

# DX11B

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

EP-DZDXG-C-DL  
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FICHE 1 OF 1

JUN 1978  
**digital**  
MADE IN USA

The image displays a grid of 120 punched cards, arranged in 10 rows and 12 columns. Each card contains a small, dense grid of characters, likely representing a diagnostic test or data set. The cards are dark with light-colored characters, and the grid is separated by white lines. The text on the cards is too small to read clearly, but it appears to be a structured format, possibly a table or a list of data points. The cards are arranged in a regular pattern, with a small gap between the 10th and 11th rows in the 12th column.

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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1. ABSTRACT

THE FUNCTION OF THE DX11B DIAGNOSTICS IS TO VERIFY THAT THE DX11B IMPLEMENTS THE FUNCTIONAL FLOW DIAGRAMS ILLUSTRATED IN THE DX11B 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 TT 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	SNAPSHOTPH, ?
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
863	MISCELLANEOUS DEFINITIONS
965	TRAP DEFINITIONS
1028	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
1697	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

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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	OCTAL DUMP ROUTINE
5113	MESSAGES
5121	DATA BUFFERS

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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 BX OVERLAY
- 3. DEC/X11 WITH BX 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

POP11 (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 V280A.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 =588

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.I.3 DEPRESS "START" KEY ON CONSOLE

4. STARTING PROCEDURE

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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 ITERATIONS
- 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 ACY11 OR DDP AND USES THE  
DEFAULT PARAMETERS

0.007 ENTRANCE TO DDY-11X VERSION V886A.007  
MAY START THE PROGRAM BY TYPE 20716  
<CR>, (MAINTENANCE CLOCK TESTS ONLY)

NOTICE! HE WHO USES 007 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-D2DXC-X0D (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 TYPED THE  
MONITOR WILL REJECT THE CHARACTER AND RETYPE THE STRING.

IF, IN RESPONSE TO THE STRING, THE OPERATOR TYPES AN "8" 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 HEX), 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 DXOS,  
-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 10(HEX) WHICH IS 00210020(2).  
THE DX11 CAN EMULATE UP TO 120(10) CONTROL  
UNITS WITH 1 DEVICE EACH OR 1 CONTROL UNIT WITH 120(10)  
DEVICES OR AS IS THE DEFAULT CASE 1 CONTROL UNIT WITH 10(10)  
DEVICES. THE ADRS1 AND RESPONSE WILL CONTINUE  
INDEFINITELY 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 INPJT 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.

NOTE!!! 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  
<SW13> 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

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,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;

!  
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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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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 (MAIN 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 <4R> 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 B01NNNNN  
.

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>	CLOSES 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	
*P	PROCEED
005640 001017044	
*P	PROCEED
006032 001017044	
*176204/000900	EXAMINE 0XCS
176206 /002000	EXAMINE 0X08
176210 /003000	EXAMINE 0X0A
*P	PROCEED
006504 001017044	
*	CONTROL C
D,P,S,N?	MONITOR MODE

6. ERRORS

TYPICALLY ERROR REPORTS TAKE THE FOLLOWING FORMAT.

ERROR PCI 017274  
ERROR IN TEST; 17  
CUADRS/MO; 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 "001NNNNNN", 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 BEJANNNNN 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,L, Y 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 OCCURED: 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 IRM

\*\*\*\*\*

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 & ADRECD.

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

!  
.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 .....

! REVISION BY W, ARMSTRONG

.SBTTL DYNAMIC SWITCH SETTINGS (SWN 01)

! DYNAMIC SWITCH REGISTER SETTINGS

!	SWR0	SIGNIFICANCE!
!	SET = ONE	
!	SW 10	"HALT ON ERROR"
!	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		

"USER CHANGE INFORMATION"  
"DUE TO REVISION APR 74"  
"PLEASE READ INFO BELOW"

NOTE1

AN OPERATOR RESPONSE OF "0" TO THE PROGRAM  
"TTY" REQUEST FOR "DEVICES PER CUI" IS NO  
LONGER DEFAULTED TO 20 (10 DECIMAL), I.E.

DEVICES PER CUI 0 "ILLEGAL ?"

THE HEADER "CU CHANNEL ADDRESS" USED ON ERROR  
OUTPUT HAS BEEN CHANGED TO "CUADRS/MOJ". I.E.  
IT SIGNIFIES EITHER THE CONTENTS OF THE "DXMO"  
REGISTER OR THE CONTROL UNIT BASE ADDRESS WHERE  
MEANINGFULL.

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..... MOD APR 74 .....

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IDXDS, DX DEVICE STATUS BITS

100020	PARER = 100000	!ERRORS
240000	NYM = 40000	!NONEXISTANT MEMORY REFERENCE
320000	SELRST = 20000	!IOM RESYS; SELECTIVE RESET
310000	SYSRST = 10000	! SYSTEM RESET
304000	INFOSC = 4000	! INTERFACE DISCONNECT
334000	!BMRST = SELRST;SYSRST;INFOSC	
002000	UCHKS = 200	!STATUS FLAGS
301000	CHENDS = 100	!CHANNEL END SENT
000400	BSYS = 400	!BUSY SENT
300200	CHIS = 400	!CHANNEL INITIATED SELECTION
000100	ESEND = 100	!ENDING STATUS END
300040	CHDEND = 40	!CH DATA END
300020	CUDEND = 20	!CU DATA END
300010	ISSREJ = 10	!ISS REJECT
300004	CHCHN = 4	!COMMAND CHAINING
300002	STKSTB = 2	!STACKED STATUS 0
300001	CHDREJ = 1	!COMMAND REJECT

IDXCS,DX CONTROL UNIT STATUS BITS

100000	PARSTP = 100000	!STOP ON BUS9 PARITY ERROR
240000	CUPBM = 40000	!SELECT FORCED BURST
320000	ENDEN = 20000	!CUEND
010000	CS12 = 10000	!NOT USED
304000	BSYEN = 4000	!ENABLE SET !CUBSY
302000	CS10 = 2000	!NOT USED
301000	ONLINE = 1000	!ONLINE A
000400	CUBSY = 400	!CU BUSY
000200	DONE = 200	!FUNCTION DONE
000100	INTEN = 100	!INTERRUPT
000040	STKSTA = 40	!STACKED STATUS
000030	XBA = 30	!EXTENDED BASE ADDRESS
000006	FCTN = 6	
000001	DXPRS = 1	!FCTN = 00
000003	DXPI = 3	!READ (INPUT)
000005	DXPO = 5	!WRITE (OUTPUT)
000007	DXPST = 7	!STATUS
300001	GO = 1	!BEGIN FUNCTION

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

300200	ATTEN = 200	!ATTENTION
300100	STAMOD = 100	!STATUS MODIFIER
300040	CUEND = 40	!CU END
300020	BSY = 20	!BUSY
300010	CHEND = 10	!CH END
300004	DEVEND = 4	!DEVICE END
300002	UCHECK = 2	!UNIT CHECK
300001	UEXCEP = 1	!UNIT EXCEPT

IDXMO DX MAINTENANCE-OUT BITS		
728		
729		
730		ISELECTION CONTROL LINES
731	100070	OPLO = 10000F
732	740070	HLDO = 40000
733	720070	SELO = 20022
734	710070	SUPO = 10000
735		
736		ITAG LINES
737	704070	ADRO = 400F
738	202000	CHDO = 2000
739	701070	SRVO = 100F
740	700470	PARO = 40F
741		
742		
743		ISELECTION CONTROL LINES
744	100070	OPLI = 100000
745	740070	SELI = 40000
746	720070	RECI = 20000
747		
748		ITAG LINES
749	710070	ADRI = 10000
750	704070	STAI = 4000
751	702070	SRVI = 2000
752	701070	CLKO = 1000
753	700470	PARI = 40F
754		
755		
756		
757	100070	LOCKO = 100000
758	774070	PHS = 7074000
759	702070	FASTCU = 2000
760	701070	SYNC = 1000
761	700470	CUDX = 400
762	700270	IOD = 200
763		
764		
765	700170	BYPAS = 10F
766	700040	NPRX = 40
767	700020	NPRY = 20
768	700010	HALF = 10
769	700074	ONLINB = 4
770	700002	ADRECC = 2
771	700001	ADRECD = 1
772		
773		
774		
775	700071	MCLKP=1
776	700002	MCLKEN=2
777	700004	SOSIEN=4
778	700010	TIMDIS=10
779	700020	DXTO=20
780	700040	NPRTO=40
781	700270	INTREQ=200

OPERATIONAL OUT  
 HOLD OUT  
 ISELECT OUT  
 ISUPPRESS OUT  
 IADDRESS OUT  
 ICOMMAND OUT  
 ISENVIC OUT  
 IPARITY OFF FOR BUS OUT  
 OPERATIONAL IN  
 ISELECT IN  
 IREQUEST IN  
 IADDRESS IN  
 ISTATUS IN  
 ISENVIC IN  
 IOK TO GO ONLINE (RB)  
 IBUSI PARITY (RB)  
 ILOCK OUT  
 IPHASE & STATE BITS  
 IFAST CU  
 ISYNCHRONIZATION  
 ICU DATA CONTROL  
 IINPUT OUTPUT DONE  
 INPR CONTROLS  
 IBYPASS  
 INPR CONTROL SWITCH  
 INPR TRANSFER DIRECTION  
 IBUFFERED ALTERNATOR FLOP  
 ION LINE TO IBM  
 IADDRESS RECOGNITION (CU)  
 IADDRESS RECOGNITION (DEVICE)  
 IMAINTENANCE CLOCK PULSE  
 IMAINT, CLK ENABLE  
 ISRVC=SRVI ENABLE  
 ITIMER(5 SEC) DISABLE  
 IDX TIMEOUT (5 SEC)  
 INPR TIMEOUT (8 MICROSEC)  
 INTERRUPY REQUEST

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030070  
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004070  
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014000  
010070  
024070  
020070  
034000  
030070  
044070  
040070  
054000  
050070  
064070  
060070

IDXES1 OX EXTRA EXTRA SIGNALS

IRS =1  
DSCRSP =2

JIRM RESET STORED  
DISCONNECT RESPONSE

IDEFINE REGISTER MAP INDICES

DS# 00  
CA# 02  
CS# 04  
OS# 06  
RA# 10  
BC# 12  
MO# 14  
MI# 16  
CB# 20  
ND# 22  
ES# 24

IPHASE CONTROL FLOPS OF OXCB

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

ITIME STATE FLOP AND STATE DEFINATION

YSSF=4000  
YS1=4000  
YS2=0000

IPHASE AND STATE DEFINITIONS

PH0010 PHASE01 YS1  
PH0020 PHASE01 YS2  
PH0110 PHASE11 YS1  
PH0120 PHASE11 YS2  
PH0210 PHASE21 YS1  
PH0220 PHASE21 YS2  
PH0310 PHASE31 YS1  
PH0320 PHASE31 YS2  
PH0410 PHASE41 YS1  
PH0420 PHASE41 YS2  
PH0510 PHASE51 YS1  
PH0520 PHASE51 YS2  
PH0610 PHASE61 YS1  
PH0620 PHASE61 YS2

