

IDENTIFICATION

PRODUCT CODE: MAINDEC-8E-D8AC-D

PRODUCT NAME: DK8E CLOCKS DIAGNOSTIC

DATE CREATED: OCTOBER 8, 1971

MAINTAINER: DIAGNOSTIC PROGRAMMING GROUP

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1. ABSTRACT

THE DK8E CLOCKS DIAGNOSTIC IS DESIGNED TO VERIFY CORRECT OPERATION OF THE DK8-EA, DK8-EC, DK8-ES, AND DK8-EP REAL TIME CLOCK OPTIONS. THE PROGRAM UTILIZES AND TESTS IOT'S ASSOCIATED WITH THE DK8-EA LINE, DK8-EC CRYSTAL, AND THE DK8-EP/DK8-ES PROGRAMMABLE REAL TIME CLOCKS.

2. REQUIREMENTS

2.1 EQUIPMENT

A PDP-8E WITH THE DK8-EA, DK8-EC, DK8-ES, OR THE DK8-EP OPTION INSTALLED AND AN ASR-33 TELETYPE OR EQUIVALENT.

A SPECIAL TEST CABLE IS NECESSARY TO CONNECT THE CLOCK FRONT PANEL TO THE PDP8/E POWER SUPPLY FOR THE DK8-ES CLOCK OPTION.

A SPECIAL CABLE IS NECESSARY TO CONNECT THE DK8-EA CLOCK MODULE TO THE PDP8/E POWER SUPPLY FOR THE DK8-EA CLOCK OPTION.

2.2 STORAGE

THE PROGRAM OCCUPIES LOCATIONS 0000-6600.

2.3 PRELIMINARY PROGRAMS

ALL PROGRAMS FOR THE BASIC PDP-8E MUST HAVE BEEN RUN SUCCESSFULLY.

3. LOADING PROCEDURE

3.1 METHOD

THE PROGRAM IS LOADED INTO BANK 0, USING THE STANDARD BINARY LOADER TECHNIQUE.

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS

SWR0=1	FOR DK8-EP/DK8-ES REGISTER TEST
SWR1=1	FOR DK8-ES SCHMITT TRIGGER LOGIC TEST
SWR2=1	FOR INHIBIT ERROR PRINT OUT
SWR3=1	FOR INHIBIT ERROR BELL
SWR4=1	FOR INHIBIT ERROR HALT
SWR5=1	FOR ENTER SCOPE LOOP ON ERROR
SWR6=1	FOR LOOP ON NON-FAILING TEST
SWR7=1	FOR DK8-EP/DK8-ES EXTERNAL PULSE SCOPE LOOP TEST

SWR8#1

FOR DK8-ES EXTERNAL CLOCK SCOPE LOOP TEST

4.1.1 FREQUENCY SWITCH SETTINGS FOR DK8-EA/DK8-EC TEST

SWR9-11=0	TEST 1 CPS CRYSTAL CLOCK
SWR9-11=1	TEST 50 CPS CRYSTAL CLOCK
SWR9-11=2	TEST 50 CPS LINE CLOCK
SWR9-11=3	TEST 60 CPS LINE CLOCK
SWR9-11=4	TEST 500 CPS CRYSTAL CLOCK
SWR9-11=5	TEST 5000 CPS CRYSTAL CLOCK

4.2 STARTING ADDRESS

THE STARTING ADDRESS IS 0200 OCTAL.

4.3 OPERATOR ACTION

4.3.1 DK8-EA/DK8-EC TEST

WITH THE PROGRAM IN BANK 0, SET SWITCH REGISTER TO 0200.
PRESS ADDRESS LOAD.

SET THE SWITCH REGISTER TO 0000.

SET SWITCH REGISTER TO INDICATE FREQUENCY OF DK8-EA
OR DK8-EC CLOCK UNDER TEST.

PRESS CLEAR AND THEN PRESS CONTINUE.

THE PROGRAM SHOULD RUN UNTIL AN ERROR OCCURES OR UNTIL
STOPPED BY THE OPERATOR.

THE TTY WILL SIGNAL "DK8E PASS COMPLETE" AT
THE COMPLETION OF EVERY PASS.

4.3.2 DK8-EP/DK8-ES REGISTER TEST

WITH THE PROGRAM IN BANK 0, SET SWITCH REGISTER TO 0200.

PRESS ADDRESS LOAD.

SET SWITCH REGISTER TO 0000.

SET SWITCH REGISTER TO INDICATE DK8-EP/DK8-ES REGISTER TEST.

PRESS CLEAR AND THEN PRESS CONTINUE.

THE PROGRAM SHOULD RUN UNTIL AN ERROR OCCURES OR UNTIL
STOPPED BY THE OPERATOR.

THE TTY WILL SIGNAL "DK8E PASS COMPLETE" AT
THE COMPLETION OF EVERY PASS.

4.3.3 DK8-ES SCHMITT TRIGGER INPUT LOGIC TEST

WITH THE PROGRAM IN BANK 0, SET THE SWITCH REGISTER TO 0200.
PRESS ADDRESS LOAD.

SET SWITCH REGISTER TO 0000.

SET THE SWITCH REGISTER TO INDICATE DK8-ES SCHMITT TRIGGER
INPUT LOGIC TEST.

PRESS CLEAR AND THEN CONTINUE.

THE PROGRAM SHOULD RUN UNTIL AN ERROR OCCURES OR UNTIL
STOPPED BY THE OPERATOR.

THE TTY WILL SIGNAL "DK8E PASS COMPLETE" AT
THE COMPLETION OF EVERY PASS.

4.3.4 DK8-EP/DK8-ES EXTERNAL PULSE SCOPE LOOP TEST

WITH THE PROGRAM IN MEMORY, SET THE SWITCH REGISTER TO 0200.
PRESS ADDRESS LOAD.

SET SWITCH REGISTER TO 0000.

SET SWITCH REGISTER TO INDICATE EXTERNAL PULSE SCOPE LOOP TEST.

PRESS CLEAR AND THEN PRESS CONTINUE.

USE OSCILLOSCOPE TO VERIFY 40 MICRO SECOND PULSE RATE AT
FJ2, FJ1, HM1, AND HM2 ON THE DK8-EP/DK8-ES MODULES.

USE OSCILLOSCOPE TO VERIFY 40 MICRO SECOND PULSE RATE AT
OVERFLOW ON DK8-ES CLOCK FRONT PANEL. (DK8-ES ONLY)

4.3.5 DK8-ES EXTERNAL CLOCK SCOPE LOOP TEST

WITH THE PROGRAM IN MEMORY, SET THE SWITCH REGISTER TO 0200.
PRESS ADDRESS LOAD.

SET SWITCH REGISTER TO 0000.

SET SWITCH REGISTER TO INDICATE EXTERNAL CLOCK SCOPE LOOP TEST.

PRESS CLEAR AND THEN PRESS CONTINUE.

GROUND CLOCK IN ON DK8-ES CLOCK FRONT PANEL.

THE TTY BELL WILL SIGNAL, IF AN EXTERNAL CLOCK IN WAS
RECEIVED.

5. OPERATING PROCEDURE

5.1 OPERATIONAL SWITCH SETTINGS

NONE

5.2 SUBROUTINE ABSTRACTS

NONE

5.3 OPERATOR TEST SELECTION

5.3.1 DK8-EA OR DK8-EC CLOCK OPTION

INSTALL DK8-EA OR DK8-EC CLOCK OPTION

RUN DK8-EA/DK8-EC TEST 4.3.1.

5.3.2 DK8-EP CLOCK OPTION

INSTALL DK8-EP CLOCK OPTION.

RUN DK8-EP/DK8-ES REGISTER TEST 4.3.2.

RUN DK8-EP/DK8-ES EXTERNAL PULSE SCOPE LOOP TEST 4.3.4.

5.3.3. DK8-ES CLOCK OPTION

INSTALL DK8-ES CLOCK OPTION.

RUN DK8-EP/DK8-ES REGISTER TEST 4.3.2.

CONNECT EXTERNAL SOURCE FREQUENCY LOCATED AT J5 ON THE PDP8/E POWER SUPPLY TO THE EXTERNAL SCHMITT TRIGGER INPUT LOGIC VIA THE DK8-ES CLOCK FRONT PANEL WITH THE SPECIAL TEST CABLE.

SET THE THREE SLOPE SELECTION SWITCHES ON DK8-ES CLOCK FRONT PANEL TO THE POSITIVE POSITION.

ADJUST THE THREE INPUT THRESHOLD POTENTIOMETERS ON DK8-ES CLOCK FRONT PANEL TO THE CENTER POSITION.

RUN THE DK8-ES SCHMITT TRIGGER INPUT LOGIC TEST 4.3.3.

RUN THE DK8-EP/DK8-ES EXTERNAL PULSE SCOPE LOOP TEST 4.3.4.

RUN THE DK8-ES EXTERNAL CLOCK SCOPE LOOP TEST 4.3.5.

6. ERRORS

ALL RECOVERABLE ERRORS ENCOUNTERED IN THE PROGRAM WILL RESULT IN AN ERROR HALT OR AN ERROR TYPEOUT AND THEN AN ERROR HALT.

6.1 ERRORS AND DISCRIPTION

6.1.1 ERROR HALTS

ERROR HALTS IN PROGRAM ARE AS FOLLOWS:

EHLT1: MONITOR ERROR HALT, READ ERROR TYPE-OUT.

EHLT2: SKIP TRAP, CLZE

EHLT3: SKIP TRAP, CLOE

EHLT4: SKIP TRAP, CLOE

EHLT5: SKIP TRAP, CLAB

EHLT6: SKIP TRAP, CLEN

EHLT7: SKIP TRAP, CLSA

EHLT10: SKIP TRAP, CLBA

EHLT11: SKIP TRAP, CLCA

6.1.2 ERROR TYPECUTS

ERROR TYPECUTS IN PROGRAM ARE AS FOLLOWS:

TEST XXXX FAILED, STARTING ADDRESS XXXX

THE GOOD AC = XXXX AND BAD AC = XXXX

CLOCK BUFFER REGISTER AND AC TRANSFER FAILED

CLOCK COUNTER REGISTER AND AC TRANSFER FAILED

CLOCK ENABLE REGISTER AND AC TRANSFER FAILED

THE AC WAS CHANGED BY A CLOCK IOT

PROGRAM INTERRUPT FAILED, NO INTERRUPT EXPECTED

PROGRAM INTERRUPT FAILED, INTERRUPT EXPECTED

CLOCK SKIP FAILED, NO SKIP EXPECTED

CLOCK SKIP FAILED, SKIP EXPECTED

CLOCK OUTPUT FAILED, CLOCK FREQUENCY FAST

CLOCK OUTPUT FAILED, CLOCK FREQUENCY SLOW

6.2 ERROR RECOVERY

ALL ERRORS ENCOUNTERED MUST BE CORRECTED BEFORE PROCEEDING ON IN THE PROGRAM. IN ALL CASES ACCESS THE LISTING FOR

FURTHER INFORMATION.

6.2.1 SCOPE LOOPS

A SCOPE LOOP IS AVAILABLE FOR ALL MONITOR ERROR HALTS. THE OPERATOR MAY ENTER A SCOPE LOOP AFTER A MONITOR ERROR HALT BY DOING THE FOLLOWING.

SET SWR4=1 TO INDICATE INHIBIT ERROR HALT.

SET SWR5=1 TO INDICATE ENTER SCOPE LOOP.

SET SWR6=1 TO INDICATE LOOP ON THIS TEST.

PRESS CLEAR AND THEN PRESS CONTINUE.

SET SWR2=1 TO INHIBIT ERROR TYPEOUT.

SET SWR3=1 TO INHIBIT ERROR BELL.

7. RESTRICTIONS

7.1 STARTING RESTRICTIONS

NONE

7.2 OPERATING RESTRICTIONS

THE PROGRAM MUST RESIDE IN BANK 0 .

PDP-8E WITH THE DK8-EA, DK8-EC, DK8-ES, OR THE DK8-EP CLOCK OPTION INSTALLED.

THE EXT. CPS SOURCE USED IN THE DK8-ES EXTERNAL SCHMITT TRIGGER INPUT LOGIC TEST MUST BE DISCONNECTED WHEN RUNNING THE DK8-EP/DK8-ES REGISTER TEST.

THE PDP-8E MUST BE RUNNING FAST CYCLE "1.2" MICRO. SECONDS.

ALL CLOCK OUTPUTS SHOULD BE VERIFIED WITH AN OSCILLOSCOPE TO INSURE CORRECT OPERATION.

8. MISCELLANECUS

8.1 SPECIFICATIONS

THE DK8-EA CLOCK COUNTS AT INTERVALS OF TIME AT 100 OR 120 TIMES A SECOND. THE FREQUENCY IS DETERMINED BY THE FULL WAVE RECTIFIER NETWORK WHICH OPERATES OFF THE 50 OR 60 CPS LINE WHICH EVER IT MAY BE. THIS MAKES THE CLOCK CAPABLE OF SUPPLYING PROGRAM INTERRUPT REQUESTS AT A RATE OF 100 OR 120 TIMES A SECOND.

8.2 EXECUTION TIME

DK8-EA/DK8-EC TEST, APPROXIMATIVELY 2.5 MINUTES PER PASS.

DK8-EP/DK8-ES REGISTER TEST, APPROXIMATIVELY 3.5 MINUTES PER PASS.

DK8-ES SCHMITT TRIGGER INPUT LOGIC TEST, APPROXIMATIVELY 2 MINUTES PER PASS.

9. PROGRAM DISCRIPTION

9.1 DK8-EA OR DK8-EC CLOCK

THE PROGRAM EXERCISES AND TESTS THE FOLLOWING IOT'S FOR CORRECT OPERATION AND FUNCTION.

SKIP ON A CLOCK FLAG AND CLEAR THE FLAG (CLSK)

OCTAL CODE: 6133

OPERATION: SENSES THE CLOCK FLAG, WHICH IS SET WITH EACH CLOCK PULSE; IF IT IS SET, THE NEXT SEQUENTIAL INSTRUCTION IS SKIPPED AND THE FLAG IS THEN CLEARED.

ENABLE CLOCK INTERRUPT (CLEI)

OCTAL CODE: 6131

OPERATION: ENABLES THE CLOCK FLAG, WHICH IS SET WITH EACH CLOCK PULSE, TO CAUSE A PROGRAM INTERRUPT REQUEST. THE FLAG WILL REMAIN SET UNTIL CLEARED WITH CLSK.

DISABLE CLOCK INTERRUPT (CLED)

OCTAL CODE: 6132

OPERATION: DISABLES THE CLOCK FLAG FROM CAUSING AN INTERRUPT REQUEST. THE FLAG IS NOT AFFECTED.

9.2 DK8-EP/DK8-ES CLOCK

THE PROGRAM EXERCISES AND TESTS THE FOLLOWING IOT'S FOR CORRECT OPERATION AND FUNCTION.

CLEAR THE CLOCK ENABLE REGISTER PER AC (CLZE)

OCTAL CODE: 6130

OPERATION: CLEARS THE BITS IN THE CLOCK ENABLE REGISTER CORRESPONDING TO THOSE BITS SET IN THE AC. THE AC IS NOT AFFECTED.

SKIP ON A CLOCK INTERRUPT (CLSK)

OCTAL CODE: 6131

OPERATION: SENSES FOR INTERRUPT CONDITIONS, IF THE CONDITIONS ARE PRESENT THE NEXT SEQUENTIAL INSTRUCTION IS SKIPPED. THE CONDITIONS ARE AS FOLLOWS:

- A. ENABLE EVENT INTERRUPT 1 AND INPUT 4
- B. ENABLE EVENT INTERRUPT 2 AND INPUT 2
- C. ENABLE EVENT INTERRUPT 3 AND INPUT 1
- D. ENABLE OVERFLOW INTERRUPT AND OVERFLOW

AC TO CLOCK ENABLE REGISTER (CLOE)

OCTEL CODE:

6132

OPERATION:

CAUSES THE CONTENTS OF THE AC TO BE LOADED INTO THE CLOCK ENABLE REGISTER CORRESPONDING TO THOSE BITS SET IN THE AC, THE AC IS NOT AFFECTED. CLOCK ENABLE REGISTER FUNCTIONS ARE AS FOLLOWS.

AC BIT

FUNCTION

0

ENABLE CLOCK OVERFLOW

1 & 2

MODE CONTROL

00 COUNTER RUNS AT SELECTED RATE, OVERFLOW OCCURS EVERY 4096 COUNTS. OVERFLOW REMAINS SET UNTIL CLEARED BY (CLSA) IOT 6135.

01 COUNTER RUNS AT SELECTED RATE, OVERFLOW CAUSES THE CLOCK BUFFER REGISTER TO BE TRANSFERRED TO THE CLOCK COUNTER REGISTER WHICH WILL CONTINUE TO RUN AFTER TRANSFER. OVERFLOW WILL REMAIN SET UNTIL CLEARED BY (CLSA) IOT 6135.

10 COUNTER RUNS AT SELECTED RATE, AN EXTERNAL SCHMITT TRIGGER SIGNAL, IF ENABLED, CAUSES THE CLOCK COUNTER REGISTER TO BE TRANSFERRED TO THE CLOCK BUFFER REGISTER AND THE CLOCK COUNTER CONTINUES TO RUN.

11 COUNTER RUNS AT SELECTED RATE, AN EXTERNAL SCHMITT TRIGGER SIGNAL, IF ENABLED, CAUSES THE CLOCK COUNTER REGISTER TO BE TRANSFERRED TO THE CLOCK BUFFER REGISTER AND THE CLOCK COUNTER WILL CONTINUE TO RUN FROM 0.

3, 4 & 5

COUNT RATE

000 STOP

001 EXTERNAL CLOCK SOURCE

010 100 CPS

011 1000 CPS

100 10000 CPS

101 100000 CPS

110 1000000 CPS

111 STOP

6

WHEN SET TO A 1, OVERFLOW CAUSES AN EXTERNAL PULSE.

- 7 WHEN SET TO A 1, THE CLOCK COUNTER IS INHIBITED FROM COUNTING.
- 8 WHEN SET TO A 1, ENABLES EXTERNAL SCHMITT TRIGGER SIGNALS AND THE OVERFLOW FLOP TO CAUSE AN INTERRUPT REQUEST IF THEY ARE ENABLED.
- 9, 10 & 11 ENABLE SCHMITT TRIGGER EVENTS

100 INPUT 4
 010 INPUT 2
 001 INPUT 1

AC TO CLOCK BUFFER REGISTER (CLAB)

OCTAL CODE: 6133

OPERATION: CAUSES THE CONTENTS OF THE AC TO BE TRANSFERRED INTO THE CLOCK BUFFER REGISTER; THE CONTENTS OF BUFFER REGISTER IS THEN TRANSFERRED TO THE CLOCK COUNTER REGISTER. THE AC IS NOT AFFECTED.

CLOCK ENABLE REGISTER TO AC (CLEN)

OCTAL CODE: 6134

OPERATION: CAUSES THE CONTENTS OF THE CLOCK ENABLE REGISTER TO BE TRANSFERRED TO THE AC. THE ENABLE REGISTER IS NOT AFFECTED.

CLOCK STATUS TO AC (CLSA)

OCTAL CODE: 6135

OPERATION: CAUSES THE CONTENTS OF THE CLOCK STATUS REGISTER TO BE TRANSFERRED INTO THE AC. THE STATUS BITS ARE THEN CLEARED CORRESPONDING TO THOSE BITS THAT WERE SET IN THE AC. THE STATUS REGISTER FUNCTIONS ARE AS FOLLOWS.

AC BIT	STATUS CONDITION
-----	-----
0	OVERFLOW
1-8	NOT USED
9	INPUT 4
10	INPUT 2
11	INPUT 1

CLOCK BUFFER REGISTER TO AC (CLBA)

OCTAL CODE: 6136

OPERATION: CAUSES THE CONTENTS OF THE CLOCK BUFFER REGISTER TO BE TRANSFERRED INTO THE AC. THE BUFFER REGISTER IS NOT AFFECTED.

CLOCK COUNTER REGISTER TO AC (CLCA)

OCTAL CODE: 6137

OPERATION:

CAUSES THE CONTENTS OF THE CLOCK
COUNTER TO BE TRANSFERED INTO THE
CLOCK BUFFER REGISTER. THE BUFFER
REGISTER IS THEN TRANSFERED INTO
THE AC. THE COUNTER REGISTER
IS NOT AFFECTED.

10. LISTING

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/DK8E CLOCKS DIAGNOSTIC

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/

/THE STARTING ADDRESS 0200 OCTAL.

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/PLEASE READ DOCUMENT FOR FURTHER INFORMATION.

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	0020	*0000	
		/	
0000	0000	0000	
0001	5001	5001	
0002	0002	0002	
0003	0003	0003	
0004	0000		0000
0005	0000		0000
0006	0207	K0207,	0207
0007	0007	K0007,	0007
0010	0000	AUTO10,	0000
0011	0000	SAVAC,	0000
0012	7700	K7700,	7700
0013	0100	K0100,	0100
0014	4000	K4000,	4000
0015	0200	K0200,	0200
0016	2525	K2525,	2525
0017	5252	K5252,	5252
0020	5102	XI0TA,	I0TA
0021	5107	XI0TB,	I0TB
0022	5114	XI0TC,	I0TC
0023	5121	XI0TD,	I0TD
0024	5127	XI0TE,	I0TE
0025	5134	XI0TF,	I0TF
0026	5142	XI0TF1,	I0TF1
0027	5146	XI0TG,	I0TG
0030	5154	XI0TH,	I0TH
0031	5163	XI0TI,	I0TI
0032	5200	XI0TJ,	I0TJ
0033	5207	XI0TK,	I0TK
0034	5350	XI0TS,	I0TS
0035	5360	XI0TS1,	I0TS1
0036	5370	XI0TS2,	I0TS2
0037	5400	XI0TS3,	I0TS3
0040	0000	REGA,	0000
0041	0000	REGB,	0000
0042	0000	REGC,	0000
0043	0000	REGD,	0000
0044	0000	REGE,	0000
0045	0000	REGF,	0000
0046	5642	SKPWAT,	XWAIT
0047	5255	XPIG01,	PIG01
0050	5270	XPIG02,	PIG02
0051	5323	XPIG03,	PIG03
0052	5336	XPIG04,	PIG04
0053	5234	XPIG05,	PIG05

0054	5310	XISZ,	ISELOP
0055	5224	RANDY,	RANDOM
0056	5216	XSNDRV,	SNDRV
0057	5302	XSYNC,	SYNC
0060	5065	XCLREG,	CLRREG
0061	0215	OVER2,	BCNEAC
0062	0217	OVER2A,	BCNEAC +2
0063	0570	XDKSEP,	TST30
0064	3561	XMITT,	TST202
0065	3556	XMITT1,	TST202 -3
0066	5660	XLAS,	SNLAS
0067	5746	XGTAD,	GTAD
0070	0000	SEND,	0000
0071	0000	RECEV,	0000
0072	5000	NERROR,	NERROR
0073	5020	ERROR,	ERRO
0074	5413	XCLOCK,	CLOCK
0075	0000	CLOCKS,	0000
0076	0000	KREGC,	0000
0077	0000	LOOP,	0000
0100	5402	JMPI2,	JMP I 2
0101	5441	XCRLF,	CRLF
0102	5563	XREG,	PREG
0103	5471	XSORT,	SORT
0104	5420	XOCTEL,	OCTEL
0105	5542	XMESS,	MESS
0106	5624	XPRINT,	PRINT
0107	5056	XTYPE,	TYPE
0110	5046	XBELL,	BELL
0111	7730	KPRMT1,	7730
0112	7400	K7400,	7400
0113	0000	KT1CPS,	0000
0114	6007	K6007,	6007
0115	0006	K0006,	0006
0116	0400	K0400,	0400
0117	6000	K6000,	6000
0120	3000	K3000,	3000
0121	5000	K5000,	5000
0122	7770	K7770,	7770
0123	0260	K0260,	0260
0124	4100	K4100,	4100
0125	3740	K3740,	3740
0126	0240	K0240,	0240
0127	0017	K0017,	0017
0130	7774	K7774,	7774
0131	7773	K7773,	7773
0132	7772	K7772,	7772
0133	0077	K0077,	0077
0134	0215	K0215,	0215
0135	0212	K0212,	0212
0136	0377	K0377,	0377
0137	0040	K0040,	0040
0140	0020	K0020,	0020
0141	7000	K7000,	7000
0142	0010	K0010,	0010

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0143 2000 K2000, 2000
0144 1000 K1000, 1000
0145 0300 K0300, 0300
0146 0500 K0500, 0500
0147 0600 K0600, 0600
0150 0700 K0700, 0700
0151 2725 KTA, 2725
0152 2650 KTA1, 2650
0153 7425 KTB, 7425
0154 7350 KTB1, 7350
0155 7753 KTC, 7753
0156 0225 KTC1, 0225
0157 0150 KTC2, 0150
0160 1450 KTD, 1450
0161 1425 KTD1, 1425
0162 6575 KTE, 6575
0163 6525 KTE1, 6525
0164 5600 XSET0, SET0
0165 5450 XOPR, POPR
0166 0070 PATCH, 0070
0167 5771 XGETM, TIMCLK
0170 5740 XPASS, PASS
0171 1775 XCRS1, T122B
0172 2200 XCRS2, T127A
0173 2603 XCRS3, T150A
0174 2505 XCRS4, T150B
0175 4003 XCRS5, T215A

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0200

0200

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0200 7300 BEGIN, CLA CLL /CLEAR THE AC AND LINK
0201 6007 6007 /CAF OR CLEAR THE WORLD
0202 4501 JMS I XCRLF /CRLF
0203 4506 JMS I XPRINT /PRINT DK8E CLOCKS DIAGNOSTIC
0204 6000 DKMES /MESSAGE POINTER
0205 4501 JMS I XCRLF /CRLF
0206 4400 JMS I XCLREG /CLEAR ALL MY REGISTERS
0207 4504 JMS I XSET0 /SET UP FOR PI RETURN
0210 4466 JMS I XLAS /GET HIS SWITCHES
0211 5465 JMP I XMITT1 /TEST SCHMITT
0212 5463 JMP I XDK8EP /TEST DK8EP CLOCK
0213 4474 JMS I XCLOCKS /TEST DK8EA OR DK8EC
0214 4505 JMS I XOPR /SORT AND PRINT FREQ. SELECTFD
0215 4507 BGNEAC, JMS I XGETM /GET TIME LENGTH
0216 3077 DCA LOOP /SET LOOP COUNTER
0217 4400 JMS I XCLREG /CLEAR ALL REGISTERS
0220 3040 DCA REGA

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/ DOES IOT CLEI CHANGE AC ?
/CHECK ALL COMBINATIONS

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0221 1040 TST0, TAD REGA /GET AC NUMBER
0222 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
0223 1070 TAD SEND
0224 4420 JMS I XIOTA /IOT 6131, CLEI

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0225 3071          DCA RECEV          /SAVE INPUT FOR ERROR PRINTER
0226 1071          TAD RECEV
0227 4456          JMS I XSNDRV          /CHECK SEND AND RECEV REGISTERS
0230 4472          JMS I NERROR          /CHECK NON-ERROR HANDLER.
0231 4473          JMS I ERROR          /ERROR: CLEI CHANGED AC.
0232 3000          3000          /TST0 ERROR MESSAGE.
0233 0221          TST0          /SCOPE LOOP.
0234 3040          DCA REGA

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/
/DOES IOT CLED CHANGE AC ?
/CHECK ALL COMBINATIONS
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0235 1040          TST1,  TAD REGA          /GET AC NUMBER
0236 3070          DCA SEND          /SAVE OUTPUT FOR ERROR PRINTER
0237 1070          TAD SEND
0240 4421          JMS I XIOTB          /IOT 6132, CLED
0241 3071          DCA RECEV          /SAVE INPUT FOR ERROR PRINTER
0242 1071          TAD RECEV
0243 4456          JMS I XSNDRV          /CHECK SEND AND RECEV REGISTERS
0244 4472          JMS I NERROR          /CHECK NON-ERROR HANDLER.
0245 4473          JMS I ERROR          /ERROR: CLED CHANGED AC.
0246 3001          3001          /TST1 ERROR MESSAGE.
0247 0235          TST1          /SCOPE LOOP.
0250 3040          DCA REGA

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/
/DOES IOT CLSK CHANGE AC ?
/CHECK ALL COMBINATIONS
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0251 1040          TST2,  TAD REGA          /GET AC NUMBER
0252 3070          DCA SEND          /SAVE OUTPUT FOR ERROR PRINTER
0253 1070          TAD SEND
0254 4422          JMS I XIOTC          /IOT 6133, CLSK
0255 7000          NOP          /WAIT JUST IN CASE !
0256 3071          DCA RECEV          /SAVE INPUT FOR ERROR PRINTER
0257 1071          TAD RECEV
0260 4456          JMS I XSNDRV          /CHECK SEND AND RECEV REGISTERS
0261 4472          JMS I NERROR          /CHECK NON-ERROR HANDLER.
0262 4473          JMS I ERROR          /ERROR: CLSK CHANGED AC.
0263 3002          3002          /TST2 ERROR MESSAGE.
0264 0251          TST2          /SCOPE LOOP.

