

9 T 0 1 A

729 UNIT TEST

A. PURPOSE OF TEST

1. TO CHECK TAPE INFORMATION FLOW AND CHECK EXECUTION OF I/O INSTRUCTIONS IN REFERENCE TO TAPE.

B. METHOD OF TEST

1. THIS PROGRAM CONSISTS OF TWO BASIC SECTIONS. THE FIRST USES A FIXED PATTERN AND IS ESSENTIALLY DIAGNOSTICS. IT INCLUDES ALL ROUTINES UP TO B19. THIS FIXED PATTERN CONSISTS OF 100 DIFFERENT WORDS IN ASCENDING NUMERICAL VALUE STARTING WITH 010101010101. SEE CONSTANT AREA STARTING WITH FIX IN LISTING. AN ERROR INDICATION WILL SHOW THE RELATIVE WORD POSITION IN THE RECORD OR FILE BY THE NUMBER IN THE WORD. IN AREAS USING MORE THEN 100 WORDS, THE PATTERN IS REPEATED. THE SECOND SECTION START AT B19 USES A RANDOM FORMED PATTERN TO WRITE A RANDOM NUMBER OF RECORDS OF RANDOM LENGTH AND IS ESSENTIALLY A RELIABILITY TEST. THE PROGRAM BUILDS FROM SIMPLER ROUTINES CHECKING TAPE POSITION AND MOTION AND DS INDICATIONS, TO CHECKING FULL INFORMATION FLOW. EACH ROUTINE ATTEMPTS TO ISOLATE A SINGLE CONDITION OF FAILURE AS DESCRIBED BY ROUTINE HEADINGS AND COMMENTS. IT ASSUMES THE SUCCESSFUL EXECUTION OF ALL PRECEEDING ROUTINES IN 9T01 AND MAIN FRAME PROGRAMS.
2. THIS PROGRAM IS WRITTEN FOR CHANNEL A, TAPE FRAME 1 AND USES MODIFICATION ROUTINE 9IOM TO ALTER THE PROGRAM TO TEST REQUIRED FRAMES AND CHANNELS SPECIFIED BY CONTROL WORDS ENTERED AT BEGINNING OF TEST. SEE E NORMAL STOPS.
3. THIS PROGRAM USES THE STANDARD 709 ERROR PRINT ROUTINE 9DEPR FOR ERROR INDICATION AND PROGRAM CONTROL.

C. AREA OF MACHINE REQUIRED

1. UNITS MF, CF, CR, PR, DS AND TAPE UNITS TO BE TESTED.
2. STORAGE LOCATION 00000 TO 04713 9T101 DIAGNOSTIC
 05500 TO 06476 9IOM MODIFICATION ROUTINE
 06500 TO 07663 9DEPR ERROR ROUTINE

D. PROGRAM CONTROL

1. DECK 000 9LD01 LOADER
001 - 090 9T01 DIAGNOSTIC
091 - 114 9IOM MODIFICATION ROUTINE
115 - 143 9DEPR ERROR ROUTINE
144 TRANSFER CARD - TRA 30
145 - 146 BLANK CARDS

2. SENSE SWITCH CONTROL

SENSE SWITCHES 1, 2, 3 AND 4 ARE USED BY 9DEPR. SEE
WRITE UP FOR 9DEPR FOR DETAILED DESCRIPTION OF THEIR USE
WHICH IS BRIEFLY AS FOLLOWS

A. SWITCH 1 UP - TEST SENSE SWITCH 4

SWITCH 1 DN - REPEAT TEST LOOP

B. SWITCH 2 UP - INDICATE ERROR - TEST SSW 3 TO
PRINT OR HALT

SWITCH 2 DN - BYPASS ERROR INDICATION - TEST SSW 1

C. SWITCH 3 UP - PRINT OUT IF SSW 2 UP THE TEST SSW 1

SWITCH 3 DN - STOP ON ERROR IF SSW 2 IS UP. THEN
TEST SSW 1

D. SWITCH 4 UP - PROCEED TO NEXT TEST ROUTINE

SWITCH 4 DN - REPEAT SECTION N TIMES. OR IF ERROR
OCCURS GO TO NEXT SECTION

E. SWITCH 5 - NOT USED

F. SWITCH 6 UP - END TEST - CALL IN NEXT PROGRAM

SWITCH 6 DN - REPEAT ENTIRE PROGRAM

E. NORMAL STOPS

1. STOPS AT BEGINNING OF PROGRAM TO ENTER ON KEYS THE

CONTROL WORDS FOR CHANNELS AND UNITS USED IN
MODIFICATION ROUTINE 9IOM. ON. TWO OR THREE STOPS
WILL OCCUR CORRESPONDING TO THE NUMBER OF DS TO BE TESTED
AS SPECIFIED BY THE TAG BITS OF FIRST CONTROL WORD.

A TAG OF 1 SPECIFIES CHN A AND/OR B
A TAG OF 2 SPECIFIES CHN C AND/OR D
A TAG OF 4 SPECIFIES CHN E AND/OR F

IF MORE THEN ONE DS IS TO BE TESTED, THEN THE FIRST
CONTROL WORD SHOULD CONTAIN A MULTIPLE TAG.

05517 ENTER CONTROL WORD FOR FIRST DS ON KEYS
TAG FOR ALL DS TO BE TESTED
PRESS START

05533 ENTER CONTROL WORD FOR CHN C AND/OR D
PRESS START

05540 ENTER CONTROL WORD FOR CHN E AND/OR F
PRESS START

05525 CONTROL WORD FAILED TO CONTAIN A TAG FOR ANY
DS. RE-ENTER FIRST CONTROL WORD WITH TAG
PRESS START

SEE CONTROL WORD FORMAT

F. ERROR STOPS

1. 9DEPR ERROR INDICATION STOPS WITH SSW 3 DOWN

06517 INDEX REGISTER C CONTAINS THE TWOS COMPLEMENT
OF THE ERROR EXIT ADDRESS. READ LIGHTS THAT ARE
OUT + 1 AND CONSULT THAT ADDRESS IN PROGRAM
LISTING FOR ERROR ANALYSIS.

06545 SAME AS ABOVE
PUSH START TO CONTINUE PROGRAM

2. PROGRAM STOPS

00135 HANG UP IN THIS AREA INDICATES FAILURE TO
DISCONNECT FROM A SELECT WITH A DISCONNECT
00151 CONTROL WORD FOLLOWING A NON-DATA INSTRUCTION.

00212 HANG UP IF CHANNEL FAILS TO DISCONNECT

G. ERROR PRINT OUTS

SEE WRITE UP FOR 9DEPR FOR EXAMPLE AND DESCRIPTION OF PRINT OUT.

TEST LOC IS ADDRESS OF ENTRY TO ROUTINE IN WHICH ERROR OCCURRED. OPN IS THE INSTRUCTION MOST BASIC TO THE CONDITION BEING TESTED IN FAILING ROUTINE. ERROR ADR IS THE EXIT FROM THE FAILING ROUTINE TO 9DEPR.

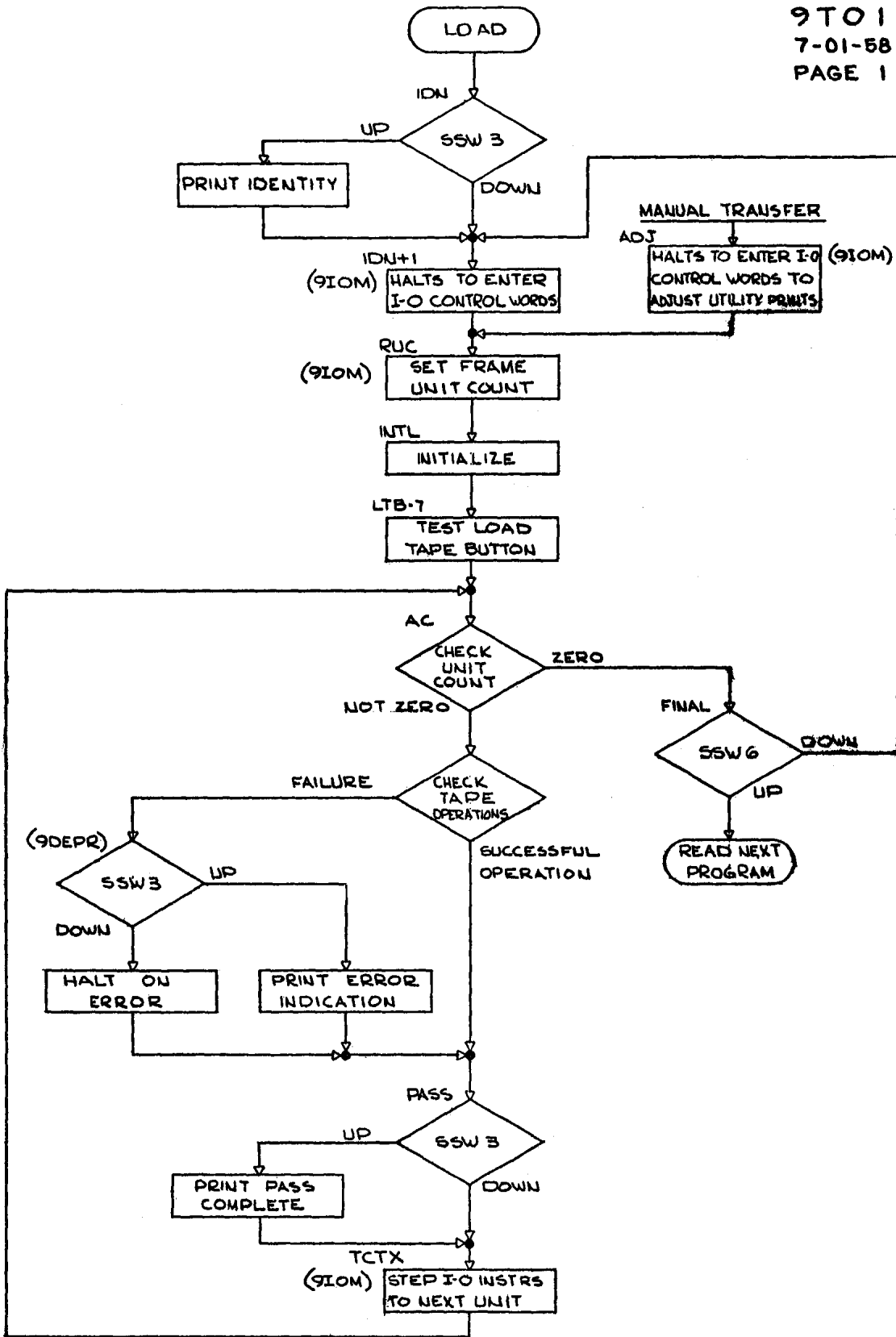
H. COMMENTS

1. A POST RESTART IS INCLUDED WHICH STORES AT LOCATION ZERO A TRANSFER TO THE BEGINNING OF THE FRAME TEST. ANY TIME THE CONSOLE IS RESET, PRESSING START WILL TRANSFER THE PROGRAM TO BEGIN TESTING THE CURRENT FRAME.
2. ONE OF THE MOST IMPORTANT FUNCTIONS OF THE ERROR PRINT OUT IS THE ERROR ADR. BY REFERRING TO THIS ADDRESS IN THE PROGRAM LISTING, THE ROUTINE WHICH FAILED MAY BE LOCATED. BY ANALYZING THE ROUTINE WITH THE AID OF THE PROGRAM COMMENTS. IT IS HOPED THE CUSTOMER ENGINEER WILL BE ABLE TO DETERMINE THE MANNER IN WHICH THE MACHINE FAILED AND SO HAVE SUFFICIENT INFORMATION TO DIAGNOSE THE CAUSE OF THE MALFUNCTION.
3. READ-WRITE IN BCD MODE ROUTINE STARTING AT BCD USES THE SET OF INSTRUCTION FROM FRM TO RTB7 AFTER THEY HAVE BEEN MODIFIED TO BCD MODE AT END OF ROUTINE THESE INSTRUCTIONS ARE RESTORED TO BINARY MODE.
SEE 21, 22 AND 23 UNDER J.

J. TABLE OF TEST ROUTINES AND ADDRESSES OF ENTRY IN ORDER OF PERFORMANCE

1. LOAD TAPE BUTTON	BEGINS AT	00057
2. DISCONNECT AFTER NON-DATA	BEGINS AT	00130
3. XFER ON CHANNEL IN OPERATIN	BEGINS AT	00165
4. XFER ON CHANNEL NOT IN OPN	BEGINS AT	00222
5. ETT IN OFF STATUS	BEGINS AT	00251
6. BTT	BEGINS AT	00271
7. IOT	BEGINS AT	00351
8. TAPE CHECK	BEGINS AT	00427
9. BACKSPACE RECORD AT LOAD POINT	BEGINS AT	00451
10. BACKSPACE FILE AT LOAD POINT	BEGINS AT	00511

11. REWIND AT LOAD POINT	BEGINS AT	00545
12. TRANSFER ON END OF FILE	BEGINS AT	00601
13. FALSE TAPE MARK	BEGINS AT	00703
14. DELAY AFTER SELECT	BEGINS AT	01041
15. BACKSPACE RECORD	BEGINS AT	01152
16. NOISE AFTER WRITE SELECT	BEGINS AT	01252
17. BACKSPACE FILE	BEGINS AT	01275
18. FORM BINARY WRITE PATTERN	BEGINS AT	01356
19. WR-RD BIN ONE 400 WORD REC	BEGINS AT	01407
20. WR-RD BIN 100 ONE WORD RECS	BEGINS AT	01464
21. FORM BCD WRITE PATTERN	BEGINS AT	01623
22. WR-RD BCD ONE 400 WORD REC AFTER FORM BCD PATTERN	BEGINS AT	01407
23. WR-RD BCD 100 ONE WORD RECS AFTER FORM BCD PATTERN	BEGINS AT	01464
24. RESTORE BIN WRITE PATTERN	BEGINS AT	01667
25. READ WITH INDICATOR 19	BEGINS AT	01735
26. WRITE, BACKSPACE, WRITE	BEGINS AT	02040
27. READ, BACKSPACE, READ	BEGINS AT	02135
28. BACKSPACE CREEP WITH ONE WORD RECORDS	BEGINS AT	02201
29. BACKSPACE CREEP WITH 400 WORD RECORDS	BEGINS AT	02306
30. LONG RECORD GAPS	BEGINS AT	02424
31. RANDOM PATTERN RELIABILITY	BEGINS AT	02625
32. CONSTANTS	BEGINS AT	03222



* 9 T 0 1 A
* 729 UNIT TEST

00030	0020	00	0	03131	IDN	ORG 24 TRA IDNT	TO PRINT OUT TEST IDENTITY THIS INSTR IS REPLACED BY TRA AA DURING FIRST PASS
00031	0074	00	4	05514		TSX IOC,4	TO ENTER CONTROL WORDS
00032	0074	00	4	05513	RUC	TSX IOCNT,4	TO RESET UNIT COUNT
* CHECK FOR EXCLUSIVE TAPE FRAME BITS IN							
* I-O CONTROL WORD AND ESTABLISH INITIAL							
* STATUS OF UNIT ADDRESSES							
00033	0441	00	0	05500	INTL	LDI CTRL1	L INDS WITH CHN A CONTROL
00034	0054	00		000340		RFT 000340	CHECK FOR MORE THAN UNIT 1
00035	0056	00		000400		RNT 000400	IF MORE THEN UNIT 1
00036	0056	00		000020		RNT 000020	CHECK FOR EXCLUSIVE BIT IS NOT MORE THANT UNIT 1 OR IS NOT EXCLUSIVE BIT
00037	0020	00	0	03207		TRA TCTX	CHECK FOR UNIT 1 EXCLUSIVE UNIT HIGHER THEN UNIT 1 OR NO UNITS ON CHN A
00040	0500	00	0	05500		CLA CTRL1	
00041	0120	00	0	00045		TPL *+4	CHECK FOR SIGN BIT SHOWING PROGRAM READ FROM CARDS
00042	0500	00	0	03664		CLA K8+2	L RTBA 1
00043	0601	00	0	03661		STO K7+4	
00044	0020	00	0	00047		TRA *+3	
00045	0500	00	0	03665		CLA K8+3	L RTBA 2
00046	0601	00	0	03661		STO K7+4	
00047	0500	00	0	01202	INTL2	CLA BSR3	UNIT 1 OK - ESTABLISH INITIAL STATUS OF INSTRS
00050	0340	00	0	03661		CAS K7+4	
00051	0020	00	0	00053		TRA *+2	
00052	0020	00	0	00056		TRA *+4	OK FOR UNIT 1 - PROCEED
00053	0074	00	4	05512		TSX CTX,4	GO TO ADJUST PROGRAM FOR
00054	0030	44	0	00124		HTR AA,0,GEN1	CHANNEL A - UNIT 1
00055	0020	00	0	00047		TRA INTL2	
00056	0761	00	0	00000		NOP	REPLACE WITH TRA AC AFTER FIRST PASS

* TEST LOAD TAPE BUTTON

00057	0772	00	0	01201		REWA 1	
00060	0766	00	0	01221		WTBA 1	WRITE THREE WORD LOAD

00061	0540	00	0	03303	RCHA	CT20	SEQUENCE PLUS 10 WORDS
00062	0770	00	0	01201	WEFA	1	OF INFORMATION
00063	0772	00	0	01201	REWA	1	
00064	0000	00	0	00064	HTR	*	PRESS LOAD TAPE BUTTON
* WHEN TESTING LOAD TAPE BUTTON							
*				LOC 0	IOCD	RDFLD,0,10	
*				LOC 1	TCOA	1	
*				LOC 2	TRA	TLBA	
00065	436322606060				BCD	1LTB	TEST LOAD TAPE BUTTON
00066	0772	00	0	01201	LTB	REWA 1	THESE 3 INSTRUCTIONS
00067	0762	00	0	01221	RTBA	1	USED ONLY IN LOOP
00070	0540	00	0	03305	RCHA	CT21	FROM LTB2+2
00071	0534	00	1	03644	LTBA	LXA K5,1	L +4043 IN XRA
00072	2	00001	1	00072	TIX	*,1,1	DELAY
00073	0500	00	0	03235	CLA	TEN	L +12
00074	0734	00	1	00000	PAX	0,1	L +12 IN XRA
00075	0400	00	0	03224	ADD	ONE	L +1
00076	0601	00	0	06556	STO	WDNO	SAVE WORD COUNT +1
00077	0500	00	0	03224	CLA	ONE	L +1
00100	0734	00	2	00000	PAX	0,2	L +1 IN XRB
00101	0400	00	0	03224	ADD	ONE	L +1
00102	0601	00	0	06557	STO	RECNO	SAVE RECORD COUNT +1
00103	0500	00	1	04325	LTB1	CLA RDFLD+10,1	L WORD READ
00104	0340	00	1	03417	CAS	FIX+10,1	COMPARE WORD GENERATED
00105	0020	00	0	00107	TRA	*+2	ERROR
00106	0020	00	0	00112	TRA	LTB2	OK
00107	0560	00	1	03417	LDQ	FIX+10,1	L WORD GNEERATED IN MQ
00110	0074	00	4	06502	TSX	ERROR-2,4	COMPARISON ERROR
00111	0761	00	0	00066	NOP	LTB	
00112	2	00001	1	00103	LTB2	TIX LTB1,1,1	
00113	0074	00	4	06511	TSX	OK,4	
00114	0020	00	0	00066	TRA	LTB	
00115	0761	00	0	00000	NOP		
00116	0500	00	0	03607	CLA	TRA1	L TRA AC
00117	0601	00	0	00056	STO	INTL2+7	
00120	0500	00	0	05503	AC	CLA IOCT	
00121	0100	00	0	03212	TZE	FINL	ALL UNITS CALLED CHECKED
00122	0402	00	0	03224	SUB	ONE	L +1
00123	0601	00	0	05503	STO	IOCT	
00124	0500	00	0	03622	AA	CLA K2+5	POST
00125	0601	00	0	00000	STO	0	RESTART
00126	0020	00	0	00130	TRA	*+2	

* NOTE -- ERROR PRINT OUTS FROM EXIT INSTRS

* TSX ERROR-1,4
 * TXL XXX TO FOLLOWING
 * BCD TEST INSTR

* WILL BE ONLY ONE LINE LONG. IF TXL IS TAGGED
 * BY 4, PROGRAM WILL NOT GO TO LOC XXX WHEN
 * SSW 1 IS DOWN BUT WILL PROCEED TO NEXT INSTR.

