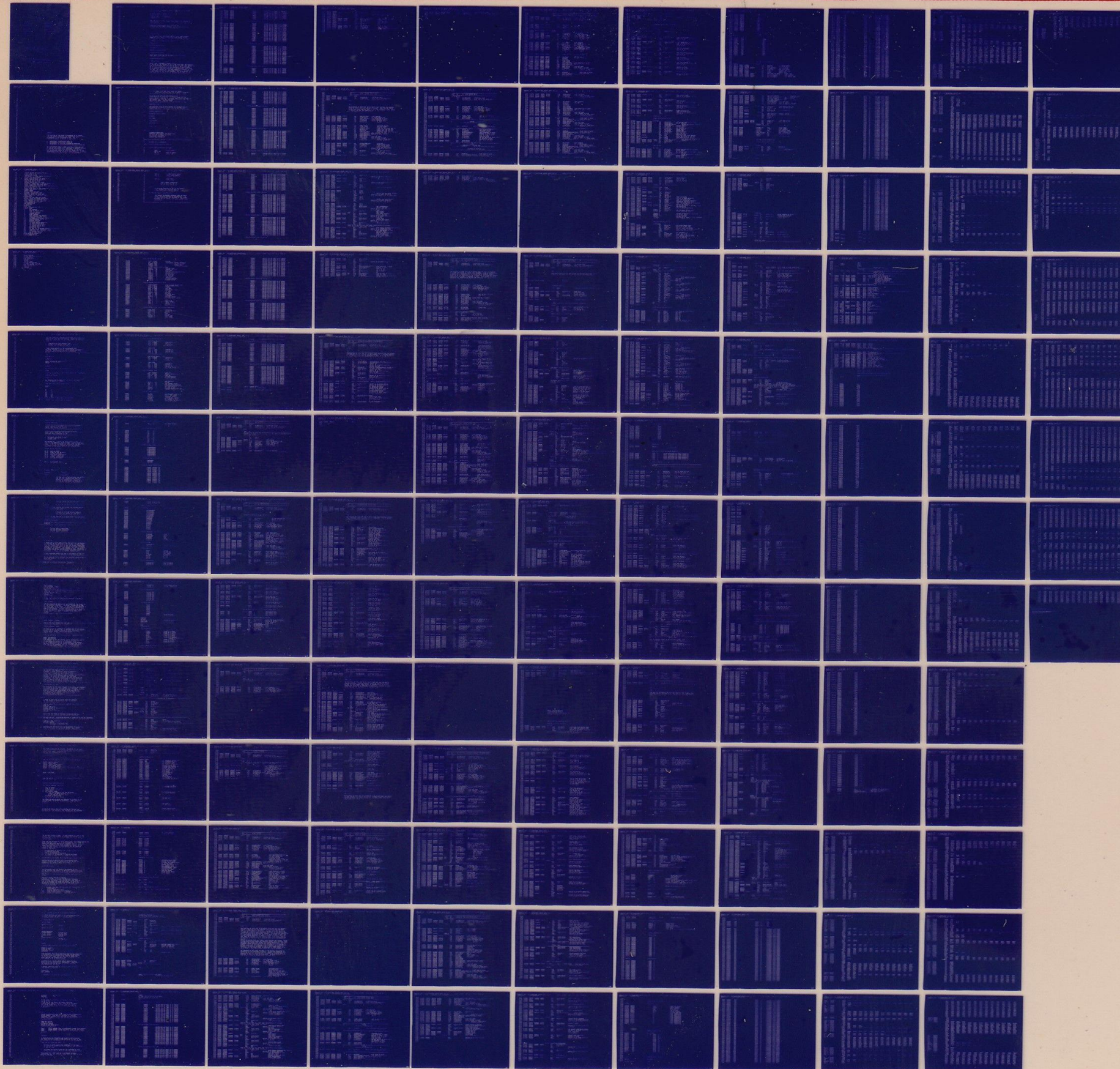


DX11B

DIAGNOSTIC (OFFLINE
MD-11-DZDXG-C
EXERCISER)

EP-DZDXG-C-DL
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JUN 1978
digital
MADE IN USA



IDENTIFICATION

PROGRAM CODE:	MAINDEC-11-DZDXG-C-D
PROGRAM NAME:	DX11B-DIAGNOSTIC (OFFLINE EXERCISER)
DATE CREATED:	JUNE 21, 1974
MAINTAINER:	DIAGNOSTIC GROUP
AUTHOR:	J. FRIEDRICH

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ABSTRACT

THE FUNCTION OF THE DX110 DIAGNOSTICS IS TO VERIFY
THAT THE DX110 IMPLEMENTS THE FUNCTIONAL FLOW DIAGRAMS
ILLUSTRATED IN THE DX110 PRINT SET. THE DX11
DIAGNOSTIC PACKAGE CONSISTS OF FOUR TAPES

1. DZDXA(REV) MAINTENANCE CLOCK #1
2. DXDXF(REV) MAINTENANCE CLOCK #2
3. DZDXG(REV) DX OFFLINE DIAGNOSTIC EXERCISER
4. DZDXH(REV) DX ONLINE-MAINTENANCE-CABLED EXERCISER

THE DIAGNOSTICS WERE DIVIDED INTO FOUR TAPES BECAUSE
OF THE 8K WORD MEMORY LIMIT REQUIRED TO SUPPORT MINIMUM
SYSTEMS AND FOR FUNCTIONAL SAFEGUARDS, IT WAS FELT
THAT SAFEGUARDS SHOULD BE TAKEN TO INSURE THAT NO ONE
INADVERTENTLY RAN THE ONLINE-MAINTENANCE-CABLE EXERCISER
WHILE CONNECTED ONLINE TO IBM. IT WAS ALSO FELT

TABLE OF CONTENTS

648	DYNAMIC SWITCH SETTINGS (SWR #1)
675	CLOCK, ISSUE N MAINTENANCE CLOCK PULSES
676	SS, SELECTION MACRO
677	SHORT, SHORT IT TRACE UPDATE AND SELECT
678	DEFINE, EMT DEFINITIONS
679	ESAVE, SAVE REGISTER FOR ERROR PRINT
680	ERSTOR, RESTOR ERROR REGISTERS
681	SAVE, SAVE ARG ON STACK
682	RESTOR, RESTOR ARG FROM STACK
683	SCOPELOOP, SUBROUTINE TO EXECUTE SCOPE CODE
684	CLEAR, CLEAR FROM ARG1, ARG2 WORDS
685	CLRSUB, SUBROUTINE TO CLEAR FROM ARG1, ARG2 WORDS
686	JUMP, OCTAL DUMP OF ARG
687	SDUMP, OCTAL DUMP OF ARG, LEADING ZEROS SUPPRESSED
688	NUMBER, TEST NUMBER INCREMENTER
689	SCOPEM, SCOPE
690	EMCALL, ERROR CALL EMT
691	STEPTSSF, SINGLE STEP TSSF
692	CHECKFOR, CHECK FOR PHASE ARG
693	CHECK, CHECK FOR PHASE, STATE ARG
694	SNAPSHOTPM, ?
695	LDNLK, LOAD AND LOCK MCLK MACRO
696	CLKCHK, CLOCK AND CHECK PHASE+STATE
697	LOAD, LOAD BIT IN REGISTER + MAP
698	REMOV, REMOVE BIT FROM REGISTER + MAP
663	MISCELLANEOUS DEFINITIONS
965	TRAP DEFINITIONS
1228	DX REGISTERS
1128	POWER FAIL
1182	STATUS POINTER WORD TABLE
1494	TUMBLE TABLE
1522	T1 NOP COMMAND
1532	T2 STOP ON PARITY ERROR
1632	T3 TEST I/O COMMAND
1657	T4 ILLEGAL COMMAND
1685	T5 SENSE COMMAND
1737	T6 READ COMMAND (POP OUTPUT)
1865	T7 WRITE COMMAND (POP INPUT)
1992	T10 SUPPRESS SUPPRESSABLE STATUS (ASYNC)
2252	T11 UNSUPPRESSABLE STATUS TEST
2168	T12 COMMAND CHAINING
2261	T13 SELECTIVE RESET
2319	T14 I/O STOP DURING ACTIVE READ
2381	T15 I/O STOP DURING WRITE
2444	T16 HIO DURING ACTIVE WRITE
2549	T17 HIO DURING ACTIVE READ
2639	T20 CONTENTION TEST
2696	T21 HIO AND TIO TO RELEASE STATUS (ON BSYEN ONLY)
2799	T22 CUBSY/CUE TEST (MUX/BSYEN ONLY)
2893	T23 INTERLEAVE TEST (MUX AND NO BSYEN ONLY)
3205	T24 END OF TEST STRING
3198	SETUP SELECTED PARAMETERS
3225	STATUS PRESENTATION
3258	DATA TRANSFER ROUTINES

TABLE OF CONTENTS

3318	ONLINE ROUTINE
3319	INITIAL SELECTION SEQUENCE
3476	WIO SUBROUTINE
3552	CUIS SUBROUTINE
3848	MONITOR
4118	MONITOR FILES
4339	MONITOR SUBROUTINES
4721	TTY ASCII OUTPUT ROUTINE
4756	SAVE AND RESTORE REGISTERS
4786	DCTAL DUMP ROUTINE
5113	MESSAGES
5121	DATA BUFFERS

THAT THE FUNCTIONAL SEPARATION OF TESTS WOULD FACILITATE
ADAPTION TO ACT11 AND ODP TESTING. THERE ARE ALSO TWO
OTHER MAIN:ECIS SUPPORTED BY DIAGNOSTICS THAT RUN THE
DX11B1

1. COMMUNICATION TEST PROGRAM (CTP)
2. GENERAL TEST PROGRAM (GTP) WITH DX OVERLAY
3. DEC/X11 WITH DX SOFTWARE MODULE

THESE TESTS OPERATE IN THE MAINTENANCE MODE
AND WERE DESIGNED TO DETECT UNIBUS DEVICE INTERACTION
PROBLEMS. ADDITIONALLY CTP HAS A "RESPONDER" MODE
SO THAT INTERACTION PROBLEMS MAY BE DETECTED WHILE RUNNING
ONLINE.

2. REQUIREMENTS

2.1 EQUIPMENT

PDP11 (MINIMUM 8K WORDS MEMORY)
ASR-33 (OR EQUIVALENT)
DX11B

2.2 STORAGE

ALL PROGRAMS LOAD IN 8K OF MEMORY

2.3 OTHER

A WORKING KNOWLEDGE OF ODT VERSION V200A.ODT IS NECESSARY

3. LOADING PROCEDURE

3.1 METHOD

ALL PROGRAMS ARE IN ABSOLUTE FORMAT AND ARE LOADED
USING THE ABSOLUTE LOADER.

ABSOLUTE LOADER START ADDRESS 0500

MEMORY •
SIZE

4K	17
8K	37
12K	57
16K	77
20K	117
24K	137
28K	157

3.1.1 LOAD ADDRESS OF ABS LOADER INTO SWITCHES

3.1.2 DEPRESS "LOAD ADDRESS" KEY ON CONSOLE

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3.1.3 DEPRESS "START" KEY ON CONSOLE

4. STARTING PROCEDURE

ONLINE DIAGNOSTIC REQUIRES THAT IT BE MAINTENANCE
CABLED -SEE MANUAL FOR DETAILS

NEVER NEVER NEVER RUN THE ONLINED MAINTENANCE CABLED
EXERCISER WHILE CONNECTED TO IBM

- A. SET SWITCH REGISTER TO 000200
- B. DEPRESS "LOAD ADDRESS" KEY
- C. DEPRESS START

THE PROGRAM WILL JUMP TO THE DIAGNOSTIC MONITOR AND
TYPE OUT THE OPERATING INSTRUCTIONS. THIS IS ONCE ONLY
CODE. TO RETYPE THE OPERATING INSTRUCTION THE OPERATOR
MAY EITHER RELOAD THE PROGRAM OR LOAD THE ADDRESS
"MONITOR" IN THE SWITCH REGISTER AND DEPRESS START.

4.1 CONTROL SWITCH SETTINGS

SR 15 HALT ON ERROR
SR 14 SCOPE ON TEST OR ERROR
SR 13 INHIBIT PRINTING
SR 12 TYPE SHORT ERROR REPORT
SR 11 INHIBIT INTERACTIONS
SR 10 CONTROL MAINTENANCE CLOCK (MAINT, CLK, TEST ONLY)
SR 9 ODT TRAP ON ERROR

!
REM

SR 2 MULTIPLEXER CHANNEL
SR 1 SET BUSY ENABLE

!
REM

4.2 STARTING ADDRESSES

ADDRESSES	COMMENT
000200	NORMAL START

WITH 200 LEFT IN THE SWITCHES THE PROGRAMS
TYPE OUT FULL INSTRUCTIONS ONCE AND
ABBREVIATED INSTRUCTIONS THEREAFTER.
WITH THE SWITCHES ZERO THE PROGRAMS SET
UP EITHER THE DEFAULT OR PREVIOUSLY

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SELECTED PARAMETERS AND IMMEDIATELY ASKS
 FOR THE DYNAMIC SWITCH SETTINGS

MONITOR RELOAD TAPE FOR RETYPING OF INSTRUCTIONS

700042 IF THIS LOCATION IS NONZERO THE PROGRAM ASSUMES
 IT IS RUNNING UNDER AC11 OR DDP AND USES THE
 DEFAULT PARAMETERS

0.007 ENTRANCE TO DDY-11X VERSION V006A.007
 MAY START THE PROGRAM BY TYPE 20716
 <CR>, (MAINTENANCE CLOCK TESTS ONLY)

NOTICE! HE WHO USES DDY IN A MEANS OTHER THAN EXPLICITLY
 DIRECTED BY THIS DOCUMENT DOES SO AT HIS OWN RISK.

9. OPERATING PROCEDURE

STARTING FROM 200 WITH SR<07> UP CAUSES THE FOLLOWING GENERAL
 TYPEOUT:
 MAINDEC-11-D2DX-X-0D (TEST DESCRIPTION) (APR 74)

TYPE1 <D>, FOR DEFAULT PARAMETERS
 <P>, FOR PREVIOUS PARAMETERS
 <S>, FOR SELECT PARAMETERS
 <N>, FOR START WITH THIS TEST NUMBER

(9. CONT'D)

D, P, S, N

IN RESPONSE TO THIS LAST QUESTION THE OPERATOR IS REQUIRED
 TO TYPE ONE OF THE LETTERS IN THE STRING. AT AUTO START
 TIME THE PROGRAM FIRST SETS UP ALL THE DEFAULT PARAMETERS
 "DEFAULT PARAMETERS" MEANS THE SET OF OPERATING VARIABLES
 SELECTED AT THE FACTORY. FOR EXAMPLE, THE DEFAULT ADDRESS
 IS 176200, THE DEFAULT VECTOR ADDRESS IS 300. THEREFORE, AT
 AUTO START TYPING "P" FOR PREVIOUSLY SELECTED PARAMETERS IS
 EQUIVALENT TO TYPING "D" FOR DEFAULT PARAMETERS.

IF ANY CHARACTER OTHER THAN ONE IN THE STRING IS TYPE THE
 MONITOR WILL REJECT THE CHARACTER AND RETYPE THE STRING.

IF, IN RESPONSE TO THE STRING, THE OPERATOR TYPES AN "N" THE
 SELECTION SEQUENCE IS ENTERED AND THE FOLLOWING DIALOGUE
 TAKES PLACE,

NOTE! THESE ARE THE DEFAULT PARAMETERS. TYPING <D> IS
 EQUIVALENT TO TYPING THE DEFAULT PARAMETERS.

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TEST NUMBER: 1
BASE ADDRESS: 176200
VECTOR ADDRESS: 300
DX PRIORITY LEVEL: 4
TYPE CU ADRES'S IN HEX <CR><LF> <CR><CR> TERMINATES LIST
ADRS: 10 (THIS IS IN HEX)
DEVICES PER CU: 20 (THIS IS IN OCTAL)
LIST ALL LEGAL COMMANDS
COMMAND:
SET SWITCHES

AT ANY TIME DURING THE "SELECTION SEQUENCE A CONTROL C
MAY BE TYPED AND THE MONITOR WILL ASK AGAIN "D,P,S,N?";

"TEST NUMBER"

HERE THE MONITOR IS ASKING FOR THE NUMBER OF THE FIRST TEST
IN THE CHAINING SEQUENCE. THE DEFAULT ANSWER IS "1" ONE,
THE FIRST TEST IN THE CHAIN. IT MAY BE THAT THE OPERATOR IS
ONLY INTERESTED IN THE LAST FEW TESTS AND THEREFORE WOULD
TYPE 22 OR WHATEVER. AT THIS WRITING THERE IS NO CHECK TO
SEE IF THE OPERATOR SELECTED A NONEXISTANT TEST NUMBER (E.G.
P1, 2, 4 MEG). SEE TABLE OF CONTENTS IN BEGINNING OF
LISTING.
-TYPING <CR> WILL DEFAULT THIS PARAMETER

(5: CONT'D)

"BASE ADDRESS: 176200"

THIS IS THE BASE ADDRESS FOR THE DX11 AND IS ALSO THE ADDRESS OF THE DXDS.
-TYPING <CR> WILL DEFAULT THIS PARAMETER

"VECTOR ADDRESS: 300"

THE DX11 IS CUT TO INTERRUPT TO ADDRESS 300 AT THE FACTORY.
ON SITE THE DX FOLLOWS, DC'S KL'S DP'S, DM'S DN'S, DMBB'S,
DR11'S, DR11A, DR11B, TYPESETTING AND BUS SWITCHES.
-TYPING <CR> WILL DEFAULT THIS PARAMETER

"TYPE CU ADRES'S IN HEX <CR><LF> <CR><CR> TERMINATES LIST

ADRS: 10 <CR><LF>
ADRS: 20 <CR><CR>
THIS REQUEST IS FOR THE CONTROL UNIT'S HEXIDECIMAL ADDRESS
OR ADDRESSES. CAUTION!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
DO NOT EXCEED 16 ENTRIES OF CU ADDRESSES. THE PROGRAM
MAY SELF DESTRUCT. IF THE SYSTEM REQUIRES THAT THERE BE
MORE THAN 16 CU ADDRESSES THEN THE DIAGNOSTICS MUST BE
RUN AGAIN FOR THOSE EXCEEDING 16 CAUTION!!!!
IN MAINTENANCE CLOCK 1 DIAGNOSTIC THE M900 MUST

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NOT BE CUT FOR MORE THAN 16 CU ADDRESSES

THE 19- CONTROL UNITS ADDRESSES ARE SPECIFIED IN HEXADECIMAL.
 FOR CONTROL UNIT 010(10) THE
 RESPONSE Y ADRS1 IS 12(HEX) WHICH IS 00210020(2).
 THE DX11 CAN EMULATE UP TO 128(10) CONTROL
 UNITS WITH 1 DEVICE EACH OR 1 CONTROL UNIT WITH 128(10)
 DEVICES OR AS IS THE DEFAULT CASE 1 CONTROL UNIT WITH 16(10)
 DEVICES. THE ADRS1 AND RESPONSE WILL CONTINUE
 INDEFINITE, Y AS LONG AS <CR><LF> IS TYPED FOLLOWING THE
 CU ADDRESS. THE LIST IS TERMINATED BY TYPING <CR><CR>.
 NOTE!!!! TYPING <CR><CR> IN RESPONSE TO THE FIRST ADRS1
 WILL DEFAULT THE CU ADDRESS TO 00 AND WILL ALSO
 TERMINATE THE LIST. (DEFAULT=10 HEX), THE ACTUAL 0 MUST BE TYPED IN

"DEVICES PER CUI 20"

THE RESPONSE TO THIS INPUT REQUEST IS IN OCTAL AND REPRESENTS
 THE NUMBER OF DEVICES THIS CONTROL UNIT SERVICES. A DX11
 EMULATED CONTROL UNIT CAN SERVICE FROM 1 TO 200(0) DEVICES.
 NOTE!!!! TYPING <CR> IN RESPONSE TO DEVICES PER CUI
 WILL DEFAULT TO 0, THEREBY CAUSING AN ILLEGAL NUMBER
 OF DEVICES PER CU MESSAGE. THE ACTUAL 0 MUST
 BE TYPED IN. (DEFAULT=20 OCTAL)
 THIS DIAGNOSTIC WILL REJECT <1 AND >20 DEVICES PER CU

(5. CONT'D)

A CHECK IS MADE HERE TO INSURE THAT THE OPERATOR
 DID NOT ASSIGN AN IMPOSSIBLE NUMBER OF DEVICES
 FOR EACH CONTROL UNIT.

TYPE CU ADRS'S IN HEX <CR><LF> <CR><CR> TERMINATES LIST
 ADRS1 F0
 DEVICES PER CUI 0
 ILLEGAL NUMBER OF DEVICES PER CU
 DEVICES PER CUI 4
 LIST ALL LEGAL COMMANDS
 COMMAND1

WHEN A "4" WAS TYPED IN RESPONSE TO DEVICES PER CUI,
 THE NUMBER WAS ACCEPTED AND THE MONITOR CONTINUED.

NOTICE! OFFLINE & ONLINE DIAGNOSTICS REQUIRE AT LEAST TWO CU DEVICE ADDRESSES
 FOR TESTING MULTIPLEXOR FUNCTIONS. THE M900 MUST ALSO BE STRAPPED FOR >1

"LIST ALL LEGAL COMMANDS"
 COMMAND1 400<CR>
 STATUS1 0 <CR><LF> TO CONTINUE LIST
 <CR><CR> TO TERMINATE LIST

THIS FACILITY WAS BUILT INTO THE DIAGNOSTIC TO ENABLE THE
 OPERATOR TO BUILD HIS OWN DEVICE STATUS TABLE (DST).
 A <CR> IN RESPONSE TO COMMAND1 ASSUMES THE DEFAULT DST;

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THE FIRST ENTRY MUST BE NONZERO, THEREFORE IF YOU WISH
 YOUR FIRST COMMAND TO BE A TIO=0 YOU MUST TYPE IT IN WITH
 PARITY (E.G. 400). FOLLOWING THE COMMAND THE MONITOR WILL
 ASK FOR THE CORRESPONDING STATUS.
 *TYPING <CR> WILL DEFAULT THIS PARAMETER

"SET SWITCHES"

HERE THE MONITOR ASKS FOR THE CONSOLE SWITCH SETTINGS.

SW(15) HALT ON ERROR
 SW(14) SCOPE LOOP
 <SW(13) INHIBIT ERROR PRINTOUT
 SW(12) SHORT ERROR REPORT
 SW(11) INHIBIT ITERATIONS
 SW(10) MAINTENANCE CLOCK CONTROL (MAINTENANCE TESTS ONLY)
 SW(9) OD TRAP ON ERROR

!
 ,REM 1

SW(2) MUX MODE
 SW(3) BSYEN MODE

!
 ,REM 1

LOAD THE SWITCH REGISTER WITH THE APPROPRIATE FUNCTION
 AND TYPE <CR>.

5.2 PROGRAM AND/OR OPERATOR ACTION

THE TYPICAL APPROACH SHOULD BE

1. HALT ON ERROR
 WHEN AN ERROR HALT OCCURS
2. CLEAR SW(15)
3. SET SW(14), SCOPE
4. TYPE <CR> FOR PROCEED IF ODT WAS SELECTED
 (SW(9)=1), OR PRESS CONTINUE ON THE CONSOLE
 IF ODT WAS NOT SELECTED SW(9)=0
 IF ERROR IS REPETITIVE;
5. SET SW(13) AND SCOPE ERROR

THE ERROR PC SHOULD BRING THE OPERATOR TO A POINT IN THE
 LISTING WHERE THE ERROR IS DOCUMENTED, THEN USING THE
 PRINTS AND THE FLOWS THE ERROR CAN BE TRACED TO ITS
 SOURCE.

!
 ,REM 1

AT ANY TIME DURING THE INITIALIZATION OR TESTING THE
 OPERATOR CAN TYPE CONTROL C AND CONTROL WILL BE RETURNED TO
 THE MONITOR, SOME TESTS ARE 5-10 SECONDS IN DURATION SO

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THE RESPONSE TO THE CONTROL C WILL NOT BE INSTANTANEOUS.
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 ;
 ,REN ;
 ;
 THE RESTART ADDRESS IS 200; IF THIS ADDRESS IS LEFT IN THE
 CONSOLE SWITCH WHEN "START" IS PRESSED THE MONITOR WILL TYPE
 OUT D,P,S,V? IF THE SWITCHES ARE ZEROED THE TYPE WILL BE
 "SET SWITCHES",
 ;
 THERE ARE TWO CALIBRATION TESTS (MAINT CLK1) THAT SHOULD BE RUN IN
 SCOPE MODE(T15 & T16), IT IS QUITE POSSIBLE THAT USING THE STANDARD
 OPERATIONS PROCEDURE PREVIOUSLY SUGGESTED THAT THE OPERATOR
 WILL FALL NATURALLY INTO THESE CALIBRATION TESTS, IF THE
 SYSTEM HAS BEEN BROUGHT UP ONCE BEFORE AND THE OPERATOR
 WISHES TO CHECK THE CALIBRATION THE FOLLOWING PROCEDURE
 SHOULD BE FOLLOWED:
 ;
 1. EXAMINE TABLE OF CONTENTS FOR THE TEST NUMBER (N) OF
 CALIBRATION ROUTINES,
 2. TYPE N IN RESPONSE TO D,P,S,V?
 3. PUT SW(14) UP IN RESPONSE TO "SWITCH SETTINGS"
 4. TYPE <YR> IF ERROR TYPE OUT OCCURS SET SW(13),
 ;
 5.2.1 MAINTENANCE CLOCK CONTROL (MAINTENANCE CLK1 & CLK2 DIAG. ONLY)
 ;
 WHEN SWITCH 10 IS SELECTED AND A MAINTENANCE CLOCK
 PROGRAM IS BEING RUN THE EXECUTION OF THE JSR PC, CLK
 SUBROUTINE WILL CAUSE A BREAK POINT TRAP TO ODT AND A
 TYPEOUT OF THE FOLLOWING FORMAT WILL OCCUR:
 ;
 AAAAAA B01NNNNNN
 ;
 ;
 THIS INDICATES THAT THE PROGRAM HAS TRAPPED TO ODT
 AND IS AWAITING THE COMMAND TO "PROCEED BEFORE EXECUTING
 THE NUMBER OF MAINTENANCE CLOCK PULSES SPECIFIED BY JSR PC,
 CLK N;
 UPON TYPING "P" THE PROGRAM WILL CONTINUE FROM LOCATION
 AAAAAA;
 ;
 THIS IS A USEFUL FEATURE IN SEVERAL
 RESPECTS. FIRST, IT ALLOWS THE OPERATOR TO SINGLE
 STEP THROUGH THE FLOWS; THE LISTING AIDS HERE ALSO IN
 THAT IT HIGHLIGHTS THE PHASE AND STATE; IN ADDITION
 TO WALKING THROUGH THE FLOWS THIS FEATURE ALSO ALLOWS THE
 OPERATOR TO EXAMINE DONE DISPLAYED DX REGISTERS AND
 KEY MEMORY LOCATIONS,
 ;
 IT IS REQUIRED THAT ONLY THE FOLLOWING ODT COMMANDS BE USED
 N/ OPENS WORD N
 P PROCEED FROM BREAK POINT
 NIG GOES TO WORD N AND STARTS PROGRAM
 <CR> CLOSSES OPEN LOCATION (CARRIAGE RETURN)
 <LF> OPENS NEXT LOCATION (LINE FEED)

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*C CONTROL C, RETURN TO DIAGNOSTIC MONITOR
ANY OTHER COMMANDS ARE USED AT THE OPERATORS OWN RISK.
IF OTHER COMMANDS ARE USED THE DX AND THEREFORE THE DIAG-
NOSTIC MAY BEHAVE STRANGELY, PLEASE RELOAD.

A TYPICAL SEQUENCE

SET SWITCHES

005536 001017044	
OP	PROCEED
005640 001017044	
OP	PROCEED
006032 001017044	
0176204/000900	EXAMINE 0xCS
176206 /002000	EXAMINE 0x08
176210 /00300	EXAMINE 0x0A
OP	PROCEED
006504 001017044	
.	CONTROL C
D,P,S,N?	MONITOR MODE

6.

ERRORS

TYPICALLY ERROR REPORTS TAKE THE FOLLOWING FORMAT.

ERROR PC1 017274
ERROR IN TEST: 17
CUADRS/HOI 000020
001020742

THIS INDICATES THAT WHILE EXECUTING TEST #17 ON ERROR STATE
WAS DETECTED AND IS DOCUMENTED AT PROGRAM COUNT 017274;
THE CONTRL UNIT UNDER TEST OF THE TIME OF ERROR WAS
20(0) AND THE IBM COMMAND WAS A NOP, IN SEVERAL CASES
THE COMMAND IS OF NO SIGNIFICANCE.

IF SWITCH 9 IS UP THE ERROR REPORT GENERATOR WILL
BREAK TO ODT AS INDICATED BY "00JNNNNNN", HERE AGAIN
THE POWER OF ODT MAY BE USED TO COLLECT ADDITIONAL
DATA CONCERNING THE FAULT.

A TYPICAL APPROACH MIGHT BE (AFTER COLLECTING DATA):
TYPE CONTRL C, RESULTS:

D,P,S,N? N
TEST NUMBER: 17
SET SWITCHES

IN RESPONSE TO SWITCHES SET THE FOLLOWING

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SR(15)=0 HALT ON ERROR
SR(14)=1 SCOPE
TYPE <CR>

IF THE ERROR IS REPEATABLE SET SR(13), INHIBIT PRINT
AND GO AT IT,
NOTICE: A TYPE OUT OF THE FORMAT BEJNNNNN INDICATES
A BREAK POINT ERROR AT NNNNNN, THIS IS AN ODT ERROR
AND CAN BE CAUSED BY 1, PLAYING GAMES WITH ODT OR
2, AN ILLEGAL BREAK TRAP I.E. T BIT SET OR EXECUTE
A 000003,

(6. CONT'D)

DURING MAINTENANCE CLOCK TESTS THERE EXISTS A SUBROUTINE
CALLED CHKREG, THIS ROUTINE EXAMINES ALL THE DX11
REGISTERS AND VERIFIES THAT THEY ARE IN THE EXPECTED STATE,
CHKREG HAS A SPECIAL ERROR TRAP THAT RESULTS IN THE
FOLLOWING TEXT:

ERROR PCI 017440
ERROR IN TEST: 17
CUADRS/MOI 000020
ORIGIN OF MAP ERROR 0176P2
REGISTER=CONTENTS=MAP

DXMI: 170777 000400 (DXMI IS UNREADABLE IGNORE THIS COMPARE)
DXCB: 074000 000000 (PHASE AND STATE FLOPS ARE NOT TRACED)
DXES: 000010 000010 (ERROR CONDITION IS THAT BIT2 IS SET)
001020742
.

D.P.S.N?

IN THIS REPORT THE REGISTERS ARE NAMED (UNDER REGISTER)
AND THEIR CONTENTS DUMPED (UNDER CONTENTS) SO THAT IT MAY
BE COMPARED WITH THE EXPECTED STATE IN THE MAP (UNDER MAP).

THERE ARE TWO ANOMALIES HERE:

1. THE DXMI IS OFTEN UNREADABLE THEREFORE IF THE DXMI
IS ALL ONES OR ALMOST ALL ONES DISREGARD THE COMPARISON
IT WAS NOT MADE,
2. THE PHASE AND STATES FLOPS ARE NOT COMPARED SO THAT
CHKREG CAN BE USED IN ROUTINE WITH FREE RUNNING CLOCKS,

THIS MEANS THAT THERE MUST BE A DIFFERENCE BETWEEN
CONTENTS AND MAP IN A REGISTER OTHER THAN THE DXMI OR BITS
OTHER THAN 074000.

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THE EXERCISER PROGRAMS DO TUMBLE TABLE TRACING ON INTERRUPT,
 IN THE EVENT OF A TRACE ERROR THE PROGRAM WILL TYPE OUT:

TT TRACE ERROR IN TEST: N1
 ORIGIN OF LAST TT UPDATE: N2
 TT ENTRY WAS: "WHATEVER"
 EXPECTED ENTRY: "WHATEVER +1"
 TT POINTER N3

THEN PROCEED WITH THE NORMAL ERROR REPORT, THE ADDRESS XXXXXX
 SPECIFIES THE LOCATION WHERE THE EXPECTED TT ENTRIES WERE
 LAST UPDATED.

EXERCISER ERROR REPORTS ALSO INDICATE THE
 DX MODE WHEN THE ERROR OCCURRED: MULTIPLEXOR OR BUSYEN
 (DX ONLINE AND DX OFFLINE EXERCISERS ONLY)

6.2 ERROR RECOVERY

IN THE EVENT THAT THE DX GETS STUCK IN AN UNRECOVERABLE
 PHASE AND STATE WHILE MAINTENANCE CLOCK ENABLE IS SET,
 DEPRESS MAINT AND START, THEN LOAD ADDRESS 280 AND START.

ON BREAK POINT ERRORS RELOAD TAPE

7. RESTRICTIONS

7.1 STARTING RESTRICTIONS

SEE SECTION 4.2

7.2 OPERATING RESTRICTIONS

NEVER NEVER NEVER RUN THE ONLINE-MAINTENANCE-CABLED
 EXERCISER WHILE CONNECTED TO IBM

8. MISCELLANEOUS

MAINT. CLK1 DIAGNOSTIC ONLY!!!!!!
 AT THE END OF THE PROGRAM IT WILL TYPE "END TEST SET SW3=1?".
 THIS IS TO SIGNIFY THAT SW3 MUST BE SET AT LEAST ONCE DURING THE
 USE OF THIS DIAGNOSTIC; IT IS NOT NECESSARY TO LEAVE SW3=1
 AS IT CONSUMES TOO MUCH DIAGNOSTIC TIME, BASICALLY THIS OPENS
 THE TEST THAT CHECKS THAT YOU HAVE CORRECTLY ANSWERED ALL THE
 CU ADDRESSES & DEVICES/CU QUESTIONS CORRECTLY. ... IF YOU LIED
 IT WILL CAUGH IT, IE, IF YOU ANSWERED THE DEVICES PER CU
 WITH 18(8) AND IN ACTUALITY THE DEVICES PER CU ARE CUT TO

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4 ON THE M900, THIS TEST WILL CATCH THE ERROR,
WHEN SW3=1 PROGRAM RUN TIME IS GREATLY INCREASED
AS IT CHECKS ALL OTHER ADDRESSES FOR ADRECC & ADRECO.

DX ONLINE & DX OFFLINE EXERCISERS!!!!!!
THESE PROGRAMS WILL DEFAULT TO AUTOMATICALLY SETTING
SW1=1 & SW2=1, HOWEVER, TO EXECUTE THEIR FUNCTIONS EARLY IN
THE PROGRAM RUN TIME. SET THEM BEFORE STRIKING <CR> WHEN
THE MONITOR ASKS "SET SWITCHES"
NOTE: AT LEAST 2 DEVICES/CU MUST BE STRAPPED ON M900

8.1 EXECUTION TIME

THE EXECUTION TIME OF EACH PROGRAM IS VARIABLE AND IS A
FUNCTION OF THE PROGRAM LENGTH AND THE CONTROL UNIT
ADDRESS STRUCTURE, IN GENERAL THEY RUN 10 TO 20 MINUTES.

9. PROGRAM DESCRIPTION

CONTAINED WITHIN LISTING,

10. LISTING

FOLLOWING

11. FLOW CHARTS

SEE PRINT SET

1
LIST MD

.REM *

MAINDEC=110D2DXG=C#D
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146 MAIN ST, MAYNARD, MA, 01754
MAINTAINER: DIAGNOSTICS
AUTHOR: JOHN FRIEDRICH

***** MOD APR 74 *****

10
10 REVISED: BY W. ARMSTRONG

.SBTTL DYNAMIC SWITCH SETTINGS (SWN 01)

10 DYNAMIC SWITCH REGISTER SETTINGS

10	SWR0	SIGNIFICANCE1
10	SET = ONE	
10	SW 10	"HALT ON ERROR"
10	SW 14	"SCOPE LOOP"

649	10	SWR 13	"INHIBIT ERROR REPORT"
650	10	SWR 12	"SHORT ERROR REPORT"
651	10	SWR 11	"INHIBIT ITERATIONS"
652	10		
653	10	SWR 22	"MUX MODE"
654	10	SWR 21	"BSYEN MODE"
655	10		
656	10		"USER CHANGE INFORMATION"
657	10		"DUE TO REVISION APR 74"
658	10		"PLEASE READ INFO BELOW"
659	10		
660	10	NOTE1	
661	10		AN OPERATOR RESPONSE OF "B" TO THE PROGRAM
662	10		"TTY" REQUEST FOR "DEVICES PER CUI" IS NO
663	10		LONGER DEFAULTED TO 20 (10 DECIMAL), I.E.
664	10		
665	10	DEVICES PER CUI B	"ILLEGAL ?"
666	10		
667	10		THE HEADER "CU CHANNEL ADDRESS" USED ON ERROR
668	10		OUTPUT HAS BEEN CHANGED TO "CUADRS/HOI". I.E.
669	10		IT SIGNIFIES EITHER THE CONTENTS OF THE "DXMO"
670	10		REGISTER OR THE CONTROL UNIT BASE ADDRESS WHERE
671	10		MEANINGFULL.
672	10		
673	10		 MOD APR 74

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100020
 240000
 320020
 310020
 304000
 334020
 002020
 301000
 000400
 300200
 000100
 300040
 300020
 300010
 300024
 300032
 300031
 100000
 240000
 320000
 310000
 304000
 302000
 301000
 000400
 000200
 000100
 300040
 000030
 000006
 000001
 000003
 000005
 000007
 300001
 300200
 300100
 300040
 300020
 300010
 300004
 300002
 300001

IDXDS, DX DEVICE STATUS BITS

PARER =100000
 NYM = 40000
 SELRST = 20000
 SYSRST = 10000
 INFOSC = 4000
 IBMRST = SELRST|SYSRST|INFOSC
 UCHK = 2000
 CHEND = 1000
 BSYS = 400
 CHIS = 400
 ESEND = 100
 CHDEND = 40
 CUDEND = 20
 ISSREJ = 10
 CHDCHN = 4
 STKSTB = 2
 CHDREJ = 1

IERHORS
 INONEXISTANT MEMORY REFERENCE
 IBM RESPTS) SELECTIVE RESET
 I SYSTEM RESET
 I INTERFACE DISCONNECT
 ISTATUS FLAGS
 ICHANNEL END SENT
 IBUSY SENT
 ICHANNEL INITIATED SELECTION
 IENDING STATUS END
 ICH DATA END
 ICU DATA END
 ISS REJECT
 ICOMMAND CHAINING
 ISTACKED STATUS 0
 ICOMMAND REJECT

IDXCS,DX CONTROL UNIT STATUS BITS

PARSTP=100000
 CUPBM = 40000
 ENDEM = 20000
 CS12 = 10000
 BSVEN = 4000
 CS10 = 2000
 ONLINA = 1000
 CUBSY = 400
 DONE = 200
 INTEN = 100
 STKSTA = 40
 XBA = 30
 FCTN = 0
 DXPRS = 1
 DXPI = 3
 DXFO = 9
 DXFST = 7
 GO = 1

ISTOP ON BUS9 PARITY ERROR
 ISELECT FORCED BURST
 ICUEND
 INOT USED
 IENABLE SET ICUBSY
 INOT USED
 IONLINE A
 ICU BUSY
 IFUNCTION DONE
 INTERRUPT
 ISTACKED STATUS
 IEXTENDED BASE ADDRESS
 IFCTN = 00
 IREAD (INPUT)
 IWRITE (OUTPUT)
 ISTATUS
 IBEGIN FUNCTION

IDXOS DX OFFSET (CUOR) AND STATUS (CUSR) BITS

ATTEN =200
 STAMOD=100
 CUEND = 40
 BSY = 20
 CHEND = 10
 DEVEND = 4
 UCHECK = 2
 UEXCEP = 1

IATTENTION
 ISTATUS MODIFIER
 ICU END
 IBUSY
 ICH END
 IDEVICE END
 IUNIT CHECK
 IUNIT EXCEPT

728		1DXMO DX MAINTENANCE-OUT BITS	
729			
730		ISELECTION CONTROL LINES	
731	100070	OPLO = 10000F	1OPERATIONAL OUT
732	740070	HLDO = 40000	1HOLD OUT
733	720070	SELO = 20020	1SELECT OUT
734	710070	SUPO = 10000	1SUPPRESS OUT
735			
736		ITAG LINES	
737	704070	ADRO = 400F	1ADDRESS OUT
738	202000	CHDO = 2000	1COMMAND OUT
739	701070	SRVO = 100F	1SERVICE OUT
740	700470	PARO = 40F	1PARITY OFF FOR BUS OUT
741		1DXMI DX MAINTENANCE-IN BITS	
742			
743		ISELECTION CONTROL LINES	
744	100070	OPLI = 100000	1OPERATIONAL IN
745	740070	SELI = 4000F	1SELECT IN
746	720070	RECI = 20000	1REQUEST IN
747			
748		ITAG LINES	
749	710070	ADRI = 10000	1ADDRESS IN
750	704070	STAI = 4000	1STATUS IN
751	702070	SRVI = 2000	1SERVICE IN
752	701070	CLKO = 1000	1OK TO GO ONLINE (R0)
753	700470	PARI = 40F	1BUS PARITY (R0)
754			
755		1DXCB DX CONTROL BITS	
756			
757	100070	LOCKO = 10000F	1LOCK OUT
758	774070	PHS = 7074000	1PHASE & STATE BITS
759	702070	FASTCU = 2000	1FAST CU
760	701070	SYNO = 1000	1SYNCHRONIZATION
761	700470	CUDX = 400	1CU DATA CONTROL
762	700270	IOO = 200	1INPUT OUTPUT DONE
763			
764		INPR CONTROLS	
765	700170	BYPAS = 10F	1BYPASS
766	700040	NPRX = 40	1NPR CONTROL SWITCH
767	700020	NPRY = 20	1NPR TRANSFER DIRECTION
768	700010	HALF = 10	1BUFFERED ALTERNATOR FLOP
769	700074	ONLINB = 4	1ON LINE TO IBM
770	700002	ADRECC = 2	1ADDRESS RECOGNITION (CU)
771	700001	ADRECD = 1	1ADDRESS RECOGNITION (DEVICE)
772			
773		1DXES DX EXTRA SIGNALS	
774			
775	700071	MCLKP=1	1MAINTENANCE CLOCK PULSE
776	700002	MCLKEN=2	1MAINT, CLK ENABLE
777	700004	SOSIEN=4	1SRVC-SRVI ENABLE
778	700010	TIMDIS=10	1TIMER(5 SEC) DISABLE
779	700020	DXTO=20	1DX TIMEOUT (5 SEC)
780	700040	NPRTO=40	1NPR TIMEOUT (8 MICROSEC)
781	700270	INTREQ=200	1INTERRUPT REQUEST

