA2	CLA PRA1+1	L CLA INSTR
01275	0400	00	0	02363		ADD KK+10	L +1
01276	0621	00	0	01266		STA PRA1+1	STORE NEXT ADDRESS
01277	2 00001	1	01266			TIX PRA1+1,1,1	

CONVERT XRB VALUE TO USEC IN OCTAL

01300	0560	00	0	02254	PR1	LDQ SX	L SAVED XRB IN MQ
01301	0200	00	0	02365		MPY K	MPY BY OCT 30,EQU USEC
01302	0131	00	0	00000		XCA	PUT PRODUCT IN ACC
01303	0400	00	0	02252		ADD P+4	
01304	0601	00	0	02253		STO P+5	TOTAL USEC
01305	-0056	00		100000		LNT 100000	INDICATOR POSITION 2 ON
01306	0020	00	0	01310		TRA *+2	NO
01307	0020	00	0	01334		TRA PR2A	

CONVERT USEC TO MILLISEC

01310	-0056	00		002000		LNT 2000	INDICATOR POSITION 7 ON
01311	0020	00	0	01313		TRA *+2	NO
01312	0020	00	0	01316		TRA *+4	YES
01313	0500	00	0	02345		CLA K0+16	L HTR K0+9
01314	0621	00	0	01322		STA PR1A	
01315	0020	00	0	01320		TRA *+3	
01316	0500	00	0	02411		CLA K1+15	L HTR K+4
01317	0621	00	0	01322		STA PR1A	
01320	0560	00	0	02253		LDQ P+5	PUT USEC IN MQ
01321	0500	00	0	02364		CLA KK+11	CLEAR ACCUMULATOR

*DIV BY DEC 100 EQU MS AND TENTHS-DIV BY DEC 1000 EQU MS

01322	0221	00	0	00000	PR1A	DVP	
01323	-0600	00	0	02253		STQ P+5	

*TEST INDICATORS FOR CORRECT PRINT IMAGE

01324	-0056	00		200000	PR2	LNT 200000	INDICATOR POSITON 1 ON
01325	0020	00	0	01342		TRA PR2B	NO
01326	0500	00	0	02401		CLA K1+7	L ANS IMAG+21,1
01327	0601	00	0	01423		STO PR4A+1	INSTR FOR INDICATOR 1 ON
01330	0500	00	0	02374		CLA K1+2	L ORS IMAG+19,4
01331	0601	00	0	01464		STO PR6	INSTR FOR INDICATOR 1 ON
01332	0534	00	2	02354		LXA KK+3,2	L 6 IN XRB
01333	0020	00	0	01411		TRA PR4	
01334	0500	00	0	02402	PR2A	CLA K1+8	L ANS IMAG1+21,1
01335	0601	00	0	01423		STO PR4A+1	INSTR FOR INDICATOR 2 ON
01336	0500	00	0	02375		CLA K1+3	L ORS IMAG1+19,4
01337	0601	00	0	01464		STO PR6	INSTR FOR INDICATOR 2 ON
01340	0534	00	2	02355		LXA KK+4,2	L 5 IN XRB
01341	0020	00	0	01411		TRA PR4	
01342	-0056	00		040000	PR2B	LNT 40000	INDICATOR POSITION 3 ON
01343	0020	00	0	01352		TRA PR2C	NO
01344	0500	00	0	02403		CLA K1+9	L ANS IMAG2+21,1
01345	0601	00	0	01423		STO PR4A+1	INSTR FOR INDICATOR 3 ON
01346	0500	00	0	02376		CLA K1+4	L ORS IMAG2+19,4