* CHECK DS DISCONNECT AFTER SELECT
 * AND ZERO CONTROL WORD FOLLOWING
 * A NON-DATA INSTRUCTION

00127	246223456060		BCD 1DSCN	TEST CONDITION
00130	0760 00 0 00005	DSCN	IOT	TURN OFF I-O CHECK OF ON
00131	0761 00 0 00000		NOP	
00132	0772 00 0 01201		REWA 1	
00133	0764 00 0 01201		BSRA 1	
00134	0766 00 0 01221		WTBA 1	
00135	0540 00 0 03223		RCHA ZERO	SHOULD DISCONNECT AT ONCE
00136	0770 00 0 01201		WEFA 1	
00137	0764 00 0 01201		BSRA 1	BKSP OVER EOF
00140	0764 00 0 01201		BSRA 1	BKSP TO LOAD POINT
00141	0762 00 0 01201		RTDA 1	
00142	0540 00 0 03223		RCHA ZERO	IF PROGRAM HANGS UP AT ANY
00143	-0764 00 0 01201		BSFA 1	BKSP OVER EOF
00144	-0764 00 0 01201		BSFA 1	BKSP TO LOAD POINT
00145	0766 00 0 01221		WTBA 1	
00146	0540 00 0 03223		RCHA ZERO	OF THESE RCH INSTRS --
00147	-0764 00 0 01201		BSFA 1	BKSP TO LOAD POINT
00150	0762 00 0 01201		RTDA 1	
00151	0540 00 0 03223		RCHA ZERO	DS FAILS TO DISCONNECT

CHECK FOR LOSS OF UNIT
 OR CLASS ON DS

00152	0030 00 0 00153		TEFA *+1	TURN OFF EOF TGR IF ON
00153	0074 00 4 06560		TSX RDNCK,4	CHECK FOR REDUNDANCY
00154	0761 00 0 00130		NOP DSCN	
00155	0760 00 0 00005		IOT	
00156	0020 00 0 00160		TRA *+2	ON - ERROR
00157	0020 00 0 00165		TRA TCO	OFF - OK
00160	0074 00 4 06503		TSX ERROR-1,4	I-O CHECK ERROR - SHOULD
00161	-3 00000 4 00130		TXL DSCN,4	NOT BE ON
00162	0020 00 0 00165		TRA TCO	
00163	0020 00 0 00165		TRA TCO	

* CHECK CHANNEL IN OPERATION TESTS

00164	632346216060		BCD 1TCOA	
00165	0772 00 0 01201	TCO	REWA 1	POSITION TAPE
00166	0766 00 0 01221		WTBA 1	ONE WORD
00167	0540 00 0 03236		RCHA CT1	FROM LOAD POINT
00170	0764 00 0 01201		BSRA 1	BKSP OVER RECORD

00171	0764	00	0	01201		BSRA 1	BKSP TO LOAD POINT
00172	0772	00	0	01201		REWA 1	REWIND TEST UNIT
00173	0774	00	1	07777		AXT 4095,1	LXA K5,1 L +4043 IN XRA
00174	2	00001	1	00174		TIX *,1,1	
00175	0060	00	0	00177		TCOA *+2	SHOULD NOT TRANSFER
00176	0020	00	0	00201		TRA TCO1	
00177	0074	00	4	06503		TSX ERROR-1,4	FALSE XFER WITH CHANNEL NOT IN OPERATION
00200	-3	00000	0	00165		TXL TCO	
00201	0766	00	0	01221	TCO1	WTBA 1	
00202	0060	00	0	00206		TCOA TCO2	SHOULD XFER
00203	0074	00	4	06503		TSX ERROR-1,4	FAILED TO XFER WITH CHANNEL IN OPERATION AFTER SELECT
00204	-3	00000	0	00165		TXL TCO	
00205	0766	00	0	01221		WTBA 1	RE-SELECT AFTER PRINT
00206	0540	00	0	03236	TCO2	RCHA CT1	WRITE 1 ONE WORD RECORD
00207	0060	00	0	00212		TCOA TCO3	SHOULD XFER
00210	0074	00	4	06503		TSX ERROR-1,4	FAILED TO XFER WITH CHANNEL IN OPERATION
00211	-3	00000	0	00165		TXL TCO	
00212	0060	00	0	00212	TCO3	TCOA *	DELAY IF PROGRAM HANGS UP HERE CHANNEL FAILS TO DISCONNECT OR GIVE OUT OF OPN IND
00213	0060	00	0	00215		TCOA *+2	SHOULD NOT XFER
00214	0020	00	0	00217		TRA *+3	
00215	0074	00	4	06503		TSX ERROR-1,4	FALSE XFER WITH CHANNEL NOT IN OPN AFTER DISCONNECT
00216	-3	00000	0	00165		TXL TCO	
00217	0074	00	4	06511		TSX OK,4	
00220	0020	00	0	00165		TRA TCO	
00221	632345216060					BCD 1TCNA	
00222	0534	00	1	03616	TCN	LXA K2+1,1	L +622 IN XRA
00223	2	00001	1	00223		TIX *,1,1	DELAY TO CLEAR CHANNEL
00224	-0060	00	0	00227		TCNA TCN1	SHOULD XFER
00225	0074	00	4	06503		TSX ERROR-1,4	FAILED TO XFER WITH CHANNEL NOT IN OPERATION
00226	-3	00000	0	00222		TXL TCN	
00227	0766	00	0	01221	TCN1	WTBA 1	
00230	-0060	00	0	00232		TCNA *+2	SHOULD NOT XFER
00231	0020	00	0	00235		TRA TCN2	
00232	0074	00	4	06503		TSX ERROR-1,4	FALSE XFER AFTER SELECT
00233	-3	00000	0	00222		TXL TCN	
00234	0766	00	0	01221		WTBA 1	RE-SELECT AFTER PRINT
00235	0540	00	0	03236	TCN2	RCHA CT1	WRITE 1 ONE WORD RECORD
00236	-0060	00	0	00240		TCNA *+2	SHOULD NOT XFER
00237	0020	00	0	00242		TRA TCN3	

00240	0074	00	4	06503		TSX ERROR-1,4	FALSE XFER WITH CHANNEL IN OPERATION
00241	-3	00000	0	00222		TXL TCN	
00242	0060	00	0	00242	TCN3	TCOA *	DELAY
00243	-0060	00	0	00246		TCNA *+3	
00244	0074	00	4	06503		TSX ERROR-1,4	FAILED TO XFER AFTER DISCN
00245	-3	00000	0	00222		TXL TCN	
00246	0074	00	4	06511		TSX OK,4	
00247	0020	00	0	00222		TRA TCN	

* CHECK ETT IN OFF STATUS

00250	256363216060					BCD 1ETTA	
00251	-0760	00	0	01000	ETT	ETTA	TURN OFF ETT INDICATOR IF ON
00252	0020	00	0	00253		TRA *+1	
00253	0772	00	0	01201		REWA 1	
00254	0500	00	0	03222		CLA ONES	L -37777777777
00255	0764	00	0	01201		BSRA 1	
00256	-0760	00	0	01000		ETTA	
00257	0020	00	0	00261		TRA *+2	SHOULD NOT XFER
00260	0020	00	0	00263		TRA ETT1	
00261	0074	00	4	06503		TSX ERROR-1,4	FALSE ETT INDICATION OR FAILURE TO SKIP ON NO IND
00262	-3	00000	4	00251		TXL ETT,4	
00263	-0100	00	0	00266	ETT1	TNZ ETT2	
00264	0074	00	4	06503		TSX ERROR-1,4	FALSE CLEARING OF ACC CHECK AGAINST CLM INSTR
00265	0761	00	0	00251		NOP ETT	
00266	0074	00	4	06511	ETT2	TSX OK,4	
00267	0020	00	0	00251		TRA ETT	

* CHECK BEGINNING OF TAPE TEST

00270	226363216060					BCD 1BTTA	TEST INSTRUCTION
00271	0772	00	0	01201	BTT	REWA 1	
00272	0764	00	0	01201		BSRA 1	
00273	0772	00	0	01201		REWA 1	
00274	0060	00	0	00274		TCOA *	DELAY
00275	0760	00	0	01000		BTTA	TURN OFF BTT INDICATOR IF ON
00276	0020	00	0	00277		TRA *+1	
00277	0500	00	0	03222		CLA ONES	L -37777777777
00300	0764	00	0	01201		BSRA 1	TURN ON BTT INDICATOR
00301	0772	00	0	01201		REWA 1	
00302	0060	00	0	00302		TCOA *	
00303	0760	00	0	01000		BTTA	SHOULD BE ON
00304	0020	00	0	00316		TRA BTT1	OK, BTT TGR SHOULD BE ON SHOULD NOT SKIP
00305	0060	00	0	00305		TCOA *	OFF - ERROR. RECHECK CHANNEL OUT OF OPN
00306	0760	00	0	01000		BTTA	
00307	0020	00	0	00313		TRA *+4	ON - LATE
00310	0074	00	4	06503		TSX ERROR-1,4	FAILED TO TURN ON BTT IND

00311	-3	00000	0	00271		TXL BTT	
00312	0020	00	0	00316		TRA BTT1	
00313	0074	00	4	06503		TSX ERROR-1,4	TIMING ERROR IN TURNING ON BTT INDICATOR
00314	-3	00000	0	00271		TXL BTT	
00315	0020	00	0	00343		TRA BTT4	
00316	0760	00	0	01000	BTT1	BTTA	
00317	0020	00	0	00321		TRA *+2	
00320	0020	00	0	00324		TRA BTT2	OK, TGR SHOULD BE OFF
00321	0074	00	4	06503		TSX ERROR-1,4	BTT INSTR FAILED TO TURN OOF BTT TGR
00322	-3	00000	0	00271		TXL BTT	
00323	0020	00	0	00343		TRA BTT4	
00324	-0764	00	0	01201	BTT2	BSFA 1	TURN ON BTT TGR
00325	0772	00	0	01201		REWA 1	TIME DELAY TO
00326	0060	00	0	00326		TCOA *	BRING UP BTT IND
00327	0760	00	0	01000		BTTA	
00330	0020	00	0	00333		TRA *+3	OK, TGR SHOULD BE ON SHOULD NOT SKIP
00331	0074	00	4	06503		TSX ERROR-1,4	BSF INSTR FAILED TO TURN ON BTT TGR
00332	-3	00000	0	00271		TXL BTT	
00333	0772	00	0	01201	BTT3	REWA 1	
00334	0772	00	0	01201		REWA 1	
00335	0060	00	0	00335		TCOA *	DELAY
00336	0760	00	0	01000		BTTA	SHOULD BE OFF
00337	0020	00	0	00341		TRA *+2	ON - ERROR
00340	0020	00	0	00343		TRA *+3	OFF - OK
00341	0074	00	4	06503		TSX ERROR-1,4	REWIND INSTR SHOULD NOT TURN ON BTT TRG
00342	-3	00000	0	00271		TXL BTT	
00343	-0100	00	0	00346	BTT4	TNZ BTT5	SHOULD XFER
00344	0074	00	4	06503		TSX ERROR-1,4	FALSE CLEARING OF ACC CHECK AGAINST CLM INSTR
00345	0761	00	0	00271		NOP BTT	
00346	0074	00	4	06511	BTT5	TSX OK,4	
00347	0020	00	0	00271		TRA BTT	
* CHECK INPUT-OUTPUT TEST							
00350	314663606060					BCD 1IOT	TEST INSTRUCTION
00351	0760	00	0	00005	IOT	IOT	TURN OFF TAPE CHECK
00352	0761	00	0	00000		NOP	INDICATOR IF ON
00353	0766	00	0	01221		WTBA 1	WRITE 10 WORDS AND CALL
00354	0540	00	0	03242		RCHA CT3	FOR LCH
00355	0060	00	0	00355		TCOA *	DELAY UNTIL CHN DISCONNECTS
00356	0544	00	0	03236		LCHA CT1	TOO LATE
00357	0060	00	0	00357		TCOA *	
00360	0760	00	0	00005		IOT	SHOULD BE ON
00361	0020	00	0	00364		TRA *+3	ON - OK

00362	0074	00	4	06503	TSX ERROR-1,4	FAILED TO TURN IOT IND ON OR FALSE SKIP WITH IND ON
00363	-3	00000	0	00351	TXL IOT	
00364	0760	00	0	00005	IOT	SHOULD BE OFF
00365	0020	00	0	00367	TRA *+2	ON - ERROR
00366	0020	00	0	00371	TRA *+3	OFF - OK
00367	0074	00	4	06503	TSX ERROR-1,4	IOT INSTR FAILED TO
00370	-3	00000	0	00351	TXL IOT	TURN OFF INDICATOR
00371	0766	00	0	01221	WTBA 1	SELECT WITH NO RESET AND
00372	0544	00	0	03265	LCHA CT8	LOAD CHANNEL INSTR
00373	0060	00	0	00373	TCOA *	DELAY
00374	0760	00	0	00005	IOT	SHOULD BE ON
00375	0020	00	0	00400	TRA *+3	ON - OK
00376	0074	00	4	06503	TSX ERROR-1,4	LCH AFTER WTB AND WITHOUT RCH FAILED TO TURN ON IND
00377	-3	00000	0	00351	TXL IOT	
00400	0060	00	0	00400	TCOA *	DELAY
00401	0544	00	0	03265	LCHA CT8	
00402	0760	00	0	00005	IOT	SHOULD BE ON
00403	0020	00	0	00406	TRA *+3	ON - OK
00404	0074	00	4	06503	TSX ERROR-1,4	LCH WITH NO UNIT SELECTED
00405	-3	00000	0	00351	TXL IOT	FAILED TO TURN ON INDICATOR
00406	0060	00	0	00406	TCOA *	DELAY
00407	0540	00	0	03265	RCHA CT8	
00410	0760	00	0	00005	IOT	SHOULD BE ON
00411	0020	00	0	00414	TRA *+3	ON - OK
00412	0074	00	4	06503	TSX ERROR-1,4	RCH WITH NO UNIT SELECTED
00413	-3	00000	0	00351	TXL IOT	FAILED TO TURN ON INDICATOR
00414	0766	00	0	01221	WTBA 1	
00415	0540	00	0	03265	RCHA CT8	
00416	0060	00	0	00416	TCOA *	DELAY
00417	0760	00	0	00005	IOT	SHOULD BE OFF
00420	0020	00	0	00422	TRA *+2	ON - ERROR
00421	0020	00	0	00424	TRA *+3	OFF - OK
00422	0074	00	4	06503	TSX ERROR-1,4	FALSE IOT INDICATION
00423	-3	00000	0	00351	TXL IOT	
00424	0074	00	4	06511	TSX OK,4	
00425	0020	00	0	00351	TRA IOT	

* TEST SENSE TAPE CHECK

00426	635123216060				BCD 1TRCA	TEST INSTRUCTION
00427	0022	00	0	00430	TRC TRCA *+1	TURN OFF TAPE CHECK IF ON
00430	0772	00	0	01201	REWA 1	
00431	0766	00	0	01221	WTBA 1	WRITE TAPE IN BINARY
00432	0540	00	0	03265	RCHA CT8	
00433	0764	00	0	01201	BSRA 1	
00434	0762	00	0	01201	RTDA 1	READ TAPE IN DECIMAL
00435	0540	00	0	03257	RCHA CT7	TURN ON TAPE CHECK IND
00436	0060	00	0	00436	TCOA *	DELAY UNTIL CHN NOT IN OPRN
00437	0022	00	0	00442	TRCA *+3	

00440	0074	00	4	06503	TSX ERROR-1,4	TAPE CHECK NOT TURNED ON OR FAILED TO XFER WITH IND ON
00441	-3	00000	0	00427	TXL TRC	
00442	0022	00	0	00444	TRCA *+2	SHOULD BE OFF, NO XFER
00443	0020	00	0	00446	TRA *+3	
00444	0074	00	4	06503	TSX ERROR-1,4	TRC INSTR FAILED TO TRUN OFF TAPE CHECK INDICATOR OR FALSE XFER WITH IND OFF
00445	-3	00000	0	00427	TXL TRC	
00446	0074	00	4	06511	TSX OK,4	
00447	0020	00	0	00427	TRA TRC	

* TEST BACKSPACE RECORD AT LOAD POINT

00450	226251216060				BCD 1BSRA	TEST INSTRUCTION
00451	0772	00	0	01201	BLP REWA 1	REWIND TAPE UNIT
00452	0760	00	0	01000	BT TA	TURN OFF BTT INDICATOR
00453	0020	00	0	00454	TRA *+1	
00454	0534	00	1	03652	LXA K6+5,1	L +36 IN XRA
00455	0766	00	0	01221	WTBA 1	
00456	0540	00	0	03236	RCHA CT1	WRITE 1 ONE WORD RECORD
00457	0764	00	0	01201	BSRA 1	BACKSPACE OVER RECORD
00460	0764	00	0	01201	BSRA 1	BACKSPACE TO LOAD POINT
00461	0764	00	0	01201	BSRA 1	ATTEMPT BACKSPACE OVER LP
00462	2	00001	1	00461	TIX *-1,1,1	
00463	0760	00	0	01000	BT TA	TEST FOR BEGINNING OF TAPE
00464	0020	00	0	00467	TRA BLP1	ON - OK
00465	0074	00	4	06503	TSX ERROR-1,4	FAILED TO TURN ON BTT IND
00466	-3	00000	0	00451	TXL BLP	
00467	0762	00	0	01221	BLP1 RTBA 1	READ SELECT TAPE
00470	0600	00	0	04313	STZ RDFLD	CLEAR RDFLD
00471	0540	00	0	03240	RCHA CT2	READ ONE WORD
00472	0534	00	1	03224	LXA ONE,1	L +1 IN XRA - WDS PER REC
00473	0534	00	2	03224	LXA ONE,2	L +1 IN XRB - NO. OF RECS
00474	0500	00	0	03225	CLA TWO	
00475	0601	00	0	06556	STO WDNO	
00476	0601	00	0	06557	STO RECNO	
00477	0060	00	0	00477	TCOA *	DELAY
00500	0500	00	0	04313	CLA RDFLD	L WORD READ
00501	0340	00	0	03405	CAS FIX	COMPARE WORD GENERATED
00502	0020	00	0	00504	TRA *+2	
00503	0020	00	0	00506	TRA *+3	OK
00504	0560	00	0	03405	LDQ FIX	L WORD GENERATED IN MQ
00505	0074	00	4	06500	TSX ERROR-4,4	COMPARE ERROR AT LOAD POINT
00506	0074	00	4	06511	TSX OK,4	
00507	0020	00	0	00451	TRA BLP	