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000001
 000022

 000070
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 000010
 000012
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 000070
 010070
 020070
 030070
 040070
 050070
 060070
 070070

 004000
 004070
 000070

 004000
 000070
 014000
 010070
 024070
 020070
 034000
 030070
 044000
 040070
 054000
 050070
 064000
 060070
 074000
 070070

IDXES1 DX EXTRA EXTRA SIGNALS

IRS =1
 DSCRSP =2

IIRH RESET STORED
 IDISCONNECT RESPONSE

IDEFINE REGISTER MAP INDICES

DS# 20
 CA# 22
 CS# 24
 OS# 26
 RA# 10
 BC# 12
 MO# 14
 MI# 16
 CB# 20
 ND# 22
 ES# 24

IPHASE CONTROL FLOPS OF DXCB

PHASE0=00000
 PHASE1=10000
 PHASE2=20000
 PHASE3=30000
 PHASE4=40000
 PHASE5=50000
 PHASE6=60000
 PHASE7=70000

ITIME STATE FLOP AND STATE DEFINATION

TS3F=4000
 TS1=4000
 TS2=0000

IPHASE AND STATE DEFINITIONS

PH0010	PHASE01	TS1
PH0020	PHASE01	TS2
PH0110	PHASE11	TS1
PH0120	PHASE11	TS2
PH0210	PHASE21	TS1
PH0220	PHASE21	TS2
PH0310	PHASE31	TS1
PH0320	PHASE31	TS2
PH0410	PHASE41	TS1
PH0420	PHASE41	TS2
PH0510	PHASE51	TS1
PH0520	PHASE51	TS2
PH0610	PHASE61	TS1
PH0620	PHASE61	TS2

836	7740F0	PH9710 PHASE71 TS1	
837	778070	PH9720 PHASE71 TS2	
838			
839		.SBTTL MISCELLANEOUS DEFINITIONS	
840			
841	104400	SCOPE=TRAP	ISCOPE LOOP TRAP
842			
843	1000F0	017150100000	
844	7400F0	017140400000	
845	7200F0	017130200000	
846	7100F0	017120100000	
847	604000	017110400000	
848	6020F0	017100200000	
849	0010F0	017001000000	
850	0004F0	017004000000	
851	0002F0	017002000000	
852	2001F0	017001000000	
853	200040	017000400000	
854	000020	017000200000	
855	000010	017000100000	
856	000004	017000040000	
857	000002	017000020000	
858	200001	017000010000	
859	200000	HERE=0	
860			
861		ICHANNEL COMMANDS WITH PARITY	
862			
863	0004F0	Y10C=400	ITEST I/O
864	0000F1	WRITEC=001	IWRITE
865	0000F2	READC=002	IREAD
866	0004F3	NOPC=403	INOP
867	000004	SENSEC=4	ISENSE
868	0004F5	ILLC=405	ILLEGAL COMMAND
869			
870		UTILITY FLAGS	
871			
872	100000	INTOK=100000	
873	0000F2	DOPLIN=2	ISPM BIT FOR NO DST !
874			
875		ICHANNEL STATUS	
876			
877	000010	CE=10	ICH END
878	000004	DE=4	IDevice END
879	000002	UC=2	IUNIT CHECK
880	0002F0	ATTN=200	IATTENTION
881	000100	SM=100	ISTATUS MODIFIER
882	000040	CUE=40	ICU END
883	000020	BSY=20	IBUSY
884			
885		ISWITCH DEFINITIONS	
886			
887	100000	HLTSH=BIT15	IHALT ON ERROR
888	740020	LOPSH=BIT14	ILOOP ON ERROR
889	020020	PNTSH=BIT12	IINHIBIT PRINT

890	010070	SESW=BIT12	ISWORT ERROR SWITCH
891	204070	ISSW=BIT11	ISSWORT ITERATIONS
892	202070	MCCSW=BIT13	MAINTENANCE CLOCK CONTROL
893			
894		IPROCESSOR PRIORITY LEVELS	
895			
896	200070	LEVEL0= 000	
897	000040	LEVEL1= 240	
898	700100	LEVEL2= 100	
899	000140	LEVEL3= 140	
900	700200	LEVEL4= 200	
901	000240	LEVEL5= 240	
902	700300	LEVEL6= 300	
903	200340	LEVEL7= 340	
904			
905		IREGISTER DEFINITIONS	
906			
907	000000	R0=X0	
908	700001	R1=X1	
909	700002	R2=X2	
910	700003	R3=X3	
911	700004	R4=X4	
912	700005	R5=X5	
913	700006	TTY=X6	
914	000007	R6=X6	
915	000008	SP=X6	ISTACK POINTER
916	700009	PC=X7	IPROGRAM COUNTER
917			
918	000014	TYPE=107	
919	700240	NOP=240	
920	177776	PS=177776	IPROCESSOR STATUS
921	177570	SWR=177570	
922	177570	SR=177570	ISWITCH REGISTER
923			
924	700000	E=0	
925	720574	EMTABLE=EMTAG	
926			
927		IENT DEFINITIONS	
928			
929	001004	104070	ERROR
930	701006	104001	MAPERR
931	001010	104002	TRACER
932	001012	104003	SAVRG
933	001014	104004	RSTRG
934	701016	104005	ACCEPTO
935	001020	104006	KEY,TO,RR
936	001022	104007	PARITY
937	001024	104010	PCH1
938	001026	104011	PCH2
939	001030	104012	PCH3
940			
941		.SBTTL TRAP DEFINITIONS	
942			
943		ITRAP INITIALIZATION	

```

944
945      000014      016020      000340      ,=14      0,BRK,LEVEL7      IBREAK TRAP
946
947
948      000020      025214      000340      ,=20      ,IOT,LEVEL7      ITTY OUTOUT TRAP,LEVEL 7
949
950
951      000024      001444      000340      ,=24      PFAIL,LEVEL7      IPOWER FAIL TRAP
952
953
954      000030      020442      000340      ,=32      EMYDECODER,LEVEL7      IEMT DECODER TRAP,LEVEL 7
955
956
957      000034      020210      000340      ,=34      SCOPEC,LEVEL7      ISCOPE TRAP
958
959
960
961      000200      ,=200
962
963      000200      000137      001100      START: JMP      000000      IGO TO BEGINNING OF PROGRAM
964
965      001100      ,=1100
966
967      001100      012730      001100      BEGIN: MOV      000000,SP      ISET UP STACK POINTER
968      001104      012737      000340      177776      MOV      016016,PS      IPRIORITY LEVEL 7
969
970      ..... MOD APR 74 .....
971      ..... 11/42,11/45 TRACE TRAP .....
972
973      001112      012737      000002      016020      MOV      02,RTX
974      001120      012737      001154      000010      MOV      01,ITB,0010
975      001126      012737      000340      000012      MOV      0340,0012
976      001134      005040      CLR      0(,P)
977      001136      012740      001144      MOV      01,ITZ,0(SP)
978      001142      000000      RTT
979      001144      012737      000006      016020      INITZ: MOV      06,RTX
980      001152      000402      BR      INITC
981      001154      062700      000010      INITB: ADD      01,SP
982      001160      013737      016020      016016      INITC: MOV      RTX,YESMTI
983      001166      012737      000012      000010      MOV      01,0010
984      001174      005037      000012      CLR      0012
985
986      ..... MOD APR 74 .....
987
988      001200      005737      000042      TST      0042      IACT11
989      001204      001404      BEQ      BGN0      IBR IF NO
990      ,      JSR      PC+MONDFT      IINSERT DEFAULT PARAMETERS
991      001206      005037      022060      CLR      000000      IDO NOT EXECUTE TIME CONSUMING TESTS
992      001212      000137      022250      JMP      000011      I
993      001216      005327      000001      BGN0: DEC      01
994      001222      001002      RNE      BGN1
995      001224      000137      021334      JMP      000010      I
996      001230      032737      000200      177570      BGN1: BIT      02,0,SR      ITEST FOR FAST START
997      001236      001422      BEQ      BGN2      IBRANCH IF FAST START
  
```

998	#01240	000137	P21404		JMP	#MON1,0	
999	#01244	212706	P01100		MOV	#BEGIN,SP	
1000	#01250	012737	P00340	177776	MOV	#LEVEL7,PS	
1001	#01256	000137	P22224		JMP	0070410	USE PREVIOUS PARAMETERS
1002							
1003							
1004							
1005							
1006	#01262	176200			DXBASE1	176200	
1007	#01264	000300			DXIV1	300	IDX INTERRUPT VECTOR ADRS
1008	#01266	000302			DXIS1	302	IDX INTERRUPT STATUS
1009	#01270	000200			DXPR1	LEVEL4	INT PRIORITY ADRS
1010	#01272	000140			LESS11	LEVEL3	IDX PRIORITY MINUS ONE
1011	#01274	176200			DXDS1	176200	IDevice STATUS >>T
1012	#01276	176202			DXCA1	176202	ICOMMAND AND ADDRESS >>T
1013	#01300	176204			DXCS1	176204	ICONTROL UNIT STATUS
1014	#01302	176206			DXOS1	176206	IOFFSET AND STATUS
1015	#01304	176210			DXBA1	176210	IBUS ADDRESS FOR NPR'S
1016	#01306	176212			DXBC1	176212	IBYTE COUNT
1017	#01310	176214			DXMO1	176214	IMAINTEANCE OUT
1018	#01312	176216			DXMI1	176216	IMAINTEANCE IN
1019	#01314	176220			DXCB1	176220	ICONTROL BITS
1020	#01316	176222			DXND1	176222	INPR DATA
1021	#01320	176224			DXES1	176224	EXTRA SIGNALS
1022	#01322	176226			DXMOB1	176226	IMAINTEANCE OUT BUFFERED
1023	#01324	176230			DXES11	176230	EXTRA EXTRA SIGNALS
1024							
1025							
1026							
1027							
1028							
1029	#01326	176202			CUARI	176202	ICU ADDRESS REGISTER
1030	#01330	176203			CUCRI	176203	ICU COMMAND REGISTER
1031							
1032							
1033							
1034	#01332	176206			CUSRI	176206	ICU STATUS REGISTER
1035	#01334	176207			CUORI	176207	ICU OFFSET REGISTER
1036							
1037							
1038							
1039	#01336	176214			BUSOI	176214	IBM BUS OUT
1040	#01340	176215			CONOI	176215	ICONTROL LINES OUT
1041							
1042							
1043							
1044	#01342	176216			BUSI1	176216	IBM BUS IN
1045	#01344	176217			CONI1	176217	ICONTROL LINES IN
1046							
1047							
1048	#01346	176224			IDXES		IMISCELLANEOUS BITS
1049	#01350	176225			MISCI	176224	
1050					TTNDX1	176225	ITUMBLE TABLE INDEX REG
1051							

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 1253 001352 176226
 1254 001354 176227
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 1256
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 1258 001356 177700
 1259 001360 177701
 1260 001362 177702
 1261 001364 177703
 1262 001366 177704
 1263 001370 177705
 1264 001372 177706
 1265 001374 177707
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 1269 001376 177560
 1270 001400 177562
 1271 001402 177564
 1272 001404 177566
 1273
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 1275
 1276 001406
 1277 001406 000000
 1278 001410 000000
 1279 001412 000000
 1280 001414 000000
 1281 001416 000000
 1282 001420 000000
 1283 001422 000000
 1284 001424 000000
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 1286 001430 000000
 1287 001432 000000
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 1293 001436 002000
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 1297 001440 003000
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 1300
 1301 001442 026000
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BUS001 176226
 CON001 176227

IBUS OUT BUFFERED
 ICONTROL OUT BUFFERED

IREGISTER ADDRESSES

REG01 177700
 REG11 177701
 REG21 177702
 REG31 177703
 REG41 177704
 REG51 177705
 REG61 177706
 REG71 177707

ITTY ADDRESSES

TKS1 177560
 TK01 177562
 TFS1 177564
 TP01 177566

IREGISTER TRACE TABLE

REGTY1
 TOXDS1 0
 TOXCA1 0
 TOXCS1 0
 TOXOS1 0
 TOXBA1 0
 TOXMO1 0
 TOXMI1 0
 TOXCB1 0
 TOXND1 0
 TOXES1 0
 TOXES11 0
 TTYNDX1 0

IREGISTER TRACE TABLE
 IDEVICE STATUS TRACE
 ICOMMAND AND ADDRESS TRACE
 ICU STATUS TRACE
 IOFFSET AND STATUS TRACE
 IBUS ADDRESS TRACE
 IMAINTENANCE OUT TRACE
 IMAINTENANCE IN TRACE
 ICONTROL BIT TRACE
 INPR DATA TRACE
 IEXTRA SIGNAL TRACE
 IEXTRA SIGNAL TRACE 1
 ITYNDX TRACE

ISTATUS POINTER WORD ADDRESS

SPW1 2000

ITUMBLE TABLE ADDRESS

TY1 3000

IDevice STATUS TABLE ADDRESS

DSY1 DSYADRS IDST MUST BE MOD(400)

.80TYL POWER FAIL

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```

IPower FAIL ROUTINE
 IIF SELECTED VERIFY STATUS IN IS UP
 IAND CE AND DE ARE PRESENTED AS STATUS

```

PFAIL: SAVRG
MOV R0,SAVR0
MOV #PHRUP,24
BIT #S1LO,POXMO
BEQ 15
BIT #OPL1,POXMI
BNE ,+2 ;BRANCH IF NO ERROR CONDITION
ERROR
BIT #STA1,POXMI
BNE ,+2 ;BRANCH IF NO ERROR CONDITION
ERROR
CMPB #CE,DE,OBUSI
BEQ ,+2 ;BRANCH IF NO ERROR CONDITION
ERROR
15: HALT

```

IPower UP ROUTINE

```

PHRUP: NOP ;PATCH ANYONE?
MOV SAVRG,R0
RSTRG
MOV #PFAIL,24 ;RESTORE POWER FAIL VECTOR
MOV SPW,POXOS ;RESTORE OFFSET REG
JSR PC=RESRES ;RESET AND RESTORE
CLR (PC)+ ;STALL FOR MECHANICS
R
DEC ,+2
BNE ,+4
TYPE ,PFLD ;POWER FAILED

```

```

MOV (SP)+,PS
JMP @RETURN
SAVR0: 0
PFLD1 ,ASCIZ "POWER FAILED"
,EVEN

```

,SBTT STATUS POINTER WORD TABLE
 ENDSYB., ;DEFINE END OF START CODE

1160 002000

002000
 IDEFAULT STATUS POINTER WORD (SPW)
 IDEFAULT EMULATION IS OF ONE CONTROL UNIT
 WITH CAPACITY OF 20 DEVICES
 N=0

1164 000070

STATUS POINTER WORDS FOR CU 0

1160	002000	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1169	002002	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1170	002004	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1171	002006	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1172	002010	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1173	002012	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1174	002014	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1175	002016	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1176	002020	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1177	002022	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1178	002024	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1179	002026	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1180	002030	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1181	002032	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1182	002034	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1183	002036	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

STATUS POINTER WORDS FOR CU 1

1187	002040	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1188	002042	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1189	002044	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1190	002046	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1191	002050	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1192	002052	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1193	002054	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1194	002056	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1195	002060	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1196	002062	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1197	002064	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1198	002066	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1199	002070	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1200	002072	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1201	002074	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1202	002076	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

STATUS POINTER WORDS FOR CU 2

1206	002100	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1207	002102	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1208	002104	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1209	002106	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1210	002110	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1211	002112	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1212	002114	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1213	002116	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

1214	002120	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1215	002122	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1216	002124	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1217	002126	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1218	002130	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1219	002132	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1220	002134	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1221	002136	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

STATUS POINTER WORDS FOR CU 3

1222									
1223									
1224									
1225	002140	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1226	002142	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1227	002144	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1228	002146	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1229	002150	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1230	002152	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1231	002154	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1232	002156	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1233	002160	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1234	002162	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1235	002164	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1236	002166	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1237	002170	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1238	002172	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1239	002174	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1240	002176	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

STATUS POINTER WORDS FOR CU 4

1241									
1242									
1243									
1244	002200	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1245	002202	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1246	002204	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1247	002206	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1248	002210	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1249	002212	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1250	002214	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1251	002216	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1252	002220	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1253	002222	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1254	002224	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1255	002226	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1256	002230	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1257	002232	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1258	002234	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1259	002236	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

STATUS POINTER WORDS FOR CU 5

1260									
1261									
1262									
1263	002240	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1264	002242	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1265	002244	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1266	002246	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1267	002250	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

1268	002252	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1269	002254	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1270	002256	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1271	002260	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1272	002262	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1273	002264	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1274	002266	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1275	002270	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1276	002272	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1277	002274	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1278	002276	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST

STATUS POINTER WORDS FOR CU 6

1282	002300	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1283	002302	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1284	002304	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1285	002306	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1286	002310	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1287	002312	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1288	002314	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1289	002316	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1290	002320	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1291	002322	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1292	002324	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1293	002326	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1294	002330	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1295	002332	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1296	002334	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1297	002336	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST

STATUS POINTER WORDS FOR CU 7

1301	002340	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1302	002342	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1303	002344	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1304	002346	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1305	002350	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1306	002352	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1307	002354	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1308	002356	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1309	002360	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1310	002362	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1311	002364	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1312	002366	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1313	002370	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1314	002372	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1315	002374	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1316	002376	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST

STATUS POINTER WORDS FOR CU 10

1320	002400	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1321	002402	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST

1322	002404	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1323	002406	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1324	002410	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1325	002412	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1326	002414	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1327	002416	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1328	002420	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1329	002422	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1330	002424	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1331	002426	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1332	002430	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1333	002432	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1334	002434	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1335	002436	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST

STATUS POINTER WORDS FOR CU 11

1336				
1337				
1338				
1339	002440	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1340	002442	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1341	002444	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1342	002446	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1343	002450	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1344	002452	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1345	002454	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1346	002456	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1347	002460	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1348	002462	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1349	002464	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1350	002466	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1351	002470	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1352	002472	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1353	002474	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1354	002476	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST

STATUS POINTER WORDS FOR CU 12

1355				
1356				
1357				
1358	002500	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1359	002502	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1360	002504	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1361	002506	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1362	002510	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1363	002512	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1364	002514	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1365	002516	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1366	002520	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1367	002522	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1368	002524	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1369	002526	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1370	002530	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1371	002532	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1372	002534	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST
1373	002536	025000	ERRDST	IDEVICE STATUS TABLE IS AT ERRDST

STATUS POINTER WORDS FOR CU 13

1374
1375

1376									
1377	002540	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1378	002542	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1379	002544	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1380	002546	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1381	002550	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1382	002552	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1383	002554	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1384	002556	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1385	002560	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1386	002562	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1387	002564	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1388	002566	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1389	002570	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1390	002572	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1391	002574	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1392	002576	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

STATUS POINTER WORDS FOR CU 14

1393									
1394									
1395									
1396	002600	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1397	002602	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1398	002604	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1399	002606	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1400	002610	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1401	002612	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1402	002614	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1403	002616	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1404	002620	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1405	002622	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1406	002624	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1407	002626	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1408	002630	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1409	002632	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1410	002634	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1411	002636	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

STATUS POINTER WORDS FOR CU 15

1412									
1413									
1414									
1415	002640	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1416	002642	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1417	002644	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1418	002646	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1419	002650	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1420	002652	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1421	002654	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1422	002656	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1423	002660	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1424	002662	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1425	002664	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1426	002666	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1427	002670	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1428	002672	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST
1429	002674	025000	ERRDST	IDEVICE	STATUS	TABLE	IS	AT	ERRDST

ADDRESS	DATA	DESCRIPTION
1430	002670 0250F0	ERRDST
1431		IDEVICE
1432		STATUS
1433		TABLE
1434	002700 0250F0	IS AT ERRDST
1435	002702 0250F0	IS AT ERRDST
1436	002704 0250F0	IS AT ERRDST
1437	002706 0250F0	IS AT ERRDST
1438	002710 0250F0	IS AT ERRDST
1439	002712 0250F0	IS AT ERRDST
1440	002714 0250F0	IS AT ERRDST
1441	002716 0250F0	IS AT ERRDST
1442	002720 0250F0	IS AT ERRDST
1443	002722 0250F0	IS AT ERRDST
1444	002724 0250F0	IS AT ERRDST
1445	002726 0250F0	IS AT ERRDST
1446	002730 0250F0	IS AT ERRDST
1447	002732 0250F0	IS AT ERRDST
1448	002734 0250F0	IS AT ERRDST
1449	002736 0250F0	IS AT ERRDST
1450		
1451		IS AT ERRDST
1452		STATUS
1453	002740 0250F0	IS AT ERRDST
1454	002742 0250F0	IS AT ERRDST
1455	002744 0250F0	IS AT ERRDST
1456	002746 0250F0	IS AT ERRDST
1457	002750 0250F0	IS AT ERRDST
1458	002752 0250F0	IS AT ERRDST
1459	002754 0250F0	IS AT ERRDST
1460	002756 0250F0	IS AT ERRDST
1461	002760 0250F0	IS AT ERRDST
1462	002762 0250F0	IS AT ERRDST
1463	002764 0250F0	IS AT ERRDST
1464	002766 0250F0	IS AT ERRDST
1465	002770 0250F0	IS AT ERRDST
1466	002772 0250F0	IS AT ERRDST
1467	002774 0250F0	IS AT ERRDST
1468	002776 0250F0	IS AT ERRDST
1469		
1470		IS AT ERRDST
1471	003000	IS AT ERRDST
1472		IS AT ERRDST
1473	003000 000400	IS AT ERRDST
1474		IS AT ERRDST
1475	004000	IS AT ERRDST
1476		IS AT ERRDST
1477		IS AT ERRDST

```

1478 I .....
1479 ITEST 1 NO: COMMAND
1480 I .....
1481 P04070 104420 TST11 SCOPE
1482 P04072 P12737 P00001 020334 MOV 017001COUNT IITERATION COUNT
1483 P04010 P12737 P00001 021316 MOV 017001RTSTN ISAVE TEST # FOR ERROR REPORT
1484 P04016 P12737 P04024 020340 MOV 0SCP1,0RETURN ISCOPE LOOP RETURN ADNS
1485 P04024 SCP11
1486
1487 ,REM *
1488 THE FUNCTION OF THIS TEST IS TO VERIFY THAT ALL STATUS COMBINATIONS
1489 (EXCEPT UNIT CHECK) CAN BE FETCHED FROM THE DSY AND PRESENTED TO
1490 THE CHANNEL PROPERLY,
1491 *
1492 P04024 P13733 P01442 MOV DSY,R3
1493 P04030 P05027 CLR (PC)+
1494 P04032 P00000 NOPSTA: R INOP STATUS
1495 P04034 113763 P04032 000003 NOPC11 MOVB NOPSTA,3(R3) ILOAD NOP STATUS IN DSY
1496 P04042 142763 000002 000003 BICB 0UC,3(R3) IDONT PRESENT UNIT CHECK
1497 P04050 004737 P24254 JSR PC,RESRES IRESET AND RESTORE
1498 P04054 P12737 P00403 022670 MOV 0NOPC,0SCMD ILOAD COMMAND
1499 P04062 P04737 P16332 JSR PC,ISS,SUB IEXECUTE SELECTION
1500 P04066 105237 P04032 INCB NOPSTA
1501 P04072 P01360 BNE NOPC1
1502
1503 P04074 112763 P00014 000003 MOVB 0CEIDE,3(R3) IRESTORE CE DE
1504 P04102 P04737 P24254 JSR PC,RESRES IDX RESET AND RESTORE
1505
1506

```

```

1527      I .....
1528      ITEST 2      ST P ON PARITY ERROR
1529      I .....
1530      TS721      SCPL
1531      MOV      #12,PCICOUNT      IITERATION COUNT
1532      MOV      #2,PCLESTYN      ISAVE TEST # FOR ERROR REPORT
1533      MOV      #SCP2,PCRETURN      ISCOPE LOOP RETURN ADNS
1534      SCP21
1535
1536
1537      ITRANSMIT 4 BYTES USING AN IBM WRITE
1538      ITHE FOURTH BYTE HAS HAD (EVEN) PARITY
1539
1540      MOV      #BIT1,PCPARA      IDO NOT EXECUTE TEST IF BUSY
1541      BEO      PETB      IBRANCH IF NOT BUSY
1542      JMP      #ERR1      IEXIT IF BUSY
1543      PETB1
1544      MOV      #WRITEC,PCCMD      ILOAD COMMAND
1545      JSR      PCCONTRANT      IIT TRACE TRACE INIT
1546      MOV      #CMIS,PCENTRY1      ILOAD EXPECTED IT ENTRY 1
1547      MOV      #OLESS1,PS      ILOWER PROCESSOR STATUS
1548      MOV      #1,PCINTERPC      IORIGIN OF TRAP ERROR
1549      JSR      PCISS,SUB      ISELECT
1550
1551
1552      MOV      #4,PCXBC      ILOAD BYTE COUNT
1553      MOV      #47,COUNT      ILOAD SOFTWARE COUNT
1554      MOV      #NPRDAY,PCXBA      ISPECIFY RECIEVE DATA AREA
1555      BIS      #PARSTP,PCXCS      ISET STOP ON PARITY ERROR
1556      BIT      #PARSTP,PCXCS      IVERIFY SET
1557      BNE      ,+2      IBRANCH IF NO ERROR CONDITION
1558      ERROR      IPANSTP NOT SET
1559      BIS      #DXFI,GO,PCXCS      IDX FUNCTION INPUT (WRITE) AND GO
1560      MOV      #CMIS,PCENTRY1      ILOAD EXPECTED IT ENTRY 1
1561      MOV      #DEV,PCENTRY2      ISECOND IT ENTRY = DXCA
1562      MOV      #CMD,PCENTRY2+1      I
1563      MOV      #DEV,PCUAR      ILOAD DEV ADNS
1564      MOV      #CMD,PCUCR      ILOAD COMMAND IN CUCR
1565      MOV      #1,PCINTERPC      IDEFINE ORIGIN OF TRACE ERROR
1566      JSR      PCICUIS,SUB      IEXECUTE SELECTION
1567
1568
1569      MOV      #NPRDAY,R2      IPOINT R2 TO SAME
1570      MOV      #PRTYD,R1      ILOAD SOURCE ADDRESS IN R1
1571      MOV      #PLR1,PCXIV      IPOINT INTERRUPT TO PARTIV ERROR
1572      BIT      #SRV1,PCXMI      ISRV1 MUST BE UP
1573      BNE      ,+4      IBRANCH IF NO ERROR CONDITION
1574      ERROR      ISRV1 NOT SET
1575
1576
1577      MOV      #R1,PCBUSO      ILOAD DATA BYTE
1578      CMPB      #R1,PCBUSO
1579      BEO      ,+4      IBRANCH IF NO ERROR CONDITION
1580      ERROR      IBUSC LOAD ERROR
1581      INCB      R1      IINC TO NEXT BYTE
1582

```

1561	P04374	752777	201000	174706	BIS	0SRVC,0DXMO	IRAISE SRVC
1562	P04402	732777	201000	174720	BIF	0SRVC,0DXMO	
1563	P04410	201001			BNE	,03	IBRANCH IF NO ERROR CONDITION
1564	P04412	104020			ERROR		ISRVF DID NOT SET
1565							
1566	P04414	732777	222020	174670	BIF	0SRV1,0DXM1	ISRV1 MUST DROP
1567	P04422	201401			DEC	,04	IBRANCH IF NO ERROR CONDITION
1568	P04424	104020			ERROR		ISRV1 DID NOT DROP
1569							
1570	P04426	242777	201777	174694	BIC	0SRVC1777,0DXMO	IDROP SRVC AND DATA
1571	P04434	732777	201000	174646	BIF	0SRVC,0DXMO	IVERIFY SRVC00
1572	P04442	201401			DEC	,03	IBRANCH IF NO ERROR CONDITION
1573	P04444	104020			ERROR		ISRVF DID NOT DROP
1574							
1575	P04446	705337	222724		DEC	00COUNT	IDEC SOFTWARE BYTE COUNT
1576	P04452	201334			BNE	PC4	IBRANCH IF MORE DATA
1577							
1578	P04454	200001			WAIT		IMAIT FOR PARITY ERROR
1579	P04456	104000			ERROR		INTERUPT CONTROL ERROR
1580							
1581							
1582							
1583	P04460	021			PRVYDI	,BYTE 1	IOOD PARITY DATA
1584	P04461	022				,BYTE 2	IOOD PARITY DATA
1585	P04462	024				,BYTE 4	IOOD PARITY DATA
1586	P04463	023				,BYTE 3	IEVEN PARITY DATA
1587							
1588							
1589							
1590	P04464	732777	200200	174606	PERI1	0BONE,0DXCS	ICHECK FOR FALSE INTERRUPT
1591	P04472	201001			BNE	,04	IBRANCH IF NO ERROR CONDITION
1592	P04474	104020			ERROR		IFALSE INTERRUPT
1593	P04476	242777	200200	174574	BIC	0BONE,0DXCS	ICLEAR DONE
1594	P04504	712737	100020	015500	MOV	0PERENICUDEND,0BENTHY1	ITV ENTRY
1595	P04512	112737	000003	015541	MOVB	03,0BENTRY2+1	ICUCR
1596	P04520	113737	022666	015540	MOVB	00DEV,0BENTRY2	ICUAR
1597	P04526	012737	004526	020506	MOV	0,00TERPC	IORIGIN OF TRACE ERROR
1598	P04534	004737	015432		JSR	PC1TT,TRACE	
1599	P04540	012716	004546		PERI01	MOV	0PERI1,0SP
1600	P04544	200002			RTI		IFAKE RETURN PC
1601							IRETURN
1602	P04546	705077	174540		PERI11	CLR	0DXM1
1603							IDSELEC9
1604							
1605							

```

1606 I .....
1607 ITEST 3 TEL I/O COMMAND
1608 I .....
1609 TS931 SCOPE
1610 MOV #200,00ICOUNT IITERATION COUNT
1611 MOV #3,00ERTSTN ISAVE TEST # FOR ERROR REPORT
1612 MOV #SCP3,00RETURN ISCOPE LOOP RETURN ADRS
1613 SCP31
1614
1615 .REM *
1616 THE FUNCTION OF THIS TEST IS TO VERIFY THE DX11 CAN RESPOND TO A
1617 TEST I/O COMMAND.
1618
1619 *
1620
1621
1622 MOV #TT0C,00CMD ILOAD COMMAND
1623 JSR PC00TRNIT ITT TRACE TRACE INIT
1624 MOV #CH18,00ENTRY1 ILOAD EXPECTED TT ENTRY 1
1625 MOV #0HESS1,PS ILOWER PROCESSOR STATUS
1626 MOV #,00TERPC IORIGIN OF TRAP ERROR
1627 JSR PC11SS,SUB ISELECT
1628
1629

```

```

1630 I .....
1631 ITEST 4 ILLEGAL COMMAND
1632 I .....
1633 TS41 SCOPE
1634 MOV #200,00ICOUNT IITERATION COUNT
1635 MOV #4,00ERTSTN ISAVE TEST # FOR ERROR REPORT
1636 MOV #SCP4,00RETURN ISCOPE LOOP RETURN ADRS
1637 SCP41
1638
1639 .REM
1640 THE FUNCTION OF THIS TEST IS TO VERIFY THE DX11 RESPONDS CORRECTLY
1641 TO AN ILLEGAL COMMAND (I,E; PRESENTS UNIT CHECK),
1642
1643 BIC #420,ISSCRJ IILLC PRESENTS UNIT CHECK STATUS
1644 ITHIS CAUSES CMDREJ
1645 ITHREFORE CHANGE ISS DIAGNOSTIC
1646 ITO LOOK FOR CMDREJ UP
1647 MOV #ILLC,00CMD ILOAD COMMAND
1648 JSR PC,00TRAPNT ITR TRACE TRACE INIT
1649 MOV #UCHKS1CHIS1;CMDREJ,00ENTRVE ILOAD EXPECTED TT ENTRY 1
1650 MOV #0LESS1,PS ILOWER PROCESSOR STATUS
1651 MOV #,00TERPC IORIGIN OF TRAP ERROR
1652 JSR PC,ISS,SUB ISELECT
1653
1654 BIC #420,ISSCRJ IRESTORE ISS TO LOOK FOR NOT CMDREJ
1655
1656

```

K

```

1708
1709
1710
1711 P05246 104400
1712 P05250 P12737 P00100 020334
1713 P05256 P12737 P00000 021316
1714 P05264 P12737 P05272 020340
1715 P05272
1716
1717
1718
1719
1720
1721
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1723
1724
1725
1726
1727
1728
1729
1730
1731
1732
1733
1734
1735
1736
1737
1738
1739
1740
1741
1742
1743
1744
1745
1746 P05272 P12737 P00000 022670
1747 P05300 P04737 P15054
1748 P05304 P12737 P00200 P19500
1749 P05312 P13737 P01272 P77776
1750 P05320 P12737 P05320 020506
1751 P05326 P04737 P10332
1752
1753
1754 P05332 P12737 P00400 022724
1755 P05340 P12777 P77400 P73740
1756 P05346 P12701 P30310
1757 P05352 P12777 P30310 P73724
1758 P05360 P52777 P00000 P73712
1759
1760
1761 P05366 P12737 P00200 P19500
  
```

```

I .....
ITEST 6 READ COMMAND (PDP OUTPUT)
I .....
TSY61 SCOPE
      MOV #100,001COUNT IITERATION COUNT
      MOV #0,00ERTSTN ISAVE TEST # FOR ERROR REPORT
      MOV #51P6,00RETURN ISCOPE LOOP RETURN ADDR
SCP61

.REM 0

THE FUNCTION OF THIS TEST IS TO VERIFY THAT THE DX11 CAN PROPERLY
EXECUTE A READ COMMAND AND SUPPRESS DATA DURING THIS TRANSFER.
THIS IS ACCOMPLISHED BY EXECUTING A CHANNEL INITIATED SELECTION
FOLLOWED BY A CONTROL UNIT INITIATED SELECTION IF THE DX11/S SIM-
ULATOR IS MIMICING A MULTIPLEXOR CHANNEL. FOLLOWING THE COMPLETION
OF A SUCCESSFUL SELECTION THE DX'S BYTE COUNT IS SET TO 256, AND
ITS BUS ADDRESS REGISTER IS LOADED TO POINT TO "DATA" A FILE OF
128, WORD OF FLOATING 1'S AND FLOATING 0'S. THIS INITIALIZATION
IS FOLLOWED BY SETTING THE DX FUNCTION BITS TO A FUNCTION=OUTPUT
AND GO.
DURING THE ENTIRE TEST ALL TUMBLE TABLE ENTRIES ARE TRACED. PRIOR
TO EACH ANTICIPATED "DONE" THE EXPECTED TUMBLE TABLE ENTRIES (DXDS
AND DXCA) ARE LOADED INTO ENTRY1 AND ENTRY2 RESPECTIVELY THEN UPON
INTERRUPT THESE EXPECTED ENTRIES ARE COMPARED WITH THE ACTUAL TT
ENTRIES ALONG WITH THE EXPECTED TINDX CONTENTS. IF A DISCREPANCY
OCCURS IT IS NOTED BY AN ERROR PC AND A TRACE ERROR ORIGIN PC.
THE ORIGIN OF THE TRACE ERROR IS CONTAINED IN TERPC WHICH IS UP-
DATED PRIOR TO EACH ANTICIPATED "DONE" BY A MOV #,,00TERPC.

THE TRANSFER OF DATA FROM THE DX11 TO THE CHANNEL SIMULATOR IS
CONTROLLED BY THE SRV0=SRV1 SEQUENCE. DURING THIS SEQUENCE DATA
CHECKS ARE MADE AND SUPPRESS DATA IS CHECKED BY RAISING SUPD IN
RESPONSE TO SRV1 AND THEN RATTING SRV0. NO DATA TRANSFER SHOULD
TAKE PLACE IF SUPD IS RAISED AFTER THE FIRST BYTE.

0
MOV BREADC,00CHD ILOAD COMMAND
JSR PC,00TRANT ITT TRACE TRACE INIT
MOV #CHIS,00ENTRY1 ILOAD EXPECTED TT ENTRY 1
MOV #0LESS1,PS ILOWER PROCESSOR STATUS
MOV #,,00TERPC IORIGIN OF TRAP ERROR
JSR PC,ISS,SUB ISELECT

MOV #256,,COUNT ISOFFWARE BYTE COUNT
MOV #,,556,,0DXBC IDX BYTE COUNT
MOV #DATA,R1 IBASE ADNS OF TEST DATA
MOV #D:TA,0DXBA IFLOAT 1'S, 0/S OUTPUT DATA
BIS #DXFO,0DXCB IFUNCTION OUTPUT AND GO
ISERVICE-IN SHOULD RAISE AND
IDATA SHOULD BE ON BUS-IN
MOV #CHIS,00ENTRY1 ILOAD EXPECTED TT ENTRY 1
  
```

1762	#05374	113737	P22666	015540	MOV	#DEV, #ENTRY2	ISECOND TT ENTRY = DXCA
1763	#05402	113737	P22670	015541	MOV	#CMD, #ENTRY2+1	
1764	#05410	113777	P22666	173710	MOV	#DEV, #CUAR	ILOAD DEV ADRS
1765	#05416	113777	P22670	173784	MOV	#CMD, #CUCR	ILOAD COMMAND IN CUCR
1766	#05424	012737	005424	020506	MOV	#, #ENTERPC	IDEFINE ORIGIN OF TRACE ERROR
1767	#05432	004737	017500		JSR	PC:CUIS, SUB	IEXECUTE SELECTION
1768							
1769	#05436	112737	P00001	015541	MOV	#1, #ENTRY2+1	
1770	#05444	012737	000020	015500	MOV	#CUDEND, #ENTRY+1	ILOAD TT ENTRY
1771	#05452	012737	005452	020506	MOV	#, #ENTERPC	IREAD DONE TT TRACE ERROR PC
1772	#05460	032777	P22670	173624	BIT	#SRV1, #DXMI	IWAIT FOR SERVICE-IN
1773	#05466	001001			BNE	, +4	IBRANCH IF NO ERROR CONDITION
1774	#05470	104000			ERROR		ISRV1 NOT SET
1775	#05472	127711	173644		CMPS	#BUS1, #R1	ICHECK DATA TRANSMITTED TO 360
1776	#05476	001401			REQ	, +1	IBRANCH IF NO ERROR CONDITION
1777	#05500	104000			ERROR		IMEMORY TO BUS1 TRANSFER ERROR
1778	#05502	105721			TSYB	(R1)+	IINC TO NEXT BYTE
1779	#05504	052777	001000	173576	BIS	#SRV0, #DXMO	
1780	#05512	032777	001000	173570	BIT	#SRV0, #DXMO	
1781	#05520	001001			BNE	, +4	IBRANCH IF NO ERROR CONDITION
1782	#05522	104000			ERROR		ISRV0 NOT SET
1783	#05524	032737	000004	022202	BIT	#BIT2, PARA	ITEST FOR MUX MODE
1784	#05532	001005			BNE	RC1	
1785							WHEN ON MUX CH OPL1 WILL DROP WHEN TRANSMISSION IS FINISHED
1786							THIS WILL CAUSE DXMI TO BE UNREADABLE
1787	#05534	032777	002000	173590	BIT	#SRV1, #DXMI	ISERVICE-IN SHOULD DROP
1788	#05542	001401			REQ	, +7	IBRANCH IF NO ERROR CONDITION
1789	#05544	104000			ERROR		ISRV1 STUCK HIGH
1790	#05546	052777	010000	173534	BIS	#SUPO, #DXMO	ISUPPRESS OUT
1791	#05554	032777	010000	173526	BIT	#SUPO, #DXMO	IVERIFY SUPO SET
1792	#05562	001001			BNE	, +4	IBRANCH IF NO ERROR CONDITION
1793	#05564	104000			ERROR		ISUPO NOT SET
1794	#05566	012727	000010		MOV	#12, (PC)+	ISRV0 COUNT
1795	#05572	000000			B		ISRV0 COUNT
1796	#05574	052777	001000	173506	BIS	#SRV0, #DXMO	IKEEP SRV0 CHANGING
1797	#05602	032777	001000	173500	BIT	#SRV0, #DXMO	IVERIFY SRV0 SET
1798	#05610	001001			BNE	, +4	IBRANCH IF NO ERROR CONDITION
1799	#05612	104000			ERROR		ISRV0 DID NOT SET
1800	#05614	042777	001000	173406	BIC	#SRV0, #DXMO	I " " "
1801	#05622	032777	001000	173400	BIT	#SRV0, #DXMO	IVERIFY SRV0 CLEAR
1802	#05630	001401			REQ	, +	IBRANCH IF NO ERROR CONDITION
1803	#05632	104000			ERROR		ISRV0 NOT 0
1804	#05634	032737	000004	022202	BIT	#BIT2, PARA	ITEST FOR MUX MODE
1805	#05642	001005			BNE	RC4	
1806							WHEN ON MUX CH OPL1 WILL DROP WHEN TRANSMISSION IS FINISHED
1807							THIS WILL CAUSE DXMI TO BE UNREADABLE
1808	#05644	032777	002000	173440	BIT	#SRV1, #DXMI	ISUPO SHOULD SUPPRESS SRV1 SETTING
1809	#05652	001401			REQ	, +7	IBRANCH IF NO ERROR CONDITION
1810	#05654	104000			ERROR		ISRV1 WAS NOT SUPPRESSED BY SUPO
1811	#05656	005337	005572		DEC	RC2	IDEC SRV0 COUNT
1812	#05662	001344			BNE	RC2	IBRANCH IF SRV0 NOT DONE
1813	#05664	042777	010000	173416	BIC	#SUPO, #DXMO	IDROP SUPPRESS OUT
1814	#05672	032777	010000	173410	BIT	#SUPO, #DXMO	IVERIFY SUPO CLEAR
1815	#05700	001401			REQ	, +1	IBRANCH IF NO ERROR CONDITION