01347	0601	00	0	01464		STO PR6	INSTR FOR INDICATOR 3 ON
01350	0534	00	2	02356		LXA KK+5,2	L 4 IN XRB
01351	0020	00	0	01411		TRA PR4	
01352	-0056	00	0	020000	PR2C	LNT 20000	INDICATOR POSITION 4 ON
01353	0020	00	0	01362		TRA PR2D	NO
01354	0500	00	0	02404		CLA K1+10	L ANS IMAG3+21,1
01355	0601	00	0	01423		STO PR4A+1	INSTR FOR INDICATOR 4 ON
01356	0500	00	0	02377		CLA K1+5	L ORS IMAG3+19,4
01357	0601	00	0	01464		STO PR6	INSTR FOR INDICATOR 4 ON
01360	0534	00	2	02357		LXA KK+6,2	L 3 IN XRB
01361	0020	00	0	01411		TRA PR4	
01362	-0056	00	0	010000	PR2D	LNT 10000	INDICATOR POSITION 5 ON
01363	0020	00	0	01372		TRA PR2E	NO
01364	0500	00	0	02405		CLA K1+11	L ANS IMAG4+21,1
01365	0601	00	0	01423		STO PR4A+1	INSTR FOR INDICATOR 5 ON
01366	0500	00	0	02400		CLA K1+6	L ORS IMAG4+19,4
01367	0601	00	0	01464		STO PR6	INSTR FOR INDICATOR 5 ON
01370	0534	00	2	02360		LXA KK+7,2	L 2 IN XRB
01371	0020	00	0	01411		TRA PR4	
01372	-0056	00	0	004000	PR2E	LNT 4000	INDICATOR POSITION 6 ON
01373	0020	00	0	01402		TRA PR2G	NO
01374	0500	00	0	02412		CLA K1+16	L ANS IMAG5+21,1
01375	0601	00	0	01423		STO PR4A+1	INSTR FOR INDICATOR 6 ON
01376	0500	00	0	02413		CLA K1+17	L ORS IMAG5+19,4
01377	0601	00	0	01464		STO PR6	INSTR FOR INDICATOR 6 ON
01400	0534	00	2	02361		LXA KK+8,2	L 1 IN XRB
01401	0020	00	0	01411		TRA PR4	
01402	-0056	00	0	002000	PR2G	LNT 2000	INDICATOR POSITION 7 ON
01403	0020	00	0	000000		TRA 0	NO
01404	0500	00	0	02414		CLA K1+18	L ANS IMAG6+21,1
01405	0601	00	0	01423		STO PR4A+1	INSTR FOR INDICATOR 7 ON
01406	0500	00	0	02415		CLA K1+19	L ORS IMAG6+19,4
01407	0601	00	0	01464		STO PR6	INSTR FOR INDICATOR 7 ON
01410	0534	00	2	02362		LXA KK+9,2	L 0 IN XRB
01411	0534	00	1	02366	PR4	LXA K+1,1	L 24 IN XRA
01412	-0056	00	0	100000		LNT 100000	INDICATOR POSITION 2 ON
01413	0020	00	0	01415		TRA *+2	NO
01414	0020	00	0	01422		TRA PR4A	YES
01415	-0056	00	0	002000		LNT 2000	INDICATOR POSITION 7 ON
01416	0020	00	0	01420		TRA *+2	NO
01417	0020	00	0	01422		TRA PR4A	YES
01420	-0500	00	0	02427		CAL MASK+1	MASK
01421	0020	00	0	01423		TRA *+2	TIMING
01422	-0500	00	0	02430	PR4A	CAL MASK+2	SECTION
01423	+00000000000000					OCT	OF
01424	2 00002	1	0	01423		TIX *-1,1,2	IMAGE

*CONVERT TIMING TO DECIMAL AND INSERT
*IN THE CORRECT PRINT IMAGE

01425 -0056 00 100000 LNT 100000 INDICATOR POSITION 2 ON

01426	0020	00	0	01430		TRA *+2	NO
01427	0020	00	0	01443		TRA PR4B	YES
01430	-0056	00		002000		LNT 2000	INDICATOR POSITION 7 ON
01431	0020	00	0	01433		TRA *+2	NO
01432	0020	00	0	01443		TRA PR4B	YES
01433	0500	00	0	02406		CLA K1+12	L HTR KK+5
01434	0621	00	0	01452		STA PR5	
01435	0500	00	0	02410		CLA K1+14	L HTR K+2
01436	0621	00	0	01453		STA PR5+1	
01437	0621	00	0	01457		STA PR5+5	
01440	0500	00	0	02347		CLA K0+18	L CLA BIT+8,1
01441	0601	00	0	01463		STO PR6-1	
01442	0020	00	0	01452		TRA PR5	
01443	0500	00	0	02407	PR4B	CLA K1+13	L HTR KK+6
01444	0621	00	0	01452		STA PR5	
01445	0500	00	0	02411		CLA K1+15	L HTR K+4
01446	0621	00	0	01453		STA PR5+1	
01447	0621	00	0	01457		STA PR5+5	
01450	0500	00	0	02346		CLA K0+17	L CLA BIT+7,1
01451	0601	00	0	01463		STO PR6-1	
01452	0534	00	1	00000	PR5	LXA 0,1	L 4 OR 3 IN XRA
01453	0500	00	0	00000		CLA	L 10 TO 4TH OR 3RD
01454	0402	00	0	02363		SUB KK+10	L +1
01455	0131	00	0	00000		XCA	10 TO POWER MINUS 1 TO MQ
01456	0500	00	0	02253		CLA P+5	TIME IN OCTAL
01457	0221	00	0	00000		DVP	DIV BY 10 TO 4TH OR 3RD
01460	0200	00	0	02335		MPY K0+8	MPY BY 10 DECIMAL
01461	0767	00	0	00001		ALS 1	DOUBLE THE VALUE
01462	0734	00	4	00000		PAX 0,4	PUT ACC IN XRC
01463	+0000000000000					OCT	L BIT
01464	+0000000000000				PR6	OCT	BIT TO PRINT IMAGE
01465	2 00001	1		01460		TIX PR5+6,1,1	
01466	0020	00	2	01475		TRA TT+6,2	TO TRANSFER TABLE
01467	0020	00	0	01476	TT	TRA PI	TIME BETWEEN SEL-RCHA
01470	0020	00	0	01503		TRA PI1	TIME BETWEEN WORDS
01471	0020	00	0	01507		TRA PI2	TIME BETWEEN ROWS
01472	0020	00	0	01513		TRA PI3	TIME BETWEEN RECORDS
01473	0020	00	0	01520		TRA PI4	TIME BETWEEN 12R-EOR
01474	0020	00	0	01524		TRA PI5	TIME BETWEEN 12 R-SELECT
01475	0020	00	0	01530		TRA PI6	CARD READER SPEED