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/
/TEST FOR NO INTERRUPT ROST.
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0265 6007          TST3,  6007          /CAF OR CLEAR THE WORLD
0266 4447          JMS I XPIG01          /GO TO PI, NO PI EXPECTED
0267 4472          JMS I NERROR          /CHECK NON-ERROR HANDLER
0270 4473          JMS I ERROR          /ERROR:PI OR INT. ROST. FAILED
0271 1003          1003          /TST3 ERROR MESSAGE
0272 0265          TST3          /SCOPE LOOP

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/
/DOES CLSK SKIP ON A CLOCK FLAG
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0273 1113          TST4,  TAD KT1CPS
0274 3045          DCA REGF          /SET UP TIMER
0275 4422          JMS I XIOTC          /IOT 6133, CLSK

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0276 7020      NOP
0277 4422      JMS I XIOTC    /IOT 6133, CLSK
0300 4446      JMS I SKPWAT   /GO WAIT FOR FLAG
0301 4472      JMS I NERROR   /CHECK NON-ERROR HANDLER
0302 4473      JMS I ERROR    /ERROR: CLSK OR FLAG FAILED
0303 0404      0404      /TST4 ERROR MESSAGE
0304 0273      TST4          /SCOPE LOOP

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/ DOES CLSK CLEAR THE FLAG ?
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0305 1113      TST5, TAD KT1CPS
0306 3045      DCA REGF      /SET UP TIMER
0307 4422      JMS I XIOTC    /IOT 6133, CLSK
0310 7020      NOP
0311 4422      JMS I XIOTC    /IOT 6133, CLSK
0312 4446      JMS I SKPWAT   /GO WAIT FOR FLAG
0313 7410      SKP          /GOT THE FLAG
0314 5704      JMP I .-10     /GO BACK TO TEST 4
0315 4422      JMS I XIOTC    /IOT 6133, CLSK
0316 4472      JMS I NERROR   /CHECK NON-ERROR HANDLER
0317 4473      JMS I ERROR    /ERROR: CLSK CLEAR THE FLAG FAILED
0320 0005      0005      /TST5 ERROR MESSAGE
0321 0305      TST5          /SCOPE LOOP

```

/ DOES CLEI ENABLE CLOCK INTERRUPT ?
/

```

0322 4420      TST6, JMS I XIOTA    /IOT 6131, CLEI
0323 4450      JMS I XPIG02   /GO TO PI, PI EXPECTED
0324 4472      JMS I NERROR   /CHECK NON-ERROR HANDLER,
0325 4473      JMS I ERROR    /ERROR: DID CLEI ENABLE CLOCK INTERRUPT ?
0326 1406      1406      /TST6 ERROR MESSAGE
0327 0322      TST6          /SCOPE LOOP.

```

/ DOES CLED DISABLE CLOCK INTERRUPT ?
/

```

0330 4420      TST7, JMS I XIOTA    /IOT 6131, CLEI
0331 4421      JMS I XIOTB    /IOT 6132, CLED
0332 4447      JMS I XPIG01   /GO TO PI, NO PI EXPECTED
0333 4472      JMS I NERROR   /CHECK NON-ERROR HANDLER,
0334 4473      JMS I ERROR    /ERROR: DID CLED DISABLE CLOCK INTERRUPT?
0335 1007      1007      /TST7 ERROR MESSAGE
0336 0330      TST7          /SCOPE LOOP.

```

/ DOES CAF DISABLE CLOCK INTERRUPT ?
/

```

0337 4420      TST10, JMS I XIOTA    /IOT 6131, CLEI
0340 6007      6007      /CAF OR CLEAR THE WORLD
0341 4447      JMS I XPIG01   /GO TO PI, NO PI EXPECTED
0342 4472      JMS I NERROR   /CHECK NON-ERROR HANDLER,
0343 4473      JMS I ERROR    /ERROR: DID CAF DISABLE CLOCK INTERRUPT ?
0344 1010      1010      /TST10 ERROR MESSAGE
0345 0337      TST10      /SCOPE LOOP.

```

/ DOES CLEI ENABLE CLOCK INTERRUPT ?
/

```

0346 4420 TST11, JMS I XIOTA /IOT 6131, CLEI
0347 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
0350 5354 JMP T11A
0351 4420 JMS I XIOTA /IOT 6131, CLEI
0352 4450 JMS I XPIG02 /GO TO PI, PI EXPECTED
0353 4472 JMS I NERROR /CHECK NON-ERROR HANDLER.
0354 4473 T11A, JMS I ERROR /ERROR: CLEI AND CLED FAST TOGGLE
0355 1411 1411 /TS11 ERROR MESSAGE
0356 0346 TST11 /SCOPE.

```

/

/DOES CLED DISABLE CLOCK INTERRUPT ?

/

```

0357 4420 TST12, JMS I XIOTA /IOT 6131, CLEI
0360 4421 JMS I XIOTB /IOT 6132, CLED
0361 4450 JMS I XPIG02 /GO TO PI, NO PI EXPECTED
0362 5366 JMP T12A
0363 4421 JMS I XIOTB /IOT 6132, CLED
0364 4447 JMS I XPIG01 /GO TO PI, NO PI EXPECTED
0365 4472 JMS I NERROR /CHECK NON-ERROR HANDLER.
0366 4473 T12A, JMS I ERROR /ERROR: CLEI AND CLED FAST TOGGLE
0367 1012 1012 /TST12 ERROR MESSAGE
0370 0357 TST12 /SCOPE LOOP.

```

/

/TEST DECODER FOR 6135, NOT CLEI

/

```

0371 4421 TST13, JMS I XIOTB /IOT 6132, CLED
0372 4431 JMS I XIOTI /IOT 6135, NOT AN IOT 6131
0373 4447 JMS I XPIG01 /GO TO PI, NO PI EXPECTED
0374 4472 JMS I NERROR /CHECK NON-ERROR HANDLER.
0375 4473 JMS I ERROR /ERROR: DID DECODER WORK
0376 1013 1013 /TST13 ERROR MESSAGE
0377 0371 TST13 /SCOPE LOOP.

```

/

/TEST DECODER FOR A 6136, NOT CLED

/

```

0400 4420 TST14, JMS I XIOTA /IOT 6131, CLEI
0401 4432 JMS I XIOTJ /IOT 6136, NOT AN IOT 6132.
0402 4450 JMS I XPIG02 /GO TO PI, PI EXPECTED
0403 4472 JMS I NERROR /CHECK NON-ERROR HANDLER.
0404 4473 JMS I ERROR /ERROR: DID DECODER WORK
0405 1414 1414 /TST14 ERROR MESSAGE
0406 0400 TST14 /SCOPE LOOP.

```

/

/TEST DECODER FOR 6137, NOT CLSK

/

```

0407 1113 TST15, TAD KT1CPS
0410 3045 DCA REGF /SET UP TIMER
0411 4422 JMS I XIOTC /IOT 6132, CLED
0412 7000 NOP
0413 4433 JMS I XIOTK /IOT 6137, NOT AN IOT 6133
0414 4446 JMS I SKPWAT /GO WAIT FOR FLAG
0415 7410 SKP /ERROR, SKIP OCCURRED
0416 4472 JMS I NERROR /CHECK NON-ERROR HANDLER.
0417 4473 JMS I ERROR /ERROR: DID DECODER WORK
0420 0015 0015 /TST15 ERROR MESSAGE

```

```

0421 0407          TST15          /SCOPE LOOP.
/
/DOES CLSK ENABLE CLOCK INTERRUPT ?
/
0422 4422          TST16, JMS I XIOTC          /IOT 6133, CLSK
0423 7000          NOP
0424 4447          JMS I XPIG01         /GO TO PI, NO PI EXPECTED
0425 4472          JMS I NERROR        /CHECK NON-ERROR HANDLER,
0426 4473          JMS I ERROR         /ERROR: DID CLSK CAUSE INTERRUPT
0427 1016          1016              /TST16 ERROR MESSAGE
0430 0422          TST16              /SCOPE LOOP.
/
/DOES CLSK DISABLE CLOCK INTERRUPT ?
/
0431 4420          TST17, JMS I XIOTA          /IOT 6131, CLEI
0432 4422          JMS I XIOTC          /IOT 6133, CLSK
0433 7000          NOP
0434 4450          JMS I XPIG02         /GO TO PI, PI EXPECTED
0435 4472          JMS I NERROR        /CHECK NON-ERROR HANDLER,
0436 4473          JMS I ERROR         /ERROR: CLSK DISABLED CLOCK INTERRUPT
0437 1417          1417              /TST17 ERROR MESSAGE
0440 0431          TST17              /SCOPE LOOP.
/
/DOES CLEI CAUSE A SKIP ON FLAG ?
/
0441 1113          TST20, TAD KT1CPS
0442 3045          DCA REGF           /SET UP TIMER
0443 4420          JMS I XIOTA          /IOT 6131, CLEI
0444 4446          JMS I SKPWAT        /GO WAIT FOR FLAG
0445 7410          SKP                 /ERROR, SKIP OCCURRED
0446 4472          JMS I NERROR        /CHECK NON-ERROR HANDLER,
0447 4473          JMS I ERROR         /ERROR: DID CLEI CAUSE A SKIP
0450 0020          0020              /TST20 ERROR MESSAGE
0451 0441          TST20              /SCOPE LOOP.
/
/DOES CLED CAUSE A SKIP ON FLAG ?
/
0452 1113          TST21, TAD KT1CPS
0453 3045          DCA REGF           /SET UP TIMER
0454 4421          JMS I XIOTB          /IOT 6132, CLED
0455 4446          JMS I SKPWAT        /GO WAIT FOR FLAG
0456 7410          SKP                 /ERROR, SKIP OCCURRED
0457 4472          JMS I NERROR        /CHECK NON-ERROR HANDLER,
0460 4473          JMS I ERROR         /ERROR: DID CLED CAUSE A SKIP ON FLAG
0461 0021          0021              /TST21 ERROR MESSAGE
0462 0452          TST21              /SCOPE LOOP.
/
/DOES INT. RQST STAY DOWN ?
/
0463 4457          TST22, JMS I XSYNC          /SYNC WITH CLOCK
0464 4420          JMS I XIOTA          /IOT 6131, CLEI
0465 4447          JMS I XPIG01         /GO TO PI, PI EXPECTED
0466 5273          JMP T22A           /ERROR, PI FAILED
0467 2041          ISZ REGB
0470 5267          JMP .-1             /WAIT 15.5 MS

```

```

0471 4452          JMS I XPIG04  /GO TO PI, PI EXPECTED
0472 4472          JMS I NERROR  /CHECK NON-ERROR HANDLER
0473 4473 T22A,    JMS I ERROR   /ERROR: DID RQST. LAST ?
0474 1422          1422        /TST21 ERROR MESSAGE
0475 0463          TST22        /SCOPE LOOP
/
/DOES CLSK CLEAR RQST. LINE ?
/
0476 4420 TST23,    JMS I XIOTA   /IOT 6131, CLEI
0477 4457          JMS I XSYNC   /SYNC WITH CLOCK FLAG
0500 4451          JMS I XPIG03  /GO TO PI, NO PI EXPECTED
0501 4472          JMS I NERROR  /CHECK NON-ERROR HANDLER
0502 4473          JMS I ERROR   /ERROR: DID CLSK CLEAR RQST. FLAG
0503 1023          1023        /TST23 ERROR MESSAGE
0504 0476          TST23        /SCOPE LOOP
/
/SYNC WITH CLOCK AND
/CHECK FOR FAST OUTPUT
/
0505 4467 TST24,    JMS I XGTAD   /GET TIME CONSTANTS
0506 0000          0000        /MODIFIED BY TEST
0507 1706          TAD I .-1
0510 3043          DCA REGD
0511 4420          JMS I XIOTA   /IOT 6131, CLEI
0512 4457          JMS I XSYNC   /SYNC WITH CLOCK
0513 4447          JMS I XPIG01  /GO TO PI, NO PI EXPECTED
0514 4472          JMS I NERROR  /CHECK NON-ERROR HANDLER,,
0515 4473          JMS I ERROR   /ERROR: CLOCK FREQUENCY FAST.
0516 2024          2024        /TST24 ERROR MESSAGE.
0517 0505          TST24        /SCOPE LOOP.
/
/SYNC WITH CLOCK AND
/CHECK FOR SLOW OUTPUT
/
0520 1115 TST25,    TAD K0006   /SETUP FOR SLOW CLOCK
0521 4467          JMS I XGTAD   /GET TIME CONSTANTS
0522 0000          0000        /MODIFIED BY TEST
0523 1722          TAD I .-1
0524 3043          DCA REGD
0525 4420          JMS I XIOTA   /IOT 6131, CLEI
0526 4457          JMS I XSYNC   /SYNC WITH CLOCK
0527 4450          JMS I XPIG02  /GO TO PI, PI EXPECTED
0530 4472          JMS I NERROR  /CHECK NON-ERROR HANDLER.
0531 4473          JMS I ERROR   /ERROR: CLOCK FREQUENCY SLOW.
0532 2425          2425        /TST25 ERROR MESSAGE.
0533 0520          TST25        /SCOPE LOOP.
/
/CHECK FOR FAST CLOCK AND
/BAD CLOCK FLAG WITH CLSK.
/
0534 4467 TST26,    JMS I XGTAD   /GET TIME CONSTANTS
0535 0000          0000        /MODIFIED BY TEST
0536 1735          TAD I .-1
0537 3043          DCA REGD
0540 4457          JMS I XSYNC   /SYNC WITH CLOCK

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```

0541 4454 JMS I XISZ /WAIT
0542 4422 JMS I XIOTC /IOT 6133, CLSK
0543 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
0544 4473 JMS I ERROR /ERROR: CLOCK FAILED
0545 2026 2026 /TST26 ERROR MESSAGE
0546 0534 TST26 /SCOPE LOOP

```

```

/
/CHECK FOR SLOW CLOCK AND
/BAD CLOCK FLAG WITH CLSK
/

```

```

0547 1115 TST27, TAD K0006 /SET UP FOR SLOW CLOCK
0550 4467 JMS I XGTAD /GET TIME CONSTANTS
0551 0000 0000 /MODIFIED BY TEST
0552 1751 TAD I .-1
0553 3043 DCA REGD
0554 4457 JMS I XSYNC /SYNC WITH CLOCK
0555 4454 JMS I XISZ /WAIT
0556 4422 JMS I XIOTC /IOT 6133, CLSK
0557 7410 SKP /ERROR, SKIP OCCURRED
0560 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
0561 4473 JMS I ERROR /ERROR: CLSK OR CLOCK FLAG FAILED
0562 2427 2427 /TST27 ERROR MESSAGE
0563 0547 TST27 /SCOPE LOOP
0564 2077 ISZ LOOP
0565 5462 JMP I OVER2A /LOOP ON TEST
0566 4570 JMS I XPASS /TYPE PASS COMPLETE
0567 5461 JMP I OVER2 /RESET COUNTER AND CONTINUE TESTING

```

```

/
/DOES IOT CLZE CHANGE AC?
/CHECK ALL COMBINATIONS.
/
/

```

```

0570 1040 TST30, TAD REGA /GET AC NUMBER
0571 4423 JMS I XIOTD /IOT 6130, CLZE
0572 3071 DCA RECEV /SAVE INPUT FOR ERROR PRINTER
0573 1071 TAD RECEV
0574 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
0575 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
0576 4473 JMS I ERROR /ERROR: CLZE CHANGED AC
0577 3030 3030 /TST30 ERROR MESSAGE
0600 0570 TST30 /SCOPE LOOP

```

```

/
/DOES IOT CLSK CHANGE AC?
/CHECK ALL COMBINATIONS
/

```

```

0601 1040 TST31, TAD REGA /GET AC NUMBER
0602 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
0603 1070 TAD SEND
0604 4424 JMS I XIOTE /IOT 6131, CLSK
0605 7000 NOP
0606 3071 DCA RECEV /SAVE INPUT FOR ERROR PRINTER
0607 1071 TAD RECEV
0610 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
0611 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
0612 4473 JMS I ERROR /ERROR: CLSK CHANGED AC.

```

0613 3031 3031 /TST31 ERROR MESSAGE
 0614 0601 TST31 /SCOPE LOOP

/
 /DOES IOT CLOE CHANGE AC?
 /CHECK ALL COMBINATIONS
 /

0615 1040 TST32, TAD REGA /GET AC NUMBER
 0616 4425 JMS I XIOTF /IOT 6132, CLOE
 0617 3071 DCA RECEV /SAVE INPUT FOR ERROR PRINTER
 0620 1071 TAD RECEV
 0621 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 0622 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 0623 4473 JMS I ERROR /ERROR:CLDE CHANGED AC
 0624 3032 3032 /TST32 ERROR MESSAGE
 0625 0615 TST32 /SCOPE LOOP

/
 /DOES IOT CLAB CHANGE AC?
 /CHECK ALL COMBINATIONS
 /

0626 1040 TST33, TAD REGA /GET AC NUMBER
 0627 4427 JMS I XIOTG /IOT 6133, CLAB
 0630 3071 DCA RECEV /SAVE INPUT FOR ERROR PRINTER
 0631 1071 TAD RECEV
 0632 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGIS*ERS
 0633 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 0634 4473 JMS I ERROR /ERROR:CLAB CHANGED AC
 0635 3033 3033 /TST33 ERROR MESSAGE
 0636 0626 TST33 /SCOPE LOOP

/
 /DOES CAF CLEAR BUFFER REGISTER?
 /CHECK FOR JAM TO AC, CLBA.
 /

0637 6007 TST34, 6007 /CAF OR CLEAR THE WORLD
 0640 7340 CLA CLL CMA /AC TO 7777
 0641 4432 JMS I XIOTJ /IOT 6136, CLBA
 0642 7650 SNA CLA /WAS BUFFER ALL 0'S?
 0643 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 0644 4473 JMS I ERROR /ERROR:CAF OR CLBA FAILED.
 0645 3434 3434 /TST34 ERROR MESSAGE
 0646 0637 TST34 /SCOPE LOOP

/
 /DOES CAF CLEAR ENABLE REGISTER?
 /CHECK FOR JAM TO AC, CLEN.
 /

0647 6007 TST35, 6007 /CAF OR CLEAR THE WORLD
 0650 7340 CLA CLL CMA /AC TO 7777
 0651 4430 JMS I XIOTH /IOT 6134, CLEN
 0652 7650 SNA CLA /WAS ENABLE REGISTER ALL 0'S?
 0653 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 0654 4473 JMS I ERROR /ERROR:CAL OR CLEN FAILED.
 0655 4435 4435 /TST35 ERROR MESSAGE
 0656 0647 TST35 /SCOPE LOOP

/
 /DOES CAF CLEAR STATUS REGISTER ?
 /CHECK J.M TO AC CLSA

0657	6007	TST36,	6007	/CAF OR THE CLEAR THE WORLD
0660	7340		CLA CLL CMA	/AC TO 7777
0661	4431		JMS I XIOTI	/IOT 6135, CLSA
0662	7650		SNT CLA	/WAS STATUS REGISTER ALL 0'S ?
0663	4472		JMS I NERROR	/CHECK NON-ERROR HANDLER
0664	4473		JMS I ERROR	/CAF OR CLSA FAILED
0665	5036		5036	/TST36 ERROR MESSAGE
0666	0657		TST36	/SCOPE LOOP

/
 /DOES AC LOAD BUFFER REGISTER?
 /CHECK ALL 0'S TRANSFER
 /CHECK JAM TO AC, CLBA

0667	4427	TST37,	JMS I XIOTG	/IOT 6133, CLAB
0670	7340		CLA CLL CMA	/AC TO 7777
0671	4437		JMS I XIOTJ	/IOT 6136, CLBA
0672	7650		SNA CLA	/WAS BUFFER ALL 0'S?
0673	4472		JMS I NERROR	/CHECK NON-ERROR HANDLER
0674	4473		JMS I ERROR	/ERROR:CLAB OR CLBA FAILED
0675	3437		3437	/TST37 ERROR MESSAGE
0676	0667		TST37	/SCOPE LOOP

/
 /DOES AC LOAD BUFFER REGISTER ?
 /CHECK ALL 1'S TRANSFER
 /CHECK JAM TO AC , CLBA

0677	7340	TST40,	CLA CLL CMA	/AC TO 7777
0700	4427		JMS I XIOTG	/IOT 6133, CLAB
0701	7300		CLA CLL	/CLEAR THE AC AND LINK
0702	4432		JMS I XIOTJ	/IOT 6136, CLBA
0703	7040		CMA	/COMPLEMENT THE AC
0704	7650		SNA CLA	/WAS BUFFER ALL 1'S?
0705	4472		JMS I NERROR	/CHECK NON-ERROR HANDLER
0706	4473		JMS I ERROR	/ERROR:CLAB OR CLBA FAILED
0707	3440		3440	/TST40 ERROR MESSAGE
0710	0677		TST40	/SCOPE LOOP

/
 /DOES BUFFER SURVIVE PATTERN 2525 ?

0711	1016	TST41,	TAD K2525	/GET AC NUMBER
0712	4427		JMS I XIOTG	/IOT 6133, CLAB
0713	7040		CMA	/COMPLEMENT AC
0714	4432		JMS I XIOTJ	/IOT 6136, CLBA
0715	4456		JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
0716	4472		JMS I NERROR	/CHECK NON-ERROR HANDLER
0717	4473		JMS I ERROR	/ERROR: BUFFER OR AC FAILED
0720	3441		3441	/TST41 ERROR MESSAGE
0721	0711		TST41	/SCOPE LOOP

/
 /DOES BUFFER SURVIVE PATTERN 5252 ?