* TEST BACKSPACE FILE AT LOAD POINT

00510	226226216060				BCD 1BSFA	TEST INSTRUCTION
00511	0772	00	0	01201	BLP2 REWA 1	REWIND TAPE UNIT
00512	0760	00	0	01000	BT TA	TURN OFF BTT INDICATOR

00513	0020	00	0	00514		TRA	*+1		
00514	0534	00	1	03652		LXA	K6+5,1	L +36 IN XRA	
00515	0766	00	0	01221		WTBA	1		
00516	0540	00	0	03236		RCHA	CT1	WRITE 1 ONE WORD RECORD	
00517	-0764	00	0	01201		BSFA	1	BACKSPACE OVER RECORD	
00520	-0764	00	0	01201		BSFA	1	BACKSPACE TO LOAD POINT	
00521	-0764	00	0	01201		BSFA	1	ATTEMPT BACKSPACE OVER LP	
00522	2	00001	1	00521		TIX	*-1,1,1		
00523	0760	00	0	01000		BT TA			
00524	0020	00	0	00527		TRA	BLP3	ON - OK	
00525	0074	00	4	06503		TSX	ERROR-1,4	FAILED TO TURN ON BTT IND	
00526	-3	00000	0	00511		TXL	BLP2		
00527	0762	00	0	01221	BLP3	RTBA	1	READ SELECT TAPE	
00530	0600	00	0	04313		STZ	RDFLD	CLEAR RDFLD	
00531	0540	00	0	03240		RCHA	CT2	READ ONE WORD	
00532	0534	00	1	03224		LXA	ONE,1	L +1 IN XRA - WDS PER REC	
00533	0060	00	0	00533		TCOA	*	DELAY	
00534	0500	00	0	04313		CLA	RDFLD	L WORD READ	
00535	0340	00	0	03405		CAS	FIX	COMPARE WORD GENERATED	
00536	0020	00	0	00540		TRA	*+2		
00537	0020	00	0	00542		TRA	*+3	OK	
00540	0560	00	0	03405		LDQ	FIX	L WORD GENERATED IN MQ	
00541	0074	00	4	06500		TSX	ERROR-4,4	ERROR AT LOAD POINT	
00542	0074	00	4	06511		TSX	OK,4		
00543	0020	00	0	00511		TRA	BLP2		
*	TEST REWIND AT LOAD POINT								
00544	512566216060					BCD	1REWA	TEST INSTRUCTION	
00545	0760	00	0	01000	RLP	BT TA		TURN OFF BTT INSDICATOR	
00546	0020	00	0	00547		TRA	*+1		
00547	0772	00	0	01201		REWA	1	REWIND TAPE UNIT	
00550	0534	00	1	03652		LXA	K6+5,1	L +36 IN XRA	
00551	0766	00	0	01221		WTBA	1		
00552	0540	00	0	03236		RCHA	CT1	WRITE 1 ONE WORD RECORD	
00553	0772	00	0	01201		REWA	1	REWIND OVER RECORD	
00554	0772	00	0	01201		REWA	1	ATTEMPT TO REWIND OVER LP	
00555	2	00001	1	00554		TIX	*-1,1,1		
00556	0760	00	0	01000		BT TA		TEST FOR BEGINNING OF TAPE	
00557	0020	00	0	00561		TRA	*+2	ON - ERROR	
00560	0020	00	0	00563		TRA	*+3	OFF - OK	
00561	0074	00	4	06503		TSX	ERROR-1,4	FALSE BTT IND AFTER REPEATED REWINDINGS	
00562	-3	00000	0	00545		TXL	RLP		
00563	0762	00	0	01221	RLP1	RTBA	1	READ SELECT TAPE	
00564	0600	00	0	04313		STZ	RDFLD	CLEAR RDFLD	
00565	0540	00	0	03240		RCHA	CT2	READ ONE WORD	
00566	0534	00	1	03224		LXA	ONE,1	L +1 IN XRA - WDS PER REC	
00567	0060	00	0	00567		TCOA	*	DELAY	
00570	0500	00	0	04313		CLA	RDFLD	L WORD READ	
00571	0340	00	0	03405		CAS	FIX	COMPARE WORD GENERATED	
00572	0020	00	0	00574		TRA	*+2		
00573	0020	00	0	00576		TRA	*+3	OK	

00574	0560	00	0	03405		LDQ FIX	L WORD GENERATED IN MQ
00575	0074	00	4	06500		TSX ERROR-4,4	ERROR AT LOAD POINT
00576	0074	00	4	06511		TSX OK,4	
00577	0020	00	0	00545		TRA RLP	
* CHECK XFER ON END OF FILE							
00600	632526216060					BCD 1TEFA	TEST INSTRUCTION
00601	0772	00	0	01201	TEF	REWA 1	
00602	0030	00	0	00603		TEFA *+1	TURN OFF EOF IND IF ON
00603	0022	00	0	00604		TRCA *+1	TURN OFF TRC TGR IF ON
00604	0766	00	0	01221		WTBA 1	WRITE FIRST FILE OF
00605	0540	00	0	03251		RCHA CT6	2 ONE WORD RECORDS
00606	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
00607	0761	00	0	00601		NOP TEF	
00610	0770	00	0	01201		WEFA 1	WRITE END OF FILE
00611	0766	00	0	01221		WTBA 1	WRITE SECOND FILE OF
00612	0540	00	0	03254		RCHA CT6A	2 ONE WORD RECORDS
00613	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
00614	0761	00	0	00601		NOP TEF	
00615	0770	00	0	01201		WEFA 1	WRITE END OF FILE
00616	0772	00	0	01201		REWA 1	
00617	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ FIELD
00620	0762	00	0	01221		RTBA 1	
00621	0540	00	0	03244		RCHA CT4	READ 2 WORDS
00622	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
00623	0761	00	0	00601		NOP TEF	
00624	0774	00	1	00001		AXT 1,1	L +1 IN XRA
00625	0500	00	0	03225		CLA TWO	L +2
00626	0601	00	0	06556		STO WDNO	
00627	0774	00	2	00002		AXT 2,2	L +2 IN XRB
00630	0500	00	0	03226		CLA THREE	L +3
00631	0601	00	0	06557		STO RECNO	
00632	0500	00	2	04315		CLA RDFLD+2,2	L WORD READ
00633	0340	00	2	03407		CAS FIX+2,2	COMPARE WORD GENERATED
00634	0020	00	0	00636		TRA *+2	ERROR
00635	0020	00	0	00642		TRA TEF1	OK
00636	0560	00	2	03407		LDQ FIX+2,2	L WORD GENERATED IN MQ
00637	0074	00	4	06502		TSX ERROR-2,4	FAILED TO READ OR WRITE CORRECTLY FIRST FILE AT LP
00640	0761	00	0	00601		NOP TEF	
00641	2	00001	2	00632		TIX *-7,2,1	
00642	0762	00	0	01201	TEF1	RTDA 1	READ OVER
00643	0540	00	0	03257		RCHA CT7	END OF FILE
00644	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
00645	0761	00	0	00601		NOP TEF	
00646	0030	00	0	00651		TEFA TEF2	SHOULD XFER
00647	0074	00	4	06503		TSX ERROR-1,4	FAILED TO XFER ON EOF OR FAILED TO RECOGNIZE EOF CORRECTLY IN BCD MODE
00650	-3	00000	4	00601		TXL TEF,4	
00651	0762	00	0	01221	TEF2	RTBA 1	

00652	0540	00	0	03246		RCHA CT4A	READ 2 WORDS INTO RDFLD+2
00653	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
00654	0761	00	0	00601		NOP TEF	
00655	0774	00	2	00002		AXT 2,2	L +2 IN XRB
00656	0500	00	2	04317		CLA RDFLD+4,2	L WORD READ
00657	0340	00	2	03411		CAS FIX+4,2	COMPARE WORD GENERATED
00660	0020	00	0	00662		TRA *+2	ERROR
00661	0020	00	0	00666		TRA TEF3	OK
00662	0560	00	2	03411		LDQ FIX+4,2	L WORD GENERATED IN MQ
00663	0074	00	4	06502		TSX ERROR-2,4	FAILED TO READ OR WRITE CORRECTLY SECOND FILE
00664	0761	00	0	00601		NOP TEF	
00665	2	00001	2	00656		TIX *-7,2,1	
00666	0762	00	0	01221	TEF3	RTBA 1	
00667	0540	00	0	03257		RCHA CT7	
00670	0060	00	0	00670		TCOA *	DELAY
00671	0022	00	0	00673		TRCA *+2	SHOULD NOT XFER
00672	0020	00	0	00675		TRA *+3	OK
00673	0074	00	4	06503		TSX ERROR-1,4	READING TAPE MARK SHOULD
00674	-3	00000	0	00703		TXL TEF5	NOT GIVE TRC INDICATION
00675	0030	00	0	00700		TEFA TEF4	SHOULD XFER
00676	0074	00	4	06503		TSX ERROR-1,4	FAILED TO XFER ON EOF OR FAILED TO RECOGNIZE EOF CORRECTLY IN BIN MODE
00677	-3	00000	4	00601		TXL TEF,4	
00700	0074	00	4	06511	TEF4	TSX OK,4	
00701	0020	00	0	00601		TRA TEF	
* CHECK FOR FALSE REGOITION OF SIMULATED TAPE MARK							
00702	632526216060					BCD 1TEFA	TEST INSTRUCTION
00703	0772	00	0	01201	TEF5	REWA 1	
00704	0030	00	0	00705		TEFA *+1	TURN OFF EOF IND IF ON
00705	0022	00	0	00706		TRCA *+1	TURN OFF TRC IND IF ON
00706	0770	00	0	01201		WEFA 1	WRITE END OF FILE
00707	0766	00	0	01201		WTDA 1	WRITE IN BCD MODE THREE
00710	0540	00	0	03376		RCHA CT30	1 WORD RECORDS FROM BINARY FIELDS. THE 2ND RECORD WILL BE AN ILLEGAL BIT PATTERN SIMULATING A TAPE MARK
00711	0770	00	0	01201		WEFA 1	WRITE END OF FILE
00712	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
00713	0761	00	0	00703		NOP TEF5	
00714	0772	00	0	01201		REWA 1	
00715	0600	00	0	03600		STZ TEMP	CLEAR READ AREA
00716	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA
00717	0762	00	0	01201		RTDA 1	READ OVER END OF FILE
00720	0540	00	0	03257		RCHA CT7	
00721	0060	00	0	00721		TCOA *	DELAY
00722	0030	00	0	00725		TEFA *+3	SHOULD XFER
00723	0074	00	4	06503		TSX ERROR-1,4	FAILED TO RECOGNIZE INITIAL

00724	-3	00000	4	00703		TXL TEF5,4	END OF FILE AT LOAD POINT
00725	0022	00	0	00727		TRCA *+2	SHOULD NOT XFER
00726	0020	00	0	00731		TRA *+3	OK
00727	0074	00	4	06503		TSX ERROR-1,4	FALSE TRC IND AFTER
00730	-3	00000	4	00703		TXL TEF5,4	READING TAPE MARK
00731	0500	00	0	03600		CLA TEMP	L WORD READ IF ANY
00732	0340	00	0	03223		CAS ZERO	SHOULD BE NO WORD READ
00733	0020	00	0	00735		TRA *+2	ERROR
00734	0020	00	0	00740		TRA *+4	OK
00735	0560	00	0	03223		LDQ ZERO	
00736	0074	00	4	06502		TSX ERROR-2,4	TAPE MARK READ INTO
00737	0761	00	0	00703		NOP TEF5	STORAGE
00740	0762	00	0	01201		RTDA 1	
00741	0540	00	0	03244		RCHA CT4	READ 2 WORDS
00742	0060	00	0	00742		TCOA *	DELAY
00743	0030	00	0	00745		TEFA *+2	SHOULD NOT XFER
00744	0020	00	0	00747		TRA *+3	
00745	0074	00	4	06503		TSX ERROR-1,4	ILLEGAL BIT PATTERN
00746	-3	00000	4	00703		TXL TEF5,4	SIMULATING A TAPE MARK FALSELY RECOGNIZED AS EOF
00747	0022	00	0	00752		TRCA TEF6	SHOULD XFER
00750	0074	00	4	06503		TSX ERROR-1,4	ILLEGAL BIT PATTERN
00751	-3	00000	4	00703		TXL TEF5,4	SIMULATING A TAPE MARK FAILED TO SET TRC
00752	0774	00	1	00001	TEF6	AXT 1,1	L +1 IN XRA
00753	0500	00	0	03225		CLA TWO	L +2
00754	0601	00	0	06556		STO WDNO	
00755	0774	00	2	00002		AXT 2,2	L +2 IN XRB
00756	0500	00	0	03226		CLA THREE	
00757	0601	00	0	06557		STO RECNO	
00760	0500	00	2	04315		CLA RDFLD+2,2	L WORD READ
00761	0340	00	2	03614		CAS KK1+2,2	COMPARE WORD GENERATED
00762	0020	00	0	00764		TRA *+2	ERROR
00763	0020	00	0	00767		TRA *+4	OK
00764	0560	00	2	03614		LDQ KK1+2,2	L WORD GENERATED IN MQ
00765	0074	00	4	06502		TSX ERROR-2,4	COMPARISON ERROR. NOTE-
00766	0761	00	0	00703		NOP TEF5	WORD GENERATED IN REC 2 SHOWS 1ST 2 CHARS AS ZERO AS THE FALSE TAPE MARK SHOULD BE READ INTO STG
00767	2	00001	2	00760		TIX *-7,2,1	
00770	0762	00	0	01201	TEF7	RTDA 1	READ 1 WORD AND EOF
00771	0540	00	0	03246		RCHA CT4A	
00772	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
00773	0761	00	0	00703		NOP TEF5	
00774	0030	00	0	00777		TEFA *+3	SHOULD XFER
00775	0074	00	4	06503		TSX ERROR-1,4	FAILED TO RECOGNIZE
00776	-3	00000	4	00703		TXL TEF5,4	TERMINAL END OF FILE
00777	0500	00	0	04315		CLA RDFLD+2	L WORD READ
01000	0340	00	0	03614		CAS KK1+2	COMPARE WORD GENERATED
01001	0020	00	0	01003		TRA *+2	ERROR
01002	0020	00	0	01007		TRA *+5	OK

01003	0560	00	0	03614		LDQ KK1+2	L WORD GENERATED IN MQ
01004	0774	00	2	00000		AXT 0,2	L +0 IN XRB
01005	0074	00	4	06502		TSX ERROR-2,4	
01006	0761	00	0	00703		NOP TEF5	
01007	-0764	00	0	01201		BSFA 1	BACKSPACE OVER TAPE MARK
01010	-0764	00	0	01201		BSFA 1	BACKSPACE OVER FILE
01011	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA
01012	0762	00	0	01201		RTDA 1	SHOULD READ OVER
01013	0540	00	0	03257		RCHA CT7	INITIAL END OF FILE
01014	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
01015	0761	00	0	00703		NOP TEF5	
01016	0030	00	0	01017		TEFA *+1	TURN OFF EOF IND IF ON
01017	0762	00	0	01201		RTDA 1	READ TAPE IN BCDMODE
01020	0540	00	0	03244		RCHA CT4	
01021	0060	00	0	01021		TCOA *	DELAY
01022	0022	00	0	01023		TRCA *+1	SHOULD XFER AND TURN OFF TRC IND
01023	0774	00	2	00002		AXT 2,2	L +2 IN XRB
01024	0500	00	0	04314		CLA RDFLD+1	L WORD READ
01025	0340	00	0	03613		CAS KK1+1	COMPARE WORD GENERATED
01026	0020	00	0	01034		TRA TEF8	ERROR
01027	0020	00	0	01036		TRA TEF9	OK
01030	0560	00	0	03613		LDQ KK1+1	L WORD GENERATED IN MQ
01031	0074	00	4	06502		TSX ERROR-2,4	POSSIBLE BACKSPACE FILE
01032	0761	00	0	00703		NOP TEF5	ERROR
01033	0020	00	0	01036		TRA TEF9	
01034	0560	00	0	03613	TEF8	LDQ KK1+1	L WORD GENERATED IN MQ
01035	0074	00	4	06500		TSX ERROR-4,4	PROBABLE FALSE RECOGNITION OF SIMULATED TAPE MARK DURING BACKSPACE FILE
01036	0074	00	4	06511	TEF9	TSX OK,4	
01037	0020	00	0	00703		TRA TEF5	

* CHECK MAX DELAY BETWEEN WTB + RCH

01040	666322216001					BCD 1WTBA 1	TEST INSTRUCTION
01041	0760	00	0	00005	TVM	IOT	TURN OFF I-O CHECK
01042	0761	00	0	00000		NOP	INDICATOR IF ON
01043	0022	00	0	01044		TRCA *+1	TURN OFF TRC TGR IF ON
01044	0772	00	0	01201		REWA 1	
01045	0774	00	1	03202		AXT 1666,1	L +3202 IN XRA
01046	0060	00	0	01046		TCOA *	DELAY
01047	0766	00	0	01221		WTBA 1	
01050	2	00001	1	01050		TIX *,1,1	DELAY FOR 40 MILSEC
01051	0540	00	0	03251		RCHA CT6	WRITE TWO 1 WORD RECORDS
01052	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
01053	0761	00	0	01041		NOP TVM	
01054	0760	00	0	00005		IOT	IS INPUT-OUTPUT CHK IND ON
01055	0020	00	0	01057		TRA *+2	YES - ERROR
01056	0020	00	0	01061		TRA *+3	NO - OK
01057	0074	00	4	06503		TSX ERROR-1,4	TIMING ERROR BETWEEN WTB
01060	-3	00000	0	01041		TXL TVM	AND RCH INSTR AT LP
01061	0774	00	1	00400		AXT 256,1	L + 400 IN XRA

01062	0766	00	0	01221	WTBA 1	
01063	2	00001	1	01063	TIX *,1,1	DELAY FOR 6 MILSEC
01064	0540	00	0	03254	RCHA CT6A	WRITE TWO 1 WORD RECORDS
01065	0074	00	4	06560	TSX RDNCK,4	REDUNDANCY TAPE CHECK
01066	0761	00	0	01041	NOP TVM	
01067	0760	00	0	00005	IOT	IS INPUT-OUTPUT CHK IND ON
01070	0020	00	0	01072	TRA *+2	YES - ERROR
01071	0020	00	0	01076	TRA TVM1	NO - OK
01072	0074	00	4	06503	TSX ERROR-1,4	TIMING ERROR BETWEEN WTB
01073	-3	00000	0	01041	TXL TVM	AND RCH INSTR NOT AT LP