836 7740F0  
 837 7780F0  
 838  
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 841 104400  
 842  
 843 1000F0  
 844 7400F0  
 845 7200F0  
 846 7100F0  
 847 704000  
 848 7020F0  
 849 7010F0  
 850 7004F0  
 851 7002F0  
 852 7001F0  
 853 700040  
 854 700020  
 855 700010  
 856 700004  
 857 700002  
 858 700001  
 859 700000  
 660  
 661  
 662  
 663 0004F0  
 664 0000F1  
 665 0000F2  
 666 0004F3  
 667 000004  
 668 0004F5  
 669  
 670  
 671  
 672 100000  
 673 0000F2  
 674  
 675  
 676  
 677 000010  
 678 000004  
 679 000002  
 680 0002F0  
 681 000100  
 682 000040  
 683 000020  
 684  
 685  
 686  
 687 100000  
 688 740020  
 689 020020

PH9710 PHASE71 TS1  
 PH9720 PHASE71 TS2

.SBTTL MISCELLANEOUS DEFINITIONS

SCOPE=TRAP                    ISCOPE LOOP TRAP

BIT15=100000  
 BIT14=400004  
 BIT13=200000  
 BIT12=100000  
 BIT11=400000  
 BIT10=200000  
 BIT9=100000  
 BIT8=400000  
 BIT7=200000  
 BIT6=100000  
 BIT5=400000  
 BIT4=200000  
 BIT3=100000  
 BIT2=400000  
 BIT1=200000  
 BIT0=100000  
 HERE=0

ICHANNEL COMMANDS WITH PARITY

YIOC=400                    ITEST I/O  
 WRITEC=001                IWRITE  
 READC=002                 IREAD  
 NOPC=403                 INOP  
 SENSEC=4                 ISENSE  
 ILLC=405                 IILLEGAL COMMAND

UTILITY FLAGS

INTOK=100000  
 DOPLIN=2                    ISPW BIT FOR NO DST !

ICHANNEL STATUS

CE=10                      ICH END  
 DE=4                       IDEVICE END  
 UC=2                       IUNIT CHECK  
 ATYN=200                 IATTENTION  
 SM=100                    ISTATUS MODIFIER  
 CUR=40                    ICU END  
 BSY=20                    IBUSY

ISWITCH DEFINITIONS

HLTSH=BIT15                IHALT ON ERROR  
 LOPSH=BIT14                ILOOP ON ERROR  
 PNTSH=BIT13                IINHIBIT PRINT

```

890      010070      SESW=BIT12      ISHORT ERROR SWITCH
891      204070      IISW=BIT11      IINHIBIT ITERATIONS
892      702070      MCCSW=BIT13      IMAINTENANCE CLOCK CONTROL
893
894      IPROCESSOR PRIORITY LEVELS
895
896      200020      LEVEL0= 000
897      700040      LEVEL1= 240
898      700100      LEVEL2= 100
899      700140      LEVEL3= 140
900      700200      LEVEL4= 200
901      000240      LEVEL5= 240
902      700300      LEVEL6= 300
903      200340      LEVEL7= 340
904
905      IREGISTER DEFINITIONS
906
907      700000      R0=X0
908      700001      R1=X1
909      700002      R2=X2
910      700003      R3=X3
911      200004      R4=X4
912      200005      R5=X5
913      700005      TTY=X9
914      000006      R6=X6
915      700006      SP=X6
916      200007      PC=X7
917
918      000004      TYPE=IOT
919      700240      NOP=240
920      177776      PS=177776
921      177570      SWR=177570
922      177570      SR=177570
923
924      700000      E=0
925      720574      EMPABLE=EMTAG
926
927      IEMT DEFINITIONS
928
929      701004      104070      ERROR
930      701006      104001      MAPERR
931      701010      104002      TRACER
932      701012      104003      SAVRG
933      701014      104004      RSTRG
934      701016      104005      ACCEPTO
935      701020      104006      KEY,TO,RR
936      701022      104007      PARITY
937      701024      104010      PCH1
938      701026      104011      PCH2
939      701030      104012      PCH3
940
941      .SBTYL TRAP DEFINITIONS
942
943      ITRAP INITIALIZATION
  
```

ISTACK POINTER  
 IPROGRAM COUNTER

IPROCESSOR STATUS

ISWITCH REGISTER

ITRAPS TO T,ERROR  
 ITRAPS TO T,MAPERR  
 ITRAPS TO T,TRACER  
 ITRAPS TO T,SAVRG  
 ITRAPS TO T,RSTRG  
 ITRAPS TO T,ACCEPTO  
 ITRAPS TO T,KEY,TO,RR  
 ITRAPS TO T,PARITY  
 ITRAPS TO T,PCH1  
 ITRAPS TO T,PCH2  
 ITRAPS TO T,PCH3

```

944
945          000014          ,=14
946 000014 010020 000340          0,BRK,LEVEL7          IBREAK TRAP
947
948          000020          ,=20
949 000020 020214 000340          ,IOT,LEVEL7          ITTY OJTOU7 TRAP,LEVEL 7
950
951          000024          ,=24
952 000024 001444 000340          PFAIL,LEVEL7          IPOWER FAIL TRAP
953
954          000030          ,=30
955 000030 020442 000340          EMYDECODER,LEVEL7          IEMT DECODER TRAP,LEVEL 7
956
957          000034          ,=34
958 000034 020210 000340          SCOPEC,LEVEL7          ISCOPE TRAP
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 012720 001100          BEGNI: MOV          000000,SP          ISET UP STACK POINTER
968 001104 012737 000340 177776          MOV          000000,PS          IPRIORITY LEVEL 7
969
970          I..... MOD APR 74 .....
971          I*          11/40,11/45 TRACE TRAP
972
973 001112 012737 000002 010020          MOV          02,RTX
974 001120 012737 001154 000010          MOV          01,IT0,0010
975 001126 012737 000340 000012          MOV          0340,0012
976 001134 005040          CLR          =(P)
977 001136 012740 001144          MOV          01,IT2,=(SP)
978 001142 000000          RTT
979 001144 012737 000006 010020          INITZ: MOV          06,RTX
980 001152 000402          BR          INITC
981 001154 062700 000010          INITB: ADD          01,SP
982 001160 013737 010020 010016          INITC: MOV          RTX,YESRTI
983 001166 012737 000012 000010          MOV          01,0010
984 001174 005037 000012          CLR          0012
985
986          I..... MOD APR 74 .....
987
988 001200 005737 000042          TST          0042          IACT11
989 001204 001404          BEQ          BGN0          IBR IF NO
990          I          JSR          PC,MONDFLT          IINSERT DEFAULT PARAMETERS
991 001206 005037 022000          CLR          00UNESHOT          IDO NOT EXECUTE TIME CONSUMING TESTS
992 001212 000137 022250          JMP          00MON11          I
993 001216 005327 000001          BGN0: DEC          01
994 001222 001002          RNE          BGN1
995 001224 000137 021334          JMP          00MONITOR
996 001230 032737 000200 177570          BGN1: BIT          02,SR          ITEST FOR FAST START
997 001236 001402          BEQ          BGN2          IBRANCH IF FAST START
  
```

998	#01240	000137	P21404		JMP	#M0N1,0	
999	#01244	212706	P01100		MOV	#B2GIN,SP	
1000	#01250	012737	P00340	177776	MOV	#LEVEL7,PS	
1001	#01256	000137	P22224		JMP	0070410	JUST PREVIOUS PARAMETERS
1002							
1003							
1004							
1005							
1006	#01262	176200			DXBASEI	176200	
1007	#01264	000300			DXIVI	300	IDX INTERRUPT VECTOR ADRS
1008	#01266	000302			DXISI	302	IDX INTERRUPT STATUS
1009	#01270	000200			DXPRI:	LEVEL4	IINT PRIORITY ADRS
1010	#01272	000140			LESS1:	LEVEL3	IDX PRIORITY MINUS ONE
1011	#01274	176200			DXDSI	176200	IDEVICE STATUS ->TY
1012	#01276	176202			DXCAI	176202	ICOMMAND AND ADDRESS ->TY
1013	#01300	176204			DXCSI	176204	ICONTROL UNIT STATUS
1014	#01302	176206			DXOSI	176206	IOFFSET AND STATUS
1015	#01304	176210			DXBAI	176210	IBUS ADDRESS FOR NPR'S
1016	#01306	176212			DXBCI	176212	IBYTE COJN?
1017	#01310	176214			DXMOI	176214	IMAINTEANCE OUT
1018	#01312	176216			DXMI:	176216	IMAINTEANCE IN
1019	#01314	176220			DXCBI	176220	ICONTROL BITS
1020	#01316	176222			DXNDI	176222	INPR DATA
1021	#01320	176224			DXESI	176224	IEXTRA SIGNALS
1022	#01322	176226			DXMOB:	176226	IMAINTEANCE OUT BUFFERED
1023	#01324	176230			DXESI:	176230	IEXTRA 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	IIBM BUS OUT
1040	#01340	176215			CONOI	176215	ICONTROL LINES OUT
1041							
1042							
1043							
1044	#01342	176216			BUSI:	176216	IIBM BUS IN
1045	#01344	176217			CONI:	176217	ICONTROL LINES IN
1046							
1047							
1048	#01346	176224			IDXES		IMISCELLANEOUS BITS
1049	#01350	176225			MISCI	176224	
1050					YTNDX:	176225	ITUMBLE TABLE INDEX REG
1051							



1252  
 1253 #01352 176226  
 1254 #01354 176227  
 1255  
 1256  
 1257  
 1258 #01356 177780  
 1259 #01360 177781  
 1260 #01362 177782  
 1261 #01364 177783  
 1262 #01366 177784  
 1263 #01370 177785  
 1264 #01372 177786  
 1265 #01374 177787  
 1266  
 1267  
 1268  
 1269 #01376 177560  
 1270 #01400 177562  
 1271 #01402 177564  
 1272 #01404 177566  
 1273  
 1274  
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 1276 #01406  
 1277 #01406 #00000  
 1278 #01410 #00000  
 1279 #01412 #00000  
 1280 #01414 #00000  
 1281 #01416 #00000  
 1282 #01420 #00000  
 1283 #01422 #00000  
 1284 #01424 #00000  
 1285 #01426 #00000  
 1286 #01430 #00000  
 1287 #01432 #00000  
 1288 #01434 #00000  
 1289  
 1290  
 1291  
 1292  
 1293 #01436 #02000  
 1294  
 1295  
 1296  
 1297 #01440 #03000  
 1298  
 1299  
 1300  
 1301 #01442 #26000  
 1302  
 1303  
 1304  
 1305