```

0722 1017 TST42, TAD K5252 /GET AC NUMBER
0723 4427 JMS I XIOTG /IOT 6133, CLXB
0724 7040 CMA /COMPLEMENT AC
0725 4432 JMS I XIOTJ /IOT 6136, CLBA
0726 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
0727 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
0730 4473 JMS I ERROR /ERROR: BUFFER OR AC FAILED
0731 3442 3442 /TST42 ERROR MESSAGE
0732 0722 TST42 /SCOPE LOOP

```

```

/DOES CAF REALLY CLEAR BUFFER ?
/

```

```

0733 7240 TST43, CLA CLA CMA /AC TO ALL 7777
0734 4427 JMS I XIOTG /IOT 6133, CLAB
0735 6007 6007 /CAF OR CLEAR THE WORLD
0736 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
0737 7340 CLA CLL CMA
0740 4432 JMS I XIOTJ /IOT 6136, CLBA
0741 7650 SNA CLA /WAS BUFFER ALL 0'S ?
0742 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
0743 4473 JMS I ERROR /ERROR: CAF OR BUFFER FAILED
0744 3443 3443 /TST43 ERROR MESSAGE
0745 0733 TST43 /SCOPE LOOP

```

```

/DOES CAF REALLY CLEAR BUFFER ?
/DO ALL COMBINATIONS
/

```

```

0746 1040 TST44, TAD REGA /GET AC NUMBER
0747 4427 JMS I XIOTG /IOT 6133, CLAB
0750 6007 6007 /CAF OR CLEAR THE WORLD
0751 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
0752 7340 CLA CLL CMA
0753 4432 JMS I XIOTJ /IOT 6136, CLBA
0754 7650 SNA CLA /WAS BUFFER ALL 0'S ?
0755 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
0756 4473 JMS I ERROR /ERROR: CAF OR BUFFER FAILED
0757 3444 3444 /TST44 ERROR MESSAGE
0760 0746 TST44 /SCOPE LOOP

```

```

/
/CHECK AC TO BUFFER REGISTER AND
/BUFFER REGISTER TO AC TRANSFERS.
/CHECK ALL COMBINATIONS.
/CHECK LOAD ON BUFFER REGISTER.
/

```

```

0761 7340 TST45, CLA CLL CMA
0762 3040 DCA REGA
0763 1041 T45B, TAD REGB /GET AC NUMBER
0764 4427 JMS I XIOTG /IOT 6133, CLAB
0765 7040 CMA /COMPLEMENT THE AC
0766 4432 JMS I XIOTJ /IOT 6136, CLBA
0767 4456 JMS I XSNDRV /CHECK SEND RECEV REGISTERS
0770 7610 SKP CLA
0771 5375 JMP T45A
0772 2041 ISZ REGB /UPDATE AC NUMBER

```



```

0773 5363          JMP T45B
0774 4472          JMS I NERROR /CHECK NON-ERROR HANDLER
0775 4473 T45A,    JMS I ERROR  /ERROR: AC OR BUFFER FAILED.
0776 3445          3445      /TST45 ERROR MESSAGE
0777 0761          TST45      /SCOPE LOOP

```

/
/DOES READING BUFFER CHANGE ITS CONTENTS ?
/

```

1000 7340 TST46,  CLA CLL CMA /AC TO 7777
1001 3040          DCA REGA
1002 1016          TAD K2525 /GET AC NUMBER
1003 4427          JMS I XIOTG /IOT 6133, CLAB
1004 7040          CMA      /COMPLEMENT AC
1005 4432 T46B,    JMS I XIOTJ /IOT 6136, CLBA
1006 4456          JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1007 7610          SKP CLA
1010 5214          JMP T46A
1011 2041          ISZ REGB /UPDATE COUNTER
1012 5205          JMP T46B /DO 4096 TIMES
1013 4472          JMS I NERROR /CHECK NON-ERROR HANDLER
1014 4473 T46A,    JMS I ERROR  /ERROR: BUFFER FAILED
1015 3446          3446      /TST46 ERROR MESSAGE
1016 1000          TST46      /SCOPE LOOP

```

/
/DOES READING BUFFER CHANGE ITS CONTENTS ?
/

```

1017 7340 TST47,  CLA CLL CMA /AC TO 7777
1020 3040          DCA REGA
1021 1017          TAD K2525 /GET AC NUMBER
1022 4427          JMS I XIOTG /IOT 6133, CLAB
1023 7040          CMA      /COMPLEMENT AC
1024 4432 T47B,    JMS I XIOTJ /IOT 6136, CLBA
1025 4456          JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1026 7610          SKP CLA
1027 5233          JMP T47A
1030 2041          ISZ REGB /UPDATE COUNTER
1031 5224          JMP T47B /DO 4096 TIMES
1032 4472          JMS I NERROR /CHECK NON-ERROR HANDLER
1033 4473 T47A,    JMS I ERROR  /ERROR: BUFFER FAILED
1034 3447          3447      /TST47 ERROR MESSAGE
1035 1017          TST47      /SCOPELOOP

```

/
/DOES BUFFER SURVIVE RANDOM PATTERNS ?
/

```

1036 7340 TST50,  CLA CLL CMA /AC TO 7777
1037 3040          DCA REGA
1040 4455 T50B,    JMS I RANDY /GET RANDOM NUMBER
1041 4427          JMS I XIOTG /IOT 6133, CLAB
1042 7040          CMA      /COMPLEMENT AC
1043 4432          JMS I XIOTJ /IOT 6136, CLBA
1044 4456          JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1045 7610          SKP CLA
1046 5252          JMP T50A
1047 2041          ISZ REGB /UPDATE COUNTER
1050 5240          JMP T50B /DO 4096 TIMES

```

```

1051 4472      JMS I NERROR /CHECK NON-ERROR HANDLER
1052 4473 T50A, JMS I ERROR /ERROR: BUFFER FAILED
1053 3450      3450 /TST50 ERROR MESSAGE
1054 1036      TST50 /SCOPE LOOP
/
/DOES BUFFER SURVIVE FAST TOGGLE ?
/
1055 1040 TST51, TAD REGA /GET AC NUMBER
1056 3070      DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
1057 1040      TAD REGA
1060 4435      JMS I XIOTS1 /IOT'S 6133 AND 6136
1061 3071      DCA RECEV /SAVE INPUT FOR ERROR PRINTER
1062 1071      TAD RECEV
1063 4456      JMS I XSNDRV /CHECK SEND RECEV REGISTERS
1064 4472      JMS I NERROR /CHECK NON-ERROR HANDLER
1065 4473      JMS I ERROR /ERROR: BUFFER FAILED
1066 3451      3451 /TST51 ERROR MESSAGE
1067 1055      TST51 /SCOPE LOOP
/
/DOES AC SET ENABLE REGISTER?
/CHECK ALL 1'S TRANSFER.
/CHECK JAM TO AC, CLEN
/
1070 7340 TST52, CLA CLL CMA /AC TO 7777
1071 4425      JMS I XIOTF /IOT 6132, CLOE
1072 7040      CMA /COMPLEMENT AC
1073 4430      JMS I XIOTH /IOT 6134, CLEN
1074 7040      CMA /COMPLEMENT AC
1075 7650      SNA CLA /WAS ENABLE REGISTER ALL 1'S ?
1076 4472      JMS I NERROR /CHECK NON-ERROR HANDLER
1077 4473      JMS I ERROR /ERROR:CLOE OR CLEN FAILED.
1100 4452      4452 /TST52 ERROR MESSAGE
1101 1070      TST52 /SCOPE LOOP
/
/DOES AC SET ENABLE REGISTER?
/CHECK ALL 0'S TRANSFER.
/
/CHECK FOR JAM TO AC , CLEN
/
1102 7340 TST53, CLA CLL CMA /AC TO 7777
1103 4425      JMS I XIOTF /IOT 6132, CLOE
1104 7300      CLA CLL /CLEAR THE AC AND LINK
1105 4426      JMS I XIOTF1 /IOT 6132, CLOE
1106 4430      JMS I XIOTH /IOT 6134, CLEN
1107 7040      CMA /COMPLEMENT THE AC
1110 7650      SNA CLA /WAS ENABLE REGISTER ALL 1'S?
1111 4472      JMS I NERROR /CHECK NON-ERROR HANDLER
1112 4473      JMS I ERROR /ERROR:CLOE OR CLEN FAILED
1113 4453      4453 /TST53 ERROR MESSAGE
1114 1102      TST53 /SCOPE LOOP
/
/DOES CAF REALLY CLEAR ENABLE REGISTER?
/
1115 7340 TST54, CLA CLL CMA /AC TO 7777
1116 4425      JMS I XIOTF /IOT 6132, CLOE

```

1117	6007	6007	/CAF OR CLEAR THE WORLD
1120	3070	DCA SEND	/SAVE OUTPUT FOR ERROR PRINTER
1121	7340	CLA CLL CMA	/AC TO 7777
1122	4430	JMS I XIOTH	/IOT 6134, CLEN
1123	7650	SNA CLA	/WAS REGISTER ALL 0'S
1124	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1125	4473	JMS I ERROR	/ERROR:CAF,CLOE,OR CLEN FAILED
1126	4454	4454	/TST54 ERROR MESSAGE
1127	1115	TST54	/SCOPE LOOP

/

/DOES CAF REALLY CLEAR ENABLE REGISTER ?

/DO ALL COMBINATIONS

/

1130	1040	TST55, TAD REGA	/GET AC NUMBER
1131	4426	JMS I XIOTF1	/IOT 6132, CLOE
1132	6007	6007	/CAF OR CLEAR THE WORLD
1133	7340	CLA CLL CMA	/AC TO 7777
1134	4430	JMS I XIOTH	/IOT 6134, CLEN
1135	7650	SNA CLA	/WAS ENABLE REGISTER ALL 0'S ?
1136	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1137	4473	JMS I ERROR	/ERROR: ENABLE REGISTER FAILED
1140	4455	4455	/TST55 ERROR MESSAGE
1141	1130	TST55	/SCOPE LOOP

/

/DOES ENABLE REGISTER SURVIVE PATTERN 2525 ?

/

1142	1016	TST56, TAD K2525	/GET AC NUMBER
1143	4425	JMS I XIOTF	/IOT 6132, CLOE
1144	7040	CMA	/COMPLEMENT AC
1145	4430	JMS I XIOTH	/IOT 6134, CLEN
1146	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1147	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1150	4473	JMS I ERROR	/ERROR: EBABLE REGISTER FAILED
1151	4456	4456	/TST56 ERROR MESSAGE
1152	1142	TST56	/SCOPE LOOP

/

/DOES ENABLE REGISTER SURVIVE PATTERN 5252 ?

/

1153	1017	TST57, TAD K5252	/GET AC NUMBER
1154	4425	JMS I XIOTF	/IOT 6132, CLOE
1155	7040	CMA	/COMPLEMENT AC
1156	4430	JMS I XIOTH	/IOT 6134, CLEN
1157	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1160	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1161	4473	JMS I ERROR	/ERROR: ENABLE REGISTER FAILED
1162	4457	4457	/TST57 ERROR MESSAGE
1163	1153	TST57	/SCOPE LOOP

/

/DOES ENABLE REGISTER SURVIVE PATTERN 2525 ?

/

1164	1016	TST60, TAD K2525	/GET AC NUMBER
1165	4425	JMS I XIOTF	/IOT 6132, CLOE
1166	7320	CLA CLL	/CLEAR THE AC AND LINK
1167	4426	JMS I XIOTF1	/IOT 6132, CLOE
1170	7340	CLA CLL CMA	/AC TO 7777

1171	4430	JMS I XIOTH	/IOT 6134, CLEN
1172	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1173	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1174	4473	JMS I ERROR	/ERROR: ENABLE REGISTER FAILED
1175	4460	4460	/TST60 ERROR MESSAGE
1176	1164	TST60	/SCOPE LOOP

/

/DOES ENABLE REGISTER SURVIVE PATTERN 5252 ?

/

1177	1017	TST61, TAD K5252	/GET AC NUMBER
1200	4425	JMS I XIOTF	/IOT 6132, CLOE
1201	7300	CLA CLL	/CLEAR THE AC AND LINK
1202	4426	JMS I XIOTF1	/IOT 6132, CLOE
1203	7340	CLA CLL CMA	/AC TO 7777
1204	4430	JMS I XIOTH	/IOT 6134, CLEN
1205	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1206	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1207	4473	JMS I ERROR	/ERROR: ENABLE REGISTER FAILED
1210	4461	4461	/TST61 ERROR MESSAGE
1211	1177	TST61	/SCOPE LOOP

/

/DOES ENABLE REGISTER SURVIVE COMPLEMENT PATTERN ?

/

1212	7340	TST62, CLA CLL CMA	/AC TO 7777
1213	3070	DCA SEND	/SAVE OUTPUT FOR ERROR PRINTER
1214	1016	TAD K2525	/GET AC NUMBER
1215	4426	JMS I XIOTF1	/IOT 6132, CLOE
1216	7040	CMA	/COMPLEMENT AC
1217	4426	JMS I XIOTF1	/IOT 6132, CLOE
1220	7300	CLA CLL	/CLAER THE AC AND LINK
1221	4430	JMS I XIOTH	/IOT 6134, CLEN
1222	4456	JMS I XSNDRV	/CHECK SEND RECEV REGISTERS
1223	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1224	4473	JMS I ERROR	/ERROR: ENABLE REGISTER FAILED
1225	4462	4462	/TST62 ERROR MESSAGE
1226	1212	TST62	/SCOPE LOOP

/

/DOES ENABLE REGISTER SURVIVE COMPLEMENT PATTERN ?

/

1227	7340	TST63, CLA CLL CMA	/AC TO 7777
1230	3070	DCA SEND	/SAVE OUTPUT FOR ERROR PRINTER
1231	1017	TAD K5252	/GET AC NUMBER
1232	4426	JMS I XIOTF1	/IOT 6132, CLOE
1233	7040	CMA	/COMPLEMENT AC
1234	4426	JMS I XIOTF1	/IOT 6132, CLOE
1235	7300	CLA CLL	
1236	4430	JMS I XIOTH	/IOT 6134, CLEN
1237	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1240	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1241	4473	JMS I ERROR	/ERROR: ENABLE REGISTERS
1242	4463	4463	/TST63 ERROR MESSAGE
1243	1227	TST63	/SCOPE LOOP

/

/DO AC TO ENABLE REGISTER AND
/ENABLE REGISTER TO AC TRANSFERS

/CHECK ALL COMBINATIONS

```

/
TST64,  TAD REGA      /GET AC NUMBER
        JMS I XIOTF   /IOT 6132, CLOE
        CLA CLL CMA   /AC TO 7777
        JMS I XIOTH   /IOT 6134, CLEN
        JMS I XSNDRV  /CHECK SEND AND RECEV REGISTERS
        JMS I NERROR  /CHECK NON-ERROR HANDLER
        JMS I ERROR   /ERROR: AC OR ENABLE REGISTER FAILED.
        4464          /TST64 ERROR MESSAGE
        TST64        /SCOPE LOOP
    
```

/DOES ENABLE REGISTER SURVIVE COMPLEMENT PATTERN.
/DO ALL COMBINATIONS.

```

/
TST65,  CLA CLL CMA   /AC TO 7777
        DCA SEND     /SAVE OUTPUT FOR ERROR PRINTER
        TAD REGA     /GET AC NUMBER
        JMS I XIOTF1  /IOT 6132, CLOE
        CMA          /COMPLEMENT THE AC
        JMS I XIOTF1  /IOT 6132, CLOE
        JMS I XIOTH   /IOT 6134, CLEN
        JMS I XSNDRV  /CHECK SEND AND RECEV REGISTERS
        JMS I NERROR  /CHECK NON-ERROR HANDLER
        JMS I ERROR   /ERROR: AC OR ENABLE REGISTER FAILED.
        4465          /TST65 ERROR MESSAGE
        TST65        /SCOPE LOOP
    
```

/DOES ENABLE REGISTER SURVIVE RANDOM PATTERN ?

```

/
TST66,  JMS I RANDY   /GET RANDOM NUMBER
        JMS I XIOTF   /IOT 6132, CLOE
        CLA CLL       /CLEAR THE AC AND LINK
        JMS I XIOTH   /IOT 6134, CLEN
        JMS I XSNDRV  /CHECK SEND AND RECEV REGISTERS
        JMS I NERROR  /CHECK NON-ERROR HANDLER
        JMS I ERROR   /ERROR: ENABLE REGISTER FAILED
        4466          /TST66 ERROR MESSAGE
        TST66        /SCOPE LOOP
    
```

/DOES ENABLE REGISTER SURVIVE RANDOM COMPLEMENT PATTERN ?

```

/
TST67,  CLA CLL CMA   /AC TO 7777
        DCA SEND     /SAVE OUTPUT FOR ERROR PRINTER
        JMS I RANDY   /GET RANDOM NUMBER
        JMS I XIOTF1  /IOT 6132, CLOE
        CMA          /COMPLEMENT AC
        JMS I XIOTF1  /IOT 6132, CLOE
        JMS I XIOTH   /IOT 6134, CLEN
        JMS I XSNDRV  /CHECK SEND AND RECEV REGISTERS
        JMS I NERROR  /CHECK NON-ERROR HANDLER
        JMS I ERROR   /ERROR: ENABLE REGISTER FAILED
        4467          /TST67 ERROR MESSAGE
        TST67        /SCOPE LOOP
    
```

/DOES READING ENABLE REGISTER CHANGE ITS CONTENTS ?

```

/
1316 7340 TST70, CLA CLL CMA /AC TO 7777
1317 3040 DCA REGA
1320 1016 TAD K2525 /GET AC NUMBR
1321 4425 JMS I XIOTF /IOT 6132, CLOE
1322 7340 T70B, CLA CLL CMA /AC TO 7777
1323 4430 JMS I XIOTH /IOT 6134, CLEN
1324 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1325 7610 SKP CLA
1326 5332 JMP T70A
1327 2041 IS2 REGB /UPDATE COUNTER
1330 5322 JMP T70B /DO 4096 TIMES
1331 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1332 4473 T70A, JMS I ERROR /ERROR: ENABLE REGISTER FAILED
1333 4470 4470 /TST70 ERROR MESSAGE
1334 1316 TST70 /SCOPE LOOP

```

/DOES READING ENABLE REGISTER CHANGE TIS CONTENTS ?

```

/
1335 7340 TST71, CLA CLL CMA /AC TO 7777
1336 3040 DCA REGA
1337 1017 TAD K5252 /GET AC NUMBER
1340 4425 JMS I XIOTF /IOT 6132, CLOE
1341 7300 T71B, CLA CLL /CLEAR THE AC AND LINK
1342 4430 JMS I XIOTH /IOT 6134, CLEN
1343 4456 JMS I XSNDRV /CHECK SEND RECEV REGISTERS
1344 7610 SKP CLA
1345 5351 JMP T71A
1346 2041 IS2 REGB /UPDATE COUNTER
1347 5341 JMP T71B /DO 4096 TIMES
1350 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1351 4473 T71A, JMS I ERROR /ERROR: ENABLE REGISTER FAILED
1352 4471 4471 /TST71 ERROR MESSAGE
1353 1335 TST71 /SCOPE LOOP

```

/DOES ENABLE REGISTER SURVIVE FAST TOGGLE ?

```

/
1354 1040 TST72, TAD REGA /GET AC NUMBER
1355 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
1356 1040 TAD REGA
1357 4434 JMS I XIOTS /IOT'S 6132 AND 6134
1360 3071 DCA RECEV /SAVE INPUT FOR ERROR PRINTER
1361 1071 TAD RECEV
1362 4456 JMS I XSNDRV /CHECK SEND RECEV REGISTERS
1363 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1364 4473 JMS I ERROR /ERROR: ENABLE REGISTER FAILED
1365 4472 4472 /TST72 ERROR MESSAGE
1366 1354 TST72 /SCOPE LOOP

```

/DOES CLZE CLEAR ENABLE REGISTER?

```

/
1367 7340 TST73, CLA CLL CMA /AC TO 7777
1370 4426 JMS I XIOTF1 /IOT 6132, CLOE
1371 7340 CLA CLL CMA

```

```

1372 4423 JMS I XIOTD /IOT 6130, CLZE
1373 7300 CLA CLL /CLEAR THE AC AND LINK
1374 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
1375 7340 CLA CLL CMA /AC TO 7777
1376 4430 JMS I XIOTH /IOT 6134, CLEN
1377 7650 SNA CLA /WAS REGISTER ALL 0'S
1400 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1401 4473 JMS I ERROR /ERROR:CLZE OR CLEN FAILED.
1402 4473 4473 /TST73 ERROR MESSAGE
1403 1367 TST73 /SCOPE LOOP

```

/ DOES CLZE CLEAR ENABLE REGISTER?

```

1404 7340 TST74, CLA CLL CMA /AC TO 7777
1405 4425 JMS I XIOTF /IOT 6132, CLOE
1406 7300 CLA CLL
1407 4423 JMS I XIOTD /IOT 6130, CLZE
1410 7340 CLA CLL CMA /AC TO 7777
1411 3070 DCA SEND /SAVE OUTPUT ERROR PRINTER
1412 4430 JMS I XIOTH /IOT 6134, CLEN
1413 7040 CMA /COMPLEMENT AC
1414 7650 SNA CLA /WAS REGISTER ALL 0'S?
1415 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1416 4473 JMS I ERROR /ERROR:CLZE OR CLEN FAILED.
1417 4474 4474 /TST74 ERROR MESSAGE
1420 1424 TST74 /SCOPE LOOP

```

/ DOES CLZE CLEAR ENABLE REGISTER?

```

1421 1016 TST75, TAD K2525
1422 4425 JMS I XIOTF /IOT 6132,CLOE
1423 7040 CMA /COMPLEMENT THE AC
1424 4423 JMS I XIOTD /IOT 6130, CLZE
1425 7040 CMA /COMPLEMENT AC
1426 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
1427 4430 JMS I XIOTH /IOT 6134, CLEN
1430 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1431 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1432 4473 JMS I ERROR /ERROR:CLZE,CLOE, OR CLEN FAILED
1433 4475 4475 /TST75 ERROR MESSAGE
1434 1421 TST75 /SCOPE LOOP

```

/ DOES CLZE CLEAR ENABLE REGISTER ?

```

1435 1017 TST76, TAD K2525 /GET AC NUMBER
1436 4425 JMS I XIOTF /IOT 6132, CLOE
1437 7040 CMA /COMPLEMENT AC
1440 4423 JMS I XIOTD /IOT 6130, CLZE
1441 7040 CMA /COMPLEMENT AC
1442 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
1443 4430 JMS I XIOTH /IOT 6134, CLEN
1444 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1445 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1446 4473 JMS I ERROR /ERROR: ENABLE REGISTER FAILED
1447 4476 4476 /TST76 ERROR MESSAGE

```

1450 1435 TST76 /SCOPE LOOP

/DOES CLZE CLEAR ENABLE REGISTER?
/CHECK ALL COMBINATIONS

1451 1040 TST77, TAD REGA /GET AC NUMBER
 1452 4425 JMS I XIOTF /IOT 6132, CLOE
 1453 4423 JMS I XIOTD /IOT 6130, CLZE
 1454 7300 CLA CLL /CLEAR THE AC AND LINK
 1455 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
 1456 7340 CLA CLL CMA /AC TO ALL 1'S
 1457 4430 JMS I XIOTH /IOT 6134, CLEN
 1460 7650 SNA CLA /WAS REGISTER ALL 0'S?
 1461 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 1462 4473 JMS I ERROR /ERROR:CLZE,CLOE, OR CLEN FAILED
 1463 4477 4477 /TST77 ERROR MESSAGE
 1464 1451 TST77 /SCOPE LOOP

/DOES CLZE CLEAR ENABLE REGISTER?
/DO ALL COMBINATIONS

1465 1040 TST100, TAD REGA /GET AC NUMBER
 1466 4425 JMS I XIOTF /IOT 6132, CLOE
 1467 7040 CMA /COMPLEMENT THE AC
 1470 4423 JMS I XIOTD /IOT 6130, CLZE
 1471 7040 CMA /COMPLEMENT THE AC
 1472 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
 1473 4430 JMS I XIOTH /IOT 6134, CLEN
 1474 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 1475 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 1476 4473 JMS I ERROR /ERROR:CLZE, CLOE, OR CLEN FAILED
 1477 4500 4500 /TST100 ERROR MESSAGE
 1500 1465 TST100 /SCOPE LOOP

/DOES CLZE SURVIVE RANDOM PATTERN ?

1501 4455 TST101, JMS I RANDY /GET RANDOM NUMBER
 1502 4425 JMS I XIOTF /IOT 6132, CLOE
 1503 4423 JMS I XIOTD /IOT 6130, CLZE
 1504 7300 CLA CLL /CLEAR THE AC AND LINK
 1505 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
 1506 4430 JMS I XIOTH /IOT 6134, CLEN
 1507 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 1510 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 1511 4473 JMS I ERROR /ERROR: ENABLE REGISTER FAILED
 1512 4501 4501 /TST101 ERROR MESSAGE
 1513 1501 TST101 /SCOPE LOOP

/DOES CLZE SURVIVE RANDOM COMPLEMENT PATTERN ?

1514 4455 TST102, JMS I RANDY /GET RANDOM NUMBER
 1515 4425 JMS I XIOTF /IOT 6132, CLOE
 1516 7040 CMA /COMPLEMENT AC


```

1517 4423 JMS I XIOTD /IOT 6130, CLZE
1520 7040 CMA /COMPLEMENT AC
1521 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
1522 4430 JMS I XIOTH /IOT 6134, CLEN
1523 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1524 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1525 4473 JMS I ERROR /ERROR: ENABLE REGISTER FAILED
1526 4502 4502 /TST102 ERROR MESSAGE
1527 1514 TST102 /SCOPE LOOP

```

/

/DOES CLZE SURVIVE FAST TOGGLE ?

/

```

1530 1040 TST103, TAD REGA /GET AC NUMBER
1531 4425 JMS I XIOTF /IOT 6132, CLOE
1532 4437 JMS I XIOTSG /IOT'S 6130 AND 6134
1533 3071 DCA RECEV /SAVE INPUT FOR ERROR PRINTER
1534 1071 TAD RECEV
1535 4456 JMS I XSNDRV /CHECK SEND RECEV REGISTERS
1536 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1537 4473 JMS I ERROR /ERROR: ENABLE REGISTER FAILED
1540 4503 4503 /TST103 ERROR MESSAGE
1541 1530 TST103 /SCOPE LOOP

```

/

/DOES AC TRANSFER TO BUFFER THEN TO COUNTER ?

/

```

1542 4427 TST104, JMS I XIOTG /IOT 6133, CLAH
1543 7340 CLA CLL CMA /AC TO ALL 1'S
1544 4433 JMS I XIOTK /IOT 6137, CLCA
1545 7650 SNA CLA /WAS COUNTER ALL 0'S?
1546 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1547 4473 JMS I ERROR /ERROR: CLAH OR CLCA FAILED
1550 4104 4104 /TST104 ERROR MESSAGE
1551 1542 TST104 /SCOPE LOOP

```

/

/DOES AC TRANSFER TO BUFFER THEN TO COUNTER?

/

```

1552 7340 TST105, CLA CLL CMA
1553 4427 JMS I XIOTG /IOT 6133, CLAH
1554 4433 JMS I XIOTK /IOT 6137, CLCA
1555 7040 CMA /COMPLEMENT THE AC
1556 7650 SNA CLA /WAS COUNTER ALL 1'S?
1557 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1560 4473 JMS I ERROR /ERROR: CLAH OR CLCA FAILED
1561 4105 4105 /TST105 ERROR MESSAGE
1562 1552 TST105 /SCOPE LOOP

```

/

/DOES COUNTER SURVIVE PATTERN 2525 ?

/

```

1563 1016 TST106, TAD K2525 /GET AC NUMBER
1564 4427 JMS I XIOTG /IOT 6133, CLAH
1565 7300 CLA CLL /CLEAR THE AC AND LINK
1566 4433 JMS I XIOTK /IOT 6137, CLCA
1567 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
1570 4472 JMS I NERROR /CHECK NON-ERROR HANDLER

```

1571	4473	JMS I ERROR	/ERROR: COUNTER FAILED
1572	4126	4106	/TST106 ERROR MESSAGE
1573	1503	TST106	/SCOPE LOOP

/ DOES COUNTER SURVIVE PATTERN 5252 ?

1574	1017	TST107, TAD K5252	/GET AC NUMBER
1575	4427	JMS I XIOTG	/IOT 6133, CLAB
1576	7340	CLA CLL CMA	/AC TO ALL 7777
1577	4433	JMS I XIOTK	/IOT 6137, CLCA
1600	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1601	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1602	4473	JMS I ERROR	/ERROR: COUNTER FAILED
1603	4127	4107	/TST107 ERROR MESSAGE
1604	1574	TST107	/SCOPE LOOP

/ DOES AC TRANSFER TO BUFFER THEN TO COUNTER?
/CHECK ALL COMBINATIONS

1605	1040	TST110, TAD REGA	
1606	4427	JMS I XIOTG	/IOT 6133, CLAB
1607	7040	CMA	/COMPLEMENT THE AC
1610	4433	JMS I XIOTK	/IOT 6137, CLCA
1611	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1612	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1613	4473	JMS I ERROR	/ERROR: CLAB OR CLCA FAILED
1614	4110	4110	/TST110 ERROR MESSAGE
1615	1605	TST110	/SCOPE LOOP

/ DOES COUNTER SURVIVE FAST TOGGLE?

1616	1040	TST111, TAD REGA	/GET AC NUMBER
1617	3070	DCA SEND	/SAVE OUTPUT FOR ERROR PRINTER
1620	1070	TAD SEND	
1621	4436	JMS I XIOTS2	/IOT 6133 AND 6137
1622	3071	DCA RECEV	/SAVE INPUT FOR ERROR PRINTER
1623	1071	TAD RECEV	
1624	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1625	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1626	4473	JMS I ERROR	/ERROR:CLAB OR CLCA FAILED
1627	4111	4111	/TST111 ERROR MESSAGE
1630	1616	TST111	/SCOPE LOOP

/ DOES CAF AFFECT COUNTER ?

1631	1040	TST112, TAD REGA	/GET AC NUMBER
1632	4427	JMS I XIOTG	/IOT 6133, CLAB
1633	0007	6007	/CAF OR CLEAR THE WORLD
1634	4433	JMS I XIOTK	/IOT 6137, CLCA
1635	4456	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
1636	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
1637	4473	JMS I ERROR	/ERROR: CLAB OR CLCA FAILED.
1640	4112	4112	/TST112 ERROR MESSAGE

1641 1631 TST112 /SCOPE LOOP

/
/DOES READING COUNTER CHANGE ITS CONTENTS?
/PATTERN 2525.
/

1642 7340 TST113, CLA CLL CMA /AC TO 7777
 1643 3040 DCA REGA
 1644 1016 TAD K2525
 1645 4427 JMS I XIOTG /IOT 6133, CLAB
 1646 4433 T113B, JMS I XIOTK /IOT 6137, CLCA
 1647 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 1650 7410 SKP
 1651 5255 JMP T113A
 1652 2041 ISZ REGB
 1653 5246 JMP T113B
 1654 4472 JMS I NERROR /CHECK NON-ERROR
 1655 4473 T113A, JMS I ERROR /ERROR: CLAR OR CLCA FAILED
 1656 4113 4113 /TST113 ERROR MESSAGE
 1657 1642 TST113 /SCOPE LOOP

/
/DOES READING COUNTER CHANGE ITS CONTENTS?
/PATTERN 5252
/

1660 7340 TST114, CLA CLL CMA /AC TO 7777
 1661 3040 DCA REGA
 1662 1017 TAD K5252
 1663 4427 JMS I XIOTG /IOT 6133, CLAB
 1664 4433 T114B, JMS I XIOTK /IOT 6137, CLCA
 1665 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 1666 7410 SKP
 1667 5273 JMP T114A
 1670 2041 ISZ REGB
 1671 5264 JMP T114B
 1672 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 1673 4473 T114A, JMS I ERROR /ERROR: COUNTER FAILED
 1674 4114 4114 /TST114 ERROR MESSAGE
 1675 1660 TST114 /SCOPE LOOP

/
/DOES COUNTER SURVIVE RANDOM PATTERN ?
/

1676 4455 TST115, JMS I RANDY /GET RANDOM NUMBER
 1677 4427 JMS I XIOTG /IOT 6133, CLAB
 1700 7340 CLA CLL CMA
 1701 4433 JMS I XIOTK /IOT 6137, CLCA
 1702 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 1703 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 1704 4473 JMS I ERROR /ERROR: COUNTER FAILED
 1705 4115 4115 /TST115 ERROR MESSAGE
 1706 1676 TST115 /SCOPE LOOP

/
/TEST FOR NO INT. RQST.
/

1707 7340 TST116, CLA CLL CMA /AC TO 7777