* CHECK MAX DELAY BETWEEN RTB + RCH

01074	516322216001				BCD 1RTBA 1	TEST INSTRUCTION
01075	0020	00	0	01041	TVM1A TRA TVM	
01076	0760	00	0	00005	TVM1 IOT	TURN OFF I-O CHECK
01077	0761	00	0	00000	NOP	INDICATOR IFON
01100	0772	00	0	01201	REWA 1	
01101	0074	00	4	03125	TSX CLR,4	GO TO CLEAR READ FIELD
01102	0774	00	1	01501	AXT 833,1	L +1500 IN XRA
01103	0060	00	0	01103	TCOA *	DELAY
01104	0762	00	0	01221	RTBA 1	
01105	2	00001	1	01105	TIX *,1,1	DELAY FOR 20 MILSEC
01106	0540	00	0	03244	RCHA CT4	READ 2 WORDS INTO FIX
01107	0074	00	4	06560	TSX RDNCK,4	REDUNDANCY TAPE CHECK
01110	0761	00	0	01075	NOP TVM1A	
01111	0760	00	0	00005	IOT	IS INPUT-OUTPUT CHK IND ON
01112	0020	00	0	01114	TRA *+2	YES - ERROR
01113	0020	00	0	01116	TRA *+3	NO - OK
01114	0074	00	4	06503	TSX ERROR-1,4	TIMING ERROR BETWEEN RTB
01115	-3	00000	0	01075	TXL TVM1A	AND RCH INSTR AT LP
01116	0774	00	1	00175	AXT 125,1	L +175 IN XRA
01117	0762	00	0	01221	RTBA 1	
01120	2	00001	1	01120	TIX *,1,1	DELAY FOR 3 MILSEC
01121	0540	00	0	03246	RCHA CT4A	READ 2 WDS INTO RDFLD+2
01122	0074	00	4	06560	TSX RDNCK,4	REDUNDANCY TAPE CHECK
01123	0761	00	0	01075	NOP TVM1A	
01124	0760	00	0	00005	IOT	IS INPUT-OUTPUT CHK IND ON
01125	0020	00	0	01127	TRA *+2	YES - ERROR
01126	0020	00	0	01131	TRA *+3	NO - OK
01127	0074	00	4	06503	TSX ERROR-1,4	TIMING ERROR BETWEEN RTB
01130	-3	00000	0	01075	TXL TVM1A	AND RCH INSTR NOT AT LP

* COMPARE

01131	0500	00	0	03225	CLA TWO	L +2
01132	0601	00	0	06556	STO WDNO	
01133	0774	00	1	00001	AXT 1,1	L +1 IN XRA
01134	0500	00	0	03230	CLA FIVE	L +5
01135	0601	00	0	06557	STO RECNO	
01136	0774	00	2	00004	AXT 4,2	L +4 IN XRB
01137	0500	00	2	04317	CLA RDFLD+4,2	
01140	0340	00	2	03411	CAS FIX+4,2	
01141	0020	00	0	01143	TRA *+2	YES - ERROR

01142	0020	00	0	01146	TRA	++4	OK
01143	0560	00	2	03411	LDQ	FIX+4,2	
01144	0074	00	4	06502	TSX	ERROR-2,4	COMPARISON ERROR AFTER WR-DELAY-BACKSPACE-RD-DELAY
01145	0761	00	0	01075	NOP	TVM1A	
01146	2	00001	2	01137	TIX	*-7,2,1	
01147	0074	00	4	06511	TSX	OK,4	
01150	0020	00	0	01041	TRA	TVM	

* TEST BACKSPACE RECORD

* WRITE 100 ONE WORD RECORD

01151	226251216001				BCD	1BSRA 1	TEST INSTRUCTION	+
01152	0020	00	0	01154	BSR	TRA	++2	
01153	0772	00	0	01201		REWA	1	
01154	0770	00	0	01201		WEFA	1	WRITE END OF FILE
01155	0030	00	0	01156		TEFA	*+1	TURN OFF EOF TGR IF ON
01156	0766	00	0	01221		WTBA	1	
01157	0540	00	0	03265		RCHA	CT8	
01160	0534	00	1	03570	BSR1	LXA	CONST+1,1	L +100 IN XRA
01161	0500	00	1	03505		CLA	FIX+64,1	
01162	0601	00	0	03600		STO	TEMP	
01163	0766	00	0	01221		WTBA	1	
01164	0540	00	0	03257		RCHA	CT7	
01165	-0760	00	0	01000		ETTA		
01166	0020	00	0	01153		TRA	BSR+1	
01167	0074	00	4	06560		TSX	RDNCK,4	REDUNDANCY TAPE CHECK
01170	0761	00	0	01152		NOP	BSR	
01171	2	00001	1	01163		TIX	*-6,1,1	
01172	0770	00	0	01201		WEFA	1	

* BACKSPACE OVER LAST 15 RECORDS

01173	0534	00	1	03645		LXA	K6,1	L +17 IN XRA
01174	0764	00	0	01201		BSRA	1	BACKSPACE OVER TAPE MARK
01175	0764	00	0	01201	BSR2	BSRA	1	BACKSPACE OVER
01176	2	00001	1	01175		TIX	BSR2,1,1	LAST 15 RECORDS

* READ AND COMPARE

01177	0774	00	4	00001		AXT	1,4	L +1 IN XRC
01200	0774	00	2	00017		AXT	15,2	L +17 IN XRA
01201	0074	00	4	03125		TSX	CLR,4	GO TO CLEAR READ FIELD
01202	0762	00	0	01221	BSR3	RTBA	1	
01203	0540	00	0	03257		RCHA	CT7	
01204	0074	00	4	06560		TSX	RDNCK,4	REDUNDANCY TAPE CHECK
01205	0761	00	0	01152		NOP	BSR	
01206	0030	00	0	01210		TEFA	*+2	SHOULD NOT XFER
01207	0020	00	0	01215		TRA	*+6	OK
01210	0500	00	0	03600		CLA	TEMP	
01211	0560	00	2	03504		LDQ	FIX+63,2	
01212	0634	00	4	03577		SXA	XRC,4	

01213	0074	00	4	06502		TSX ERROR-2,4	PROBABLE BSR ERROR
01214	0	00000	0	00000	REM		TO BEGINNING OF FILE
01215	0761	00	0	01152		NOP BSR	
01216	0534	00	4	03577		LXA XRC,4	
01217	0020	00	0	01247		TRA BSR4	
01220	0500	00	0	03600		CLA TEMP	
01221	0601	00	2	04332		STO RDFLD+15,2	
01222	1	00001	4	01223		TXI *+1,4,1	
01223	2	00001	2	01202		TIX BSR3,2,1	
01224	0500	00	0	03650		CLA K6+3	L +100
01225	0402	00	0	03234		SUB NINE	L +11
01226	0601	00	0	06557		STO RECNO	
01227	0402	00	0	03224		SUB ONE	L +1
01230	0734	00	2	00000		PAX 0,2	SET RECORD COUNT
01231	0500	00	0	03225		CLA TWO	L +2
01232	0601	00	0	06556		STO WDNO	
01233	0534	00	1	03224		LXA ONE,1	L +1 IN XRA - WDS PER REC
01234	0500	00	0	04320		CLA RDFLD+5	L WORD READ
01235	0340	00	0	03473		CAS FIX+54	COMPARE WORD GENERATED
01236	0020	00	0	01244		TRA *+6	ERROR
01237	0020	00	0	01247		TRA BSR4	OK
01240	0560	00	0	03473		LDQ FIX+54	L WORD GENERATED IN MQ
01241	0074	00	4	06502		TSX ERROR-2,4	BACKSPACE RECORD LONG
01242	0020	00	0	01152		TRA BSR	
01243	0020	00	0	01247		TRA BSR4	
01244	0560	00	0	03473		LDQ FIX+54	L WORD GENERATED IN MQ
01245	0074	00	4	06502		TSX ERROR-2,4	BACKSPACE RECORD SHORT
01246	0020	00	0	01152		TRA BSR	
01247	0074	00	4	06511	BSR4	TSX OK,4	
01250	0020	00	0	01152		TRA BSR	
*						CHECK MULTIPLE WRITE SELECTS	
*						AND CHECK FOR NOISE	
01251	666322216001					BCD 1WTBA 1	
01252	0022	00	0	01253	A1	TRCA *+1	TURN OFF TRC IND IF ON
01253	0534	00	1	03645		LXA K6,1	L +17 IN XRA
01254	0766	00	0	01221	A1A	WTBA 1	
01255	-0760	00	0	01000		ETTA	
01256	0020	00	0	01260		TRA *+2	
01257	0020	00	0	01262		TRA *+3	
01260	0772	00	0	01201		REWA 1	
01261	0020	00	0	01252		TRA A1	
01262	2	00001	1	01254		TIX A1A,1,1	
01263	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY ERROR FROM NOISE
01264	0020	00	0	01252		TRA A1	
01265	0760	00	0	00005		IOT	IS INPUT-OUTPUT CHK IND ON
01266	0020	00	0	01270		TRA *+2	ON - ERROR
01267	0020	00	0	01272		TRA *+3	OFF - OK
01270	0074	00	4	06503		TSX ERROR-1,4	FALSE IOT INDICATION
01271	-3	00000	4	01252		TXL A1,4	

01272 0074 00 4 06511 TSX OK,4
 01273 0020 00 0 01252 TRA A1

* TEST BACKSPACE FILE

01274 226226216001 BCD 1BSFA 1
 01275 0020 00 0 01277 BSF TRA *+2
 01276 0772 00 0 01201 REWA 1
 01277 0030 00 0 01300 TEFA *+1 TURN OFF EOF IND IF ON
 01300 0770 00 0 01201 WEFA 1 WRITE END OF FILE
 01301 0766 00 0 01221 WTBA 1
 01302 0540 00 0 03265 RCHA CT8
 01303 0534 00 1 03652 LXA K6+5,1 L +36 IN XRA
 01304 0500 00 1 03443 BSF2 CLA FIX+30,1
 01305 0601 00 0 03600 STO TEMP
 01306 0770 00 0 01201 WEFA 1 WRITE END OF FILE
 01307 0766 00 0 01221 WTBA 1
 01310 0540 00 0 03257 RCHA CT7
 01311 -0760 00 0 01000 ET'TA
 01312 0020 00 0 01276 TRA BSF+1
 01313 2 00001 1 01304 TIX BSF2,1,1
 01314 0074 00 4 06560 TSX RDNCK,4 REDUNDANCY TAPE CHECK
 01315 0761 00 0 01275 NOP BSF

 01316 0534 00 1 03645 LXA K6,1 L +17 IN XRA
 01317 -0764 00 0 01201 BSF3 BSFA 1
 01320 2 00001 1 01317 TIX BSF3,1,1
 01321 0762 00 0 01201 RTDA 1 READ OVER END OF FILE
 01322 0540 00 0 03257 RCHA CT7
 01323 0534 00 1 03224 LXA ONE,1 L +1 IN XRA - WDS PER REC
 01324 0534 00 2 03645 LXA K6,2 L +17 IN XRB - NO. OF RECS
 01325 0500 00 0 03653 CLA K6+6 L +20
 01326 0601 00 0 06557 STO RECNO
 01327 0060 00 0 01327 TCOA * DELAY
 01330 0022 00 0 01332 TRCA *+2 SHOULD NOT BE ON
 01331 0020 00 0 01333 TRA *+2 OFF - OK
 01332 0020 00 0 01342 TRA BSF4-8 ON - ERROR
 01333 0030 00 0 01335 TEFA *+2 SHOULD XFER
 01334 0020 00 0 01342 TRA BSF4-8
 01335 0600 00 0 03600 STZ TEMP CLEAR READ AREA
 01336 0762 00 0 01221 RTBA 1
 01337 0540 00 0 03257 RCHA CT7
 01340 0074 00 4 06560 TSX RDNCK,4 REDUNDANCY TAPE CHECK
 01341 0761 00 0 01275 NOP BSF
 01342 0500 00 0 03600 CLA TEMP L WORD READ
 01343 0560 00 0 03424 LDQ FIX+15 L WORD GENERATED IN MQ
 01344 0340 00 0 03424 CAS FIX+15 COMPARE WORD GENERATED
 01345 0020 00 0 01352 TRA BSF4
 01346 0020 00 0 01353 TRA BSF4+1 OK
 01347 0074 00 4 06502 TSX ERROR-2,4 BACKSPACE FILE ERROR-LONG
 01350 0020 00 0 01275 TRA BSF
 01351 0020 00 0 01353 TRA *+2
 01352 0074 00 4 06500 BSF4 TSX ERROR-4,4 BACKSPACE FIEL ERROR-SHORT
 01353 0074 00 4 06511 TSX OK,4
 01354 0020 00 0 01275 TRA BSF

* FORM FIXED PATTERN

01355	265144606060		BCD 1FRM	TEST ROUTINE
01356	0774 00 4 00400	FRM	AXT 256,4	L +400 IN XRC
01357	0774 00 1 00004		AXT 4,1	L +4 IN XRA
01360	0774 00 2 00100		AXT 64,2	L +100 IN XRB
01361	0500 00 2 03505		CLA FIX+64,2	
01362	0601 00 4 04313		STO WRFLD+256,4	
01363	2 00001 4 01364		TIX *+1,4,1	
01364	2 00001 2 01361		TIX *-3,2,1	
01365	2 00001 1 01360		TIX *-5,1,1	

* COMPARE

01366	0774 00 4 00400		AXT 256,4	L +400 IN XRC
01367	0774 00 1 00004		AXT 4,1	L +4 IN XRA
01370	0774 00 2 00100		AXT 64,2	L +100 IN XRB
01371	0500 00 4 04313		CLA WRFLD+256,4	
01372	0560 00 2 03505		LDQ FIX+64,2	
01373	0340 00 2 03505		CAS FIX+64,2	
01374	0020 00 0 01376		TRA *+2	
01375	0020 00 0 01402		TRA FRM2	
01376	0634 00 4 03600		SXA TEMP,4	SAVE XRC
01377	0074 00 4 06503		TSX ERROR-1,4	FAILED TO FORM FIXED PATTERN CORRECTLY - MAIN FRAME ERROR IF SENSE LIGHT 1 IS ON PROGRAM IS IN BCD SECTION
01400	0020 00 0 01356		TRA FRM	
01401	0534 00 4 03600		LXA TEMP,4	RESET XRC
01402	2 00001 4 01403	FRM2	TIX *+1,4,1	
01403	2 00001 2 01371		TIX *-10,2,1	
01404	2 00001 1 01370		TIX *-12,1,1	
01405	0020 00 0 01407	FRM3	TRA WTB	

* TEST WRITING IN BINARY MODE

01406	666322216001		BCD 1WTBA 1	TEST INSTRUCTION
01407	0020 00 0 01411	WTB	TRA *+2	
01410	0772 00 0 01201		REWA 1	
01411	0022 00 0 01412	WTB1	TRCA *+1	TURN OFF TRC IND IF ON
01412	0770 00 0 01201		WEFA 1	WRITE END OF FILE

* WRITE ONE 400 WORD RECORD

01413	0766 00 0 01221		WTBA 1	WRITE IN BINARY MODE
01414	0540 00 0 03273		RCHA CT16	ONE 400 WORD RECORD
01415	-0760 00 0 01000		ETTA	PHYSICAL END OF TAPE TEST
01416	0020 00 0 01410		TRA WTB+1	YES - ED OF TAPE
01417	0074 00 4 06560		TSX RDNCK,4	REDUNDANCY ERROR
01420	0020 00 0 01407		TRA WTB	
01421	0020 00 0 01424		TRA RTB1	

* TEST READING IN BINARY MODE

01422	516322216001		BCD 1RTBA 1	TEST INSTRUCTION
01423	0020 00 0 01411	RTB	TRA WTB1	
01424	-0764 00 0 01201	RTB1	BSFA 1	
01425	0022 00 0 01426		TRCA *+1	TURN OFF TRC IND IF ON
01426	0030 00 0 01427		TEFA *+1	TURN OFF EOF IND IF ON
01427	0074 00 4 03125		TSX CLR,4	GO TO CLEAR READ FIELD

* READ ONE 400 WORD RECORD

01430	0762 00 0 01221		RTBA 1	READ OVER
01431	0540 00 0 03257		RCHA CT7	END OF FILE
01432	0060 00 0 01432		TCOA *	DELAY
01433	0030 00 0 01437		TEFA *+4	SHOULD BE ON
01434	0074 00 4 06503		TSX ERROR-1,4	FAILED TO WRITE OR READ
01435	-3 00000 4 01423		TXL RTB,4	EOF CORRECTLY
				POSSIBLE BACKSPACE ERROR
01436	0020 00 0 01461		TRA RWC2+1	
01437	0762 00 0 01221		RTBA 1	READ TAPE IN BINARY MODE
01440	0540 00 0 03277		RCHA CT18	
01441	0074 00 4 06560		TSX RDNCK,4	REDUNDANCY ERROR CHECK
01442	0020 00 0 01423		TRA RTB	

* COMPARE

01443	0500 00 0 03225	RWC	CLA TWO	L +2
01444	0601 00 0 06557		STO RECNO	
01445	0500 00 0 03626		CLA K2+9	L +401
01446	0601 00 0 06556		STO WDNO	
01447	0774 00 1 00400		AXT 256,1	L +400 IN XRA
01450	0774 00 2 00001		AXT 1,2	L +2 IN XRB
01451	0500 00 1 04713	RWC1	CLA RDFLD+256,1	L WORD READ
01452	0340 00 1 04313		CAS WRFLD+256,1	COMPARE WORD GENERATED
01453	0020 00 0 01455		TRA *+2	
01454	0020 00 0 01460		TRA RWC2	OK
01455	0560 00 1 04313		LDQ WRFLD+256,1	L WORD GENERATED IN MQ
01456	0074 00 4 06502		TSX ERROR-2,4	COMPARISON ERROR
01457	0761 00 0 01423		NOP RTB	
01460	2 00001 1 01451	RWC2	TIX RWC1,1,1	DECREMENT WD READ COUNT
01461	0074 00 4 06511		TSX OK,4	
01462	0020 00 0 01423		TRA RTB	

* WRITE 100 ONE WORD RECORDS

01463	666322216001		BCD 1WTBA 1	TEST INSTRUCTION
01464	0020 00 0 01466	WTB2	TRA *+2	
01465	0772 00 0 01201		REWA 1	
01466	0774 00 2 00100		AXT 64,2	L +100 IN XRB
01467	0770 00 0 01201		WEFA 1	WRITE END OF FILE
01470	0500 00 0 03312		CLA CT22A	L IOC WRFLF,0,1
01471	0601 00 0 03310		STO CT22	
01472	0500 00 0 03651		CLA K6+4	L +101
01473	0601 00 0 06557		STO RECNO	

01474	0500	00	0	03225		CLA TWO	L +2
01475	0601	00	0	06556		STO WDNO	
01476	0774	00	1	00001		AXT 1,1	L +1 IN XRA
01477	0022	00	0	01500	WTB3	TRCA *+1	TURN OFF TRC IND IF ON
01500	0766	00	0	01221		WTBA 1	WRITE IN BINARY MODE
01501	0540	00	0	03310		RCHA CT22	ONE RECORD
01502	0060	00	0	01502		TCOA *	DELAY
01503	0022	00	0	01505		TRCA *+2	TEST FOR REDUNDANCY CHECK
01504	0020	00	0	01521		TRA WTB4	
01505	0764	00	0	01201		BSRA 1	
01506	0600	00	0	03600		STZ TEMP	CLEAR READ AREA
01507	0762	00	0	01221		RTBA 1	READ TAPE IN BINARY MODE
01510	0540	00	0	03257		RCHA CT7	
01511	0060	00	0	01511		TCOA *	DELAY
01512	0500	00	0	03600		CLA TEMP	L WORD READ
01513	0560	00	2	04013		LDQ WRFLD+64,2	L WORD GENERATED IN MQ
01514	0074	00	4	06502		TSX ERROR-2,4	REDUNDANCY ERROR
01515	0761	00	0	01464		NOP WTB2	
01516	0764	00	0	01201		BSRA 1	
01517	0766	00	0	01221		WTBA 1	WRITE TAPE IN BINARY MODE
01520	0540	00	0	03310		RCHA CT22	
01521	0500	00	0	03310	WTB4	CLA CT22	
01522	0400	00	0	03224		ADD ONE	L +1
01523	0601	00	0	03310		STO CT22	
01524	-0760	00	0	01000		ETTA	PHYSICAL END OF TAPE TEST
01525	0020	00	0	01465		TRA WTB2+1	
01526	0060	00	0	01526		TCOA *	DELAY
01527	2 00001	2	2	01477		TIX WTB3,2,1	
01530	0074	00	4	06511		TSX OK,4	
01531	0020	00	0	01466		TRA WTB2+2	