1816	735772	104070			ERROR			
1817	735774	732777	701000	173376	RIT	0SRV0,POX40		IS.MO STICK HIGH
1818	735712	701471			REC	.+1		IBRANCH IF NO ERROR CONDITION
1819	735714	104050			ERROR			ISRV0 STICK HIGH
1820	735716	705337	722724		DEC	COJNT		
1821	735722	701256			RNE	RC		
1822	735724	012737	001120	019520	MOV	0CHLVDS,0ESEN0,00FVTV1		ILOAD EXPECTED TT ENTRY 1
1823	735732	113737	022666	019540	MOVB	0NDEV,00ENTRY2		ISFCND TT ENTRY = DXCA
1824	735743	732737	000024	022262	RIT	0BIT2,00PARA		ITEST FOR MUX
1825	735746	701474			REC	15		IBR IF SELECTOR
1826	735753	112737	700020	019541	MOVB	00,00ENTRY2+1		IMUX TT CUCR
1827	735756	700453			BR	25		IG0
1828	735763	112737	020021	019541	MOVB	01,00ENTRY2+1		ICUCR OF DXCA TT ENTRY
1829	735766	113777	022666	173332	MOVB	0NDEV,0CUAR		ILoad DEV ADRS
1830	735774	012737	705774	020566	MOV	0,100TENPC		IDEFINE ORIGIN OF TRACE ERROR
1831	706072	704737	010162		JSR	PC(STATUSPRESENTATION)		IDPRESENT STATUS
1832								
1833								
1834								

```

1835      ) .....
1836      ITEST 7      WRITE COMMAND (POP INPUT)
1837      ) .....
1838      TS971  SCOPE
1839      MOV      @100,@COUNT      IITERATION COUNT
1840      MOV      @7,@LRTSTN      ISAVE TEST # FOR ERROR REPORT
1841      MOV      @SCP7,@RETURN      ISCOPE LOOP RETURN ADRS
1842      SCP71
1843
1844
1845      .REM  *
1846
1847      THE FUNCTION OF THIS TEST IS TO VERIFY THAT THE DX11 CAN EXECUTE
1848      WRITE COMMANDS FROM THE CHANNEL SIMULATOR; THIS TEST IS IMPLE-
1849      MENTED MUCH LIKE THE READ TEST IN THAT THE TRANSFER IS 256 BYTES,
1850      IT TRACING IS DONE AND SUPPRESS DATA IS ALSO CHECKED, IT DIFFERS
1851      IN THE DIRECTION AND TYPE OF DATA,
1852
1853      *
1854
1855      MOV      @WRITEC,@CMD      ILOAD COMMAND
1856      JSR      PC,@CONSTRAINT      IYT TRACE TRACE INIT
1857      MOV      @CH15,@ENTRY1      ILOAD EXPECTED YT ENTRY 1
1858      MOV      @@LESS1,PS      ILOWER PROCESSOR STATUS
1859      MOV      @,@INTERPC      IORIGIN OF TRAP ERROR
1860      JSR      PC,ISS,SUB      ISELECT
1861
1862
1863      MOV      @256,@COUNT      ISOFTWARE COUNTER
1864      MOV      @@256,@DX9C      IDX BYTE COUNT
1865      MOV      @NPRDATA,@DXBA      IADRS FOR DATA FROM 360 SIM
1866      MOV      @NPRDATA,R2      IINPUT FILE FOR NPR DATA
1867      MOV      @HEATA,R1      IWRITE DATA FOR 360 SIM
1868      BIS      @DAP1,GO,@DXCS      IFUNCTION INPUT & 00 (360 WRITE)
1869      MOV      @CH15,@ENTRY1      ILOAD EXPECTED YT ENTRY 1
1870      MOV      @DEV,@ENTRY2      ISECOND YT ENTRY = DXCA
1871      MOV      @CMD,@ENTRY2+1      I
1872      MOV      @DEV,@CUAR      ILOAD DEV ADRS
1873      MOV      @CMD,@CUCR      ILOAD COMMAND IN CUCR
1874      MOV      @,@INTERPC      IDEFINE ORIGIN OF TRACE ERROR
1875      JSR      PC,CUIS,SUB      IEXECUTE SELECTION
1876
1877
1878      MOV      @CUCR,@ENTRY1      IYT ENTRY 1
1879      MOV      @@1,@ENTRY2+1      IFAKE CUCR OF ENTRY 2
1880      MOV      @,@INTERPC      IWRITE TRACE ERROR
1881      BIS      @SRV1,@DXH1      IWAIT FOR SERVICE-IN
1882      BNE      .+      IBRANCH IF NO ERROR CONDITION
1883      ERROR      ISRV1 NOT SET
1884      BIS      @R1,@BUSO      IPUT DATA ON BUS-OUT
1885      CHPB      @R1,@BUSO      IVERIFY LOAD
1886      BEO      .+      IBRANCH IF NO ERROR CONDITION
1887      ERROR      IBUSO INTO MEMORY DATA TRANSFER ERROR
1888      BIS      @SRV0,@DXMO
  
```

1889	006260	032777	001000	173022		BIF	0SRVO,0DXMO	
1890	006266	001001				BNE	,+4	IBRANCH IF NO ERROR CONDITION
1891	006270	104000				ERROR		ISRVO NOT SET
1892	006272	032737	000004	022262		BIF	0BIT2,PARA	ICANIT LOOK AT SRV! ON MUX CH
1893	006300	001000				BNE	WCPB	
1894	006302	032777	002000	173022		BIF	0SHV1,0DXM1	
1895	006310	001401				BEO	,+7	IBRANCH IF NO ERROR CONDITION
1896	006312	104000				ERROR		ISRV! DID NOT DROP
1897	006314	005721			WC001	TSY	(R1)+	
1898	006316	105722				TSYB	(R1)+	
1899	006320	032702	000001			BIF	0BIT0,R2	ITEST FOR EVEN BOUNDARY
1900	006324	001010				BNE	WC1	
1901								
1902	006326	162701	000004			SUB	04,R1	
1903	006332	162702	000002			SUB	02,R2	
1904	006336	121112				CHPB	0R1,0R2	IVERIFY 1ST DATA BYTE TRANSFER
1905	006340	001401				BEO	,+5	IBRANCH IF NO ERROR CONDITION
1906	006342	104000				ERROR		IBUSC INTO MEMORY DATA TRANSFER ERROR
1907	006344	005721				TSY	(R1)+	
1908	006346	105722				TSYB	(R4)+	
1909	006350	121112				CHPB	0R1,0R2	IVERIFY 2ND BYTE TRANSFER
1910	006352	001401				BEO	,+4	IBRANCH IF NO ERROR CONDITION
1911	006354	104000				ERROR		ISECOND DATA BYTE INTO MEMORY
1912								
1913	006356	005721				TSY	(R1)+	
1914	006360	105722				TSYB	(R2)+	
1915	006362	032777	010000	172720	WC11	BIS	0SUPO,0DXMO	ISUPP SUPPRESS=OUT
1916	006370	032777	010000	172712		BIF	0SUPO,0DXMO	IVERIFY SUPO SET
1917	006376	001001				BNE	,+1	IBRANCH IF NO ERROR CONDITION
1918	006400	104000				ERROR		ISUPC NOT SET
1919	006402	012727	000010			MOV	010,(PC)+	ISRVO COUNT
1920	006406	000000			WC21	B		ISRVO COUNT
1921	006410	032777	001000	172672	WC31	BIS	0SRVO,0DXMO	IKEEP SRVO CHANGING
1922	006416	032777	001000	172664		BIF	0SRVO,0DXMO	IVERIFY SRVO SET
1923	006424	001001				BNE	,+4	IBRANCH IF NO ERROR CONDITION
1924	006426	104000				ERROR		ISRVC DID NOT SET
1925	006430	042777	001000	172652		BIC	0SRVO,0DXMO	ICLEAR SRVO
1926	006436	032777	001000	172644		BIF	0SRVO,0DXMO	IVERIFY SRVO CLEAR
1927	006444	001401				BEO	,+5	IBRANCH IF NO ERROR CONDITION
1928	006446	104000				ERROR		ISRVC NOT 0
1929	006450	032737	000004	022262		BIF	0BIT2,PARA	ITEST FOR MUX MODE
1930	006456	001000				BNE	WC1	
1931								WHEN ON MUX CH OPL1 WILL DROP WHEN TRANSMISSION IS FINISHED
1932								THIS WILL CAUSE DXM1 TO BE UNREADABLE
1933	006462	032777	002000	172624		BIF	0SHV1,0DXM1	ISUPC SHOULD SUPPRESS SRV! SETTING
1934	006466	001401				BEO	,+7	IBRANCH IF NO ERROR CONDITION
1935	006470	104000				ERROR		ISRV! WAS NOT SUPPRESSED BY SUPO
1936	006472	005337	006406		WC41	DEC	WC2	IDEC SRVO COUNT
1937	006476	001344				BNE	WC3	IBRANCH IF SRVO NOT DONE
1938	006500	042777	010000	172602		BIC	0SUPO,0DXMO	IDROP SUPPRESS=OUT
1939	006506	032777	010000	172574		BIF	0SUPO,0DXMO	IVERIFY SUPO CLEAR
1940	006514	001401				BEO	,+7	IBRANCH IF NO ERROR CONDITION
1941	006516	104000				ERROR		ISUPC STUCK HIGH
1942	006520	032777	001000	172502		BIF	0SRVO,0DXMO	

1943										
1944	P06526	742777	P01777	172554		RIC	#SRV01777,0DXMO		ICLR SRVO AND BUS0,PARITY	
1945	P06534	732777	P01800	172546		RIT	#SNVO,0DXMO			
1946	P06542	001401				BEQ	,0		IBRANCH IF NO ERROR CONDITION	
1947	P06544	104000				ERROR			ISRV0 DID NOT DROP	
1948	P06546	005337	P22724			DEC	COUNT			
1949	P06552	001213				BNE	WC			
1950	P06554	012737	P01100	015520		MOV	#CHENDS;ESND,00ENTRYV1		ILOAD EXPECTED TT ENTRY 1	
1951	P06562	113737	022666	015540		MOVB	00DEV,00ENTRY2		ISECOND TT ENTRY = DXCA	
1952	P06570	732737	P00004	022202		RIT	0012,00PARA		ITEST FOR MUX	
1953	P06576	001404				BEQ	15		IBR IF SELECTOR	
1954	P06600	112737	P00000	015541		MOVB	00,00ENTRY2+1		IMUX TT CUCR	
1955	P06606	000423				BR	25		IG0	
1956	P06610	112737	177777	015541	15	MOVB	001,00ENTRY2+1		ICUCR OF DXCA TT ENTRY	
1957	P06616	113777	022666	172522	25	MOVB	00DEV,0CUAR		ILOAD DEV ADRS	
1958	P06624	012737	006024	020506		MOV	0,00TERPC		IDFINE ORIGIN OF TRACE ERROR	
1959	P06632	004737	P16162			JSR	PC,STATUSPRESENTATION		IPRESENT STATUS	
1960										

1961					I
1962					TEST 10 SU PRESS SUPPRESSABLE STATUS(ASYNCR)
1963					I
1964	706636	104470			TSY101 SCOPE
1965	706640	012737	000010	020334	MOV #10,00ICOUNT IITERATION COUNT
1966	706646	012737	000010	021316	MOV #11,00ERTSYN ISAVE TEST # FOR ERROR REPORT
1967	706654	012737	706662	020340	MOV #SCP10,00RETURN ISCOPE LOOP RETURN ADRS
1968	706662				SCP121
1969					
1970					.REM *
1971					
1972					THE FUNCTION OF THIS TEST IS TO VERIFY THAT SUPPRESS OUT CAN SUPPRESS
1973					SUPPRESSABLE STATUS, STATUS IS SUPPRESSABLE IF IT HAS BEEN STACKED
1974					BY THE CHANNEL (1,2, CH00 IN RESPONSE TO STA1) OR IF THE PROGRAMMER
1975					INDICATES THE STATUS IS SUPPRESSABLE BY SETTING STACK=STATUS=A;
1976					
1977					*
1978					
1979	706662	742777	077777	172420	BIC #77777,0DXMO ICLEAR BUSOUT AND TAGS
1980	706670	052777	000040	172402	BIS #STKSTA,0DXCS IINDICATE STATUS IS SUPPRESSABLE
1981	706676	032777	000040	172374	BIT #S KSTA,0DXCS IVERIFY SET
1982	706704	001021			BNE .+1 IBRANCH IF NO ERROR CONDITION
1983	706706	104000			ERROR ISTKSTA NOT SET
1984	706710	112777	000010	172414	MOVB #CE,0CUSR ISTATUS, NONSUPPRESSABLE UNLESS STACKED
1985	706716	052777	000007	172394	BIS #DXFSY,0DXCS IATTEMPT TO PRESENT ASYNC STATUS
1986	706724	032777	020000	172360	BIT #REQ1,0DXMI IVERIFY REQ1 SET
1987	706732	001021			BNE .+1 IBRANCH IF NO ERROR CONDITION
1988	706734	104020			ERROR IREQ1 NOT SET
1989	706736	052777	010000	172344	BIS #SUPO,0DXMO IRAISE SUPPRESS STATUS
1990	706744	032777	010000	172336	BIT #SUPO,0DXMO I
1991	706752	001021			BNE .+1 IBRANCH IF NO ERROR CONDITION
1992	706754	104000			ERROR ISUPO NOT SET
1993					BIT #REQ1,0DXMI IVERIFY REQ1 DROPPED
1994					ERCALL BE, <REQ1 DID NOT DROP>
1995					
1996	706756	052777	060000	172324	BIS #MLD0ISELO,0DXMO I SHOULD CAUSE SELECTION BYPASS
1997					
1998	706764	032777	100000	172322	BIT #LCK0,0DXCB IVERIFY NO SELECTION EVENTS
1999	706772	001401			BEO .+4 IBRANCH IF NO ERROR CONDITION
2000	706774	104020			ERROR IOX SHOULD NOT SELECT
2001	706776	032777	000100	172310	BIT #BYPAS,0DXCB INO SELECTION EVENTS
2002	707004	001401			BEO .+2 IBRANCH IF NO ERROR CONDITION
2003	707006	104000			ERROR IILLEGAL SELECTION EVENT
2004	707010	032777	001000	172276	BIT #SYNC,0DXCB INO SELECTION EVENTS
2005	707016	001401			BEO .+4 IBRANCH IF NO ERROR CONDITION
2006	707020	104020			ERROR IILLEGAL SELECTION EVENT
2007					
2008	707022	042777	070000	172200	BIC #MLD0ISELOISUPO,0DXMO
2009	707030	032777	010000	172292	BIT #SUPO,0DXMO IVERIFY SUPO ZERO
2010	707036	001401			BEO .+ IBRANCH IF NO ERROR CONDITION
2011	707040	104000			ERROR ISUPO STJCK HIGH
2012					
2013	707042	042777	000040	172230	BIC #STKSTA,0DXCS ICLEAR STACKED=STATUS=A
2014	707050	032777	000040	172222	BIT #STKSTA,0DXCS IVERIFY CLEARED

D20XG0C (OFF LINE EXERCISER) UPDATE APRIL 94 W.A. MACY11 27(655) 18-JUL-74 18147 PAGE 42
DXOFFL.P11 T10 SUPPRESS SUPPRESSABLE STATUS(ASYNC)

2215 007056 001421
2216 007062 104050
2217
2218
2219

DEO ,04
ERROR

IBRANCH IF NO ERROR CONDITION
ISTKSTA STUCK HIGH

```

2020
2021
2022
2023 P07062 104450
2024 P07064 112737 P00010 020334
2025 P07072 112737 P00011 021316
2026 P07100 012737 P07100 020340
2027 P07106
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040 P07106 042777 077777 172174
2041 P07114 105077 172212
2042 P07120 152777 000010 172204
2043 P07126 122777 000010 174176
2044 P07134 001401
2045 P07136 104000
2046 P07140 032777 000040 172132
2047 P07146 001401
2048 P07150 104000
2049 P07152 052777 000007 172120
2050 P07160 032777 020000 172124
2051 P07166 001001
2052 P07170 104000
2053 P07172 052777 010000 172110
2054 P07200 032777 010000 172102
2055 P07206 001001
2056 P07210 104000
2057
2058 P07212 012737 001100 015500
2059 P07220 113737 022000 015540
2060 P07226 113777 022000 172072
2061 P07234 112737 000000 015541
2062 P07242 112737 007242 020506
2063 P07250 042777 010000 172032
2064 P07256 032777 010000 172024
2065 P07264 001401
2066 P07266 104000
2067 P07270 032777 020000 172014
2068 P07276 001001
2069 P07300 104000
2070
2071 P07302 052777 060000 172000
2072 P07310 032777 020000 171772
2073 P07316 001001
  
```

I
 ITEST 11 UNSUPPRESSABLE STATUS TEST
 I
 TST111 SCOPE
 MOV 010,00ICOUNT IITERATION COUNT
 MOV 011,00ENTSTN ISAVE TEST # FOR ERROR REPORT
 MOV 0SCP11,00RETURN ISCOPE LOOP RETURN ADDR
 SCP111
 ,REM *
 THE FUNCTION OF THIS TEST IS TO VERIFY THAT UNSUPPRESSABLE STATUS
 (I.E. UNSTACKED "CHANNEL END") CAN BE PRESENTED. THIS IS ACCOM-
 PLISHED BY PRESENTING ASYNCHRONOUS STATUS CONTAINING "CHANNEL END"
 WITH STACKED-STATUS=A NOT SET.
 *
 BIC 077777,00XMO ICLR DXMO
 CLRB 00CUSR IZNO STATUS REGISTER
 BISR 00C1,00CUSR ISET "CHANNEL END" STATUS
 CHPB 00C2,00CUSR IVERIFY STATUS SET
 BEQ ,+3 IBRANCH IF NO ERROR CONDITION
 ERROR I0CUSR LOAD ERROR
 BIT 00STKSTA,00XCS IVERIFY NO STKSTA
 BEQ ,+3 IBRANCH IF NO ERROR CONDITION
 ERROR I0STKSTA STUCK HIGH?
 BISR 00DXFST,00XCS IPRESENT STATUS
 BIT 00REQ1,00XMI IVERIFY REQ1 SET
 BNE ,+4 IBRANCH IF NO ERROR CONDITION
 ERROR I0REQ1 NOT SET
 BISR 00SUPO,00XMO IRAISE SUPPRESS-OUT
 BIT 00S PO,00XMO IVERIFY SUPO SET
 BNE ,+4 IBRANCH IF NO ERROR CONDITION
 ERROR I0SUPO NOT SET
 MOV 00CHENUSIESEND,00ENTHY1 ITT ENTRY 01
 MOVB 00REV,00ENTRY2 ITT ENTRY 02
 MOVB 00REV,00UAR
 MOVB 00,00ENTRY2+1 IHIGH BYTE OF IT ENTRY 2
 MOV 0,00TERPC IDEFINE ORIGIN OF TRACE ERROR
 BIC 00SUPO,00XMO IDROP SUPO
 BIT 00SUPO,00XMO
 BEQ ,+3 IBRANCH IF NO ERROR CONDITION
 ERROR I0SUPO DID NOT DROP
 BIT 00REQ1,00XMI ITEST FOR REQUEST-IN OF
 BNE ,+3 IBRANCH IF NO ERROR CONDITION
 ERROR I0REQ1 NOT SET
 BISR 00SELOIMLDO,00XMO ISET SELECT-OUT & HOLD-OUT
 BIT 00SELO,00XMO ITEST FOR SELECT-OUT
 BNF ,+4 IBRANCH IF NO ERROR CONDITION

2074	707320	104000		ERROR		ISELC NOT SET
2075						
2076	707322	732777	240000	171700	BIT	SHLD0,0DXM0
2077	707330	701001			BNE	,04
2078	707332	104000		ERROR		ITEST FOR HOLD=OUT
2079						IBRANCH IF NO ERROR CONDITION
2080	707334	732777	100000	171700	BIT	IOPL1,0DXM1
2081	707342	701001			BNE	,04
2082	707344	104000		ERROR		ITEST FOR OPERATIONAL=IN
2083						IBRANCH IF NO ERROR CONDITION
2084	707346	732777	220000	171736	BIT	IREG1,0DXM1
2085	707354	701401			BNE	,07
2086	707356	104000		ERROR		ITEST FOR REG1
2087						IBRANCH IF NO ERROR CONDITION
2088	707360	732777	210000	171724	BIT	IADRI,0DXM1
2089	707366	701001			BNE	,02
2090	707370	104000		ERROR		ITEST FOR ADDRESS IN
2091						IBRANCH IF NO ERROR CONDITION
2092	707372	123777	222666	171742	CHPB	DEV,0MUS1
2093	707400	701401			BNE	,04
2094	707402	104000		ERROR		IBRANCH IF NO ERROR CONDITION
2095						IBUS1 LOAD ERROR
2096	707404	752777	202000	171676	BIS	ICMD0,0DXM0
2097	707412	732777	002000	171670	BIT	ICMD0,0DXM0
2098	707420	701001			BNE	,01
2099	707422	104000		ERROR		IBRANCH IF NO ERROR CONDITION
2100						ICMD0 DID NOT SET
2101	707424	732777	210000	171600	BIT	IADRI,0DXM1
2102	707432	701401			BNE	,04
2103	707434	104000		ERROR		IBRANCH IF NO ERROR CONDITION
2104						IADRI DID NOT DROPS
2105	707436	742777	260000	171644	BIC	ISELO,IMLDO,0DXM0
2106	707444	732777	240000	171636	BIT	SHLD0,0DXM0
2107	707452	701401			BNE	,04
2108	707454	104000		ERROR		ITEST HOLD=OUT
2109						IBRANCH IF NO ERROR CONDITION
2110	707456	732777	220000	171624	BIT	ISELO,0DXM0
2111	707464	701401			BNE	,04
2112	707466	104000		ERROR		ITEST SELECT=OUT
2113						IBRANCH IF NO ERROR CONDITION
2114	707470	742777	202000	171612	BIC	ICMD0,0DXM0
2115	707476	732777	202000	171604	BIT	ICMD0,0DXM0
2116	707504	742777	260000	171576	BIC	SHLD0,ISELO,0DXM0
2117	707512	752777	201000	171570	BIS	SRV0,0DXM0
2118						IBRANCH IF NO ERROR CONDITION
2119						ISELC SET
2120						
2121	707520	742777	201000	171502	BIC	SRV0,0DXM0
2122						ICLEAR COMMAND=OUT
2123						ITEST FOR CMD0 CLEAR
2124						IDROP SELOIMLDO FOR NONZERO STATUS
2125	707526	705077	171560		CLR	0DXM1 ICLEAR DXM1
2126						ISERVICE=OUT UP
						ISTATUS=IN SHOULD FALL
						IDROP SERVICE=OUT,
						ITMIS ENDS ES -- ESEND INT SHOULD
						IDROP UP AND CJSY CLEAR
						ICHECK FOR INTERRUPTS

```

2127
2128
2129
2130 027532 104400
2131 027534 012737 000010 020334
2132 027542 012737 000012 021316
2133 027550 012737 007550 020340
2134 027556
2135
2136
2137
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2140
2141
2142
2143
2144
2145
2146
2147 027556 042777 077777 171524
2148 027564 004737 015054
2149 027570 012737 001204 013500
2150 027576 113777 022000 171522
2151 027604 113737 022000 013540
2152 027612 112737 000002 013541
2153 027620 012737 007620 023506
2154
2155 027626 053777 022000 171494
2156 027634 052777 004000 171446
2157 027642 052777 000000 171440
2158 027650 032777 000002 171436
2159 027656 001001
2160 027660 104000
2161 027662 032777 000001 171424
2162 027670 001001
2163 027672 104000
2164 027674 042777 004000 171406
2165 027702 013700 001442
2166 027706 112700 000010 003002
2167 027714 032777 100000 171370
2168 027722 001001
2169 027724 104000
2170 027726 032777 010000 171356
2171 027734 001001
2172 027736 104000
2173
2174 027742 123777 022000 171374
2175 027746 001401
2176 027750 104000
2177 027752 043777 022000 171356
2178 027760 052777 000002 171390
2179 027766 052777 002000 171342
2180 027774 032777 010000 171310

I .....
I TEST 12 COMMAND CHAINING
I .....
TSF121 SCOPE
MOV 010,001COUNT IITERATION COUNT
MOV 014,00ERTSYN ISAVE TEST # FOR ERROR REPORT
MOV 0SCP12,00RETURN ISCOPE LOOP RETURN ADRS
SCP121
,REM
THE FUNCTION OF THIS TEST IS TO VERIFY THAT THE DDX1 CAN DETECT
COMMAND CHAINING. COMMAND CHAINING SHOULD BE INDICATED (CMDCHN
BIT SET IN DDXS TUMBLE TABLE ENTRY) IF SUPPRESS-OUT IS UP WHEN
SERVICE-OUT IS RAISED IN RESPONSE TO STATUS-IN. COMMAND CHAINING
MEANS THAT ANOTHER COMMENT FOR THE DEVICE IN OPERATION WILL IMMEDIATELY
FOLLOW THE PRESENTATION OF "DEVICE END".
.
BIC 077777,0DXMO IZEND DXMO
JSR PC,00TAINIT IINIT TT TRACING
MOV 0CHENDS,0CMDCHNCHIS,0ENTRY1 ITT ENTRY #1
MOVB 00DEV,0CUAR ILOAD CVAR
MOVB 00DEV,0ENTRY2 ILOAD TT ENTRY #2 WITH
MOVB 0READC,0ENTRY2+1 IEXPECTED CONTENTS
MOV 0,00TERPC IDEFINE ORIGIN OF TRACE ERROR
BIS 00DEV,0DXMO IPUT ADRS ON OUT-BUS
BIS 0AXRO,0DXMO IRAISE ADRS OUT
BIS 0MLDO,0ELO,0DXMO IMAISE HOLD AND SELECT-OUT
BIT 0ADRECC,0DXCB IVERIFY CU ADRS RECOGNIZED
BNE ,+4 IBRANCH IF NO ERROR CONDITION
ERROR IADRECC NOT SET
BIT 0ADRECO,0DXCB IVERIFY DEVICE ADRS RECOGNIZED
BNE ,+4 IBRANCH IF NO ERROR CONDITION
ERROR IADRECO NOT SET
BIC 0ADRO,0DXMO IDROP ADRO
MOV 00JST,R0 ILOAD ADRS OF DEVICE STATUS STABLE
MOVB 0CE,2(R0) ILOAD CHANNEL-END IN DST
BIT 0OPL1,0DXMI IVERIFY CU SELECTED
BNE ,+1 IBRANCH IF NO ERROR CONDITION
ERROR IOPL1 NOT SET
BIT 0ADRI,0DXMI IVERIFY ADDRESS-IN SET
BNE ,+1 IBRANCH IF NO ERROR CONDITION
ERROR IADRI NOT SET
CMPB 00DEV,0BUSI IVERIFY DEVICE ADRS ECHO
BEQ ,+1 IBRANCH IF NO ERROR CONDITION
ERROR IDEVICE ADRS NOT ECHOED
BIC 00DEV,0BUSO IREMOVE ADRS FROM BUSO
BIS 0READC,0BUSO ILOAD BUSO WITH COMMAND
BIS 0CMD0,0BUSO IRAISE COMMAND OUT
BIT 0AXRI,0DXMI

```

2181	F1P002	001401			REQ	,+4	IBRANCH IF NO ERROR CONDITION
2182	F1P004	104000			ERROR		IADMI 715 NOT DROP
2183	F1P006	042777	000002	171322	BIC	#HEADC,00US0	IREMOVE COMMAND FROM BUS
2184	F1P014	042777	002000	171206	BIC	#CMD0,0DXM0	IDROP COMMAND-OUT
2185	F1P022	032777	004000	171202	BIT	#STA1,0DXM1	ISTAT SHOULD BE SET
2186	F1P030	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
2187	F1P032	104000			ERROR		ISTAT NOT SET
2188	F1P034	032777	F10000	171246	BIS	#SUPO,0DXM0	IRaise SUPPRESS-OUT
2189					WHEN SRVO IS SET IN RESPONSE TO STA1 WHILE		
2190					ISUPO IS SET COMMAND CHAINING SHOULD BE INDICATED		
2191							
2192	F1P042	032777	F10000	171240	BIT	#SUPO,0DXM0	IVERIFY SUPO SET
2193	F1P050	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
2194	F1P052	104000			ERROR		ISUPO NOT SET
2195							
2196	F1P054	032777	001000	171226	BIS	#SRVO,0DXM0	IRaise SRVO
2197							ISTATUS-IN SHOULD
2198							
2199	F1P062	042777	001000	171220	BIC	#SRVO,0DXM0	IDROP SRVO
2200	F1P070	1 777	000004	171234	MOVB	#CE,0CUSR	ILoad DEVICE END STATUS
2201	F1P076	032777	000007	171174	BIS	#DXFST,0DXCS	IPRESENT STATUS
2202	F1P104	032777	004000	171200	BIT	#STA1,0DXM1	ISTATUS-IN SHOULD BE SET
2203	F1P112	012737	000104	019500	MOV	#SENDICMDCHN,ENTRY1	IT9 ENTRY 1
2204	F1P120	113737	022000	019540	MOVB	#0LEV,0ENTRY2	IT9 ENTRY 2
2205	F1P126	112737	000002	019541	MOVB	#2100ENTRY2+1	
2206	F1P134	012737	010134	020506	MOV	#,00TERPC	IDEFINE ORIGIN
2207							
2208	F1P142	042777	060000	171140	BIC	#MLDOISELO,0DXM0	IDFSELECT
2209							
2210	F1P150	032777	001000	171132	BIS	#SRVO,0DXM0	IACCEPT LAST DATA BYTE
2211	F1P156	042777	001000	171124	BIC	#SRVO,0DXM0	
2212							
2213	F1P164	105060	000002		CLRB	2(10)	IRESTORE ZERR STATUS
2214							
2215	F1P170	042777	F10000	171112	ENDCC1	BIC	#SUPO,0DXM0
2216							IDROP SRVO
2217							
2218							
2219							
2220							
2221							
2222							
2223							
2224							
2225							
2226							

THE FUNCTION OF THIS TEST IS TO EXECUTE A SELECTIVE RESET AND VERIFY THE DX11 RECORDS THIS EVENT (SELST SET IN DX09 TUMBLE TABLE ENTRY), A SELECTIVE RESET IS INDICATED WHENEVER 'SUPPRESS-OUT' IS UP AND 'OPERATIONAL-OUT' DROPS.

```

2227 I .....
2228 ITEST 13 SELECTIVE RESET
2229 I .....
2230 *SY13: SCOPE
2231 MOV #10, #ICOUNT IITERATION COUNT
2232 MOV #11, #ENTSTN ISAVE TEST # FOR ERROR REPORT
2233 MOV #SCP13, #RETURN ISCOPE LOOP RETURN ADRS
2234 SCP13:
2235
2236
2237
2238 #10222 032737 000002 022202 BIT #BIT1, #PARA INO PSVEN
2239 #10230 001402 BEQ 13 100 FOR SELECTOR CM ONLY
2240 #10232 000137 010442 JMP 00ENDSR
2241 #10236 052777 040000 171034 13: BIS #CUFBH, #DXCS ISET CU FORCE BURST MODE
2242 IKEEP OPLI UP ON MUX
2243
2244 #10244 032777 040000 171026 BIT #CUFBH, #DXCS IVERIFY SET
2245 #10252 001071 BNE ,+4 IBRANCH IF NO ERROR CONDITION
2246 #10254 104000 ERROR ICUFBN NOT SET
2247
2248 #10256 012737 000002 022670 MOV #READC, #CHD ILOAD COMMAND
2249 #10264 004737 015054 JSR PC, #ENTRINT IIT TRACE TRACE INIT
2250 #10270 012737 000200 019500 MOV #CHIS, #ENTRY1 ILOAD EXPECTED IT ENTRY 1
2251 #10276 013737 001272 177776 MOV #04ESS1, PS ILOWER PROCESSOR STATUS
2252 #10304 012737 010304 020506 MOV #, #ENTERPC IORIGIN OF TRAP ERROR
2253 #10312 004737 010332 JSR PC, ISS, SUB ISELECT
2254
2255
2256 #10316 032777 100000 170706 BIT #OPLI, #DXM1 IVERIFY CU SELECTED
2257 #10324 001001 BNE ,+4 IBRANCH IF NO ERROR CONDITION
2258 #10326 104000 ERROR ICU SELECT ERROR
2259
2260 #10330 052777 010000 170792 BIS #SUPO, #DXMO IRAISE SUPPRESS-OUT
2261
2262 #10336 012737 020000 019500 MOV #SELNST, #ENTRY1 IIT ENTRY 01
2263 #10344 113737 022000 019540 MOV #DEV, #ENTRY2 IIT ENTRY 02
2264 #10352 113777 022000 170746 MOV #DEV, #CUAR
2265 #10360 112737 000002 019541 MOV #2, #ENTRY2+1
2266 #10366 012737 010306 020506 MOV #, #ENTERPC IDEFINE ORIGIN OF TRACE
2267
2268 #10374 042777 100000 170706 BIC #OPLDIHLDOISELO, #DXMO IDROP OPERATION-OUT
2269 100 SELECTIVE RESET
2270 #10402 052777 100000 170700 38: BIS #OPL0, #DXMO
2271 #10410 042777 010000 170672 BIC #SUPO, #DXMO IRAISE SUPO
2272 #10416 032777 010000 170604 BIT #SUPO, #DXMO
2273 #10424 001401 BEQ ,+7 IBRANCH IF NO ERROR CONDITION
2274 #10426 104000 ERROR ISUPO STUCK HIGH
2275
2276 #10430 032777 040000 170642 BIT #CUFBH, #DXCS IVERIFY SELNST CLEARED CUFBH
2277 #10436 001471 BEQ ,+4 IBRANCH IF NO ERROR CONDITION
2278 #10440 104000 ERROR ICUFBN SET
2279 #10442 ENDSR:
2280

```

DZDXG=C (OFF LINE EXERCISER) UPDATE APRIL 94 W.A.
DXOFFL:P11 T13 SELECTIVE RESET

MACY11 27(055) 18-JUL-74 18147 PAGE 48

2281
2282
2283

```

2284 I .....
2285 ITEST 14 I/ STOP DURING ACTIVE READ
2286 I .....
2287 TSY141 SCOPE
2288 MOV #10,#COUNT IITERATION COUNT
2289 MOV #14,#ERTSYN ISAVE TEST # FOR ERROR REPORT
2290 MOV #SCP14,#RETURN ISCOPE LOOP RETURN ADDR
2291 SCP141
2292
2293
2294
2295 MOV #HEADC,#CMD ILOAD COMMAND
2296 JSR PC,STRAINT ITT TRACE TRACE INIT
2297 MOV #CHIS,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2298 MOV #LESS1,PS ILOWER PROCESSOR STATUS
2299 MOV #,INTERPC IORIGIN OF TRAP ERROR
2300 JSR PC,ISS,SUB ISELECT
2301
2302
2303 MOV #250,,#DXBC ISET UP DATA TRANSFER
2304 MOV #DATA,#DXBA IFOR OUTPUT
2305 BIS #DXFO,#DXCS I
2306
2307 I.....?..... MOD APR 74 .....
2308 I TIMING
2309 I MOS,BIPOLAR RESPONSE MOD
2310
2311 JSR PC,RLAY IDELAY FOR FAST BIPOLAR MEMORY
2312
2313 I.....?..... MOD APR 74 .....
2314
2315 MOV #1,#COUNT ITRANSFER 1 BYTE
2316 MOV #CMDEND,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2317 MOVB #DEV,#ENTRY2 ISECOND TT ENTRY = DXCA
2318 MOVB #,ENTRY2+1 ICUR OF DXCA TT ENTRY
2319 MOVB #DEV,QUAR ILOAD DEV ADDR
2320 MOV #,INTERPC IDEFINE ORIGIN OF TRACE ERROR
2321 JSR PC,TRANSFER IDO TRANSFER 1 BYTE
2322 ISERVICE-IN UP AGAIN
2323 BIS #CMD0,#DXMO IKILL WITH I/O STOP
2324 BIC #CMD0,#DXMO I
2325 I.....?..... MOD APR 74 .....
2326 I TIMING
2327 I MOS,BIPOLAR RESPONSE MOD
2328
2329 JSR PC,RLAY IDELAY FOR FAST BIPOLAR MEMORY
2330
2331 I.....?..... MOD APR 74 .....
2332
2333 MOVB #,CMD IFAKE CUR TT ENTRY
2334 MOV #CHENUS,ESND,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2335 MOVB #DEV,#ENTRY2 ISECOND TT ENTRY = DXCA
2336 MOVB #CMD,#ENTRY2+1 I
2337 MOVB #DEV,QUAR ILOAD DEV ADDR

```

D20XG.C (OFF LINE EXERCISER) UPDATE APRIL 74 W.A.
DXOFFL.P11 T14 I/O STOP DURING ACTIVE READ

MACY11 27(055) 10-JUL-74 19:47 PAGE 90

2338 71772 113777 722670 173420
2339 71772 112737 717710 022556
2340 717716 704737 716162
2341
2342
2343
2344

MOVH
MOV
JSR

00CMD,00UCR ILDAD COMMAND IN CUCR
0,00TEMPC IDEFINE ORIGIN OF TRACE ERROR
PC,STATUSPRESENTATION IEXECUTE SELECTION

```

2345      I .....
2346      ITEST 15      I/ STOP DURING WRITE
2347      I .....
2348      P1P722 104400      TS151 SCOPE
2349      P1P724 012737 000010 020334      MOV #10,0#ICOUNT IITERATION COUNT
2350      P1P732 012737 000015 021316      MOV #17,0#ENTSTN ISAVE TEST # FOR ERROR REPORT
2351      P1P740 012737 010740 020340      MOV #SCP15,0#RETURN ISCOPE LOOP RETURN ADRS
2352      P1P740      SCP151
2353
2354
2355
2356      P1P746 012737 000001 022670      MOV #WRITC,0#CMD ILOAD COMMAND
2357      P1P754 004737 015654      JSR PC,0#TRAIT IYT TRACE TRACE INIT
2358      P1P760 012737 000200 019500      MOV #CHIS,0#ENTRY1 ILOAD EXPECTED YT ENTRY 1
2359      P1P766 013737 001272 177776      MOV #0#ESS1,PS ILOWER PROCESSOR STATUS
2360      P1P774 012737 010774 020506      MOV #,0#TERPC IORIGIN OF TRAP ERROR
2361      0110P2 004737 016332      JSR PC,ISS,SUB ISELECT
2362
2363
2364      P110P6 012777 177400 170272      MOV #256,,0DXBC ISET UP DATA TRANSFER
2365      P11014 012777 031710 170202      MOV #NPRDAT,0DXBA IFOR INPUT
2366      P11022 052777 000003 170290      BIS #DXFI,0DXCS I
2367      I ..... MOD APR 74 .....
2368      I
2369      I0 TIMING
2370      I0 MOS,BIPOLAR RESPONSE MOD
2371
2372
2373      P11030 004737 016024      JSR PC,IDLAY IDELAY FOR FAST BIPOLAR MEMORY
2374
2375      I ..... MOD APR 74 .....
2376      011034 012701 030710      MOV #WDATA,R1 IDATA DESTINATION
2377      011040 012737 000001 022724      MOV #10#COUNT ITRANSFER 1 BYTE
2378      011046 012737 000040 019500      MOV #CHDEND,0#ENTRY1 ILOAD EXPECTED YT ENTRY 1
2379      011054 113737 022660 019540      MOV #0#DEV,0#ENTRY2 ISECOND YT ENTRY = DXCA
2380      011062 112737 000000 019541      MOV #0#0#ENTRY2+1 ICUCR OF DXCA YT ENTRY
2381      011070 113777 022660 170230      MOV #0#DEV,0CUAR ILOAD DEV ADRS
2382      011076 012737 011076 020506      MOV #,0#TERPC IDEFINE ORIGIN OF TRACE ERROR
2383      011104 004737 016240      JSR PC,TRANSFER IDO TRANSFER 1 BYTE
2384      I ..... MOD APR 74 .....
2385      011110 052777 002000 170172      BIS #CMD,0DXMO ISERVICE-IN UP AGAIN
2386      011116 042777 002000 170164      BIC #CMD,0DXMO IKILL WITH I/O STOP
2387      I ..... MOD APR 74 .....
2388      I0 TIMING
2389      I0 MOS,BIPOLAR RESPONSE MOD
2390      011124 004737 016024      JSR PC,IDLAY IDELAY FOR FAST BIPOLAR MEMORY
2391
2392      I ..... MOD APR 74 .....
2393      I0 MOS,BIPOLAR RESPONSE MOD
2394      I ..... MOD APR 74 .....
2395
2396      011130 112737 000000 022670      MOV #0#CMD IFAKE CUCR YT ENTRY
2397      011136 012737 001100 019500      MOV #CHENUS,0#ENTRY1 ILOAD EXPECTED YT ENTRY 1
2398      011144 113737 022660 019540      MOV #0#DEV,0#ENTRY2 ISECOND YT ENTRY = DXCA

```

DZDXG=C (OFF LINE EXERCISER) UPDATE APRIL 74 W.A.
DXOFFL:P11 T15 I/O STOP DURING WRITE

MACY11 27(055) 18-JUL-74 18147 PAGE 52

2399 P11152 113737 P22670 019541
2420 P11160 113777 P22666 178140
2421 P11166 113777 P22670 178134
2422 P11174 012737 P11174 028566
2423 P11202 004737 P16162
2424
2425
2426