PRINT ROUTINES

01476	0766	00	0	01361	PI	WPRA	
01477	0760	00	0	01363		SPRA 3	
01500	0766	00	0	01361		WPRA	
01501	0540	00	0	02312		RCHA CW2	
01502	0020	00	0	00000		TRA 0	
01503	0766	00	0	01361	PI1	WPRA	
01504	0760	00	0	01363		SPRA 3	
01505	0540	00	0	02313		RCHA CW3	

01506	0020	00	0	00000		TRA	0	
01507	0766	00	0	01361	PI2	WPRA		
01510	0760	00	0	01363		SPRA	3	
01511	0540	00	0	02314		RCHA	CW4	
01512	0020	00	0	00000		TRA	0	
01513	0766	00	0	01361	PI3	WPRA		
01514	0760	00	0	01363		SPRA	3	
01515	0766	00	0	01361		WPRA		
01516	0540	00	0	02315		RCHA	CW5	
01517	0020	00	0	00000		TRA	0	
01520	0766	00	0	01361	PI4	WPRA		
01521	0760	00	0	01363		SPRA	3	
01522	0540	00	0	02316		RCHA	CW6	
01523	0020	00	0	00111		TRA	TIME	
01524	0766	00	0	01361	PI5	WPRA		
01525	0760	00	0	01363		SPRA	3	
01526	0540	00	0	02317		RCHA	CW7	
01527	0020	00	0	00000		TRA	0	
01530	0766	00	0	01361	PI6	WPRA		
01531	0760	00	0	01363		SPRA	3	
01532	0540	00	0	02320		RCHA	CW8	
01533	0020	00	0	00000		TRA	0	
01534	0766	00	0	01361	PI7	WPRA		
01535	0760	00	0	01363		SPRA	3	
01536	0540	00	0	02323		RCHA	CW11	
01537	0020	00	0	00032		TRA	MP	
01540	0766	00	0	01361	PI8	WPRA		SELECT PRINTER TO PRINT
01541	0760	00	0	01363		SPRA	3	
01542	0540	00	0	02324		RCHA	CW12	PASS COMPLETE
01543	0020	00	4	00001		TRA	1,4	

PRINT IMAGES

01544	+010100000020	IMAG	OCT	10100000020	9	L
01545	+000000000000		OCT	0	9	R
01546	+000000000000		OCT	0	8	L
01547	+010000400000		OCT	10000400000	8	R
01550	+020000000000		OCT	20000000000	7	L
01551	+000000000000		OCT	0	7	R
01552	+000000400000		OCT	400000	6	L
01553	+000000000000		OCT	0	6	R
01554	+000022344212		OCT	22344212	5	L
01555	+003400000000		OCT	3400000000	5	R
01556	+107040000100		OCT	107040000100	4	L
01557	+100000040000		OCT	100000040000	4	R
01560	+000201002001		OCT	201002001	3	L
01561	+220200400000		OCT	220200400000	3	R
01562	+000004010004		OCT	4010004	2	L
01563	+000000020000		OCT	20000	2	R