* READ 100 ONE WORD RECORDS

01532	516322216001					BCD 1RTBA 1	TEST INSTRUCTION
01533	-0764	00	0	01201	RTB2	BSFA 1	
01534	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ FIELD
01535	0500	00	0	03326		CLA CT23A	
01536	0601	00	0	03324		STO CT23	
01537	0774	00	1	00001		AXT 1,1	L +1 IN XRA
01540	0774	00	2	00100		AXT 64,2	L +100 IN XRB
01541	0500	00	0	03225		CLA TWO	L +2
01542	0601	00	0	06556		STO WDNO	
01543	0500	00	0	03651		CLA K6+4	L +101
01544	0601	00	0	06557		STO RECNO	
01545	0762	00	0	01221		RTBA 1	READ OVER
01546	0540	00	0	03257		RCHA CT7	END OF FILE
01547	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
01550	0761	00	0	01533		NOP RTB2	
01551	0030	00	0	01555		TEFA *+4	SHOULD BE ON
01552	0074	00	4	06503		TSX ERROR-1,4	FAILED TO WRITE OR READ
01553	-3 00000	4	4	01533		TXL RTB2,4	EOF CORRECTLY
							POSSIBLE BACKSPACE ERROR
01554	0020	00	0	01617		TRA RTB6+5	

01555	0762	00	0	01221	RTB3	RTBA 1	READ TAPE IN BIN MODE
01556	0540	00	0	03324		RCHA CT23	FIRST READ
01557	0060	00	0	01557		TCOA *	DELAY
01560	0022	00	0	01570		TRCA *+8	TEST FOR REDUNDANCY CHECK
01561	0500	00	2	04413		CLA RDFLD+64,2	L WORD READ
01562	0340	00	2	04013		CAS WRFLD+64,2	COMPARE WORD GENERATED
01563	0020	00	0	01565		TRA *+2	ERROR
01564	0020	00	0	01612		TRA RTB6	
01565	0560	00	2	04013		LDQ WRFLD+64,2	L WORD GENERATED IN MQ
01566	0074	00	4	06502		TSX ERROR-2,4	ERROR ON FIRST READ
01567	0761	00	0	01533		NOP RTB2	
01570	0764	00	0	01201		BSRA 1	
01571	0762	00	0	01221		RTBA 1	READ TAPE IN BINARY MODE
01572	0540	00	0	03324		RCHA CT23	SECOND READ
01573	0060	00	0	01573		TCOA *	DELAY
01574	0500	00	2	04413		CLA RDFLD+64,2	L WORD READ
01575	0340	00	2	04013		CAS WRFLD+64,2	COMPARE WORD GENERATED
01576	0020	00	0	01600		TRA *+2	
01577	0020	00	0	01605	RTB4	TRA RTB5	
01600	0022	00	0	01607		TRCA RTB5+2	TEST FOR REDUNDANCY CHECK
01601	0560	00	2	04013		LDQ WRFLD+64,2	L WORD GENERATED IN MQ
01602	0074	00	4	06502		TSX ERROR-2,4	COMPARISON ERROR
01603	0761	00	0	01533		NOP RTB2	
01604	0020	00	0	01612		TRA RTB6	
01605	0022	00	0	01607	RTB5	TRCA *+2	TEST FOR REDUNDANCY CHECK
01606	0020	00	0	01612		TRA *+4	
01607	0560	00	2	04013		LDQ WRFLD+64,2	L WORD GENERATED IN MQ
01610	0074	00	4	06502		TSX ERROR-2,4	REDUNDANCY ERROR
01611	0761	00	0	01533		NOP RTB2	
01612	0500	00	0	03324	RTB6	CLA CT23	
01613	0400	00	0	03224		ADD ONE	L +1
01614	0601	00	0	03324		STO CT23	
01615	0060	00	0	01615		TCOA *	DELAY
01616	2 00001	2	01555			TIX RTB3,2,1	DECREMENT RECORD COUNT
01617	0074	00	4	06511		TSX OK,4	
01620	0020	00	0	01533		TRA RTB2	
01621	0761	00	0	00000		NOP	
01622	0020	00	0	01623	RTB7	TRA BCD	

* PERFORM BCD WRITE AND READ TEST

01623	0500	00	0	03666	BCD	CLA K9	L +012301230123
01624	0601	00	0	03416		STO FIX+9	
01625	0601	00	0	03423		STO FIX+14	
01626	0601	00	0	03456		STO FIX+41	
01627	0601	00	0	03463		STO FIX+46	
01630	0500	00	0	01413		CLA WTB1+2	
01631	0402	00	0	03653		SUB K6+6	L +20
01632	0621	00	0	01412		STA WTB1+1	
01633	0621	00	0	01413		STA WTB1+2	
01634	0621	00	0	01467		STA WTB2+3	
01635	0621	00	0	01500		STA WTB3+1	
01636	0621	00	0	01507		STA WTB3+8	
01637	0621	00	0	01517		STA WTB4-2	

01640	0621	00	0	01430	STA	RTB1+4	
01641	0621	00	0	01437	STA	RTB1+11	
01642	0621	00	0	01545	STA	RTB3-8	
01643	0621	00	0	01555	STA	RTB3	
01644	0621	00	0	01571	STA	RTB3+12	
01645	0500	00	0	01657	CLA	BCDA	L BCD 1WTDA 1
01646	0601	00	0	01406	STO	WTB-1	
01647	0601	00	0	01463	STO	WTB2-1	
01650	0500	00	0	01661	CLA	BCDA+2	L BCD 1RTDA 1
01651	0601	00	0	01422	STO	RTB-1	
01652	0601	00	0	01532	STO	RTB2-1	
01653	0500	00	0	03655	CLA	K7	L TRA BCD1
01654	0601	00	0	01622	STO	RTB7	
01655	0760	00	0	00141	SLN	1	TURN ON SENSE LIGHT 1
01656	0020	00	0	01356	TRA	FRM	
01657	666324216001			BCDA	BCD	1WTDA 1	USED AS CONSTANT
01660	0766	00	0	01201	WTDA	1	DETERMINANT FOR IOM
01661	516324216001				BCD	1RTDA 1	
01662	0766	00	0	01201	WTDA	1	DETERMINANT FOR IOM
01663	666322216001				BCD	1WTBA 1	
01664	0766	00	0	01221	WTBA	1	DETERMINANT FOR IOM
01665	516322216060				BCD	1RTBA	
01666	0766	00	0	01221	WTBA	1	DETERMINANT FOR IOM
01667	0500	00	0	03667	BCD1	CLA	K9+1
01670	0601	00	0	03423	STO	FIX+14	L +1717171717171717
01671	0500	00	0	03670	CLA	K9+2	L +1757575757575757
01672	0601	00	0	03463	STO	FIX+46	
01673	0500	00	0	03671	CLA	K9+3	L +1212121212121212
01674	0601	00	0	03416	STO	FIX+9	
01675	0500	00	0	03672	CLA	K9+4	L +1252525252525252
01676	0601	00	0	03456	STO	FIX+41	
01677	0500	00	0	01413	CLA	WTB1+2	
01700	0400	00	0	03653	ADD	K6+6	L +20
01701	0621	00	0	01412	STA	WTB1+1	
01702	0621	00	0	01413	STA	WTB1+2	
01703	0621	00	0	01467	STA	WTB2+3	
01704	0621	00	0	01500	STA	WTB3+1	
01705	0621	00	0	01507	STA	WTB3+8	
01706	0621	00	0	01517	STA	WTB4-2	
01707	0621	00	0	01430	STA	RTB1+4	
01710	0621	00	0	01437	STA	RTB1+11	
01711	0621	00	0	01545	STA	RTB3-8	
01712	0621	00	0	01555	STA	RTB3	
01713	0621	00	0	01571	STA	RTB3+12	
01714	0500	00	0	03657	CLA	K7+2	L TRA BCD2
01715	0601	00	0	01405	STO	FRM3	
01716	0020	00	0	01356	TRA	FRM	

01717	0500	00	0	01663	BCD2	CLA BCDA+4	L BCD 1WTBA 1
01720	0601	00	0	01406		STO WTB-1	
01721	0601	00	0	01463		STO WTB2-1	
01722	0500	00	0	01665		CLA BCDA+6	L BCD 1RTBA 1
01723	0601	00	0	01422		STO RTB-1	
01724	0601	00	0	01532		STO RTB2-1	
01725	0500	00	0	03660		CLA K7+3	L TRA WTB
01726	0601	00	0	01405		STO FRM3	
01727	0500	00	0	03656		CLA K7+1	L TRA BCD
01730	0601	00	0	01622		STO RTB7	
01731	-0760	00	0	00141		SLT 1	TURN OFF SENSE LIGHT 1
01732	0020	00	0	01735		TRA *+3	
01733	0020	00	0	01735		TRA *+2	

* TEST READ UNDER IND 19 CONTROL

01734	314524600111					BCD 1IND 19	TEST CONDITION
01735	0020	00	0	01737	IN19	TRA *+2	
01736	0772	00	0	01201		REWA 1	
01737	0770	00	0	01201		WEFA 1	WRITE END OF FILE
01740	0766	00	0	01221		WTBA 1	WRITE ONE 100 WORD RECORD
01741	0540	00	0	03364		RCHA CT29	START WITH WRFLD
01742	-0760	00	0	01000		ETTA	PHYSICAL END OF TAPE TEST
01743	0020	00	0	01736		TRA IN19+1	
01744	0060	00	0	01742		TCOA *-2	
01745	-0764	00	0	01201		BSFA 1	
01746	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA
01747	0762	00	0	01221		RTBA 1	READ OVER
01750	0540	00	0	03257		RCHA CT7	END OF FILE
01751	0060	00	0	01751		TCOA *	DELAY
01752	0030	00	0	01756		TEFA *+4	SHOUL DBE ON
01753	0074	00	4	06503		TSX ERROR-1,4	FAILED TO WRITE OR READ
01754	-3 00000	4		01735		TXL IN19,4	EOF CORRECTLY
01755	0020	00	0	02035		TRA IN19D	
01756	0762	00	0	01221		RTBA 1	
01757	0540	00	0	03366		RCHA CT29+2	READ 16 WORDS
01760	0544	00	0	03370		LCHA CT29+4	SPACE 16 WORDS
01761	0544	00	0	03372		LCHA CT29+6	READ 16 WORDS
01762	0544	00	0	03374		LCHA CT29+8	SPACE 16 WORDS
01763	0774	00	1	00100		AXT 64,1	L +100 IN XRA - NO OF WDS
01764	0500	00	0	03651		CLA K6+4	L +101
01765	0601	00	0	06556		STO WDNO	
01766	0500	00	0	03225		CLA TWO	
01767	0601	00	0	06557		STO RECNO	
01770	0774	00	2	00001		AXT 1,2	L +1 IN XRB - NO OF RECS
01771	0500	00	0	03225		CLA TWO L +2	
01772	0601	00	0	03600		STO TEMP	SAVE COUNT
01773	0060	00	0	01773		TCOA *	DELAY
01774	0774	00	4	00020	IN19A	AXT 16,4	L +20 IN XRC - COUNTER

01775	0500	00	1	04413		CLA	RDFLD+64,1	
01776	0340	00	1	04013		CAS	WRFLD+64,1	
01777	0020	00	0	02021		TRA	IN19B	
02000	0020	00	0	02002		TRA	*+2	
02001	0020	00	0	02021		TRA	IN19B	
02002	2	00001	1	02003		TIX	*+1,1,1	DECREMENT WORD COUNT
02003	2	00001	4	01775		TIX	*-6,4,1	DECREMENT COUNTER
02004	0774	00	4	00020		AXT	16,4	L +20 IN XRC - COUNTER
02005	0500	00	1	04413		CLA	RDFLD+64,1	
02006	0340	00	0	03223		CAS	ZERO	
02007	0020	00	0	02027		TRA	IN19C	
02010	0020	00	0	02012		TRA	*+2	
02011	0020	00	0	02027		TRA	IN19C	
02012	2	00001	1	02013		TIX	*+1,1,1	DECREMENT WORD COUNT
02013	2	00001	4	02005		TIX	*-6,4,1	DECREMENT COUNTER
02014	0500	00	0	03600		CLA	TEMP	
02015	0402	00	0	03224		SUB	ONE	L +1
02016	0100	00	0	02035		TZE	IN19D	TO OK
02017	0601	00	0	03600		STO	TEMP	
02020	0020	00	0	01774		TRA	IN19A	
02021	0634	00	4	03601	IN19B	SXA	TEMP1,4	SAVE COUNTER
02022	0560	00	1	04013		LDQ	WRFLD+64,1	
02023	0074	00	4	06502		TSX	ERROR-2,4	FAILED TO READ OR WRITE
02024	0761	00	0	01735		NOP	IN19	CORRECTLY
02025	0534	00	4	03601		LXA	TEMP1,4	RELOAD COUNTER
02026	0020	00	0	02002		TRA	IN19A+6	
02027	0634	00	4	03601	IN19C	SXA	TEMP1,4	SAVE COUNTER
02030	0560	00	1	04013		LDQ	WRFLD+64,1	
02031	0074	00	4	06502		TSX	ERROR-2,4	WORD READ SHOULD BE ZERO
02032	0761	00	0	01735		NOP	IN19	WORD GENERATED SHOWS WORD WHICH SHOULD HAVE BEEN SPACED OVER BY IND 19 CONTROL
02033	0534	00	4	03601		LXA	TEMP1,4	RELOAD COUNTER
02034	0020	00	0	02012		TRA	IN19A+14	
02035	0074	00	4	06511	IN19D	TSX	OK,4	
02036	0020	00	0	01735		TRA	IN19	

*

TEST BACKSPACE WRITE

02037	666322216001					BCD	1WTBA 1	
02040	0020	00	0	02042	BWB	TRA	*+2	
02041	0772	00	0	01201		REWA	1	
02042	0770	00	0	01201		WEFA	1	WRITE END OF FILE
02043	0500	00	0	03651		CLA	K6+4	L +101
02044	0601	00	0	06557		STO	RECNO	
02045	0774	00	2	00100		AXT	64,2	L +100 IN XRB
02046	0500	00	0	03225		CLA	TWO	L +2
02047	0601	00	0	06556		STO	WDNO	
02050	0774	00	1	00001		AXT	1,1	L +1 IN XRA - WDS PER REC

02051	0500	00	0	03312		CLA	CT22A	
02052	0601	00	0	03310		STO	CT22	
02053	0766	00	0	01221	BWB1	WTBA	1	
02054	0540	00	0	03310		RCHA	CT22	
02055	0060	00	0	02055		TCOA	*	DELAY
02056	0022	00	0	02057		TRCA	*+1	TURN OFF TRC IND IF ON
02057	0500	00	0	03310		CLA	CT22	
02060	0400	00	0	03224		ADD	ONE	
02061	0601	00	0	03310		STO	CT22	
02062	0766	00	0	01221		WTBA	1	
02063	0540	00	0	03310		RCHA	CT22	
02064	0764	00	0	01201		BSRA	1	
02065	0766	00	0	01221		WTBA	1	
02066	0540	00	0	03310		RCHA	CT22	
02067	-0760	00	0	01000		ETTA		
02070	0020	00	0	02041		TRA	BWB+1	
02071	0060	00	0	02071		TCOA	*	DELAY
02072	0022	00	0	02074		TRCA	*+2	TEST FOR REDUNDANCY CHECK
02073	0020	00	0	02104		TRA	BWB2	
02074	0764	00	0	01201		BSRA	1	
02075	0762	00	0	01221		RTBA	1	
02076	0540	00	0	03257		RCHA	CT7	
02077	0060	00	0	02077		TCOA	*	DELAY
02100	0500	00	0	03600		CLA	TEMP	L WORD READ
02101	0560	00	2	04014		LDQ	WRFLD+65,2	L WORD GENERATED IN MQ
02102	0074	00	4	06502		TSX	ERROR-2,4	REDUNDANCY ERROR
02103	0761	00	0	02040		NOP	BWB	
02104	0500	00	0	03310	BWB2	CLA	CT22	
02105	0400	00	0	03224		ADD	ONE	
02106	0601	00	0	03310		STO	CT22	
02107	2 00002	2	2	02053		TIX	BWB1,2,2	DECREMENT RECORD COUNT
02110	-0764	00	0	01201		BSFA	1	
02111	0074	00	4	03125		TSX	CLR,4	GO TO CLEAR READ AREA
02112	0762	00	0	01221		RTBA	1	READ OVER
02113	0540	00	0	03257		RCHA	CT7	END OF FILE
02114	0762	00	0	01221		RTBA	1	
02115	0540	00	0	03301		RCHA	CT18A	
02116	0500	00	0	03651		CLA	K6+4	L +101
02117	0601	00	0	06557		STO	RECNO	
02120	0774	00	2	00100		AXT	64,2	L +100 IN XRB
02121	0060	00	0	02121		TCOA	*	DELAY
02122	0500	00	2	04413	BWB3	CLA	RDFLD+64,2	L WORD READ
02123	0340	00	2	04013		CAS	WRFLD+64,2	COMPARE WORD GENERATED
02124	0020	00	0	02126		TRA	*+2	
02125	0020	00	0	02131		TRA	BWB4	OK
02126	0560	00	2	04013		LDQ	WRFLD+64,2	L WORD GENERATED IN MQ
02127	0074	00	4	06502		TSX	ERROR-2,4	COMPARISON ERROR
02130	0761	00	0	02040		NOP	BWB	
02131	2 00001	2	2	02122	BWB4	TIX	BWB3,2,1	DECREMENT RECORD COUNT
02132	0074	00	4	06511		TSX	OK,4	
02133	0020	00	0	02040		TRA	BWB	