MOVB 00CMD,00ENTRY2+1
MOVB 00DEV,00UAR ;LOAD DEV ADRS
MOVB 00CMD,00CUCR ;LOAD COMMAND IN CUCR
MOV 0,100TEMPC ;DEFINE ORIGIN OF TRACE ERROR
JSR PC,STATUSPRESENTATION ;EXECUTE SELECTION

```

2427      I .....
2428      ITEST 16      HI DURING ACTIVE WRITE
2429      I .....
2430      TST161  SCOPE
2431      MOV      #16,#ICOUNT      IITERATION COUNT
2432      MOV      #16,#ENTSYN      ISAVE TEST # FOR ERROR REPORT
2433      MOV      #SCP16,#RETURN  ISCOPE LOOP RETURN ADHS
2434      SCP161
2435
2436      ,REM      *
2437
2438      THE FUNCTION OF THIS TEST IS TO VERIFY THAT THE DX11 CAN RESPOND
2439      TO A STOP I/O DURING AN ACTIVE DATA TRANSFER. THIS IS ACCOMPLISHED
2440      BY EXECUTING A SELECTION WITH A COMMAND FOR A TRANSFER (READ),
2441      AFTER THE DX HAS RESPONDED TO THE COMMAND AND INITIATED THE TRANSFER
2442      COMMAND-OUT IS RAISED IN RESPONSE TO SRV1. THIS CAUSES THE DX TO
2443      TERMINATE THE TRANSFER AND RECORD THE FACT THAT THE CHANNEL TERM-
2444      INATED THE TRANSFER BY STORING CHDEND IN THE TY.
2445
2446      *
2447
2448      MOV      @WRITEC,@CMD      ILOAD COMMAND
2449      JSR      PC,@TRNIN      IYT TRACE TRACE INIT
2450      MOV      @CHIS,@ENTRY1      ILOAD EXPECTED TY ENTRY 1
2451      MOV      @LESS1,PS      ILOWER PROCESSOR STATUS
2452      MOV      @, @ENTERPC      IORIGIN OF TRAP ERROR
2453      JSR      PC,ISS,SUB      ISELECT
2454
2455
2456      MOV      @250,@DXBC      ISET UP DATA TRANSFER
2457      MOV      @NPRD@T,@DXBA      IFOR INPUT
2458      BIS      @DXFI,@DXCS      I
2459      MOV      @C IS,@ENTRY1      ILOAD EXPECTED TY ENTRY 1
2460      MOVB      @DEV,@ENTRY2      ISECOND TY ENTRY = DXCA
2461      MOVB      @CMD,@ENTRY2+1      I
2462      MOVB      @DEV,@CUAR      ILOAD DEV ADHS
2463      MOVB      @CMD,@CUCR      ILOAD COMMAND IN CUCR
2464      MOV      @, @ENTERPC      IDEFINE ORIGIN OF TRACE ERROR
2465      JSR      PC,CUIS,SUB      IEXECUTE SELECTION
2466
2467
2468      BIS      @777,@DXMO      IDUMMY DATA
2469      BIS      @SHVO,@DXMO      IDO ONE BYTE TRANSFER
2470      BIC      @SHVO,@DXMO      I
2471
2472
2473      IDO AN INTERFACE DISCONNECT
2474      BIT      @BIT2,@PARA      ITEST FOR MUX
2475      BEQ      15      IBR IF NOT MUX
2476      MOVB      @, @CMD      IFAKE CUCR ENTRY
2477
2478      151
2479      MOV      @INFOSCICHEND,@ENTRY1 ILOAD EXPECTED TY ENTRY 1
2480      MOVB      @DEV,@ENTRY2      ISECOND TY ENTRY = DXCA
2481      MOVB      @CMD,@ENTRY2+1      I
2482      MOVB      @DEV,@CUAR      ILOAD DEV ADHS

```

2461	P11454	113777	P22670	167646	MOVB	#CCHD, #CUCR	ILOAD COMMAND IN CUCR
2462	P11462	012737	P11462	020506	MOV	#, #PTENPC	IDEFINE ORIGIN OF TRACE ERROR
2463	P11470	004737	P17160		JSR	PC, #10, SUB	IEXECUTE SELECTION
2464							
2465	P11474	112777	P000014	167630	MOVB	#CE+DE, #CUSR	ILOAD CE/DE STATUS
2466	P11502	052777	P000007	167570	BIS	#DXFSTIG0, #DXCS	ISET FCTN/STATUS/GO
2467							ISTATUS-IN SHOULD RISE
2468	P11510	112737	P000000	022670	MOVB	#0, #CCHD	IFAKE CUCR TT ENTRY
2469	P11516	012737	P000002	022670	MOV	#READC, #CCHD	ILOAD COMMAND
2470	P11524	004737	P15634		JSR	PC, #0, TRAIT	ITT TRACE TRACE INIT
2471	P11530	012737	P011000	013500	MOV	#CHENUS, #EEND, #ENTRY1	ILOAD EXPECTED TT ENTRY 1
2472	P11536	013737	P01272	177776	MOV	#LESS1, PS	ILOWER PROCESSOR STATUS
2473	P11544	012737	P11544	020506	MOV	#, #0, TERPC	IORIGIN OF TRAP ERROR
2474	P11552	004737	P17510		JSR	PC, CUIS, GO	ISELECT
2475							
2476	P11556	032777	P000000	167526	BIF	#ULL1, #DXMI	IOPLI SHOULD BE UP
2477	P11564	001001			BNE	, +4	I BRANCH IF NO ERROR CONDITION
2478	P11566	104000			ERROR		IOPLI NOT SET
2479	P11570	032777	P040000	167514	BIF	#STAI, #DXMI	ISTATUS-IN SHOULD SET
2480	P11576	P01001			BNE	, +4	I BRANCH IF NO ERROR CONDITION
2481	P11600	104000			ERROR		I STAI NOT SET
2482	P11602	012777	P11040	167494	MOV	#WESEINT, #DXIV	IENDING STATUS INTERRUPT
2483	P11610	052777	P010000	167472	BIS	#SRVO, #DXMO	ISERVICE-OUT UP
2484							I STATUS-IN SHOULD FALL
2485	P11616	032777	P010000	167464	BIF	#SRVO, #DXMO	
2486	P11624	001001			BNE	, +4	I BRANCH IF NO ERROR CONDITION
2487	P11626	104000			ERROR		
2488					BIF	#STAI, #DXMI	
2489					ERCALL	BEV, <STAI DID NOT DROP>	
2490	P11630	042777	P010000	167492	BIC	#SRVO, #DXMO	IDROP SERVICE-OUT,
2491							ITWIS ENDS ES -- EEND INT SHOULD
2492							BE UP AND CUBSY CLEAR
2493	P11636	P00424			BR	ESE2	IENIT
2494							
2495							
2496							
2497	P11640	032777	P002000	167432	WESEINT	BIF	#DONE, #DXCS
2498	P11646	P01001			BNE	, +4	I BRANCH IF NO ERROR CONDITION
2499	P11650	104000			ERROR		IINVALID INTERRUPT
2500	P11652	042777	P002000	167420	BIC	#DONE, #DXCS	ICLEAR DONE
2501	P11660	012737	P011000	013500	MOV	#CIENDS, #EEND, #ENTRY1	ITT ENTRY 1
2502	P11666	112737	P000000	013541	MOVB	#0, #ENTRY2+1	IENTRY2
2503	P11674	012737	P11674	020506	MOV	#, #0, TERPC	IORIGIN OF TRACE ERROR
2504	P11702	004737	P15432		JSR	PC, TT, TRACE	
2505	P11706	P000002			RTI		IRETURN
2506							
2507	P11710	P00240			ESE21	NOP	
2508							
2509							
2510							

```

2511      I .....
2512      TEST 17      MID DURING ACTIVE READ
2513      I .....
2514      TST17:  SCOPE
2515      MOV      #18,00ICOUNT      IITERATION COUNT
2516      MOV      #11,00ENTSTN      ISAVE TEST # FOR ERROR REPORT
2517      MOV      #SCP17,00RETURN      ISCOPE LOOP RETURN ADNS
2518      SCP17:
2519
2520
2521      MOV      #READC,00CMD      ILOAD COMMAND
2522      JSR      PC,00TRAIT      IIT TRACE TRACE INIT
2523      MOV      #CHIS,00ENTRY1      ILOAD EXPECTED TT ENTRY 1
2524      MOV      #LESS1,PS      ILOWER PROCESSOR STATUS
2525      MOV      #,00TERPC      IORIGIN OF TRAP ERROR
2526      JSR      PC,ISS,SUB      ISELECT
2527
2528
2529      MOV      #256,,0DXBC      ISET UP DATA TRANSFER
2530      MOV      #DATA,0DXBA      IFOR OUTPUT
2531      BIS      #DXFO,0DXCS      I
2532      MOV      #CZIS,00ENTRY1      ILOAD EXPECTED TT ENTRY 1
2533      MOVB      #DEV,00ENTRY2      ISECOND TT ENTRY = DXCA
2534      MOVB      #CMD,00ENTRY2+1      I
2535      MOVB      #DEV,0CUAR      ILOAD DEV ADNS
2536      MOVB      #CMD,0CUCR      ILOAD COMMAND IN CUCR
2537      MOV      #,00TERPC      IDEFINE ORIGIN OF TRACE ERROR
2538      JSR      PC,CUIS,SUB      IEXECUTE SELECTION
2539
2540      BIS      #SRVO,0DXMO      ISTART THE TRANSFER
2541      BIC      #SMVO,0DXMO      I
2542      MOVB      #TTNOX,(PC)+      IFAKE CUCR TT ENTRY
2543      MOVB      #,0      ISAVE TTNOX
2544      MOVB      #,0      IHERE
2545      IDO AN INTERFACE DISCONNECT
2546      MOVB      #CMD,00CMD      IFAKE CUCR ENTRY
2547      MOV      #INFDSC,CHEND,00ENTRY1      ILOAD EXPECTED TT ENTRY 1
2548      MOVB      #DEV,00ENTRY2      ISECOND TT ENTRY = DXCA
2549      MOVB      #CMD,00ENTRY2+1      I
2550      MOVB      #DEV,0CUAR      ILOAD DEV ADNS
2551      MOVB      #CMD,0CUCR      ILOAD COMMAND IN CUCR
2552      MOV      #,00TERPC      IDEFINE ORIGIN OF TRACE ERROR
2553      JSR      PC,MIO,SUB      IEXECUTE SELECTION
2554
2555      MOVB      #CE+DE,0CUSR      ILOAD CE/DE STATUS
2556      BIS      #DXFSTIGO,0DXCS      ISET FCTN/STATUS/GO
2557      ISTATUS-IN SHOULD RISE
2558      MOV      #READC,00CMD      ILOAD COMMAND
2559      JSR      PC,00TRAIT      IIT TRACE TRACE INIT
2560      MOV      #CHEND,ISEND,00ENTRY1      ILOAD EXPECTED TT ENTRY 1
2561      MOV      #LESS1,PS      ILOWER PROCESSOR STATUS
2562      MOV      #,00TERPC      IORIGIN OF TRAP ERROR
2563      JSR      PC,CUIS,GO      ISELECT
2564
  
```

```

2565 712244 732777 100000 167040      BIT      00PL1,0DXM1      10PL1 SHOULD BE JP
2566 712252 701001      BNE      ,04      10PL1 IF NO ERROR CONDITION
2567 712254 104000      ERROR      10PL1 NOT SET
2568 712256 732777 704000 167026      BIT      00STAI,0DXM1
2569 712264 701001      BNE      ,07      10PL1 IF NO ERROR CONDITION
2570 712266 104000      ERROR      10STAI NOT SET
2571 712273 712777 012326 166766      MOV      00ESEINT,0DXIV      10ENDING STATUS INTERRUPT
2572 712276 732777 701000 167034      BIS      00SRVO,0DXMO      10SERVICE=OUT UP
2573      10STATUS-IN SHOULD FALL
2574 712374 732777 701000 166776      BIT      00SRVC,0DXMO
2575 712312 701001      BNE      ,01      10BRANCH IF NO ERROR CONDITION
2576 712314 104000      ERROR
2577      10
2578      10
2579 712316 742777 701000 166764      BIC      00STAI,0DXM1      10BE ,<STAI DID NOT DROP>
2580      00SRVO,0DXMO      10DROP SERVICE=OUT,
2581      10THIS ENDS ES 0- ESEND INT SHOULD
2582      BR      ESE1      10BE UP AND CUBSY CLEAR
2583      10EXIT
2584      10END STATUS INTERRUPT SERVICE
2585
2586 712326 732777 000200 166744 ESEINT1 BIT      00DONE,0DXCS      10CHECK FOR VALID INTERRUPT
2587 712334 701001      BNE      ,04      10BRANCH IF NO ERROR CONDITION
2588 712336 104000      ERROR      10INVALID INTERRUPT
2589 712340 742777 000200 166732      BIC      00DONE,0DXCS      10CLEAR DONE
2590 712346 712737 701100 015500      MOV      00CTENDSIESEND,00ENTHYV1 101ST ENTRY 1
2591 712354 112737 000000 015541      MOVB     00100ENTRY2+1      10ENTRY2
2592 712362 712737 012362 020506      MOV      0,00TERPC      10ORIGIN OF TRACE ERROR
2593 712370 704737 015432      JSR      PC,TT,TRACE
2594 712374 700002      RTI      10RETURN
2595
2596 712376 700240      ESE11      NOP
2597
2598
2599

```

```

2600      I .....
2601      ITEST 20      CONVENTION TEST
2602      I .....
2603      TS2FI  SCOPE
2604      MOV      #10,#ICOUNT      ITERATION COUNT
2605      MOV      #20,#ENTSYN      ISAVE TEST # FOR ERROR REPORT
2606      MOV      #SCP20,#RETURN   ISCOPE LOOP RETURN ADRS
2607      SCP20:
2608
2609
2610      MOV      #12424,#32737    200024  022202      BIT      #BIT2,#PARA      ITEST MUX BIT
2611      MOV      #01510          000022  022202      BEO      NCONT          INC MUX NO CONT TEST
2612      MOV      #32737          000022  022202      BIT      #BIT1,#PARA      IBSYEN MUST BE 0
2613      MOV      #01104          015654      BNE      NCONT          IBRANCH IF BSYEN
2614      MOV      #04737          022672  166650      JSR      PC,FASTISS      I00 TT TRACE INIT
2615      MOV      #12450          113777  166650      MOV      DEV,A,PCUAR      ISET UP DEVICE 2 FOR
2616      MOV      #12456          112777  166646      MOV      #ATN,PCUSR      IASYNCH STATUS
2617
2618
2619
2620
2621
2622
2623
2624
2625
2626
2627      MOV      #12464          052777  000007  166636      BIS      #DXFST,DXCS      IREQUEST-IN SHOULD BE UP
2628      MOV      #12472          032777  020000  166612      BIT      #REQ1,DXMI      ILOOK FOR REQUEST IN
2629      MOV      #12500          001031          ,01      BNE      ,01      IBRANCH IF NO ERROR CONDITION
2630      MOV      #12502          104000          ERROR      IREQ1 DID NOT SET
2631      MOV      #12504          012737  000403  022670      MOV      #NIPC,CMD
2632
2633      MOV      #12512          012737  001200  019500      MOV      #CHENDS,CHIS,#ENTRY1  ILOAD EXPECTED TT ENTRY 1
2634      MOV      #12520          113737  022666  019540      MOV      #DEV,#ENTRY2          ISECOND TT ENTRY = DXCA
2635      MOV      #12526          112737  000003  019541      MOV      #3,#ENTRY2+1          IMUX TT CUCR
2636      MOV      #12534          113777  022666  166504      MOV      #DEV,PCUAR          ILOAD DEV ADRS
2637      MOV      #12542          012737  012542  020506      MOV      #,I0TENPC          IDEFINE ORIGIN OF TRACE ERROR
2638
2639
2640      MOV      #12550          004737  017732          JSR      PC,FASTISS      ISS FOR DEVICE 1
2641
2642      MOV      #12554          042777  000200  166516      BIS      #DONE,DXCS
2643      MOV      #12562          113777  022666  166536      MOV      DEV,PCUAR          ITRY STATUS FOR DEV 1
2644      MOV      #12570          112777  000200  166534      MOV      #ATN,PCUSR
2645      MOV      #12576          052777  000007  166474      BIS      #DXFST,DXCS      IREQUEST IN SHOULD BE UP
2646      MOV      #12604          012737  000403  022670      MOV      #NIPC,CMD          ILOAD NOP COMMAND
2647      MOV      #12612          012737  001200  019500      MOV      #CHENDS,CHIS,#ENTRY1  ILOAD EXPECTED TT ENTRY 1
2648      MOV      #12620          113737  022666  019540      MOV      #DEV,#ENTRY2          ISECOND TT ENTRY = DXCA
2649      MOV      #12626          112737  000003  019541      MOV      #3,#ENTRY2+1          IMUX TT CUCR
2650      MOV      #12634          113777  022666  166404      MOV      #DEV,PCUAR          ILOAD DEV ADRS
2651      MOV      #12642          012737  012642  020506      MOV      #,I0TENPC          IDEFINE ORIGIN OF TRACE ERROR
2652      MOV      #12650          004737  017732          JSR      PC,FASTISS
2653      NCONT:
  
```

DZDXG.C (OFF LINE EXERCISER) UPDATE APRIL 74 W.A.
DXOFFL:P11 T2P CONTENTION TEST

MACY11 27(655) 18-J L-74 18147 PAGE 5A

2654
2655

```

2656      1 .....
2657      ITEST 21      W1 AND T10 TO RELEASE STATUS ( ON BSYEN ONLY)
2658      1 .....
2659      TST211 SCOPE
2660      MOV      @10,@ICOUNT      IITERATION COUNT
2661      MOV      @21,@PRESENTSN    ISAVE TEST # FOR ERROR REPORT
2662      MOV      @SCP21,@RETURN    ISCOPE LOOP RETURN ADRS
2663      SCP211
2664
2665
2666      T12773 T32737 000004 022202      BIT      @BIT2,@PARA      IMUX CHANNEL?
2667      T12776 T01005      BNE      13      IIF MUX MUST BE BSYEN
2668      T12710 T32737 000002 022202      BIT      @BIT1,@PARA      IIF SEL MUST NOT BE BSYEN
2669      T12716 T01407      BEQ      TST6A      IBRANCH IF NOT BSYEN
2670      T12723 T00404      BR      25      ISEL AND BSYEN IS NOT VALID FOR THIS TEST
2671      T12722 T32737 000002 022202 131 BIT      @BIT1,PARA      IMUX W/O BSYEN?
2672      T12730 T01002      BNE      TST6A      IYES = GO
2673      T12732 T00137 T13452 251 JMP      @TST6B      IIGNORE TEST
2674      T12736
2675      T12736 T12737 000001 022670      MOV      @WRITEC,@CMD      ILOAD COMMAND
2676      T12744 T04737 T15054      JSR      PC,@STRAINT      IIT TRACE TRACE INIT
2677      T12750 T12737 000200 015530      MOV      @CHIS,@ENTRY1     ILOAD EXPECTED TT ENTRY 1
2678      T12756 T13737 T01272 177776      MOV      @LESS1,PS          ILOWER PROCESSOR STATUS
2679      T12764 T12737 T12764 020506      MOV      @, @ENTERPC       IORIGIN OF TRAP ERROR
2680      T12772 T04737 T10332      JSR      PC,ISS,SUB          ISELECT
2681
2682
2683      ID0 INTER FACE DISCONNECT
2684
2685      T12776 T12737 T04000 015530      MOV      @INFOC,@ENTRY1     ILOAD EXPECTED TT ENTRY 1
2686      T13004 T13737 T22666 015540      MOVB     @DEV,@ENTRY2      ISECOND TT ENTRY = DXCA
2687      T13012 T13737 T22670 015541      MOVB     @CMD,@ENTRY2+1     I
2688      T13020 T13777 T22666 106330      MOVB     @DEV,@CUAR         ILOAD DEV ADRS
2689      T13026 T13777 T22670 106274      MOVB     @CMD,@CUCR         ILOAD COMMAND IN CUCR
2690      T13034 T12737 T13034 020506      MOV      @, @ENTERPC       IDEFINE ORIGIN OF TRACE ERROR
2691      T13042 T04737 T17160      JSR      PC,W10,SUB         IEXECUTE SELECTION
2692
2693
2694      IATTEMPT TO PRESENT ASYNCHRONOUS STATUS WHILE DISCONNECTED
2695
2696      T13046 T52777 000014 106236      BIS      @CEIDE,@CUCR      IGENERATE CEIDE STATUS
2697      T13054 T52777 000007 106216      BIS      @DXFST,@DXCS      ISET FUNCTION STATUS & GO
2698      T13062 T12737 000000 022670      MOVB     @, @CMD           ISTATUS=IN UP
2699      T13073 T32737 000004 022202      MOVB     @BIT2,@PARA      IFAKE CUCR ENTRY
2700      T13076 T01407      BEQ      13      ITEST FOR MUX
2701      T13100 T13737 T22666 022670      MOVB     @DEV,@CMD         IFAKE CUCR ENTRY
2702      T13106 T12737 T01012 015530      MOV      @CHENDS,ISSREJISTKSTB,@ENTRY1
2703      T13114 T00403      BR      1306
2704      T13116
2705      T13116 T12737 T01002 015530 131 MOV      @CHENDS,ISTKSTB,@ENTRY1 ILOAD EXPECTED TT ENTRY 1
2706      T13124 T13737 T22666 015540      MOVB     @DEV,@ENTRY2      ISECOND TT ENTRY = DXCA
2707      T13132 T13737 T22670 015541      MOVB     @CMD,@ENTRY2+1     I
2708      T13140 T13777 T22666 106160      MOVB     @DEV,@CUAR         ILOAD DEV ADRS
  
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2710	113146	113777	022670	166194	MOV	00CMD,00CUCR	ILCAN COMMAND IN CUCR
2711	113154	112737	013154	020506	MOV	0,100TERPC	IDEFINE ORIGIN OF TRACE ERROR
2712	113162	104737	017510		JSR	PC,CUIS,GO	EXECUTE SELECTION
2713							
2714	113166	152777	002000	166114	BIS	00CMD,00XMO	ISCT COMMAND-OUT INSTEAD
2715							IOF SERVICE OUT
2716	113174	142777	002000	166136	BIC	00CMD,00XMO	
2717	113202	113703	001442		MOV	05,03	
2718	113206	132777	000040	166064	BIT	00STKSTA,00XCS	ITEST FOR STACKED STATUS
2719	113214	001001			BNE	,04	IBRANCH IF NO ERROR CONDITION
2720	113216	104000			ERROR		ISTKSTA NOT SET
2721	013220	112763	000000	000000	MOV	00,0(N3)	ILCAN STATUS FOR TEST I/O COMMAND
2722	013226	112737	000400	022670	MOV	0TIOC,00CMD	ITEST I/O
2723	013234	012737	000200	015500	MOV	00MIS,00ENTRY1	ILCAN EXPECTED TT ENTRY 1 FOR SEL
2724	113242	113737	022666	015540	MOV	00DEV,00ENTRY2	ISECOND TT ENTRY - DXCA
2725	113250	032737	000004	022202	BIT	00IT2,00PARA	ITEST FOR MUX
2726	113256	001407			BEO	15	IBR IF SELECTOR
2727	113260	112737	000000	015541	MOV	00,00ENTRY2+1	IMUX TT CUCR
2728	113266	012737	001311	015500	MOV	01311,00ENTRY1	IOS FOR MUX
2729	013274	000403			BR	25	IGO
2730	013276	112737	000000	015541	MOV	00,00ENTRY2+1	ICUCR OF DXCA TT ENTRY
2731	113304	113777	022666	166014	MOV	00DEV,00CUAR	ILCAN DEV ADRS
2732	113312	012737	013312	020506	MOV	0,100TERPC	IDEFINE ORIGIN OF TRACE ERROR
2733	013320	104737	013320		JSR	PC,TIO,ISS	
2734	013324	100452			BR	TST00	
2735							ISS FOR WIO/TIO TO MELEAVE STATUS TEST
2736							
2737	113326	105077	166004		TIO,ISSIC,00	00BUSO	ICLEAR BUS OUT
2738	013332	053777	022666	165750	BIS	DEV,00XMO	IPUT DEVICE ADRS ON OUT TAGS
2739	113340	052777	004000	165742	BIS	0A3RO,00XMO	IRASE ADRS-OUT
2740	013346	052777	060000	165734	BIS	0ML00,ISELO,00XMO	IRASE SELECT-OUT, HOLD-OUT
2741	113354	042777	004000	165726	BIC	0ADRO,00XMO	IREMOVE ADRS-OUT
2742							
2743	113362	143777	022666	165720	BIC	DEV,00XMO	IREMOVE ADRS
2744	113370	153777	022670	165712	BIS	CMD,00XMO	IPUT COMMAND ON OUT TAGS
2745	013376	052777	002000	165704	BIS	00CMD,00XMO	IRASE CMD-OUT
2746	113404	143777	022670	165676	BIC	CMD,00XMO	IREMOVE CMD
2747	013412	042777	002000	165670	BIC	00CMD,00XMO	IREMOVE CMD-OUT
2748	013420	052777	001000	165662	BIS	0SRVO,00XMO	IRELEASE STATUS
2749	113426	042777	001000	165654	BIC	0S3VO,00XMO	I
2750	013434	117700	165710		MOV	0T,NOX,00	IFETCH TT INDEX
2751	013440	042700	177000		BIC	0177000,00	I
2752	013444	063700	001440		ADD	TT,00	IFIND NEXT TT ENTRY POINT
2753	013450	000207			TIS,21	PC	
2754	013452	004737	024254		TST001	JSR	PC,RESRES
2755	113456	112763	000000	000000	MOV	00,0(N3)	IRESTORE STATUS
2756							
2757							

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2758
2759
2760
2761 P13464 104430
2762 P13466 012737 000010 020334
2763 P13474 012737 000022 021310
2764 P13502 012737 013510 020340
2765 P13510
2766
2767
2768
2769 P13510 032737 000004 022202
2770 P13516 001474
2771 P13520 032737 000002 022202
2772 P13526 001002
2773 013530 000137 014232
2774 P13534
2775 P13534 012737 000002 022670
2776 P13542 004737 015054
2777 013546 012737 000200 015500
2778 P13554 013737 001272 177776
2779 P13562 012737 013562 020506
2780 P13570 004737 010332
2781
2782
2783 P13574 053777 022672 103500
2784 P13602 052777 004000 103500
2785 P13610 052777 040000 103472
2786 P13616 052777 020000 103404
2787
2788
2789 P13624 042777 064000 103496
2790 P13632 043777 022672 103490
2791 P13640 113777 022600 103400
2792 P13646 012737 000002 022724
2793 P13654 012777 177776 103424
2794 P13662 012777 030310 103414
2795 013670 052777 000000 103402
2796 P13676 012737 000200 015500
2797 P13704 113737 022600 015540
2798 P13712 113737 022670 015541
2799 P13720 113777 022600 103400
2800 P13726 113777 022670 103374
2801 P13734 012737 013734 020506
2802 P13742 004737 017500
2803
2804 P13746 112737 000000 022670
2805 P13754 012737 000030 015500
2806 P13762 113737 022600 015540
2807 P13770 113737 022670 015541
2808 P13776 113777 022600 103322
2809 P14004 113777 022670 103316
2810 P14012 012737 014012 020506
2811 P14020 004737 016240

```

I
 ITEST 22 CUBSV/CUE TEST (MUX/BSYEN ONLY)
 I
 TST221 SCOPE
 MOV 013,001COUNT IITERATION COUNT
 MOV 024,00ENTSYN ISAVE TEST # FOR ERROR REPORT
 MOV 0SCP22,00RETURN ISCOPE LOOP RETURN ADRS
 SCP221
 BIT 0BIT2,PARA IMUX CHANNEL
 BEQ TS_9,0 INO - IGNORE
 BIT 0BIT1,PARA IBSYEN MODE
 ONE TS_9,1
 JMP 00,STV,2
 TST9,01
 TST9,11
 MOV 0READC,00CMD ILOAD COMMAND
 JSR PC,00TRANTY ITY TRACE TRACE INIT
 MOV 0CMIS,00ENTRY1 ILOAD EXPECTED TY ENTRY 1
 MOV 004ESS1,PS ILOWER PROCESSOR STATUS
 MOV 0,00ENTERPC IORIGIN OF TRAP ERROR
 JSR PC,ISS,SUB ISELECT
 BIS 0DEV,A,0DXMO ITRY TO SELECT SECOND
 BIS 0ADRO,0DXMO IADDRESS OUT
 BIS 0HLD0,0DXMO IHOLD OUT
 BIS 0SELO,0DXMO ISELECT OUT
 ISTATUS-IN SHOULD RISE
 IWITH SM + BSY ON BUS
 BIC 0ADRO,HLD0ISELO,0DXMO ISSREJ SHOULD
 BIC 0DEV,A,0DXMO IBE UP
 MOVB 0DEV,0CUAR IRESET CUAR
 MOV 02,COUNT IDO A 2 BYTE DATA
 MOV 002,0DXBC ITRANSFER
 MOV 0DATA,0DX0A
 BIS 0DXFD,0DXCS
 MOV 0C-18,00ENTRY1 ILOAD EXPECTED TY ENTRY 1
 MOVB 00DEV,00ENTRY2 ISECOND TY ENTRY = DXCA
 MOVB 00CMD,00ENTRY2+1
 MOVB 00DEV,0CUAR ILOAD DEV ADRS
 MOVB 00CMD,0CUCR ILOAD COMMAND IN CUCR
 MOV 0,00ENTERPC IDEFINE ORIGIN OF TRACE ERROR
 JSR PC,CUI,SUB IEXECUTE SELECTION
 MOVB 007,00CMD IFAKE CUCR TY ENTRY
 MOV 0CUDEND,ISSREJ,00ENTRY1 ILOAD EXPECTED TY ENTRY 1
 MOVB 00DEV,00ENTRY2 ISECOND TY ENTRY = DXCA
 MOVB 00CMD,00ENTRY2+1
 MOVB 00DEV,0CUAR ILOAD DEV ADRS
 MOVB 00CMD,0CUCR ILOAD COMMAND IN CUCR
 MOV 0,00ENTERPC IDEFINE ORIGIN OF TRACE ERROR
 JSR PC,TRANSFER IEXECUTE SELECTION

2812						
2813	F14024	F12737	001110	019500	MOV	#CHENDS,ISEND,ISSREJ,00ENTRY1 ILOAD EXPECTED TT ENTRY 1
2814	F14032	113737	022060	019540	MOVB	00DEV,00ENTRY2 ISECONO TT ENTRY = DXCA
2815	F14040	113737	022070	019541	MOVB	00CMD,00ENTRY2+1 I
2816	F14046	113777	022060	105292	MOVB	00DEV,0CUAR ILOAD DEV ADRS
2817	F14054	113777	022070	105240	MOVB	00CMD,0CUCR ILOAD COMMAND IN CUCR
2818	F14062	F12737	F14062	020500	MOV	0,00TERPC IDEFINE ORIGIN OF TRACE ERROR
2819	F14070	004737	010102		JSR	PC,STATUSPRESENTATION IEXECUTE SELECTION
2820						
2821						IISSREJ SHOULD STILL BE
2822						IUP, ALONG WITH CUBSY
2823						
2824	F14074	112777	000040	105230	MOVB	0CUE,0CUSR IPRESENT CUE
2825	F14102	052777	000007	105170	BIS	0UXFST,0DXCS IGO
2826	F14110	112737	000000	022070	MOVB	00,00CMD IFAKE CUCR TT ENTRY
2827	F14116	012737	000100	019500	MOV	ISEND,00ENTRY1 ILOAD EXPECTED TT ENTRY 1
2828	F14124	113737	022060	019540	MOVB	00DEV,00ENTRY2 ISECONO TT ENTRY = DXCA
2829	F14132	113737	022070	019541	MOVB	00CMD,00ENTRY2+1 I
2830	F14140	113777	022060	105100	MOVB	00DEV,0CUAR ILOAD DEV ADRS
2831	F14146	113777	022070	105194	MOVB	00CMD,0CUCR ILOAD COMMAND IN CUCR
2832	F14154	F12737	014154	020500	MOV	0,00TERPC IDEFINE ORIGIN OF TRACE ERROR
2833	F14162	004737	017500		JSR	PC,CUIS,SUB IEXECUTE SELECTION
2834						
2835	F14166	122777	000040	105140	CHMB	0CUE,0BUSI ICHECK STATUS ON BUS-IN
2836	F14174	001401			BEQ	,04 IBRANCH IF NO ERROR CONDITION
2837	F14176	104000			ERROR	IBUSI STATUS ERROR
2838	F14200	032777	000010	105000	BIF	0ISSREJ,0DXDS ICHECK FOR ISS REJECT
2839	F14206	001001			BNE	,04 IBRANCH IF NO ERROR CONDITION
2840	F14210	104000			ERROR	IISSREJ NOT SET
2841	F14212	052777	001000	105070	BIS	0SRVO,0DXMO IACCEPT STATUS
2842	F14220	042777	001000	105002	BIC	0SRVO,0DXMO I(ISSREJ CLEARS)
2843	F14226	005077	105110		CLR	0BUSI ICLEAR BUSI
2844	F14232	005777	105030		TSY9,21 TSY	0DXDS IOXDS SHOULD BE 0
2845						
2846	F14236	001401			BEQ	,04 IBRANCH IF NO ERROR CONDITION
2847	F14240	104000			ERROR	IOXDS NOT 0
2848						
2849						
2850						

2051					I		
2052					ITEST	23	IN LEAVE TEST (MUX AND V ₀ BSYEN ONLY)
2053					I		
2054	114242	104470			TST231	SCOPE	
2055	114244	112737	000020	022334	MOV	#23,00ICOUNT	ITERATION COUNT
2056	114252	112737	000023	021310	MOV	#23,00ENTSTN	ISAVE TEST # FOR ERROR REPORT
2057	114263	112737	114260	020340	MOV	#SCP23,00RETUNA	ISCOPE LOOP RETURN ADNS
2058	114266				SCP231		
2059							
2060							
2061	114266	112737	000024	022202	BIT	#BIT2,PARA	IMIX?
2062	114274	101474			REC	TST12A	IN = NO GOOD
2063	114276	112737	000022	022202	BIT	#BIT1,PARA	IBSYEN?
2064	114374	101472			REC	TST12B	IN = OK
2065							
2066	114376	100137	115176		TST12A1	JMP	00TST12C
2067	114312				TST12B1		
2068	114312	112737	000022	022670	MOV	#READC,00CMD	ILOAD COMMAND
2069	114323	104737	115054		JSR	PC,00TRANT	ITT TRACE TRACE INIT
2070	114324	112737	000200	015500	MOV	#CHIS,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2071	114332	113737	001272	177776	MOV	#LESS1,PS	ILOWER PROCESSOR STATUS
2072	114340	112737	114340	020506	MOV	#,00TERPC	IORIGIN OF TRAP ERROR
2073	114346	104737	116332		JSR	PC,ISS,SUB	ISELECT
2074							
2075							
2076	114352	113737	122066	022720	MOV	DEV,SAVDEV	ISAVE ADDRESS
2077	114360	013737	122072	022606	MOV	DEV,A,DEV	ISSET SECOND DEVICE
2078	114366	112737	000002	022670	MOV	#READC,00CMD	ILOAD COMMAND
2079	114374	104737	115054		JSR	PC,00TRANT	ITT TRACE TRACE INIT
2080	114400	112737	000200	015500	MOV	#CHIS,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2081	114406	113737	001272	177776	MOV	#LESS1,PS	ILOWER PROCESSOR STATUS
2082	114414	112737	114414	020506	MOV	#,00TERPC	IORIGIN OF TRAP ERROR
2083	114422	104737	116332		JSR	PC,ISS,SUB	ISELECT
2084							
2085							
2086	114426	113737	122720	022606	MOV	SAVDEV,DEV	IRESTORE ADDRESS
2087							
2088	114434	113777	122066	104604	MOVB	DEV,00UAR	ISSET FOR DEV 1
2089	114442	112737	000004	022724	MOV	#4,COUNT	IDT FOR 1 (4 BYTES)
2090	114450	112777	177774	104630	MOV	#04,00XBC	
2091	114456	112777	130310	104620	MOV	#DATA,00XBA	
2092	114464	112777	000005	104606	BIS	#DXFD,00XCB	
2093	114472	112737	000200	015500	MOV	#CHIS,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2094	114500	113737	022066	015540	MOVB	#DEV,00ENTRY2	ISECOND TT ENTRY = DXCA
2095	114506	113737	022070	015541	MOVB	#CMD,00ENTRY2+1	I
2096	114514	113777	122066	104604	MOVB	#DEV,00UAR	ILOAD DEV ADNS
2097	114522	113777	022070	104600	MOVB	#CMD,00CUCR	ILOAD COMMAND IN CUCR
2098	114530	112737	114530	020506	MOV	#,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2099	114536	104737	117500		JSR	PC,CUIS,SUB	IEXECUTE SELECTION
2100							
2101	114542	112737	000000	022670	MOVB	#0,00CMD	IFAKE CUCR TT ENTRY
2102	114550	112737	000020	015500	MOV	#CUCR,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2103	114556	113737	122066	015540	MOVB	#LEV,00ENTRY2	ISECOND TT ENTRY = DXCA
2104	114564	113737	022070	015541	MOVB	#CMD,00ENTRY2+1	I

2925	014572	113777	022666	164326	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2926	014670	113777	022670	164322	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2927	014676	012737	014680	023566	MOV	0,00TERPC	IDFINE ORIGIN OF TRACE ERROR
2928	014614	004737	016240		JSR	PC,TRANSFER	IEXECUTE SELECTION
2929							
2910							
2911	014620	013737	022666	022720	MOV	DEV,SAVDEV	ISAVE ADDRESS
2912	014626	013737	022672	022666	MOV	DEV,A,DEV	ISSET SECOND DEVICE
2913	014634	012737	000002	022724	MOV	02,COUNT	I2 BYTES
2914	014642	012777	177776	164436	MOV	000,0DXBC	
2915	014650	012777	030310	164426	MOV	00ATA,0DXBA	
2916	014656	012777	000005	164414	MOV	00XFO,0DXCS	
2917	014664	012737	000200	013500	MOV	0CHIS,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2918	014672	113737	022666	013540	MOVB	00DEV,00ENTRY2	ISECOND TT ENTRY = DXCA
2919	014700	113737	022670	013541	MOVB	00CMD,00ENTRY2+1	I
2920	014706	113777	022666	164412	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2921	014714	113777	022670	164406	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2922	014722	012737	014722	023566	MOV	0,00TERPC	IDFINE ORIGIN OF TRACE ERROR
2923	014730	004737	013500		JSR	PC,CUIS,SUB	IEXECUTE SELECTION
2924							
2925	014734	112737	000000	022670	MOVB	00T00CMD	IFAKE CUCR TT ENTRY
2926	014742	012737	000020	013500	MOV	00CUDEND,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2927	014750	113737	022666	013540	MOVB	00DEV,00ENTRY2	ISECOND TT ENTRY = DXCA
2928	014756	113737	022670	013541	MOVB	00CMD,00ENTRY2+1	I
2929	014764	113777	022666	164334	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2930	014772	113777	022670	164330	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2931	015000	012737	015000	023566	MOV	0,00TERPC	IDFINE ORIGIN OF TRACE ERROR
2932	015006	004737	016240		JSR	PC,TRANSFER	IEXECUTE SELECTION
2933							
2934	015012	013737	022720	022666	MOV	SAVDEV,DEV	IRESTORE ADDRESS
2935							
2936	015020	112737	000000	022670	MOVB	00T00CMD	IFAKE CUCR TT ENTRY
2937	015026	012737	001100	013500	MOV	0CHENDS,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2938	015034	113737	022666	013540	MOVB	00DEV,00ENTRY2	ISECOND TT ENTRY = DXCA
2939	015042	113737	022670	013541	MOVB	00CMD,00ENTRY2+1	I
2940	015050	113777	022666	164290	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2941	015056	113777	022670	164244	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2942	015064	012737	015064	023566	MOV	0,00TERPC	IDFINE ORIGIN OF TRACE ERROR
2943	015072	004737	016162		JSR	PC,STATUSPRESENTATION	IEXECUTE SELECTION
2944							
2945							
2946	015076	013737	022666	022720	MOV	DEV,SAVDEV	ISAVE ADDRESS
2947	015104	013737	022672	022666	MOV	DEV,A,DEV	ISSET SECOND DEVICE
2948	015112	112737	000000	022670	MOVB	00T00CMD	IFAKE CUCR TT ENTRY
2949	015120	012737	001100	013500	MOV	0CHENDS,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
2950	015126	113737	022666	013540	MOVB	00DEV,00ENTRY2	ISECOND TT ENTRY = DXCA
2951	015134	113737	022670	013541	MOVB	00CMD,00ENTRY2+1	I
2952	015142	113777	022666	164196	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2953	015150	113777	022670	164192	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2954	015156	012737	015156	023566	MOV	0,00TERPC	IDFINE ORIGIN OF TRACE ERROR
2955	015164	004737	016162		JSR	PC,STATUSPRESENTATION	IEXECUTE SELECTION
2956							
2957							
2958	015170	013737	022720	022666	MOV	SAVDEV,DEV	IRESTORE ADDRESS

DZDXG=C (OFF LINE EXERCISER) UPDATE APRIL 74 W.A. MACY11 27(055) 18-JUL-74 19147 PAGE 65
DXOFFL,P11 T23 INTERLEAVE TEST (MUX AND NO BSVEN ONLY)