BUS00: 176226  
 CON00: 176227

IBUS OUT BUFFERED  
 ICONTROL OUT BUFFERED

IREGISTER ADDRESSES

REG01 177780  
 REG11 177781  
 REG21 177782  
 REG31 177783  
 REG41 177784  
 REG51 177785  
 REG61 177786  
 REG71 177787

ITTY ADDRESSES

TKS1 177560  
 TK01 177562  
 TFS1 177564  
 TP01 177566

IREGISTER TRACE TABLE

REGTY:   
 TOXDS: 0  
 TOXCA: 0  
 TOXCS: 0  
 TOXOS: 0  
 TOXBA: 0  
 TOXMO: 0  
 TOXMI: 0  
 TOXCB: 0  
 TOXND: 0  
 TOXES: 0  
 TOXES1: 0  
 TYTNDX: 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
IF 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 #OPLI,POXMI
BNE ,02 ;BRANCH IF NO ERROR CONDITION
ERROR
BIT #STAI,POXMI
BNE ,02 ;BRANCH IF NO ERROR CONDITION
ERROR
CMPB #CE,DE,OBUSI
BEQ ,02 ;BRANCH IF NO ERROR CONDITION
ERROR
HALT

IPOWER UP ROUTINE

PHRUP: NOP ;PATCH ANYONE?
MOV SAVR0,R6
RSTRG
MOV #PFAIL,24 ;RESTORE POWER FAIL VECTOR
MOV SPW,POXOS ;RESTORE OFFSET REG
JSR PC,RESRES ;RESET AND RESTORE
CLR (PC)+ ;INSTALL FOR MECHANICS
R
DEC ,02
BNE ,04
TYPE ,PFLD ;POWER FAILED

MOV (SP)+,PS
JMP #RETURN
SAVR0: 0
PFLD: ,ASCIZ "POWER FAILED"

,EVEN

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

```

1160 002000  
1161  
1162  
1163  
1164 000070

.02000  
IDEFAULT STATUS POINTER WORD (SPW)  
IDEFAULT EMULATION IS OF ONE CONTROL UNIT  
WITH CAPACITY OF 20 DEVICES  
N=0

!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

1222  
 1223 STATUS POINTER WORDS FOR CU 3

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

1241  
 1242 STATUS POINTER WORDS FOR CU 4

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

1260  
 1261 STATUS POINTER WORDS FOR CU 5

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

1281				
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

1298				
1299				
1300				
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

1317				
1318				
1319				
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





```

1478 | .....
1479 | ITEST 1 NO: COMMAND
1480 | .....
1481 | P04070 104470 | TST11 SCOPE
1482 | P04072 P12737 P00001 020334 | MOV #17001COUNT IITERATION COUNT
1483 | P04010 P12737 P00001 021316 | MOV #1700ERTSTN ISAVE TEST # FOR ERROR REPORT
1484 | P04016 P12737 P04024 020340 | MOV #SCP1,PURETURN 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 | NOPSTA1 R INOP STATUS
1495 | P04034 113763 P04032 P00003 | NOPC11 MOVB NOPSTA,J(R3) ILOAD NOP STATUS IN DSY
1496 | P04042 142763 P00002 P00003 | BICB #UC,J(R3) IDONT PRESENT UNIT CHECK
1497 | P04050 P04737 P24254 | JSR PC,RESRES IRESET AND RESTORE
1498 | P04054 P12737 P00403 022670 | MOV #NOPC,#OCMD 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 P00003 | MOVB #CEIDE,J(R3) IRESTORE CE DE
1504 | P04102 P04737 P24254 | JSR PC,RESRES IDX RESET AND RESTORE
1505 |
1506 |

```

```
1527 | .....  
1528 | ITEST 2 ST P ON PARITY ERROR  
1529 | .....  
1530 P041P6 104400 TSY21 SCPL  
1531 P04113 P12737 200010 020334 MOV #12,P0ICOUNT IITERATION COUNT  
1532 P04116 P12737 P00002 021316 MOV #2,P0EHTSTN ISAVE TEST # FOR ERROR REPORT  
1533 P04124 P12737 P04132 020340 MOV #SCP2,P0RETURN ISCOPE LOOP RETURN ADNS  
1534 P04132 SCP21  
1535  
1536  
1537 ITRANSMIT 4 BYTES USING AN IBM WRITE  
1538 ITHE FOURTH BYTE HAS HAD (EVEN) PARITY  
1539  
1520 P04132 P32737 P00002 022202 BIT #BIT1,P0PARA IDO NOT EXECUTE TEST IF BUSY  
1521 P04140 P01402 BEQ PETH IBRANCH IF NOT BUSY  
1522 P04142 P00137 P04540 JMP #PETH IEXIT IF BUSY  
1523 P04146 PETH1  
1524 P04146 P12737 P00001 022670 MOV #WRITEC,P0CMD ILOAD COMMAND  
1525 P04154 P04737 P19054 JSR PC0CONSTRAINT IIT TRACE TRACE INIT  
1526 P04160 P12737 P00200 P19500 MOV #CMH5,P0ENTRY1 ILOAD EXPECTED TT ENTRY 1  
1527 P04166 P13737 P01272 177776 MOV #0LESS1,PS ILOWER PROCESSOR STATUS  
1528 P04174 P12737 P04174 020506 MOV #,P0TERPC IORIGIN OF TRAP ERROR  
1529 P04202 P44737 P10332 JSR PC,ISS,SUB ISELECT  
1530  
1531  
1532 P042P6 P12777 177774 179072 MOV #04,P0XBC ILOAD BYTE COUNT  
1533 P04214 P12737 P00004 022724 MOV #4,COUNT ILOAD SOFTWARE COUNT  
1534 P04222 P12777 P31710 179054 MOV #NPRDAY,P0XBA ISPECIFY RECEIVE DATA AREA  
1535 P04230 P02777 100000 179042 BIS #PARSTP,P0XCS ISET STOP ON PARITY ERROR  
1536 P04236 P32777 100000 179034 BIT #PARSTP,P0XCS IVERIFY SET  
1537 P04244 P01001 BNE ,04 IBRANCH IF NO ERROR CONDITION  
1538 P04246 104000 ERROR IPRSTP NOT SET  
1539 P04250 P02777 P00003 179022 BIS #DXP1,GO,P0XCS IDX FUNCTION INPUT (WRITE) AND GO  
1540 P04256 P12737 P00200 P19500 MOV #CMH5,P0ENTRY1 ILOAD EXPECTED TT ENTRY 1  
1541 P04264 113737 P22066 P19540 MOV #0DEV,P0ENTRY2 ISECOND TT ENTRY = DXCA  
1542 P04272 113737 P22070 P19541 MOV #0CMD,P0ENTRY2+1 ;  
1543 P04300 113777 P22066 179020 MOV #0DEV,0CUAR ILOAD DEV ADNS  
1544 P04306 113777 P22070 179014 MOV #0CMD,0CUCR ILOAD COMMAND IN CUCR  
1545 P04314 P12737 P04314 020506 MOV #,P0TERPC IDEFINE ORIGIN OF TRACE ERROR  
1546 P04322 P04737 P17500 JSR PC,CUIS,SUB IEXECUTE SELECTION  
1547  
1548 P04326 P12702 P31710 MOV #NPRDAY,R2 IPOINT R2 TO SAME  
1549 P04332 P127P1 P04460 MOV #PRYD,R1 ILOAD SOURCE ADDRESS IN R1  
1550 P04336 P12777 P04464 174720 MOV #P0R1,P0XIV IPOINT INTERRUPT TO PARTIY ERROR  
1551 P04344 P32777 P02000 174740 PETH1 BIT #SRV1,P0XMI ISRV1 MUST BE UP  
1552 P04352 P01001 BNE ,04 IBRANCH IF NO ERROR CONDITION  
1553 P04354 104000 ERROR ISRV1 NOT SET  
1554  
1555 P04356 111177 174754 MOV #0R1,P0US0 ILOAD DATA BYTE  
1556 P04362 121177 174750 CHPB #0R1,P0US0  
1557 P04366 P01421 BEQ ,04 IBRANCH IF NO ERROR CONDITION  
1558 P04370 104020 ERROR IUSC LOAD ERROR  
1559 P04372 105221 INCB R1 IINC TO NEXT BYTE  
1560
```

```

1561 004374 752777 001000 174706      BIS      @SRVC,@DXMO      IRAISE SRVC
1562 004402 732777 001000 174720      BIT      @SRVC,@DXMO
1563 004410 001001      BNE      ,*3           IBRANCH IF NO ERROR CONDITION
1564 004412 104000      ERROR
1565
1566 004414 032777 002000 174670      BIT      @SRV1,@DXM1     ISRV1 MUST DROP
1567 004422 001401      BEQ      ,*4           IBRANCH IF NO ERROR CONDITION
1568 004424 104000      ERROR
1569
1570 004426 242777 001777 174694      BIC      @SRVC1777,@DXMO IDROP SRVC AND DATA
1571 004434 732777 001000 174666      BIT      @SRVC,@DXMO     IVERIFY SRV000
1572 004442 001401      BEQ      ,*3           IBRANCH IF NO ERROR CONDITION
1573 004444 104000      ERROR
1574
1575 004446 005337 022724      DEC      @BCOUNT        IDEC SOFTWARE BYTE COUNT
1576 004452 001334      BNE      PC4           IBRANCH IF MORE DATA
1577
1578 004454 000001      WAIT
1579 004456 104000      ERROR
1580
1581
1582
1583 004460      001      IPRYD1 ,BYTE 1      IODD PARITY DATA
1584 004461      002      ,BYTE 2      IODD PARITY DATA
1585 004462      004      ,BYTE 4      IODD PARITY DATA
1586 004463      003      ,BYTE 3      IODD PARITY DATA
1587
1588
1589
1590 004464 032777 000200 174606      PERI1   BIT      @DONE,@DXCS  ICHECK FOR FALSE INTERRUPT
1591 004472 001001      BNE      ,*4           IBRANCH IF NO ERROR CONDITION
1592 004474 104000      ERROR
1593 004476 242777 000200 174574      BIC      @DONE,@DXCS    ICLEAR DONE
1594 004504 012737 100000 015500      MOV      @PERI1,@ENTRY1  IIT ENTRY
1595 004512 112737 000003 015541      MOV      @3,@ENTRY2+1   ICUR
1596 004520 113737 022666 015540      MOV      @@DEV,@ENTRY2  ICUR
1597 004526 012737 004526 020506      MOV      @,@ENTERPC     IORIGIN OF TRACE ERROR
1598 004534 004737 015432      JSR      PC??,TRACE
1599 004540 012716 004546      PERI0   MOV      @PERI1,@SP  IFAKE RETURN PC
1600 004544 000002      RTI
1601
1602 004546 005077 174540      PERI1   CLR      @DXM1     IDESELECT
1603
1604
1605

```