* CHECK READ, BACKSPACE, READ

02134	516322216001		BCD 1RTBA 1	
02135	-0764 00 0 01201	RBR	BSFA 1	
02136	0534 00 1 03224		LXA ONE,1	SET WORD COUNT
02137	0500 00 0 03225		CLA TWO	L +2
02140	0601 00 0 06556		STO WDNO	
02141	0774 00 2 00100		AXT 64,2	L +100 IN XRB
02142	0500 00 0 03654		CLA K6+7	
02143	0601 00 0 06557		STO RECNO	
02144	0500 00 0 03326		CLA CT23A	
02145	0601 00 0 03324		STO CT23	
02146	0762 00 0 01221		RTBA 1	READ OVER END OF FILE
02147	0540 00 0 03257		RCHA CT7	
02150	0762 00 0 01221	RBR1	RTBA 1	READ TAPE IN BINARY MODE
02151	0540 00 0 03324		RCHA CT23	
02152	0500 00 0 03324		CLA CT23	
02153	0400 00 0 03224		ADD ONE	L +1
02154	0601 00 0 03324		STO CT23	
02155	0762 00 0 01221		RTBA 1	READ OVER END OF FILE
02156	0540 00 0 03324		RCHA CT23	
02157	0764 00 0 01201		BSRA 1	
02160	0762 00 0 01221		RTBA 1	READ TAPE IN BINARY MODE
02161	0540 00 0 03324		RCHA CT23	
02162	0060 00 0 02162		TCOA *	DELAY
02163	0500 00 2 04414		CLA RDFLD+65,2	L WORD READ
02164	0340 00 2 04014		CAS WRFLD+65,2	COMPARE WORD GENERATED
02165	0020 00 0 02167		TRA *+2	
02166	0020 00 0 02172		TRA *+4	OK
02167	0560 00 2 04014		LDQ WRFLD+65,2	L WORD GENERATED IN MQ
02170	0074 00 4 06502		TSX ERROR-2,4	COMPARISON ERROR
02171	0761 00 0 02135		NOP RBR	
02172	0500 00 0 03324		CLA CT23	
02173	0400 00 0 03224		ADD ONE	L +1
02174	0601 00 0 03324		STO CT23	
02175	2 00002 2 02150		TIX RBR1,2,2	DECREMENT RECORD COUNT
02176	0074 00 4 06511		TSX OK,4	
02177	0020 00 0 02135		TRA RBR	

* WRITE, BACKSPACE, WRITE TO CHECK
* FOR BACKSPACE CREEP ERROR

* TEST BACKSPACE CREEP
* WITH ONE WORD RECORDS

* WRITE FOUR 1 WORD RECORDS

02200	226251216060		BCD 1BSRA	TEST INSTRUCTION
02201	0020 00 0 02203	BSW	TRA *+2	
02202	0772 00 0 01201		REWA 1	
02203	0500 00 0 03236		CLA CT1	L IOCD FIX,0,1
02204	0601 00 0 03356		STO CT28	
02205	0770 00 0 01201		WEFA 1	WRITE END OF FILE

02206	0774	00	2	00004		AXT 4,2	L +4 IN XRB
02207	0766	00	0	01221	BSW1	WTBA 1	
02210	0540	00	0	03356		RCHA CT28	
02211	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
02212	0761	00	0	01407		NOP WTB	
02213	0500	00	0	03356		CLA CT28	
02214	0400	00	0	03224		ADD ONE	
02215	0601	00	0	03356		STO CT28	
02216	2	00001	2	02207		TIX BSW1,2,1	

02217	-0760	00	0	01000		ETTA	PHYSICAL END OF TAPE TEST
02220	0020	00	0	02202		TRA BSW+1	

02221	0774	00	1	00004		AXT 4,1	L +4 IN XRA
02222	0764	00	0	01201		BSRA 1	
02223	2	00001	1	02222		TIX *-1,1,1	
02224	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA

* READ AND COMPARE

02225	0030	00	0	02226		TEFA *+1	TURN OFF TEF IND IF ON
02226	0774	00	2	00004		AXT 4,2	L +4 IN XRB - NO OF RECS
02227	0774	00	1	00001		AXT 1,1	L +1 IN XRA - WDS PER REC
02230	0500	00	0	03230		CLA FIVE	L +5
02231	0601	00	0	06557		STO RECNO	
02232	0500	00	0	03225		CLA TWO	
02233	0601	00	0	06556		STO WDNO	

02234	0762	00	0	01221		RTBA 1	
02235	0540	00	0	03360		RCHA CT28A	
02236	0060	00	0	02236		TCOA *	DELAY
02237	0030	00	0	02264		TEFA BSW4	SHOULD NOT XFER
02240	0500	00	2	04317	BSW2	CLA RDFLD+4,2	L WORD READ
02241	0340	00	2	03411		CAS FIX+4,2	COMPARE WORD GENERATED
02242	0020	00	0	02244		TRA *+2	
02243	0020	00	0	02247		TRA *+4	OK
02244	0560	00	2	03411		LDQ FIX+4,2	L WORD GENERATED IN MQ
02245	0074	00	4	06502		TSX ERROR-2,4	COMPARISON ERROR IN RD-WR
02246	0761	00	0	01423		NOP RTB	
02247	2	00001	2	02240		TIX BSW2,2,1	

* BACKSPACE AND REWRITE FORTH RECORD

* 15 TIMES

02250	0774	00	1	00017		AXT 15,1	L +17 IN XRA
02251	0764	00	0	01201	BSW3	BSRA 1	
02252	0766	00	0	01221		WTBA 1	
02253	0540	00	0	03362		RCHA CT28B	
02254	2	00001	1	02251		TIX BSW3,1,1	

02255	0764	00	0	01201		BSRA 1	
02256	0764	00	0	01201		BSRA 1	
02257	0762	00	0	01221		RTBA 1	
02260	0540	00	0	03257		RCHA CT7	
02261	0060	00	0	02261		TCOA *	DELAY
02262	0030	00	0	02264		TEFA *+2	SHOULD NOT XFER

02263	0020	00	0	02267		TRA	*+4	
02264	0074	00	4	06503	BSW4	TSX	ERROR-1,4	BKSP LONG OVER EOR GAPS TO BEGINNING OF FILE
02265	-3	00000	4	02201		TXL	BSW,4	
02266	0020	00	0	02303		TRA	BSW5	
02267	0774	00	2	00003		AXT	3,2	L +3 IN XRB
02270	0774	00	1	00001		AXT	1,1	L +1 IN XRA
02271	0500	00	0	03600		CLA	TEMP	L WORD READ
02272	0340	00	0	03407		CAS	FIX+2	COMPARE WORD GENERATED
02273	0020	00	0	02301		TRA	BSW5-2	
02274	0020	00	0	02303		TRA	BSW5	
02275	0560	00	0	03407		LDQ	FIX+2	L WORD GENERATED IN MQ
02276	0074	00	4	06502		TSX	ERROR-2,4	BACKSPACE LONG
02277	0761	00	0	02201		NOP	BSW	
02300	0020	00	0	02303		TRA	*+3	
02301	0560	00	0	03407		LDQ	FIX+2	L WORD GENERATED IN MQ
02302	0074	00	4	06500		TSX	ERROR-4,4	BACKSPACE SHORT
02303	0074	00	4	06511	BSW5	TSX	OK,4	
02304	0020	00	0	02201		TRA	BSW	
* TEST BACKSPACE CREEP								
* WITH 400 WORD RECORDS								
* WRITE FOUR 400 WORD RECORDS								
02305	226251216001					BCD	1BSRA 1	TEST INSTRUCTION
02306	0020	00	0	02310		TRA	*+2	
02307	0772	00	0	01201		REWA	1	
02310	0774	00	4	00004		AXT	4,4	L +4 IN XRC
02311	0500	00	0	03236		CLA	CT1	L IOCD FIX,0,1
02312	0621	00	0	03314		STA	CT22C	
02313	0621	00	0	03356		STA	CT28	
02314	0534	00	1	03625	BSW6	LXA	K2+8,1	L +375 IN XRA
02315	0766	00	0	01221		WTBA	1	
02316	0540	00	0	03314		RCHA	CT22C	
02317	0544	00	0	03314		LCHA	CT22C	
02320	0544	00	0	03314		LCHA	CT22C	
02321	2	00001	1	02320		TIX	*-1,1,1	
02322	0544	00	0	03356		LCHA	CT28	
02323	0060	00	0	02323		TCOA	*	DELAY
02324	0500	00	0	03314		CLA	CT22C	
02325	0402	00	0	03224		SUB	ONE	L +1
02326	0621	00	0	03314		STA	CT22C	
02327	0621	00	0	03356		STA	CT28	
02330	-0760	00	0	01000		ETTA		PHYSICAL END OF TAPE TEST
02331	0020	00	0	02307		TRA	BSW6-5	
02332	2	00001	4	02314		TIX	BSW6,4,1	
02333	0774	00	1	00004		AXT	4,1	L +4 IN XRA
02334	0764	00	0	01201		BSRA	1	
02335	2	00001	1	02334		TIX	*-1,1,1	
02336	0074	00	4	03125		TSX	CLR,4	GO TO CLEAR READ AREA

* READ AND COMPARE

02337	0030	00	0	02340	TEFA *+1	TURN OFF TEF IND IF ON
02340	0774	00	2	00004	AXT 4,2	L +4 IN XRB - NO OF RECS
02341	0500	00	0	03230	CLA FIVE	L +5
02342	0601	00	0	06557	STO RECNO	
02343	0500	00	0	03623	BSW7 CLA K2+6	L +400
02344	0734	00	1	00000	PAX 0,1	L +400 IN XRA
02345	0400	00	0	03224	ADD ONE	
02346	0601	00	0	06556	STO WDNO	
02347	0762	00	0	01221	RTBA 1	
02350	0540	00	0	03316	RCHA CT22D	
02351	0060	00	0	02351	TCOA *	DELAY
02352	0030	00	0	02405	TEFA BSW10	SHOULD NOT XFER
02353	0500	00	1	04713	BSW8 CLA RDFLD+256,1	L WORD READ
02354	0560	00	2	03411	LDQ FIX+4,2	L WORD GENERATED
02355	0340	00	2	03411	CAS FIX+4,2	COMPARE WORD GENERATED
02356	0020	00	0	02360	TRA *+2	
02357	0020	00	0	02362	TRA *+3	OK
02360	0074	00	4	06502	TSX ERROR-2,4	COMPARISON ERROR IN RD-WR
02361	0761	00	0	01423	NOP RTB	
02362	2	00001	1	02353	TIX BSW8,1,1	
02363	2	00001	2	02343	TIX BSW7,2,1	

* BACKSPACE AND REWRITE FORTH RECORD

* 15 TIMES

02364	0774	00	4	00017	AXT 15,4	L +17 IN XRC
02365	0764	00	0	01201	BSW9 BSRA 1	
02366	0534	00	1	03625	LXA K2+8,1	L +375 IN XRA
02367	0766	00	0	01221	WTBA 1	
02370	0540	00	0	03320	RCHA CT22E	
02371	0544	00	0	03320	LCHA CT22E	
02372	0544	00	0	03320	LCHA CT22E	
02373	2	00001	1	02372	TIX *-1,1,1	
02374	0544	00	0	03322	LCHA CT22F	
02375	2	00001	4	02365	TIX BSW9,4,1	
02376	0764	00	0	01201	BSRA 1	
02377	0764	00	0	01201	BSRA 1	
02400	0762	00	0	01221	RTBA 1	
02401	0540	00	0	03257	RCHA CT7	
02402	0060	00	0	02402	TCOA *	DELAY
02403	0030	00	0	02405	TEFA *+2	SHOULD NOT XFER
02404	0020	00	0	02410	TRA *+4	
02405	0074	00	4	06503	BSW10 TSX ERROR-1,4	BKSP LONG - OVER EOR GAPS TO BEGINNING OF FILE
02406	-3	00000	4	02306	TXL BSW6-6,4	
02407	0020	00	0	02421	TRA BSW11	OK
02410	0500	00	0	03600	CLA TEMP	L WORD READ
02411	0560	00	0	03407	LDQ FIX+2	L WORD GENERATED IN MQ
02412	0340	00	0	03407	CAS FIX+2	COMPARE WORD GENERATED
02413	0020	00	0	02420	TRA *+5	
02414	0020	00	0	02421	TRA BSW11	OK
02415	0074	00	4	06502	TSX ERROR-2,4	BACKSPACE LONG

02416	0761	00	0	02306		NOP	BSW6-6	
02417	0020	00	0	02421		TRA	*+2	
02420	0074	00	4	06500		TSX	ERROR-4,4	BACKSPACE SHORT
02421	0074	00	4	06511	BSW11	TSX	OK,4	
02422	0020	00	0	02306		TRA	BSW6-6	
* CHECK WRITING AND RECOGNITION								
* OF EXTRA-LONG RECORD GAPS								
02423	435127606060					BCD	1LRG	TEST IDENTIFICATION
02424	0020	00	0	02426	LRG	TRA	*+2	
02425	0772	00	0	01201		REWA	1	
02426	0760	00	0	00140		SLF		TURN OFF ALL SENSE LIGHTS
02427	0022	00	0	02430		TRCA	*+1	TURN OFF TRC IND IF ON
02430	0030	00	0	02431		TEFA	*+1	TURN OFF TEF IND IF ON
02431	0074	00	4	03125		TSX	CLR,4	GO TO CLEAR READ AREA
02432	0770	00	0	01201		WEFA	1	WRITE END OF FILE
02433	0766	00	0	01221		WTBA	1	WRITE 1ST 8 WORD RECORD
02434	0540	00	0	03330		RCHA	CT24	STARTING WITH FIX, 1ST LONG RECORD GAP, AND 2ND 8 WORD RECORD STARTING WITH FIX+8. ALL WRITTEN BY TGR CONTROL
02435	0766	00	0	01221		WTBA	1	WRITE 2ND LONG RECORD GAP
02436	0060	00	0	02436		TCOA	*	BY WRS AND NO CHN INSTR
02437	0766	00	0	01221		WTBA	1	WRITE THIRD 8 WORD RECORD
02440	0540	00	0	03334		RCHA	CT24+4	STARTING WITH FIX+16
02441	0770	00	0	01201		WEFA	1	WRITE END OF FILE
02442	0074	00	4	06560		TSX	RDNCK,4	REDUNDANCY TAPE CHECK
02443	0761	00	0	02424		NOP	LRG	
02444	-0760	00	0	01000		ETTA		PHYSICAL END OF TAPE TEST
02445	0020	00	0	02425		TRA	LRG+1	
02446	0764	00	0	01201		BSRA	1	BKSP OVER END OF FILE
02447	-0764	00	0	01201		BSFA	1	BKSP OVER THREE RECORDS AND TAPE MARK
02450	0074	00	4	03125		TSX	CLR,4	GO TO CLEAR READ FIELD
02451	0762	00	0	01221		RTBA	1	
02452	0540	00	0	03336		RCHA	CT24+6	READ OVER END OF FILE
02453	0074	00	4	06560		TSX	RDNCK,4	REDUNDANCY TAPE CHECK
02454	0761	00	0	02424		NOP	LRG	
02455	0030	00	0	02467		TEFA	LRG1	SHOULD XFER
02456	0774	00	1	00001		AXT	1,1	L +1 IN XRA
02457	0774	00	2	00001		AXT	1,2	L +1 IN XRB
02460	0500	00	0	03225		CLA	TWO	L +2
02461	0601	00	0	06556		STO	WDNO	
02462	0601	00	0	06557		STO	RECNO	
02463	0500	00	0	04313		CLA	RDFLD	L WORD READ - SHOULD
02464	0560	00	0	03223		LDQ	ZERO	BE ZERO
02465	0074	00	4	06502		TSX	ERROR-2,4	FAILED TO RECOGNIZE
02466	0761	00	0	02424		NOP	LRG	INITIAL END OF FILE OR POSSIBLE BKSP ERROR

02467	0762	00	0	01221	LRG1	RTBA 1	SHOULD READ THREE
02470	0540	00	0	03336		RCHA CT24+6	8 WORD RECORDS
02471	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
02472	0761	00	0	02467		NOP LRG1	
02473	0030	00	0	02475		TEFA *+2	SHOULD NOT XFER
02474	0020	00	0	02477		TRA *+3	
02475	0074	00	4	06503		TSX ERROR-1,4	FALSE EOF INDICATION
02476	0761	00	0	02424		NOP LRG	
02477	0774	00	2	00003		AXT 3,2	L +3 IN XRB
02500	0500	00	0	03227		CLA FOUR	L +4
02501	0601	00	0	06557		STO RECNO	
02502	0774	00	1	00030		AXT 24,1	L +30 IN XRA
02503	0500	00	0	03635		CLA K3+6	L +31
02504	0601	00	0	06556		STO WDNO	
02505	0774	00	4	00010		AXT 8,4	L +10 IN REC
02506	0500	00	1	04343	LRG2	CLA RDFLD+24,1	L WORD READ
02507	0340	00	1	03435		CAS FIX+24,1	COMPARE WORD GENERATED
02510	0020	00	0	02512		TRA *+2	ERROR
02511	0020	00	0	02517		TRA LRG3	
02512	0560	00	1	03435		LDQ FIX+24,1	
02513	0634	00	4	03577		SXA XRC,4	SAVE XRC
02514	0074	00	4	06502		TSX ERROR-2,4	READ-WRITE ERROR
02515	0761	00	0	02424		NOP LRG	
02516	0534	00	4	03577		LXA XRC,4	RESET XRC
02517	2	00001	1	02520	LRG3	TIX *+1,1,1	
02520	2	00001	4	02506		TIX LRG2,4,1	
02521	2	00001	2	02505		TIX LRG2-1,2,1	
02522	0020	00	0	02524		TRA LRG4	
02523	226251216001					BCD 1BSRA 1	TEST INSTRUCTION
02524	0764	00	0	01201	LRG4	BSRA 1	BKSP OVER 3RD RECORD
02525	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA
02526	0762	00	0	01221		RTBA 1	READ 3RD RECORD
02527	0540	00	0	03340		RCHA CT24+8	
02530	0074	00	4	06560		TSX RDNCK,4	REDUNDANCY TAPE CHECK
02531	0761	00	0	02424		NOP LRG	
02532	0774	00	2	00003		AXT 3,2	L +3 IN XRB
02533	0774	00	1	00001		AXT 1,1	L +1 IN XRA
02534	0500	00	0	03225		CLA TWO	L +2
02535	0601	00	0	06556		STO WDNO	
02536	0500	00	0	04333		CLA RDFLD+16	L WORD READ
02537	0340	00	0	03425		CAS FIX+16	COMPARE WORD GENERATED 1ST WORD OF 3RD RECORD
02540	0020	00	0	02542		TRA *+2	ERROR
02541	0020	00	0	02545		TRA *+4	OK
02542	0560	00	0	03425		LDQ FIX+16	L WORD GENERATED IN MQ
02543	0074	00	4	06502		TSX ERROR-2,4	ERROR IN READING 3RD REC
02544	0761	00	0	02424		NOP LRG	
02545	0030	00	0	02547		TEFA *+2	SHOULD NOT XFER
02546	0020	00	0	02552		TRA *+4	OK
02547	0074	00	4	06503		TSX ERROR-1,4	FALSE EOF INDICATION
02550	-3	00000	4	02424		TXL LRG,4	
02551	0020	00	0	02622		TRA LRG5	TO OK