2959 715176
2960
2961

TST12C1

C. b

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2962      I .....
2963      ITEST 24      END OF TEST STRING
2964      I .....
2965      TS1241  SCOPE
2966      MOV      #17,01COUNT      IITERATION COUNT
2967      MOV      #24,00ERTSTN      ISAVE TEST # FOR ERROR REPORT
2968      MOV      #SCP24,00RETURN      ISCOPE LOOP RETURN ADRS
2969      SCP241
2970
2971
2972      .REM      *
2973
2974      THIS TEST FUNCTIONS AS A TERMINATOR FOR THE CHAINABLE TEST STRING,
2975      AS SUCH IT TRANSFERS CONTROL TO THE LOOP CONTROL SUBROUTINE.
2976
2977      *
2978
2979      J4P      00LPCNTL
2980      #15222      #00137      022340
2981
2982
2983
2984      IINTERUPT HANDLES
2985
2986      FALSE1  ERROR      IFALSE OR UNEXPECTED INTERRUPT
2987      #15230      #000002
2988
2989      #15232      032777      000200      164040      INTRI      B17      #DONE,0DXCS      ITEST DONE
2990      #15240      001001      BNE      ,04      IBRANCH ON DONE
2991      #15242      104000      ERROR      IFALSE INTERRUPT
2992      #15244      042777      000200      164026      BIC      #DONE,0DXCS      ICLEAR INT CONDITON
2993      #15252      052737      100000      015262      B18      #INTOK,INTPAS      ISET INT PASS FLAG
2994      #15260      000002      RTI
2995
2996      #15262      000000      INTPAS1 0      IINTERUPT PASS FLAG
2997
2998
2999      IINTERR: ROUTINE TO TEST FOR SUCCESSFUL INTERRUPT
3000
3001      INTERR1
3002      #15264      032737      100000      015262      B17      #INTOK,INTPAS      IJID INTERRUPT OCCUR
3003      #15272      001405      BEQ      IHR      IBRANCH IF NOT
3004      #15274      062716      000002      IRR21  ADD      #2,0SP      IINC RETURN PC
3005      #15300      042737      100000      015262      BIC      #INTOK,INTPAS      ICLEAR PASS FLAG
3006      #15306      000207      IRR1  RTS      PC
3007
3008      IZEROTY: ROUTINE TO ZERO TUMBLE TABLE
3009
3010      ZEROTY1
3011      MOV      R1,0(SP)
3012      MOV      R2,0(SP)
3013      MOV      TT,R1
3014      MOV      #250,,R2
3015      ZTY11  CLR      (R1)*
  
```

3216	#15326	005322		DEC	R2	
3217	#15330	001375		BNE	2771	
3218	#15332	012622		MOV	(SP)+,R2	
3219	#15334	012621		MOV	(SP)+,R1	
3220	#15336	000227		RTS	PC	
3221						
3222						
3223						
3224	#15340					
3225	#15342	#10146		MOV	R1,=(SP)	
3226	#15342	#10246		MOV	R2,=(SP)	
3227	#15344	#13721	001440	MOV	TY,R1	
3228	#15350	#12702	000400	MOV	#256,,R2	
3229	#15354	005721		TYE11	TSY	(R1)+
3230	#15356	001401		BEO	,+4	
3231	#15360	104000		ERROR		IBRANCH IF NO ERROR CONDITION
3232	#15362	005302		DEC	R2	ILLEGAL TY ENTRY
3233	#15364	001373		BNE	TYE11	
3234	#15366	012602		MOV	(SP)+,R2	
3235	#15370	012601		MOV	(SP)+,R1	
3236	#15372	000227		RTS	PC	
3237						
3238						
3239	#15374					
3240	#15374	032777	000200 163676	BIT	#DONE,#DXCS	ICHECK DONE
3241	#15402	001001		BNE	,+2	IBRANCH IF NO ERROR CONDITION
3242	#15404	104000		ERROR		IFALSE INTERRUPT
3243	#15406	042777	000200 163604	BIC	#DONE,#DXCS	ICLEAR DONE
3244	#15414	032777	000200 163656	BIT	#DONE,#DXCS	
3245	#15422	001401		BEO	,+2	IBRANCH IF NO ERROR CONDITION
3246	#15424	104000		ERROR		IDONE NOT CLEAR
3247	#15426	012746	015652	MOV	#SEL,X,=(SP)	IFAKE A JSR PC,TY,TRACE
3248						
3249						
3250						
3251	#15432					
3252						
3253	#15432	#10146		MOV	R1,=(SP)	
3254	#15434	#13721	015640	MOV	#TYTRACE,R1	ILOAD R1 WITH SOFTWARE TY
3255	#15440	020137	001440	CHP	R1,00TY	ICHECK FOR BOTTOM OF TABLE
3256	#15444	001025		BNE	15	IBRANCH IF NOT BOTTOM
3257	#15446	005737	003776	TSY	003776	ILOOK AT TOP OF TY
3258	#15452	001401		BEO	,+4	IBRANCH IF NO RAP AROUND
3259	#15454	104002		TRACER		IREPORT TY TRACE ERROR
3260	#15456	000404		BR	25	
3261	#15460	005741		TSY	=(R1)	ICHECK FOR TY OVERFLOW
3262	#15462	001401		BEO	,+1	IBRANCH IF NO RAP AROUND
3263	#15464	104002		TRACER		ITY OVERFLOW ERROR
3264	#15466	005721		TSY	(R1)+	ING TO ENTRY
3265	#15470	011127		MOV	(R1),(PC)+	ISAVE ENTRY ONE
3266	#15472	000000		SENRY11	0	HERE
3267	#15474	023727	#15472	CHP	#SENRY1,(PC)+	ICOMPARE SAVED ENTRY WITH
3268	#15500	000000		ENTRY11	0	EXPECTED ENTRY
3269	#15502	001407		BEO	15	IBRANCH IF DXDS ENTRY OK

3170	715504	713737	715472	013046	MOV	00SEAHV1,00TTHAS	
3171	715512	713737	715520	013050	MOV	00ENTRY1,00TTSOULD	
3172	715520	104002			TRACER		IREPORT TT TRACE ERROR
3173	715522	005037	015520		151 CLR	ENTRY1	
3174	715526	005021			CLR	(R1)+	ICLEAR ENTRY AND ADVANCE POINTER
3175	715530	011127			MOV	(R1),(PC)+	ISAVE ENTRY TWO
3176							
3177	715532	000020			SENRY21 2		IMENE
3178	715534	023727	215532		CHP	00SEAHV2,(PC)+	ICOMPARE SAVED ENTRY WITH
3179	715540	000000			ENTRY21 0		EXPECTED ENTRY
3180	715542	001411			TT,T01 BEQ	25	IBRANCH IF DXCA ENTRY OK
3181	715544	013737	715532	013046	MOV	00SEAHV2,00TTHAS	
3182	715552	013737	715540	013050	MOV	00ENTRY2,00TTSOULD	
3183	715560	104002			TRACER		IREPORT TT TRACE ERROR
3184	715562	005037	715540		CLR	ENTRY2	
3185	715566	005021			251 CLR	(R1)+	ICLEAR
3186	715570	022721	004000		CHP	0TST1,R1	ICHECK FOR SOFTWARE
3187	715574	001022			BNE	TT,T1	IBRANCH IF NO OVERFLOW
3188	715576	013701	001440		MOV	00TT,R1	
3189	715602	005037	015612		TT,T11 CLR	00TT,T2	
3190	715606	117727	163536		MOVB	0TTNDX,(PC)+	ISAVE TTNDX
3191	715612	000000			TT,T21 0		IMENE
3192	715614	006337	015612		ASL	TT,T2	ISCALE MOD(2)
3193	715620	063737	001440	015612	ADD	00TT,00TT,T2	IADD BASE OF TT TO INDEX
3194	715626	123701	015612		CHPB	00TT,T2,R1	ICOMPARE TT POINTERS
3195	715632	001401			BEQ	,+3	IBRANCH IF HARDWARE AND SOFTWARE TT POINTERS MATCH
3196	715634	104002			TRACER		IREPORT TT TRACE ERROR
3197	715636	010127			MOV	R1,(PC)+	ISAVE TT TRACE
3198	715640	000000			TTTRACE1 0		IMENE
3199	715642	012601			MOV	(SP)+,R1	
3170	715644	000207			RTS	PC	IRETURN
3121	715646	000000			TTWAS1 0		IACUAL CONTENTS OF TT
3122	715650	000000			TTSHOULD1 0		EXPECTED CONTENTS OF TT
3123							
3124	715652	000002			SEL,X1 RT1		
3125							
3126							
3127							
3108	715654	042777	777777	163426	TRAIINT1 DIC	077777,0DXMO	IDESELECT
3129	715662	112777	000100	163552	MOVB	054,0DST	IRESPONSE TO TEST IO
3110	715670	032737	000002	022202	BIT	00IT1,00PARA	ICHECK FOR CUBSY MODE
3111	715676	001410			BEQ	TT,0	IBRANCH IF NOT CU BUSY
3112	715700	052777	004000	163372	BIS	00SYEN,0DXCS	ISSET SYEN
3113	715706	032777	004000	163304	BIT	00SYEN,0DXCS	IVENIFY SET
3114	715714	001021			BNE	,+3	IBRANCH IF NO ERROR CONDITION
3115	715716	104000			ERROR		IBSYEN NOT SET
3116	715720	113737	022666	015540	TT,01 MOVB	00DEV,00ENTRY2	ISECOND TT ENTRY = DXCA
3117	715726	113737	022670	015541	MOVB	00CMD,00ENTRY2+1	
3118	715734	113777	022670	163306	MOVB	00CMD,0CUAR	ILOAD COMMAND
3119	715742	113777	022666	163356	MOVB	00DEV,0CUAR	ILOAD COMMAND IN CUAR
3120	715750	052777	000100	163322	BIS	0INTEN,0DXCS	ISSET INTERRUPT ENABLE
3121	715756	032777	000100	163314	BIT	0INTEN,0DXCS	IVENIFY SET
3122	715764	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3123	715766	104000			ERROR		INTEN NOT SET

ISUBROUTINE TO INIT DX FOR TT TRACING

```

3124 *15778 *13777 001270 163270      MOV      @DXPRT,@DXIS      JLCAR INT STATUS
3125 *15776 *12777 015374 163200      MOV      @SEL,DONE,@DXIV JLCAR INT VECTOR
3126 *16074 *02277      RTS      PC
3127
3128
3129
3130 *16076 104070      O.BRK!  ERROR      IBREAK TRAP IS ILLEGAL
3131 *16010 *22620      CMP      (SP)+,(SP)+      IRESTORE STACK
3132 *16012 *00137 *21404      JMP      @01041,0
3133      ;.....?..... MOD APR 74 .....
3134      ;0      11/40,11/45 RTT
3135      ;0      TRACE TRAP MOD
3136
3137 *16016 *00072      YESRT!! RT!
3138 *16020 *00022      RTX!   RT!      IMODIFIED FOR 11/40,11/45 TO RTT
3139      ;.....?..... MOD APR 74 .....
3140      ;0      TIMING
3141      ;0      MOS,BIPOLAR RESPONSE MOD
3142
3143 *16022 *00020      DELAY!  Z0
3144 *16024 *13727 *16022      RDLAY!  MOV      DELAY,(PC)+
3145 *16030 *00000      ISI      0
3146 *16032 *00337 *16030      ZSI      DEC      15      IDELAY FOR BIPOLAR MEMORY
3147 *16036 *01375      BNE      25
3148 *16040 *00207      RTS      PC
3149
3150      ;.....?..... MOD APR 74 .....
3151      ;
3152
3153
3154      .SBTTL  SETUP SELECTED PARAMETERS
3155
3156      ISETUP: ROUTINE TO CLEAR DX AND SETUP THE FOLLOWING
3157      I      BIP2=  MUX CH
3158      I      BIP1=  BSYEN
3159      I      BIP0=  ON-LINE
3160
3161      SETUP:  NOP
3162      BIC      @DONE,@DXCS      JCLM"DONE" THEREFORE "LOCKO"
3163      BIC      @HLDO,SELO,@DXMO      IGET READY FOR NEXT ISS
3164      BIC      @17000,@DXHI      I
3165      BIS      @TIMDIS,@DXES      ISET DXT0 DISABLE
3166      BIC      @I'TOK,INTPAS      ICLEAR INTERRUPT PASS FLAG
3167      SP1:  MOVB      @SM,@DST      IRESPONSE TO TIO
3168      BIT      @BIT1,PARA      IHAS BSYEN SELECTED
3169      BEQ      SP4      IBRANCH IF NOT
3170      BIS      @BSYEN,@DXCS      ISET BUSY ENABLE
3171      CLRB      @DST      ITIO GETS STATUS BY HARDWARE
3172      SP2:  MOV      @INTR,@DXIV      ISET UP DX INTERRUPT VECTOR
3173      MOV      @DXPRT,@DXIS      ISET UP DX INTERRUPT STATUS
3174      BIS      @INTEN,@DXCS      ISET INT ENABLE
3175      CLR      PS      ICLEAR PROCESSOR STATUS
3176      SP4:  RTS      PC      IRETURN
3177

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3178
3179
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3181
3182 16162 142777 000200 163110 ,SOFTL STATUS PRESENTATION
3183 16162 142777 000200 163110 STATUS PRESENTATION
3184
3185
3186
3187
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3191
3192
3193
3194
3195
3196 16170 112777 000014 163134 MOVH #CE+DE,OCUSH ILOC CE/DE STATUS
3197
3198 16176 152777 000007 163074 BIS #DXFST:GO,DXCS ISET FCTN/STATUS/GO
3199
3200
3201 16204 004737 017500 JSR X7TCUIS,SUB IEXECUTE CUIS
3202 16210 142777 000000 163072 BIC #HLDO;SELO,DXMO IDROP SELO:HLDO FOR NONZERO STATUS
3203 16216 152777 001000 163004 BIS #SRVO,DXMO ISERVICE-OUT UP
3204
3205
3206
3207 16224 142777 001000 163056 BIC #SRVO,DXMO IDROP SERVICE-OUT,
3208
3209
3210
3211 16232 105077 163054 CLR #DXMI ICLEAR DXMI
3212 16236 100207 RTS X7
3213
3214 ,SOFTL DATA TRANSFER ROUTINES
3215 16240 132737 000001 022670 TRANSFERI
3216 16240 132737 000001 022670 BIT #17CMU IIS COMMAND READ OR WRITE?
3217 16246 001012 BNE TR:WRITE IWRITE
3218
3219
3220 16250 152777 001000 163032 IOUTPUT HERE
3221 16250 152777 001000 163032 TR:READ: BIS #SRVC,DXMO ISERVICE-OUT UP
3222
3223 16256 142777 001000 163024 BIC #SRVO,DXMO ISERVICE-IN SHOULD FALL
3224
3225 016264 005337 022724 DEC COUNT ISERVICE-OUT DOWN
3226 16270 001367 BNE TR:READ ISERVICE-IN JP AGAIN IF MORE
3227 16272 100416 BR TR:OUT ILOOP WILL DONE
3228
3229
3230 16274 IINPUT HERE
3231 016274 152177 163036 TR:WRITE: BIS (R1)+,RBU50 IPUT DATA ON BUS

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3232	P16300	792777	001000	163002	BIS	SRVO,POXMO	ISENVICE-OUT UP
3233							ISENVICE-IN SHOULD FALL
3234	P16306	742777	P01000	162774	BIC	SRVO,POXMO	ISENVICE-OUT DOWN
3235	P16314	042777	P00777	163014	BIC	0777,09US0	ITAKE DATA OFF BUS (SERVICE-IN UP)
3236	P16322	P05337	P22724		DEC	COJNT	
3237	P16326	P01362			BNE	YN WHITE	
3238							
3239	P16330	P00277			TR,OUTI RTS	X7	

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.SOTTL ONLINE ROUTINE
 I *****
 IONLIN: ROUTINE TO SET DX ONLINE
 IAND WAIT FOR RELAY TO PICK
 I

.SOTTL INITIAL SELECTION SEQUENCE
 IINITIAL SELECTION SEQUENCE

ISS.SUBI

BIS	DEV,POXMO	ILOAD BUS0 WITH DEVICE ADRS
CHPB	DEV,PBUS0	ITEST BUS0 FOR CORRECT ADRS
BEO	,01	IBRANCH IF NO ERROR CONDITION
ERROR		IBUS0 DIS NOV LOAD

 I***** MOD APR 74 *****
 I0 INITIAL SELECTION CLEANUP MOD

3286	#16352	113777	022000	102746	MOV8	DEV,PCUAR	
3287	#16362	123777	022000	102740	CHPB	DEV,PCUAR	
3288	#16366	001431			BEQ	,+3	IBRANCH IF NO ERROR CONDITION
3289	#16370	104000			ERROR		ICUAR BITS 7 THRU 8 FAILURE
3290							MOD APR 74
3291							
3292	#16372	092777	004000	102710	BIS	#ADRO,POXMO	ISET ADRO=OUT
3293	#16400	132777	000010	102732	BITB	#14,PCONO	ITEST ADRO UP
3294	#16406	001071			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3295	#16410	104000			ERROR		IADRO DID NOT SET
3296							
3297	#16412	092777	040000	102670	BIS	#HLD0,POXMO	ISET HLD0=OUT
3298	#16420	032777	040000	102662	BIT	#HLD0,POXMO	ITEST FOR HLD0=OUT UP
3299	#16426	001001			BNE	,+3	IBRANCH IF NO ERROR CONDITION
3300	#16430	104000			ERROR		IMLD0 OUT DID NOT SET
3301							
3302	#16432	092777	020000	102690	BIS	#SELO,POXMO	ISET SELECT=OUT
3303	#16440	132777	000040	102672	BITB	#4,PCONO	ITEST FOR SELECT=OUT
3304	#16446	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3305	#16450	104000			ERROR		ISELECT=OUT DID NOT SET
3306							
3307							
3308	#16452	032777	000002	102634	BIT	#ADRECC,POXCB	IMAS CU ADRS RECOGNISED
3309							IF DEV A VALID CU ADRS
3310	#16460	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3311	#16462	104000			ERROR		IDX DID NOT RECOGNISE CU ADRS
3312							IF YES CHECK JUMPERS
3313							IADRECC LOGIC
3314							
3315							
3316	#16464	032777	000010	102602	BIT	#ISSREJ,POXDS	ITEST FOR ISS REJECT
3317	#16472	001431			BEQ	,+4	IBRANCH IF NO ERROR CONDITION
3318	#16474	104000			ERROR		ISS REJECT SET
3319	#16476	032777	100000	102606	BIT	#OPLI,POXMI	IOPLI SHOULD BE UP
3320	#16504	001001			BNE	,+1	IBRANCH IF NO ERROR CONDITION
3321	#16506	104000			ERROR		IOPLI DID NOT SET
3322							IF DEV A VALID DEVICE ON CUT
3323							
3324	#16510	042777	004000	102572	BIC	#ADRO,POXMO	IDROP ADRO=OUT
3325	#16514	132777	000010	102614	BITB	#12,PCONO	IF ADRO DOWN
3326	#16524	001431			BEQ	,+3	IBRANCH IF NO ERROR CONDITION
3327	#16526	104000			ERROR		IADRO DID NOT DROP
3328	#16530	032737	000004	022202	BIT	#BIT2,PARA	ITEST FOR MUX CH
3329	#16536	001415			BEQ	ISS3	IBRANCH IF NOT MUX
3330	#16540	042777	000000	102542	BIC	#S'LC,HLD0,POXMO	ICLEAR SELECT=OUT, HLD0=OUT
3331	#16546	032777	020000	102534	BIT	#SELO,POXMO	IDID SELO CLEAR
3332	#16554	001401			BEQ	,+4	IBRANCH IF NO ERROR CONDITION
3333	#16556	104000			ERROR		IREPORT SELO NOT CLEAR
3334	#16560	032777	040000	102522	BIT	#HLD0,POXMO	IDID HLD0 CLEAR
3335	#16566	001431			BEQ	,+3	IBRANCH IF NO ERROR CONDITION
3336	#16570	104000			ERROR		IMLD0 DID NOT CLEAR
3337	#16572	032777	010000	102512	BIT	#ADRI,POXMI	IADDRESS-IN SHOULD BE UP
3338	#16600	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3339	#16602	104000			ERROR		IADRI DID NOT COME UP

3340							
3341	P166F4	123777	P22666	162538		CHPB	DEV,BUSI
3342	P16612	P014F1				BEO	,+2
3343	P16614	1040F0				ERROR	
3344							
3345							
3346	P16616	P43777	P22666	162512		BIC	DEV,BUS0
3347	P16624	105777	1625F0			TSYB	00JSC
3348	P16630	P014F1				BEO	,+2
3349	P16632	1040F0				ERROR	
3350							
3351	P16634	P53777	P22670	162474		BIS	CHD,BUS0
3352	P16642	123777	022670	162406		CHPB	CHD,BUS0
3353	P16650	P014F1				BEO	,+2
3354	P16652	1040F0				ERROR	
3355							
3356	P16654	P52777	002000	162426		BIS	0CHDC,0DXM0
3357	P16662	132777	P000F4	162490		BITB	04,0CON0
3358	P16670	P010F1				BNE	,+4
3359	P16672	1040F0				ERROR	
3360							
3361	P16674	P32777	000001	162372		BIT	0CHDRJ,0DXM0
3362	P16702						
3363	P16702	P014F1				BEO	,+4
3364	P16704	1040F0				ERROR	
3365							
3366	P16706	P32777	010000	162376		BIT	0ADRI,0DXM1
3367	P16714	P014F1				BEO	,+2
3368	P16716	1040F0				ERROR	
3369							
3370	P16720	P43777	022670	162302		BIC	CHD,0DXM0
3371	P16726	105777	162404			TSYB	00US0
3372	P16732	P014F1				BEO	,+4
3373	P16734	1040F0				ERROR	
3374	P16736	P42777	002000	162344		BIC	0CHDC,0DXM0
3375	P16744	P32777	002000	162336		BIT	0CHDO,0DXM0
3376	P16752	P014F1				BEO	,+2
3377	P16754	1040F0				ERROR	
3378							
3379							
3380	P16756	P32737	004000	001312		BIT	0STAI,0XM1
3381	P16764	001001				BNE	,+2
3382	P16766	1040F0				ERROR	
3383	P16770	010146				MOV	R17,(SP)
3384	P16772	113701	P22670			MOVB	00CHD,R1
3385	P16776	042731	177400			BIC	0177400,R1
3386	P17002	P63701	001442			ADD	00DST,R1
3387	P17006	121177	162320			CHPB	0R1,0CUSR
3388	P17012	P014F1				BEO	,+4
3389	P17014	1040F0				ERROR	
3390	P17016	121177	162320			CHPB	0R1,0BUSI
3391	P17022	P014F1				BEO	,+4
3392	P17024	1040F0				ERROR	
3393	P17026	P12601				MOV	(SP)+,R1

IAONS SHOULD BE ON BUSI
 IBRANCH IF NO ERROR CONDITION
 IBUSI DOES NOT CONTAIN
 ICONNECT ADNS

IREMOVE ADNS FROM BUS=OUT
 IADNS REMOVED
 IBRANCH IF NO ERROR CONDITION
 IBUSC DID NOT CLEAR

IBUT COMMAND ON BUS0
 IDID COMMAND LOAD OK
 IBRANCH IF NO ERROR CONDITION
 ICMD DID NOT LOAD PROPERLY

ISSET COMMAND OUT
 IDID CMD0 SET
 IBRANCH IF NO ERROR CONDITION
 ICMD0 DID NOT SET

ITEST FOR COMMAND REJECT
 IBRANCH IF NO ERROR CONDITION
 ICMD0 REJECTED

IAONI SHOULD FALL
 IBRANCH IF NO ERROR CONDITION
 IAONI DID NOT DROP

IREMOVE CMD FROM BUS0
 IAS CMD REMOVED
 IBRANCH IF NO ERROR CONDITION
 ICMD DID NOT CLEAR

IBRANCH IF NO ERROR CONDITION
 ICMD0 STUCK HIGH

ITEST FOR STATUS-IN
 IBRANCH IF NO ERROR CONDITION
 ISTATUS-IN DID NOT RISE

IBRANCH IF NO ERROR CONDITION
 ISTATUS FROM DST TRANSFER ERROR

IBRANCH IF NO ERROR CONDITION
 ICUSR TO BUSI TRANSFER ERROR

```

3394
3395
3396
3397 017030 032737 000000 022262      B17 00172,PARA      ITEST FOR WUX CH
3398 017036 001023      BNE      ISS2      IBRANCH IF MUX
3399 017040 105737 022070      TS70      CM)      ITEST FOR *TEST 1/0* COMMAND
3400 017044 001403      BEQ      ISS1      ICLEAR SEL0,HL00 IF T10 CMD
3401 017046 105777 102270      TS70 00:51      ITEST BUS1 FOR ZERO STATUS
3402 017052 001415      BEQ      ISS2      IDON'T CLEAR SEL0,HL00 ON P STATUS
3403 017054 042777 060000 102226 ISS1: BIC 0SEL0,HL00,0DXMO ICLEAR SELECT-OUT, HOLD-OUT
3404 017062 032777 020000 102220      BIT 0SEL0,0DXMO      IDID SEL0 CLEAR
3405 017070 001401      BEQ      ,+1      IBRANCH IF NO ERROR CONDITION
3406 017072 104000      ERROR      IREPORT SEL0 NOT CLEAR
3407 017074 032777 040000 102226      BIT 0HL00,0DXMO      IDID HL00 CLEAR
3408 017102 001401      BEQ      ,+4      IBRANCH IF NO ERROR CONDITION
3409 017104 104000      ERROR      IHL00 DID NOT CLEAR
3410
3411 017106 052777 001000 102174 ISS2: BIS 0SRV0,0DXMO ISET SERVICE-OUT
3412 017114 032777 001000 102106      BIT 0SRV0,0DXMO ITEST SERVICE OUT
3413 017122 001001      BNE      ,+1      IBRANCH IF NO ERROR CONDITION
3414 017124 104000      ERROR      ISERVICE-OUT DID NOT SET
3415      I ..... CAN'T READ DXM! .....
3416      I ..... BIT 0STA1,0DXM! ..... ISTATUS-IN SHOULD DROP
3417      I ..... ISTATUS-IN DID NOT DROP
3418      I .....
3419      I .....
3420 017126 042777 001000 102194      BIC 0SRV0,0DXMO IDROP SERVICE-OUT
3421 017134 032777 001000 102106      BIT 0SRV0,0DXMO ITEST SERVICE-OUT
3422 017142 001401      BEQ      ,+1      IBRANCH IF NO ERROR CONDITION
3423 017144 104000      ERROR      ISERVICE-OUT DID NOT CLEAR
3424
3425 017146 043777 022070 102134      BIC CMD,0DXMO ICLEAR COMMAND FROM BUS0
3426 017154 105777 102150      TS70 00:50      ITEST FOR BUS0 CLEAR
3427 017160 001401      BEQ      ,+4      IBRANCH IF NO ERROR CONDITION
3428 017162 104000      ERROR      IBUS0 DID NOT CLEAR
3429
3430 017164 000207      RTS      PC
3431
3432      .SBTTL WIO SUBROUTINE
3433
3434 017166 032777 070000 102120 WIO.SUB: BIT 070000,0DXCH ITEST FOR PHASE ZERO
3435 017174 001103      BNE      WIO,P      IBRANCH IF SELECTED
3436
3437      ISELECT
3438
3439 017176 053777 022066 102104      BIS DEV,0DXMO IPUT ADRS ON BUS0
3440 017204 123777 022066 102124      CMPB DEV,0BUS0 IADRS LOAD OK
3441 017212 001401      BEQ      ,+1      IBRANCH IF NO ERROR CONDITION
3442 017214 104000      ERROR      IADRS LOAD ERROR
3443
3444 017216 052777 004000 102004      BIS 0ADRO,0DXMO ISET & CHECK ADRS-OUT
3445 017224 032777 004000 102056      BIT 0ADRO,0DXMO
3446 017232 001001      BNE      ,+1      IBRANCH IF NO ERROR CONDITION
3447 017234 104000      ERROR      IADRO NOT SET
  
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3448	P17236	P32777	P40000	102044	BIS	#HLDC,POXMO	1SET & CHECK HLDC
3449	P17244	P32777	P40000	102036	BIT	#HLDC,POXMO	
3450	P17252	001001			BNE	,+4	1BRANCH IF NO ERROR CONDITION
3451	P17254	104000			ERROR		1HLDC NOT SET
3452							
3453	P17256	P32777	P20000	102024	BIS	#SELO,POXMO	1SET & CHECK SELECT-OUT
3454	P17264	P32777	P20000	102016	BIT	#SELO,POXMO	
3455	P17272	001001			BNE	,+4	1BRANCH IF NO ERROR CONDITION
3456	P17274	104000			ERROR		1SELO NOT SET
3457							
3458	P17276	P32737	P00002	022202	BIT	#BIT1,PARA	1TEST FOR BSV SELECT
3459	P17304	001400			BEQ	WIOS,0	
3460	P17306	122777	000120	102026	CMPE	#S1AMOD:BSV,0BUSI	1CHECK STATUS
3461	P17314	001401			BEQ	,+3	1BRANCH IF NO ERROR CONDITION
3462	P17316	104000			ERROR		1BUSI STATUS ERROR
3463	P17320	000431			BR	WIO,0	
3464	P17322						
3465	P17322	123777	022066	101776	CMPE	DEV,PCUAR	1VERIFY DEVICE ADDRESS
3466	P17330	001401			BEQ	,+4	1BRANCH IF NO ERROR CONDITION
3467	P17332	104000			ERROR		1BUSO TO CUAR TRANSFER ERROR
3468							
3469	P17334	042777	004000	101746	BIC	#ADRO,POXMO	1CLEAR & CHECK
3470	P17342	P32777	004000	101740	BIT	#ADRO,POXMO	
3471	P17350	001401			BEQ	,+3	1BRANCH IF NO ERROR CONDITION
3472	P17352	104000			ERROR		1ADRO SET
3473							
3474	P17354	123777	022066	101700	CMPE	DEV,0BUSI	1IS CORRECT ADRS BEING ECHOED
3475	P17362	001401			BEQ	,+4	1BRANCH IF NO ERROR CONDITION
3476	P17364	104000			ERROR		1BUSI LOAD ERROR
3477							1CHECK AGRECC,0
3478							
3479	P17366	P43777	022066	101714	BIC	DEV,POXMO	1REMOVE ADRS FROM BUSO
3480	P17374	105737	001310		TSYB	DXMO	1BRANCH IF CLEAR
3481	P17400	001401			BEQ	,+3	1BRANCH IF NO ERROR CONDITION
3482	P17402	104000			ERROR		1BUSO DID NOT CLEAR
3483							
3484							
3485							
3486	P17404						
3487	P17404	042777	060000	101676	BIC	#HLDC,SELO,POXMO	1
3488	P17412	P32777	P40000	101670	BIT	#HLDC,POXMO	1
3489	P17420	001401			BEQ	,+3	1BRANCH IF NO ERROR CONDITION
3490	P17422	104000			ERROR		1HLDC SET
3491							
3492	P17424	P32777	P20000	101656	BIT	#SELO,POXMO	1
3493	P17432	001401			BEQ	,+4	1BRANCH IF NO ERROR CONDITION
3494	P17434	104000			ERROR		1SELO SET
3495							
3496	P17436	P32777	004000	101644	BIS	#ADRO,POXMO	1
3497							
3498	P17444	P32777	004000	101636	BIT	#ADRO,POXMO	1
3499	P17452	001001			BNE	,+4	1BRANCH IF NO ERROR CONDITION
3500	P17454	104000			ERROR		1ADRO NOT SET
3501							

3512	117456	142777	164000	101024	BIC	#ADRC,DXMD	
3513							
3514	117464	132777	164000	101016	BIF	#ADRC,DXMD	
3515	117472	101471			REQ	,+2	IBRANCH IF NO ERROR CONDITION
3516	117474	104000			ERROR		IADRC SET
3517	117476	100277			MIO,21	RTS	PC
3518					,SOFTL		CUIS SUBROUTINE
3519							
3520							
3521							
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3555							

3556	*17644	732777	010000	161440	BIF	#ADM1,POXMI	IADM1 SHOULD DROP
3557	*17652	701401			BEQ	.+2	IBRANCH IF NO ERROR CONDITION
3558	*17654	104000			ERROR		IADM1 DID NOT DROPS
3559							
3560	*17656	742777	760000	161424	BIC	#SELO,HLDO,POXMO	
3561	*17664	732777	740000	161416	BIF	#HLDO,POXMO	ITEST HOLD-OUT
3562	*17672	701401			BEQ	.+2	IBRANCH IF NO ERROR CONDITION
3563	*17674	104000			ERROR		HLDO SET
3564							
3565	*17676	732777	720000	161408	BIF	#SELO,POXMO	ITEST SELECT-OUT
3566	*17704	701401			BEQ	.+2	IBRANCH IF NO ERROR CONDITION
3567	*17706	104000			ERROR		ISELO SET
3568							
3569	*17710	042777	002000	161372	BIC	#CMD0,POXMO	ICLEAR COMMAND-OUT
3570	*17716	032777	002000	161364	BIF	#CMD0,POXMO	ITEST FOR CMD0 CLEAR
3571	*17724	701401			BEQ	.+2	IBRANCH IF NO ERROR CONDITION
3572	*17726	104000			ERROR		ICMD0 SET
3573							
3574	*17730	000207					
3575							
3576							
3577							
3578	*17732						
3579	*17732	053777	022666	161350	BIS	DEV,POXMO	IPUT DEVICE ADRS ON OUT TAGS
3580	*17740	052777	004000	161342	BIS	#ADRO,POXMO	IRASE ADRS-OUT
3581	*17746	052777	000000	161334	BIS	#HLD0,SELO,POXMO	IRASE SELECT-OUT, HOLD-OUT
3582	*17754	042777	004000	161326	BIC	#ADRO,POXMO	IREMOVE ADRS-OUT
3583	*17762	043777	022666	161320	BIC	DEV,POXMO	IREMOVE ADRS
3584	*17770	053777	022670	161312	BIS	CMJ,POXMO	IPUT COMMAND ON OUT TAGS
3585	*17776	052777	002000	161304	BIS	#CMD0,POXMO	IRASE CMD-OUT
3586	*20004	043777	022670	161276	BIC	CMO,POXMO	IREMOVE CMD
3587	*20012	042777	002000	161270	BIC	#CMD0,POXMO	IREMOVE CMD-OUT
3588	*20020	032737	000004	022262	BIF	#BIT2,PARA	ITEST FOR MUX CH
3589	*20026	001000			BNE	FISS1	IBRANCH FI MUX
3590	*20030	105737	022670		TSYB	CMO	ITEST FOR *TEST I/ON COMMAND
3591	*20034	001403			BEQ	FISS1	ICLEAR SELO,HLDO IF TIO CMD
3592	*20036	105777	161300		TSYB	#BUS1	ITEST BUS1 FOR ZERO STATUS
3593	*20042	001403			BEQ	FISS2	IDON'T CLEAR SELO,HLDO ON 0 STATUS
3594	*20044	042777	060000	161236	FISS1: BIC	#HLDO,SELO,POXMO	ICLEAR SELO AND HLDO
3595	*20052	052777	001000	161230	FISS2: BIS	#SHVO,POXMO	IRELEASE STATUS
3596	*20060	042777	001000	161222	BIC	#SHVO,POXMO	
3597	*20066	000207			RTS		
3598							
3599							
3600							
3601	*20070						
3602	*20070	053777	022666	161230	BIS	DEV,PCUAR	IPRESET COM/ADD REG DEV ADDRESS
3603	*20076	042777	000400	161222	BIC	#4 0,PCUAR	IPARITY RESET
3604	*20104	053777	022666	161176	BIS	DEV,POXMO	IPUT DEVICE ADRS ON OUT TAGS
3605	*20112	052777	004000	161170	BIS	#ADRO,POXMO	IRASE ADRS-OUT
3606	*20120	052777	060000	161162	BIS	#HLDO,SELO,POXMO	IRASE SELECT-OUT, HOLD-OUT
3607	*20126	042777	004000	161154	BIC	#ADRO,POXMO	IREMOVE ADRS-OUT
3608	*20134	043777	022666	161146	BIC	DEV,POXMO	IREMOVE ADRS
3609	*20142	053777	022670	161140	BIS	CMO,POXMO	IPUT COMMAND ON OUT TAGS

3610	R2F150	R52777	R02000	161132	BIS	#CND0,0DXMO	IRaise CND0OUT
3611	R2F156	R43777	R22670	161124	BIC	CM2,0UXMO	IREMOVE CM0
3612	R2F164	R42777	R02000	161116	BIC	#CND0,0DXMO	IREMOVE CND0OUT
3613	R2F172	R52777	R01000	161110	BIS	#S2V0,0DXMO	IRELEASE STATUS
3614	R2F200	R42777	R01000	161102	BIC	#S2V0,0DXMO	
3615	R2F206	R00207			RTS	PC	
3616							
3617							
3618	R20210	105777	161162		SCOPECI	TSYB	RTAS
3619	R20214	100014				BPL	SCOPEM
3620	R20216	R17727	161150			MOV	0TK0,(PC)+
3621	R2F222	R00000			DTMPI	B	
3622	R2F224	R42737	R00200	020222		BIC	0200,DTMP
3623	R2F232	123727	020222	R00003		CHPB	DTMP,03
3624	R2F240	R01002				BNE	SCOPEM
3625	R20242	R00137	021404			JMP	00MON1,0
3626	R20246	R32737	R40000	177570	SCOPEM1	BIF	00T14,SR
3627	R20254	R01012				BNE	SCOPEB
3628	R20256	R32737	R04000	177570		BIF	00T11,SR
3629	R20264	R01020				BNE	SCOPEA
3630	R2F266	R05237	R20336			INC	SCOPEF
3631	R2F272	R23737	020336	020334		CHP	SCOPEF,ICOUNT
3632	R20300	R01410				BEQ	SCOPEG
3633	R20302	R12737	177777	022600	SCOPEB1	MOV	000,0NESMOV
3634	R20310	R05726				TSY	(SP)+
3635	R20312	R12637	177776			MOV	(S2)+,PS
3636	R20316	R00177	R00010			JMP	0NETURN
3637	R20322	R11637	020340		SCOPEG1	MOV	0SP,RETURN
3638	R20326	R05037	R20330		SCOPEA1	CLR	SCOPEF
3639	R20332	R00002				RTI	
3640	R20334	R00001			ICOUNT1	1	
3641	R20336	R00000			SCOPEF1	0	
3642	R20340	R04000			RETURN1	TSY1	
3643	R20342				TSYABLE1		
3644		R20442				,4,+100	
3645							
3646							
3647							
3648							
3649	R20442				EMTDECODER1		
3650	R20442	R11646				MOV	0R6,0(R6)
3651	R20444	102716	R00002			SUB	02,0R6
3652	R20450	R17616	R00000			MOV	0(R6),0R6
3653	R20454	121627	R00024			CHPB	0R6,020,
3654	R20460	101401				BLOS	EMTOK
3655	R20462	104000				ERROR	
3656	R20464	R00116			EMTOK1	ROL	0R6
3657	R20466	R42716	177001			BIC	0177001,0R6
3658	R20472	R62716	R20504			ADD	0EMTAG,0R6
3659	R20476	R17616	R00000			MOV	0(R6),0R6
3660	R20502	R00136				JMP	0(R6)+
3661							
3662							
3663	R20504				EMTAG1		

ISCOPE LOOP AND CONTROL SUBROUTINE

ITEST FOR SCOPE
IBRANCH IF SCOPE SELECTED
ITEST FOR ITERATIONS
IEXIT IF ITERATIONS INHIBITED
IINCREMENT ITERATION COUNT
ITEST FOR COMPLETION OF ITERATIONS
IBRANCH IF COMPLETE
ISO YOU CAN SCOPE ON ONCE ONLY CODE
IPOP RETURN PC
IRESTORE PROCESSOR STATUS
ISET UP SCOPE RETURN ADDR
ICLEAR ITERATION COUNT
INUMBER OF REQUESTED ITERATIONS
ITERATION COUNT
IDEFAULT RETURN
IBEGINNING OF TABLE OF TEST ADDRESSES
ITEST ADDRESS LIST

IEMULATOR DECODER ROUTINE

IDUPLICATE PC ON STACK
IPOINT PC TO EMT INST,
IMOV EMT INST ONTO STACK
ITEST THAT CALL IS WITHIN LIMITS
IBRANCH IF WITHIN LIMITS
IEMT ARGUMENT X 2,
ICLEAR HIGH BYTE
IFORM ADDR OF ROUTINE ADDR
IPUT ROUTINE ADDR ON STACK
IJUMP TO ROUTINE
ITAGS FOR EMT CALL
IBEGINNING OF EMT TABLE

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3664
3665 P2P5R4 000024 .BLKW 20. IRESERVE 10. WORDS FOR ADDR LIST
3666
3667
3668 JENTRY POINT FOR MAP ERRORS
3669 P2P554 012737 177777 021262 T,MAPERRI
3670 P2P554 012737 177777 021262 MOV 00E,ENFLG IFLAG THAT THIS IS MAP ERROR
3671 P2P562 000137 020724 JMP 00DEF
3672 P2P566 000000 TERPC1 0 IORIGIN OF TRACE ERROR
3673 JUMBLE TABLE TRACE ERROR TRAP
3674 P2P570 012737 177777 021262 T,TRACERI
3675 P2P570 0000F4 030037 MOV 002,ENFLG
3676 P2P570 0000F4 030037 TYPE ,TRCM1
3677 P2P602 010546 MOV TTY,=(SP) ISAVE TTY
3678 P2P604 013705 021310 MOV ER1STN,TTY ITYPE ER1STN IN OCTAL
3679 02P610 004737 025470 JSR X7,PRINTS IAND SUPPRESS LEADING ZERO'S
3680 P2P614 012605 MOV (SP)+,TTY IRESTORE TTY
3681 P2P616 000004 030071 TYPE ,TRCM ITRACE ERROR AT
3682 P2P622 010546 MOV TTY,=(SP) ISAVE TTY
3683 02P624 013705 020566 MOV TERPC,TTY ITYPE IN OCTAL
3684 02P630 004737 025466 JSR PC,PRINTR ITYPE LEADING ZERO'S
3685 P2P634 012605 MOV (SP)+,TTY IRESTORE TTY
3686 P2P636 000004 030171 TYPE ,TRC1
3687 02P642 010546 MOV TTY,=(SP) ISAVE TTY
3688 02P644 013705 015646 MOV TTYAS,TTY ITYPE IN OCTAL
3689 02P650 004737 025466 JSR PC,PRINTR ITYPE LEADING ZERO'S
3690 P2P654 012605 MOV (SP)+,TTY IRESTORE TTY
3691 P2P656 000004 030213 TYPE ,TRC2
3692 P2P662 010546 MOV TTY,=(SP) ISAVE TTY
3693 02P664 013705 015650 MOV TTYSHOULD,TTY ITYPE IN OCTAL
3694 P2P670 004737 025466 JSR PC,PRINTR ITYPE LEADING ZERO'S
3695 P2P674 012605 MOV (SP)+,TTY IRESTORE TTY
3696 02P676 032701 000002 BIT 00111,R1 ITEST FOR DXDS OR DXCA
3697 P2P702 001003 BNE 15 IBR IF DXCA
3698 020704 000004 030235 TYPE ,TTDS
3699 P20710 000402 BR 25
3700 P2P712 000004 030262 15) TYPE ,TVCA
3701 P2P716 25) BR 00F
3702 P2P716 000402
3703
3704 JENTRY POINT FOR MOST ERRORS
3705
3706 P2P720 T,ERRORI
3707 P2P720 005037 021262 CLR ERPLG IFLAG THIS AS NORMAL "ERROR
3708 P2P724 005237 021314 INC ERRCNT IINC ERROR COUNT
3709 020730 010037 021320 MOV R0AE,R0 ISAVE R0
3710 020734 010137 021322 MOV R1,E,R1 ISAVE R1
3711 020740 010237 021324 MOV R2,E,R2 ISAVE R2
3712 020744 010337 021326 MOV R3,E,R3 ISAVE R3
3713 P20750 010437 021330 MOV R4,E,R4 ISAVE R4
3714 P20754 010537 021332 MOV R5,E,R5 ISAVE R5
3715 P20760 032737 020000 177570 BIT 001113,SR ITEST FOR INHIBIT PRINT
3716 P20766 001063 BNE PERRPC IBRANCH IF INHIBITED
3717 P2P770 000004 027553 TYPE ,EMPC

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3718	220774	211627			MOV	OSP,(PC)+	ISAVE ERROR PC +2
3719	220776	200070			P		IMHF
3720	221000	162737	000002	020776	ETMPF1		ICORRECT PC
3721	221006	210546			SUB	02,ETMPB	ISAVE TTY
3722	221010	213725	220776		MOV	TTY,=(SP)	ITYPE IN OCTAL
3723	221014	204737	025460		MOV	00,ETMPB,TTY	ITYPE LEADING ZERO'S
3724	221020	212605			JSR	PC,PRINTR	IRESTORE TTY
3725	221022	232737	010000	177570	MOV	(SP)+,TTY	ITEST FOR SHORT ERROR REPORT
3726	221030	001042			BIT	0BIT12,SR	IBRANCH IF SHORT SELECTED
3727	221032	222737	177776	021202	BNE	PE'RPC	
3728	221040	201410			CMR	007,ENFLG	
3729	221042	000004	027767		BEO	18	
3730	221046	210546			TYPE	,MSG35	IBRANCH IN TEST1
3731	221050	213725	021310		MOV	TTY,=(SP)	ISAVE TTY
3732	221054	204737	025476		MOV	EXTSTN,TTY	ITYPE EXTSTN IN OCTAL
3733	221060	212605			JSR	X7,PRINTS	IAND SUPPRESS LEADING ZERO'S
3734	221062	200004	027716		MOV	(SP)+,TTY	IRESTORE TTY
3735	221066	210546			TYPE	,MSG26	
3736	221070	213725	022676		MOV	TTY,=(SP)	ISAVE TTY
3737	221074	204737	025466		MOV	CUDRS,TTY	ITYPE IN OCTAL
3738	221100	212605			JSR	PC,PRINTR	ITYPE LEADING ZERO'S
3739	221102	200004	027522		MOV	(SP)+,TTY	IRESTORE TTY
3740	221106	232737	000002	022202	TYPE	,CRLF	
3741	221114	201402			BIT	0B T1,00PARA	ITEST FOR BUSY ENABLE MODE
3742	221116	200004	030132		BEO	EMOD1	IBRANCH IF NOT
3743	221122	232737	000004	022202	TYPE	,AUSYN	ITYPE BUSY ENABLE
3744	221130	201402			BIT	0BIT2,00PARA	ITEST FOR MUX CH
3745	221132	200004	030151		BEO	EMOD2	IBRANCH IF SELECTOR
3746	221136				TYPE	,AMUXM	ITYPE MUX CH
3747	221136	232737	100000	177570	EMOD21		
3748	221144	201401			PERRPC1	BIT	0HLTSW,SR
3749					BEO	ERRLOP	ITEST FOR HALT ON ERROR
3750							IBRANCH IF NO HALT
3751	221146	200000			HALT		IMALT ON ERROR
3752	221150				ERRLOP1		
3753	221150	213720	021320		MOV	E,R0,H0	IRESTORE R0
3754	221154	213721	021322		MOV	E,1,H1	IRESTORE R1
3755	221160	213702	021324		MOV	E,R2,H2	IRESTORE R2
3756	221164	213703	021326		MOV	E,R3,H3	IRESTORE R3
3757	221170	213704	021330		MOV	E,R4,H4	IRESTORE R4
3758	221174	213705	021332		MOV	E,R5,H5	IRESTORE R5
3759	221200	232737	040000	177570	BIT	0LOPSW,SR	ITEST FOR SCOPE LOOP
3760	221206	201424			BEO	EXIR1	
3761	221210	212706	001100		MOV	0BEGIN,SP	IREINIT STACK POINTER
3762	221214	212737	177777	022600	MOV	001,ONESHOT	IREINIT ONESHOT TEST FLAGS
3763	221222	242777	000002	160070	BIC	0MELKEN,0DXES	ICLEAR MAINT CLOCK
3764	221230	205077	160054		CLR	0DXMO	ISYSTEM RESET
3765	221234	252777	000001	160036	BIS	0UAFMS,0DXCS	IDX RESET
3766	221242	204737	024114		JSR	PC,PREI	IREINITIALIZE DX
3767	221246	213737	001272	177776	MOV	LESS1,PS	IDX PRIORITY MINUS ONE
3768	221254	200177	177060		JMP	0RETURN	
3769							
3770	221260	200002			EXPR11	RTI	
3771	221262	200000			ERFLG1	0	ERROR CONTROL FLAG =1=MAP ERROR

3772

LIST OF ASCII MESSAGE ADDRESSES

3773

3774 21264 227570

ADRA1 ADXDS

3775 21266 227577

ADxCA

3776 21270 227600

ADXCS

3777 21272 227615

ADXOS

3778 21274 227624

ADXBA

3779 21276 227633

ADXBC

3780 21300 227642

ADXMO

3781 21302 227651

ADXMI

3782 21304 227660

ADXCB

3783 21306 227667

ADXND

3784 21310 227676

ADXES

3785 21312 227705

ADRAE1 ADXES1

3786

3787

3788

3789

ERROR COUNT

3790

3791 21314 200020

ERRCNT1 2

3792 21316 200030

ERYSTN1 2

ITEST NUMBER

3793

3794

3795

REGISTER STORAGE FOR ERROR REPORTING

3796

3797 21320 200020

E,R01 0 ISAVED REGISTERS FOR ERROR REPORTING

3798 21322 200020

E,R11 0 ISAVED REGISTERS FOR ERROR REPORTING

3799 21324 200020

E,R21 0 ISAVED REGISTERS FOR ERROR REPORTING

3800 21326 200020

E,R31 0 ISAVED REGISTERS FOR ERROR REPORTING

3801 21330 200020

E,R41 0 ISAVED REGISTERS FOR ERROR REPORTING

3802 21332 200020

E,R51 0 ISAVED REGISTERS FOR ERROR REPORTING

3803

3804

SBTTL MONITOR

3805

3806

3807 21334

MONITOR1

3808

3809

3810

3811

3812 21334 212706 001100

MOV #BEGIN,SP ISET UP STACK POINTER

3813 21340 212737 000340 177776

MOV #LEVEL7,PS IMONITOR AT LEVEL 7

3814 21346 004737 023172

JSR PC,00MONDFLT ISET UP DEFAULT PARAMETERS

3815

3816 21352 212737 025624 000060

MOV #TTY1,0060 ITTY KEYBOARD INT VEC

3817 21360 212737 000200 000002

MOV #LEVEL4,0002 ILEVEL 4

3818 21366 000004 027443

TYPE ,HOME IHOME UP AND ERASE SCREEN

3819

3820 21372 000004 026474

HI TYPE ,HEADER

3821 21376 212737 221520 221374

MOV #RL00,00H02 IHEADER TEXT GETS WIPEO BY NPRIS

3822

3823 21404 000005

MON1.01 RESET

3824 21406 005777 157766

TSF #TKB ICLEAR FLAG

3825 21412 002777 000100 157756

BIS #INTEN,0TKS ISET INTERRUPT ENABLE

3826	2142J	212706	001120		MOV	#BEGIN,SP	SET UP STACK POINTER
3827	21424	212737	000340	177776	MOV	#LEVEL,PS	MONITOR AT LEVEL 7
3828	21432	000004	227063		TYPE	,FSTANT	
3829	21436	104006			KEY,TO,NO		
3830	2144J	122700	000104		CHPB	#ID,R0	ID = DEFAULT PARAMETERS
3831	21444	001003			BNE	15	
3832	21446	004737	023172		JSR	PC,00MONDEFLT	
3833	21452	000423			BR	25	
3834	21454	122700	000120	151	CHPB	#IP,R0	IP = PREVIOUSLY SELECTED PARAMETERS
3835	2146J	001002			BNE	35	
3836	21462	000137	22224	251	JMP	00MON10	
3837	21466	122700	000123	351	CHPB	#IZ,R0	IS = GO THROUGH AND SELECT PARAMETERS
3838	21472	001426			BEO	NO11	
3839	21474	122700	000116		CHPB	#IN,R0	IN = START AT THIS TEST #
3840	21500	001341			BNE	NO11,0	
3841	21502	000004	227141		TYPE	,MSG0	
3842	21506	104005			ACCEPTO		
3843	21510	013737	022704	022706	MOV	OCTNUM,FIRST,TST	
3844	21516	000761			BR	25	
3845							
3846	21520	001137	040105	040517	RELODI	,ASCIZ "RELOAD FOR HEADER TEXT"	
3847	21526	020104	047506	020122			
3848	21534	042510	042101	051105			
3849	21542	052040	054105	000124			
3850							
3851							
3852							
3853	21552	004737	023172		MON11	JSR PC,MONDEFLT	SET UP DEFAULT PARAMETERS
3854	21554	000004	027141		TYPE	,MSG0	FIRST TEST #
3855							
3856	2156J	104005			ACCEPTO	IACCEPT TEST NUMBER FROM KEYBOARD	
3857							
3858							
3859	21562	005737	022704		TST	OCTNUM	TEST FOR DEFAULT
3860	21566	001403			BEO	MON3	BRANCH ON DEFAULT
3861	21570	013737	022704	022706	MOV	OCTNUM,FIRST,TST	LOAD FIRST TEST #
3862							
3863	21576	000004	027077		MON31	TYPE ,MSG2	BASE ADDRESS1
3864							
3865							
3866	21602	104005			ACCEPTO	IACCEPT BASE ADDRESS FROM KEYBOARD	
3867							
3868	21604	005737	022704		TST	OCTNUM	TEST FOR DEFAULT
3869	21610	001403			BEO	MON4	BRANCH IF DEFAULT
3870	21612	013737	022704	001202	MOV	OCTNUM,DXBASE	LOAD NON-DEFAULT ADDRESS
3871							
3872	21620	000004	027733		MON41	TYPE ,MSG20	IACCEPT INTERRUPT VECTOR
3873	21624	104005			ACCEPTO		
3874	21626	005737	022704		TST	OCTNUM	TEST FOR DEFAULT
3875	21632	001411			BEO	NO14,1	BRANCH IF DEFAULT
3876	21634	013737	022704	001264	MOV	OCTNUM,DXIV	LOAD NON-DEFAULT INT VECTOR ADRS
3877	21642	002737	000002	022704	ADD	#2 OCTNUM	FORM INT STATUS ADRS
3878	21650	013737	022704	001266	MOV	00OCTNUM,00DXIS	INT STATUS ADDRESS
3879							

3858								
3861	P21656	000004	P27344	MON4.11	TYPE	MSG12	PRIORITY	
3862	P21662	104075			ACCEPTO		DX PRIORITY LEVEL	
3863	P21664	005737	P22704		TSY	OCTNUM	TEST FOR DEFAULT	
3864	P21670	001425			BEO	MON6	BRANCH ON DEFAULT	
3865	P21672	006337	P22704		ASL	OCTNUM	SHIFT PRIORITY	
3866	P21676	006337	P22704		ASL	OCTNUM	INTO PROCESSOR	
3867	P21702	006337	P22704		ASL	OCTNUM	PRIORITY BITS OF	
3868	P21706	006337	P22704		ASL	OCTNUM	PROCESSOR STATUS WORD	
3869	P21712	006337	P22704		ASL	OCTNUM		
3890	P21716	013737	P22704	001270	MOV	OCTNUM, DXPRT	LOAD PRIORITY	
3891	P21724	005337	P22704		DEC	OCTNUM		
3892	P21730	042737	P00037	P22704	BIC	03, 00OCTNUM	CLEAR TMSVC	
3893	P21736	013737	P22704	001272	MOV	OCTNUM, LESS1	PRIORITY TO ALLOW DX INTERRUPTS	