```

1710 4427 JMS I XIOTG /IOT 6133, CLAB
1711 3040 DCA REGA
1712 1142 TAD K0010
1713 1147 TAD K0600 /GET ENABLES
1714 4425 JMS I XIOTF /IOT 6132, CLOE
1715 4447 JMS I XPIG01 /GO TO PI, NO PI EXPECTED
1716 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1717 4473 JMS I ERROR /ERROR: INT. ROST. FAILED
1720 1116 1116 /TST116, ERROR MESSAGE
1721 1707 TST116 /SCOPE LOOP

/
/DOES CLSK SKIP ON CLOCK OVERFLOW?
/SKIP EXPECTED, MODE 0, RATE 6
/
1722 7340 TST117, CLA CLL CMA /AC TO 7777
1723 4427 JMS I XIOTG /IOT 6133, CLAB
1724 7300 CLA CLL /CLEAR THE AC AND LINK
1725 1147 TAD K0600 /GET RATE 6
1726 4425 JMS I XIOTF /IOT 6132, CLOE
1727 4424 JMS I XIOTE /IOT 6131, CLSK
1730 7410 SKP
1731 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1732 4473 JMS I ERROR /ERROR: CLSK OR OVERFLOW FAILED
1733 0517 0517 /TST117 ERROR MESSAGE
1734 1722 TST117 /SCOPE LOOP

/
/DOES OVERFLOW REMAIN SET ?
/
1735 7340 TST120, CLA CLL CMA
1736 4427 JMS I XIOTG /IOT 6133, CLAB
1737 3040 DCA REGA
1740 1147 TAD K0600 /GET ENABLES
1741 4425 JMS I XIOTF /IOT 6132, CLOE
1742 4424 JMS I XIOTE /IOT 6131, CLSK
1743 5351 JMP T120A
1744 2041 ISZ REGB
1745 5344 JMP .-1 /WAIT ABOUT 15 MS
1746 4424 JMS I XIOTE /IOT 6131, CLSK
1747 7410 SKP
1750 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
1751 4473 T120A, JMS I ERROR /ERROR: CLSK OR OVERFLOW FAILED
1752 0520 0520 /TST120 ERROR MESSAGE
1753 1735 TST120 /SCOPE LOOP

/
/DOES CAF CLEAR THAT FLAG ?
/
1754 7340 TST121, CLA CLL CMA
1755 4427 JMS I XIOTG /IOT 6133, CLAB
1756 3040 DCA REGA
1757 1147 TAD K0600 /GET ENABLES
1760 4425 JMS I XIOTF /IOT 6132, CLOE
1761 4424 JMS I XIOTE /IOT 6131, CLSK
1762 5361 JMP .-1
1763 6007 6007 /CAF OR CLEAR THE WORLD
1764 4424 JMS I XIOTE /IOT 6131, CLSK

```

1765 4472
 1766 4473
 1767 0121
 1770 1754

T121A, JMS I NERROR /CHECK NON-ERROR HANDLER
 JMS I ERROR /ERROR: CAF OR OVERFLOW FAILED
 0121 /TST121 ERROR MESSAGE
 TST121 /SCOPE LOOP

/DOES CLSK SKIP ON OVERFLOW ?
 /SKIP EXPECTED, RATE 2-6, MODE 0

1771 1131
 1772 3041
 1773 1015
 1774 3044
 1775 7340
 1776 4427
 1777 3040
 2000 1044
 2001 4425
 2002 2043
 2003 5202
 2004 4424
 2005 5214
 2006 1013
 2007 3044
 2010 6007
 2011 2041
 2012 5571
 2013 4472
 2014 4473
 2015 0522
 2016 1771

TST122, TAD K7773
 DCA REGB
 TAD K0200
 DCA REGE
 T122B, CLA CLL CMA /AC TO 7777
 JMS I XIOTG /IOT 6133, CLAB
 DCA REGA
 TAD REGE /GET ENABLES
 JMS I XIOTF /IOT 6132, CLOE
 ISZ REGD
 JMP .-1 /WAIT
 JMS I XIOTE /IOT 6131, CLSK
 JMP T122A /NO OVERFLOW FOUND
 TAD K0100
 DCA REGE /UPDATE CLOCK RATE
 6007 /CAF OR CLEAR THE WORLD
 ISZ REGB
 JMP I XCRS1
 JMS I NERROR /CHECK NON-ERROR HANDLER
 T122A, JMS I ERROR /ERROR: CLSK OR OVERFLOW FAILED
 0522 /TST122 ERROR MESSAGE
 TST122 /SCOPE LOOP

/DOES CLSK SKIP ON OVERFLOW ?
 /SKIP EXPECTED, RATE 2-6, MODE 1

2017 1131
 2020 3041
 2021 1144
 2022 1015
 2023 3044
 2024 7340
 2025 4427
 2026 3040
 2027 1044
 2030 4425
 2031 2043
 2032 5231
 2033 4424
 2034 5243
 2035 1013
 2036 3044
 2037 6007
 2040 2041
 2041 5224
 2042 4472
 2043 4473

TST123, TAD K7773
 DCA REGB
 TAD K1000
 TAD K0200
 DCA REGE
 T123B, CLA CLL CMA /AC TO 7777
 JMS I XIOTG /IOT 6133, CLAB
 DCA REGA
 TAD REGE /GET ENABLES
 JMS I XIOTF /IOT 6132, CLOE
 ISZ REGD
 JMP .-1 /WAIT
 JMS I XIOTE /IOT 6131, CLSK
 JMP T123A /NO OVERFLOW FOUND
 TAD K0100
 DCA REGE /UPDATE CLCOK RATE
 6007 /CAF OR CLEAR THE WORLD
 ISZ REGB
 JMP T123B /DO RATES 2-6
 JMS I NERROR /CHECK NON-ERROR HANDLER
 T123A, JMS I ERROR /ERROR: CLSK OR OVERFLOW FAILED

2044 0523 0523 /TST123 ERROR MESSAGE
2045 2017 TST123 /SCOPE LOOP

/DOES CLSK SKIP ON OVERFLOW ?
/SKIP EXPECTED, MODE 2, RATE 2-6

2046 1131 TST124, TAD K7773
2047 3041 DCA REGB
2050 1143 TAD K2000
2051 1015 TAD K0200 /MAKE ENABLES
2052 3044 DCA REGE
2053 7340 T124B, CLA CLL CMA
2054 4427 JMS I XIOTG /IOT 6133, CLAB
2055 3040 DCA REGA
2056 1044 TAD REGE /GET ENABLES
2057 4425 JMS I XIOTF /IOT 6132, CLOE
2060 2043 ISZ REGD
2061 5260 JMP ,-1 /WAIT ABOUT 15 MS
2062 4424 JMS I XIOTE /IOT 6131, CLSK
2063 5272 JMP T124A
2064 1013 TAD K0100 /UPDATE RATE
2065 3044 DCA REGE
2066 6007 /CAF OR CLEAR THE WORLD
2067 2041 ISZ REGB
2070 5253 JMP T124B /DO RATES 2-6
2071 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2072 4473 T124A, JMS I ERROR /ERROR! CLSK OR OVERFLOW FAILED
2073 0524 0524 /TST124 ERROR MESSAGE
2074 2046 TST124 /SCOPE LOOP

/DOES CLSK SKIP ON OVERFLOW ?
/SKIP EXPECTED, RATE 2-6, MODE 3

2075 1131 TST125, TAD K7773
2076 3041 DCA REGB
2077 1120 TAD K3000
2100 1015 TAD K0200 /MAKE ENABLES
2101 3044 DCA REGE /SAVE ENABLES
2102 7340 T125B, CLA CLL CMA
2103 4427 JMS I XIOTG /IOT 6133, CLAB
2104 3040 DCA REGA
2105 1044 TAD REGE /GET ENABLES
2106 4425 JMS I XIOTF /IOT 6132, CLOE
2107 2043 ISZ REGD
2110 5307 JMP ,-1 /WAIT ABOUT 15 MS
2111 4424 JMS I XIOTE /IOT 6131, CLSK
2112 5320 JMP T125A
2113 1013 TAD K0100 /UPDATE RATE
2114 3044 DCA REGE
2115 2041 ISZ REGB
2116 5302 JMP T125B /DO RATES 2-6
2117 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2120 4473 T125A, JMS I ERROR /ERROR! CLSK OR OVERFLOW FAILED
2121 0525 0525 /TST125 ERROR MESSAGE
2122 2075 TST125 /SCOPE LOOP

/
 /DOES CLSK SKIP ON OVERFLOW ?
 /NO SKIP EXPECTED, RATE 0-7, MODE 0, DISABLE BIT 7

```

2123 1122 TST126, TAD K7770
2124 3043          DCA REGD
2125 7340 T126B, CLA CLL CMA      /AC TO 7777
2126 4427          JMS I XIOTG      /IOT 6133, CLAB
2127 3040          DCA REGA
2130 1140          TAD K0020
2131 1041          TAD REGB      /GET ENABLES
2132 4425          JMS I XIOTF      /IOT 6132, CLOE
2133 2042          ISZ REGC
2134 5333          JMP ,-1      /WAIT
2135 4424          JMS I XIOTE      /IOT 6131, CLSK
2136 7410          SKP
2137 9347          JMP T126A      /OVERFLOW FOUND
2140 0150          AND K0700      /MASK BITS 3-5
2141 1013          TAD K0100
2142 3041          DCA REGB      /UPDATE RATE
2143 6007          6007      /CAF OR CLEAR THE WORLD
2144 2043          ISZ REGD
2145 9325          JMP T126B      /DO RATES 0-7
2146 4472          JMS I NERROR      /CHECK NON-ERROR HANDLER
2147 4473 T126A, JMS I ERROR      /ERROR! CLSK OR OVERFLOW FAILED
2150 0126          0126      /TST126 ERROR MESSAGE
2151 2123          TST126      /SCOPE LOOP

```

/
 /DOES CLSK SKIP ON OVERFLOW ?
 /NO SKIP EXPECTED, RATE 0,1,7 MODE 0

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2152 7340 TST127, CLA CLL CMA
2153 4427          JMS I XIOTG      /IOT 6133, CLAB
2154 3040          DCA REGA
2155 4425          JMS I XIOTF      /IOT 6132, CLOE
2156 2041          ISZ REGB
2157 9356          JMP ,-1      /WAIT ABOUT 15 MS
2160 4424          JMS I XIOTE      /IOT 6131, CLSK
2161 7410          SKP
2162 5572          JMP I XCRS2
2163 1013          TAD K0100      /UPDATE ENABLE
2164 4426          JMS I XIOTF1      /IOT 6132, CLOE
2165 2042          ISZ REGC
2166 5365          JMP ,-1      /WAIT ABOUT 15 MS
2167 4424          JMS I XIOTE      /IOT 6131, CLSK
2170 7410          SKP
2171 5572          JMP I XCRS2
2172 1147          TAD K0600      /UPDATE ENABLE
2173 4426          JMS I XIOTF1      /IOT 6132, CLOE
2174 2043          ISZ REGD
2175 5374          JMP ,-1      /WAIT ABOUT 15 MS
2176 4424          JMS I XIOTE      /IOT 6131, CLSK
2177 4472          JMS I NERROR      /CHECK NON-ERROR HANDLER
2200 4473 T127A, JMS I ERROR      /ERROR! CLSK OR OVERFLOW FAILED
2201 0127          0127      /TST127 ERROR MESSAGE

```

2202 2152

TST127 /SCOPE LOOP

/DOES CLSA READ OVERFLOW BIT ?

2203 7340

TST130, CLA CLL CMA

2204 4427

JMS I XIOTG /IOT 6132, CLOE

2205 7330

CLA CLL CML RAR /AC TO 4000

2206 3070

DCA SEND /SAVE OUTPUT FOR ERROR PRINTER

2207 7313

CLA CLL IAC RTR /AC TO 4000

2210 1147

TAD K0600 /GET ENABLE

2211 4426

JMS I XIOTF1

2212 4424

JMS I XIOTE /IOT 6131, CLSK

2213 5212

JMP .-1

2214 7350

CLA CLL CMA RAR /AC TO 3777

2215 4431

JMS I XIOTI /IOT 6135, CLSA

2216 4456

JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS

2217 4472

JMS I NERROR /CHECK NON-ERROR HANDLER

2220 4473

T130A, JMS I ERROR /ERROR! CLSI OR OVERFLOW FAILED

2221 5130

5130 /TST130 ERROR MESSAGE

2222 2203

TST130 /SCOPE LOOP

/DOES CLSA CLEAR OVERFLOW FLOP ?

2223 7340

TST131, CLA CLL CMA /AC TO 7777

2224 4427

JMS I XIOTG /IOT 6133, CLAB

2225 7313

CLA CLL IAC RTR /AC TO 4000

2226 1147

TAD K0600 /GET ENABLE

2227 4426

JMS I XIOTF1 /IOT 6132, CLOE

2230 4424

JMS I XIOTE /IOT 6131, CLSK

2231 5230

JMP .-1

2232 7350

CLA CLL CMA RAR /AC TO 3777

2233 4431

JMS I XIOTI /IOT 6135, CLSA

2234 7300

CLA CLL /CLEAR AC AND LINK

2235 3070

DCA SEND /SAVE OUTPUT FOR ERROR PRINTER

2236 7340

CLA CLL CMA /AC TO 7777

2237 4431

JMS I XIOTI /IOT 6135, CLSA

2240 7650

SNA CLA /WAS STATUS REGISTER ALL 0'S ?

2241 4472

JMS I NERROR /CHECK NON-ERROR HANDLER

2242 4473

JMS I ERROR /ERROR! CLSA OR OVERFLOW FAILED

2243 5131

5131 /TST131 ERROR MESSAGE

2244 2223

TST131 /SCOPE LOOP

/DOES CLSA READ OVERFLOW BIT ?

2245 7340

TST132, CLA CLL CMA

2246 4427

JMS I XIOTG /IOT 6133, CLAB

2247 7300

CLA CLL

2250 3070

DCA SEND /SAVE OUTPUT FOR ERROR PRINTER

2251 1147

TAD K0600 /GET ENABLES

2252 4426

JMS I XIOTF1 /IOT 6132, CLOE

2253 4424

JMS I XIOTE /IOT 6131, CLSK

2254 5253

JMP .-1

2255 7344

CLA CLL CMA RAL /AC TO 3777

2256 4431

JMS I XIOTI /IOT 6135, CLSA

2257 7650

SNA CLA /WAS STATUS 0 ?


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2260 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2261 4473 JMS I ERROR /ERROR: CLSA OR STATUS FAILED
2262 5132 5132 /TST132 ERROR MESSAGE
2263 2245 TST132 /SCOPE LOOP
/
/DOES BUFFER TO COUNTER ON OVERFLOW ?
/MODE 1, RATE 2
/
2264 7340 TST133, CLA CLL CMA
2265 4427 JMS I XIOTG /IOT 6133, CLAB
2266 3040 DCA REGA
2267 7313 CLA CLL IAC RTR /AC TO 4000
2270 1116 TAD K0400
2271 1144 TAD K1000 /GET ENABLES
2272 4426 JMS I XIOTF1 /IOT 6132, CLOE
2273 4424 T133B, JMS I XIOTE /IOT 6131, CLSK
2274 5273 JMP ,-1 /WAIT FOR FLAG
2275 7300 CLA CLL /CLEAR THE AC AND LINK
2276 4433 JMS I XIOTK /IOT 6137, CLCA
2277 7040 CMA /FOR TESTING
2300 7440 SZA /WAS COUNTER ALL 1'S ?
2301 5306 JMP T133A
2302 4431 JMS I XIOTI /IOT 6135, CLSA
2303 2041 ISZ REGB
2304 5273 JMP T133B /DO TEST 4096 TIMES
2305 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2306 4473 T133A, JMS I ERROR /ERROR: COUNTER FAILED
2307 4133 4133 /TST133 ERROR MESSAGE
2310 2264 TST133 /SCOPE LOOP
/
/DOES BUFFER TO COUNTER ON OVERFLOW ?
/MODE 1, RATE 4
/
2311 1017 TST134, TAD K5252 /GET AC NUMBER
2312 4427 JMS I XIOTG /IOT 6133, CLAB
2313 7340 CLA CLL CMA /AC TO 7777
2314 3040 DCA REGA
2315 1144 TAD K1000
2316 1116 TAD K0400 /GET ENABLES
2317 4426 JMS I XIOTF1 /IOT 6132, CLOE
2320 4424 JMS I XIOTE /IOT 6131, CLSK
2321 5320 JMP ,-1 /WAIT FOR FLAG
2322 7340 CLA CLL CMA /AC TO 7777
2323 4433 JMS I XIOTK /IOT 6137, CLCA
2324 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
2325 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2326 4473 JMS I ERROR /ERROR: COUNTER FAILED
2327 4134 4134 /TST134 ERROR MESSAGE
2330 2311 TST134 /SCOPE LOOP
/
/DOES BUFFER TO COUNTER ON OVERFLOW ?
/MODE 1, RATE 4
/
2331 1016 TST135, TAD K2525 /GET AC NUMBER
2332 4427 JMS I XIOTG /IOT 6133, CLAB

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2333 7340 CLA CLL CMA /AC TO 7777
2334 3040 DCA REGA
2335 1144 TAD K1000
2336 1116 TAD K0400 /GET ENABLES
2337 4426 JMS I XIOTF1 /IOT 6132, CLOE
2340 4424 JMS I XIOTE /IOT 6131, CLSK
2341 5340 JMP ,-1 /WAIT FOR OVERFLOW
2342 4433 JMS I XIOTK /IOT 6137, CLCA
2343 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
2344 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2345 4473 JMS I ERROR /ERROR: COUNTER FAILED
2346 4135 /TST135 ERROR MESSAGE
2347 2331 TST135 /SCOPE LOOP

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```

/
/DOES BUFFER TO COUNTER ON OVERFLOW ?
/RATE 4, MODE 2
/

```

```

2350 7340 TST136, CLA CLL CMA /AC TO 7777
2351 4427 JMS I XIOTG /IOT 6133, CLAB
2352 3040 DCA REGA
2353 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
2354 1116 TAD K0400
2355 1143 TAD K2000 /GET ENABLES
2356 4426 JMS I XIOTF1 /IOT 6132, CLOE
2357 4424 JMS I XIOTE /IOT 6131, CLSK
2360 5357 JMP ,-1 /WAIT FOR FLAG
2361 4433 JMS I XIOTK /IOT 6137, CLCA
2362 7650 SNA CLA /WAS COUNTER ALL 0'S ?
2363 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2364 4473 JMS I ERROR /ERROR: COUNTER FAILED
2365 4136 /TST136 ERROR MESSAGE
2366 2350 TST136 /SCOPE LOOP

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```

/
/DOES BUFFER TO COUNTER ON OVERFLOW ?
/MODE 3, RATE 4
/

```

```

2367 7340 TST137, CLA CLL CMA
2370 4427 JMS I XIOTG /IOT 6133, CLAB
2371 3040 DCA REGA
2372 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
2373 1116 TAD K0400
2374 1120 TAD K3000 /GET ENABLES
2375 4426 JMS I XIOTF1 /IOT 6132, CLOE
2376 4424 JMS I XIOTE /IOT 6131, CLSK
2377 5376 JMP ,-1 /WAIT FOR OVERFLOW
2400 7340 CLA CLL CMA
2401 4433 JMS I XIOTK /IOT 6137, CLCA
2402 7650 SNA CLA /WAS COUNTER ALL 0'S ?
2403 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2404 4473 JMS I ERROR /ERROR: COUNTER FAILED
2405 4137 /TST137 ERROR MESSAGE
2406 2367 TST137 /SCOPE LOOP

```

```

/
/DOES INT, WITHOUT BIT 8 ?
/

```

```

2407 7340 TST140, CLA CLL CMA
2410 4427 JMS I XIOTG /IOT 6133, CLAB
2411 3040 DCA REGA
2412 7313 CLA CLL IAC RTR /AC TO 4000
2413 1007 TAD K0007
2414 1147 TAD K0600 /GET ENABLES
2415 4425 JMS I XIOTF /IOT 6132, CLOE
2416 4447 JMS I XPIG01 /GO TO PI, NO PI EXPECTED
2417 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2420 4473 JMS I ERROR /ERROR: INT. RQST. OR ENA 0 FAILED
2421 1140 1140 /TST140 ERROR MESSAGE
2422 2407 TST140 /SCOPE LOOP

```

/
/DOES OVERFLOW CAUSE INT. RQST. ?
/RATE 6, MODE 0
/

```

2423 7340 TST141, CLA CLL CMA /AC TO 7777
2424 4427 JMS I XIOTG /IOT 6133, CLAB
2425 7300 CLA CLL /CLEAR THE AC AND LINK
2426 1014 TAD K4000
2427 1142 TAD K0010
2430 1147 TAD K0600 /GET RATE + MODE
2431 4425 JMS I XIOTF /IOT 6132, CLOE
2432 4452 JMS I XPIG04 /GO TO PI, PI EXPECTED
2433 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2434 4473 JMS I ERROR /ERROR: OVERFLOW OR ENA 0 FAILED
2435 1541 1541 /TST141 ERROR MESSAGE
2436 2423 TST141 /SCOPE LOOP

```

/
/DOES INT. RQST. WITHOUT ENA 0 ?
/RATE 6, MODE 0
/

```

2437 7340 TST142, CLA CLL CMA /AC TO 7777
2440 4427 JMS I XIOTG /IOT 6133, CLAB
2441 7300 CLA CLL /CLEAR THE AC AND LINK
2442 1142 TAD K0010
2443 1147 TAD K0600 /GET RATE + MODE
2444 4425 JMS I XIOTF /IOT 6132, CLOE
2445 4451 JMS I XPIG03 /GO TO PI, NO PI EXPECTED
2446 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2447 4473 JMS I ERROR /ERROR: ENA 0 FAILED
2450 1142 1142 /TST142 ERROR MESSAGE
2451 2437 TST142 /SCOPE LOOP

```

/
/DOES COUNTER COUNT ?
/RATE 6, MODE 0
/

```

2452 7340 TST143, CLA CLL CMA /AC TO 7777
2453 3040 DCA REGA
2454 4427 JMS I XIOTG /IOT 6133, CLAB
2455 1014 TAD K4000
2456 1142 TAD K0010
2457 1147 TAD K0600 /GET RATE + MODE
2460 4425 JMS I XIOTF /IOT 6132, CLOE
2461 4450 JMS I XPIG02 /GO TO PI

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2462	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
2463	4473	JMS I ERROR	/ERROR: OVERFLOW OR COUNTER FAILED
2464	1543	1543	/TST143 ERROR MESSAGE
2465	2452	TST143	/SCOPE LOOP

/
/DOES COUNTER COUNT ?
/RATE 6, MODE 1
/

2466	7340	TST144, CLA CMA CLL	
2467	3040	DCA REGA	
2470	4427	JMS I XIOTG	/IOT 6133, CLAB
2471	1121	TAD K5000	
2472	1142	TAD K0010	
2473	1147	TAD K0600	/GET RATE + MODE
2474	4425	JMS I XIOTF	/IOT 6132, CLOE
2475	4450	JMS I XPIG02	/GO TO PI
2476	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
2477	4473	JMS I ERROR	/ERROR: OVERFLOW OR COUNTER FAILED
2500	1544	1544	/TST144 ERROR MESSAGE
2501	2466	TST144	/SCOPE LOOP

/
/DOES COUNTER COUNT ?
/RATE 6, MODE 2
/

2502	7340	TST145, CLA CLL CMA	/AC TO 7777
2503	3040	DCA REGA	
2504	4427	JMS I XIOTG	/IOT 6133, CLAB
2505	1117	TAD K6000	
2506	1142	TAD K0010	
2507	1147	TAD K0600	/GET ENABLES
2510	4425	JMS I XIOTF	/IOT 6132, CLOE
2511	4450	JMS I XPIG02	/GO TO PI, PI EXPECTED
2512	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
2513	4473	JMS I ERROR	/ERROR: OVERFLOW OR COUNTER FAILED
2514	1545	1545	/TST145 ERROR MESSAGE
2515	2502	TST145	/SCOPE LOOP

/
/DOES COUNTER COUNT ?
/RATE 6, MODE 3
/

2516	7340	TST146, CLA CLL CMA	/AC TO 7777
2517	3040	DCA REGA	
2520	4427	JMS I XIOTG	/IOT 6133, CLAB
2521	1141	TAD K7000	
2522	1142	TAD K0010	
2523	1147	TAD K0600	/GET ENABLES
2524	4425	JMS I XIOTF	/IOT 6132, CLOE
2525	4450	JMS I XPIG02	/GO TO PI, PI EXPECTED
2526	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
2527	4473	JMS I ERROR	/ERROR: COUNTER OR MODE 3 FAILED
2530	1546	1546	/TST146 ERROR MESSAGE
2531	2516	TST146	/SCOPE LOOP