02552	0764	00	0	01201	BSRA 1	BKSP OVER 3RD RECORD
02553	0764	00	0	01201	BSRA 1	BKSP OVER 2ND RECORD
02554	0074	00	4	03125	TSX CLR, 4	GO TO CLEAR READ AREA
02555	0762	00	0	01221	RTBA 1	READ SECOND AND
02556	0540	00	0	03337	RCHA CT24+7	THIRD RECORDS
02557	0074	00	4	06560	TSX RDNCK, 4	REDUNDANCY TAPE CHECK
02560	0761	00	0	02424	NOP LRG	
02561	0774	00	2	00002	AXT 2, 2	L +2 IN XRB
02562	0500	00	0	04323	CLA RDFLD+8	L WORD READ
02563	0340	00	0	03415	CAS FIX+8	COMPARE WORD GENERATED 1ST WORD OF 2ND RECORD
02564	0020	00	0	02566	TRA *+2	ERROR
02565	0020	00	0	02571	TRA *+4	OK
02566	0560	00	0	03415	LDQ FIX+8	L WORD GENERATED IN MQ
02567	0074	00	4	06502	TSX ERROR-2, 4	ERROR IN READING 2ND REC
02570	0761	00	0	02424	NOP LRG	OR ERROR IN BKSP
02571	0030	00	0	02573	TEFA *+2	SHOULD NOT XFER
02572	0020	00	0	02576	TRA *+4	OK
02573	0074	00	4	06503	TSX ERROR-1, 4	FALSE RECOGNITION OF LONG
02574	-3	00000	4	02424	TXL LRG, 4	RECORD GAP WRITTEN BY WRS AND DELAY
02575	0020	00	0	02622	TRA LRG5	TO OK
02576	0764	00	0	01201	BSRA 1	BKSP OVER 3RD RECORD
02577	0764	00	0	01201	BSRA 1	BKSP OVER 2ND RECORD
02600	0764	00	0	01201	BSRA 1	BKSP OVER 1ST RECORD
02601	0074	00	4	03125	TSX CLR, 4	GO TO CLEAR READ FIELD
02602	0762	00	0	01221	RTBA 1	READ THREE
02603	0540	00	0	03336	RCHA CT24+6	8 WORD RECORDS
02604	0074	00	4	06560	TSX RDNCK, 4	REDUNDANCY TAPE CHECK
02605	0761	00	0	02424	NOP LRG	
02606	0774	00	2	00001	AXT 1, 2	L +1 IN XRA
02607	0500	00	0	04313	CLA RDFLD	L WORD READ
02610	0340	00	0	03405	CAS FIX	COMPARE WORD GENERATED 1ST WORD OF 1ST RECORD
02611	0020	00	0	02613	TRA *+2	ERROR
02612	0020	00	0	02616	TRA *+4	OK
02613	0560	00	0	03405	LDQ FIX	L WORD GENERATED IN MQ
02614	0074	00	4	06502	TSX ERROR-2, 4	ERROR IN READING 1ST REC
02615	0761	00	0	02424	NOP LRG	OR ERROR IN BKSP
02616	0030	00	0	02620	TEFA *+2	SHOULD NOT XFER
02617	0020	00	0	02622	TRA *+3	OK
02620	0074	00	4	06503	TSX ERROR-1, 4	FALSE RECOGNITION OF LONG
02621	-3	00000	4	02424	TXL LRG, 4	RECORD GAP WRITTEN UNDER INDICATOR CONTROL
02622	0074	00	4	06511	LRG5 TSX OK, 4	
02623	0020	00	0	02424	TRA LRG	

* TESTS USING RANDOM NUMBER PATTERNS

02624	0761	00	0	00000	NOP	
02625	0760	00	0	00140	SLF	TURN OFF ALL SENSE LIGHTS

* WRITE RANDOM BINARY RECORDS

02626	0020	00	0	02630	B19	TRA *+2	
02627	0772	00	0	01201		REWA 1	
02630	0534	00	1	03633		LXA K3+4,1	L10
02631	-0500	00	1	03703		CAL K10+8,1	INITIALIZE RANDOM
02632	0602	00	1	03713		SLW K11+8,1	GENERATOR
02633	2 00001	1	1	02631		TIX *-2,1,1	
02634	0020	00	0	02636		TRA B20	
02635	666322216001					BCD 1WTBA 1	
02636	0770	00	0	01201	B20	WEFA 1	WRITE END OF FILE
02637	0534	00	2	03615		LXA K2,2	L NO. OF RECORDS IN XRB
02640	0500	00	0	03615		CLA K2	L NUMBER OF RECORDS
02641	0400	00	0	03224		ADD ONE	L +1
02642	0601	00	0	06557		STO RECNO	
02643	0022	00	0	02644	B21A	TRCA *+1	TURN REDUNDANCY TAPE CHECK OFF
02644	0760	00	0	00005		IOT	TURN INPUT-OUTPUT CHECK
02645	0020	00	0	02646		TRA *+1	LIGHT OFF
02646	0074	00	4	03044	B21	TSX GEN1,4	TO GENERATE RANDOM BINARY RECORDS
02647	0766	00	0	01221		WTBA 1	WRITE RANDOM BINARY RECORDS
02650	0022	00	0	02651		TRCA *+1	TURN OFF TRC IND IF ON
02651	0540	00	0	03267		RCHA CT10	TRANSFER REC TO TAPE
02652	0074	00	4	06560	B23	TSX RDNCK,4	REDUNDANCY CHECK
02653	0761	00	0	02636		NOP B20	IF A TAPE CHECK OCCURS THERE WILL BE NO ATTEMPT TO REWRITE THE RECORD
02654	0500	00	0	03712		CLA K11+7	
02655	0760	00	0	00001		LBT	
02656	0020	00	0	02706		TRA B29	DO NOT BACKSPACE READ
02657	0020	00	0	02661		TRA B25	
*						BACKSPACE AND READ AFTER WRITING	
*						CURRENT RECORD	
02660	516322216001					BCD 1RTBA 1	
02661	0764	00	0	01201	B25	BSRA 1	BKSP OVER CURRENT RECORD
02662	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA
02663	0762	00	0	01221		RTBA 1	READ RECORD WRITTEN
02664	0540	00	0	03271		RCHA CT12	
02665	0074	00	4	06560	B26	TSX RDNCK,4	CHECK REDUNDANCY TAPE
02666	0761	00	0	02661		NOP B25	
02667	0074	00	4	03067		TSX GEN3,4	
02670	0534	00	1	03605		LXA WDCT,1	WORD COUNT
02671	0500	00	0	03605		CLA WDCT	L NUMBER OF WORDS
02672	0400	00	0	03224		ADD ONE	L +1
02673	0601	00	0	06556		STO WDNO	
02674	0500	00	1	00000	B27	CLA 0,1	L WORD READ
02675	0560	00	1	00000		LDQ 0,1	L WORD GENERATED IN MQ

02676	0340	00	1	00000		CAS 0,1	COMPARE WORD GENERATED
02677	0020	00	0	02701		TRA *+2	COMPARISON ERROR
02700	0020	00	0	02703		TRA *+3	
02701	0074	00	4	06502		TSX ERROR-2,4	COMPARISON ERROR
02702	0761	00	0	02661		NOP B25	
02703	2	00001	1	02674		TIX B27,1,1	DECREMENT WORD NUMBER
02704	-0760	00	0	01000	B28	ETTA	END OF TAPE TEST
02705	0020	00	0	02627		TRA B19+1	
02706	2	00001	2	02643	B29	TIX B21A,2,1	DECREMENT RECORD NUMBER
02707	0770	00	0	01201		WEFA 1	WRITE END OF FILE
*	RESET RANDOM GENERATOR						
02710	0534	00	1	03633		LXA K3+4,1	L10
02711	-0500	00	1	03703		CAL K10+8,1	INITIALIZE RANDOM
02712	0602	00	1	03713		SLW K11+8,1	GENERATOR
02713	2	00001	1	02711		TIX *-2,1,1	
02714	0020	00	0	02716		TRA B30	
*	BACKSPACE FILE AND READ RANDOM REC						
02715	516322216001					BCD 1RTBA 1	
02716	-0764	00	0	01201	B30	BSFA 1	BACKSPACE OVER TAPE MARK
02717	-0764	00	0	01201		BSFA 1	BACKSPACE ONE FILE
02720	0022	00	0	02721		TRCA *+1	TURN TAPE CHECK OFF
02721	0760	00	0	00005		IOT	TURN INPUT-OUTPUT CHECK
02722	0761	00	0	00000		NOP	
02723	0762	00	0	01221		RTBA 1	READ OVER END OF FILE
02724	0540	00	0	03257		RCHA CT7	
02725	0060	00	0	02725		TCOA *	DELAY
02726	0030	00	0	02727		TEFA *+1	TURN OFF EOF IND SHOULD BE ON
02727	0534	00	2	03615	B31	LXA K2,2	L NO. OF RECORDS IN XRB
02730	0500	00	0	03615		CLA K2	L NUMBER OF RECORDS
02731	0400	00	0	03224		ADD ONE	L +1
02732	0601	00	0	06557		STO RECNO	
02733	0074	00	4	03044	B31A	TSX GEN1,4	GENERATE RANDOM RECORD
02734	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA
02735	0022	00	0	02736		TRCA *+1	TURN OFF RDNCY IND IF ON
02736	0762	00	0	01221		RTBA 1	READ TAPE BINARY
02737	0540	00	0	03271		RCHA CT12	TRANSFER CONTROL WORD TO BUFFER
02740	0074	00	4	06560	B34	TSX RDNCK,4	
02741	0761	00	0	02716		NOP B30	
02742	0074	00	4	03067		TSX GEN3,4	FORM COMPARE ADDRESSES
02743	0534	00	1	03605		LXA WDCT,1	WORD COUNT
02744	0500	00	0	03605		CLA WDCT	L NUMBER OF WORDS
02745	0400	00	0	03224		ADD ONE	L +1
02746	0601	00	0	06556		STO WDNO	

02747	0500	00	1	00000	B35	CLA 0,1	L WORD READ
02750	0560	00	1	00000		LDQ 0,1	L WORD GENERATED IN MQ
02751	0340	00	1	00000		CAS 0,1	COMPARE WORD GENERATED
02752	0020	00	0	02754		TRA B36	ERROR
02753	0020	00	0	02757		TRA B36+3	
02754	0074	00	4	06502	B36	TSX ERROR-2,4	
02755	0761	00	0	02716		NOP B30	
02756	0760	00	0	00142		SLN 2	TURN ON SL2 ON ERROR
02757	2	00001	1	02747		TIX B35,1,1	DECRMENT WORD COUNT
02760	-0760	00	0	00142		SLT 2	TEST SL2
02761	0020	00	0	03010		TRA B36B	
02762	-0500	00	0	03712		CAL K11+7	
02763	-0760	00	0	00001		PBT	
02764	0020	00	0	03010		TRA B36B	DO NOT BACKSPACE READ
*	BACKSPACE AND READ AFTER READING						
*	CURRENT LAST RECORD						
02765	0764	00	0	01201		BSRA 1	
02766	0074	00	4	03125		TSX CLR,4	GO TO CLEAR READ AREA
02767	0762	00	0	01221		RTBA 1	
02770	0540	00	0	03271		RCHA CT12	
02771	0074	00	4	06560		TSX RDNCK,4	CHECK REDUNDANCY
02772	0761	00	0	02716		NOP B30	
02773	0074	00	4	03067		TSX GEN3,4	
02774	0534	00	1	03605		LXA WDCT,1	
02775	0500	00	0	03605		CLA WDCT	
02776	0400	00	0	03224		ADD ONE	L +1
02777	0601	00	0	06556		STO WDNO	
03000	0500	00	1	00000	B36A	CLA 0,1	L WORD READ
03001	0560	00	1	00000		LDQ 0,1	L WORD GENERATED IN MQ
03002	0340	00	1	00000		CAS 0,1	COMPARE WORD GENERATED
03003	0020	00	0	03005		TRA *+2	
03004	0020	00	0	03007		TRA *+3	
03005	0074	00	4	06502		TSX ERROR-2,4	COMPARISON ERROR
03006	0761	00	0	02716		NOP B30	
03007	2	00001	1	03000		TIX B36A,1,1	DECREMENT WORD NUMBER
03010	2	00001	2	02733	B36B	TIX B31A,2,1	DECREMENT RECORD NUMBER
03011	0020	00	0	03013		TRA B37	GO TO READ NEXT VARIABLE LENGTH BINARY RECORD
03012	662526216001					BCD 1WEFA 1	
03013	0762	00	0	01221	B37	RTBA 1	
03014	0540	00	0	03637		RCHA K4	
03015	0060	00	0	03015		TCOA *	DELAY
03016	0640	00	0	03641		SCHA K4+2	DSC CONTROL WORD
03017	0560	00	0	03643		LDQ K4+4	
03020	0500	00	0	03641		CLA K4+2	
03021	0340	00	0	03643		CAS K4+4	
03022	0020	00	0	03024		TRA *+2	ERROR
03023	0020	00	0	03034		TRA B37A	SHOULD XFER
03024	0340	00	0	03642		CAS K4+3	
03025	0020	00	0	03027		TRA *+2	

03026	0020	00	0	03032		TRA	++4	
03027	0074	00	4	06503		TSX	ERROR-1,4	FAILURE TO DISCN CORRECTLY OR FAILED TO SCH CORRECTLY
03030	0761	00	0	03013		NOP	B37	
03031	0020	00	0	03034		TRA	B37A	
03032	0074	00	4	06503		TSX	ERROR-1,4	FALSE EOR READ AT EOF
03033	0761	00	0	03013		NOP	B37	
03034	0030	00	0	03037	B37A	TEFA	++3	EOF SHOULD BE ON
03035	0074	00	4	06503		TSX	ERROR-1,4	FAILED TO READ EOF
03036	0761	00	0	03013		NOP	B37	
03037	0074	00	4	06511		TSX	OK,4	
03040	0020	00	0	02626		TRA	B19	
03041	0761	00	0	00000		NOP		
03042	0772	00	0	01201		REWA	1	REWIND TEST FRAME
03043	0020	00	0	03142		TRA	PASS	

* RANDOM NUMBER GENERATOR

03044	0560	00	0	03712	GEN1	LDQ	K11+7	RANDOM NUMBER GENERATOR
03045	0500	00	0	03223		CLA	ZERO	CLEAR ACC
03046	-0763	00	0	00010		LGL	8	SHIFT FOR RANDOM NO OF WDS MAXIMUM OF 377
03047	0400	00	0	03627		ADD	K3	L+1
03050	0734	00	1	00003		PAX	3,1	FORM NO.OF WORDS PER REC
03051	0634	00	1	03605		SXA	WDCT,1	
03052	-0634	00	1	03267		SXD	CT10,1	
03053	-0634	00	1	03271		SXD	CT12,1	
03054	0401	00	0	03630		ADM	K3+1	INITIAL ADDR OF WR FLD
03055	0621	00	0	03063		STA	GEN2+2	
03056	0754	00	1	00000		PXA	0,1	
03057	0400	00	0	03632		ADD	K3+3	START OF RANDOM NO. FLD
03060	0621	00	0	03062		STA	GEN2+1	
03061	-0500	00	0	03712	GEN2	CAL	K11+7	GENERATE N-RANDOM WORDS
03062	0401	00	1	00000		ADM	0,1	
03063	0602	00	1	00000		SLW	0,1	
03064	2	00001	1	03062		TIX	*-2,1,1	
03065	0602	00	0	03712		SLW	WRFLD-1	
03066	0020	00	4	00001		TRA	1,4	EXIT
03067	0500	00	0	03631	GEN3	CLA	K3+2	INITIAL ADDR OF RDFLD
03070	0400	00	0	03605		ADD	WDCT	WORD COUNT
03071	0621	00	0	02674		STA	B27	
03072	0621	00	0	02747		STA	B35	
03073	0621	00	0	03000		STA	B36A	
03074	0500	00	0	03630		CLA	K3+1	INITIAL ADDR OF WRFLD
03075	0400	00	0	03605		ADD	WDCT	
03076	0621	00	0	02675		STA	B27+1	
03077	0621	00	0	02676		STA	B27+2	
03100	0621	00	0	02750		STA	B35+1	
03101	0621	00	0	02751		STA	B35+2	

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03102 0621 00 0 03001      STA B36A+1
03103 0621 00 0 03002      STA B36A+2

03104 0020 00 4 00001      TRA 1,4          CONTINUE PROGRAM

*          UTILITY SUB-ROUTINES

*          ADJUST UNTILITY PRINT ROUTINES FOR DESIRED CHANNEL

03105 0774 00 1 00003  ADJ   AXT 3,1          SAVE
03106 0500 00 1 05503      CLA CTRL1+3,1  I-O CONTROL
03107 0601 00 1 03603      STO TEMP+3,1  WORDS FOR
03110 2 00001 1 03106      TIX *-2,1,1   ALL CHANNELS

03111 0074 00 4 05514      TSX IOC,4      TO ENTER CONTROL WORD FOR
                                PRINTER ON DESIRED CHANNEL

03112 0074 00 4 05512      TSX CTX,4
03113 0070 65 0 07063      HTR CH14-1,0,CH14+1
03114 0074 00 4 05512      TSX CTX,4
03115 0074 13 0 07404      HTR WPRA-1,0,WPRA+6
03116 0074 00 4 05512      TSX CTX,4
03117 0032 07 0 03133      HTR IDNT+2,0,TCTX

03120 0774 00 1 00003      AXT 3,1          RESET
03121 0500 00 1 03603      CLA TEMP+3,1   I-O CONTROL
03122 0601 00 1 05503      STO CTRL1+3,1 WORDS FOR
03123 2 00001 1 03121      TIX *-2,1,1   ALL CHANNELS

03124 0000 00 0 00032      HTR RUC        GO TO RESET UNIT COUNT
                                AND REENTER PROGRAM

*          CLEAR READ FIELD

03125 0774 00 1 00400  CLR   AXT 256,1      L +400 IN XRA
03126 0600 00 1 04713      STZ RDFLD+256,1
03127 2 00001 1 03126      TIX *-1,1,1
03130 0020 00 4 00001      TRA 1,4          RETURN TO PROGRAM

*          PRINT - NOW PERFORMING DIAGNOSTIC TEST 9T01

03131 0760 00 0 00163  IDNT  SWT 3          TEST SENSE SWITCH 3
03132 0020 00 0 03134      TRA *+2
03133 0020 00 0 03137      TRA *+4          BYPASS PRINT

03134 0766 00 0 01361      WPRA 1
03135 0760 00 0 01363      SPRA 3          DOUBLE SPACE
03136 0540 00 0 03354      RCHA CT26A
03137 0500 00 0 03622      CLA K2+5        L TRA AA
03140 0601 00 0 00030      STO 24
03141 0020 00 0 00031      TRA IDN+1