```

MON6: TYPE MSG4 ;LEGAL ADDRESS LIST
      MOV #LEGAL,ADRS,R3 ;START OF LEGAL ADRS TABLE
MON7: TYPE MSG6 ;ADRS;
      JSR PC,GETHEX ;GET HEXADECIMAL CU ADDRESS
      PARITY ,HEXNUM ;PUT PARITY (000) ON ADRS
      MOV HEXNUM,(R3)+ ;SAVE LEGAL ADDRESS
      KEY.TO,R0
      CMPEB #CR,R0 ;ALL DONE?
      BNE MON7 ;CONTINUE LIST IF NOT <CR>
..... MOD APR 74 .....
|
|
|                                     ADDRESS RESPONSE MOD
|
      MOV HEXNUM,(PC)+
VLUMEX10 BIC #400,VLUHAX
          CMP VLUHAX,#370 ;TEST FOR > FF
          BLE IS ;(OK) BRANCHES
          TYPE,MSG13 ;OUTPUT "ILLEGAL?" I.E. >"FF"
          BR MON7 ;TRY AGAIN
18: MOV #1,(R3)+ ;MARK END OF LIST
..... MOD APR 74 .....
|
|                                     #DEV/CU MOD

```

```

MON5:  TYPE      MSG3      I MAX # DEVICES/CU
      ACCEPTO    I ACCEPT NUMBER OF DEVICES/CU
      TSY       OCINUM     I USE 16- ON DEPAULT
      BNE       X1
      TYPE,     MSG13      I OUTPUT "P ILLEGAL ?" I.E. = "PB"
      BR        MON5      I TRY AGAIN

X13:   MOV      OCINUM,(PC)+

```

```

3934 222070 200070 RDXXI 2
3935 222072 205337 222070 DEC RDXX
3936 222076 213727 222010 MOV VLUMEX,(PC)+
3937 222102 200020 MDXXI 3
3938 222104 203737 222070 222102 ADD RDXX,MDXX
3939 222112 205137 222102 COMB MDXX
3940 222116 242737 177420 222102 BIC 21,7400,MDXX
3941
3942
3943
3944 222124 213737 222704 222710 MOV PC,NUM,MAX,DEV,CU
3945 222132 204737 224026 MON5,11 JSR PC,CXCUA
3946
3947
3948
3949
3950
3951
3952
3953
3954
3955
3956
3957
3958
3959 222136 212704 223152 MON81 MOV BCHO,STAT,R4
3960 222142 212703 223112 MOV BCHO,ADRS,R3
3961 222146 200004 227301 TYPE ,MSG0
3962 222152 200004 227332 MON91 TYPE ,MSG10
3963 222156 204005 ACCEP TO
3964 222160 205737 222704 TST OCTNUM
3965 222164 201417 BEQ MON10
3966 222166 204007 222704 PARITY ,OCTNUM
3967 222172 213723 222704 MOV OCTNUM,(R3)+
3968 222176 200004 227755 TYPE ,MSG31
3969 222202 204005 ACCEP TO
3970 222204 213724 222704 MOVB OCTNUM,(R4)+
3971 222210 204006 KEY,TO,R0
3972 222212 220027 200015 CMPE R0,0CH
3973 222216 201355 BNE 00'19
3974 222220 212723 177777 MOV 00',(R3)+
3975
3976
3977
3978
3979 222224 MON101
3980 222224 212737 177777 222600 MOV 0=1,CHESHOY
3981 222232 205037 221314 CLR ERHCNT
3982 222236 200004 227202 TYPE ,MSG7
3983 222242 204006 KEY,TO,R0
3984 222244 222720 200003 CMPE 03,R0
3985 222250 201002 BNE MON11
3986 222252 200137 221404 JMP 00MON1,0
3987

```

RANGE MODULO 1
 RANGE MASK
 ISCALE
 IFOM FINAL
 ICU PORTION CLR
 ***** MOD APR 74 *****
 MOV PC,NUM,MAX,DEV,CU
 PC,CXCUA
 CHECK FOR LEGAL NUMBER OF DEV PER CU
 GET COMMAND LIST
 .REM
 THIS ROUTINE ACCEPTS AN IBM COMMAND LIST FROM THE CONSOL. ALL
 COMMANDS MUST BE NON ZERO (I.E. THE MUST BE TYPED WITH PARITY
 400). WITH EACH COMMAND THE MONITOR ASKS FOR ITS ASSOCIATED DST
 STATUS.
 *
 MON81 MOV BCHO,STAT,R4
 MON91 MOV BCHO,ADRS,R3
 TYPE ,MSG0
 TYPE ,MSG10
 ACCEP TO
 TST OCTNUM
 BEQ MON10
 PARITY ,OCTNUM
 MOV OCTNUM,(R3)+
 TYPE ,MSG31
 ACCEP TO
 MOVB OCTNUM,(R4)+
 KEY,TO,R0
 CMPE R0,0CH
 BNE 00'19
 MOV 00',(R3)+
 LOAD TERMINATOR
 ASK FOR DYNAMIC SWITCH SETTINGS ON CONSOL SWITCHES
 MON101
 MOV 0=1,CHESHOY
 CLR ERHCNT
 TYPE ,MSG7
 KEY,TO,R0
 CMPE 03,R0
 BNE MON11
 JMP 00MON1,0
 SET DYNAMIC SWITCHES
 ITYPE ANYTHING
 ITEST FOR CONTROL C
 IGO IF NO IC

```

3998
3999
3990
3991 722256 113727 177570 MON111 MOV BWR,(PC)+ ISAVE MODE CONTROL SWITCH SETTINGS
3992 722262 700000 PARAI 7 JNEH
3993 722264 704737 024000 JSR PC,CKCUA ICMP ADRES VS MAX DEV PER CU
3994 722270 704737 023020 JSR PC,SPH,SETUP ISET UP STATUS POINTER WORDS
3995 722274 704737 023444 JSR PC,TT,CLR ICLEAR TUMBLE TABLE
3996 722300 704737 023750 JSR PC,DST,SETUP ISETUP DEVICE STATUS TABLE
3997 722304 704737 023402 JSR PC,ODAT ISET 360 SIM OUTPUT DATA FILE
3998 722310 704737 024302 JSR PC,REG,SETUP ISCALE ADDRESSES
3999
4000 722314 712737 000001 022700 LPCSUI MOV #1,DEV CNT IINIT DEVICE COUNT
4001 722322 712737 022720 022674 MOV #LEGAL,ADRS,ACUA IADRS OF CU ADRS
4002 722330 117737 000340 022676 MOVB DAEUA,CUADRS ICU ADDRESS
4003 722336 700472 BR LPC1
4004
4005 722340 700004 027440 LPCNTLI TYPE ,BELL
4006
4007 722344 702737 000001 022676 ADD #1,CUADRS I
4008 722352 705237 022700 INC DEV CNT IINC DEVICE COUNT
4009 722356 723737 022700 022710 CMP DEV CNT,MAX,DEV,CU
4010 722364 703457 BLE LP1
4011 722366 712737 000001 022700 MOV #1,DEV CNT IINIT DEVICE COUNT
4012 722374 727727 000274 177777 CMP DAEUA,0-1
4013 722402 701042 BNE LP2
4014 722404 702737 000002 022202 ADD #2,PARA IINC TO NEXT PARA COMBINATION
4015 722412 722737 000010 022202 CMP #10,PARA IHAVE ALL PARA COMBS BEEN TESTED?
4016 722420 702030 BGE LPC5 IBRANCH IF NOT
4017 722422 702737 177776 022202 BIC #1,7776,00PARA IALL BUT ONLINE IF SET
4018
4019
4020
4021
4022
4023
4024 722430 712777 000001 150042 MOV #1,DDXCS IOX RESET OPLI
4025
4026
4027
4028 722436 700004 027450 TYPE ,ENDTST
4029 722442 700004 027462 TYPE ,E2M IERROR COUNT MESSAGE
4030 722446 710540 MOV TTY,=(SP) ISAVE TTY
4031 722450 013705 021314 MOV ENRCNT,TTY ITYPE IN OCTAL
4032 722454 704737 025400 JSR PC,PRINTR ITYPE LEADING ZERO'S
4033 722460 712605 MOV (SP)+,TTY IRESTORE TTY
4034
4035
4036
4037 722462 713700 000042 MOV #42,HB IIF 42 = 0 REMAIN IN DX DIAGNOSTIC
4038 722466 701405 BEQ LP15
4039 722470 700005 RESET ILINK TO DDP OR ACT11
4040 722472 LOGICAL
4041 722472 704710 JSR PC,ORG
  
```

```

4242 022474 300240      NOP
4243 022476 300240      NOP
4244 022570 000240      NOP
4245 022502 012737 022720 022674 LPC51 MOV 0LEGAL,ADRS,ACUA
4246 022510 017737 000100 022676 LPC21 MOV 0ACUA,CUADRS
4247 022516 002737 000002 022674 ADD 02,ACUA
4248 022524 104007 022670 LPC11 PARITY ,CUADRS
4249 022530 013737 022670 022666 MOV CUADRS,DEV
4250 022536 013737 022666 022672 MOV DEV,DEV,A ;MULTI THREAD
4251 022544 023737 022700 022710 CMP DEVCNT,MAX,DEV,CU
4252 022552 001404      DEC LP,3
4253 022554 002737 000001 022672 ADD 01,DEV,A
4254 022562 000403      BR LP,4
4255 022564 102737 000001 022672 LPC31 SUB 01,DEV,A
4256 022572 104007 022672 LPC41 PARITY ,DEV,A
4257
4258
4259 022576 004737 024114 MON121 JSR 0C,PHL1 ;DO PRE INIT
4260 022602 012777 015220 150494 MOV 0FALSE,0DXIV ;SET UP FALSE INTERRUPT VECTOR TRAP
4261 022610 013777 001270 150490 MOV 0XPNT,0DXIS ;SET UP INTERRUPT PRIORITY
4262 022616 013700 022700 MOV FIRST,TST,00 ;TEST FOR DEFAULT
4263 022622 001002      BNE MON13 ;BRANCH IF NOT DEFAULT
4264 022624 005237 022700 INC FIRST,TST ;DEFAULT TEST NUMBER IS ONE
4265 022630 013737 022700 021316 MON131 MOV FIRST,TST,ERTSTN
4266 022636 006300      ASL 00
4267 022640 010037 020340 020340 MOV TSTABLE=2(00),00RETURN
4268 022646 002737 000024 020340 ADD 02,00RETURN
4269 022654 000170 020340 MON141 JMP 0TSTABLE=2(00) ;JUMP TO SELECTED TEST
4270
4271
4272 ;SBTTL MONITOR FILES
4273
4274 ; ONE PASS FLAGS
4275
4276 FIVESEC=1 ;5 SEC OPLI TIMER TEST
4277 022660 177777 ONESHOT1 ;ONE PASS FLAGS
4278 022662 000000 CARRY1 0 ;CARRY COUNT
4279 022664 000000 THPI 0 ;TEMPORARY STORAGE
4280 022666 000020 DEVI 20 ;DEVICE ADDRESS TO SELECT - MUST INCLUDE PARITY
4281 ; ( I.E., 441 IS DEV=1, CU=2)
4282 022670 000403 CMD1 403 ;COMMAND TO PRESET - MUST INCLUDE PARITY
4283 ; (403 IS BASIC NOP COMMAND)
4284
4285 022672 000421 DEV,A1 421 ;SECOND DEVICE FOR DUAL TESTS
4286
4287
4288 022674 000000 ACUA1 0 ;ADRS OF CU ADRS
4289
4290
4291 022676 000000 CUADRS1 0 ;CU ADRS
4292 022700 000000 DEVCNT1 0 ;DEVICE COUNT
4293
4294 022702 002000 OFFSET1 2000 ;OFFSET TO ADDRESS REGISTER
4295 022704 000000 OCTNUM1 0 ;OCTAL INPUT FROM TTY

```

4296 #22706 000000
 4297 #22710 000000

FIRST.TST: 2
 MAX.DEV.CU: 2

IFIRST TEST TO RUN
 IMAXIMUM # OF DEVICES/CU

4298
 4299
 4300

DIAGNOSTIC VARIABLES

4301 #22712 000777
 4302 #22714 000000
 4303 #22716 000000
 4304 #22720 000000
 4305 #22722 000000
 4306 #22724 000000

SSTAT: 777
 SRCCT: 0
 DSTCT: 0
 SAVDEV: 0
 TSSFT: 0
 COUNT: 0

ISAVED STATUS
 ISOURCE DATA
 IDESTINATION DATA
 ISAVED DEVICE ADDRESS
 ITSSP TRACE
 IUSED BY CM SIM TO COUNT BYTES TRANSFERRED

4307
 4308
 4309
 4310

LEGAL ADDRESS LIST

4311 #22726

LEGAL ADRES

4312
 4313 #22726 000000
 4314 #22730 000000
 4315 #22732 000000
 4316 #22734 000000
 4317 #22736 000000
 4318 #22740 000000
 4319 #22742 000000
 4320 #22744 000000
 4321 #22746 000000
 4322 #22750 000000
 4323 #22752 000000
 4324 #22754 000000
 4325 #22756 000000
 4326 #22760 000000
 4327 #22762 000000
 4328 #22764 000000
 4329 #22766 000000

.WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0

4330
 4331 #22770

SCALD ADRES

4332
 4333 #22770 000000
 4334 #22772 000000
 4335 #22774 000000
 4336 #22776 000000
 4337 #23000 000000
 4338 #23002 000000
 4339 #23004 000000
 4340 #23006 000000
 4341 #23010 000000
 4342 #23012 000000
 4343 #23014 000000
 4344 #23016 000000
 4345 #23020 000000
 4346 #23022 000000
 4347 #23024 000000
 4348 #23026 000000
 4349 #23030 000000

.WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0
 .WORD 0

4150
 4151
 4152
 4153
 4154 P23032
 4155
 4156 P23032 000400
 4157 P23034 000001
 4158 P23036 000002
 4159 P23040 000403
 4160 P23042 000004
 4161 P23044 000405
 4162 P23046 177777
 4163 P23050 177777
 4164 P23052 177777
 4165 P23054 177777
 4166 P23056 177777
 4167 P23060 177777
 4168 P23062 177777
 4169 P23064 177777
 4170 P23066 177777
 4171 P23070 177777
 4172
 4173
 4174
 4175
 4176
 4177
 4178
 4179 P23072
 4180 P23072 000
 4181 P23073 000
 4182 P23074 000
 4183 P23075 014
 4184 P23076 000
 4185 P23077 002
 4186 P23100 002
 4187 P23101 002
 4188 P23102 002
 4189 P23103 002
 4190 P23104 002
 4191 P23105 002
 4192 P23106 002
 4193 P23107 002
 4194 P23110 002
 4195 P23111 002
 4196
 4197
 4198
 4199
 4200
 4201 P23112
 4202
 4203 P23112 000000

ILIST OF DEFAULT COMMANDS

DFLT.CMDI

YIOC	ITEST I/O COMMAND
WRITEC	WRITE COMMAND
READC	READ COMMAND
NOPC	INOP COMMAND
SENSEC	ISENSE COMMAND
ILLC	ILLAGAL COMMAND
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR
-1	ILIST TERMINATOR

IODEFAULT STATUS LIST

DFLT.STATI

.BYTE	0
.BYTE	0
.BYTE	0
.BYTE	CE100
.BYTE	0
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC

ILIST OF LEGAL COMMANDS

CMO.ADRSI

.WORD 0

4204	*23114	*00070	,WORD	?
4205	*23116	*00070	,WORD	?
4206	*23120	*00070	,WORD	?
4207	*23122	*00070	,WORD	?
4208	*23124	*00070	,WORD	?
4209	*23126	*00070	,WORD	?
4210	*23130	*00070	,WORD	?
4211	*23132	*00070	,WORD	?
4212	*23134	*00070	,WORD	?
4213	*23136	*00070	,WORD	?
4214	*23140	*00070	,WORD	?
4215	*23142	*00070	,WORD	?
4216	*23144	*00070	,WORD	?
4217	*23146	*00070	,WORD	?
4218	*23150	*00070	,WORD	?

ICOMMAND STATUS

4220
 4221
 4222 *23152
 4223

CMD.STATI

4224	*23152	070	,BYTE	?
4225	*23153	070	,BYTE	?
4226	*23154	070	,BYTE	?
4227	*23155	070	,BYTE	?
4228	*23156	070	,BYTE	?
4229	*23157	070	,BYTE	?
4230	*23160	070	,BYTE	?
4231	*23161	070	,BYTE	?
4232	*23162	070	,BYTE	?
4233	*23163	070	,BYTE	?
4234	*23164	070	,BYTE	?
4235	*23165	070	,BYTE	?
4236	*23166	070	,BYTE	?
4237	*23167	070	,BYTE	?
4238	*23170	070	,BYTE	?
4239	*23171	070	,BYTE	?

4240
 4241
 4242
 4243

ISET UP DEFAULT PARAMETERS

4244
 4245
 4246 *23172
 4247 *23172 *05037 *15500
 4248 *23176 *05037 *15540
 4249 *23202 *13737 *01440 015040
 4250 *23210 *12737 177777 022660
 4251 *23216 *05037 022700
 4252 *23222 *05037 021310
 4253 *23226 *05037 021314
 4254 *23232 *13737 023424 020340
 4255 *23240 *13737 023426 001262
 4256 *23246 *13737 023430 001264
 4257 *23254 *13737 023442 001266

MONDFLT

CLR	00ENTHY1	ITT TRACE ENRY1
CLR	00ENTHY2	ITT TRACE ENRY2
MOV	00TY,00YTRACE	INIT TT TRACE
MOV	001,00ESHOT	ONE PASS FLAGS
CLR	FIRST,TST	DEFAULT TEST #
CLR	ER,STN	ERROR TEST NUMBER
CLR	ER,CNT	ERROR COUNT
MOV	000,FIRST,TST,00RETURN	FIRST TEST
MOV	001,DXBASE,00DXBASE	BASE ADDRESS
MOV	000,DXIV,00DXIV	INT VECTOR ADRS
MOV	001,DXIS,00DXIS	INT STATUS ADRS

4258	223262	213737	023432	001270	MOV	000,DXPRT,00DXPRT	IPRIORITY LEVEL	
4259	223270	213737	023434	022710	MOV	000,MAX,DEV,CU,00MAX,DEV,CU	IMAX DEVICES	
4260	223276	213737	223440	022672	MOV	000,DEV,A,00DEV,A	ISECOND DEVICE	
4261	223304	213737	223430	022720	MOV	000,LEGAL,ADRS,00LEGAL,ADRS	ICU ADRS	
4262	223312	212737	177777	022730	MOV	000,LEGAL,ADRS+2		
4263	223320	212737	026000	001442	MOV	00STADRS,00DST	INIT DST ADRS	
4264	223326	212700	023032		MOV	00PLT,CMD,R0	ADRS OF DEFAULT CMD LIST	
4265	223332	212701	023112		MOV	00CMD,ADRS,R1	ADRS OF LEGAL CMD LIST	
4266								
4267	223336	212021			MON21	MOV	(R0)+,(R1)+	LOAD DEFAULT CMD LIST
4268	223340	222710	177777			CHP	001,000	TEST FOR TERMINATOR
4269	223344	001374				BNE	MON2	
4270	223346	212721	177777			MOV	000,(R1)+	LOAD TERMINATOR
4271	223352	012727	000020			MOV	010,,(PC)+	
4272	223356	000000			MON2,01	B		
4273	223360	212700	023072			MOV	00PLT,STAT,R0	DEFAULT STATUS
4274	223364	212701	023152			MOV	00CMD,STAT,R1	STATUS FOR EACH COMMAND
4275	223370	112021			MON2,11	MOV0	(R0)+,(R1)+	
4276	223372	205337	023350			DEC	MON2,0	
4277	223376	201374				BNE	MON2,1	
4278								
4279	223400	213737	022702	001436	MOV	OFFSET,SPH	LOAD ADRS OF SPH	
4280	223406	213737	022702	001440	MOV	OFFSET,TT	LOAD ADRS OF TT	
4281	223414	202737	001000	001440	ADD	01000,TT	" " " "	
4282	223422	000207			MON2,31	RTS	PC	
4283								DEFAULT PARAMETERS
4284								
4285	223424	004000			D,FIRST,TSYI	TSY1		FIRST TEST
4286	223426	176200			D,DXBASEI	176200		BASE ADDRESS
4287	223430	000300			D,DXIVI	300		INT VECTOR ADRS
4288	223432	000200			D,DXPRTI	LEVEL4		DX PRIORITY LEVEL
4289	223434	000020			D,MAX,DEV,CU1	20		MAX # DEVICES PER CU
4290	223436	000020			D,LEGAL,ADRS1	020		DEFAULT CU ADRS
4291	223440	000421			D,DEV,A1	420		
4292	223442	000302			D,DXISI	302		INT STATUS ADRS
4293								
4294								
4295								
4296								
4297								
4298								
4299								
4300	223444				TT,CLR1			
4301	223444	013701	001440		MOV	TT,R1		BOTTOM OF TT
4302	223450	005021			CL1:	CLR	(R1)+	CLEAR TT
4303	223452	220127	004000			CHP	R1,0ENDTT	TEST FOR END OF TT
4304	223456	201374				BNE	CL1	BRANCH IF NOT END
4305	223460	000207				RTS	PC	
4306								
4307								
4308								
4309								
4310								
4311	223462							

.SBTTL MONITOR SUBROUTINES

ITT,CLR, CLEAR TUMBLE TABLE

TT,CLR1

CL1:

IREINIT OUTPUT DATA

ODAT1

4312	P23462	715046			MOV	R07,(SP)	
4313	P23464	712720	030710		MOV	#WDATA,R7	
4314	P23470	705027			CLR	(PC)+	
4315	P23472	700000		ODAT1:	B		
4316	P23474	104007	023472	ODAT2:	PARITY	,ODAT1	
4317	P23570	013720	023472		MOV	ODAT1,(R7)+	
4318	P23574	042737	000400	023472	BIC	#PARO,ODAT1	
4319	P23512	105237	023472		INCB	ODAT1	
4320	P23516	001366			BVE	ODAT2	
4321	P23520	012620			MOV	(S)+,R0	
4322	P23522	700277			RTS	PC	
4323							
4324							
4325							
4326							
4327							
4328							
4329							
4330							
4331							
4332							
4333							
4334							
4335							
4336							
4337							
4338							
4339							
4340							
4341	P23524				T,PARITY:		
4342	P23524	017627	000000		MOV	0(SP),(PC)+	IFETCH ADDRESS OF SOURCE DATA
4343	P23530	700000		SDAPG:	B		ISOURCE DATA ADDRESS
4344	P23532	017727	177772		MOV	0SDAPG,(PC)+	IFETCH SOURCE DATA
4345	P23536	000000		YDAT:	B		ISOURCE DATA
4346	P23540	005027			CLR	(PC)+	
4347	P23542	000000		PRTY:	B		
4348							
4349	P23544	106337	023536	PG2:	ASLB	YDAT	
4350	P23550	102002			BVC	PG2	
4351	P23552	005137	023542		COM	PRTY	
4352							
4353	P23556	106337	023536	PG3:	ASLB	YDAT	
4354	P23562	001370			BNE	PG3	
4355	P23564	005737	023542		TS?	PRTY	
4356	P23570	100404			BH?	PG3	
4357	P23572	052777	000400	177730	BIS	#PARO,0SDAPG	IFETCH PARITY BIT
4358	P23600	000403			BR	PG5	
4359	P23602	042777	000400	177720	BIC	#PARO,0SDAPG	ICLEAR PARITY BIT
4360							
4361	P23610	062716	000002	PG5:	ADD	0270SP	IADD 2 TO RETURN PC
4362	P23614	000002			RTI		
4363							
4364							
4365							

ISETUP SPW TABLE
 I..... MOD APR 74

```

4366                                     10 ADDRESS RESOLUTION MOD
4367
4368 723616 177470 MARK1 177470
4369
4370 72362J SPW.SETUP1
4371 723620 712720 022720 MOV #LEGAL,ADRS,R0 ;FETCH ADRS OF LEGAL ADRS LIST
4372 723624 712721 022770 MOV #5:ALU,ADRS,R1 ;FETCH ADRS OF SCALED LEGAL ADRS LIST
4373
4374 723630 712011 SP,01 MOV (R2)+,R1 ;MAKE DUPLICATE ADRS LIST
4375 723632 743711 023610 BIC MARK,R1 ;
4376 ;.....MOD APR 74 .....
4377 723636 706311 ASL R1 ;MAKE INDX MOD(2)
4378 723640 703721 001430 ADD SPW,(R1)+ ;EQUALS REAL SPW ADRS
4379 723644 721027 177777 CMP #0,R0 ;TEST FOR TERMINATION
4380 723650 001367 BNE SP,0 ;FETCH NEXT ADRS
4381
4382 723652 012721 177777 MOV #1,(R1)+ ;MARK END OF SCALED ADRS LIST
4383
4384 723656 713771 001430 MOV SPW,R1 ;ADRS OF SPW
4385 723662 713722 001442 MOV DST,R2 ;ADRS OF DST
4386 723666 712700 722770 SP,11 MOV #5:ALU,ADRS,R0
4387 723672 720110 SP,21 CMP R1,R0 ;RUN THRU LIST
4388 723674 001407 BEQ SP,3 ;BRANCH ON LEGAL ADRS
4389 723676 005720 TST (R0)+
4390 723700 022710 177777 CMP #1,R0 ;TEST FOR END OF LIST
4391 723704 001372 BNE SP,2 ;BRANCH IF NOT ENT
4392 723706 012721 725000 MOV #ERRDST,(R1)+ ;LOAD SPW WITH ERROR DST ADRS
4393 723712 000407 BR SP,6
4394 723714 713727 022710 SP,31 MOV MAX,DEV,CU,(PC)+
4395 723720 000000 SP,41 0
4396 723722 710221 SP,51 MOV R2,(R1)+
4397 723724 005337 025720 DEC SP,4
4398 723730 001374 BNE SP,5
4399 723732 720137 001440 SP,61 CMP R1,TT ;TEST FOR END OF SPW
4400 723736 002753 BLT SP,1
4401 723740 001405 BEQ SP,7
4402 723742 005720 TST (SP)+ ;POP STACK
4403 723744 000004 024050 TYPE ,LEVN
4404 723750 000137 021404 JMP MON1,0 ;GO BACK TO MONITOR
4405 723754 000207 SP,71 RTS PC
4406 ;DEVICE STATUS TABLE SETUP
4407
4408
4409 723756 DST.SETUP1
4410 723756 713701 001442 MOV DST,R1
4411 723762 012727 000020 MOV #1,.(PC)+
4412 723766 000000 DS,11 0
4413 723770 712702 723152 MOV #CMD,STAT,R2
4414 723774 112221 DS,21 MOVB (R2)+,(R1)+
4415 723776 005337 723760 DEC DS,1
4416 724002 001374 BNE DS,2
4417 724004 000207 RTS PC
4418
4419 ;SUBROUTINE TO CHECK THAT CU ADDRESS AND THE NUMBER OF DEVICES

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```

4420 IPER CU IS LEGAL
4421
4422 P24206 712770 P22720 CKCUA1 MOV #LEGAL,ADR8,P8 I
4423 P24012 705027 CKC11 CLR (P.)*
4424 P24014 000070 CKC21 ?
4425 P24016 111037 P24014 MOV8 #H3,#CKC2 IFETCH CU ADDRESS
4426 ..... MOD APR 74 .....
4427 I
4428 I ADDRESS RANGE MOD
4429 I
4430 P24022 122737 000020 022710 CKC31 CMPB #23,#MAX,DEV,CU I CHECK LIMIT 10.
4431 ..... MOD APR 74 .....
4432 I
4433
4434 P24030 103005 BUIS CKC4 I BRANCH IF WITHIN LIMITS
4435 P24032 000074 024056 TYPE ,IDVN I ILLEGAL NUMBER OF DEVICES PER CU
4436 P24036 712716 022042 MOV #H1N9,(SP) I CHANGE RETURN PC
4437 P24042 000207 RTS PC
4438 P24044 005720 CKC41 TST (H0)*
4439 P24046 021027 177777 CMP #R0,#=1
4440 P24052 001357 BNE CKC1
4441 P24054 000207 RTS PC
4442 P24056 044537 040114 043505 IDVN1 ,ASCIZ "ILLEGAL # OF DEVICES PER CU "
4443 P24064 046101 021440 047440
4444 P24072 020106 042504 044026
4445 P24100 042503 020123 042520
4446 P24106 020122 052503 000040
4447 .EVEN
4448
4449 IPRE-INIT SUBROUTINE
4450
4451 P24114 012737 024250 000004 PREI1 MOV #PREI10,4
4452 P24122 012737 000340 000006 MOV #LEVEL7,6
4453 P24130 005077 155164 CLR #DIES I CLEAR MAINT CLK
4454 P24134 004737 P24254 JSR PC,RESRES I DX RESET AND RESTORE
4455 I THE FOLLOWING INSTRUCTION GET MODIFIED UPON THE COMPLETION
4456 I OF THE SYSTEM RESET TEST, IF SCOPE PROBLEMS DEVELOP BEFORE THIS TEST
4457 I PASSES THIS INST, CAN BE PATCHED TO A TEST,NOP,
4458 P24140 004737 P24246 PREI,11 JSR PC,#NOCLR I MODIFIED TO CLR#0
4459 P24144 005077 155130 CLR #DXCS I CLK DONE,LOCK0
4460 P24150 004737 P24254 JSR PC,RESRES I DX RESET AND RESTORE
4461 P24154 013777 001436 155120 MOV SPH,#UXOS
4462 P24162 023777 001436 155112 CMP SP1,#UXOS
4463 P24170 001401 BEQ ,+4 I BRANCH IF NO ERROR CONDITION
4464 P24172 104000 ERROR I
4465 P24174 052777 000010 155116 BIS #TIMDIS,#OXES I TIMER DISABLE
4466 P24202 032777 000010 155110 BIT #TIMDIS,#OXES
4467 P24210 001001 BNE ,+4 I BRANCH IF NO ERROR CONDITION
4468 P24212 104000 ERROR I
4469 P24214 012737 000006 000004 MOV #074
4470 P24222 012737 000000 000006 MOV #HALT,6
4471 P24230 004737 015310 JSR PC,ZEROYT I ZERO TUMBLE TABLE
4472 P24234 004737 015340 JSR PC,TTZERO I VERIFY TT ZERO
4473 P24240 000207 RTS PC