/
/DOES OVERFLOW CAUSE ROST. ?
/RATE 2-6, MODE 0

```

/
2532 1131 TST147, TAD K7773
2533 3041          DCA REGB
2534 1014          TAD K4000
2535 1142          TAD K0010
2536 1015          TAD K0200
2537 3044 T147B, DCA REGE          /SET UP ENABLES
2540 7340          CLA CLL CMA      /AC TO 7777
2541 4427          JMS I XIOTG      /IOT 6133, CLAB
2542 3040          DCA REGA
2543 1044          TAD REGE          /GET ENABLES
2544 4425          JMS I XIOTF      /IOT 6132, CLOE
2545 4447          JMS I XPIG01     /GO TO PI, PI EXPECTED
2546 5355          JMP T147A
2547 6007          6007             /CAF OR CLEAR THE WORLD
2550 1013          TAD K0100
2551 1044          TAD REGE
2552 2041          ISZ REGB
2553 5337          JMP T147B          /DO RATES 2-6
2554 4472          JMS I NERROR     /CHECK NON-ERROR HANDLER
2555 4473 T147A, JMS I ERROR       /ERROR: OVERFLOW OR MODE FAILED
2556 1547          1547             /TST147 ERROR MESSAGE
2557 2532          TST147         /SCOPE LOOP

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/
/DOES OVERFLOW CAUSE ROST. ?
/RATE 2-6, MODE 1
/

```

```

2560 1131 TST150, TAD K7773
2561 3041          DCA REGB
2562 1121          TAD K5020
2563 1142          TAD K0010
2564 1015          TAD K0200      /MAKE ENABLES
2565 3044 T150B, DCA REGE
2566 7340          CLA CLL CMA      /AC TO 7777
2567 4427          JMS I XIOTG      /IOT 6133, CLAB
2570 3040          DCA REGA
2571 1044          TAD REGE          /GET ENABLES
2572 4425          JMS I XIOTF      /IOT 6132, CLOE
2573 4447          JMS I XPIG01     /GO TO PI, PI EXPECTED
2574 5573          JMP I XCRS3
2575 6007          6007             /CAF OR CLEAR THE WORLD
2576 1013          TAD K0100
2577 1044          TAD REGE
2600 2041          ISZ REGB
2601 5574          JMP I XCRS4
2602 4472          JMS I NERROR     /CHECK NON-ERROR HANDLER
2603 4473 T150A, JMS I ERROR       /ERROR: OVERFLOW OR MODE FAILED
2604 1550          1550             /TST150 ERROR MESSAGE
2605 2560          TST150         /SCOPE LOOP

```

```

/
/DOES OVERFLOW CAUSE ROST. ?
/RATE 2-6, MODE 2
/

```

```

2606 1131 TST151, TAD K7773
2607 3041          DCA REGB

```

```

2610 1117 TAD K6000
2611 1142 TAD K0010
2612 1015 TAD K0200
2613 3044 T151B, DCA REGE /MAKE ENABLES
2614 7340 CLA CLL CMA /AC TO 7777
2615 4427 JMS I XIOTG /IOT 6133, CLAB
2616 3040 DCA REGA
2617 1044 TAD REGE /GET ENABLES
2620 4425 JMS I XIOTF /IOT 6132, CLDE
2621 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
2622 5231 JMP T151A
2623 6007 6007 /CAF OR CLEAR THE WORLD
2624 1013 TAD K0100
2625 1044 TAD REGE
2626 2041 ISZ REGB
2627 5213 JMP T151B
2630 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2631 4473 T151A, JMS I ERROR /ERROR: OVERFLOW OR MODE FAILED
2632 1551 1551 /TST151 ERROR MESSAGE
2633 2606 TST151 /SCOPE LOOP

```

/
/DOES OVERFLOW CAUSE ROST, ?
/RATE 2-6, MODE 3

```

2634 1131 TST152, TAD K7773
2635 3041 DCA REGE
2636 1141 TAD K7000
2637 1142 TAD K0010
2640 1015 TAD K0200 /MAKE ENABLES
2641 3044 T152B, DCA REGE
2642 7340 CLA CLL CMA /AC TO 7777
2643 4427 JMS I XIOTG /IOT 6133, CLAB
2644 3040 DCA REGA
2645 1044 TAD REGE /GET ENABLES
2646 4425 JMS I XIOTF /IOT 6132, CLDE
2647 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
2650 5257 JMP T152A
2651 6007 6007 /CAF OR CLEAR THE WORLD
2652 1013 TAD K0100
2653 1044 TAD REGE
2654 2041 ISZ REGB
2655 5241 JMP T152B /DO RATES 2-6
2656 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2657 4473 T152A, JMS I ERROR /ERROR: OVERFLOW OR MODE FAILED
2660 1552 1552 /TST152 ERROR MESSAGE
2661 2634 TST152 /SCOPE LOOP

```

/
/DOES OVERFLOW CAUSE ROST, ?
/RATE 0-7, MODE 1, DISABLE BIT 7

```

2662 1142 TST153, TAD K7770
2663 3041 DCA REGB
2664 1141 TAD K5000
2665 1142 TAD K0010
2666 1140 TAD K0020

```

```

2667 3044 T153B, DCA REGE /MAKE ENABLES
2670 7340 CLA CLL CMA /AC TO 7777
2671 4427 JMS I XIOTG /IOT 6133, CLAB
2672 3040 DCA REGA
2673 1044 TAD REGE /GET ENABLES
2674 4425 JMS I XIOTF /IOT 6132, CLOE
2675 4450 JMS I XPIG02 /GO TO PI, NO PI EXPECTED
2676 5305 JMP T153A
2677 6007 6007 /CAF OR CLEAR THE WORLD
2700 1013 TAD K0100
2701 1044 TAD REGE
2702 2041 ISZ REGB
2703 5267 JMP T153B /DO RATE 0-7
2704 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2705 4473 T153A, JMS I ERROR /ERROR: OVERFLOW OR CLK ENA FAILED
2706 1153 1153 /TST153 ERROR MESSAGE
2707 2662 TST153 /SCOPE LOOP

```

```

/
/DOES OVERFLOW CAUSE RQST. ?
/RATE 0-7, MODE 2, DISABLE INT. RQST. BIT
/

```

```

2710 1142 TST154, TAD K7770
2711 3041 DCA REGB
2712 1117 TAD K6000
2713 1142 TAD K0010
2714 1140 TAD K0020
2715 3044 T154B, DCA REGE /MAKE ENABLES
2716 7340 CLA CLL CMA /AC TO 7777
2717 4427 JMS I XIOTG /IOT 6133, CLAB
2720 3040 DCA REGA
2721 1044 TAD REGE /GET ENABLES
2722 4425 JMS I XIOTF /IOT 6132, CLOE
2723 4450 JMS I XPIG02 /GO TO PI, NO PI EXPECTED
2724 5333 JMP T154A
2725 6007 6007 /CAF OR CLEAR THE WORLD
2726 1013 TAD K0100
2727 1044 TAD REGE
2730 2041 ISZ REGB
2731 5315 JMP T154B /DO RATE 0-7
2732 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
2733 4473 T154A, JMS I ERROR /ERROR: OVERFLOW OR CLK ENA FAILED
2734 1154 1154 /TST154 ERROR MESSAGE
2735 2710 TST154 /SCOPE LOOP

```

```

/
/DOES OVERFLOW CAUSE INT. RQST. ?
/MODE 0, RATE 6
/

```

```

2736 7340 TST155, CLA CLL CMA /AC TO 7777
2737 4427 JMS I XIOTG /IOT 6133, CLAB
2740 7330 CLA CLL CML RAR /AC TO 4000
2741 1147 TAD K0600
2742 1142 TAD K0010 /GET ENABLES
2743 4425 JMS I XIOTF /IOT 6132, CLOE
2744 4452 JMS I XPIG04 /GO TO PI, PI EXPECTED
2745 4472 JMS I NERROR /CHECK NON-ERROR HANDLER

```

2746	4473	JMS I ERROR	/ERROR: OVERFLOW OR COUNTER FAILED
2747	1555	1555	/TST155 ERROR MESSAGE
2750	2736	TST155	/SCOPE LOOP

/
/DOES CLSK SKIP THEN INTERRUPT ?
/RATE 6, MODE 0
/

2751	7340	TST156, CLA CLL CMA	/AC TO 7777
2752	4427	JMS I XIOTG	/IOT 6133, CLAR
2753	7330	CLA CLL CML RAR	
2754	1142	TAD K0010	
2755	1147	TAD K0600	/MAKE ENABLES
2756	4425	JMS I XIOTF	/IOT 6132, CLOE
2757	4424	JMS I XIOTE	/IOT 6131, CLSK
2760	5357	JMP .-1	/WAIT FOR OVERFLOW
2761	4452	JMS I XPIG04	/GO TO PI, PI EXPECTED
2762	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
2763	4473	JMS I ERROR	/ERROR: CLSK OR PI FAILED
2764	1556	1556	/TST156 ERROR MESSAGE
2765	2751	TST156	/SCOPE LOOP

/CHECK FOR NO INT. RQST.
/MODE 0, RATE 6, DISABLE WITH CLSA
/

2766	7340	TST157, CLA CLL CMA	/AC TO 7777
2767	4427	JMS I XIOTG	/IOT 6133, CLAR
2770	7330	CLA CLL CML RAR	/AC TO 4000
2771	1147	TAD K0600	
2772	1142	TAD K0010	
2773	4425	JMS I XIOTF	/IOT 6132, CLOE
2774	4424	JMS I XIOTE	/IOT 6131, CLSK
2775	5374	JMP .-1	/WAIT FOR OVERFLOW
2776	4431	JMS I XIOTI	/IOT 6135, CLSA
2777	4451	JMS I XPIG03	/GO TO PI, NO PI EXPECTED
3000	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
3001	4473	JMS I ERROR	/ERROR: INT. RQST. FAILED
3002	1157	1157	/TST157 ERROR MESSAGE
3003	2766	TST157	/SCOPE LOOP

/DOES CLOCK FREQUENCY TIME OUT ?
/RATE 2, MODE 0
/

3004	7340	TST160, CLA CLL CMA	/AC TO 7777
3005	3040	DCA REGA	
3006	1151	TAD KTA	
3007	3076	DCA KREGC	
3010	4427	JMS I XIOTG	/IOT 6133, CLAR
3011	1014	TAD K4000	
3012	1142	TAD K0010	
3013	1015	TAD K0200	/MAKE ENABLES
3014	4425	JMS I XIOTF	/IOT 6132, CLOE
3015	4453	JMS I XPIG05	
3016	7610	SKP CLA	
3017	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
3020	4473	JMS I ERROR	/ERROR: CLOCK FREQUENCY FAST

3021 2160 2160 /TST160 ERROR MESSAGE
 3022 3004 TST160 /SCOPE LOOP

/DOES CLOCK FREQUENCY TIME OUT ?
 /RATE 2, MODE 0

3023 7340 TST161, CLA CLL CMA /AC TO 7777
 3024 3040 DCA REGA
 3025 1152 TAD KTA1
 3026 3076 DCA KREGC
 3027 4427 JMS I XIOTG /IOT 6133, CLAB
 3030 1014 TAD K4000
 3031 1142 TAD K0010
 3032 1015 TAD K0200 /MAKE ENABLES
 3033 4425 JMS I XIOTF /IOT 6132, CLOE
 3034 4453 JMS I XPIG05
 3035 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 3036 4473 JMS I ERROR /ERROR: CLOCK FREQUENCY SLOW
 3037 2561 2561 /TST161 ERROR MESSAGE
 3040 3023 TST161 /SCOPE LOOP

/DOES CLOCK FREQUENCY TIME OUT ?
 /RATE 3, MODE 0

3041 7340 TST162, CLA CLL CMA /AC TO 7777
 3042 3040 DCA REGA
 3043 1153 TAD KTB
 3044 3076 DCA KREGC
 3045 4427 JMS I XIOTG /IOT 6133, CLAB
 3046 1014 TAD K4000
 3047 1142 TAD K0010
 3050 1145 TAD K0300 /MAKE ENABLES
 3051 4425 JMS I XIOTF /IOT 6132, CLOE
 3052 4453 JMS I XPIG05
 3053 7610 SKP CLA
 3054 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 3055 4473 JMS I ERROR /ERROR: CLOCK FREQUENCY FAST
 3056 2162 2162 /TST162 ERROR MESSAGE
 3057 3041 TST162 /SCOPE LOOP

/DOES CLOCK FREQUENCY TIME OUT ?
 /RATE 3, MODE 0

3060 7340 TST163, CLA CLL CMA /AC TO 7777
 3061 3040 DCA REGA
 3062 1154 TAD KTB1
 3063 3076 DCA KREGC
 3064 4427 JMS I XIOTG /IOT 6133, CLAB
 3065 1014 TAD K4000
 3066 1142 TAD K0010
 3067 1145 TAD K0300 /MAKE ENABLES
 3070 4425 JMS I XIOTF /IOT 6132, CLOE
 3071 4453 JMS I XPIG05
 3072 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 3073 4473 JMS I ERROR /ERROR: CLOCK FREQUENCY SLOW

3074 2563 2563 /TST163 ERROR MESSAGE
3075 3060 TST163 /SCOPE LOOP

/
/DOES CLOCK FREQUENCY TIME OUT ?
/RATE 4, MODE 0

/
TST164, CLA CLL CMA /AC TO 7777
DCA REGA
TAD KTC
DCA KREGC
TAD KTC1
DCA REGD /SET TIMER FOR 10000 CPS CLOCK
JMS I XIOTG /IOT 6133, CLAB
TAD K4000
TAD K0010
TAD K0400 /MAKE ENABLES
JMS I XIOTF /IOT 6132, CLOE
JMS I XPIG05
SKP CLA
JMS I NERROR /CHECK NON-ERROR HANDLER
JMS I ERROR /ERROR: CLOCK FREQUENCY FAST
2164 /TST164 ERROR MESSAGE
TST164 /SCOPE LOOP

/
/DOES CLOCK FREQUENCY TIME OUT ?
/RATE 4, MODE 0

/
TST165, CLA CLL CMA /AC TO 7777
DCA REGA
TAD KTC
DCA KREGC
TAD KTC2
DCA REGD /SET TIMER FOR 10000 CLOCK
JMS I XIOTG /IOT 6133, CLAB
TAD K4000
TAD K0010
TAD K0400 /MAKE ENABLES
JMS I XIOTF /IOT 6132, CLOE
JMS I XPIG05
JMS I NERROR /CHECK NON-ERROR HANDLER
JMS I ERROR /ERROR: CLOCK FREQUENCY SLOW
2565 /TST165 ERROR MESSAGE
TST165 /SCOPE LOOP

/
/DOES CLOCK FREQUENCY TIME OUT ?
/RATE 5, MODE 0

/
TST166, CLA CLL CMA /AC TO 7777
DCA REGA
CLA CLL CMA RAR
JMS I XIOTG /IOT 6133, CLAB
CLA CLL /CLEAR THE AC AND LINK
TAD KTD
DCA REGD /SET TIMER FOR 10000 CPS CLOCK
TAD K4000

```

3147 1142 TAD K0010
3150 1146 TAD K0500 /MAKE ENABLES
3151 4425 JMS I XIOTF /IOT 6132, CLOE
3152 4447 JMS I XPIG01
3153 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3154 4473 JMS I ERROR /ERROR: CLOCK FREQUENCY FAST
3155 2166 2166 /TST166 ERROR MESSAGE
3156 3137 TST166 /SCOPE LOOP

```

/
/DOES CLOCK FREQUENCY TIME OUT ?
/RATE 5, MODE 0
/

```

3157 7340 TST167, CLA CLL CMA /AC TO 7777
3160 3040 DCA REGA
3161 7350 CLA CLL CMA RAR
3162 4427 JMS I XIOTG /IOT 6133, CLAB
3163 7300 CLA CLL /CLEAR THE AC AND LINK
3164 1161 TAD KTD1
3165 3043 DCA REGD /SET TIMER FOR 100000 CPS CLOCK
3166 1014 TAD K4000
3167 1142 TAD K0010
3170 1146 TAD K0500 /MAKE ENABLES
3171 4425 JMS I XIOTF /IOT 6132, CLOE
3172 4450 JMS I XPIG02
3173 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3174 4473 JMS I ERROR /ERROR: CLOCK FREQUENCY SLOW
3175 2567 2567 /TST167 ERROR MESSAGE
3176 3157 TST167 /SCOPE LOOP

```

/
/DOES CLOCK FREQUENCY TIME OUT ?
/RATE 6, MODE 0
/

```

3177 7340 TST170, CLA CLL CMA /AC TO 7777
3200 3040 DCA REGA
3201 1162 TAD KTE
3202 3043 DCA REGD /SET TIMER FOR 1000000 CPS CLOCK
3203 4427 JMS I XIOTG /IOT 6133, CLAB
3204 1014 TAD K4000
3205 1142 TAD K0010
3206 1147 TAD K0600 /MAKE ENABLES
3207 4425 JMS I XIOTF /IOT 6132, CLOE
3210 4447 JMS I XPIG01
3211 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3212 4473 JMS I ERROR /ERROR: CLOCK FREQUENCY FAST
3213 2170 2170 /TST170 ERROR MESSAGE
3214 3177 TST170 /SCOPE LOOP

```

/
/DOES CLOCK FREQUENCY TIME OUT ?
/RATE 6, MODE 0
/

```

3215 7340 TST171, CLA CLL CMA /AC TO 7777
3216 3040 DCA REGA
3217 1163 TAD KTE1
3220 3043 DCA REGD /SET TIMER FOR 1000000 CPS CLOCK
3221 4427 JMS I XIOTG /IOT 6133, CLAB

```

```

3222 1014 TAD K4000
3223 1142 TAD K0010
3224 1147 TAD K0600 /MAKE ENABLES
3225 4425 JMS I XIOTF /IOT 6132, CLOE
3226 4450 JMS I XPIG02
3227 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3230 4473 JMS I ERROR /ERROR: CLOCK FREQUENCY SLOW
3231 2571 2571 /TST171 ERROR MESSAGE
3232 3215 TST171 /SCOPE LOOP

```

/
/DOES COUNTER REALLY COUNT ?
/RATE 2, MODE 0
/

```

3233 7340 TST172, CLA CLL CMA /AC TO 7777
3234 4427 JMS I XIOTG /IOT 6133, CLAB
3235 3040 DCA REGA
3236 1015 TAD K0200 /GET RATE + MODE
3237 4426 JMS I XIOTF1 /IOT 6132, CLOE
3240 7300 T172B1, CLA CLL /CLEAR THE AC AND LINK
3241 3042 DCA REGC
3242 1041 TAD REGB
3243 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
3244 4433 T172B, JMS I XIOTK /IOT 6137, CLCA
3245 7041 CIA
3246 1041 TAD REGB /COMPARE TO THIS REGISTER
3247 7650 SNA CLA /ARE THEY THE SAME YET ?
3250 5254 JMP T172A /YES, TEST NEXT NUMBER
3251 2042 ISZ REGC
3252 5244 JMP T172B /WAIT ABOUT 15 MS FOR REGISTER
3253 5257 JMP T172A1 /NUMBER NOT FOUND
3254 2041 T172A, ISZ REGB /UPDATE COMPARE REGISTER
3255 5240 JMP T172B1 /TEST FOR NEXT COUNTER PULSE
3256 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3257 4473 T172A1, JMS I ERROR /ERROR: COUNTER FAILED
3260 4172 4172 /TST172 ERROR MESSAGE
3261 3233 TST172 /SCOPE LOOP

```

/
/DOES COUNTER REALLY COUNT ?
/RATE 3, MODE 0
/

```

3262 7340 TST173, CLA CLL CMA /AC TO 7777
3263 4427 JMS I XIOTG /IOT 6133, CLAB
3264 3040 DCA REGA
3265 1145 TAD K0300 /GET RATE + MODE
3266 4426 JMS I XIOTF1 /IOT 6132, CLOE
3267 7300 T173B1, CLA CLL /CLEAR THE AC AND LINK
3270 3042 DCA REGC
3271 1041 TAD REGB
3272 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
3273 4433 T173B, JMS I XIOTK /IOT 6137, CLCA
3274 7041 CIA
3275 1041 TAD REGB /COMPARE TO THIS REGISTER
3276 7650 SNA CLA /ARE THEY THE SAME YET ?
3277 5303 JMP T173A /YES, TEST NEXT NUMBER
3300 2042 ISZ REGC

```

```

3301 5273          JMP T173B      /WAIT ABOUT 15 MS FOR REGISTER
3302 5306          JMP T173A1     /NUMBER NOT FOUND
3303 2041    T173A, ISZ REGB  /UPDATE COMPARE REGISTER
3304 5267          JMP T173B1     /TEST FOR NEXT COUNTER PULSE
3305 4472          JMS I NERROR /CHECK NON-ERROR HANDLER
3306 4473    T173A1, JMS I ERROR /ERROR: COUNTER FAILED
3307 4173          4173      /TST173 ERROR MESSAGE
3310 3262          TST173     /SCOPE LOOP

```

/
/DOES COUNTER REALLY COUNT ?
/RATE 2, MODE 1
/

```

3311 7340    TST174, CLA CLL CMA      /AC TO 7777
3312 4427          JMS I XIOTG     /IOT 6133, CLAB
3313 3040          DCA REGA
3314 1015          TAD K0200
3315 1144          TAD K1020     /GET RATE + MODE
3316 4426          JMS I XIOTF1    /IOT 6132, CLOE
3317 4424          JMS I XIOTE     /IOT 6131, CLSK
3320 5317          JMP .-1
3321 7300          CLA CLL        /CLEAR THE AC AND LINK
3322 4427          JMS I XIOTG     /IOT 6133, CLAB
3323 3042    T174B1, DCA REGC
3324 1041          TAD REGB
3325 3070          DCA SEND       /SAVE OUTPUT FOR ERROR PRINTER
3326 4433    T174B, JMS I XIOTK    /IOT 6137, CLCA
3327 7041          CIA
3330 1041          TAD REGB      /COMPARE TO THIS REGISTER
3331 7650          SNA CLA        /ARE THEY THE SAME YET ?
3332 5336          JMP T174A     /YES, TEST NEXT NUMBER
3333 2042          ISZ REGC
3334 5326          JMP T174B     /WAIT ABOUT 15 MS FOR REGISTER
3335 5341          JMP T174A1    /NUMBER NOT FOUND
3336 2041    T174A, ISZ REGB  /UPDATE COMPARE REGISTER
3337 5323          JMP T174B1     /TEST FOR NEXT COUNTER PULSE
3340 4472          JMS I NERROR /CHECK NON-ERROR HANDLER
3341 4473    T174A1, JMS I ERROR /ERROR: COUNTER FAILED
3342 4174          4174      /TST174 ERROR MESSAGE
3343 3311          TST174     /SCOPE LOOP

```

/
/DOES COUNTER REALLY COUNT ?
/RATE 4, MODE 1
/

```

3344 7340    TST175, CLA CLL CMA      /AC TO 7777
3345 4427          JMS I XIOTG     /IOT 6133, CLAB
3346 3040          DCA REGA
3347 1116          TAD K0400
3350 1144          TAD K1000     /GET RATE + MODE
3351 4426          JMS I XIOTF1    /IOT 6132, CLOE
3352 4424          JMS I XIOTE     /IOT 6131, CLSK
3353 5352          JMP .-1
3354 7300          CLA CLL        /CLEAR THE AC AND LINK
3355 4427          JMS I XIOTG     /IOT 6133, CLAB
3356 3042    T175B1, DCA REGC
3357 1041          TAD REGB

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3360 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
3361 4433 T175B, JMS I XIOTK /IOT 6137, CLCA
3362 7041 CIA
3363 1041 TAD REGB /COMPARE TO THIS REGISTER
3364 7650 SNA CLA /ARE THEY THE SAME YET ?
3365 5371 JMP T175A /YES, TEST NEXT NUMBER
3366 2042 ISZ REGC
3367 5361 JMP T175B /WAIT ABOUT 15 MS FOR REGISTER
3370 5374 JMP T175A1 /NUMBER NOT FOUND
3371 2041 T175A, ISZ REGB /UPDATE COMPARE REGISTER
3372 5356 JMP T175B1 /TEST FOR NEXT COUNTER PULSE
3373 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3374 4473 T175A1, JMS I ERROR /ERROR: COUNTER FAILED
3375 4175 4175 /TST175 ERROR MESSAGE
3376 3344 TST175 /SCOPE LOOP

/
/DOES COUNTER REALLY COUNT ?
/RATE 2, MODE 2
/
3377 7340 TST176, CLA CLL CMA /AC TO 7777
3400 4427 JMS I XIOTG /IOT 6133, CLAB
3401 3040 DCA REGA
3402 1015 TAD K0200
3403 1143 TAD K2000 /GET RATE + MODE
3404 4426 JMS I XIOTF1 /IOT 6132, CLOE
3405 7300 T176B1, CLA CLL /CLEAR THE AC AND LINK
3406 3042 DCA REGC
3407 1041 TAD REGB
3410 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
3411 4433 T176B, JMS I XIOTK /IOT 6137, CLCA
3412 7041 CIA
3413 1041 TAD REGB /COMPARE TO THIS REGISTER
3414 7650 SNA CLA /ARE THEY THE SAME YET ?
3415 5221 JMP T176A /YES, TEST NEXT NUMBER
3416 2042 ISZ REGC
3417 5211 JMP T176B /WAIT ABOUT 15 MS FOR REGISTER
3420 5224 JMP T176A1 /NUMBER NOT FOUND
3421 2041 T176A, ISZ REGB /UPDATE COMPARE REGISTER
3422 5205 JMP T176B1 /TEST FOR NEXT COUNTER PULSE
3423 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3424 4473 T176A1, JMS I ERROR /ERROR: COUNTER FAILED
3425 4176 4176 /TST176 ERROR MESSAGE
3426 3377 TST176 /SCOPE LOOP

/
/DOES COUNTER REALLY COUNT ?
/RATE 4, MODE 2
/
3427 7340 TST177, CLA CLL CMA /AC TO 7777
3430 4427 JMS I XIOTG /IOT 6133, CLAB
3431 3040 DCA REGA
3432 1116 TAD K0400
3433 1143 TAD K2000 /GET RATE + MODE
3434 4426 JMS I XIOTF1 /IOT 6132, CLOE
3435 7300 T177B1, CLA CLL /CLEAR THE AC AND LINK
3436 3042 DCA REGC

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```

3437 1041      TAD REGB
3440 3070      DCA SEND      /SAVE OUTPUT FOR ERROR PRINTER
3441 4433      T177B, JMS I XIOTK /IOT 6137, CLCA
3442 7041      CIA
3443 1041      TAD REGB      /COMPARE TO THIS REGISTER
3444 7650      SNA CLA      /ARE THEY THE SAME YET ?
3445 5251      JMP T177A     /YES, TEST NEXT NUMBER
3446 2042      ISZ REGC
3447 5241      JMP T177B     /WAIT ABOUT 15 MS FOR REGISTER
3450 5254      JMP T177A1    /NUMBER NOT FOUND
3451 2041      T177A, ISZ REGB /UPDATE COMPARE REGISTER
3452 5255      JMP T177B1    /TEST FOR NEXT COUNTER PULSE
3453 4472      JMS I NERROR  /CHECK NON-ERROR HANDLER
3454 4473      T177A1, JMS I ERROR /ERROR: COUNTER FAILED
3455 4177      4177      /TST177 ERROR MESSAGE
3456 3427      TST177      /SCOPE LOOP