01564	+040000000400	OCT	40000000400	1	L
01565	+004000000000	OCT	4000000000	1	R
01566	+022201410005	OCT	22201410005	0	L
01567	+000007220000	OCT	7220000	0	R
01570	+105040042220	OCT	105040042220	11	L
01571	+203200040000	OCT	203200040000	11	R
01572	+050126304512	OCT	50126304512	12	L
01573	+134400400000	OCT	134400400000	12	R
01574	+022044004004	OCT	22044004004	9	L
01575	-000100000000	OCT	400100000000	9	R
01576	+000000000000	OCT	0	8	L
01577	+000000000000	OCT	0	8	R
01600	+000000001000	OCT	1000	7	L
01601	+000004000000	OCT	4000000	7	R
01602	+000000400010	OCT	400010	6	L
01603	+001000000000	OCT	1000000000	6	R
01604	+001100342020	OCT	1100342020	5	L
01605	+100450000000	OCT	100450000000	5	R
01606	+010210000000	OCT	10210000000	4	L
01607	+204020000000	OCT	204020000000	4	R
01610	+100001030101	OCT	100001030101	3	L
01611	+000000000000	OCT	0	3	R
01612	+000002000000	OCT	2000000	2	L
01613	+030000000000	OCT	3000000000	2	R
01614	+040400000200	OCT	40400000200	1	L
01615	+000000000000	OCT	0	1	R
01616	+000002010101	OCT	2010101	0	L
01617	+000004000000	OCT	4000000	0	R
01620	+022040702014	OCT	22040702014	11	L
01621	+201440000000	OCT	201440000000	11	R
01622	+151715065220	OCT	151715065220	12	L
01623	-100130000000	OCT	500130000000	12	R
01624	+000020200004	IMAG1	OCT 20200004	9	L
01625	+000100000000		OCT 100000000	9	R
01626	+000000000000		OCT 0	8	L
01627	+000000000000		OCT 0	8	R
01630	+000040000000		OCT 40000000	7	L
01631	+000000000000		OCT 0	7	R
01632	+000000001030		OCT 1030	6	L
01633	+000000000000		OCT 0	6	R
01634	+000000044700		OCT 44700	5	L
01635	+004000040000		OCT 4000040000	5	R
01636	+000216100002		OCT 216100002	4	L
01637	+002000200000		OCT 2000200000	4	R
01640	+000000402000		OCT 402000	3	L
01641	+040000020000		OCT 40000020000	3	R
01642	+000000010001		OCT 10001	2	L
01643	+000000100000		OCT 100000	2	R
01644	+000100000000		OCT 100000000	1	L
01645	+010000000000		OCT 10000000000	1	R
01646	+000044403021		OCT 44403021	0	L
01647	+000007300000		OCT 7300000	0	R
01650	+000212100114		OCT 212100114	11	L
01651	+044100000000		OCT 44100000000	11	R
01652	+000120254602		OCT 120254602	12	L

01653	+012000060000		OCT 12000060000	12R
01654	+000010100010	IMAG2	OCT 10100010	9 L
01655	+040000000000		OCT 40000000000	9 R
01656	+000000000000		OCT 0	8 L
01657	+000000400000		OCT 400000	8 R
01660	+000020000000		OCT 20000000	7 L
01661	+000000000000		OCT 0	7 R
01662	+000000000406		OCT 406	6 L
01663	+000000000000		OCT 0	6 R
01664	+000000022340		OCT 22340	5 L
01665	+004000000000		OCT 4000000000	5 R
01666	+000107040000		OCT 107040000	4 L
01667	+002000040000		OCT 2000040000	4 R
01670	+000000201000		OCT 201000	3 L
01671	+000100400000		OCT 100400000	3 R
01672	+000000004001		OCT 4001	2 L
01673	+000000020000		OCT 20000	2 R
01674	+000040000000		OCT 40000000	1 L
01675	+010000000000		OCT 10000000000	1 R
01676	+000022201403		OCT 22201403	0 L
01677	+000007220000		OCT 7220000	0 R
01700	+000105040054		OCT 105040054	11L
01701	+044100040000		OCT 44100040000	11R
01702	+000050126300		OCT 50126300	12L
01703	+012000400000		OCT 12000400000	12R
01704	+000000202000	IMAG3	OCT 202000	9 L
01705	+210000000000		OCT 210000000000	9 R
01706	+000000000000		OCT 0	8 L
01707	+000000400000		OCT 400000	8 R
01710	+000000400000		OCT 400000	7 L
01711	+000000000000		OCT 0	7 R
01712	+000000000010		OCT 10	6 L
01713	+020000000000		OCT 20000000000	6 R
01714	+000000000447		OCT 447	5 L
01715	+100000000000		OCT 100000000000	5 R
01716	+000002161000		OCT 2161000	4 L
01717	+004000040000		OCT 4000040000	4 R
01720	+000000004020		OCT 4020	3 L
01721	+040000400000		OCT 40000400000	3 R
01722	+000000000100		OCT 100	2 L
01723	+002000020000		OCT 2000020000	2 R
01724	+000001000000		OCT 1000000	1 L
01725	+000000000000		OCT 0	1 R
01726	+000000444030		OCT 444030	0 L
01727	+002007220000		OCT 2007220000	0 R
01730	+000002121001		OCT 2121001	11L
01731	+230000040000		OCT 230000040000	11R
01732	+000001202546		OCT 1202546	12L
01733	+144000400000		OCT 144000400000	12R
01734	+000002002000		OCT 2002000	9 L
01735	+040401000000		OCT 40401000000	9 R
01736	+000000000000		OCT 0	8 L
01737	+000000000000		OCT 0	8 R
01740	+000000000000		OCT 0	7 L