```
1676 | .....  
1677 | TEST 3 TEST I/O COMMAND  
1678 | .....  
1679 #04552 104450 YS31 SCOPE  
1610 #04554 712737 700200 020334 MOV #200,00ICOUNT ITERATION COUNT  
1611 #04562 712737 7000P3 021316 MOV #3,00ERTSTN ISAVE TEST # FOR ERROR REPORT  
1612 #04570 712737 704576 020340 MOV #SCP3,00RETURN ISCOPE LOOP RETURN ADRS  
1613 #04576 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 #04576 712737 000400 022670 MOV #YT0C,00CMD ILOAD COMMAND  
1623 #04604 704737 715654 JSR PC00TRAIINT IYT TRACE TRACE INIT  
1624 004010 712737 700200 019500 MOV #CH18,00ENTRY1 ILOAD EXPECTED YT ENTRY 1  
1625 004016 713737 001272 177776 MOV #0HESS1,PS ILOWER PROCESSOR STATUS  
1626 004024 712737 004024 020566 MOV #,00YTERPC IORIGIN OF TRAP ERROR  
1627 004032 704737 016332 JSR PC1ISS,SUB ISELECT  
1628  
1629
```

```

1630 | .....
1631 |TEST 4 ILLEGAL COMMAND
1632 | .....
1633 704636 104470 TS941 SCOPE
1634 704640 712737 000200 020334 MOV 0200,00ICOUNT IITERATION COUNT
1635 004646 712737 000004 021316 MOV 04,00ERTSTN ISAVE TEST 0 FOR ERROR REPORT
1636 004654 712737 004662 020340 MOV 0SCP4,00RETURN ISCOPE LOOP RETURN ADRS
1637 704662 SCP41
1638
1639 ,REM 0
1640 THE FUNCTION OF THIS TEST IS TO VERIFY THE DX11 RESPONDS CORRECTLY
1641 TO AN ILLEGAL COMMAND (I.E; PRESENTS UNIT CHECK),
1642 0
1643 704662 042737 000400 016702 BIC 0400,ISSCRJ IILLC PRESENTS UNIT CHECK STATUS
1644 ITHIS CAUSES CMDREJ
1645 IHEREFORE CHANGE ISS DIAGNOSTIC
1646 ITO LOOK FOR CMDREJ UP
1647 704670 712737 000405 022670 MOV 0ILLC,00CMD ILOAD COMMAND
1648 704676 004737 015654 JSR PC,00TRAIIV ITR TRACE TRACE INIT
1649 704702 712737 002201 019900 MOV 0UCHKSICHIS;CMDREJ,00ENTRVS ILOAD EXPECTED TR ENTRY 1
1650 704710 713737 001272 177776 MOV 00LESS1,PS ILOWER PROCESSOR STATUS
1651 704716 712737 004716 020506 MOV 0,00TERPC IORIGIN OF TRAP ERROR
1652 004724 004737 010332 JSR PC;ISS,SUB ISELECT
1653
1654 704730 052737 000400 016702 BIS 0400,ISSCRJ IRESTORE ISS TO LOOK FOR NOT CMDREJ
1655
1656

```

```
1657 | .....  
1658 | ITEST 5 SENSE COMMAND  
1659 | .....  
1660 | TS951 SCOPE  
1661 | #04736 104400 #00200 020334 MOV #200,#0ICOUNT IITERATION COUNT  
1662 | #04740 #12737 #00000 021316 MOV #0,#0ERTSYN ISAVE TEST # FOR ERROR REPORT  
1663 | #04746 #12737 #004762 020340 MOV #SCP0,#0RETURN ISCOPE LOOP RETURN ADMS  
1664 | #04762 SCP51  
1665 |  
1666 |  
1667 |  
1668 | #04762 #12737 #000004 022670 MOV #SENSEC,#0CMD ILOAD COMMAND  
1669 | #04770 #04737 #15054 JSR PC#0TRAIT IYT TRACE TRACE INIT  
1670 | #04774 #12737 #000200 019500 MOV #CHIS,#0ENTRY1 ILOAD EXPECTED TT ENTRY 1  
1671 | #05002 #13737 #001272 177776 MOV #LESS1,PS ILOWER PROCESSOR STATUS  
1672 | #05010 #12737 #005010 020566 MOV #,#00TERPC IORIGIN OF TRAP ERROR  
1673 | #05016 #04737 #10332 JSR PC;ISS,SUB ISELECT  
1674 |  
1675 |  
1676 | #05022 #12737 #000001 022724 MOV #1,COUNT IINIT SOFTWARE BYTE COUNTER  
1677 | #05030 #12777 177777 174290 MOV #,#,DXBC ISET UP DX BYTE COUNT  
1678 | #05036 #12777 022712 174240 MOV #STAT,#DXBA IDX BASE ADDRESS  
1679 | #05044 #02777 #000005 174226 BIS #D FO;GO,#DXCS IFUNCTION OUTPUT & GO  
1680 | ISERVICE-IN SHOULD RISE AND  
1681 | I(SSYAT) SHOULD BE ON BUS-IN  
1682 | #05052 #12737 #000200 019500 MOV #CHIS,#0ENTRY1 ILOAD EXPECTED TT ENTRY 1  
1683 | #05060 113737 022666 019540 MOV #DEV,#0ENTRY2 ISECOND TT ENTRY = DXCA  
1684 | #05066 113737 022670 019541 MOV #CMD,#0ENTRY2+1 I  
1685 | #05074 113777 022666 174224 MOV #DEV,#CUAR ILOAD DEV ADRS  
1686 | #05102 113777 022670 174220 MOV #CMD,#CUCR ILOAD COMMAND IN CUCR  
1687 | #05110 #12737 #005110 020566 MOV #,#,00TERPC IDEFINE ORIGIN OF TRACE ERROR  
1688 | #05116 #04737 #17500 JSR PC;CUI,S,SUB IEXECUTE SELECTION  
1689 |  
1690 | #05122 #12737 #000020 019500 MOV #CJEND,#0ENTRY1 ILOAD EXPECTED TT ENTRY 1  
1691 | #05130 113737 022666 019540 MOV #DEV,#0ENTRY2 ISECOND TT ENTRY = DXCA  
1692 | #05136 112737 #000001 019541 MOV #1,#0ENTRY2+1 ICUCR OF DXCA TT ENTRY  
1693 | #05144 113777 022666 174194 MOV #DEV,#CUAR ILOAD DEV ADRS  
1694 | #05152 #12737 #005152 020566 MOV #,#,00TERPC IDEFINE ORIGIN OF TRACE ERROR  
1695 | #05160 #04737 #16240 JSR PC;TRANSFER IDO TRANSFER IF REQUIRED  
1696 | #05164 #12737 #001100 019500 MOV #CHENDS;SEND,#0ENTRY1 ILOAD EXPECTED TT ENTRY 1  
1697 | #05172 113737 022666 019540 MOV #DEV,#0ENTRY2 ISECOND TT ENTRY = DXCA  
1698 | #05200 #32737 #000004 022202 BIT #BIT2,#PARA ITEST FOR MUX  
1699 | #05206 #01404 BEO 15 IOR IF SELECTOR  
1700 | #05210 112737 #000000 019541 MOV #0,#0ENTRY2+1 IINDEX TT CUCR  
1701 | #05216 #00403 BR 25 IGO  
1702 | #05220 112737 #000001 019541 15I MOV #1,#0ENTRY2+1 ICUCR OF DXCA TT ENTRY  
1703 | #05226 113777 022666 174072 25I MOV #DEV,#CUAR ILOAD DEV ADRS  
1704 | #05234 #12737 #005234 020566 MOV #,#,00TERPC IDEFINE ORIGIN OF TRACE ERROR  
1705 | #05242 #04737 #10162 JSR PC;STATUSPRESENTATION IPRESENT STATUS  
1706 |  
1707 |
```

1708  
 1709  
 1710  
 1711 P05246 104400  
 1712 P05250 012737 P00100 020334  
 1713 P05256 012737 P00000 021316  
 1714 P05264 012737 P05272 020340  
 1715 P05272  
 1716  
 1717  
 1718  
 1719  
 1720  
 1721  
 1722  
 1723  
 1724  
 1725  
 1726  
 1727  
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 1734  
 1735  
 1736  
 1737  
 1738  
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 1741  
 1742  
 1743  
 1744  
 1745  
 1746 005272 012737 000002 022670  
 1747 005300 004737 015054  
 1748 005304 012737 000200 019500  
 1749 005312 013737 001272 177776  
 1750 005320 012737 005320 020506  
 1751 005326 004737 016332  
 1752  
 1753  
 1754 005332 012737 000400 022724  
 1755 005340 012777 177400 173740  
 1756 005346 012701 030310  
 1757 005352 012777 030310 173724  
 1758 005360 052777 000005 173712  
 1759  
 1760  
 1761 P05366 012737 000200 019500

```

) .....
ITEST 0 READ COMMAND (PDP OUTPUT)
) .....
TS961 SCOPE
      MOV #100,00ICOUNT ;ITERATION COUNT
      MOV #0,00ERTSTN ;SAVE TEST # FOR ERROR REPORT
      MOV #51P0,00RETURN ;SCOPE LOOP RETURN ADDR
SCP61
  
```

.REM \*

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 SIMULATOR 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 (DXDB 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 TTXD 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 UPDATED 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 RATTILING SRV0. NO DATA TRANSFER SHOULD TAKE PLACE IF SUPD IS RAISED AFTER THE FIRST BYTE.