```

```

/
/DOES COUNTER REALLY COUNT ?
/RATE 4, MODE 3
/

```

```

3457 7340      TST200, CLA CLL CMA /AC TO 7777
3460 4427      JMS I XIOTG    /IOT 6133, CLAB
3461 3040      DCA REGA
3462 1116      TAD K0420
3463 1120      TAD K3000    /GET RATE + MODE
3464 4426      JMS I XIOTF1  /IOT 6132, CL0E
3465 7300      T200B1, CLA CLL /CLEAR THE AC AND LINK
3466 3042      DCA REGC
3467 1041      TAD REGB
3470 3070      DCA SEND      /SAVE OUTPUT FOR ERROR PRINTER
3471 4433      T200B, JMS I XIOTK /IOT 6137, CLCA
3472 7041      CIA
3473 1041      TAD REGB      /COMPARE TO THIS REGISTER
3474 7650      SNA CLA      /ARE THEY THE SAME YET ?
3475 5301      JMP T200A     /YES, TEST NEXT NUMBER
3476 2042      ISZ REGC
3477 5271      JMP T200B     /WAIT ABOUT 15 MS FOR REGISTER
3500 5304      JMP T200A1    /NUMBER NOT FOUND
3501 2041      T200A, ISZ REGB /UPDATE COMPARE REGISTER
3502 5265      JMP T200B1    /TEST FOR NEXT COUNTER PULSE
3503 4472      JMS I NERROR  /CHECK NON-ERROR HANDLER
3504 4473      T200A1, JMS I ERROR /ERROR: MODE 3, COUNTER FAILED
3505 4200      4200      /TST200 ERROR MESSAGE
3506 3457      TST200      /SCOPE LOOP

```

```

/
/DO IOT'S AFFECT AC ?
/

```

```

3507 7340      TST201, CLA CLL CMA /AC TO 7777
3510 4427      JMS I XIOTG    /IOT 6133, CLAB
3511 3040      DCA REGA      /PASS COUNT 1
3512 6007      6007      /CAF OR CLEAR THE WORLD
3513 1144      TAD K1000
3514 1015      TAD K0200    /GET ENABLES
3515 4426      JMS I XIOTF1  /IOT 6132, CL0E
3516 4424      JMS I XIOTE  /IOT 6131, CLSK

```

```

3517 5316      JMP .-1          /WAIT FOR COUNTER TO GET CLEARED
3520 7340      CLA CLL CMA
3521 4423      JMS I XIOTD      /IOT 6130, CLZE
3522 7320      T201B, CLA CLL          /CLEAR AC AND LINK
3523 3070      DCA SEND      /SAVE OUTPUT FOR ERROR PRINTER
3524 1041      TAD REGB      /GET AC NUMBER
3525 4432      JMS I XIOTJ      /IOT 6136, CLBA
3526 7640      SZA CLA          /WAS AC ALL 0'S ?
3527 5351      JMP T201A
3530 1041      TAD REGB      /GET AC NUMBER
3531 4433      JMS I XIOTK      /IOT 6137, CLCA
3532 7640      SZA CLA          /WAS AC ALL 0'S ?
3533 5351      JMP T201A
3534 1041      TAD REGB      /GET AC NUMBER
3535 4430      JMS I XIOTH      /IOT 6134, CLEN
3536 7640      SZA CLA          /WAS AC ALL 0'S ?
3537 5351      JMP T201A
3540 1041      TAD REGB      /GET AC NUMBER
3541 4431      JMS I XIOTI      /IOT 6135, CLSA
3542 7640      SZA CLA          /WAS AC ALL 0'S ?
3543 5351      JMP T201A
3544 4424      JMS I XIOTE      /IOT 6131, CLSK
3545 5344      JMP .-1          /WAS FLAG STILL SET ?
3546 2041      ISZ REGB      /UPDATE PASS COUNTER
3547 5322      JMP T201R      /TEST IOT'S AGAIN
3550 4472      JMS I NERROR      /CHECK NON-ERROR HANDLER
3551 4473      T201A, JMS I ERROR      /ERROR: IOT FAILED
3552 3201      3201          /TST201 ERROR MESSAGE
3553 3527      TST201          /SCOPE LOOP

```

```

3554 4570      JMS I XPASS      /TYPE PASS COMPLETE
3555 5463      JMP I XDK8EP      /CONTINUE TESTING

```

```

/DOES INPUT 4 CAUSE INT. RQST.
/

```

```

3556 7320      CLA CLL
3557 1112      TAD K7400
3560 3077      DCA LOOP      /LOAD LOOP COUNTER
3561 7340      TST202, CLA CLL CMA      /AC TO 7777
3562 3040      DCA REGA
3563 7327      CLA CLL IAC RTL /AC TO 0004
3564 1142      TAD K0010      /GET ENABLES
3565 4425      JMS I XIOTF      /IOT 6132, CLOE
3566 4450      JMS I XPIG02      /GO TO PI, PI EXPECTED
3567 4472      JMS I NERROR      /CHECK NON-ERROR HANDLER
3570 4473      JMS I ERROR      /ERROR: INPUT 4 FAILED
3571 1602      1602          /TST202 ERROR MESSAGE
3572 3561      TST202          /SCOPE LOOP

```

```

/DOES INPUT 2 CAUSE INT. RQST.
/

```

```

3573 7340      TST203, CLA CLL CMA      /AC TO 7777
3574 3040      DCA REGA
3575 7326      CLA CLL CML RTL /AC TO 0002
3576 1142      TAD K0010      /GET ENABLES

```



```

3577 4425 JMS I XIOTF /IOT 6132, CLOE
3600 4450 JMS I XPIG02 /GO TO PI, PI EXPECTED
3601 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3602 4473 JMS I ERROR /ERROR: INPUT 2 FAILED
3603 1603 1603 /TST203 ERROR MESSAGE
3604 3573 TST203 /SCOPE LOOP

```

/DOES INPUT 1 CAUSE INT. ROST.

```

3605 7340 TST204, CLA CLL CMA /AC TO 7777
3606 3040 DCA REGA
3607 7324 CLA CLL CML RAL /AC TO 0001
3610 1142 TAD K0010 /GET ENABLES
3611 4425 JMS I XIOTF /IOT 6132, CLOE
3612 4450 JMS I XPIG02 /GO TO PI, PI EXPECTED
3613 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3614 4473 JMS I ERROR /ERROR: INPUT 1 FAILED
3615 1604 1604 /TST204 ERROR MESSAGE
3616 3605 TST204 /SCOPE LOOP

```

/DOES INPUT 4 RQST. LAST ?

```

3617 7340 TST205, CLA CLL CMA /AC TO 7777
3620 3040 DCA REGA
3621 7307 CLA CLL IAC RTL /AC TO 0004
3622 1142 TAD K0010 /GET ENABLES
3623 4425 JMS I XIOTF /IOT 6132, CLOE
3624 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
3625 5252 JMP T205A /NO RQST, FOUND
3626 2041 ISZ REGB /UPDATE COUNTER
3627 5226 JMP .-1 /WAIT 15 MS
3630 4450 JMS I XPIG02 /GO TO PI, PI EXPECTED
3631 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3632 4473 T205A, JMS I ERROR /ERROR: INPUT 4 FAILED
3633 1605 1605 /TST205 ERROR MESSAGE
3634 3617 TST205 /SCOPE LOOP

```

/DOES INPUT 2 RQST. LAST ?

```

3635 7340 TST206, CLA CLL CMA /AC TO 7777
3636 3040 DCA REGA
3637 7305 CLA CLL IAC RAL /AC TO 0002
3640 1142 TAD K0010 /GET ENABLES
3641 4425 JMS I XIOTF /IOT 6132, CLOE
3642 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
3643 5250 JMP T206A /NO RQST, FOUND
3644 2041 ISZ REGB /UPDATE COUNTER
3645 5244 JMP .-1 /WAIT 15 MS
3646 4450 JMS I XPIG02 /GO TO PI, PI EXPECTED
3647 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3650 4473 T206A, JMS I ERROR /ERROR: INPUT 2 FAILED
3651 1606 1606 /TST206 ERROR MESSAGE
3652 3635 TST206 /SCOPE LOOP

```

/DOES INPUT 1 RQST. LAST ?

```

/
3653 7340 TST207, CLA CLL CMA /AC TO 7777
3654 3040 DCA REGA
3655 7324 CLA CLL CML RAL /AC TO 0001
3656 1142 TAD K0010 /GET ENABLES
3657 4425 JMS I XIOTF /IOT 6132, CLOE
3660 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
3661 5266 JMP T207A /NO RQST. FOUND
3662 2041 ISZ REGB /UPDATE COUNTER
3663 5262 JMP .-1 /WAIT 15 MS
3664 4450 JMS I XPIG02 /GO TO PI, PI EXPECTED
3665 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3666 4473 T207A, JMS I ERROR /ERROR: INPUT 1 FAILED
3667 1607 1607 /TST207 ERROR MESSAGE
3670 3653 TST207 /SCOPE LOOP

```

/DOES INPUTS 4,2,1 WITHOUT BIT 8 ?

```

/
3671 7340 TST210, CLA CLL CMA /AC TO 7777
3672 3040 DCA REGA
3673 7313 CLA CLL IAC RTR /AC TO 4000
3674 1007 TAD K0007
3675 1147 TAD K0600
3676 4425 JMS I XIOTF /IOT 6132, CLOE
3677 4447 JMS I XPIG01 /GO TO PI, NO PI EXPECTED
3700 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3701 4473 JMS I ERROR /ERROR:ENABLE BIT 8 FAILED
3702 1210 1210 /TST210 ERROR MESSAGE
3703 3671 TST210 /SCOPE LOOP

```

/DOES INPUT 4 CAUSE SKIP ?

```

/
3704 7340 TST211, CLA CLL CMA /AC TO 7777
3705 3040 DCA REGA
3706 1113 TAD KT1CPS
3707 3045 DCA REGF
3710 7307 CLA CLL IAC RTL /AC TO 0004
3711 4425 JMS I XIOTF /IOT 6132, CLOE
3712 4424 JMS I XIOTE /IOT 6131, CLSK
3713 4446 JMS I SKPWAT /LET'S WAIT FOR A FLAG
3714 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3715 4473 JMS I ERROR /ERROR: INPUT 4 OR SKIP FAILED
3716 0611 0611 /TST211 ERROR MESSAGE
3717 3704 TST211 /SCOPE LOOP

```

/DOES INPUT 2 CAUSE SKIP ?

```

/
3720 7340 TST212, CLA CLL CMA /AC TO 7777
3721 3040 DCA REGA
3722 1113 TAD KT1CPS
3723 3045 DCA REGF
3724 7526 CLA CLL CML RTL /AC TO 0002
3725 4425 JMS I XIOTF /IOT 6132, CLOE
3726 4424 JMS I XIOTE /IOT 6131, CLSK
3727 4446 JMS I SKPWAT /LET'S WAIT FOR A FLAG

```

```

3730 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3731 4473 JMS I ERROR /ERROR: INPUT 2 OR SKIP FAILED
3732 0612 0612 /TST212 ERROR MESSAGE
3733 3720 TST212 /SCOPE LOOP

```

/ DOES INPUT 1 CAUSE SKIP ?

```

3734 7340 TST213, CLA CLL CMA /AC TO 7777
3735 3040 DCA REGA
3736 1113 TAD K11CPS
3737 3045 DCA REGF
3740 7301 CLA CLL IAC /AC TO 0001
3741 4425 JMS I XIOTF /IOT 6132, CLOE
3742 4424 JMS I XIOTE /IOT 6131, CLSK
3743 4446 JMS I SKPWAT /LET'S WAIT FOR FLAG
3744 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3745 4473 JMS I ERROR /ERROR: INPUT 1 OR SKIP FAILED
3746 0613 0613 /TST213 ERROR MESSAGE
3747 3734 TST213 /SCOPE LOOP

```

/ DOES INPUT 4 RQST. THEN SKIP AND VICE-VERSA ?

```

3750 7340 TST214, CLA CLL CMA /AC TO 7777
3751 3040 DCA REGA
3752 7307 CLA CLL IAC RTL /AC TO 0004
3753 1142 TAD K0010 /GET ENABLES
3754 4425 JMS I XIOTF /IOT 6132, CLOE
3755 4424 JMS I XIOTE /IOT 6131, CLSK
3756 5355 JMP .-1
3757 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
3760 5364 JMP T214A /NO RQST, FOUND
3761 4424 JMS I XIOTE /IOT 6131, CLSK
3762 5361 JMP .-1
3763 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
3764 4473 T214A, JMS I ERROR /ERROR: INPUT 4 SKIP OR INT, RQST. FAILED
3765 1614 1614 /TST214 ERROR FAILED
3766 3750 TST214 /SCOPE LOOP

```

/ DOES INPUT 2 SKIP THEN INT, ROST. AND VICE-VERSA ?

```

3767 7340 TST215, CLA CLL CMA /AC TO 7777
3770 3040 DCA REGA
3771 7305 CLA CLL IAC RAL /AC TO 0002
3772 1142 TAD K0010 /GET ENABLES
3773 4425 JMS I XIOTF /IOT 6132, CLOE
3774 4424 JMS I XIOTE /IOT 6131, CLSK
3775 5374 JMP .-1
3776 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
3777 5575 JMP I XCRS5
4000 4424 JMS I XIOTE /IOT 6131, CLSK
4001 5200 JMP .-1
4002 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4003 4473 T215A, JMS I ERROR /ERROR: INPUT 2 SKIP OR ROST, FAILED
4004 1615 1615 /TST215 ERROR MESSAGE
4005 3767 TST215 /SCOPE LOOP

```

```
/
/DOES INPUT 1 SKIP THEN INT, RQST. AND VICE-VERSA ?
/
4006 7340 TST216, CLA CLL CMA /AC TO 7777
4007 3040 DCA REGA
4010 7307 CLA CLL IAC /AC TO 0001
4011 1142 TAD K0010 /GET ENABLES
4012 4425 JMS I XIOTF /IOT 6132, CLOE
4013 4424 JMS I XIOTE /IOT 6131, CLSK
4014 5213 JMP .-1
4015 4447 JMS I XPIG01 /GO TO PI, PI EXPECTED
4016 5222 JMP T216A
4017 4424 JMS I XIOTE /IOT 6131, CLSK
4020 5217 JMP .-1
4021 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4022 4473 T216A, JMS I ERROR /ERROR: INPUT 1 SKIP OR INT, RQST. FAILED
4023 1616 1616 /TST216 ERROR MESSAGE
4024 4006 TST216 /SCOPE LOOP

/
/DOES CAF CLEAR INPUT 4 INT, RQST. ?
/
4025 7340 TST217, CLA CLL CMA /AC TO 7777
4026 3040 DCA REGA
4027 7307 CLA CLL IAC RTL /AC TO 0004
4030 4425 JMS I XIOTF /IOT 6132, CLOE
4031 4424 JMS I XIOTE /IOT 6131, CLSK
4032 5251 JMP .-1 /WAIT FOR FIRST FLAG
4033 6007 6007 /CAF OR CLEAR THE WORLD
4034 7307 CLA CLL IAC RTL /AC TO 0004
4035 4425 JMS I XIOTF /IOT 6132, CLOE
4036 4424 JMS I XIOTE /IOT 6131, CLSK
4037 5256 JMP .-1 /WAIT FOR SECOND FLAG
4040 6007 6007 /CAF OR CLEAR THE WORLD
4041 7307 CLA CLL IAC RTL
4042 4425 JMS I XIOTF /IOT 6132, CLOE
4043 4424 JMS I XIOTE /IOT 6131, CLSK
4044 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4045 4473 JMS I ERROR /ERROR: INPUT 4 SKIP OR RQST. FAILED
4046 0217 0217 /TST217 ERROR MESSAGE
4047 4025 TST217 /SCOPE LOOP

/
/DOES CAF CLEAR INPUT 2 RQST. ?
/
4050 7340 TST220, CLA CLL CMA /AC TO 7777
4051 3040 DCA REGA
4052 7305 CLA CLL IAC RAL /AC TO 0002
4053 4425 JMS I XIOTF /IOT 6132, CLOE
4054 4424 JMS I XIOTE /IOT 6131, CLSK
4055 5254 JMP .-1 /WAIT FOR FIRST FLAG
4056 6007 6007 /CAF OR CLEAR THE WORLD
4057 7305 CLA CLL IAC RAL /AC TO 0002
4060 4425 JMS I XIOTF /IOT 6132, CLOE
4061 4424 JMS I XIOTE /IOT 6131, CLSK
4062 5261 JMP .-1 /WAIT FOR SECOND FLAG
4063 6007 6007 /CAF OR CLEAR THE WORLD
```

```

4064 7305 CLA CLL IAC RAL /AC TO 0002
4065 4425 JMS I XIOTF /IOT 6132, CLOE
4066 4424 JMS I XIOTE /IOT 6131, CLSK
4067 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4070 4473 JMS I ERROR /ERROR: INPUT 2 SKIP OR RQST, FAILED
4071 0220 0220 /TST220 ERROR MESSAGE
4072 4050 TST220 /SCOPE LOOP

```

/

/DOES CAF CLEAR INPUT 3 RQST. ?

/

```

4073 7340 TST221, CLA CLL CMA /AC TO 7777
4074 3040 DCA REGA
4075 7301 CLA CLL IAC /AC TO 0001
4076 4425 JMS I XIOTF /IOT 6132, CLOE
4077 4424 JMS I XIOTE /IOT 6131, CLSK
4100 5277 JMP .-1 /WAIT FOR FIRST FLAG
4101 6007 6007 /CAF OR CLEAR THE WORLD
4102 7301 CLA CLL IAC /AC TO 0001
4103 4425 JMS I XIOTF /IOT 6132, CLOE
4104 4424 JMS I XIOTE /IOT 6131, CLSK
4105 5304 JMP .-1 /WAIT FOR SECONED FLAG
4106 6007 6007 /CAF OR CLEAR THE WORLD
4107 7301 CLA CLL IAC
4110 4425 JMS I XIOTF /IOT 6132, CLOE
4111 4424 JMS I XIOTE /IOT 6131, CLSK
4112 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4113 4473 JMS I ERROR /ERROR: INPUT 1 SKIP OR RQST, FAILED
4114 0221 0221 /TST221 ERROR MESSAGE
4115 4073 TST221 /SCOPE LOOP

```

/

/DOES CLSA READ RQST. INPUT 4 ?

/

```

4116 7340 TST222, CLA CLL CMA /AC TO 7777
4117 3040 DCA REGA
4120 7307 CLA CLL IAC RTL /AC TO 0004
4121 4425 JMS I XIOTF /IOT 6132, CLOE
4122 4424 JMS I XIOTE /IOT 6131, CLSK
4123 5322 JMP .-1 /WAIT FOR FLAG
4124 7040 CMA /AC TO 7773
4125 4431 JMS I XIOTI /IOT 6135, CLSA
4126 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4127 4472 JMS I NERROR /CHECK NON-ERRUR HANDLER
4130 4473 JMS I ERROR /ERROR: CLSA OR INPUT 4 FAILED
4131 5222 5222 /TST222 ERROR MESSAGE
4132 4116 TST222 /SCOPE LOOP

```

/

/DOES CLSA READ RQST. INPUT 2 ?

/

```

4133 7340 TST223, CLA CLL CMA /AC TO 7777
4134 3040 DCA REGA
4135 7305 CLA CLL IAC RAL /AC TO 0002
4136 4425 JMS I XIOTF /IOT 6132, CLOE
4137 4424 JMS I XIOTE /IOT 6131, CLSK
4140 5337 JMP .-1 /WAIT FOR FLAG
4141 7040 CMA /AC TO 7775

```

```

4142 4431 JMS I XIOTI /IOT 6135, CLSA
4143 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4144 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4145 4473 JMS I ERROR /ERROR: CLSA OR INPUT 2 FAILED
4146 5223 5223 /TST223 ERROR MESSAGE
4147 4133 TST223 /SCOPE LOOP

```

/
/DOES CLSA READ RQST. INPUT 1 ?
/

```

4150 7340 TST224, CLA CLL CMA /AC TO 7777
4151 3040 DCA REGA
4152 7301 CLA CLL IAC /AC TO 0001
4153 4425 JMS I XIOTF /IOT 6132, CLOE
4154 4424 JMS I XIOTE /IOT 6131, CLSK
4155 5354 JMP ,-1 /WAIT FOR FLAG
4156 7040 CMA /AC TO 7776
4157 4431 JMS I XIOTI /IOT 6135, CLSA
4160 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4161 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4162 4473 JMS I ERROR /ERROR: CLSA OR INPUT 1 FAILED
4163 5224 5224 /TST224 ERROR MESSAGE
4164 4150 TST224 /SCOPE LOOP

```

/
/DOES CLSA CLEAR INPUT 4 RQST. ?
/

```

4165 7340 TST225, CLA CLL CMA /AC TO 7777
4166 3040 DCA REGA
4167 7307 CLA CLL IAC RTL /AC TO 0004
4170 4426 JMS I XIOTF1 /IOT 6132, CLOE
4171 4424 JMS I XIOTE /IOT 6131, CLSK
4172 5371 JMP ,-1 /WAIT FOR FIRST FLAG
4173 4431 JMS I XIOTI /IOT 6135, CLSA
4174 4424 JMS I XIOTE /IOT 6131, CLSK
4175 5374 JMP ,-1 /WAIT FOR SECOND FLAG
4176 4431 JMS I XIOTI /IOT 6135, CLSA
4177 4424 JMS I XIOTE /IOT 6131, CLSK
4200 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4201 4473 JMS I ERROR /ERROR: CLSA OR INPUT 1 FAILED
4202 0225 0225 /TST225 ERROR MESSAGE
4203 4165 TST225 /SCOPE LOOP

```

/
/DOES CLSA CLEAR INPUT 2 RQST. ?
/

```

4204 7340 TST226, CLA CLL CMA /AC TO 7777
4205 3040 DCA REGA
4206 7305 CLA CLL IAC RAL /AC TO 0002
4207 4425 JMS I XIOTF /IOT 6132, CLOE
4210 4424 JMS I XIOTE /IOT 6131, CLSK
4211 5210 JMP ,-1 /WAIT FOR FIRST FLAG
4212 4431 JMS I XIOTI /IOT 6135, CLSA
4213 4424 JMS I XIOTE /IOT 6131, CLSK
4214 5213 JMP ,-1 /WAIT FOR SECOND FLAG
4215 4431 JMS I XIOTI /IOT 6135, CLSA
4216 4424 JMS I XIOTE /IOT 6131, CLSK
4217 4472 JMS I NERROR /CHECK NON-ERROR HANDLER

```

4220 4473 JMS I ERROR /ERROR: CLSA OR INPUT 2 FAILED
 4221 0226 0226 /TST226 ERROR MESSAGE
 4222 4204 TST226 /SCOPE LOOP

/DOES CLSA CLEAR INPUT 4 RQST. ?

4223 7340 TST227, CLA CLL CMA /AC TO 7777
 4224 3040 DCA REGA
 4225 7301 CLA CLL IAC /AC TO 0001
 4226 4425 JMS I XIOTF /IOT 6132, CLOE
 4227 4424 JMS I XIOTE /IOT 6131, CLSK
 4230 5227 JMP ,-1 /WAIT FOR FIRST FLAG
 4231 4431 JMS I XIOTI /IOT 6135, CLSA
 4232 4424 JMS I XIOTE /IOT 6131, CLSK
 4233 5232 JMP ,-1 /WAIT FOR SECOND FLAG
 4234 4431 JMS I XIOTI /IOT 6135, CLSA
 4235 4424 JMS I XIOTE /IOT 6131, CLSK
 4236 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 4237 4473 JMS I ERROR /ERROR: CLSA OR INPUT 1 FAILED
 4240 0227 0227 /TST227 ERROR MESSAGE
 4241 4223 TST227 /SCOPE LOOP

/DOES CLSA READ INPUT 4,2,1 ?

4242 7340 TST230, CLA CLL CMA /AC TO 7777
 4243 3040 DCA REGA
 4244 1007 TAD K0007 /GET ENABLES
 4245 4425 JMS I XIOTF /IOT 6132, CLOE
 4246 7000 NOP
 4247 2041 ISZ REGB
 4250 5246 JMP ,-2 /WAIT FOR ALL
 4251 4424 JMS I XIOTE /IOT 6131, CLOE
 4252 5251 JMP ,-1 /WAIT FOR FLAGS
 4253 7340 CLA CLL CMA /AC TO 7777
 4254 4431 JMS I XIOTI /IOT 6135, CLSA
 4255 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 4256 7610 SKP CLA
 4257 5265 JMP T230A /ERROR, STATUS REGISTER
 4260 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
 4261 7340 CLA CLL CMA /AC TO 7777
 4262 4431 JMS I XIOTI /IOT 6135, CLSA
 4263 7650 SNA CLA /WAS STATUS ALL 0'S ?
 4264 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 4265 4473 T230A, JMS I ERROR /ERROR: CLSA OR INPUTS 1,2,3 FAILED
 4266 5230 5230 /TST230 ERROR MESSAGE
 4267 4242 TST230 /SCOPE LOOP

/DOES INPUT 4 CLEAR BIT 7 ?