01741	+000000000000	OCT 0	7 R
01742	+000000000010	OCT 10	6 L
01743	+100020000000	OCT 100020000000	6 R
01744	+000000441047	OCT 441047	5 L
01745	+204040200000	OCT 204040200000	5 R
01746	+000001104400	OCT 1104400	4 L
01747	+002000400000	OCT 2000400000	4 R
01750	+000004000020	OCT 4000020	3 L
01751	+000112000000	OCT 112000000	3 R
01752	+000000010100	OCT 10100	2 L
01753	+000000000000	OCT 0	2 R
01754	+000000020000	OCT 20000	1 L
01755	+010000000000	OCT 10000000000	1 R
01756	+000004014030	OCT 4014030	0 L
01757	+000012000000	OCT 12000000	0 R
01760	+000001102001	OCT 1102001	11L
01761	+144100400000	OCT 144100400000	11R
01762	+000002461546	OCT 2461546	12L
01763	+212061200000	OCT 212061200000	12R

01764	+000202000044	IMAG4 OCT 202000044	9 L
01765	+002200000000	OCT 2200000000	9 R
01766	+000000000000	OCT 0	8 L
01767	+000000400000	OCT 400000	8 R
01770	+000400000000	OCT 400000000	7 L
01771	+000000000000	OCT 0	7 R
01772	+000000010000	OCT 10000	6 L
01773	+004000000000	OCT 4000000000	6 R
01774	+000000447001	OCT 447001	5 L
01775	+110040000000	OCT 110040000000	5 R
01776	+002161000002	OCT 2161000002	4 L
01777	+040100040000	OCT 40100040000	4 R
02000	+000004020010	OCT 4020010	3 L
02001	+000400400000	OCT 400400000	3 R
02002	+000000100100	OCT 100100	2 L
02003	+000000020000	OCT 20000	2 R
02004	+001000000200	OCT 1000000200	1 L
02005	+200000000000	OCT 200000000000	1 R
02006	+000444030010	OCT 444030010	0 L
02007	+000407220000	OCT 407220000	0 R
02010	+002121001042	OCT 2121001042	11L
02011	+106100040000	OCT 106100040000	11R
02012	+001202546005	OCT 1202546005	12L
02013	+250240400000	OCT 250240400000	12R

02014	+000202000030	IMAG5 OCT 202000030	9 L
02015	+000000000000	OCT 0	9 R
02016	+000000000002	OCT 2	8 L
02017	+000000400000	OCT 400000	8 R
02020	+000400000004	OCT 400000004	7 L
02021	+000000000000	OCT 0	7 R
02022	+000000010000	OCT 10000	6 L
02023	+000000000000	OCT 0	6 R
02024	+000000447000	OCT 447000	5 L
02025	+105000000000	OCT 105000000000	5 R
02026	+002161000000	OCT 2161000000	4 L

02027	+040000040000	OCT	40000040000	4 R
02030	+000004020001	OCT	4020001	3 L
02031	+002600400000	OCT	2600400000	3 R
02032	+000000100100	OCT	100100	2 L
02033	+010000020000	OCT	10000020000	2 R
02034	+001000000200	OCT	1000000200	1 L
02035	+200000000000	OCT	200000000000	1 R
02036	+000444030001	OCT	444030001	0 L
02037	+010207220000	OCT	10207220000	0 R
02040	+002121001020	OCT	2121001020	11L
02041	+102000040000	OCT	102000040000	11R
02042	+001202546016	OCT	1202546016	12L
02043	+245400400000	OCT	245400400000	12R