```

*
MOV #READC,00CHD ;LOAD COMMAND
JSR PC,00TRANT ;TT TRACE TRACE INIT
MOV #SCHIS,00ENTRY1 ;LOAD EXPECTED TT ENTRY 1
MOV #0LESS1,PS ;LOWER PROCESSOR STATUS
MOV #,100TERPC ;ORIGIN OF TRAP ERROR
JSR PC,ISS,SUB ;SELECT

MOV #256,,COUNT ;SOFTWARE BYTE COUNT
MOV #0750,,0DXBC ;DX BYTE COUNT
MOV #DATA,R1 ;BASE ADRS OF TEST DATA
MOV #D:TA,0DXBA ;FLOAT 1'S, 0'S OUTPUT DATA
BIS #DXFO,0DXCB ;FUNCTION OUTPUT AND GO
;SERVICE-IN SHOULD RAISE AND
;DATA SHOULD BE ON BUS-IN
MOV #SCHIS,00ENTRY1 ;LOAD EXPECTED TT ENTRY 1
  
```

1762	#05374	113737	P22060	019540		MOV	#DEV,#ENTRY2	ISECOND TT ENTRY = DXCA
1763	#05402	113737	P22070	019541		MOV	#CMD,#ENTRY2+1	
1764	#05410	113777	P22060	173710		MOV	#DEV,#CUAR	ILOAD DEV ADRS
1765	#05416	113777	P22070	173784		MOV	#CMD,#CUCR	ILOAD COMMAND IN CUCR
1766	#05424	012737	005424	020506		MOV	#,T#TERPC	IDEFINE ORIGIN OF TRACE ERROR
1767	#05432	004737	017500			JSR	PC:CUIS,SUB	IEXECUTE SELECTION
1768								
1769	#05436	112737	P00001	019541		MOV	#T#ENTRY2+1	
1770	#05444	012737	000020	019500		MOV	#CUDEND,#ENTRY+1	ILOAD TT ENTRY
1771	#05452	012737	005452	020506		MOV	#,T#TERPC	IREAD DONE TT TRACE ERROR PC
1772	#05460	032777	P02000	173624	RC0:	BIT	#SRV1,#DXM1	IWAIT FOR SERVICE=IN
1773	#05466	001001				BNE	,+4	I BRANCH IF NO ERROR CONDITION
1774	#05470	104000				ERROR		ISRV1 NOT SET
1775	#05472	127711	173644			CMPS	#BUS1,#R1	ICHECK DATA TRANSMITTED TO 300
1776	#05476	001401				REQ	,+1	I BRANCH 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,#DXM0	
1780	#05512	032777	001000	173570		BIT	#SRV0,#DXM0	
1781	#05520	001001				BNE	,+4	I BRANCH 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	001000				BNE	RC1	
1785								WHEN ON MUX CH DPL1 WILL DROP WHEN TRANSMISSION IS FINISHED
1786								THIS WILL CAUSE DXM1 TO BE UNREADABLE
1787	#05534	032777	002000	173590		BIT	#SRV1,#DXM1	ISERVICE=IN SHOULD DROP
1788	#05542	001401				REQ	,+2	I BRANCH IF NO ERROR CONDITION
1789	#05544	104000				ERROR		ISRV1 STJCK HIGH
1790	#05546	052777	010000	173534	RC1:	BIS	#SUPO,#DXM0	ISSET SUPPRESS=OUT
1791	#05554	032777	010000	173526		BIT	#SUPO,#DXM0	IVERIFY SUPO SET
1792	#05562	001001				BNE	,+4	I BRANCH IF NO ERROR CONDITION
1793	#05564	104000				ERROR		ISUPO NOT SET
1794	#05566	012727	000010			MOV	#12,(PC)+	ISRV0 COUNT
1795	#05572	000000			RC2:	0		ISRV0 COUNT
1796	#05574	052777	001000	173506	RC3:	BIS	#SRV0,#DXM0	IKEEP SRV0 CHANGING
1797	#05602	032777	001000	173500		BIT	#SRV0,#DXM0	IVERIFY SRV0 SET
1798	#05610	001001				BNE	,+4	I BRANCH IF NO ERROR CONDITION
1799	#05612	104000				ERROR		ISRV0 DID NOT SET
1800	#05614	042777	001000	173406		BIC	#SRV0,#DXM0	I " " "
1801	#05622	032777	001000	173400		BIT	#SRV0,#DXM0	IVERIFY SRV0 CLEAR
1802	#05630	001401				REQ	,+	I BRANCH 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	001000				BNE	RC4	
1806								WHEN ON MUX CH DPL1 WILL DROP WHEN TRANSMISSION IS FINISHED
1807								THIS WILL CAUSE DXM1 TO BE UNREADABLE
1808	#05644	032777	002000	173440		BIT	#SRV1,#DXM1	ISUPO SHOULD SUPPRESS SRV1 SETTING
1809	#05652	001401				REQ	,+2	I BRANCH IF NO ERROR CONDITION
1810	#05654	104000				ERROR		ISRV1 WAS NOT SUPPRESSED BY SUPO
1811	#05656	005337	005572		RC4:	DEC	RC2	IDEC SRV0 COUNT
1812	#05662	001344				BNE	RC2	I BRANCH IF SRV0 NOT DONE
1813	#05664	042777	010000	173416		BIC	#SUPO,#DXM0	IDROP SUPPRESS=OUT
1814	#05672	032777	010000	173410		BIT	#SUPO,#DXM0	IVERIFY SUPO CLEAR
1815	#05700	001401				REQ	,+1	I BRANCH IF NO ERROR CONDITION



1816	735772	184878				ERROR		IS.MO STJCK HIGH
1817	735774	732777	781888	173376		RIF	#SRVO,POX40	
1818	735712	781471				REC	.+1	IBRANCH IF NO ERROR CONDITION
1819	735714	184858				ERROR		ISRV0 STJCK HIGH
1820	735716	785337	722724			DEC	COJNT	
1821	735722	781256				BVE	RC	
1822	735774	312737	781128	819928		MOV	#CHLND5,ISEN7,00ENTRY1	ILOAD EXPECTED TT ENTRY 1
1823	735772	113737	222666	819948		MOVB	#DEV,00ENTRY2	ISFCND TT ENTRY = DXCA
1824	735743	732737	888324	822262		BIF	#BIT2,00PARA	ITEST FOR MUX
1825	735746	781474				REQ	15	IBR IF SELECTOR
1826	735753	112737	788828	719941		MOVB	#0,00ENTRY2+1	IMUX TT CUCR
1827	735756	788453				BR	25	IGO
1828	735763	112737	888821	819941	151	MOVB	#1,00ENTRY2+1	ICUCR OF DXCA TT ENTRY
1829	735766	113777	722666	173332	251	MOVB	#DEV,00CUAR	ILOAD DEV ADRS
1830	735774	712737	785774	822566		MOV	#,100TENPC	IDFINE ORIGIN OF TRACE ERROR
1831	786072	784737	716162			JSR	PC(STATUSPRESENTATION	IPRESENT STATUS
1832								
1833								
1834								

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1835 | .....
1836 | TEST 7 WRITE COMMAND (POP INPUT)
1837 | .....
1838 | #06006 104400 TS971 SCOPE
1839 | #06010 212737 #00100 020334 MOV #100,#COUNT IITERATION COUNT
1840 | #06016 212737 #00007 021316 MOV #7,#LRTSTN ISAVE TEST # FOR ERROR REPORT
1841 | #06024 212737 #00032 020340 MOV #SCP7,#RETURN ISCOPE LOOP RETURN ADRS
1842 | #06032 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 HEAD TEST IN THAT THE TRANSFER IS 256 BYTES,
1850 | TT TRACING IS DONE AND SUPPRESS DATA IS ALSO CHECKED, TT DIFFERS
1851 | IN THE DIRECTION AND TYPE OF DATA,
1852 |
1853 | *
1854 |
1855 | #06032 212737 #00001 022670 MOV #WRITEC,#CMD ILOAD COMMAND
1856 | #06040 #004737 #015654 JSR PC,#CONSTRAINT IYT TRACE TRACE INIT
1857 | #06044 #012737 #000200 #019500 MOV #CRIS,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
1858 | #06052 #013737 #001272 177776 MOV #LESS1,PS ILOWER PROCESSOR STATUS
1859 | #06060 #012737 #000060 #020506 MOV #,#INTERPC IORIGIN OF TRAP ERROR
1860 | #06066 #004737 #010332 JSR PC,ISS,SUB ISELECT
1861 |
1862 |
1863 | #06072 #012737 #000400 #022724 MOV #256, COUNT ISOFTWARE COUNTER
1864 | #06100 #012777 177400 173200 MOV #250, #DXBC IDX BYTE COUNT
1865 | #06106 #012777 #031710 173170 MOV #NPRDATA, #DXBA IADRS FOR DATA FROM 360 SIM
1866 | #06114 #012702 #031710 MOV #NPRDATA, R2 IINPUT FILE FOR NPR DATA
1867 | #06120 #012701 #030710 MOV #HEATA, R1 IWRITE DATA FOR 360 SIM
1868 | #06124 #052777 #000003 173146 BIS #DAP1,GO, #DXCS IFUNCTION INPUT # 00 (360 WRITE)
1869 | #06132 #012737 #000200 #019500 MOV #CRIS, #ENTRY1 ILOAD EXPECTED TT ENTRY 1
1870 | #06140 #113737 #022066 #019540 MOV #DEV, #ENTRY2 ISECOND TT ENTRY = DXCA
1871 | #06146 #113737 #022670 #019541 MOV #CMD, #ENTRY2+1 I
1872 | #06154 #113777 #022066 173144 MOV #DEV, #CUAR ILOAD DEV ADRS
1873 | #06162 #113777 #022670 173140 MOV #CMD, #CUCR ILOAD COMMAND IN CUCR