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* PRINT - PASS COMPLETE

03142	0760	00	0	00163	PASS	SWT 3	TEST SENSE SWITCH 3
03143	0020	00	0	03145		TRA *+2	
03144	0020	00	0	03207		TRA TCTX	BYPASS PRINT
03145	0534	00	1	03621		LXA K2+4,1	L +22 IN XRA
03146	-0500	00	0	03663		CAL K8+1	L -343677616030
03147	0320	00	1	03565		ANS PR1+22,1	
03150	2 00002	1		03146		TIX *-2,1,2	
03151	0500	00	0	01202		CLA BSR3	L READ CURRENT TAPE UNIT
03152	0601	00	0	03600		STO TEMP	
03153	-0320	00	0	03645		ANA K6	L +17
03154	0044	00	0	00000		PAI	L INDS FROM ACC
03155	0056	00		000012		RNT 00012	
03156	0020	00	0	03166		TRA PASS2	
03157	0774	00	1	00004		AXT 4,1	L +4 IN XRA
03160	0500	00	0	03224		CLA ONE	L LOW BIT
03161	-0602	00	1	03561		ORS PR1+18,1	
03162	0774	00	1	00002		AXT 2,1	L +2 IN XRA
03163	0500	00	0	03225		CLA TWO	L HIGH BIT
03164	-0602	00	1	03561		ORS PR1+18,1	
03165	0020	00	0	03177		TRA PASS3	
03166	0500	00	0	03600	PASS2	CLA TEMP	
03167	-0320	00	0	03645		ANA K6	L +17
03170	0767	00	0	00001		ALS 1	DOUBLE INCREMENT
03171	0734	00	1	00000		PAX 0,1	
03172	0500	00	0	03224		CLA ONE	L ONE BIT
03173	-0602	00	1	03561		ORS PR1+18,1	
03174	0774	00	1	00000		AXT 0,1	L +0 IN XRA
03175	0500	00	0	03225		CLA TWO	L HIGH BIT
03176	-0602	00	1	03561		ORS PR1+18,1	
03177	0500	00	0	03600	PASS3	CLA TEMP	
03200	-0320	00	0	03624		ANA K2+7	
03201	0771	00	0	00010		ARS 8	MOVE TO LOW ORDER + DOUBLE
03202	0734	00	1	00000		PAX 0,1	
03203	0500	00	0	03623		CLA K2+6	L +400 BIT TO PRINT CHN
03204	-0602	00	1	03561		ORS PR118,1	
03205	0766	00	0	01361		WPRA 1	
03206	0540	00	0	03352		RCHA CT26	
03207	0074	00	4	05512	TCTX	TSX CTX,4	GO TO ADJUST CHN AND UNIT
03210	0030	43	0	00124		HTR AA,0,B37A+7	
03211	0020	00	0	00120		TRA AC	
03212	0760	00	0	00166	FINL	SWT 6	
03213	0020	00	0	03215		TRA *+2	
03214	0020	00	0	00031		TRA IDN+1	REPEAT TEST AFTER STOP TO LOAD NEW CONTROL WORD FROM KEYS FOR CHANNELS + UNITS NOTE - REPLACE THIS INSTR

						WITH TRA RUC TO LOOP
						CONTINUOUSLY ON SAME UNITS
03215	0762	00	0	01321	RCDA	SELECT CARD READER
03216	0540	00	0	03221	RCHA FN LX	READ IN
03217	0544	00	0	00000	LCHA 0	NEXT
03220	0020	00	0	00001	TRA 1	PROGRAM
03221	-1	00003	0	00000	FN LX	MON 0,0,3

* CONSTANTS

03222	-3777777777777				ONES	OCT -3777777777777
03223	+0000000000000				ZERO	OCT 0000000000000
03224	+0000000000001				ONE	OCT +1
03225	+0000000000002				TWO	OCT +2
03226	+0000000000003				THREE	OCT +3
03227	+0000000000004				FOUR	OCT +4
03230	+0000000000005				FIVE	OCT +5
03231	+0000000000006				SIX	OCT +6
03232	+0000000000007				SEVEN	OCT +7
03233	+0000000000010				EIGHT	OCT +10
03234	+0000000000011				NINE	OCT +11
03235	+0000000000012				TEN	OCT +12
03236	0000	01	0	03405	CT1	IOCD FIX,0,1
03237	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03240	0000	01	0	04313	CT2	IOCD RDFLD,0,1
03241	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03242	-2	00001	0	03405	CT3	IOSP FIX,0,1
03243	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03244	0000	02	0	04313	CT4	IOCD RDFLD,0,2
03245	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03246	0000	02	0	04315	CT4A	IOCD RDFLD+2,0,2
03247	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03250	2	00001	0	03222	CT5	IORP ONES,0,1
03251	2	00001	0	03405	CT6	IORP FIX,0,1 WRITE TWO 1 WORD RECORDS
03252	0000	01	0	03406		IOCD FIX+1,0,1 FROM FIX AND FIX+1
03253	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03254	2	00001	0	03407	CT6A	IORP FIX+2,0,1 WRITE TWO 1 WORD RECORDS
03255	0000	01	0	03410		IOCD FIX+3,0,1 FROM FIX+2 AND FIX+3
03256	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03257	0000	01	0	03600	CT7	IOCD TEMP,0,1
03260	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03261	0000	01	0	03601		IOCD TEMP1,0,1
03262	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03263	0000	01	0	03602		IOCD TEMP2,0,1
03264	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03265	0000	01	0	03222	CT8	IOCD ONES,0,1
03266	0000	00	0	00000		HTR 0 PROGRAM PROTECT - I-O DISC
03267	0000	00	0	03713	CT10	IOCD WRFLD CONTROL WORD FOR WRITE RANDOM BINARY
03270	0000	00	0	00000		HTR 0 RECORDS
03271	0000	00	0	04313	CT12	IOCD RDFLD,0,0 CONTROL WORD FOR READ

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03272 0000 00 0 00000 HTR REC BINARY
* NOTE- WORD COUNT STORED IN DECREMENT OF
* CT10 AND CT12 BY GEN1
03273 0004 00 0 03713 CT16 IOCD WRFLD,0,256
03274 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03275 0001 00 0 03405 CT17 IOCD FIX,0,64
03276 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03277 0004 00 0 04313 CT18 IOCD RDFLD,0,256
03300 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03301 0001 00 0 04313 CT18A IOCD RDFLD,0,64
03302 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03303 0000 15 0 03402 CT20 IOCD FIX-3,0,13
03304 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03305 -0000 03 0 04325 CT21 IOCP RDFLD+10,0,3
03306 0000 12 0 04313 IOCD RDFLD,0,10
03307 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03310 0000 01 0 03713 CT22 IOCD WRFLD,0,1
03311 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03312 0000 01 0 03713 CT22A IOCD WRFLD,0,1
03313 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03314 -1 00001 0 03405 CT22C IOCT FIX,0,1
03315 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03316 0004 00 0 04313 CT22D IOCD RDFLD,0,256
03317 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03320 -1 00001 0 03410 CT22E IOCT FIX+3,0,1
03321 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03322 0000 01 0 03410 CT22F IOCD FIX+3,0,1
03323 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03324 0000 01 0 04313 CT23 IOCD RDFLD,0,1
03325 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03326 0000 01 0 04313 CT23A IOCD RDFLD,0,1
03327 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03330 2 00010 0 03405 CT24 IORP FIX,0,8
03331 2 00000 0 03445 IORP FIX+32,0,0
03332 0000 10 0 03415 IOCD FIX+8,0,8
03333 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03334 0000 10 0 03425 IOCD FIX+16,0,8
03335 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03336 -0000 10 0 04313 IOCP RDFLD,0,8
03337 -0000 10 0 04323 IOCP RDFLD+8,0,8
03340 0000 10 0 04333 IOCD RDFLD+16,0,8
03341 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03342 0000 10 0 04313 CT25 IOCD RDFLD,0,8
03343 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03344 0000 10 0 04323 IOCD RDFLD+8,0,8
03345 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03346 0000 10 0 04333 IOCD RDFLD+16,0,8
03347 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03350 0000 10 0 04343 IOCD RDFLD+24,0,8
03351 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03352 0000 30 0 03537 CT26 IOCD PR1,0,24
03353 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03354 0000 30 0 03507 CT26A IOCD PRIDN,0,24
03355 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC
03356 0000 01 0 03405 CT28 IOCD FIX,0,1
03357 0000 00 0 00000 HTR 0 PROGRAM PROTECT - I-O DISC

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03360	0000	04	0	04313	CT28A	IOCD RDFLD,0,4	
03361	0000	00	0	00000		HTR 0	PROGRAM PROTECT - I-O DISC
03362	0000	01	0	03410	CT28B	IOCD FIX+3,0,1	
03363	0000	00	0	00000		HTR 0	PROGRAM PROTECT - I-O DISC
03364	0001	00	0	03713	CT29	IOCD WRFLD,0,64	
03365	0000	00	0	00000		HTR +0	PROGRAM PROTECT - I-O DISC
03366	-1	00020	0	04313		IOCT RDFLD,0,16	
03367	0000	00	0	00000		HTR +0	PROGRAM PROTECT - I-O DISC
03370	-1	00020	2	04333		IOCT RDFLD+16,2,16	
03371	0000	00	0	00000		HTR +0	PROGRAM PROTECT - I-O DISC
03372	-1	00020	0	04353		IOCT RDFLD+32,0,16	
03373	0000	00	0	00000		HTR +0	PROGRAM PROTECT - I-O DISC
03374	0000	20	2	04373		IOCD RDFLD+48,2,16	
03375	0000	00	0	00000		HTR +0	PROGRAM PROTECT - I-O DISC
03376	2	00001	0	03612	CT30	IORP KK1,0,1	
03377	2	00001	0	03667		IORP K9+1,0,1	
03400	0000	01	0	03614		IOCD KK1+2,0,1	
03401	0000	00	0	00000		HTR 0	PROGRAM PROTECT - I-O DISC
03402	0000	12	0	04313		IOCD RDFLD,0,10	
03403	0060	00	0	00001		TCOA 1	DELAY
03404	0020	00	0	00066		TRA LTB	
03405	+01010101010101				FIX	OCT 010101010101	
03406	+02020202020202					OCT 020202020202	
03407	+03030303030303					OCT 030303030303	
03410	+04040404040404					OCT 040404040404	
03411	+05050505050505					OCT 050505050505	
03412	+06060606060606					OCT 060606060606	
03413	+07070707070707					OCT 070707070707	
03414	+10101010101010					OCT 101010101010	
03415	+11111111111111					OCT 111111111111	
03416	+12121212121212					OCT 121212121212	
03417	+13131313131313					OCT 131313131313	
03420	+14141414141414					OCT 141414141414	
03421	+15151515151515					OCT 151515151515	
03422	+16161616161616					OCT 161616161616	
03423	+17171717171717					OCT 171717171717	
03424	+20202020202020					OCT 202020202020	
03425	+21212121212121					OCT 212121212121	
03426	+22222222222222					OCT 222222222222	
03427	+23232323232323					OCT 232323232323	
03430	+24242424242424					OCT 242424242424	
03431	+25252525252525					OCT 252525252525	
03432	+26262626262626					OCT 262626262626	
03433	+27272727272727					OCT 272727272727	
03434	+30303030303030					OCT 303030303030	
03435	+31313131313131					OCT 313131313131	
03436	+32323232323232					OCT 323232323232	
03437	+33333333333333					OCT 333333333333	
03440	+34343434343434					OCT 343434343434	
03441	+35353535353535					OCT 353535353535	
03442	+36363636363636					OCT 363636363636	

03443	+373737373737	OCT	373737373737	
03444	-004040404040	OCT	404040404040	
03445	-014141414141	OCT	414141414141	
03446	-024242424242	OCT	424242424242	
03447	-034343434343	OCT	434343434343	
03450	-044444444444	OCT	444444444444	
03451	-054545454545	OCT	454545454545	
03452	-064646464646	OCT	464646464646	
03453	-074747474747	OCT	474747474747	
03454	-105050505050	OCT	505050505050	
03455	-115151515151	OCT	515151515151	
03456	-125252525252	OCT	525252525252	
03457	-135353535353	OCT	535353535353	
03460	-145454545454	OCT	545454545454	
03461	-155555555555	OCT	555555555555	
03462	-165656565656	OCT	565656565656	
03463	-175757575757	OCT	575757575757	
03464	-206060606060	OCT	606060606060	
03465	-216161616161	OCT	616161616161	
03466	-226262626262	OCT	626262626262	
03467	-236363636363	OCT	636363636363	
03470	-246464646464	OCT	646464646464	
03471	-256565656565	OCT	656565656565	
03472	-266666666666	OCT	666666666666	
03473	-276767676767	OCT	676767676767	
03474	-307070707070	OCT	707070707070	
03475	-317171717171	OCT	717171717171	
03476	-327272727272	OCT	727272727272	
03477	-337373737373	OCT	737373737373	
03500	-347474747474	OCT	747474747474	
03501	-357575757575	OCT	757575757575	
03502	-367676767676	OCT	767676767676	
03503	-377777777777	OCT	777777777777	
03504	+010101010100	OCT	010101010100	
03505	+000000000000	OCT	000000000000	
03506	+007777777777	FIX1	OCT +007777777777	MASK FOR MULTI-FILE
03507	+002241004010	PRIDN	OCT +002241004010	9 ROW LEFT
03510	+000000000000		OCT +0	9 ROW RIGHT
03511	+000000000000		OCT +000000000000	8 L
03512	+000000000000		OCT +0	
03513	+010010200000		OCT +010010200000	7 L
03514	+000000000000		OCT +0	
03515	+141400040000		OCT +141400040000	6 L
03516	+000000000000		OCT +0	
03517	+204020100200		OCT +204020100200	5 L
03520	+000000000000		OCT +0	
03521	+000102000000		OCT +000102000000	4 L
03522	+000000000000		OCT +0	

03523	+000000012444		OCT	+000000012444	3	L
03524	+000000000000		OCT	+0		
03525	+000000020100		OCT	+000000020100	2	L
03526	+000000000000		OCT	+0		
03527	+000000400001		OCT	+000000400001	1	L
03530	+000000000000		OCT	+0		
03531	+040000030546		OCT	+040000030546	0	L
03532	+000000000000		OCT	+0		
03533	+312720140000		OCT	+312720140000	11	L
03534	+000000000000		OCT	+0		
03535	+005053606200		OCT	+005053606200	12	L
03536	+000000000000		OCT	+0		
03537	-000000000000	PR1	OCT	-000000000000	9	ROW LEFT
03540	+000000000000		OCT	+0	9	ROW RIGHT
03541	+000000004000		OCT	+000000004000	8	L
03542	+000000000000		OCT	+0		
03543	+002004000000		OCT	+002004000000	7	L
03544	+000000000000		OCT	+0		
03545	+000020000010		OCT	+000020000010	6	L
03546	+000000000000		OCT	+0		
03547	+000001202000		OCT	+000001202000	5	L
03550	+000000000000		OCT	+0		
03551	+000010000000		OCT	+000010000000	4	L
03552	+000000000000		OCT	+0		
03553	+200042410020		OCT	+200042410020	3	L
03554	+000000000000		OCT	+0		
03555	+000600000000		OCT	+000600000000	2	L
03556	+000000000000		OCT	+0		
03557	+041000000000		OCT	+041000000000	1	L
03560	+000000000000		OCT	+0		
03561	+300600400020	PR118	OCT	+300600400020	0	L
03562	+000000000000		OCT	+0		
03563	+002036002000		OCT	+002036002000	11	L
03564	+000000000000		OCT	+0		
03565	+001041214410		OCT	+001041214410	12	L
03566	+000000000000		OCT	+0		
03567	+000000000000	CONST	OCT	000000000000		
03570	+000000000100		OCT	000000000100		
03571	+000000000172		OCT	000000000172		
03572	+000000000440		OCT	000000000440		
03573	+000000000000		OCT	000000000000		
03574	+000000000000		OCT	000000000000		
03575	+000000000000	XRA	OCT	0		
03576	+000000000000	XRB	OCT	0		
03577	+000000000000	XRC	OCT	0		
03600	+000000000000	TEMP	OCT			
03601	+000000000000	TEMP1	OCT	000000000000		
03602	+000000000000	TEMP2	OCT	000000000000		
03603	+000000000000	TEMP3	OCT	000000000000		
03604	0000 07 0 04313		HTR	RDFLD,0,7		
03605	+000000000000	WDCT	OCT	0		WORD COUNT FORMED BY GEN1
03606	+000000000000		OCT			INITIAL WR ADDR + COUNT

03607	0020 00 0 00120	TRA1	TRA AC	
03610	+000000000760	CTR1	OCT +760	
03611	+000000076000	CTR2	OCT +76000	
03612	+000001010101	KK1	OCT 000001010101	
03613	+000017171717		OCT 000017171717	
03614	+000020202020		OCT 000020202020	
03615	+000000000200	K2	OCT +200	RANDOM RECORD COUNT
03616	+000000000622		OCT 622	
03617	+000000000300		OCT 300	
03620	+000000000060		OCT 60	
03621	+000000000026		OCT +26	
03622	0020 00 0 00124		TRA AA	REPEAT PROGRAM
03623	+000000000400		OCT +400	
03624	+000000007000		OCT +7000	
03625	+000000000375		OCT +375	
03626	+000000000401		OCT +401	
03627	+000000000001	K3	OCT +1	
03630	0000 00 0 03713		HTR WRFLD	
03631	0000 00 0 04313		HTR RDFLD	
03632	0000 00 0 03703		HTR K11	
03633	+000000000010		OCT 10	
03634	+000000000030		OCT +30	
03635	+000000000031		OCT +31	
03636	+000000000377		OCT +377	
03637	2 00036 0 04313	K4	PTW RDFLD,0,30	TRIGGER 1 ON
03640	0 00000 0 03640		PZE K4+1	NO TRIGGERSON
03641	0000 00 0 00000		HTR	
03642	0 03641 0 03640		PZE K4+1,0,K4+2	
03643	2 03640 0 04313		IORP RDFLD,0,K4+1	
03644	+000000004043	K5	OCT 000000004043	
03645	+000000000017	K6	OCT +17	
03646	+000000001000		OCT +1000	
03647	+000000001001		OCT +1001	
03650	+000000000100		OCT +100	
03651	+000000000101		OCT +101	
03652	+000000000036		OCT +36	
03653	+000000000020		OCT +20	
03654	+000000000102		OCT +102	
03655	0020 00 0 01667	K7	TRA BCD1	
03656	0020 00 0 01623		TRA BCD	
03657	0020 00 0 01717		TRA BCD2	
03660	0020 00 0 01407		TRA WTB	
03661	+000000000000		OCT 0	CONTROL WORD FOR CHN A
03662	+377777777767	K8	OCT +377777777767	
03663	-343677616030		OCT -343677616030	MASK FOR PASS PRINT
03664	0762 00 0 01221		RTBA 1	
03665	0762 00 0 01222		RTBA 2	
03666	+012301230123	K9	OCT +012301230123	
03667	+171717171717		OCT +171717171717	
03670	+175757575757		OCT +175757575757	
03671	+121212121212		OCT +121212121212	

03672	+125252525252		OCT	+125252525252
03673	-331011416132	K10	OCT	-331011416132
03674	+033420275437		OCT	+033420275437
03675	-126044765051		OCT	-126044765051
03676	-202037467555		OCT	+602037467555
03677	-305552746526		OCT	-305552746526
03700	-134703564071		OCT	-134703564071
03701	+364271003007		OCT	+364271003007
03702	+060203746526		OCT	+60203746526
	03703	K11	EQU	K10+8
	03713	WRFLD	EQU	K11+8
	04313	RDFLD	EQU	WRFLD+256
	06504	ERROR	EQU	3396
	06511	OK	EQU	3401
	06560	RDNCK	EQU	3440
	06556	WDNO	EQU	3438
	06557	RECNO	EQU	3439
	07064	CH14	EQU	3636
	07405	WPRA	EQU	3845
	05500	CTRL1	EQU	2880
	05501	CTRL2	EQU	2881
	05502	CTRL3	EQU	2882
	05503	IOCT	EQU	2883
	05504	CTRA	EQU	2884
	05505	CTRB	EQU	2885
	05506	CTRC	EQU	2886
	05507	CTRD	EQU	2887
	05510	CTRE	EQU	2888
	05511	CTRF	EQU	2889
	05512	CTX	EQU	2890
	05513	IOCNT	EQU	2891
	05514	IOC	EQU	2892
	00000		END	

EOF*