02044	+000000000002	IMAG6	OCT 2	9 L
02045	+044100004000	OCT	44100004000	9 R
02046	+000000000004	OCT	4	8 L
02047	+000000000400	OCT	400	8 R
02050	+000000004000	OCT	4000	7 L
02051	+000000020000	OCT	20000	7 R
02052	+000000000140	OCT	140	6 L
02053	+000000000000	OCT	0	6 R
02054	+000000003000	OCT	3000	5 L
02055	+002200010040	OCT	2200010040	5 R
02056	+000000000400	OCT	400	4 L
02057	+020400200000	OCT	20400200000	4 R
02060	+000000000010	OCT	10	3 L
02061	+200000001300	OCT	200000001300	3 R
02062	+000000010001	OCT	10001	2 L
02063	+000000100000	OCT	100000	2 R
02064	+000000000000	OCT	0	1 L
02065	+101000000000	OCT	101000000000	1 R
02066	+000000010011	OCT	10011	0 L
02067	+000007100400	OCT	7100400	0 R
02070	+000000004100	OCT	4100	11L
02071	+044100224100	OCT	44100224100	11R
02072	+000000003446	OCT	3446	12L
02073	+323600011240	OCT	323600011240	12R

02074	+000000000224	IMAG7	OCT 224	9 L
02075	+100440000000	OCT	100440000000	9 R
02076	+000000000000	OCT	0	8 L
02077	+000000000000	OCT	0	8 R
02100	+000000001001	OCT	1001	7 L
02101	+020000000000	OCT	20000000000	7 R
02102	+000000014140	OCT	14140	6 L
02103	+004010000000	OCT	4010000000	6 R
02104	+000000020402	OCT	20402	5 L
02105	+010000000000	OCT	10000000000	5 R
02106	+000000000010	OCT	10	4 L
02107	+200000000000	OCT	200000000000	4 R
02110	+000000000000	OCT	0	3 L
02111	+001220000000	OCT	1220000000	3 R
02112	+000000000000	OCT	0	2 L
02113	+002000000000	OCT	2000000000	2 R
02114	+000000000000	OCT	0	1 L

02115	+040004000000	OCT	40004000000	1 R
02116	+000000004000	OCT	4000	0 L
02117	+003000000000	OCT	3000000000	0 R
02120	+000000031272	OCT	31272	11L
02121	+014010000000	OCT	14010000000	11R
02122	+000000000505	OCT	505	12L
02123	+360620000000	OCT	360620000000	12R

02124	+000000000042	IMAG8	OCT 42	9 L
02125	+204000040000	OCT	204000040000	9 R
02126	+000000000000	OCT	0	8 L
02127	+000040000000	OCT	40000000	8 R
02130	+000010020000	OCT	10020000	7 L
02131	+000000000000	OCT	0	7 R
02132	+000000100300	OCT	100300	6 L
02133	+001000000000	OCT	1000000000	6 R
02134	+000000005000	OCT	5000	5 L
02135	+110416000000	OCT	110416000000	5 R
02136	+000000040001	OCT	40001	4 L
02137	+020000000000	OCT	2000000000	4 R
02140	+000000212010	OCT	212010	3 L
02141	+000101020000	OCT	101020000	3 R
02142	+000003000000	OCT	3000000	2 L
02143	+000000000000	OCT	0	2 R
02144	+000004000004	OCT	4000004	1 L
02145	+040020004000	OCT	40020004000	1 R
02146	+000003002000	OCT	3002000	0 L
02147	+000000010000	OCT	10000	0 R
02150	+000010170142	OCT	10170142	11L
02151	+205415000000	OCT	205415000000	11R
02152	+000004205215	OCT	4205215	12L
02153	+170162220000	OCT	170162220000	12R

CARD IMAGE

02154	+000000000000	CI	OCT 0,0,0,0,0,0,0,0,0,0,0,0
02155	+000000000000		
02156	+000000000000		
02157	+000000000000		
02160	+000000000000		
02161	+000000000000		
02162	+000000000000		
02163	+000000000000		
02164	+000000000000		
02165	+000000000000		
02166	+000000000000		
02167	+000000000000		
02170	+000000000000		OCT 0,0,0,0,0,0,0,0,0,0,0,0
02171	+000000000000		
02172	+000000000000		
02173	+000000000000		
02174	+000000000000		
02175	+000000000000		
02176	+000000000000		
02177	+000000000000		
02200	+000000000000		