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4474
4475
4476
4477
4478
4479
4480  24242  005077  155042      CLRMOI  CLR      0DXMO  IDJ SYSTEM RESET
4481  24246  000227      NOCLR1  RTS      PC
4482
4483  24253  104070      PRETCI  ERROR      IPREINIT TIME OUT ERROR
4484
4485
4486  24252  000072      RTI
4487
4488
4489      IDJ RESET AND RESTORE ROUTINE
4490
4491
4492
4493
4494
4495
4496
4497
4498
4499
4500  24254      RESRESI
4501
4502  24254  242777  000200  159016      BIC      0DXNE,0DXCB      ICLEAR LOCKO
4503  24262  212777  000001  159010      MOV      0DXFRS,0DXCS      IDJ RESET
4504  24273  013737  001440  015040      MOV      00LT,TYRACE      IRELOAD SOFT TY POINTER
4505  24276  000240      NOP      IINSERT RESLT 1,E,"5" HERE IF REQUIRED
4506  24300  000207      RTS      PC
4507
4508
4509
4510
4511
4512      IREGISTER ADDRESS SETUP ROUTINE
4513
4514  24302      REG.SETUPI
4515  24302  013700  001262      MOV      DXBASE,R0      IFETCH BASE ADRS
4516  24306  012701  001274      MOV      0DXDS,R1      IFETCH ADRS OF DXDS ADRS
4517  24312  010021      RS,11  MOV      R0,(R1)+
4518  24314  002770  000002      ADD      #2,R0      IINC TO NEXT DX ADRS
4519  24320  020127  001326      CMP      R1,0DXES1+2
4520  24324  001372      BNE      RS,1
4521
4522  24326  004537  024362      JSR      R5,SBYTE      ISETUP BYTE REF REG'S
4523
4524  24332  001276      DXCA
4525  24334  001326      CUAR
4526
4527  24336  001372      DXOS

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4528	*24340	001332		CJSR	
4529					
4530	*24342	001310		DXMO	
4531	*24344	001336		HUSO	
4532					
4533	*24346	001312		DXMI	
4534	*24350	001342		HUSI	
4535					
4536	*24352	001320		DXES	
4537	*24354	001346		MISC	
4538					
4539	*24356	177777		=1	
4540					
4541	*24360	000207		RTS	PC
4542					
4543	*24362		98YTE1		
4544	*24362	012570		MOV	(H5)+,R0
4545	*24364	012521		MOV	(H5)+,R1
4546	*24366	011021		MOV	0R0,(H1)+
4547	*24370	011011		MOV	0H2,0H1
4548	*24372	005221		INC	(R3)+
4549	*24374	021527	177777	CHP	0H5,001
4550	*24400	001370		BNE	98YTE
4551	*24402	005725		TSY	(H5)+ IPOP OVER TERMINATOR
4552	*24404	000205		RTS	R5
4553					
4554					
4555					
4556					
4557	*24406	005037	025010	GETHEX1	CLR HEXNUM
4558	*24412	010246		MOV	R2,0(SP)
4559	*24414	010146		MOV	R1,0(SP)
4560	*24416	010046		MOV	R0,0(SP)
4561	*24420	005001		ACPTH1	CLR R1
4562	*24422	104006		ACPTH,11	KEY,TO,R0
4563	*24424	120027	000003	CHPB	R0,03
4564	*24430	001002		BNE	AM,2
4565	*24432	000137	021404	JMP	00MON1,0
4566	*24436	122700	000177	AM,21	CHPB 0177,R0
4567	*24442	001424		BEO	RUBOUM
4568	*24444	122700	000015	CHPB	01, R0
4569	*24450	001424		BEO	CARGH
4570	*24452	120027	000040	CHPB	R0,040
4571	*24456	001421		BEO	CARGH
4572	*24460	120027	000000	CHPB	R0,00
4573	*24464	002413		BLT	RUBOUM
4574	*24466	120027	000071	CHPB	R0,0'V
4575	*24472	003021		BGT	AM,X
4576	*24474	042700	177760	AM,31	BIC 01:7760,R0
4577	*24500	006301		ASL	R1
4578	*24502	006301		ASL	R1
4579	*24504	006301		ASL	R1
4580	*24506	006301		ASL	R1
4581	*24510	000001		BIS	R0,R1

ICHALK'N UP

[illegible]

4636	*25352	000137	P21404		JMP	00001,0	
4637	*25356	122700	P00177	AO,21	CHPB	0177,00	ITEST FOR RUJOYT
4638	*25362	001423			BEO	RUMOUT	
4639	*25364	122700	P00015		CHPB	017,00	ITEST FOR (CR)
4640	*25370	001423			REQ	CARG	
4641	*25372	120027	000040		CHPB	00,000	ITEST IF SPACE
4642	*25376	001420			BEO	CARG	
4643	*25100	120027	P00000		CHPB	00 00	ITEST FOR VALID OCTAL NUMBER
4644	*25104	002412			BLT	RUMOUT	
4645	*25106	120027	P00067		CHPB	00,0'7	
4646	*25112	003007			BGT	RUMOUT	
4647	*25114	042700	177770		BIC	0177770,00	ICONVERT ASCII TO OCTAL
4648	*25120	006301			ASL	R1	
4649	*25122	006301			ASL	R1	
4650	*25124	006301			ASL	R1	
4651	*25126	000001			BIS	00001	ICHALK'N UP
4652	*25130	000744			BR	ACPTC,1	IFETCH NEXT CHAR
4653							
4654	*25132	000004	027920	RUBOUT:	TYPE	,,JUES	ITYPE?
4655	*25136	000740			BR	ACPTC	
4656	*25140	010137	022704	CARG:	MOV	R1,OCTNUM	PLACE OCTAL NUMBER HERE
4657	*25144	012600			MOV	(SP)+,R0	IRESTORE R0
4658	*25146	012601			MOV	(SP)+,R1	IRESTORE R1
4659	*25150	000002			RTI		IRETURN
4660							
4661							
4662							
4663	*25152						
4664	*25152	105777	154220	T,KEY,TO,R01	TSYB	0TKS	ITEST FOR DONE
4665	*25156	100375			BPL	,04	INWAIT FOR KEYBOARD
4666	*25160	117700	154214		MOVB	0TKB,00	IFETCH CHAR
4667	*25164	117777	154210	154212	MOVB	0TRB,0TPB	ECHO
4668	*25172	004737	025204		JSR	PC,TTYFLG	INWAIT FOR DONE
4669	*25176	042700	177600		BIC	0177000,00	IF MIT ASCII
4670	*25202	000002			RTI		
4671							
4672							
4673	*25204						
4674	*25204	105777	154172		TSYB	0TPS	
4675	*25210	100375			BPL	25	
4676	*25212	000207			RTS	PC	
4677							
4678							
4679							
4680	*25214	032737	020000	177570	.IOTI	0BIT13,SR	ITEST FOR INHIBIT PRINT
4681	*25222	001040			BNE	,IOTE	
4682	*25224	010537	P25332		MOV	TTY,,SAV	ISAVE TTY
4683	*25230	017605	000000		MOV	0(2),TTY	IGET ADDRESS TO BE TYPED
4684	*25234	122715	000044		CHPB	013,(TTY)	ITERMINATOR?
4685	*25240	001425			BEO	,TERM	
4686	*25242	105715			TSYB	(TTY)	ITERMINATOR?
4687	*25244	001423			BEO	,TERM	
4688	*25246	122715	P00001		CHPB	011(TTY)	IRESTORE OLD SEQUENCE
4689	*25252	001416			BEO	,REST	

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4690 225254 122715 000137      CHPB      02,(TTY)      ISET UP CR LF
4691 225263 001436      BEQ      ,CRLF
4692 225262 105777 154114      TSTB      BTPS
4693 225266 100375      BPL      ,=4
4694 225273 112577 154110      MOVB      (TTY)+,BTPM
4695 225274 000757      BR      ,MORE
4696 225276 005255      ,CRLF1 INC      TTY
4697 225300 010546      MOV      TTY,=(0)
4698 225302 012725 025334      MOV      B,LAR,TTY
4699 225306 000752      BR      ,MORE
4700 225310 012675      ,REST1 MOV      (0)+,TTY
4701 225312 000750      BR      ,MORE
4702 225314 004737 025204      ,TERM1 JSR      PC,TTYFLG      IWAIT FOR DONE
4703 225320 013705 025332      MOV      ,SAV,TTY
4704 225324 062716 000002      ,IOTE1 ADD      02(0) IPOP
4705 225330 000002      RTI
4706
4707 225332 000000      ,SAVI 0
4708 225334 005015 001002 001002 ,CARI ,ASCII <CR><LF><2><2><2><2><2><2><1>
4709 225342 001002 001      ,EVEN
4710 225346 025346      ,TYPE1 0
4711 225346 000000      ,SBTTL SAVE AND RESTORE REGISTERS
4712
4713      ,SAVE REGS 0 TO 4 SUBROUTINE,
4714 225350 012637 025400      T,SAVRG1 MOV      (0)+,SVRPC      ,SAVE PC AND PSW,
4715 225354 012637 025410      MOV      (0)+,SVRPSW
4716 225360 010546      MOV      X5,=(0)
4717 225362 010446      MOV      X4,=(0) ,SAVE REGS 0 - 4
4718 225364 010346      MOV      X3,=(0)      ,IN STACK,
4719 225366 010246      MOV      X2,=(0)
4720 225370 010146      MOV      X1,=(0)
4721 225372 010046      MOV      X0,=(0)
4722 225374 013746 025410      MOV      SVRPSW,=(0)      ,RESTORE PC AND PSW,
4723 225400 013746 025400      MOV      SVRPC,=(0)
4724 225404 000002      RTI      ,EXIT,
4725 225406 000000      SVRPC1 0
4726 225410 000000      SVRPSW1 0
4727      ,RESTORE REGS 0 TO 4 SUBROUTINE,
4728 225412 012637 025450      T,RSTRG1 MOV      (0)+,RSTPC      ,SAVE PC AND PSW,
4729 225416 012637 025492      MOV      (0)+,RSTPSW
4730 225422 012600      MOV      (0)+,X0      ,RESTORE REGS 0 - 4
4731 225424 012601      MOV      (0)+,X1      ,FROM STACK,
4732 225426 012602      MOV      (0)+,X2
4733 225430 012603      MOV      (0)+,X3
4734 225432 012604      MOV      (0)+,X4
4735 225434 012605      MOV      (0)+,X5
4736
4737 225436 013746 025452      MOV      RSTPSW,=(0)      ,RESTORE PC AND PSW,
4738 225442 013746 025450      MOV      RSTPC,=(0)
4739 225446 000002      RTI      ,EXIT
4740 225450 000000      RSTPC1 0
4741 225452 000000      RSTPSW1 0
4742      ,SBTTL OCTAL DUMP ROUTINE
4743

```

4744	025454	000000	000000	000000	PRINT21 ,WORD	0,3,0,0	
4745	025462	000000					
4746	025464	000	000		PRINT31 ,BYTE	0,2	
4747							
4748	025466	112737	000001	025404	PRINTA1 MOVB	01,PRINT3	ISAVE ZERO FILL SWITCH
4749	025474	000402			OR	,00	
4750	025476	005037	025464		PRINTS1 CLR	PRINT3	ISUPPRESS LEADING ZERO'S
4751	025502	112737	177772	025405	MOVB	000,PRINT3+1	ISAVE COUNT
4752	025510	032737	020000	177570	BIT	00113,SR	
4753	025516	001041			BNE	PRTE	
4754	025522	010446			MOV	X4,0(0)	ISAVE R4
4755	025522	012704	025454		MOV	0PRINT2,X4	ISAVE POINTER TO FIRST ASCII CHAR,
4756	025526	105014			CLRB	(4)	ICLEAR FIRST BYTE
4757	025530	000405			OR	PRINT1	IRotate FIRST BIT
4758	025532	105014			PRINTL1 CLRB	(4)	ICLEAR BYTE OF CHARACTER
4759	025534	006105			ROL	TTY	IRotate BIT INTO C
4760	025536	106114			ROLB	(4)	IPACK IT
4761	025540	006105			ROL	TTY	IRotate BIT INTO C
4762	025542	106114			ROLB	(4)	IPACK IT
4763	025544	006105			PRINTF1 ROL	TTY	IRotate BIT INTO C
4764	025546	106114			ROLB	(4)	IPACK IT
4765	025552	105714			TSYB	(4)	
4766	025552	001402			BEO	,00	
4767	025554	105237	025464		INCB	PRINT3	
4768	025560	105737	025464		TSYB	PRINT3	ICHECK FILL SWITCH
4769	025564	001402			BEO	,00	
4770	025566	152724	000000		BISB	012,(4)+	IMAKE INTO ASCII CHAR
4771	025572	105237	025465		INCB	PRINT3+1	
4772	025576	001355			BNE	PRINTL	IREPEAT
4773	025600	022704	025454		CMF	0PRINT2,X4	
4774	025604	001002			BNE	,01	
4775	025606	112724	000000		MOVB	010,(4)+	
4776	025612	105014			CLRB	(4)	
4777	025614	000004	025454		TYPE	,PRINT2	ITYPE IT
4778	025620	012604			MOV	(0)+,X4	IRESTORE R5
4779	025622	000207			PRTE1 RTS	X7	
4780					ITTY WATCH DOG FOR CONTROL C		
4781		000003			CNTLC=3		IASCII CONTROL C
4782							
4783	025624	117727	153550		TTY11 MOVB	0TKB,(PC)+	ISAVE CHAR
4784	025630	000000			SCHAR1	0	IMERE
4785	025632	042737	000200	025630	BIC	0200,00SCHAR	ISEVEN LEVEL ASCII
4786	025640	122737	000003	025630	CMFB	0C TLC,00SCHAR	ICHECK FOR CONTROL C
4787	025646	001004			BNE	TTY10	
4788	025650	000004	025674		TYPE	,ALC ITYPE CONTROL C	
4789	025654	000137	021404		JMP	00MON1,0	
4790	025660	004737	025204		TTY101 JSR	PC,TTYFLG	
4791	025664	113777	025630	153512	MOVB	00SCHAR,0TPB	IECHO CHARACTER
4792	025672	000022			RTI		
4793							
4794	025674	041536	000		ACLC1 ,ASCII2	<130><103>	
4795		025700			,EVEN		
4796							
4797		026000			,=1377+1		IFORM MOD(400) BOUNDARY

4798					
4799	126070		DSYADRS=		IDEFAULT DST
4800					
4801	126070	000	,BYTE	0	ITIO
4802	126071	020	,BYTE	0	INRITE
4803	126072	020	,BYTE	0	IREAD
4804	126073	014	,BYTE	CEIDE	INOP
4805	126074	020	,BYTE	0	ISENSE
4806					
4807	126075	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4808	126076	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4809	126077	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4810	126078	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4811	126079	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4812	126080	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4813	126081	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4814	126082	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4815	126083	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4816	126084	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4817	126085	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4818	126086	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4819	126087	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4820	126088	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4821	126089	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4822	126090	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4823	126091	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4824	126092	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4825	126093	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4826	126094	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4827	126095	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4828	126096	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4829	126097	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4830	126098	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4831	126099	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4832	126100	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4833	126101	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4834	126102	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4835	126103	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4836	126104	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4837	126105	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4838	126106	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4839	126107	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4840	126108	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4841	126109	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4842	126110	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4843	126111	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4844	126112	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4845	126113	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4846	126114	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4847	126115	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4848	126116	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4849	126117	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4850	126118	002	,BYTE	UC	ILLEGAL ,UNIT CHECK
4851	126119	002	,BYTE	UC	ILLEGAL ,UNIT CHECK

4852	*26062	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4853	*26063	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4854	*26064	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4855	*26065	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4856	*26066	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4857	*26067	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4858	*26068	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4859	*26069	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4860	*26070	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4861	*26071	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4862	*26072	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4863	*26073	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4864	*26074	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4865	*26075	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4866	*26076	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4867	*26077	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4868	*26078	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4869	*26079	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4870	*26080	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4871	*26081	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4872	*26082	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4873	*26083	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4874	*26084	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4875	*26085	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4876	*26086	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4877	*26087	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4878	*26088	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4879	*26089	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4880	*26090	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4881	*26091	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4882	*26092	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4883	*26093	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4884	*26094	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4885	*26095	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4886	*26096	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4887	*26097	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4888	*26098	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4889	*26099	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4890	*26100	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4891	*26101	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4892	*26102	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4893	*26103	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4894	*26104	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4895	*26105	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4896	*26106	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4897	*26107	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4898	*26108	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4899	*26109	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4900	*26110	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4901	*26111	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4902	*26112	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4903	*26113	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4904	*26114	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4905	*26115	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4906	*26116	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4907	*26117	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4908	*26118	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4909	*26119	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4910	*26120	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4911	*26121	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4912	*26122	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4913	*26123	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4914	*26124	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4915	*26125	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4916	*26126	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4917	*26127	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4918	*26128	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4919	*26129	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4920	*26130	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4921	*26131	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4922	*26132	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4923	*26133	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4924	*26134	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4925	*26135	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4926	*26136	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4927	*26137	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4928	*26138	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4929	*26139	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4930	*26140	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4931	*26141	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4932	*26142	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4933	*26143	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4934	*26144	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4935	*26145	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4936	*26146	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK
4937	*26147	0F2	,BYTE	UC	ILLEGAL ,UNIT CHECK

4916	26150	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4917	26151	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4918	26152	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4919	26153	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4920	26154	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4921	26155	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4922	26156	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4923	26157	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4924	26160	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4925	26161	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4926	26162	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4927	26163	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4928	26164	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4929	26165	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4930	26166	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4931	26167	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4932	26170	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4933	26171	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4934	26172	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4935	26173	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4936	26174	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4937	26175	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4938	26176	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4939	26177	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4940	26200	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4941	26201	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4942	26202	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4943	26203	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4944	26204	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4945	26205	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4946	26206	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4947	26207	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4948	26210	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4949	26211	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4950	26212	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4951	26213	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4952	26214	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4953	26215	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4954	26216	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4955	26217	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4956	26220	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4957	26221	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4958	26222	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4959	26223	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4960	26224	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4961	26225	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4962	26226	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4963	26227	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4964	26230	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4965	26231	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4966	26232	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4967	26233	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4968	26234	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK
4969	26235	072	,BvTE	UC	ILLEGAL	,UNIT	CHECK

4960	726236	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4961	726237	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4962	726240	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4963	726241	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4964	726242	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4965	726243	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4966	726244	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4967	726245	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4968	726246	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4969	726247	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4970	726253	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4971	726251	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4972	726252	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4973	726253	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4974	726254	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4975	726255	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4976	726256	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4977	726257	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4978	726260	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4979	726261	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4980	726262	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4981	726263	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4982	726264	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4983	726265	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4984	726266	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4985	726267	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4986	726270	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4987	726271	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4988	726272	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4989	726273	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4990	726274	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4991	726275	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4992	726276	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4993	726277	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4994	726300	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4995	726301	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4996	726302	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4997	726303	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4998	726304	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4999	726305	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5000	726306	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5001	726307	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5002	726310	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5003	726311	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5004	726312	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5005	726313	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5006	726314	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5007	726315	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5008	726316	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5009	726317	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5010	726320	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5011	726321	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5012	726322	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5013	726323	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK

5214	226324	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5215	226325	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5216	226326	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5217	226327	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5218	226330	072	,BYTE	JC	ILLEGAL ,UNIT CHECK
5219	226331	072	,BYTE	JC	ILLEGAL ,UNIT CHECK
5220	226332	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5221	226333	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5222	226334	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5223	226335	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5224	226336	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5225	226337	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5226	226340	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5227	226341	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5228	226342	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5229	226343	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5230	226344	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5231	226345	072	,BYTE	JC	ILLEGAL ,UNIT CHECK
5232	226346	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5233	226347	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5234	226350	072	,BYTE	JC	ILLEGAL ,UNIT CHECK
5235	226351	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5236	226352	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5237	226353	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5238	226354	072	,BYTE	JC	ILLEGAL ,UNIT CHECK
5239	226355	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5240	226356	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5241	226357	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5242	226360	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5243	226361	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5244	226362	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5245	226363	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5246	226364	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5247	226365	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5248	226366	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5249	226367	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5250	226370	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5251	226371	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5252	226372	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5253	226373	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5254	226374	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5255	226375	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5256	226376	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5257	226377	072	,BYTE	UC	ILLEGAL ,UNIT CHECK
5258					
5259			.EVEN		
5260	226400		T.PCH11		
5261	226400	000012	,BLKW	10;	
5262					
5263	226424		T.PCH21		
5264	226424	000012	,BLKW	10;	
5265					
5266	226450		T.PCH31		
5267	226450	000012	,BLKW	10;	