1874 | #06170 #012737 #006170 #020506 MOV #,#INTERPC IDEFINE ORIGIN OF TRACE ERROR
1875 | #06176 #004737 #017500 JSR PC,CUIS,SUB IEXECUTE SELECTION
1876 |
1877 |
1878 | #06202 #012737 #000020 #019500 MCB1 MOV #CUCR, #ENTRY1 IYT ENTRY 1
1879 | #06210 #112737 177777 #019541 MOV #1, #ENTRY2+1 IFAKE CUCR OF ENTRY 2
1880 | #06216 #012737 #006216 #020506 MOV #,#INTERPC IWRITE TRACE ERROR
1881 | #06224 #032777 #002000 173000 BIT #SRV1, #DXM1 IWAIT FOR SERVICE-IN
1882 | #06232 #001001 BNE ., IBRANCH IF NO ERROR CONDITION
1883 | #06234 104000 ERROR ISRV1 NOT SET
1884 | #06236 #051177 173074 BIS #R1, #BUSO IPUT DATA ON BUS-OUT
1885 | #06242 121177 173070 CMPB #R1, #BUSO IVERIFY LOAD
1886 | #06246 #001401 BEO ., IBRANCH IF NO ERROR CONDITION
1887 | #06250 104000 ERROR IBUSO INTO MEMORY DATA TRANSFER ERROR
1888 | #06252 #052777 #001000 173030 BIS #SRV0, #DXM0

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1889	#06260	032777	001000	173022		BIT	#SRVO,0DXMO	
1890	#06266	001001				BNE	,04	IBRANCH IF NO ERROR CONDITION
1891	#06270	104000				ERROR		ISRVO NOT SET
1892	#06272	032737	000004	022202		BIT	#BIT2,PARA	ICAN'T LOOK AT SRV! ON MUX CH
1893	#06300	001005				BNE	WCPB	
1894	#06302	032777	002000	173022		BIT	#SHV1,0DXM!	
1895	#06310	001401				BEO	,07	IBRANCH IF NO ERROR CONDITION
1896	#06312	104000				ERROR		ISRV! DID NOT DROP
1897	#06314	005721			WC001	TSY	(R1)+	
1898	#06316	105722				TSYB	(R1)+	
1899	#06320	032702	000001			BIT	#BIT0,R2	ITEST FOR EVEN BOUNDARY
1900	#06324	001010				BNE	WC1	
1901								
1902	#06326	162701	000004			SUB	#4,R1	
1903	#06332	162702	000002			SUB	#2,R2	
1904	#06336	121112				CHPB	#R1,#R2	IVERIFY 1ST DATA BYTE TRANSFER
1905	#06340	001401				BEO	,05	IBRANCH IF NO ERROR CONDITION
1906	#06342	104000				ERROR		IBUSC INTO MEMORY DATA TRANSFER ERROR
1907	#06344	005721				TSY	(R1)+	
1908	#06346	105722				TSYB	(R1)+	
1909	#06350	121112				CHPB	#R1,#R2	IVERIFY 2ND BYTE TRANSFER
1910	#06352	001401				BEO	,04	IBRANCH IF NO ERROR CONDITION
1911	#06354	104000				ERROR		ISECOND DATA BYTE INTO MEMORY
1912								
1913	#06356	005721				TSY	(R1)+	
1914	#06360	105722				TSYB	(R2)+	
1915	#06362	032777	010000	172720	WC11	BIS	#SUPO,0DXMO	ISUPP SUPPRESS=OUT
1916	#06370	032777	010000	172712		BIT	#SUPO,0DXMO	IVERIFY SUPO SET
1917	#06376	001001				BNE	,01	IBRANCH IF NO ERROR CONDITION
1918	#06400	104000				ERROR		ISUPC NOT SET
1919	#06402	012727	000010			MOV	#10,(PC)+	ISRVO COUNT
1920	#06406	000000			WC21	B		ISRVO COUNT
1921	#06410	032777	001000	172672	WC31	BIS	#SRVO,0DXMO	IKEEP SRVO CHANGING
1922	#06416	032777	001000	172664		BIT	#SRVO,0DXMO	IVERIFY SRVO SET
1923	#06424	001001				BNE	,04	IBRANCH IF NO ERROR CONDITION
1924	#06426	104000				ERROR		ISRVC DID NOT SET
1925	#06430	042777	001000	172692		BIC	#SRVO,0DXMO	ICLEAR SRVO
1926	#06436	032777	001000	172644		BIT	#SRVO,0DXMO	IVERIFY SRVO CLEAR
1927	#06444	001401				BEO	,02	IBRANCH IF NO ERROR CONDITION
1928	#06446	104000				ERROR		ISRVC NOT 0
1929	#06450	032737	000004	022202		BIT	#BIT2,PARA	ITEST FOR MUX MODE
1930	#06456	001005				BNE	WC1	
1931								WHEN ON MUX CH OPLI WILL DROP WHEN TRANSMISSION IS FINISHED
1932								ITMIS WILL CAUSE DXM! TO BE UNREADABLE
1933	#06462	032777	002000	172624		BIT	#SHV1,0DXM!	ISUPO SHOULD SUPPRESS SRV! SETTING
1934	#06466	001401				BEO	,03	IBRANCH IF NO ERROR CONDITION
1935	#06470	104000				ERROR		ISRV! WAS NOT SUPPRESSED BY SUPO
1936	#06472	005337	006406		WC41	DEC	WC2	IDEC SRVO COUNT
1937	#06476	001344				BNE	WC3	IBRANCH IF SRVO NOT DONE
1938	#06500	042777	010000	172602		BIC	#SUPO,0DXMO	IDROP SUPPRESS=OUT
1939	#06506	032777	010000	172574		BIT	#SUPO,0DXMO	IVERIFY SUPO CLEAR
1940	#06514	001401				BEO	,07	IBRANCH IF NO ERROR CONDITION
1941	#06516	104000				ERROR		ISUPC STJCK HIGH
1942	#06520	032777	001000	172502		BIT	#SRVO,0DXMO	

1943											
1944	P06526	742777	P01777	172554		BIC	@SRV0,1777,@DXMO		JCLR SRV0 AND BUS0@PARITY		
1945	P06534	732777	P01800	172546		BIT	@SRV0,@DXMO				
1946	P06542	001401				BEQ	.00		JBRANCH IF NO ERROR CONDITION		
1947	P06544	104000				ERROR			JSRV0 D19 NOT DROP		
1948	P06546	P05337	P22724			DEC	COUNT				
1949	P06552	P01213				BNE	MC?				
1950	P06554	P12737	P01100	P13520		MOV	@CHENUS;ESND,@ENTRY1		ILOAD EXPECTED TT ENTRY 1		
1951	P06562	113737	P22666	P13540		MOVB	@DEV,@ENTRY2		ISECOND TT ENTRY = DXCA		
1952	P06570	732737	P00004	P22202		BIT	@BIT2,@PARA		IYES? FOR MUX		
1953	P06576	001400				BEQ	15		IOR IF SELECTOR		
1954	P06600	112737	P00000	P13541		MOVB	@0,@ENTRY2+1		IMUX TT CUCR		
1955	P06606	000423				BR	25		IGO		
1956	P06610	112737	177777	P13541	181	MOVB	@01,@ENTRY2+1		ICUCR OF DXCA TT ENTRY		
1957	P06616	113777	P22666	172522	281	MOVB	@DEV,@CUAR		ILOAD DEV ADRS		
1958	P06624	P12737	P06624	P20506		MOV	@,@TERPC		IDFINE ORIGIN OF TRACE ERROR		
1959	P06632	P04737	P16162			JSR	PC,STATUSPRESENTATION		JPRESENT STATUS		
1960											

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1961 I .....
1962 ITEST 10 SU PRESS SUPPRESSABLE STATUS(ASYNC)
1963 I .....
1964 P06636 104470 TSY101 SCOPE
1965 P06640 012737 000010 020334 MOV #10,#COUNT IITERATION COUNT
1966 P06646 012737 000010 021316 MOV #11,#ERTSYN ISAVE TEST # FOR ERROR REPORT
1967 P06654 012737 006662 020340 MOV #SCP10,#RETURN ISCOPE LOOP RETURN ADRS
1968 P06662 SCP12:
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 (I,R, CMDD IN RESPONSE TO STA) OR IF THE PROGRAMMER
1975 INDICATES THE STATUS IS SUPPRESSABLE BY SETTING STACK=STATUS=A;
1976
1977 *
1978
1979 P06662 042777 077777 172420 BIC #77777,#DXMO ICLEAR BUSOBT AND TAGS
1980 P06670 052777 000040 172402 BIS #STKSTA,#DXCS IINDICATE STATUS IS SUPPRESSABLE
1981 P06676 032777 000040 172374 BIY #S KSTA,#DXCS IVERIFY SET
1982 P06704 001001 BNE .+1 IBRANCH IF NO ERROR CONDITION
1983 P06706 104000 ERROR ISTKSTA NOT SET
1984 P06710 112777 000010 172414 MOVB #CE,#CUSR ISTATUS, NONSUPPRESSABLE UNLESS STACKED
1985 P06716 052777 000007 172394 BIS #DXFSY,#DXCS IATTEMPT TO PRESENT ASYNC STATUS
1986 P06724 032777 020000 172360 BIY #REQI,#DXMI IVERIFY REQI SET
1987 P06732 001001 BNE .+1 IBRANCH IF NO ERROR CONDITION
1988 P06734 104000 ERROR IREQI NOT SET
1989 P06736 052777 010000 172344 BIS #SUPO,#DXMO IRAISE SUPPRESS STATUS
1990 P06744 032777 010000 172336 BIY #SUPO,#DXMO I
1991 P06752 001001 BNE .+1 IBRANCH IF NO ERROR CONDITION
1992 P06754 104000 ERROR ISUPO NOT SET