02201 +0000000000000
02202 +0000000000000
02203 +0000000000000

STORAGE IMAGE

02204	-327272727272	CBI	OCT	727272727272	9 L
02205	+272727272727		OCT	272727272727	9 R
02206	-317171717171		OCT	717171717171	8 L
02207	+171717171717		OCT	171717171717	8 R
02210	-307070707070		OCT	707070707070	7 L
02211	+070707070707		OCT	070707070707	7 R
02212	-024242424242		OCT	424242424242	6 L
02213	+242424242424		OCT	242424242424	6 R
02214	-105050505050		OCT	505050505050	5 L
02215	+050505050505		OCT	050505050505	5 R
02216	+313131313131		OCT	313131313131	4 L
02217	+131313131313		OCT	131313131313	4 R
02220	+212121212121		OCT	212121212121	3 L
02221	+121212121212		OCT	121212121212	3 R
02222	+202020202020		OCT	202020202020	2 L
02223	+020202020202		OCT	020202020202	2 R
02224	+101010101010		OCT	101010101010	1 L
02225	+010101010101		OCT	010101010101	1 R
02226	-337373737373		OCT	737373737373	0 L
02227	+373737373737		OCT	373737373737	0 R
02230	-347474747474		OCT	747474747474	11L
02231	-074747474747		OCT	474747474747	11R
02232	-357575757575		OCT	757575757575	12L
02233	-175757575757		OCT	575757575757	12R

TEMPORARY STORAGE

02234	+0000000000000	RDRDY	OCT	0	
02235	+0000000000000	SELDY	OCT	0	
02236	+0000000000000	WORDY	OCT	0	
02237	+0000000000000	ROWDY	OCT	0	
02240	+0000000000000	ROWD1	OCT	0	
02241	+0000000000000	CONDY	OCT	0	
02242	+0000000000000	EORDY	OCT	0	
02243	+0000000000000	KONDY	OCT	0	
02244	+0000000000000	MODL0	OCT	0	
02245	+0000000000000	NUM	OCT	0	
02246	+0000000000000	P	OCT	0	
02247	+0000000000000		OCT	0	
02250	+0000000000000		OCT	0	
02251	+0000000000000		OCT	0	
02252	+0000000000000		OCT	0	
02253	+0000000000000		OCT	0	
02254	+0000000000000	SX	OCT	0	
02255	+0000000000000		OCT	0	

CONTROL WORDS

02256	-1	00003	0	00000	CWA	IOCT 0,0,3	S AND 2 TRIGGERS ON	
02257	-1	00001	0	02154	CW	IOCT CI,0,1	S AND 2 TRIGGERS ON	
02260	2	00000	0	00000		IORP 0,0,0	1 TRIGGER ON	
02261	-1	00001	0	02154	CW1	IOCT CI,0,1	S AND 2 TRIGGERS ON	9 L
02262	-1	00001	0	02155		IOCT CI+1,0,1		9 R
02263	-1	00001	0	02156		IOCT CI+2,0,1		8 L
02264	-1	00001	0	02157		IOCT CI+3,0,1		8 R
02265	-1	00001	0	02160		IOCT CI+4,0,1		7 L
02266	-1	00001	0	02161		IOCT CI+5,0,1		7 R
02267	-1	00001	0	02162		IOCT CI+6,0,1		6 L
02270	-1	00001	0	02163		IOCT CI+7,0,1		6 R
02271	-1	00001	0	02164		IOCT CI+8,0,1		5 L
02272	-1	00001	0	02165		IOCT CI+9,0,1		5 R
02273	-1	00001	0	02166		IOCT CI+10,0,1		4 L
02274	-1	00001	0	02167		IOCT CI+11,0,1		4 R
02275	-1	00001	0	02170		IOCT CI+12,0,1		3 L
02276	-1	00001	0	02171		IOCT CI+13,0,1		3 R
02277	-1	00001	0	02172		IOCT CI+14,0,1		2 L
02300	-1	00001	0	02173		IOCT CI+15,0,1		2 R
02301	-1	00001	0	02174		IOCT CI+16,0,1		1 L
02302	-1	00001	0	02175		IOCT CI+17,0,1		1 R
02303	-1	00001	0	02176		IOCT CI+18,0,1		0 L
02304	-1	00001	0	02177		IOCT CI+19,0,1		0 R
02305	-1	00001	0	02200		IOCT CI+20,0,1		11L
02306	-1	00001	0	02201		IOCT CI+21,0,1		11R
02307	-1	00001	0	02202		IOCT CI+22,0,1		12L
02310	-1	00001	0	02203		IOCT CI+23,0,1		12R
02311	3	00001	0	02203		IORT CI+23,0,1	1 AND 2 TRIGGERS ON	12R
02312	0000	60	0	01544	CW2	IOCD IMAG,0,48	ALL TRIGGERS OFF	
02313	0000	30	0	01624	CW3	IOCD IMAG1,0,24		
02314	0000	30	0	01654	CW4	IOCD IMAG2,0,24		
02315	0000	60	0	01704	CW5	IOCD IMAG3,0,48		
02316	0000	30	0	01764	CW6	IOCD IMAG4,0,24		
02317	0000	30	0	02014	CW7	IOCD IMAG5,0,24		
02320	0000	30	0	02044	CW8	IOCD IMAG6,0,24		
02321	-1	00030	0	02154	CW9	IOCT CI,0,24	S AND 2 TRIGGERS ON	
02322	0000	30	0	02154	CW10	IOCD CI,0,24	ALL TRIGGERS ON	
02323	0000	30	0	02074	CW11	IOCD IMAG7,0,24		
02324	0000	30	0	02124	CW12	IOCD IMAG8,0,24		