4270 7340 TST231, CLA CLL CMA
 4271 3040 DCA REGA
 4272 7307 CLA CLL IAC RTL /AC TO 0004
 4273 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
 4274 1070 TAD SEND
 4275 1140 TAD K0020 /GET ENABLES

```

4276 4426 JMS I XIOTF1 /IOT 6132, CLOE
4277 4424 JMS I XIOTE /IOT 6131, CLSK
4300 5277 JMP .-1 /WAIT FOR FLAG
4301 7340 CLA CLL CMA /AC TO 7777
4302 4430 JMS I XIOTH /IOT 6134, CLEN
4303 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4304 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4305 4473 JMS I ERROR /ERROR: BIT 7 OR INPUT 4 FAILED
4306 4631 4631 /TST231 ERROR MESSAGE
4307 4270 TST231 /SCOPE LOOP

```

/ DOES INPUT 2 CLEAR BIT 7 ?

```

4310 7340 TST232, CLA CLL CMA
4311 3040 DCA REGA
4312 7305 CLA CLL IAC RAL /AC TO 0002
4313 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
4314 1070 TAD SEND
4315 1140 TAD K0020
4316 4426 JMS I XIOTF1 /IOT 6132, CLOE
4317 4424 JMS I XIOTE /IOT 6131, CLSK
4320 5317 JMP .-1 /WAIT FOR FLAG
4321 7340 CLA CLL CMA
4322 4430 JMS I XIOTH /IOT 6134, CLEN
4323 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4324 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4325 4473 JMS I ERROR /ERROR: BIT 7 OR INPUT 2 FAILED
4326 4632 4632 /TST232 ERROR MESSAGE
4327 4310 TST232 /SCOPE LOOP

```

/ DOES INPUT 1 CLEAR BIT 7 ?

```

4330 7340 TST233, CLA CLL CMA /AC TO 7777
4331 3040 DCA REGA
4332 7301 CLA CLL IAC /AC TO 0001
4333 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
4334 1070 TAD SEND
4335 1140 TAD K0020
4336 4426 JMS I XIOTF1 /IOT 6132, CLOE
4337 4424 JMS I XIOTE /IOT 6131, CLSK
4340 5337 JMP .-1 /WAIT FOR FLAG
4341 7340 CLA CLL CMA /AC TO 7777
4342 4430 JMS I XIOTH /IOT 6134, CLEN
4343 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4344 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4345 4473 JMS I ERROR /ERROR: BIT 7 OR INPUT 1 FAILED
4346 4633 4633 /TST233 ERROR MESSAGE
4347 4330 TST233 /SCOPE LOOP

```

/ DOES INPUT 4,2,1 GENERATE CLR CNT ?
/MODE 3, RATE 0

```

4350 7340 TST234, CLA CLL CMA /AC TO 7777
4351 3040 DCA REGA
4352 1016 TAD K2525 /GET AC NUMBER

```



```

4353 4427 JMS I XIOTG /IOT 6133, CLAB
4354 7307 CLA CLL IAC RTL /AC TO 0004
4355 1120 TAD K3000 /GET ENABLES
4356 4426 JMS I XIOTF1 /IOT 6132, CLOE
4357 4424 JMS I XIOTE /IOT 6131, CLSK
4360 5357 JMP .-1 /WAIT FOR FLAG
4361 7300 CLA CLL
4362 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
4363 7340 CLA CLL CMA /AC TO 7777
4364 4433 JMS I XIOTK /IOT 6137, CLCA
4365 7650 SNA CLA /WAS COUNTER ALL 0'S ?
4366 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4367 4473 JMS I ERROR /ERROR: CLR CNT FAILED
4370 4234 4234 /TST234 ERROR MESSAGE
4371 4350 TST234 /SCOPE LOOP

```

```

/
/DOES INPUT 4,2,1 CAUSE CLR CNT ?
/MODE 3, RATE 0
/

```

```

4372 7340 TST235, CLA CLL CMA /AC TO 7777
4373 3040 DCA REGA
4374 1017 TAD K5252 /GET AC NUMBER
4375 4427 JMS I XIOTG /IOT 6133, CLAB
4376 7305 CLA CLL IAC RAL /AC TO 0002
4377 1120 TAD K3000 /GET ENABLES
4400 4426 JMS I XIOTF1 /IOT 6132, CLOE
4401 4424 JMS I XIOTE /IOT 6131, CLSK
4402 5201 JMP .-1 /WAIT FOR FLAG
4403 7300 CLA CLL
4404 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
4405 7340 CLA CLL CMA /AC TO 7777
4406 4433 JMS I XIOTK /IOT 6137, CLCA
4407 7650 SNA CLA /WAS COUNTER ALL 0'S ?
4410 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4411 4473 JMS I ERROR /ERROR: CLR CNT FAILED ?
4412 4235 4235 /TST235 ERROR MESSAGE
4413 4372 TST235 /SCOPE LOOP

```

```

/
/DOES INPUT 4,2,1 TRANSFER COUNTER TO BUFFER ?
/

```

```

4414 7340 TST236, CLA CLL CMA /AC TO 7777
4415 3040 DCA REGA
4416 1016 TAD K2525 /GET AC NUMBER
4417 4427 JMS I XIOTG /IOT 6133, CLAB
4420 6007 6007 /CAF OR CLEAR THE WORLD
4421 7301 CLA CLL IAC /AC TO 0001
4422 1120 TAD K3000 /GET ENABLES
4423 4426 JMS I XIOTF1 /IOT 6132, CLOE
4424 4424 JMS I XIOTE /IOT 6131, CLSK
4425 5224 JMP .-1 /WAIT FOR FLAG
4426 7340 CLA CLL CMA /AC TO 7777
4427 4432 JMS I XIOTJ /IOT 6136, CLBA
4430 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4431 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4432 4473 JMS I ERROR /ERROR: COUNTER TO BUFFER FAILED

```

4433 3636 3636 /TST236 ERROR MESSAGE
 4434 4414 TST236 /SCOPE LOOP

/
 /DOES INPUT 4,2,1 TRANSFER COUNTER TO BUFFER ?
 /

4435 7340 TST237, CLA CLL CMA /AC TO 7777
 4436 3040 DCA REGA
 4437 1017 TAD K5252 /GET AC NUMBER
 4440 4427 JMS I XIOTG /IOT 6133, CLAB
 4441 6007 6007 /CAF OR CLEAR THE WORLD
 4442 7301 CLA CLL IAC /AC TO 0001
 4443 1140 TAD K3000 /GET ENABLES
 4444 4426 JMS I XIOTF1 /IOT 6132, CLOE
 4445 4424 JMS I XIOTE /IOT 6131, CLSK
 4446 5245 JMP ,-1 /WAIT FOR FLAG
 4447 7340 CLA CLL CMA /AC TO 7777
 4450 4432 JMS I XIOTJ /IOT 6136, CLBA
 4451 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 4452 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
 4453 4473 JMS I ERROR /ERROR: COUNTER TO BUFFER FAILED
 4454 3637 3637 /TST237 ERROR MESSAGE
 4455 4435 TST237 /SCOPE LOOP

/
 /DOES INPUT 4,2,1 GENERATE CLR CNT ?
 /MODE 2, RATE 0
 /

4456 7340 TST240, CLA CLL CMA /AC TO 7777
 4457 3040 DCA REGA
 4460 1016 TAD K2525 /GET AC NUMBER
 4461 4427 JMS I XIOTG /IOT 6133, CLAB
 4462 6007 6007 /CAF OR CLEAR THE WORLD
 4463 7307 CLA CLL IAC RTL /AC TO 0004
 4464 1143 TAD K2000 /GET ENABLES
 4465 4426 JMS I XIOTF1 /IOT 6132, CLOE
 4466 4424 JMS I XIOTE /IOT 6131, CLSK
 4467 5266 JMP ,-1 /WAIT FOR FLAG
 4470 7340 CLA CLL CMA /AC TO 7777
 4471 4433 JMS I XIOTK /IOT 6137, CLCA
 4472 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
 4473 4472 JMS I NERROR /CHECK NON-ERROR MESSAGE
 4474 4473 JMS I ERROR /ERROR: CLR CNT FAILED, MODE 2
 4475 4240 4240 /TST240 ERROR MESSAGE
 4476 4456 TST240 /SCOPE LOOP

/
 /DOES INPUT 4,2,1 CAUSE CLR CNT ?
 /MODE 2, RATE 0
 /

4477 7340 TST241, CLA CLL CMA
 4500 3040 DCA REGA
 4501 1017 TAD K5252 /GET AC NUMBER
 4502 4427 JMS I XIOTG /IOT 6133, CLAB
 4503 6007 6007 /CAF OR CLEAR THE WORLD
 4504 7305 CLA CLL IAC RAL /AC TO 0002
 4505 1143 TAD K2000 /GET ENABLES

```

4506 4426 JMS I XIOTF1 /IOT 6132, CLOE
4507 4424 JMS I XIOTE /IOT 6131, CLSK
4510 5307 JMP .-1 /WAIT FOR FLAG
4511 7340 CLA CLL CMA /AC TO 7777
4512 4433 JMS I XIOTK /IOT 6137, CLCA
4513 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4514 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4515 4473 JMS I ERROR /ERROR: CLR CNT FAILED, MODE 2
4516 4241 4241 /TST241 ERROR MESSAGE
4517 4477 TST241 /SCOPE LOOP

```

```

/
/DOES COUNTER TRANSFER TO BUFFER ?
/MODE 2, RATE 0
/

```

```

4520 7340 TST242, CLA CLL CMA /AC TO 7777
4521 3040 DCA REGA
4522 1016 TAD K2525 /GET AC NUMBER
4523 4427 JMS I XIOTG /IOT 6133, CLAB
4524 6007 6007 /CAF OR CLEAR THE WORLD
4525 7307 CLA CLL IAC RTL
4526 1143 TAD K2000 /GET ENABLES
4527 4426 JMS I XIOTF1 /IOT 6132, CLOE
4530 4424 JMS I XIOTE /IOT 6131, CLSK
4531 5330 JMP .-1 /WAIT FOR FLAG
4532 7340 CLA CLL CMA /AC TO 7777
4533 4432 JMS I XIOTJ /IOT 6136, CLBA
4534 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4535 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4536 4473 JMS I ERROR /ERROR: COUNTER TO BUFFER FAILED
4537 3642 3642 /TST242 ERROR MESSAGE
4540 4520 TST242 /SCOPE LOOP

```

```

/
/DOES COUNTER TRANSFER TO BUFFER ?
/MODE 2, RATE 0
/

```

```

4541 7340 TST243, CLA CLL CMA /AC TO 7777
4542 3040 DCA REGA
4543 1017 TAD K2525 /GET AC NUMBER
4544 4427 JMS I XIOTG /IOT 6133, CLAB
4545 6007 6007 /CAF OR CLEAR THE WORLD
4546 7305 CLA CLL IAC RAL /AC TO 0002
4547 1143 TAD K2000 /GET ENABLES
4550 4426 JMS I XIOTF1 /IOT 6132, CLOE
4551 4424 JMS I XIOTE /IOT 6131, CLSK
4552 5351 JMP .-1 /WAIT FOR FLAG
4553 7340 CLA CLL CMA
4554 4432 JMS I XIOTJ /IOT 6136, CLBA
4555 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4556 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4557 4473 JMS I ERROR /ERROR: COUNTER TO BUFFER FAILED
4560 3643 3643 /TST243 ERROR MESSAGE
4561 4541 TST243 /SCOPE LOOP

```

```

/
/DOES INPUT 4,2,1 AFFECT MODE 0 ?
/

```

```

4562 7340 TST244, CLA CLL CMA
4563 3040 DCA REGA
4564 1016 TAD K2525 /GET AC NUMBER
4565 4427 JMS I XIOTG /IOT 6133, CLAB
4566 6007 6007 /CAF OR CLEAR THE WORLD
4567 7327 CLA CLL IAC RTL /AC TO 0004
4570 4426 JMS I XIOTF1 /IOT 6132, CLOE
4571 4424 JMS I XIOTE /IOT 6131, CLSK
4572 5371 JMP ,-1 /WAIT FOR FLAG
4573 7340 CLA CLL CMA /AC TO 7777
4574 4433 JMS I XIOTK /IOT 6137, CLCA
4575 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4576 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4577 4473 JMS I ERROR /ERROR: MODE 0 FAILED
4600 4244 4244 /TST 244 ERROR MESSAGE
4601 4562 TST244 /SCOPE LOOP

```

/ DOES INPUT 4,2,1 AFFECT MODE 0 ?

```

4602 7340 TST245, CLA CLL CMA /AC TO 7777
4603 3040 DCA REGA
4604 1017 TAD K2525 /GET AC NUMBER
4605 4427 JMS I XIOTG /IOT 6133, CLAB
4606 7301 CLA CLL IAC /AC TO 0001
4607 4426 JMS I XIOTF1 /IOT 6132, CLOE
4610 4424 JMS I XIOTE /IOT 6131, CLSK
4611 5210 JMP ,-1 /WAIT FOR FLAG
4612 7340 CLA CLL CMA /AC TO 7777
4613 4432 JMS I XIOTJ /IOT 6136, CLBA
4614 4456 JMS I XSNDRV /CHECK SEND RECEV REGISTERS
4615 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4616 4473 JMS I ERROR /ERROR: MODE 0 FAILED
4617 3645 3645 /TST245 ERROR MESSAGE
4620 4622 TST245 /SCOPE LOOP

```

/ DOES INPUT 4,2,1 AFFECT MODE 1 ?

```

4621 7340 TST246, CLA CLL CMA /AC TO 7777
4622 3040 DCA REGA
4623 1016 TAD K2525 /GET AC NUMBER
4624 4427 JMS I XIOTG /IOT 6133, CLAB
4625 6007 6007 /CAF OR CLEAR THE WORLD
4626 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
4627 7301 CLA CLL IAC /AC TO 0001
4630 1144 TAD K1000 /GET ENABLES
4631 4426 JMS I XIOTF1 /IOT 6132, CLOE
4632 4424 JMS I XIOTE /IOT 6131, CLOE
4633 5252 JMP ,-1 /WAIT FOR FLAG
4634 7340 CLA CLL CMA /AC TO 7777
4635 4432 JMS I XIOTJ /IOT 6136, CLBA
4636 7650 SNA CLA /WAS BUFFER STILL ALL 0'S ?
4637 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4640 4473 JMS I ERROR /ERROR: MODE 1 FAILED
4641 4246 4246 /TST246 ERROR MESSAGE
4642 4621 TST246 /SCOPE LOOP

```

/

/DOES INPUT 4,2,1 AFFECT MODE 1 ?

/

4643	7340	TST247, CLA CLL CMA	/AC TO 7777
4644	3040	DCA REGA	
4645	1017	TAD K0252	/GET AC NUMBER
4646	4427	JMS I XIOTG	/IOT 6133, CLAB
4647	7307	CLA CLL IAC RTL	/AC TO 0004
4650	1144	TAD K1000	
4651	4426	JMS I XIOTF1	/IOT 6132, CLOE
4652	4424	JMS I XIOTE	/IOT 6131, CLSK
4653	5252	JMP .-1	/WAIT FOR FLAG
4654	7340	CLA CLL CMA	/AC TO 7777
4655	4432	JMS I XIOTJ	/IOT 6136, CLBA
4656	4426	JMS I XSNDRV	/CHECK SEND AND RECEV REGISTERS
4657	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
4660	4473	JMS I ERROR	/ERROR: MODE 1 FAILED
4661	3647	3647	/TST247 ERROR MESSAGE
4662	4643	TST247	/SCOPE LOOP

/

/DOES CLSA READ INPUTS 4,2,1 ?

/

4663	7340	TST250, CLA CLL CMA	/AC TO 7777
4664	3040	DCA REGA	
4665	1007	TAD K0007	/GET ENABLES
4666	4426	JMS I XIOTF1	/IOT 6132, CLOE
4667	7000	NOP	
4670	2041	ISZ REGB	
4671	5267	JMP .-2	/WAIT FOR ALL
4672	4424	JMS I XIOTE	/IOT 6131, CLSK
4673	5272	JMP .-1	
4674	4423	JMS I XIOTD	/IOT 6130, CLZE
4675	7300	CLA CLL	/CLEAR THE AC AND LINK
4676	3070	DCA SEND	/SAVE OUTPUT FOR ERROR PRINTER
4677	7340	CLA CLL CMA	/AC TO 7777
4700	4431	JMS I XIOTI	/IOT 6135, CLSA
4701	7650	SNA CLA	/WAS STATUS ALL 0'S ?
4702	4472	JMS I NERROR	/CHECK NON-ERROR HANDLER
4703	4473	JMS I ERROR	/ERROR: INPUT 4,2,1 OR STATUS FAILED
4704	5250	5250	/TEST250 ERROR MESSAGE
4705	4663	TST250	/SCOPE LOOP

/

/DOES CLSA READ STATUS REGISTER ?

/

4706	7340	TST251, CLA CLL CMA	/AC TO 7777
4707	3040	DCA REGA	
4710	1007	TAD K0007	/GET ENABLES
4711	4425	JMS I XIOTF	/IOT 6132, CLOE
4712	7000	NOP	
4713	2041	ISZ REGB	
4714	5312	JMP .-2	/WAIT FOR FLAGS
4715	4424	JMS I XIOTE	/IOT 6131, CLSK
4716	5315	JMP .-1	
4717	7340	CLA CLL CMA	/AC TO 7777
4720	4431	JMS I XIOTI	/IOT 6135, CLSA

```

4721 4456 JMS I XSNDRV /CHECK SEND AND RECEV REGISTERS
4722 4472 JMS I NERROR /CHECK NON-ERROR HANDLER
4723 4473 JMS I ERROR /ERROR! CLSA OR STATUS REGISTER
4724 5251 5251 /TST251 ERROR MESSAGE
4725 4706 TST251 /SCOPE LOOP

```

```

4726 7300 /
4727 2077 ISZ LOOP
4730 5464 JMP I XMITT /DO TEST 4096 TIMES
4731 4570 JMS I XPASS /TYPE PASS COMPLETE
4732 5465 JMP I XMITT1 /CONTINUE TESTING

```

/NON-ERROR HANDLER FOR PROGRAM

```

5000 *5000
5000 0000 NERRO, 0000
5001 6007 6007 /CAF OR CLEAR THE WORLD
5002 2200 ISZ NERRO
5003 2200 ISZ NERRO
5004 2040 ISZ REGA
5005 5215 JMP OUT
5006 4460 JMS I XCLREG /CLEAR ALL REGISTERS
5007 7604 LAS
5010 0137 AND K0040 /IS IT LOOP ON NON-
5011 7640 SZA CLA /FAILING TEST.
5012 5215 JMP OUT
5013 2200 ISZ NERRO
5014 5600 JMP I NERRO /TO NEXT TEST

5015 1600 OUT, TAD I NERRO
5016 3220 DCA ERRO
5017 5620 JMP I ERRO

```

/ERROR HANDLER FOR PROGRAM

```

5020 0000 ERRO, 0000
5021 6007 6007 /CAF OR CLEAR THE WORLD
5022 7604 LAS
5023 7006 RTL
5024 7700 SMA CLA /CHECK SWR2 FOR INH. PRINT
5025 4503 JMS I XSORT /GET ERROR MESSAGE
5026 4510 JMS I XBELL /RING BELL
5027 4460 JMS I XCLREG
5030 2220 ISZ ERRO
5031 7604 LAS
5032 0015 AND K0200
5033 7650 SNA CLA /CHECK SWR4 FOR INH. HLT
5034 7402 EHLT1, HLT /MONITOR ERROR HALT, READ TYPEOUT
/AND REFERENCE LISTING.

5035 7604 LAS
5036 0013 AND K0100
5037 7640 SZA CLA /CHECK SWR5 FOR SCOPE LOOP
5040 5243 JMP IN
5041 2220 ISZ ERRO

```

```

5042 5620      /      JMP I ERRO      /ENTER SCOPE LOOP
5043 1620      /      IN,      TAD I ERRO
5044 3200      /      DCA NERRO
5045 5620      /      JMP I NERRO
5046 0000      /      BELL,     0000
5047 7624      /      LAS
5050 0116      /      AND K0400
5051 7640      /      SZA CLA
5052 5646      /      JMP I BELL
5053 1026      /      TAD K0207
5054 4527      /      JMS I XTYPE
5055 5646      /      JMP I BELL
5056 0000      /      TYPE,     0000
5057 6046      /      TLS
5060 6041      /      TSF
5061 5260      /      JMP .-1
5062 7200      /      CLA
5063 6042      /      TCF
5064 5656      /      JMP I TYPE
5065 0000      /      CLRREG,   0000
5066 7300      /      CLA CLL      /CLEAR THE AC AND LINK
5067 3041      /      DCA REGB
5070 3042      /      DCA REGC
5071 3043      /      DCA REGD
5072 3070      /      DCA SEND
5073 3071      /      DCA RECEV
5074 7624      /      LAS
5075 0117      /      AND K0000
5076 7650      /      SNA CLA
5077 7340      /      CLA CLL CMA
5100 3040      /      DCA REGA
5101 5665      /      JMP I CLRREG
5102 0000      /      IOTA,     0000
5103 6131      /      6131      /FIELD SERVICE CHANGE
5104 5702      /      JMP I IOTA
5105 2302      /      ISZ IOTA
5106 5702      /      JMP I IOTA
5107 0000      /      IOTB,     0000
5110 6132      /      6132      /FIELD SERVICE CHANGE
5111 5707      /      JMP I IOTB
5112 2307      /      ISZ IOTB
5113 5707      /      JMP I IOTB
5114 0000      /      IOTC,     0000
5115 6133      /      6133      /FIELD SERVICE CHANGE
5116 5714      /      JMP I IOTC
5117 2314      /      ISZ IOTC
5120 5714      /      JMP I IOTC

```

```

5121 0000 IOTD, 0000
5122 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
5123 1070 TAD SEND
5124 6130 6130 /FIELD SERVICE CHANGE
5125 5721 JMP I IOTD
5126 7402 EHLT2, HLT /SKIP TRAP, CL4E
/
5127 0000 IOTE, 0000
5130 6131 6131 /FIELD SERVICE CHANGE
5131 5727 JMP I IOTE
5132 2327 ISZ IOTE
5133 5727 JMP I IOTE
/
5134 0000 IOTF, 0000
5135 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
5136 1070 TAD SEND
5137 6132 6132 /FIELD SERVICE CHANGE
5140 5734 JMP I IOTF
5141 7402 EHLT3, HLT /SKIP TRAP, CL0E
/
5142 0000 IOTF1, 0000
5143 6132 6132 /FIELD SERVICE CHANGE
5144 5742 JMP I IOTF1
5145 7402 EHLT4, HLT /SKIP TRAP, CL0E
/
5146 0000 IOTG, 0000
5147 3070 DCA SEND /SAVE OUTPUT FOR ERROR PRINTER
5150 1070 TAD SEND
5151 6133 6133 /FIELD SERVICE CHANGE
5152 5746 JMP I IOTG
5153 7402 EHLT5, HLT /SKIP TRAP, CLAB
/
5154 0000 IOTH, 0000
5155 6134 6134 /FIELD SERVICE CHANGE
5156 7410 SKP
5157 7402 EHLT6, HLT /SKIP TRAP, CL0N
5160 3071 DCA RECEV /SAVE OUTPUT FOR ERROR PRINTER
5161 1071 TAD RECEV
5162 5754 JMP I IOTH
/
5163 0000 IOTI, 0000
5164 6135 6135 /FIELD SERVICE CHANGE
5165 7410 SKP
5166 7402 EHLT7, HLT /SKIP TRAP, CLSA
5167 3071 DCA RECEV /SAVE OUTPUT FOR ERROR PRINTER
5170 1071 TAD RECEV
5171 5763 JMP I IOTI
/
5200 *5200
/
5200 0000 IOTJ, 0000
5201 6136 6136 /FIELD SERVICE CHANGE
5202 7410 SKP
5203 7402 EHLT10, HLT /SKIP TRAP, CLBA
5204 3071 DCA RECEV /SAVE OUTPUT FOR ERROR PRINTER

```



```

5205 1071      TAD RECEV
5206 5600      JMP I IOTJ
/
5207 0000      IOTK,  0000
5210 6137      6137      /FIELD SERVICE CHANGE
5211 7410      SKP
5212 7402      EHLT11, HLT      /SKIP TRAP, CLCA
5213 3071      DCA RECEV      /SAVE OUTPUT FOR ERROR PRINTER
5214 1071      TAD RECEV
5215 5607      JMP I IOTK
/
5216 0000      SNDRV,  0000
5217 7041      CIA
5220 1070      TAD SEND
5221 7640      SZA CLA      /WAS SEND AND RECEV THE SAME ?
5222 2216      ISZ SNDRV
5223 5616      JMP I SNDRV
/
5224 0000      RANDOM, 0000
5225 1044      TAD REGE
5226 7004      RAL
5227 7430      SEL
5230 1410      TAD I 10
5231 3044      DCA REGE
5232 1044      TAD REGE
5233 5624      JMP I RANDOM
5234 0000      PIG05,  0000
5235 7300      CLA CLL      /CLEAR THE AC AND LINK
5236 1254      TAD PRET5
5237 3002      DCA 2      /SET FOR PI RETURN
5240 6001      ION
5241 7300      CLA CLL      /CLEAR THE AC AND LINK
5242 1076      TAD KREGC
5243 3042      DCA REGC
5244 4433      JMS I XIOTK      /READ THE COUNTER
5245 2042      ISZ REGC
5246 5245      JMP .-1
5247 2043      ISZ REGD
5250 5241      JMP .-7
5251 2254      ISZ PIG05
5252 6002      PIRET5, IOF      /DISABLE PROGRAM INTERRUPT
5253 5634      JMP I PIG05
/
5254 5252      PRET5,  PIRET5
/
5255 0000      PIG01,  0000
5256 7300      CLA CLL      /CLEAR THE AC AND LINK
5257 1267      TAD PRET1
5260 3002      DCA 2      /SET FOR PI RETURN
5261 6001      ION      /ENABLE PROGRAM INTERRUPT
5262 4454      JMS I XISZ
5263 7410      SKP
5264 2255      PIRET1, ISZ PIG01
5265 6002      IOF      /DISABLE PROGRAM INTERRUPT
5266 5655      JMP I PIG01

```

```

/
5267 5264 /
PRET1, PIRET1
/
5270 0000 PIG02, 0000
5271 7300 CLA CLL /CLEAR THE AC AND LINK
5272 1301 TAD PRET2
5273 3002 DCA 2 /SET FOR PI RETURN
5274 6001 ION
5275 4454 JMS I XISZ /WAIT
5276 2270 ISZ PIG02
5277 6002 PIRET2, IOF
5300 5670 JMP I PIG02
/
5301 5277 PRET2, PIRET2
/
5302 0000 SYNC, 0000
5303 4422 JMS I XIOTC
5304 5303 JMP .-1
5305 4422 JMS I XIOTC
5306 5305 JMP .-1
5307 5702 JMP I SYNC
/
5310 0000 ISZLOP, 0000
5311 7300 CLA CLL
5312 1113 TAD KT1CPS
5313 3049 DCA REGF
5314 7001 IAC
5315 7000 NOP
5316 2043 ISZ REGD
5317 5314 JMP .-3
5320 2045 ISZ REGF
5321 5314 JMP .-5
5322 5710 JMP I ISZLOP
/
5323 0000 PIG03, 0000
5324 7300 CLA CLL /CLEAR THE AC AND LINK
5325 1335 TAD PRETC
5326 3002 DCA 2
5327 6001 ION
5330 7000 NOP
5331 7410 SKP
5332 2523 RETC, ISZ PIG03
5333 6002 IOF
5334 5723 JMP I PIG03
/
5335 5332 PRETC, RETC
/
5336 0000 PIG04, 0000
5337 7300 CLA CLL /CLEAR THE AC AND LINK
5340 1347 TAD PRETD
5341 3002 DCA 2
5342 6001 ION
5343 7000 NOP
5344 2336 ISZ PIG04
5345 6002 RETD, IOF