1993 I BIY #REQI,#DXMI IVERIFY REQI DROPPED
1994 I ERCALL BE,<REQI DID NOT DROP>
1995
1996 P06756 052777 060000 172324 BIS #MLD0ISELO,#DXMO I SHOULD CAUSE SELECTION BYPAS
1997
1998 P06764 032777 100000 172322 BIY #LCKO,#DXCB IVERIFY NO SELECTION EVENTS
1999 P06772 001401 BEQ .+4 IBRANCH IF NO ERROR CONDITION
2000 P06774 104000 ERROR IOX SHOULD NOT SELECT
2001 P06776 032777 000100 172310 BIY #BYPAS,#DXCB INO SELECTION EVENTS
2002 P06780 001401 BEQ .+2 IBRANCH IF NO ERROR CONDITION
2003 P06786 104000 ERROR IILLEGAL SELECTION EVENT
2004 P06788 032777 001000 172276 BIY #SYNC,#DXCB INO SELECTION EVENTS
2005 P06786 001401 BEQ .+4 IBRANCH IF NO ERROR CONDITION
2006 P06788 104000 ERROR IILLEGAL SELECTION EVENT
2007
2008 P06782 042777 070000 172260 BIC #MLDCISELOISUPO,#DXMO
2009 P06780 032777 010000 172292 BIY #SUPO,#DXMO IVERIFY SUPO ZERO
2010 P06786 001401 BEQ .+ IBRANCH IF NO ERROR CONDITION
2011 P06788 104000 ERROR ISUPO STJCK HIGH
2012
2013 P06784 042777 000040 172230 BIC #STKSTA,#DXCS ICLEAR STACKED=STATUS=A
2014 P06782 032777 000040 172222 BIY #STKSTA,#DXCS IVERIFY CLEARED

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2215 P07056 101401  
2216 P07060 104070  
2217  
2218  
2219

DE0 ,04  
ERROR

IBRANCH IF NO ERROR CONDITION  
ISTKSTA STUCK HIGH

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2020 I .....
2021 ITEST 11 UNSUPPRESSABLE STATUS TEST
2022 I .....
2023 P07062 104450 TST111 SCOPE
2024 P07064 112737 P00010 020334 MOV 010,00ICOUNT IITERATION COUNT
2025 P07072 112737 P00011 021316 MOV 011,00ENTSTN ISAVE TEST # FOR ERROR REPORT
2026 P07100 012737 P07100 020340 MOV 0SCP11,00RETURN ISCOPE LOOP RETURN ADDR
2027 P07106
2028
2029 ,REM *
2030
2031 THE FUNCTION OF THIS TEST IS TO VERIFY THAT UNSUPPRESSABLE STATUS
2032 (I.E. UNSTACKED "CHANNEL END") CAN BE PRESENTED. THIS IS ACCOM-
2033 PLISHED BY PRESENTING ASYNCHRONOUS STATUS CONTAINING "CHANNEL END"
2034 WITH STACKED-STATUS=A NOT SET,
2035
2036 *
2037
2038
2039
2040 P07106 042777 077777 172174 BIC 077777,0DXMO ICLEAR DXMO
2041 P07114 105077 172212 CLRB 0CUSR IZERO STATUS REGISTER
2042 P07120 152777 000010 172204 BISR 0C0,0CUSR ISET "CHANNEL END" STATUS
2043 P07126 122777 000010 174176 CMPB 0C0,0CUSR IVERIFY STATUS SET
2044 P07134 001401 BEQ 003 IBRANCH IF NO ERROR CONDITION
2045 P07136 104000 ERROR ICUSR LOAD ERROR
2046 P07140 032777 000040 172132 BIT 0STKSTA,0DXCS IVERIFY NO STKSTA
2047 P07146 001401 BEQ 003 IBRANCH IF NO ERROR CONDITION
2048 P07150 104000 ERROR ISTKSTA STUCK HIGH?
2049 P07152 052777 000007 172120 BIS 0DXFST,0DXCS IPRESENT STATUS
2050 P07160 032777 020000 172124 BIT 0REQI,0DXMI IVERIFY REQI SET
2051 P07166 001001 BNE 004 IBRANCH IF NO ERROR CONDITION
2052 P07170 104000 ERROR IREQI NOT SET
2053 P07172 052777 010000 172110 BIS 0SUPO,0DXMO IRAISE SUPPRESS-OUT
2054 P07200 032777 010000 172102 BIT 0S PO,0DXMO IVERIFY SUPO SET
2055 P07206 001001 BNE 004 IBRANCH IF NO ERROR CONDITION
2056 P07210 104000 ERROR ISUPO NOT SET
2057
2058 P07212 112737 001100 019500 MOV 0CHENUSISEND,00ENTHY1 ITT ENTRY 01
2059 P07220 113737 022066 019540 MOVB 00REV,00ENTRY2 ITT ENTRY 02
2060 P07226 113777 022066 172072 MOVB 00REV,0CUAR
2061 P07234 112737 000000 019541 MOVB 00,00ENTRY2+1 IHIGH BYTE OF IT ENTRY 2
2062 P07242 112737 007242 020566 MOV 0,00TERPC IDEFINE ORIGIN OF TRACE ERROR
2063 P07250 042777 010000 172032 BIC 0SUPO,0DXMO IDROP SUPO
2064 P07256 032777 010000 172024 BIT 0SUPO,0DXMO
2065 P07264 001401 BEQ 003 IBRANCH IF NO ERROR CONDITION
2066 P07266 104000 ERROR ISUPO DID NOT DROP
2067 P07270 032777 020000 172014 BIT 0REQI,0DXMI ITEST FOR REQUEST-IN OP
2068 P07276 001001 BNE 003 IBRANCH IF NO ERROR CONDITION
2069 P07300 104000 ERROR IREQI NOT SET
2070
2071 P07302 052777 060000 172000 BIS 0SELOIMLDO,0DXMO ISET SELECT-OUT & HOLD-OUT
2072 P07310 032777 020000 171772 BIT 0SELO,0DXMO ITEST FOR SELECT-OUT
2073 P07316 001001 BNE 004 IBRANCH IF NO ERROR CONDITION
  
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2074	707320	104000			ERROR		ISELO NOT SET
2075							
2076	707322	732777	240000	171700	BIT	SHLO,DXMO	ITEST FOR HOLD-OUT
2077	707330	701001			BNE	,04	IBRANCH IF NO ERROR CONDITION
2078	707332	104000			ERROR		IMLO NOT SET
2079							
2080	707334	732777	100000	171750	BIT	IOPLI,DXMI	ITEST FOR OPERATIONAL-IN
2081	707342	701001			BNE	,04	IBRANCH IF NO ERROR CONDITION
2082	707344	104000			ERROR		IOPLI NOT SET
2083							
2084	707346	732777	220000	171730	BIT	IREGI,DXMI	ITEST FOR REGI
2085	707354	701401			BEO	,07	IBRANCH IF NO ERROR CONDITION
2086	707356	104000			ERROR		IREGI DID NOT DROP
2087							
2088	707360	732777	210000	171724	BIT	IADRI,DXMI	ITEST FOR ADDRESS IN
2089	707366	701001			BNE	,04	IBRANCH IF NO ERROR CONDITION
2090	707370	104000			ERROR		IADRI NOT SET
2091							
2092	707372	123777	222666	171742	CHPB	DEV,DMUSI	IADDRESS ON BUSI
2093	707400	701401			BEO	,04	IBRANCH IF NO ERROR CONDITION
2094	707402	104000			ERROR		IBUSI LOAD ERROR
2095							
2096	707404	752777	202000	171670	BIS	ICMDO,DXMO	ICOMMAND-OUT
2097	707412	732777	002000	171670	BIT	ICMDO,DXMO	
2098	707420	701001			BNE	,01	IBRANCH IF NO ERROR CONDITION
2099	707422	104000			ERROR		ICMDO DID NOT SET
2100							
2101	707424	732777	210000	171600	BIT	IADRI,DXMI	IADRI SHOULD DROP
2102	707432	701401			BEO	,04	IBRANCH IF NO ERROR CONDITION
2103	707434	104000			ERROR		IADRI DID NOT DROPS
2104							
2105	707436	742777	260000	171644	BIC	ISELO,IMLO,DXMO	
2106	707444	732777	240000	171636	BIT	SHLO,DXMO	ITEST HOLD-OUT
2107	707452	701401			BEO	,04	IBRANCH IF NO ERROR CONDITION
2108	707454	104000			ERROR		IMLO SET
2109							
2110	707456	732777	220000	171624	BIT	ISELO,DXMO	ITEST SELECT-OUT
2111	707464	701401			BEO	,04	IBRANCH IF NO ERROR CONDITION
2112	707466	104000			ERROR		ISELO SET
2113							
2114	707470	742777	202000	171612	BIC	ICMDO,DXMO	ICLEAR COMMAND-OUT
2115	707476	732777	202000	171604	BIT	ICMDO,DXMO	ITEST FOR CMDO CLEAR
2116	707504	742777	260000	171576	BIC	SHLO,ISELO,DXMO	IDROP SELOIMLO FOR NONZERO STATUS
2117	707512	752777	201000	171570	BIS	ISV0,DXMO	ISERVICE-OUT UP
2118							ISTATUS-IN SHOULD FALL
2119							
2120							
2121	707520	742777	201000	171502	BIC	ISV0,DXMO	IDROP SERVICE-OUT,
2122							ITHIS ENDS ES 00 ESEND INT SHOULD
2123							IBE UP AND CJSY CLEAR
2124							ICHECK FOR INTERRUPTS
2125	707526	705077	171500		CLR	DXMI ICLEAR DXMI	
2126							