CONSTANTS

02325	+0000000004360	K0	OCT 4360
02326	+0000000000010		OCT 10
02327	+00000000000511		OCT 511
02330	+00000000000503		OCT 503
02331	+00000000000622		OCT 622
02332	+00000000000052		OCT 52
02333	+0000000011070		OCT 11070
02334	+0000000576714		OCT 576714
02335	+0000000000012		OCT 12
02336	+0000000000144		OCT 144

02337	+000000244040		OCT 244040
02340	+000000000140		OCT 140
02341	+000000000374		OCT 374
02342	+000000000154		OCT 154
02343	+000000000060		OCT 60
02344	+000000000016		OCT 16
02345	0000 00 0 02336		HTR K0+9
02346	0500 00 1 02425		CLA BIT+7,1
02347	0500 00 1 02426		CLA BIT+8,1
02350	+000000002607		OCT 2607
02351	-000000000011	KK	OCT -11
02352	-000000000010		OCT -10
02353	-000000000007		OCT -7
02354	-000000000006		OCT -6
02355	-000000000005		OCT -5
02356	-000000000004		OCT -4
02357	-000000000003		OCT -3
02360	-000000000002		OCT -2
02361	-000000000001		OCT -1
02362	-000000000000		OCT -0
02363	+000000000001		OCT 1
02364	+000000000000		OCT 0
02365	+000000000030	K	OCT 30
02366	+000000000024		OCT 24
02367	+000000023420		OCT 23420
02370	+000000000454		OCT 454
02371	+000000001750		OCT 1750
02372	0020 00 0 00110	K1	TRA TIME-1
02373	0000 00 0 02246		HTR P
02374	-0602 00 4 01567		ORS IMAG+19,4
02375	-0602 00 4 01647		ORS IMAG1+19,4
02376	-0602 00 4 01677		ORS IMAG2+19,4
02377	-0602 00 4 01727		ORS IMAG3+19,4
02400	-0602 00 4 02007		ORS IMAG4+19,4
02401	0320 00 1 01571		ANS IMAG+21,1
02402	0320 00 1 01651		ANS IMAG1+21,1
02403	0320 00 1 01701		ANS IMAG2+21,1
02404	0320 00 1 01731		ANS IMAG3+21,1
02405	0320 00 1 02011		ANS IMAG4+21,1
02406	0000 00 0 02356		HTR KK+5
02407	0000 00 0 02357		HTR KK+6
02410	0000 00 0 02367		HTR K+2
02411	0000 00 0 02371		HTR K+4
02412	0320 00 1 02041		ANS IMAG5+21,1
02413	-0602 00 4 02037		ORS IMAG5+19,4
02414	0320 00 1 02071		ANS IMAG6+21,1
02415	-0602 00 4 02067		ORS IMAG6+19,4
02416	+200000000000	BIT	OCT 200000000000
02417	+100000000000		OCT 100000000000
02420	+000400000000		OCT 000400000000
02421	+000200000000		OCT 000200000000
02422	+000004000000		OCT 000004000000

02423	+000002000000		OCT	000002000000	
02424	+000001000000		OCT	000001000000	
02425	+000000200000		OCT	000000200000	
02426	-077177777777	MASK	OCT	477177777777	
02427	-377770477777		OCT	777770477777	
02430	-377770777777		OCT	777770777777	
02431	+000000100001	IOCTL	OCT	000000100001	CONTROL WORD FOR CHAN A
02432	-377777074000		OCT	777777074000	
02433	0020 00 0 00111		TRA	TIME	
	05500	CTRL1	EQU	2880	
	05501	CTRL2	EQU	2881	
	05502	CTRL3	EQU	2882	
	05503	IOCT	EQU	2883	
	05512	CTX	EQU	2890	
	05514	IOC	EQU	2892	
	06504	ERROR	EQU	3396	
	06556	WDNO	EQU	3438	
	06557	RECNO	EQU	3439	
	00000		END		

EOF*