```

```

5346 5736      JMP I PIG04
/
5347 5345      PRETD, RETD
/
5350 0000      IOTS,  0000
5351 6132      6132
5352 6134      6134
5353 6132      6132
5354 6134      6134
5355 6132      6132
5356 6134      6134
5357 5750      JMP I IOTS
/
5360 0000      IOTS1, 0000
5361 6133      6133
5362 6136      6136
5363 6133      6133
5364 6136      6136
5365 6133      6133
5366 6136      6136
5367 5760      JMP I IOTS1
/
5370 0000      IOTS2, 0000
5371 6133      6133
5372 6137      6137
5373 6133      6133
5374 6137      6137
5375 6133      6133
5376 6137      6137
5377 5770      JMP I IOTS2
/
      5400      *5400
/
5400 0000      IOTS3, 0000
5401 6134      6134
5402 7040      CMA      /COMPLEMENT THE AC
5403 6130      6130
5404 7040      CMA      /COMPLEMENT THE AC
5405 6134      6134
5406 7040      CMA      /COMPLEMENT THE AC
5407 6130      6130
5410 7040      CMA      /COMPLEMENT THE AC
5411 6134      6134
5412 5600      JMP I IOTS3
/
5413 0000      CLOCK, 0000
5414 7604      LAS
5415 0007      AND K0007
5416 3075      DCA CLOCKS
5417 5613      JMP I CLOCK
/
/ROUTINE TO TYPE OCTAL NUMBERS
/ENTER WITH NUMBER IN AC AND LINK 0
/
5420 0000      OCTEL, 0000

```

```

5421 7006      RTL
5422 7006      RTL
5423 3041      DCA REGB      /SAVE NUMBER
5424 1130      TAD K7774
5425 3042      DCA REGC      /SET UP COUNTER
5426 1041      TAD REGB      /GET NUMBER
5427 0007      AND K0007
5430 1123      TAD K0260
5431 4507      JMS I XTYPE
5432 1041      TAD REGB      /GET NUMBER
5433 7006      RTL
5434 7004      RAL
5435 3041      DCA REGB      /SAVE THE REST
5436 2042      ISZ REGC
5437 5226      JMP .-11
5440 5620      JMP I OCTEL

```

/
/ROUTINE FOR CRLF

```

5441 0000      CRLF, 0000
5442 7300      CLA CLL          /CLEAR THE AC AND LINK
5443 1134      TAD K0215
5444 4507      JMS I XTYPE
5445 1135      TAD K0212
5446 4507      JMS I XTYPE
5447 5641      JMP I CRLF

```

/ROUTINE TO TYPE CLOCK

```

5450 0000      POPR, 0000
5451 7300      CLA CLL          /CLEAR THE AC AND LINK
5452 1262      TAD KTADCK      /GET CLOCK TAD
5453 1075      TAD CLOCKS      /MAKE IT
5454 3255      DCA .+1
5455 1262      TAD KTADCK      /MODIFIED BY TEST
5456 4504      JMS I XOCTEL      /PRINT NUMBER
5457 4506      JMS I XPRINT      /PRINT CLOCKS
5460 6026      FMES
5461 5650      JMP I POPR

```

5462 1263 /
KTADCK, TAD CLKNO

```

5463 0001      /  
CLKNO, 0001
5464 0050      0050
5465 0100      0100
5466 0120      0120
5467 0500      0500
5470 5000      5000

```

/ROUTINE TO SORT ERROR MESSAGES

```

5471 0000      /  
SORT, 0000
5472 7300      CLA CLL          /CLEAR THE AC AND LINK
5473 4501      JMS I XCRLF      /CRLF
5474 1473      TAD IERROR      /GET MESSAGE POINT
5475 3044      DCA REGE

```

```

5476 4525 JMS I XMESS /GO PRINT TEST + ADDRESS
5477 1444 TAD I REGE
5500 7012 RTR
5501 7012 RTR
5502 7012 RTR
5503 7012 RTR /MOVE IT TO BITS 8-11
5504 0127 AND K0017 /MASK 8-11
5505 3044 DCA REGE /SAVE POINTER
5506 7300 CLA CLL /CLEAR THE AC AND LINK
5507 1044 TAD REGE /GET POINTER
5510 1J26 TAD KTADM
5511 3J12 DCA .+1
5512 1J26 TAD KTADM /MODIFIED BY TEST
5513 3J16 DCA .+3 /STORE MESSAGE POINTER
5514 4521 JMS I XCRLF /CRLF
5515 4526 JMS I XPRINT /PRINT MESSAGE
5516 0000 0000 /MODIFIED MESSAGE POINTER
5517 7300 CLA CLL
5520 1044 TAD REGE /GET MESSAGE POINTER
5521 1132 TAD K7772 /IS IT GREATER THAN
5522 7620 SNL CLA
5523 5671 JMP I SORT
5524 4502 JMS I XREG
5525 5671 JMP I SORT

```

```

/
5526 1J27 KTADM, TAD KTMX
/

```

```

5527 6107 KTMX, MES1
5530 6131 MES2
5531 6132 MES3
5532 6202 MES4
5533 6231 MES5
5534 6256 MES6
5535 6303 MES7
5536 6324 MES8
5537 6353 MES9
5540 6402 MES10
5541 6431 MES11

```

```

/ROUTINE TO PRINT TEST + ADDRESS
/

```

```

5542 0000 MESS, 0000
5543 7300 CLA CLL /CLEAR THE AC AND LINK
5544 4521 JMS I XCRLF /CRLF
5545 4526 JMS I XPRINT /GO PRINT TEST
5546 6046 TMES
5547 1473 TAD I ERROR /GET ERROR MESSAGE
5550 3043 DCA REGD /STORE MESSAGE POINTER
5551 1443 TAD I REGD
5552 0136 AND K0377 /MASK 4-11
5553 4524 JMS I XOCTEL /GO PRINT NUMBER
5554 2043 ISZ REGD /UPDATE POINTER
5555 4526 JMS I XPRINT /GO PRINT STARTING ADDRESS
5556 6051 AMES
5557 1443 TAD I REGD

```

5560	4524	JMS I XOCTEL	/GO PRINT NUMBER
5561	7300	CLA CLL	/CLEAR THE AC AND LINK
5562	5742	JMP I MESS	

/ROUTINE TO PRINT AC

5563	0000	PREG,	0000	
5564	4521	JMS I XCRLF	/CRLF	
5565	4526	JMS I XPRINT	/GO PRINT MESSAGE	
5566	6067	GMES		
5567	1070	TAD SEND	/GET GOOD AC	
5570	4524	JMS I XOCTEL	/PRINT IT	
5571	4526	JMS I XPRINT	/PRINT BAD AC	
5572	6077	BMES		
5573	1071	TAD RECEV	/GET BAD AC	
5574	4524	JMS I XOCTEL	/PRINT IT	
5575	7300	CLA CLL	/CLEAR THE AC AND LINK	
5576	5763	JMP I PREG		

5600 +5600

5600	0000	SETO,	0000	
5601	1120	TAD JMP I 2	/GET JMP I 2	
5602	3021	DCA 1	/SET FOR PI RETURN	
5603	5600	JMP I SETO		

/ROUTINE TO TYPE LISTING
/ENTER WITH JMS +1 EQUAL TO START OF LIST

5604	0000	PRINT,	0000	
5605	7300	CLA CLL	/CLEAR THE AC AND LINK	
5606	1624	TAD I PRINT		
5607	2224	ISZ PRINT	/SET FOR RETURN +1	
5610	3041	DCA REGB	/SAVE THE POINTER	
5611	1441	TAD I REGB	/GET THE CHARACTER	
5612	0012	AND K7700	/MASK BITS 0-5	
5613	7400	SNA	/END OF MESSAGE	
5614	5240	JMP EXIT	/YES, EXIT	
5615	7520	SMA	/IS AC MINUS	
5616	7020	CML	/NO, SET THE LINK	
5617	7021	IAC		
5620	7012	RTR		
5621	7012	RTR		
5622	7012	RTR		
5623	4507	JMS I XTYPE	/PRINT THE CHARACTER	
5624	1441	TAD I REGB	/GET THE WORD	
5625	0133	AND K0077	/MASK BITS 6-11	
5626	7400	SNA	/END OF MESSAGE	
5627	5240	JMP EXIT	/YES EXIT	
5630	1125	TAD K3740	/NO, ADD A CONSTANT	
5631	7520	SMA		
5632	1124	TAD K4100		
5633	1126	TAD K0240		
5634	4527	JMS I XTYPE	/TYPE THE CHARACTER	
5635	2041	ISZ REGB	/UPDATE WORD LIST	

```

5636 7300          CLA CLL          /CLEAR THE AC AND LINK
5637 5211          JMP PRINT+5

```

```

/
5640 7300          EXIT,  CLA CLL          /CLEAR THE AC AND LINK
5641 5604          JMP I PRINT        /YES EXIT

```

/ROUTINE TO WAIT FOR OVERFLOWS

```

/
5642 0000          XWAIT, 0000
5643 3011          DCA SAVAC          /SAVE THE AC
5644 7344          CLA CLL CMA RAL
5645 1242          TAD XWAIT
5646 3242          DCA XWAIT          /SET FOR RETURN ADDRESS
5647 2041          ISZ REGB
5650 5256          JMP RETURN
5651 2045          ISZ REGF
5652 5256          JMP RETURN
5653 7325          CLA CLL CML IAC RAL
5654 1242          TAD XWAIT
5655 3242          DCA XWAIT          /UPDATE FOR ERROR RETURN
5656 1011          RETURN, TAD SAVAC
5657 5642          JMP I XWAIT

```

```

/
5660 0000          SWLAS, 0000
5661 7604          LAS
5662 0142          AND K0010
5663 7640          SZA CLA          /CHECK FOR EXTERNAL CLOCK SCOPE LOOP
5664 5325          JMP CLKIN        /ENTER SCOPE LOOP
5665 7604          LAS
5666 0140          AND K0020          /CHECK FOR EXTERNAL PULSE SCOPE LOOP
5667 7640          SZA CLA
5670 5313          JMP EXTER        /ENTER SCOPE LOOP
5671 7340          CLA CLL CMA          /AC TO 7777
5672 3113          DCA KT1CPS
5673 7604          LAS
5674 0114          AND K6007
5675 7640          SZA CLA
5676 5321          JMP .+3
5677 1111          TAD KPRMTI
5700 3113          DCA KT1CPS
5701 7604          LAS          /GET HIS SWITCHES
5702 7004          RAL          /GET BIT 1
5703 7710          SPA CLA
5704 5660          JMP I SWLAS        /TEST SCHMITT
5705 2260          ISZ SWLAS
5706 7604          LAS          /GET HIS SWITCHES
5707 7710          SPA CLA
5710 5660          JMP I SWLAS        /TEST DK8-EP
5711 2260          ISZ SWLAS
5712 5660          JMP I SWLAS        /TEST DK8-EA OR DK8-EC

```

```

/
5713 7340          EXTER, CLA CLL CMA
5714 4427          JMS I XIOTG        /IOT 6133, CLAB
5715 7300          CLA CLL
5716 1137          TAD K0040

```

```

5717 1147 TAD K0600 /GET ENABLES
5720 4425 JMS I XIOTF /IOT 6132, CLOE
5721 4424 JMS I XIOTE /IOT 6131, CLSK
5722 5321 JMP ,-1 /WAIT FOR OVERFLOW
5723 6007 6007 /CAF OR CLEAR THE WORLD
5724 5313 JMP EXTER /CONTINUE WITH SCOPE LOOP

```

```

/
5725 7340 CLKIN, CLA CLL CMA /AC TO 7777
5726 4427 JMS I XIOTG /IOT 6133, CLAB
5727 7300 CLA CLL
5730 1013 TAD K0100 /GET ENABLES
5731 4426 JMS I XIOTF1 /IOT 6132, CLOE
5732 4424 JMS I XIOTE /IOT 6131, CLSK
5733 5332 JMP ,-1 /WAIT FOR OPERATOR
5734 6007 6007 /CAF OR CLEAR THE WORLD
5735 1006 TAD K0207
5736 4507 JMS I XTYPE /TTY SIGNAL
5737 5325 JMP CLKIN /LOOP

```

```

/
5740 0000 PASS, 0000
5741 4501 JMS I XCRLF /CRLF
5742 4506 JMS I XPRINT /PRINT MESSAGE
5743 6014 PMES
5744 6007 6007
5745 5740 JMP I PASS

```

```

/
5746 0000 GTAD, 0000
5747 1075 TAD CLOCKS /GET SELECTED CLOCK
5750 1354 TAD CLTAD
5751 3746 DCA I GTAD
5752 2346 ISZ GTAD
5753 5746 JMP I GTAD

```

```

/
5754 5755 CLTAD, CLTAD +1
5755 6000 6000
5756 1612 1612
5757 4776 4776
5760 5367 5367
5761 7306 7306
5762 7747 7747
5763 4000 4000
5764 1527 1527
5765 4552 4552
5766 5217 5217
5767 7276 7276
5770 7741 7741

```

```

/
5771 0000 TIMCLK, 0000
5772 7604 LAS
5773 0114 AND K6007
5774 7650 SNA CLA
5775 1166 TAD PATCH
5776 1012 TAD K7700
5777 5771 JMP I TIMCLK

```


6000	0413	DKMES, TEXT ?DK8E CLOCKS DIAGNOSTIC?
6001	7025	
6002	4023	
6003	1417	
6004	0313	
6005	2340	
6006	0411	
6007	0107	
6010	1617	
6011	2324	
6012	1103	
6013	0000	
6014	0413	PMES, TEXT ?DK8E PASS COMPLETE?
6015	7025	
6016	4020	
6017	0143	
6020	2340	
6021	0317	
6022	1520	
6023	1405	
6024	2405	
6025	0000	
6026	4023	FMES, TEXT ? CPS CLOCK SELECTED BY OPERATOR?
6027	2023	
6030	4023	
6031	1417	
6032	0313	
6033	4023	
6034	0514	
6035	0523	
6036	2405	
6037	0440	
6040	0231	
6041	4017	
6042	2025	
6043	2201	
6044	2417	
6045	2200	
6046	2405	TMES, TEXT ?TEST ?
6047	2324	
6050	4020	
6051	4026	AMES, TEXT ? FAILED, STARTING ADDRESS ?
6052	0111	
6053	1405	
6054	0434	
6055	4023	
6056	2401	
6057	2224	
6060	1116	
6061	0740	
6062	0104	
6063	0422	
6064	0523	
6065	2340	
6066	0000	

6067 2410
6070 0540
6071 0717
6072 1704
6073 4001
6074 0340
6075 7540
6076 0000
6077 4001
6100 1604
6101 4002
6102 0104
6103 4001
6104 0340
6105 7540
6106 0000
6107 0314
6110 1703
6111 1340
6112 2313
6113 1120
6114 4006
6115 0111
6116 1405
6117 0404
6120 4016
6121 1740
6122 2313
6123 1120
6124 4005
6125 3020
6126 0503
6127 2405
6130 0400
6131 0314
6132 1703
6133 1340
6134 2313
6135 1120
6136 4006
6137 0111
6140 1405
6141 0404
6142 4023
6143 1311
6144 2040
6145 0530
6146 2005
6147 0324
6150 0504
6151 0000
6152 2022
6153 1707
6154 2201
6155 1540

GMES, TEXT ?THE GOOD AC = ?

BMES, TEXT ? AND BAD AC = ?

MES1, TEXT ?CLOCK SKIP FAILED, NO SKIP EXPECTED?

MES2, TEXT ?CLOCK SKIP FAILED, SKIP EXPECTED?

MES3, TEXT ?PROGRAM INTERRUPT FAILED, NO INTERRUPT EXPECTED?

6156 1116
6157 2405
6160 2222
6161 2520
6162 2440
6163 0601
6164 1114
6165 0504
6166 5440
6167 1617
6170 4011
6171 1624
6172 0522
6173 2225
6174 2024
6175 4005
6176 3020
6177 0503
6200 2405
6201 0400
6202 2022
6203 1707
6204 2201
6205 1540
6206 1116
6207 2405
6210 2222
6211 2520
6212 2440
6213 0601
6214 1114
6215 0504
6216 5440
6217 1116
6220 2405
6221 2222
6222 2520
6223 2440
6224 0530
6225 2005
6226 0524
6227 0504
6230 0000
6231 0314
6232 1703
6233 1340
6234 1725
6235 2420
6236 2524
6237 4006
6240 0111
6241 1405
6242 0454
6243 4003
6244 1417

MES4, TEXT ?PROGRAM INTERRUPT FAILED, INTERRUPT EXPECTED?

MES5, TEXT ?CLOCK OUTPUT FAILED, CLOCK FREQUENCY FAST?

6245 0313
6246 4006
6247 2225
6250 2125
6251 0516
6252 0331
6253 4006
6254 0123
6255 2420
6256 0314
6257 1703
6260 1340
6261 1725
6262 2420
6263 2524
6264 4006
6265 0111
6266 1405
6267 0424
6270 4003
6271 1417
6272 0313
6273 4006
6274 2225
6275 2125
6276 0516
6277 0331
6300 4023
6301 1417
6302 2700
6303 2410
6304 0540
6305 0123
6306 4027
6307 0123
6310 4003
6311 1001
6312 1607
6313 0504
6314 4002
6315 3140
6316 0140
6317 0314
6320 1703
6321 1340
6322 1117
6323 2420
6324 0314
6325 1703
6326 1340
6327 0225
6330 0606
6331 0522
6332 4022
6333 0507

MES6, TEXT ?CLOCK OUTPUT FAILED, CLOCK FREQUENCY SLOW?

MES7, TEXT ?THE AC WAS CHANGED BY A CLOCK IOT?

MES8, TEXT ?CLOCK BUFFER REGISTER AND AC TRANSFER FAILED?

6334 1123
6335 2405
6336 2240
6337 0116
6340 0440
6341 0103
6342 4024
6343 2201
6344 1623
6345 0605
6346 2240
6347 0601
6350 1114
6351 0504
6352 0000
6353 0314
6354 1703
6355 1340
6356 0317
6357 2516
6360 2405
6361 2240
6362 2205
6363 0711
6364 2324
6365 0522
6366 4001
6367 1604
6370 4001
6371 0340
6372 2422
6373 0116
6374 2306
6375 0522
6376 4006
6377 0111
6400 1405
6401 0400
6402 0314
6403 1703
6404 1340
6405 0516
6406 0102
6407 1405
6410 4022
6411 0507
6412 1123
6413 2405
6414 2240
6415 0116
6416 0440
6417 0103
6420 4024
6421 2201
6422 1623

MES9, TEXT ?CLOCK COUNTER REGISTER AND AC TRANSFER FAILED?

MES10, TEXT ?CLOCK ENABLE REGISTER AND AC TRANSFER FAILED?

6423 0605
6424 2240
6425 0601
6426 1114
6427 0504
6430 0000
6431 0314
6432 1703
6433 1340
6434 2324
6435 0124
6436 2523
6437 4022
6440 0507
6441 1123
6442 2405
6443 2240
6444 0116
6445 0440
6446 0103
6447 4024
6450 2201
6451 1623
6452 0605
6453 2240
6454 0601
6455 1114
6456 0504
6457 0000

MES11, TEXT ?CLOCK STATUS REGISTER AND AC TRANSFER FAILED?

AMES	6051	K0017	0127	LOOP	0077	SETO	5600
AUTO10	0010	K0020	0140	MES1	6107	SKPWAT	0046
BEGIN	0220	K0040	0137	MES10	6402	SNDRV	5216
BELL	5046	K0077	0133	MES11	6431	SORT	5471
BGNEAC	0215	K0100	0013	MES2	6131	SWLAS	5660
BMES	6077	K0200	0015	MES3	6152	SYNC	5302
CLKIN	5725	K0207	0006	MES4	6202	T113A	1655
CLKNO	5463	K0212	0135	MES5	6231	T113H	1646
CLOCK	5413	K0215	0134	MES6	6256	T114A	1673
CLOCKS	0075	K0240	0126	MES7	6303	T114F	1664
CLRREG	5065	K0260	0123	MES8	6324	T11A	0354
CLTAD	5754	K0300	0145	MES9	6353	T120A	1751
CRLF	5441	K0377	0136	MESS	5542	T121A	1766
DKMES	6000	K0400	0116	NERRO	5000	T122A	2014
EHLT1	5034	K0500	0146	NERROR	0072	T122H	1775
EHLT10	5203	K0600	0147	OCTEL	5420	T123A	2043
EHLT11	5212	K0700	0150	OUT	5015	T123H	2024
EHLT2	5126	K1000	0144	OVER2	0061	T124A	2072
EHLT3	5141	K2000	0143	OVER2A	0062	T124P	2053
EHLT4	5145	K2525	0016	PASS	5740	T125A	2120
EHLT5	5153	K3000	0120	PATCH	0166	T125R	2102
EHLT6	5157	K3740	0125	PIG01	5255	T126A	2147
EHLT7	5166	K4000	0014	PIG02	5270	T126R	2125
ERRO	5020	K4100	0124	PIG03	5323	T127A	2200
ERROR	0073	K5000	0121	PIG04	5336	T12A	0366
EXIT	5640	K5252	0017	PIG05	5234	T130A	2220
EXTER	5713	K6000	0117	PIRET1	5264	T133A	2306
FMES	6026	K6007	0114	PIRET2	5277	T133E	2273
GMES	6067	K7000	0141	PIRET5	5252	T147A	2555
GTAD	5746	K7400	0112	PMES	6014	T147B	2537
IN	5043	K7700	0012	POPR	5450	T150A	2603
IOTA	5102	K7770	0122	PREG	5563	T150P	2565
IOTB	5107	K7772	0132	PRET1	5267	T151A	2631
IOTC	5114	K7773	0131	PRET2	5301	T151P	2613
IOTD	5121	K7774	0130	PRET5	5254	T152A	2657
IOTE	5127	KPRMT1	0111	PRETC	5335	T152P	2641
IOTF	5134	KREGC	0076	PRETD	5347	T153A	2705
IOTF1	5142	KT1CPS	0113	PRINT	5604	T153E	2667
IOTG	5146	KTA	0151	RANDOM	5224	T154A	2733
IOTH	5154	KTA1	0152	RANDY	0055	T154B	2715
IOTI	5163	KTADCK	5462	RECEV	0071	T172A	3254
IOTJ	5200	KTADM	5526	REGA	0040	T172A1	3257
IOTK	5207	KTB	0153	REGB	0041	T172B	3244
IOTS	5350	KTB1	0154	REGC	0042	T172P1	3240
IOTS1	5360	KTC	0155	REGD	0043	T173A	3303
IOTS2	5370	KTC1	0156	REGE	0044	T173A1	3306
IOTS3	5400	KTC2	0157	REGF	0045	T173B	3273
ISZLOP	5310	KTD	0160	RETC	5332	T173B1	3267
JMP12	0100	KTD1	0161	RETD	5345	T174A	3336
K0006	0115	KTE	0162	RETURN	5656	T174A1	3341
K0007	0007	KTE1	0163	SAVAC	0011	T174R	3326
K0010	0142	KTMX	5527	SEND	0070	T174R1	3323

T175A	3371	TST110	1605	TST167	3157	TST244	4562
T175A1	3374	TST111	1616	TST17	0431	TST245	4602
T175B	3361	TST112	1631	TST170	3177	TST246	4621
T175B1	3356	TST113	1642	TST171	3215	TST247	4643
T176A	3421	TST114	1660	TST172	3233	TST25	0520
T176A1	3424	TST115	1676	TST173	3262	TST250	4663
T176B	3411	TST116	1707	TST174	3311	TST251	4706
T176B1	3405	TST117	1722	TST175	3344	TST26	0534
T177A	3451	TST12	0357	TST176	3377	TST27	0547
T177A1	3454	TST120	1735	TST177	3427	TST3	0265
T177B	3441	TST121	1754	TST2	0251	TST30	0570
T177B1	3435	TST122	1771	TST20	0441	TST31	0601
T200A	3521	TST123	2017	TST200	3457	TST32	0615
T200A1	3504	TST124	2046	TST201	3507	TST33	0626
T200B	3471	TST125	2075	TST202	3561	TST34	0637
T200B1	3465	TST126	2123	TST203	3573	TST35	0647
T201A	3551	TST127	2152	TST204	3605	TST36	0657
T201B	3522	TST13	0371	TST205	3617	TST37	0667
T205A	3632	TST130	2203	TST206	3635	TST4	0273
T206A	3650	TST131	2223	TST207	3653	TST40	0677
T207A	3666	TST132	2245	TST21	0452	TST41	0711
T214A	3764	TST133	2264	TST210	3671	TST42	0722
T215A	4003	TST134	2311	TST211	3704	TST43	0733
T216A	4022	TST135	2331	TST212	3720	TST44	0746
T22A	0473	TST136	2350	TST213	3734	TST45	0761
T230A	4265	TST137	2367	TST214	3750	TST46	1000
T45A	0775	TST14	0400	TST215	3767	TST47	1017
T45B	0763	TST140	2407	TST216	4006	TST5	0305
T46A	1014	TST141	2423	TST217	4025	TST50	1036
T46B	1005	TST142	2437	TST22	0463	TST51	1055
T47A	1033	TST143	2452	TST220	4050	TST52	1070
T47B	1024	TST144	2466	TST221	4073	TST53	1102
T50A	1052	TST145	2502	TST222	4116	TST54	1115
T50B	1040	TST146	2516	TST223	4133	TST55	1130
T70A	1332	TST147	2532	TST224	4150	TST56	1142
T70B	1322	TST15	0407	TST225	4165	TST57	1153
T71A	1351	TST150	2560	TST226	4204	TST6	0322
T71B	1341	TST151	2606	TST227	4223	TST60	1164
TIMCLK	5771	TST152	2634	TST23	0476	TST61	1177
TMES	6046	TST153	2662	TST230	4242	TST62	1212
TST0	0221	TST154	2710	TST231	4270	TST63	1227
TST1	0235	TST155	2736	TST232	4310	TST64	1244
TST10	0337	TST156	2751	TST233	4330	TST65	1255
TST100	1465	TST157	2766	TST234	4350	TST66	1271
TST101	1501	TST16	0422	TST235	4372	TST67	1302
TST102	1514	TST160	3004	TST236	4414	TST7	0330
TST103	1530	TST161	3023	TST237	4435	TST70	1316
TST104	1542	TST162	3041	TST24	0505	TST71	1335
TST105	1552	TST163	3060	TST240	4456	TST72	1354
TST106	1563	TST164	3076	TST241	4477	TST73	1367
TST107	1574	TST165	3117	TST242	4520	TST74	1404
TST11	0346	TST166	3137	TST243	4541	TST75	1421

TST76	1435
TST77	1451
TYPE	5056
XBELL	0110
XCLOCK	0074
XCLREG	0060
XCRLF	0101
XCRS1	0171
XCRS2	0172
XCRS3	0173
XCRS4	0174
XCRS5	0175
XDK8EP	0063
XGETM	0167
XGTAD	0067
XIOTA	0020
XIOTB	0021
XIOTC	0022
XIOTD	0023
XIOTE	0024
XIOTF	0025
XIOTF1	0026
XIOTG	0027
XIOTH	0030
XIOTI	0031
XIOTJ	0032
XIOTK	0033
XIOTS	0034
XIOTS1	0035
XIOTS2	0036
XIOTS3	0037
XISZ	0054
XLAS	0066
XMESS	0105
XMITT	0064
XMITT1	0065
XOCTEL	0104
XOPR	0165
XPASS	0170
XPIG01	0047
XPIG02	0050
XPIG03	0051
XPIG04	0052
XPIG05	0053
XPRINT	0106
XREG	0102
XSET0	0164
XSNORV	0056
XSORT	0103
XSYNC	0057
XTYPE	0107
XWAIT	5642

ERRORS DETECTED: 0

LINKS GENERATED: 0

RUN-TIME: 39 SECCNDS

3K CORE USED