```

5268
5269
5270          *00012
5271          *00015
5272  *26474
5273
5274
5275
(1)  *26474  *46537  P445P1  042116
(1)
(1)
(1)
(1)  *26560  *43137  P51117  042000
(1)  *26625      137  P42523  020105
(1)  *26661      137  P52137  050131
(1)  *26721      137  P20040  020040
(1)  *26761      137  P20040  020040
(1)  *27017      137  P20040  020040
(1)
(1)
(1)  *27063      137  042137  050094
(1)
(1)  *27077      137  P40502  042523
(1)  *27117      137  P42504  044526
(1)  *27141      137  P42524  052123
(1)  *27160  052137  P50131  020105
(1)  *27252  P40537  051104  039.23
(1)  *27262  P51537  052105  0514.2
(1)  *27301      137  P44514  052123
(1)  *27332  P41537  P40517  040515
(1)  *27344  P42137  P20130  051120
(1)  *27371      137  P30440  044440
(1)
(1)
(1)  *27407      137  042522  051507
(1)  *27443      035  000037
(1)  *27446  P00207
(1)  *27450  P42537  042116  052040
(1)  *27462  P20137  P51105  047522
(1)  *27506  P57477      000
(1)  *27511      040  P20040  020040
(1)  *27520  P00040
(1)  *27522  P00137
(1)  *27524  P52137  P50131  020105
(1)  *27553      137  P42537  051122
(1)
(1)  *27570  042137  042130  035123
(1)  *27577      137  054104  040503
(1)  *27606  P42137  041530  035123
(1)  *27615      137  054104  051517
(1)  *27624  042137  041130  035101
(1)  *27633      137  054104  041502
(1)  *27642  042137  040530  035117
(1)  *27651      137  054104  044515

```

.SOFTL MESSAGES
 LF=12
 CR=15
 HEADER1
 JO
 HEADER TEXT MOD
 JO
 MOD APR 74
 .NLIST BEX
 ,ASCII "MAINDEC-11-DBDXG-C-D DIAGNOSTIC EXERCISER (APR 74) "
 JO
 HEADER TEXT MOD
 JO
 MOD APR 74
 JO
 HEADER TEXT MOD
 ,ASCII "FOR DYNAMIC SWITCH REGISTER SETTINGS"
 ,ASCII "SEE PROGRAM LISTING PAGE 01"
 ,ASCII "TYPE1 <D>,DEFAULT PARAMETERS"
 ,ASCII " <P>,PREVIOUS PARAMETERS"
 ,ASCII " <S>,SELECT PARAMETERS"
 ,ASCII2 " <N>,START THIS TEST NUMBER"
 JO
 HEADER TEXT MOD
 JO
 MOD APR 74
 FSTART1 ,ASCII2 "D,P,S,N "
 ,ASCII2 "BASE ADDRESS1 "
 ,ASCII2 "DEVICES PER CUI "
 ,ASCII2 "TEST NUMBER1 "
 ,ASCII2 "TYPE CU ADRES1S IN HEX <CR><LF> <CR><CR> TERMINATES LIST"
 ,ASCII2 "ADDR1 "
 ,ASCII2 "SET SWITCHES"
 ,ASCII2 "LIST ALL LEGAL COMMANDS"
 ,ASCII2 "COMMAND1"
 ,ASCII2 "X PRIORITY LEVEL1 "
 ,ASCII2 " ILLEGAL ?"
 ,ASCII2 "REGYTR - SHOULD BE - WAS"
 ,ASCII2 <35><J7>
 ,ASCII2 <277>
 ,ASCII2 "END TEST"
 ,ASCII2 "ERRORS DETECTED1 "
 ,ASCII2 "7"
 ,ASCII2 <41><42><40><4E><4E><40>
 ,ASCII2 <40>
 ,ASCII2 "
 ,ASCII2 "TYPE IN STALL COUNT1 "
 ,ASCII2 "ERROR PCI "
 ,ASCII2 "DXDS1"
 ,ASCII2 "JXCA1"
 ,ASCII2 "DXCS1"
 ,ASCII2 "DXOS1"
 ,ASCII2 "UXBA1"
 ,ASCII2 "DXBC1"
 ,ASCII2 "DXMO1"
 ,ASCII2 "UXMI1"

(1)	P27662	242137	041533	035122	ADXCBI	,ASCIZ	"DXCBI"
(1)	P27667	137	054104	042116	ADXNDI	,ASCIZ	"DXNDI"
(1)	P27676	242137	042530	035123	ADXESI	,ASCIZ	"DXESI"
(1)	P27779	137	054104	051505	ADXESI	,ASCIZ	"DXESI"
(1)					}..... MOD APR 74		
(1)					}..... ERROR TEXT MOD		
(1)	P27716	220137	052503	042101	MSG201	,ASCIZ	"CUADMS/MOI"
(1)					}..... MOD APR 74		
(1)	P27733	137	042526	052103	MSG201	,ASCIZ	"VECTOR ADDRESS"
(1)	P27755	137	052123	052101	MSG311	,ASCIZ	"STATUS"
(1)	P27767	137	051105	047522	MSG351	,ASCIZ	"ERROR IN TEST"
(1)	P3P010	047537	044522	044507	MSG361	,ASCIZ	"ORIGIN OF MAP ERROR"
(1)	P3P037	137	052124	052040	TRCH11	,ASCIZ	"TT TRACE ERROR IN TEST"
(1)	P3P071	137	051117	043511	TRCH11	,ASCIZ	"ORIGIN OF LAST TT TRACE UPDATE"
(1)	P3P132	241040	051525	023131	ABSYM1	,ASCIZ	"BUSY ENABLE"
(1)	P3P151	115	040125	044524	AMUXM1	,ASCIZ	"MULTIPLEXER CM"
(1)	P3P171	137	047105	051124	TRC11	,ASCIZ	"ENTRY WAS 1"
(1)	P3P213	137	047105	051124	TRC21	,ASCIZ	"ENTRY SHOULD BE 1"
(1)	P3P235	137	047105	051124	TTDS1	,ASCIZ	"ENTRY WAS FROM DXJS"
(1)	P3P262	042537	052110	054522	TTCA1	,ASCIZ	"ENTRY WAS FROM DXCA"
(1)					,LIST	DEX	
5276					.SBTTL DATA BUFFERS		
5277					IDATA BUFFER ** CONTAINS 0 - 255 IN ONE BYTE ITEMS		
5278					IDATA FILE FOR CHANNEL SIMULATOR WRITE CMDS		
5279					,EVEN		
5280							
5281							
5282		030310					
5283							
5284	P3P310				DATA1		
5285							
5286							
5287							
5288		000001			N=1		
5289	P3P310	000001			,WORD	N	
5290		000002			N=N+2		
5291	P3P312	000002			,WORD	N	
5292		000004			N=N+2		
5293	P3P314	000004			,WORD	N	
5294		000010			N=N+2		
5295	P3P316	000010			,WORD	N	
5296		000020			N=N+2		
5297	P3P320	000020			,WORD	N	
5298		000040			N=N+2		
5299	P3P322	000040			,WORD	N	
5100		000100			N=N+2		
5101	P3P324	000100			,WORD	N	
5102		000200			N=N+2		
5103	P3P326	000200			,WORD	N	
5104		000400			N=N+2		
5105	P3P330	000400			,WORD	N	
5106		001000			N=N+2		
5107	P3P332	001000			,WORD	N	

5120		702070	N=N=2	
5129	73P334	702070	,WORD	.
5110		704070	N=N=2	
5111	73P336	704070	,WORD	.
5112		710070	N=N=2	
5113	73P340	710070	,WORD	.
5114		720070	N=N=2	
5115	73P342	720070	,WORD	.
5116		740070	N=N=2	
5117	73P344	740070	,WORD	.
5118		100070	N=N=2	
5119	73P346	100070	,WORD	.
5120		700070	N=N=2	
5121		700082	W=2	
5122	73P350	177775	,WORD	=W=1
5123		700034	W=W+W	
5124	73P352	177773	,WORD	=W=1
5125		200010	W=W+W	
5126	73P354	177767	,WORD	=W=1
5127		700020	W=W+W	
5128	73P356	177757	,WORD	=W=1
5129		700040	W=W+W	
5130	73P360	177737	,WORD	=W=1
5131		700170	W=W+W	
5132	73P362	177677	,WORD	=W=1
5133		700200	W=W+W	
5134	73P364	177577	,WORD	=W=1
5135		700470	W=W+W	
5136	73P366	177377	,WORD	=W=1
5137		701070	W=W+W	
5138	73P370	176777	,WORD	=W=1
5139		002070	W=W+W	
5140	73P372	175777	,WORD	=W=1
5141		004070	W=W+W	
5142	73P374	173777	,WORD	=W=1
5143		710070	W=W+W	
5144	73P376	167777	,WORD	=W=1
5145		020070	W=W+W	
5146	73P400	157777	,WORD	=W=1
5147		040070	W=W+W	
5148	73P402	137777	,WORD	=W=1
5149		100070	W=W+W	
5150	73P404	277777	,WORD	=W=1
5151		000070	W=W+W	
5152	73P426	177777	,WORD	=W=1
5153		700070	W=W+W	
5154		000071	N=1	
5155	73P410	700071	,WORD	N
5156		700082	N=N=2	
5157	73P412	700022	,WORD	N
5158		700024	N=N=2	
5159	73P414	700074	,WORD	N
5160		700010	N=N=2	
5161	73P416	700010	,WORD	N

5162		700020	4=No2	
5163	73P420	700020	,WORD	V
5164		700040	4=No2	
5165	73P422	700040	,WORD	V
5166		700170	4=No2	
5167	73P424	700170	,WORD	V
5168		700200	4=No2	
5169	73P426	700270	,WORD	N
5170		700400	4=No2	
5171	73P43J	000400	,WORD	N
5172		001070	4=No2	
5173	73P432	701070	,WORD	V
5174		002000	4=No2	
5175	73P434	702000	,WORD	V
5176		704000	4=No2	
5177	73P436	704070	,WORD	N
5178		710030	4=No2	
5179	73P440	710070	,WORD	N
5180		720070	4=No2	
5181	73P442	720000	,WORD	N
5182		740000	4=No2	
5183	73P444	740000	,WORD	V
5184		100000	4=No2	
5185	73P446	100020	,WORD	V
5186		700000	4=No2	
5187		700002	W=2	
5188	73P450	177775	,WORD	-W=1
5189		700004	W=H+W	
5190	73P452	177773	,WORD	-W=1
5191		700010	W=H+W	
5192	73P454	177767	,WORD	-W=1
5193		700020	W=H+W	
5194	73P456	177757	,WORD	-W=1
5195		700040	W=H+W	
5196	73P46J	177737	,WORD	-W=1
5197		700170	W=H+W	
5198	73P462	177677	,WORD	-W=1
5199		700270	W=H+W	
5200	73P464	177577	,WORD	-W=1
5201		700400	W=H+W	
5202	73P466	177377	,WORD	-W=1
5203		701000	W=H+W	
5204	73P470	176777	,WORD	-W=1
5205		702000	W=H+W	
5206	73P472	175777	,WORD	-W=1
5207		004000	W=H+W	
5208	73P474	173777	,WORD	-W=1
5209		710000	W=H+W	
5210	73P476	167777	,WORD	-W=1
5211		220000	W=H+W	
5212	73P5P0	157777	,WORD	-W=1
5213		740070	W=H+W	
5214	73P5P2	137777	,WORD	-W=1
5215		100000	W=H+W	

5216	737574	177777	,WORD	-w=1
5217		200020	W=W+W	
5218	737576	177777	,WORD	-w=1
5219		200020	W=W+W	
5220		200021	N=1	
5221	737510	200021	,WORD	
5222		200022	N=N=2	
5223	737512	200022	,WORD	
5224		200024	N=N=2	
5225	737514	200024	,WORD	
5226		200010	N=N=2	
5227	737516	200010	,WORD	
5228		200020	N=N=2	
5229	737528	200020	,WORD	
5230		200040	N=N=2	
5231	737522	200040	,WORD	
5232		200120	N=N=2	
5233	737524	200120	,WORD	
5234		200220	N=N=2	
5235	737526	200220	,WORD	
5236		200400	N=N=2	
5237	737530	200400	,WORD	
5238		201000	N=N=2	
5239	737532	201000	,WORD	
5240		202020	N=N=2	
5241	737534	202020	,WORD	
5242		204000	N=N=2	
5243	737536	204000	,WORD	
5244		210000	N=N=2	
5245	737548	210000	,WORD	
5246		220000	N=N=2	
5247	737542	220000	,WORD	
5248		240000	N=N=2	
5249	737544	240000	,WORD	
5250		100000	N=N=2	
5251	737546	100000	,WORD	
5252		200000	N=N=2	
5253		000002	W=2	
5254	737550	177777	,WORD	-w=1
5255		200024	W=W+W	
5256	737552	177777	,WORD	-w=1
5257		000010	W=W+W	
5258	737554	177767	,WORD	-w=1
5259		000020	W=W+W	
5260	737556	177757	,WORD	-w=1
5261		200040	W=W+W	
5262	737562	177737	,WORD	-w=1
5263		200100	W=W+W	
5264	737562	177677	,WORD	-w=1
5265		200200	W=W+W	
5266	737564	177577	,WORD	-w=1
5267		200400	W=W+W	
5268	737566	177377	,WORD	-w=1
5269		201000	W=W+W	

5270	73P572	176777	,WORD	-W-1
5271		702020	W=W+W	
5272	73P572	175777	,WORD	-W-1
5273		704070	W=W+W	
5274	73P574	173777	,WORD	-W-1
5275		710070	W=W+W	
5276	73P576	167777	,WORD	-W-1
5277		720070	W=W+W	
5278	73P600	157777	,WORD	-W-1
5279		040000	W=W+W	
5280	73P602	137777	,WORD	-W-1
5281		100070	W=W+W	
5282	73P604	777777	,WORD	-W-1
5283		700000	W=W+W	
5284	73P606	177777	,WORD	-W-1
5285		000000	W=W+W	
5286		000001	N=1	
5287	73P610	700001	,WORD	N
5288		700002	N=N+2	
5289	73P612	700002	,WORD	N
5290		700004	N=N+2	
5291	73P614	700004	,WORD	N
5292		700010	N=N+2	
5293	73P616	000010	,WORD	N
5294		000020	N=N+2	
5295	73P620	000020	,WORD	N
5296		000040	N=N+2	
5297	73P622	000040	,WORD	N
5298		000100	N=N+2	
5299	73P624	000100	,WORD	N
5300		000200	N=N+2	
5301	73P626	000200	,WORD	N
5302		000400	N=N+2	
5303	73P630	700400	,WORD	N
5304		001000	N=N+2	
5305	73P632	001000	,WORD	N
5306		002000	N=N+2	
5307	73P634	002000	,WORD	N
5308		004000	N=N+2	
5309	73P636	704000	,WORD	N
5310		010000	N=N+2	
5311	73P640	010070	,WORD	N
5312		020070	N=N+2	
5313	73P642	720070	,WORD	N
5314		040000	N=N+2	
5315	73P644	740000	,WORD	N
5316		100000	N=N+2	
5317	73P646	100000	,WORD	N
5318		000000	N=N+2	
5319		000002	W=2	
5320	73P650	177775	,WORD	-W-1
5321		700004	W=W+W	
5322	73P652	177773	,WORD	-W-1
5323		700010	W=W+W	

5324	3F654	177767	,WORD	=H=1
5325		000020	W=H+W	
5326	3F656	177757	,WORD	=H=1
5327		000040	W=H+W	
5328	3F660	177737	,WORD	=H=1
5329		000100	W=H+W	
5330	3F662	177677	,WORD	=H=1
5331		000200	W=H+W	
5332	3F664	177577	,WORD	=H=1
5333		000400	W=H+W	
5334	3F666	177377	,WORD	=H=1
5335		001000	W=H+W	
5336	3F670	176777	,WORD	=H=1
5337		002000	W=H+W	
5338	3F672	175777	,WORD	=H=1
5339		004000	W=H+W	
5340	3F674	173777	,WORD	=H=1
5341		010000	W=H+W	
5342	3F676	167777	,WORD	=H=1
5343		020000	W=H+W	
5344	3F678	157777	,WORD	=H=1
5345		040000	W=H+W	
5346	3F67A	137777	,WORD	=H=1
5347		100000	W=H+W	
5348	3F67C	277777	,WORD	=H=1
5349		000000	W=H+W	
5350	3F67E	177777	,WORD	=H=1
5351		000000	W=H+W	
5352				
5353		03F710	,:	
5354	3F710	000000	WDATA: 0	INDICATE ADDRESS OF END OF BUFFER
5355		731710	NPRDATA=WDATA+512,	BEGINNING OF WRITE DATA FILE
5356			INDATA AND NPRDAT OVER WRITE ASCII TEXT	
5357		000001	,END	

[illegible]

		2769	2961	3328	3397	3517	3588	3747						
B173	• P3P013	855#												
B174	• P3P020	854#												
B175	• P3P043	853#												
B176	• P3P100	852#												
B177	• P00200	851#												
B178	• P00400	850#												
B179	• P31000	849#												
BSY	• P00020	722#	883#	3460										
BSYEN	• P04000	702#	3112	3113	3170									
BSYS	• P00400	686#												
BUSI	P01342	1044#	1122	1775	2792	2174	2935	2843#	3341	3390	3401	346F	3474	3547
		3542	4534											
BUSO	P31336	1039#	1559#	1556	1884#	1889	2177#	217#	2179#	2183#	2737#	3231#	3239#	3281
		3346#	3347	3351#	3352	3371	3426	344F	4531					
BUSCR	P31352	1053#												
BYPAS	• P00100	765#	2001											
CA	• P00002	792#												
CARG	P25140	4640	4642	4656#										
CARGH	P24522	4569	4571	4586#										
CARRY	P22662	4078#												
CB	• P00020	799#												
CE	• P00010	877#	1122	1903	1984	2042	2043	2106	2465	2555	2696	3196	4103	4884
CHDEND	P00043	689#	2310	2378	2457	2547								
CHEND	• P00010	723#												
CHENDS	P01000	605#	1690	1822	1950	2050	2149	2334	2397	2471	2501	2560	259F	2633
		2647	2703	2706	2813	2937	2949							
CHIS	• P02200	687#	1920	1940	1624	1849	167F	1602	1740	1761	1857	1869	2149	225F
		2297	2350	2431	2440	2723	2532	2633	2647	2677	2723	2777	2796	287F
		2800	2893	2917										
CKCUA	P24006	3945	3993	4422#										
CKC1	P24012	4423#	4443											
CKC2	P24014	4424#	4429#											
CKC3	P24022	4430#												
CKC4	P24044	4434	4430#											
CLKO	• P01000	752#												
CLAMO	P24242	4400#												
CL1	P23450	4382#	4384											
CMD	P22670	1498#	1924#	1942	1944	1622#	1647#	1668#	1684	1686	1746#	1763	1765	1855#
		1871	1873	2248#	2295#	2333#	2336	2338	2356#	2396#	2399	2401	2429#	2442
		2444	2455#	2459	2461	2460#	2469#	2521#	2534	2536	2546#	2549	2551	2558#
		2631#	2640#	2675#	2687	2709	2699#	2702#	2708	2710	2722#	2744	2746	2775#
		2798	2800	2804#	2807	2809	2815	2817	2826#	2829	2831	2868#	2870#	2895
		2897	2901#	2904	2906	2919	2921	2925#	2928	2938	2936#	2939	2941	2948#
		2951	2953	3117	3118	3216	3351	3352	337F	3384	3399	3425	3504	3506
		3590	3609	3611	4002#									
CMOCHN	P00004	692#	2149	2203										
CMDO	• P02000	730#	2096	2097	2114	2119	2179	2184	2323	2324	2385	2386	2714	2716
		2745	2747	3356	3374	3579	3551	3552	3569	3570	3585	3587	361F	3612
CMOREJ	P00001	694#	1649	3361										
CMD,AD	P23112	3960	4201#	4265										
CMD,ST	P23152	3959	4222#	4274	4413									
CNTLC	• P00003	4701#	4706											
CONI	P01344	1045#												

CONO	721348	10408	3293	3323	3325	3357								
CONOB	701354	10548												
COUVT	722724	15330	15750	16760	17540	18280	18630	19440	23150	23770	27920	28890	29130	32250
		32360	41000											
CR	708019	3986	3972	4728	50718									
CRLF	727522	3739	50798											
CS	708004	7938												
CS10	708000	7830												
CS12	718000	7818												
CUADRS	722676	3736	48830	48280	48460	4348	4849	48918						
CUAR	701326	18290	19430	16850	16930	17830	17640	18290	18720	19570	28680	21580	22640	23190
		23370	23810	24880	24430	23680	25350	25580	26150	26360	26430	26580	26880	27890
		27310	27910	29990	28880	28160	28380	28880	28960	29850	29280	29290	29480	29920
		31190	32880	3287	3465	33820	36830	4525						
CUBSV	708488	7858												
CUCR	701338	18380	19440	16860	17650	18730	23380	24810	24440	24610	25360	25510	26890	27180
		28880	28890	28170	28310	28970	29860	29210	29380	29410	29530	31180		
CUDEAD	708028	6988	1994	1698	1778	1878	2885	2982	2926					
CUDX	708488	7618												
CUE	708042	8828	2824											
CUEVD	708048	7218	2839											
CUFBM	748088	6998	2241	2244	2276									
CUIS,G	717518	2474	2963	2712	35288									
CUIS,S	717588	1546	1688	1767	1875	2448	2538	2842	2833	2899	2923	3281	35158	
CUISE	717738	3818	39748											
CUOR	701334	18398												
CUSR	701332	18348	19840	28410	28420	2843	22880	24650	25590	26160	26440	26960	28240	31960
		3387	4928											
DAPA	738318	1756	1757	2384	2538	2794	2891	2915	58848					
DE	708084	8788	1122	1983	2288	2469	2559	2696	3196	4183	4884			
DELAY	716822	31438	3144											
DEV	722666	1541	1943	1596	1683	1685	1691	1693	1697	1783	1762	1764	1823	1829
		1878	1872	1951	1957	2059	2068	2092	2158	2151	2159	2174	2177	2284
		2263	2264	2317	2319	2335	2337	2379	2381	2398	2488	2441	2443	2458
		2468	2533	2535	2548	2558	2634	2636	2643	2648	2658	2686	2688	2782
		2787	2789	2724	2731	2738	2743	2791	2797	2799	2886	2888	2814	2816
		2828	2838	2876	28770	28860	2888	2894	2896	2983	2985	2911	29120	2918
		2928	2927	2929	29340	2938	2948	2946	29490	2958	2952	29580	3116	3119
		3288	3281	3286	3287	3341	3346	3439	3448	3465	3474	3479	3547	3579
		3583	3682	3684	3688	48490	4858	48888						
DEVGNT	722788	48810	48890	4818	48120	4851	48928							
DEVEND	708084	7248												
DEV,A	722672	2615	2783	2798	2877	2912	2947	48550	48530	42550	4856	48858	42680	
DFLY,C	723832	41548	4264											
DFLY,S	723872	41798	4273											
DOFLIN	708082	8738												
DONE	708288	7868	1598	1593	2497	2588	2586	2589	2642	2989	2992	3848	3843	3844
		3162	3183	4582										
DS	708288	7918												
DSCRSP	708082	7868												
DSY	701442	11818	1492	2165	2717	31890	31670	31710	3386	42630	4385	4418		
DSYADR	726888	1181	4263	47998										
DSYCNT	722716	41838												
DSY,SE	723756	3996	44898											

DS:1	227766	44120	44190												
DS:2	223774	44140	4416												
SYM	222222	36210	35220	3623											
DXBA	201374	10150	15340	16780	17570	19090	23240	23000	24300	25370	27040	29010	29150		
DXBASE	201262	10200	39700	42550	4515										
DXRC	201376	12160	15320	16770	17550	18040	23070	23040	24370	25290	27070	29070	29140		
DXCA	201276	10120	4524												
DXC	201314	10190	1990	2001	2034	2150	2101	3300	3434						
DXCS	201371	10130	15390	1536	15390	1797	15930	16790	17590	19000	19070	1901	19050	27130	
		2014	2046	20490	22010	22410	2244	2276	27050	23660	24390	24600	2497	25000	
		25310	25560	2506	25090	25270	26420	26400	26070	2715	27090	28250	28920	29160	
		2909	29920	3040	37400	3044	31120	3117	31270	3121	31620	31700	31740	31830	
		31000	37690	40240	44590	45020	45030								
DXDS	201274	10110	2930	2044	3316	3301	4916								
DXES	201372	10210	31690	37630	44530	47050	4406	4536							
DXES1	201324	10230	4519												
DXFI	201303	7120	1539	1868	2366	2439									
DXFC	201305	7130	1679	1750	2305	2531	2795	2002	2916						
DXFS	201307	7110	3769	4523											
DXFSY	201307	7140	1909	2049	2201	2400	2556	2627	2645	2697	2929	3100			
DXIS	201266	10200	31240	31730	30700	47010	42570								
DXIV	201264	10070	15520	24020	25710	31250	31720	39760	40670	42560					
DXMI	201312	10100	1110	1119	1551	1500	16020	1772	1707	1800	1801	1804	1933	1906	
		2050	2067	2000	2704	2700	2101	21250	2107	2170	2100	2105	2202	2250	
		2476	2479	2565	2568	2620	31640	32110	3319	3337	3360	3307	3522	3535	
		3539	3543	3556	4533										
DXMO	201312	10170	1114	15610	1562	15700	1571	17790	1709	17920	1791	17060	1707	18000	
		1801	18130	1814	1817	18000	1809	19150	1910	19210	1922	19250	1920	19300	
		1939	1942	19440	1945	19790	19890	1990	19960	20000	2009	20000	20040	20530	
		20630	2064	20710	2072	2070	20960	2007	21050	2106	2110	21140	2115	21160	
		21170	21210	21470	21550	21500	21570	21640	21040	21000	2192	21960	21900	22000	
		22100	22110	22150	22600	24000	22700	22710	2272	23230	23240	23050	23060	24480	
		24490	24500	24830	2485	24900	25400	25410	25720	2574	25790	27140	27160	27300	
		27390	27400	27410	27430	27440	27450	27460	27470	27480	27490	27030	27040	27050	
		27060	27090	27900	28410	28420	31000	31030	32020	32030	32070	32210	32230	32320	
		32340	32000	32920	32970	3298	33020	33240	33300	3331	3334	33500	33700	33740	
		3375	34030	3404	3407	34110	3412	34200	3421	34250	34390	34440	3445	34400	
		3449	34530	3454	34690	3472	34790	3400	34070	3405	3492	34960	3490	35020	
		3504	35200	3527	3531	35510	3552	35600	3561	3565	35690	3570	35790	35800	
		35010	35020	35030	35040	35050	35060	35070	35040	35050	35060	36040	36050	36060	
		36070	36080	36090	36100	36110	36120	36130	36140	37640	44000	4537			
DXMO3	201322	10220													
DXND	201316	10200													
DXOS	201302	10140	11330	44610	4462	4527									
DXPRY	201270	10090	3124	3173	38920	4701	42500								
DXPO	201320	7790													
D.NLV.	223440	4200	42910												
D.DXGA	223426	4255	42060												
D.DXIS	223442	4257	42920												
D.DXIV	223430	4256	42070												
D.DXPR	223432	4258	42000												
D.FIRS	223424	4254	42090												
D.LEGA	223436	4261	42900												
D.MAX.	223434	4259	42090												

AIC

E	207013	9240	9290	9380	9310	9320	9330	9340	9350	9360	9370	9380	9390
EC	207001	14760											
ECM	227462	4029	58750										
EMOD1	221122	3741	37430										
EMOD2	221136	3744	37460										
EMTABL	225532	9250	9290	9380	9310	9320	9330	9340	9350	9360	9370	9380	9390
EMTAG	225544	925	3050	36630									
EMTDEC	225442	955	36490										
EMTOK	225464	3654	36500										
ENDCC	210173	22150											
ENDC'.	220003	7800											
ENDSR	215442	2240	22700										
ENDSTR	201633	11590											
ENDTST	227453	4020	58750										
ENDTY	204000	14750	4303										
ENTRY1	215540	15260	15400	15940	16240	16490	16700	16820	16980	16960	17480	17610	17700
		18570	19690	18780	19500	20580	21490	22030	22520	22620	22970	23160	23340
		23780	23970	24310	24400	24570	24710	25010	25230	25320	25470	25600	25900
		26470	26770	26850	27030	27060	27230	27290	27770	27960	28090	28130	28270
		28000	28930	29020	29170	29260	29370	29490	30000	3071	30730	42470	
ENTRY2	215543	15410	15420	15950	15960	16030	16040	16910	16920	16970	17000	17020	17620
		17690	18230	18260	18280	18700	18710	18790	19510	19540	19560	20590	20610
		21520	22040	22050	22630	25650	23170	23180	23390	23360	23790	23800	23980
		24410	24420	24580	24590	25020	25330	25340	25400	25490	25910	26340	26350
		26490	26800	26870	27070	27080	27240	27270	27380	27970	27980	28060	28070
		28150	28200	28290	28940	28950	29030	29040	29180	29190	29270	29280	29380
		29500	29510	30790	3082	30840	31160	31170	42480				
ERFLG	221262	36700	36750	37070	3727	37710							
ERPC	227553	3717	58750										
ERRCHT	221314	37000	37910	39810	4031	42530							
ERRDST	225000	1160	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179
		1181	1182	1183	1187	1188	1189	1190	1191	1192	1193	1194	1195
		1197	1198	1199	1200	1201	1202	1206	1207	1208	1209	1210	1211
		1213	1214	1215	1216	1217	1218	1219	1220	1221	1225	1226	1227
		1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240
		1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256
		1258	1259	1263	1264	1465	1266	1267	1268	1269	1270	1271	1272
		1274	1275	1276	1277	1278	1282	1283	1284	1285	1286	1287	1288
		1290	1291	1292	1293	1494	1295	1296	1297	1301	1302	1303	1304
		1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1320
		1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333
		1335	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349
		1351	1352	1353	1354	1450	1359	1360	1361	1362	1363	1364	1365
		1367	1368	1369	1370	1371	1372	1373	1377	1378	1379	1380	1381
		1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1396	1397
		1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410
		1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426
		1428	1429	1430	1434	1435	1436	1437	1438	1439	1440	1441	1442
		1444	1445	1446	1447	1448	1449	1453	1454	1455	1456	1457	1458
		1460	1461	1462	1463	1464	1465	1466	1467	1468	4392	46110	
ERRLOP	221150	3740	37520										
ERROR	204000	9290	1110	1121	1124	1530	1553	1558	1564	1568	1573	1579	1582
		1777	1782	1789	1793	1799	1803	1810	1816	1819	1883	1887	1891
		1906	1911	1918	1924	1928	1935	1941	1947	1983	1988	1992	2000
													2003

	2086	2011	2016	2045	2049	2052	2056	2065	2069	2074	2079	2082	2086
	2090	2094	2099	2103	2108	2112	2107	2103	2109	2172	2176	2182	2187
	2194	2246	2258	2274	2278	2479	2481	2487	2499	2567	2572	2576	2588
	2638	2728	2837	2848	2847	2986	2991	3231	3242	3246	3119	3123	3138
	3283	3289	3295	3328	3329	3311	3319	3321	3327	3334	3336	3339	3343
	3349	3354	3359	3364	3368	3373	3377	3382	3389	3392	3486	3489	3414
	3423	3428	3442	3447	3451	3456	3462	3467	3472	3476	3482	3492	3494
	3508	3506	3524	3529	3533	3537	3541	3545	3549	3554	3559	3563	3567
	3572	3659	4464	4468	4483								
ENRSTN	21316	14830	15120	16110	16350	17130	18450	19660	20250	21320	22320	22890	23580
ES	P01030	24120	25100	26250	26610	27630	28560	29670	3679	3731	37920	48650	42520
ESE1:Y	P12326	8010	9290	9300	9310	9320	9330	9340	9350	9360	9370	9380	9390
ESE:O	P00100	2571	25860										
		6880	1596	1822	1958	2358	2283	2334	2397	2471	2521	2562	2598
		2827	2937	2949									2813
ESE1	P12376	2582	25960										
ESE2	P11710	2493	25870										
ETMPC	P20776	37190	37280	3722									
EXR,SH	P00001	20	9	653	3735	3747	3749	3751	4215	4252	4282	5875	
EXTR1	P21263	3768	37780										
E,R0	P21320	37890	3753	37970									
E,R1	P21322	37180	3754	37980									
E,R2	P21324	37110	3759	37990									
E,R3	P21326	37120	3750	38080									
E,R4	P21330	37130	3757	38210									
E,R5	P21332	37140	3758	38020									
PALSE	P15226	29860	4868										
FASTCU	P02000	7590											
FASTIS	P17732	2648	2852	35780									
FCY4	P00006	7180											
FIRST:	P22706	38430	39610	4862	48640	4869	48960	42510					
FISS1	P20044	3589	3591	35940									
FISS2	P20052	3593	35950										
FIVESE	P00001	48760											
FSVART	P27063	3828	58750										
GETHEX	P24406	3982	45570										
GO	P00001	7150	1539	1679	1868	2466	2556	3198					
H	P21372	38280	38210										
HEADER	P26474	3828	58720										
HERE	P00000	8590											
HEXVJM	P25018	3983	3984	3912	45570	45860	46210						
H10S,0	P17322	3459	34640										
H10,SU	P17166	2463	2553	2691	34340								
H10,0	P17404	3435	3463	34860									
H10,2	P17476	35870											
HLDO	P40000	7320	1996	2028	2871	2876	2105	2106	2116	2157	2208	2268	2748
		2789	3163	3282	3297	3298	3338	3334	3403	3487	3448	3449	3487
		3526	3531	3568	3561	3581	3594	3686					3488
		8870	3747										
HLVSA	P10000	3818	58750										
HOME	P27443	27230											
HTAG	P13234	4599	46240										
HTBL	P25022	6830											
IBMRST	P34000	14820	15110	16180	16340	16610	17120	18390	19650	20240	21310	22310	22880
ICOUNT	P20334												23490

210

IDV\	724056	24110	29190	26240	26670	27620	28550	29660	3631	36470									
IISW	724070	4423	4439	44420															
ILLC	700405	8910																	
INFESC	704000	8600	1647	4161															
INITB	701154	6020	603	2457	2547	2589													
INITC	701160	974	7010																
INITZ	701144	900	7020																
INTEL	700100	977	9790																
INTERR	715264	7070	3120	3121	3174	3029													
INTOK	700070	30010																	
INTPAS	715262	8720	2993	3002	3205	3166													
INTF	715232	29930	29960	3022	32050	31660													
INTREQ	700200	29890	3172																
IOD	700200	7010																	
IRR	705306	7620																	
IRR2	715274	3003	30060																
IRS	700001	30040																	
ISSCRJ	716702	7050																	
ISSREJ	700010	16430	10540	33620															
ISS.SU	716332	6910	2703	2805	2813	2830	3316												
		1409	1929	1627	1652	1673	1751	1807	2253	2327	2361	2434	2526	2607					
		2700	2073	2803	32790														
ISS1	717054	3400	34030																
ISS2	717106	3390	3402	34110															
ISS3	716572	3329	33370																
KEY.YO	704006	9350	3029	3925	3971	3983	4562	4633											
LEGAL	722726	3900	4002	4045	41110	42610	42620	4371	4422										
LESS1	701272	10180	1927	1625	1650	1971	1749	1850	2251	2290	2359	2432	2472	2524					
		2561	2670	2770	2871	2901	3767	38930											
LEVEL0	700000	8960																	
LEVEL1	700040	8970																	
LEVEL2	700100	8980																	
LEVEL3	700140	8990	1010																
LEVEL4	700200	9000	1009	3017	4200														
LEVEL5	700240	9010																	
LEVEL6	700300	9020																	
LEVEL7	700340	9030	940	949	952	955	958	960	1000	3013	3027	4452							
LF	700012	4700	50700																
LOCK0	700000	7570	1990																
LOGICA	722472	40400																	
LOPSW	740000	8000	3759																
LPC.YL	722340	2900	40000																
LPCSU	722314	40000																	
LPC1	722524	4004	4011	40400															
LPC2	722510	4014	40400																
LPC3	722564	4052	40550																
LPC4	722572	4054	40500																
LPC5	722502	4017	4030	40450															
MAPERR	704001	9300																	
MARK	723616	43600	4375																
MAX.DE	722710	39440	4010	4051	42970	42590	4394	4430											
MCCSW	700000	8920																	
MCLKEN	700002	7760	3763																
MCLKP	700001	7750																	

MC1,SM#	707000	20	9	144	344	693	1103	1149	3118	3588	4554	4622	5075	
MC2,SM#	707000	20	9	144	344	3118	3588	4313	4809	5050	5072	5075		
MDXX	722172	3937#	3938#	3939#	3940#									
MEM,SM#	707000	20	10	374	381	930	1003	1101	1476	3668	4313	4314	5075	
M1	707016	7980												
MISC	701346	10480	4537											
MO	707014	7970												
MONOFL	723172	3814	3932	3853	4246#									
MONITO	721334	995	3807#											
MON1	721550	3838	3853#											
MON1.0	721404	990	3132	3625	3823#	3842	3986	4404	4565	4636	4789			
MON1.1	722224	1001	3936	3965	3979#									
MON11	722256	992	3989	3991#										
MON12	722576	4059#												
MON13	722632	4063	4265#											
MON14	722654	4069#												
MON2	723336	4267#	4269											
MON2.0	723356	4272#	4270#											
MON2.1	723370	4275#	4277											
MON2.3	723422	4282#												
MON3	721576	3860	3963#											
MON4	721620	3869	3972#											
MON4.1	721656	3875	3881#											
MON5	722042	3926#	3931	4436										
MON5.1	722132	3945#												
MON6	721744	3884	3899#											
MON7	721754	3901#	3907	3918										
MON8	722136	3959#												
MON9	722152	3962#	3973											
MSG17	727332	3962	5079#											
MSG12	727344	3881	5079#											
MSG13	727371	3917	3930	5075#										
MSG2	727077	3863	5079#											
MSG26	727716	3734	5079#											
MSG28	727733	3872	5079#											
MSG3	727117	3926	5079#											
MSG31	727755	3968	5079#											
MSG35	727767	3729	5079#											
MSG36	730010	5079#												
MSG4	727160	3899	5079#											
MSG5	727141	3841	3854	5075#										
MSG6	727252	3901	5079#											
MSG7	727262	3902	5079#											
MSG9	727301	3961	5079#											
N	707000	1164#	1169	1184#	1203#	1222#	1241#	1260#	1279#	1298#	1317#	1336#	1355#	1374#
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		2227	2235#	2284	2292#	2345	2353#	2407	2415#	2511	2519#	2600	2608#	2656
		2664#	2750	2766#	2851	2859#	2962	2970#	5080#	5089	5090#	5091	5092#	5093
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PCM1	134010	9370																		
PCM2	134011	9380																		
PCM3	134012	9390																		
PER1	204464	1550	15920																	
PER10	204543	15990																		
PER11	204546	1522	1599	16220																
PERRPC	221136	3716	3720	37470																
PEY3	204146	1521	15230																	
PEW	204344	15510	1570																	
PFAIL	201444	952	11110	1132																
PFLC	221610	1139	11490																	
PG2	223544	43490	4354																	
PG3	223556	4350	43530																	
PG4	223602	4356	43590																	
PG5	223613	4358	43610																	
PHASE0	200000	8050	822	823																
PHASE1	210000	8060	824	825																
PHASE2	220000	8070	826	827																
PHASE3	230000	8080	828	829																
PHASE4	240000	8090	830	831																
PHASE5	250000	8100	832	833																
PHASE6	260000	8110	834	835																
PHASE7	270000	8120	836	837																
PHS	274000	7580																		
PHS21	204000	8220																		
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PHS11	214000	8240																		
PHS12	210000	8250																		
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PHS41	244000	8300																		
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PHS51	254000	8320																		
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PHS61	264000	8340																		
PHS62	260000	8350																		
PHS71	274000	8360																		
PHS72	270000	8370																		
PNTSW	220000	8090																		
PRE1	224114	3766	4359	44510																
PRE10	224250	4451	44830																	
PRE1.1	224140	44500																		
PR1.1F	225544	4757	47630																	
PR1.1L	225532	47580	4772																	
PR1.1R	225466	3684	3689	3694	3723	3737	4032	47480												
PR1.1S	225476	3679	3732	47500																
PR1.12	225454	47440	4755	4773	4777															
PR1.13	225464	47460	47480	47500	47510	47670	4768	47710												
PRYE	225622	4753	47790																	
PRYV	223542	43470	43510	4355																
PRYV	204460	1549	15830																	
PS	177776	9200	9600	10000	11460	15270	16250	16500	16710	17490	18580	22510	22900	23590						

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PMRUP	70153.1	1113	11290											
RC0	705460	17720	1921											
RC1	705546	1784	17920											
RC2	705572	17950	18110											
RC3	705574	17960	1912											
RC4	705656	1805	19110											
RDW	727407	50750												
RDLAY	716024	2311	2329	2373	2398	31440								
RDXK	722070	39340	39350	3938										
READDC	707072	8650	1740	2152	2178	2183	2248	2299	2409	2521	2550	2775	2860	2878
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REGTY	701406	10760												
REG,SE	724372	3998	45140											
REG2	701356	10580												
REG1	701360	10590												
REG2	701362	10600												
REG3	701364	10610												
REG4	701366	10620												
REG5	701370	10630												
REG6	701372	10640												
REG7	701374	10650												
RELOD	721520	3821	39400											
REQ1	727000	7460	1980	2058	2267	2084	2020	3522	3539					
RESRES	724254	1134	1497	1504	2754	4454	4467	45070						
RETURN	720340	1147	14840	15130	16120	16300	16630	17140	18410	19670	20260	21330	22330	22900
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RSTPC	725450	47200	4738	47420										
RSTPSM	725452	47290	4737	47410										
RSTRC	104004	9330	1131											
RS,1	724312	45170	4520											
RTX	716020	9730	9790	982	31380									
RUBOUM	724514	4567	4573	45840	4598									
RUBOJT	725132	4638	4644	4646	46540									
R0	707070	9070	21650	21660	22130	27580	27510	27520	3700	37530	3837	3834	3837	3839
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R1	707071	9080	19490	1955	1956	19590	19560	1775	1778	18670	1804	1805	1807	19020
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		30990	3231	3303	33040	33050	33060	3307	3392	33930	3696	3710	37540	42050
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R2	707072	9090	19480	18660	1898	1899	19030	1904	1908	1909	1914	3012	30140	30160
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R3	707073	9100	14920	14950	14960	15030	27170	27210	27550	3712	37560	39000	39040	39190
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R4	0X000004	9110	3713	37570	39590	39780								
R5	0X700075	9120	3714	37580	45220	4544	4545	4549	4551	45520				
R6	0X700076	9140	1112	11300	36500	36510	36520	3653	36560	36570	36580	36590	3660	
S	00000001	14760												
SAVDEV	022723	28760	2980	29110	2934	29400	2950	41040						
SAVRG	0104273	9320	1111											
SAVR6	0010006	11120	1130	11480										
SBYTE	024362	4522	49430	4552										
SCALD	022773	41310	4372	4386										
SCARP	025633	47040	47090	4786	4791									
SCOPE	0104473	8410	1481	1510	1609	1633	1662	1711	1830	1904	2023	2137	2237	2287
		2340	2410	2914	2603	2059	2761	2854	2969					
SCOPEA	022326	3629	36300											
SCOPEB	022302	3627	36330											
SCOPEC	020210	950	36100											
SCOPEF	020336	36300	3631	36380	36410									
SCOPEG	022322	3632	36370											
SCOPEH	022246	3619	3624	36260										
SCP1	004024	1484	14890											
SCP12	006662	1967	19680											
SCP11	007106	2026	20270											
SCP12	007556	2133	21340											
SCP13	010222	2233	22340											
SCP14	010466	2290	22910											
SCP15	010746	2351	23520											
SCP16	011232	2413	24140											
SCP17	011736	2517	25180											
SCP2	004132	1513	15140											
SCP27	012424	2606	26070											
SCP21	012700	2602	26030											
SCP22	013510	2704	27050											
SCP23	014266	2857	28580											
SCP24	015222	2908	29090											
SCP3	004576	1612	16130											
SCP4	004662	1636	16370											
SCP5	004762	1663	16640											
SCP6	005272	1714	17150											
SCP7	006032	1841	18420											
SDAPG	023530	43430	4344	43570	43590									
SEL1	0040000	7450												
SELC	020000	7330	1114	1996	2020	2071	2072	2105	2117	2116	2157	2200	2260	2740
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SELRST	020000	0000	603	2262										
SEL,DO	015374	30390	3129											
SEL,IS	020070	30010												
SEL,X	015652	3047	31040											
SENRV1	015472	30660	3067	3070										
SENRV2	015532	30770	3078	3081										
SENSEC	007004	0670	1060	4160										
SES	017000	0900												
SETJP	016042	31010												
SM	000100	0010	3100	3167										
SOSIEN	000004	7770												

SP	*X227076	9150	9670	9760	9770	9810	9990	1146	15990	30040	30110	30120	3018	3719
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		37350	3738	37610	38120	38200	40300	4033	43120	4321	4342	43610	4407	44360
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SPACE	227520	50750												
SPAC4	227511	50750												
SPW	201436	10930	1133	42790	4378	4384	4461	4462						
SPW,SE	223623	3994	43700											
SP,2	223630	43740	4380											
SP,1	223666	43860	4400											
SP,2	223672	43870	4391											
SP,3	223714	4388	43940											
SP,4	223723	43950	43970											
SP,5	223722	43960	4390											
SP,6	223732	4393	43990											
SP,7	223754	4401	44050											
SP1	216102	31670												
SP2	216132	3169	31720											
SP4	216160	31760												
SR	177573	9220	990	3626	3628	3715	3725	3747	3759	4682	4752			
SRCC,7	222714	41020												
SRVI	202000	7510	1951	1966	1972	1987	1800	1801	1844	1933				
SRVO	201000	7390	1961	1962	1970	1971	1979	1987	1996	1997	1800	1801	1817	1800
		1809	1921	1922	1925	1920	1942	1944	1945	2117	2121	2196	2199	2210
		2211	2440	2450	2483	2505	2490	2547	2541	2572	2574	2579	2740	2740
		2841	2942	3203	3207	3221	3223	3252	3254	3411	3412	3420	3421	3595
		3596	3613	3614										
SSTAT	222712	1670	41010											
STAI	204000	7500	1119	2105	2202	2479	2560	3307						
STALL	227524	50750												
STAMPD	200100	7200	3460											
START	200200	9630												
STATUS	216162	1705	1831	1959	2340	2403	2819	2943	2955	31020				
STKSTA	200040	7000	1980	1981	2013	2014	2046	2710						
STKSTB	200072	6930	2703	2706										
SUPD	210000	7340	1790	1791	1813	1814	1915	1916	1939	1939	1989	1990	2000	2009
		2053	2054	2063	2064	2100	2192	2215	2267	2271	2272			
SVRPC	225406	47140	4723	47250										
SVRPSW	225410	47150	4722	47260										
SWR	177573	9210	3991											
SYNC	201000	7600	2004											
YSRST	210000	6010	603											
S1	215222	14060	19150	16140	16380	16650	17100	18430	19690	20280	21350	22350	22920	23530
		24150	25190	26080	26640	26600	28590	29720						
YDAY	223536	43450	43400	43530										
YDXBA	201416	10010												
YDXCA	201410	10700												
YDXCB	201424	10840												
YDXCS	201412	10790												
YDXDS	201406	10770												
YDXES	201433	10860												
YDXES1	201432	10870												
YDXMI	201422	10830												

YDXMC	781423	18820												
YDXND	781426	18850												
YDXJS	781414	18880												
YERPC	728566	15280	15450	15970	16260	16510	16720	16870	16940	17340	17580	17660	17710	18380
		18590	18740	18800	19580	23020	21530	22060	22520	22660	22990	23220	23390	23680
		23820	24020	24330	24450	24620	24730	25030	25250	25370	25520	25620	25920	26370
		26510	26790	26900	27110	27320	27790	28010	28180	28180	28320	28720	28820	29080
		29870	29220	29310	29420	29540	30720	3603						
YESTAB	728412	14700	14860	15150	16140	16300	16650	17160	18430	19690	20280	21350	22350	22920
		23530	24120	25190	26080	26640	27660	28590	29720					
YIMCIS	780010	7700	3169	4465	4466									
YIOC	780400	8630	1622	2722	4156									
YIO,IS	713326	2733	27370											
YIS,2	713450	27530												
YI,2	715720	3111	31160											
YKB	781400	18700	3020	3824	4666	4667	4783							
YKS	781376	18690	3618	38250	4664									
YMP	722664	48790												
YPB	781404	18720	46670	46940	47910									
YPS	781402	18710	4674	4692										
YRACER	184002	9310	3859	3863	3872	3883	3896							
YRAINT	715654	1525	1623	1648	1669	1747	1856	2140	2249	2296	2357	2438	2470	2522
		2559	2614	2676	2776	2869	2879	31880						
YRAVSE	716240	1695	2321	2383	2811	2908	2932	32150						
YRCM	730071	3681	58790											
YRCM1	730037	3676	58790											
YRC1	730171	3686	58790											
YRC2	730213	3691	58790											
YR,CUT	716330	3227	32390											
YR,REA	716250	32280	3226											
YR,WR1	716274	3217	32300	3237										
YSSF	780400	8160												
YSSFY	722722	41850												
YSTABL	728342	1476	36430	4867	4869									
YSY1	780400	14810	1486	3886	3642	4289								
YSY1C	786636	19640	1969											
YSY1CA	714306	2862	28660											
YSY1CB	714312	2864	28670											
YSY11	7807062	28230	2828											
YSY12	7807532	21300	2135											
YSY12C	715176	2866	29590											
YSY13	710176	22300	2239											
YSY14	710442	22870	2292											
YSY15	710722	23480	2353											
YSY16	711206	24100	2419											
YSY17	711712	25140	2519											
YSY2	784106	15100	1519											
YSY27	712400	26030	2608											
YSY21	712654	26590	2664											
YSY22	713464	27610	2766											
YSY23	714242	28540	2859											
YSY24	715176	29650	2970											
YSY3	784552	16090	1614											
YSY4	784636	16330	1638											

TSY5	#04736	166P0	1665															
TSY6	#05246	17110	1716															
TSY6A	#12736	2669	2572	26740														
TSY6B	#13452	2673	2734	27540														
TSY7	#06006	18380	1543															
TSY9.0	#13530	2777	27730															
TSY9.1	#13534	2772	27740															
TSY9.2	#14232	2773	28440															
TS1	#04000	8170	822	824	826	928	830	832	834	836								
TS2	#07000	8180	823	825	827	829	831	833	835	937								
TY	#01440	10970	2752	3013	3327	3595	3088	3093	4249	42800	42810	4301	4399	4584				
TYCA	#30262	3700	50790															
TYDS	#30235	3698	50790															
TYNDX	#01350	10490	2943	2752	3090													
TYRACE	#15640	3054	30900	42490	45040													
TYSHOU	#15650	30710	30820	31020	3693													
TYTNDX	#01434	10880																
TYWAS	#15646	30720	30810	31010	3688													
TYV	#X000005	9130	3677	36780	36800	3682	36830	36850	3689	36880	36900	3692	36930	36950				
		3721	37220	37240	3730	37310	37330	3735	37360	37380	4030	40310	40330	4082				
		46830	4684	4686	4688	4690	4694	46960	4699	46980	47000	47030	47590	47610				
		47630																
TYVFLG	#25204	4660	46730	4702	4790													
TYVI	#25624	3816	47030															
TYVIS	#25660	4707	47900															
TYZERO	#15340	30240	4472															
TYE1	#15354	30290	3033															
TY:CLR	#23444	3995	43000															
TY:TRA	#15432	1598	2904	2993	30510													
TY:T0	#15542	30800																
TY:T1	#15602	3087	30890															
TY:T2	#15612	30890	30910	30920	30930	3094												
TYPE	#000004	9100	1139	3676	3681	3086	3691	3698	3700	3717	3729	3734	3739	3742				
		3745	3810	3820	3828	3841	3854	3863	3872	3881	3899	3901	3917	3926				
		3930	3961	3962	3968	3982	4006	4020	4029	4403	4435	4584	4654	4777				
		4788																
Y.ACCE	#25030	934	46200															
Y:ERRO	#20720	929	37800															
Y:KEY:	#25152	935	46630															
Y:MAPE	#20554	930	30690															
Y:PAR1	#25524	936	43410															
Y:PCW1	#26400	937	50600															
Y:PCW2	#26424	938	50630															
Y:PCW3	#26450	939	50660															
Y:RSTR	#25412	933	47200															
Y:SAVR	#25350	932	47140															
Y:TRAC	#20570	931	36740															
UC	#000002	8790	1490	4185	4186	4187	4188	4189	4190	4191	4192	4193	4194	4195				
		4612	4613	4614	4615	4616	4617	4618	4619	4620	4621	4622	4623	4624				
		4812	4813	4814	4815	4816	4817	4818	4819	4820	4821	4822	4823	4824				
		4825	4826	4827	4828	4829	4830	4831	4832	4833	4834	4835	4836	4837				
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		4851	4852	4853	4854	4855	4856	4857	4858	4859	4860	4861	4862	4863				
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CROSS REFERENCE TABLE

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		4955	4956	4957	4958	4959	4960	4961	4962	4963	4964	4965	4966	4967
		4968	4969	4970	4971	4972	4973	4974	4975	4976	4977	4978	4979	4980
		4981	4982	4983	4984	4985	4986	4987	4988	4989	4990	4991	4992	4993
		4994	4995	4996	4997	4998	4999	5000	5001	5002	5003	5004	5005	5006
		5007	5008	5009	5010	5011	5012	5013	5014	5015	5016	5017	5018	5019
		5020	5021	5022	5023	5024	5025	5026	5027	5028	5029	5030	5031	5032
		5033	5034	5035	5036	5037	5038	5039	5040	5041	5042	5043	5044	5045
		5046	5047	5048	5049	5050	5051	5052	5053	5054	5055	5056	5057	
UCHECK=	000002	7250												
UCMKS =	002000	6040	1049											
UEXCEP=	000001	7260												
VLUMEX	022010	39130	39140	3915	3936									
W	000000	51210	5122	51230	5124	51250	5126	51270	5128	51290	5130	51310	5132	51330
		5134	51350	5136	51370	5138	51390	5140	51410	5142	51430	5144	51450	5146
		51470	5148	51490	5150	51510	5152	51530	51540	5155	51560	5157	51580	5159
		51600	5161	51620	5163	51640	5165	51660	5167	51680	5169	51700	5171	5172
		51730	5174	51750	5176	51770	5178	51790	5180	51810	5182	51830	5184	51850
		5186	51870	5188	51890	5190	51910	5192	51930	5194	51950	5196	51970	5198
		51990	5200	52010	5202	52030	5204	52050	5206	52070	5208	52090	5210	52110
		5212	52130	5214	52150	5216	52170	5218	52190	5220	52210	5222	52230	5224
		5225	52260	5227	52280	5229	52300	5231	52320	5233	52340	5235	52360	5237
		5238	52390	5240	52410	5242	52430	5244	52450	5246	52470	5248	52490	5250
		5251	52520	5253	52540	5255	52560	5257	52580	5259	52600	5261	52620	5263
		5264	52650	5266	52670	5268	52690	5270	52710	5272	52730	5274	52750	5276
		5277	52780	5279	52800	5281	52820	5283	52840	5285	52860	5287	52880	5289
		5290	52910	5292	52930	5294	52950	5296	52970	5298	52990	5300	53010	5302
		5303	53040	5305	53060									
		5307	53080	5309	53100	5311	53120	5313	53140	5315	53160	5317	53180	5319
		5320	53210	5322	53230	5324	53250	5326	53270	5328	53290	5330	53310	5332
		5333	53340	5335	53360	5337	53380	5339	53400	5341	53420	5343	53440	5345
		5346	53470	5348	53490	5350	53510	5352	53530	5354	53550	5356	53570	5358
WC0	006202	10780	1049											
WC02	006314	1093	10970											
WC1	006362	1000	10150											
WC2	006406	10200	10300											
WC3	006410	10210	1037											
WC4	006472	1030	10300											
WDATA	030710	1067	2370	4313	53540	5355								
WESEIN	011040	2402	24970											
WRITEC=	000001	0040	1524	1055	2356	2429	2075	4157						
X0A	000030	7090												
X1S	022004	3929	39330											
YESRYI	016010	9020	31370											
ZEROZY	015310	30100	4071											
ZYV1	015324	30150	3017											
.	030712	0750	9290	9300	9310	9320	9330	9340	9350	9360	9370	9380	9390	9400
		9400	9510	9540	9570	1010	9650	1117	1128	1123	11370	1130	11520	1159
		11000	14710	14730	1475	15000	15150	1520	1537	1545	1552	1557	1563	1567
		1572	1591	1597	16140	1620	16300	1651	16650	1672	1687	1694	1704	17100
		1750	1760	1771	1773	1770	1781	1788	1792	1798	1802	1809	1815	1818
		1830	18430	1859	1874	1880	1882	1886	1890	1895	1905	1910	1917	1923
		1927	1934	1940	1946	1950	19600	1982	1987	1991	1999	2002	2005	2010
		2015	20200	2044	2047	2051	2055	2062	2065	2068	2073	2077	2081	2085
		2089	2093	2098	2102	2107	2111	21350	2155	2159	2162	2168	2171	2175
		2181	2180	2193	2206	22390	2245	2252	2257	2260	2273	2277	22920	2299
		2320	2339	23530	2360	2382	2402	24150	2433	2445	2462	2473	2477	2480

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		2620#	2629	2637	2651	2664#	2679	2697	2711	2719	2737	2764#	2779	2781
		281P	2919	2832	2836	283V	284A	2852#	2872	2882	289#	2907	2922	2931
		2942	2954	2977#	2997	313P	3141	314#	325A	3262	329#	3114	3127	3207
		320A	3294	3299	3324	3312	3317	3327	3326	3332	3339	333A	3342	334#
		3393	3350	3363	3367	3372	3376	3381	3389	3391	342#	342#	3413	3422
		3427	3441	3446	3457	3459	3461	346A	3471	3475	3481	3489	3493	3499
		3525	3523	3528	3532	3536	3547	3544	3549	3551	3557	3562	356A	3571
		3544#	3665#	4463	4467	4227#	4665	4687	4717#	4749	4766	4769	4774	4795#
		4747#	4799	5261#	5264#	5267#	5282#	5357#						
.CAT	725334	4698	4725#											
.CRLE	725276	4691	4596#											
.IC	725214	949	4682#											
.IOE	725324	4681	4724#											
.MOE	725234	4684#	4595	4699	4721									
.QUES	727576	4584	4654	5275#										
.REST	725311	4689	4722#											
.SAV	725332	4682#	4723	4727#										
.TER	725314	4685	4687	4722#										
.TYPE	725346	4711#												

CROSS REFERENCE TABLE

ACPTM	2#	4554													
ACPTCH	2#	4627													
ASCICH	2#	4661													
CC	2#	2126													
CHECK	675#														
CHECKF	675#														
CINITM	2#	1476													
CLEAR	675#														
CLKCHK	675#														
CLOCK	675#														
CLRSUB	675#														
CONSTY	2#	2597													
COPYR1	2#	627													
CUBTST	2#	2756													
DBUFS	2#	5876													
DEFINE	675#	929	930	931	932	933	934	935	936	937	938	939			
DSYM	2#	4797													
DUMP	675#	3682	3687	3692	3721	3735	4137								
DXBITS	2#	676													
DXDCC	2#														
DXREG	2#	1783													
EDCDD	2#	3646													
EDEF	2#	924													
EDFF	2#														
EOYS	2#	2968													
ERCALL	675#	1117	1128	1123	1937	1552	1557	1563	1567	1572	1591	1773	1776	1781	1788
	1792	1798	1882	1889	1815	1818	1882	1886	1897	1899	1903	1918	1917	1923	1927
	1934	1948	1946	1982	1987	1991	1799	2082	2085	2018	2015	2044	2047	2051	2055
	2065	2068	2073	2077	2081	2085	2088	2093	2098	2102	2107	2111	2159	2162	2168
	2171	2175	2181	2186	2193	2245	2257	2273	2277	2479	2488	2486	2498	2566	2569
	2575	2587	2629	2719	2836	2839	2846	3037	3041	3045	3114	3127	3282	3288	3294
	3299	3304	3318	3317	3328	3326	3332	3335	3338	3342	3348	3353	3358	3362	3367
	3372	3376	3381	3388	3391	3405	3408	3413	3422	3429	3441	3446	3458	3455	3461
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	3553	3557	3562	3566	3571	4463	4467								
ERPGM	2#	3666													
ERSTOR	675#	3752													
ESAVE	675#	3789													
EXRMAC	2#	3837													
FASISS	2#	3575													
MIODAD	2#														
MIODAR	2#	2588													
MIODAW	2#	2485													
MIOTIO	2#	2654													
MYIOI	2#														
ILLCMD	2#	1629													
INTLEV	2#	2849													
INTSM	2#	2981													
LDNLK	675#														
LOAD	675#														
MACDEF	2#	675													
MISCDE	2#	839													
MMAC1	2#	5868													
MONMAC	2#	3883													

B14

[illegible]

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ASLP	4349	4353													
BEO	989	997	1115	1123	1521	1557	1567	1572	1649	1776	1788	1882	1889	1815	1816
	1425	1886	1895	1929	1918	1927	1934	1942	1946	1953	1999	2082	2085	201P	2015
	2044	2047	2P69	2889	2893	2102	2107	2111	2175	2181	2239	2273	2277	2454	2611
	2669	2701	2726	2778	2836	2846	2862	2864	3P83	3P37	3845	3P5A	3862	3869	388P
	3295	3111	3169	3282	3288	3317	3226	3329	3332	3339	3342	334A	3353	3363	3367
	3372	3376	3388	3391	348P	3482	3485	3488	3422	3427	3441	3459	3461	3466	3471
	3475	3481	3489	3493	3585	3518	3542	3548	3557	3562	3566	3571	3591	3593	3632
	3728	3741	3744	3748	376P	3838	356P	3869	3875	3884	3965	423A	4852	4388	4481
	4463	4567	4569	4571	4594	4638	4948	4642	468A	4687	4689	4691	4766	4769	
BGE	4P17														
RGY	4575	4646													
BWIS	4434														
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	2116	2121	2147	2164	2177	2183	2184	2199	2288	2211	2215	2268	2271	2324	2386
	245A	249P	258P	2541	2579	2589	2642	2716	2741	2743	2746	2747	2749	2751	2789
	279A	2842	2992	3889	3843	3188	3162	3163	3164	3166	3183	3282	3287	3223	3234
	3235	3324	3338	3346	337P	3374	3385	3483	3427	3425	3469	3479	3487	3582	356P
	3569	3582	3583	3586	3587	3594	3596	3683	3687	368A	3611	3612	3614	3622	3657
	3763	3892	3914	3948	4818	4318	4259	4375	4582	4576	4647	4669	4785		
BICB	1496														
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HALT	675	1125	3751	4478											
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ERRORS DETECTED: 0

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