```

2127 | .....
2128 | ITEST 12 COMMAND CHAINING
2129 | .....
2130 | YSP121 SCOPE
2131 | MOV #10,#COUNT ;ITERATION COUNT
2132 | MOV #14,#ERTSYN ;SAVE TEST # FOR ERROR REPORT
2133 | MOV #SCP12,#RETURN ;SCOPE LOOP RETURN ADRS
2134 | SCP121
2135 |
2136 | ,REM *
2137 |
2138 | THE FUNCTION OF THIS TEST IS TO VERIFY THAT THE DX11 CAN DETECT
2139 | COMMAND CHAINING. COMMAND CHAINING SHOULD BE INDICATED (CMOCHN
2140 | BIT SET IN DXDS TUMBLE TABLE ENTRY) IF SUPPRESS=OUT IS UP WHEN
2141 | SERVICE=OUT IS RAISED IN RESPONSE TO STATUS=IN. COMMAND CHAINING
2142 | MEANS THAT ANOTHER COMMENT FOR THE DEVICE IN OPERATION WILL IMME-
2143 | DIATELY FOLLOW THE PRESENTATION OF "DEVICE END".
2144 |
2145 | *
2146 |
2147 | BIC #77777,#DXMO ;ZERO DXMO
2148 | JSR PC#CONSTRAINT ;INIT TT TRACING
2149 | MOV #CHENDS;CMOCHNICHS,#ENTRY1 ;TT ENTRY #1
2150 | MOVB #DEV,#CVAR ;LOAD CVAR
2151 | MOVB #DEV,#ENTRY2 ;LOAD TT ENTRY #2 WITH
2152 | #READC,#ENTRY2+1 ;EXPECTED CONTENTS
2153 | MOV #,;ENTERPC ;DEFINE ORIGIN OF TRACE ERROR
2154 |
2155 | BIS #DEV,#DXMO ;PUT ADRS ON OUT-BUS
2156 | BIS #ADRO,#DXMO ;RAISE ADRS OUT
2157 | BIS #HLDD;SELO,#DXMO ;RAISE HOLD AND SELECT-OUT
2158 | BIT #ADRECC,#DXCB ;VERIFY CU ADRS RECOGNIZED
2159 | BNE ,+4 ;BRANCH IF NO ERROR CONDITION
2160 | ERROR ;ADRECC NOT SET
2161 | BIT #ADRECD,#DXCB ;VERIFY DEVICE ADRS RECOGNIZED
2162 | BNE ,+4 ;BRANCH IF NO ERROR CONDITION
2163 | ERROR ;ADRECD NOT SET
2164 | BIC #ADRO,#DXMO ;DROP ADRO
2165 | MOV #JUST,#R# ;LOAD ADRS OF DEVICE STATUS STABLE
2166 | MOVB #CE,Z(R#) ;LOAD CHANNEL=END IN DST
2167 | BIT #OPLI,#DXMI ;VERIFY CU SELECTED
2168 | BNE ,+1 ;BRANCH IF NO ERROR CONDITION
2169 | ERROR ;OPLI NOT SET
2170 | BIT #ADRI,#DXMI ;VERIFY ADDRESS-IN SET
2171 | BNE ,+1 ;BRANCH IF NO ERROR CONDITION
2172 | ERROR ;ADRI NOT SET
2173 |
2174 | CMPB #DEV,#BUSI ;VERIFY DEVICE ADRS ECHO
2175 | BEQ ,+4 ;BRANCH IF NO ERROR CONDITION
2176 | ERROR ;DEVICE ADRS NOT ECHOED
2177 | BIC #DEV,#BUSO ;REMOVE ADRS FROM BUSO
2178 | RIS #READC,#BUSO ;LOAD BUSO WITH COMMAND
2179 | BIS #CMDO,#BUSO ;RAISE COMMAND OUT
2180 | BIT #AXRI,#DXMI ;
  
```

2181	#1#002	001401			REQ	,+4		IBRANCH IF NO ERROR CONDITION
2182	#1#004	104000			ERROR			IADMI 715 NOT DROP
2183	#1#006	042777	000002	171322	BIC	#HEADC,0RUS0		IREMOVE COMMAND FROM BUS
2184	#1#014	042777	002000	171206	BIC	#CMD0,0DXM0		IDROP COMMAND-OUT
2185	#1#022	032777	004000	171202	BIT	#STAT,0DXM1		ISTAT SHOULD BE SET
2186	#1#030	001001			BNE	,+4		IBRANCH IF NO ERROR CONDITION
2187	#1#032	104000			ERROR			ISTAT NOT SET
2188	#1#034	032777	010000	171246	BIS	#SUPO,0DXM0		IRaise SUPPRESS-OUT
2189					WHEN SRVO IS SET IN RESPONSE TO STAT WHILE			
2190					ISUPO IS SET COMMAND CHAINING SHOULD BE INDICATED			
2191								
2192	#1#042	032777	010000	171240	BIT	#SUPO,0DXM0		IVERIFY SUPO SET
2193	#1#050	001001			BNE	,+4		IBRANCH IF NO ERROR CONDITION
2194	#1#052	104000			ERROR			ISUPO NOT SET
2195								
2196	#1#054	032777	001000	171226	BIS	#SRVO,0DXM0		IRaise SRVO
2197								ISTATUS-IN SHOULD
2198								
2199	#1#062	042777	001000	171220	BIC	#SRVO,0DXM0		IDROP SRVO
2200	#1#070	1 777	000004	171234	MOVB	#CE,0CUSR		ILOAD DEVICE END STATUS
2201	#1#076	032777	000007	171174	BIS	#DXFST,0DXCS		IPRESENT STATUS
2202	#1#104	032777	004000	171200	BIT	#STAT,0DXM1		ISTATUS-IN SHOULD BE SET
2203	#1#112	012737	000104	019500	MOV	#SENDICMDCHN,ENTRY1	IT9 ENTRY 1	
2204	#1#120	113737	022000	019540	MOVB	#0LEV,00ENTRY2	IT9 ENTRY 2	
2205	#1#126	112737	000002	019541	MOVB	#2100ENTRY2+1		
2206	#1#134	012737	010134	020506	MOV	#,00YERPC		IDEFINE ORIGIN
2207								
2208	#1#142	042777	060000	171140	BIC	#MLDOISELO,0DXM0		IDeselect
2209								
2210	#1#150	032777	001000	171132	BIS	#SRVO,0DXM0		IACCEPT LAST DATA BYTE
2211	#1#156	042777	001000	171124	BIC	#SRVO,0DXM0		
2212								
2213	#1#164	105000	000002		CLRB	2(10)		IRESTORE ZER0 STATUS
2214								
2215	#1#170	042777	010000	171112	ENDCC1	BIC	#SUPO,0DXM0	IDROP SRVO
2216								
2217					.REM	.		
2218								
2219					THE FUNCTION OF THIS TEST IS TO EXECUTE A SELECTIVE RESET AND VERIFY			
2220					THE DX11 RECORDS THIS EVENT (SELST SET IN DX09 TUMBLE TABLE ENTRY),			
2221					A SELECTIVE RESET IS INDICATED WHENEVER 'SUPPRESS-OUT' IS UP AND			
2222					'OPERATIONAL-OUT' DROPS,			
2223								
2224								
2225								
2226								

```

2227 | .....
2228 | TEST 13 SELECTIVE RESET
2229 | .....
2230 P10176 104400 *S131 SCOPE
2231 P10200 012737 000010 022334 MOV #10,00ICOUNT IITERATION COUNT
2232 P10206 012737 000013 021310 MOV #11,00ENTSTN ISAVE TEST # FOR ERROR REPORT
2233 P10214 012737 010222 020340 MOV #SCP13,00RETURN ISCOPE LOOP RETURN ADRS
2234 P10222 SCP131
2235
2236
2237
2238 P10222 032737 000002 022202 BIT #BIT1,00PARA INO PSVEN
2239 P10230 001402 BEQ 15 IOO FOR SELECTOR CW ONLY
2240 P10232 000137 010442 JMP 00ENDSR
2241 P10236 052777 040000 171034 181 BIS #CUFBM,0DXCS ISET CU FORCE BURST MODE
2242 IKEEP OPLI UP ON MUX
2243
2244 P10244 032777 040000 171026 BIT #CUFBM,0DXCS IVERIFY SET
2245 P10252 001071 BNE ,04 IBRANCH IF NO ERROR CONDITION
2246 P10254 104000 ERROR ICUFRM NOT SET
2247
2248 P10256 012737 000002 022670 MOV #READC,00CHD ILOAD COMMAND
2249 P10264 004737 015054 JSR PC,00TRNNT IYT TRACE TRACE INIT
2250 P10270 012737 000200 019500 MOV #CH18,00ENTRY1 ILOAD EXPECTED YT ENTRY 1
2251 P10276 013737 001272 177776 MOV #04ESS1,PS ILOWER PROCESSOR STATUS
2252 P10304 012737 010304 020506 MOV #,00TERPC IORIGIN OF TRAP ERROR
2253 P10312 004737 010332 JSR PC,ISS,SUB ISELECT
2254
2255
2256 P10316 032777 100000 170706 BIT #OPLI,0DXM1 IVERIFY CU SELECTED
2257 P10324 001001 BNE ,04 IBRANCH IF NO ERROR CONDITION
2258 P10326 104000 ERROR ICU SELECT ERROR
2259
2260 P10330 052777 010000 170792 BIS #SUPO,0DXM0 IRAISE SUPPRESS=OUT
2261
2262 P10336 012737 020000 019500 MOV #SELNST,00ENTRY1 IYT ENTRY 01
2263 P10344 113737 022000 019500 MOV #00EV,00ENTRY2 IYT ENTRY 02
2264 P10352 113777 022000 170746 MOV #00EV,0CUAR
2265 P10360 112737 000002 019501 MOV #2,00ENTRY2+1
2266 P10366 012737 010306 020506 MOV #,,00TERPC IDEFINE ORIGIN OF TRACE
2267
2268 P10374 042777 100000 170706 BIC #OPLDINHLD,0DXM0 IOROP OPERATION=OUT
2269 IOO SELECTIVE RESET
2270 P10402 052777 100000 170700 381 BIS #OPLD,0DXM0 I
2271 P10410 042777 010000 170672 BIC #SUPO,0DXM0 IRAISE SUPO
2272 P10416 032777 010000 170604 BIT #SUPO,0DXM0 I
2273 P10424 001401 BEQ ,07 IBRANCH IF NO ERROR CONDITION
2274 P10426 104000 ERROR ISUPO STJCK HIGH
2275
2276 P10430 032777 040000 170642 BIT #CUFBM,0DXCS IVERIFY SELNST CLEARED CUFBM
2277 P10436 001401 BEQ ,04 IBRANCH IF NO ERROR CONDITION
2278 P10440 104000 ERROR ICUFRM SET
2279 P10442 ENDSR1
2280

```

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

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2281  
2282  
2283

```
2284 | .....  
2285 | ITEST 14 I/ STOP DURING ACTIVE READ  
2286 | .....  
2287 R1P442 104400 TSY141 SCOPE  
2288 R1P444 R12737 000010 028334 MOV #10,#ICOUNT IITERATION COUNT  
2289 R1P452 R12737 000014 021316 MOV #14,#ERTSYN ISAVE TEST # FOR ERROR REPORT  
2290 R1P460 R12737 R10460 028340 MOV #SCP14,#RETURN ISCOPE LOOP RETURN ADDR  
2291 R1P466 SCP141  
2292  
2293  
2294  
2295 R1P466 R12737 000002 022670 MOV #HEADC,#CMD ILOAD COMMAND  
2296 R1P474 004737 015654 JSR PC#STRAINT IYT TRACE TRACE INIT  
2297 R1P500 R12737 000200 019500 MOV #CHIS,#ENTRY1 ILOAD EXPECTED YT ENTRY 1  
2298 R1P506 R13737 001272 177776 MOV #LESS1,PS ILOWER PROCESSOR STATUS  
2299 R1P514 R12737 R10514 020506 MOV #,#TERPC IORIGIN OF TRAP ERROR  
2300 R1P522 004737 R16332 JSR PC#ISS,SUB ISELECT  
2321  
2322  
2323 R1P526 R12777 177400 178592 MOV #250,#DXBC ISET UP DATA TRANSFER  
2324 R1P534 012777 R30310 178542 MOV #DATA,#DXBA IFOR OUTPUT  
2325 R1P542 252777 000005 178530 BIS #DXFO,#DXCS I  
2326  
2327 | .....?..... MOD APR 74 .....  
2328 | | TIMING  
2329 | | MOS,BIPOLAR RESPONSE MOD  
2330  
2331 R1P550 004737 R10024 JSR PC#RDLAY IDELAY FOR FAST BIPOLAR MEMORY  
2332  
2333 | .....?..... MOD APR 74 .....  
2334 R1P554 R12737 000001 022724 MOV #1,#COUNT ITRANSFER 1 BYTE  
2335 R1P562 R12737 000040 019500 MOV #CMDEND,#ENTRY1 ILOAD EXPECTED YT ENTRY 1  
2336 R1P570 113737 022660 019540 MOVB #DEV,#ENTRY2 ISECOND YT ENTRY = DXCA  
2337 R1P576 112737 000000 019541 MOVB #0,#ENTRY2+1 ICUR OF DXCA YT ENTRY  
2338 R1P604 113777 022660 178514 MOVB #DEV,#CUAR ILOAD DEV ADRS  
2339 R1P612 012737 010612 028506 MOV #,#TERPC IDEFINE ORIGIN OF TRACE ERROR  
2340 R1P620 004737 016240 JSR PC#TRANSFER IDO TRANSFER 1 BYTE  
2341 ISERVICE-IN UP AGAIN  
2342 IKILL WITH I/O STOP  
2343  
2344 R1P624 252777 002000 178456 BIS #CMD0,#DXMO I  
2345 R1P632 042777 R02000 178450 BIC #CMD0,#DXMO I  
2346  
2347 | .....?..... MOD APR 74 .....  
2348 | | TIMING  
2349 | | MOS,BIPOLAR RESPONSE MOD  
2350  
2351 R1P640 004737 010024 JSR PC#RDLAY IDELAY FOR FAST BIPOLAR MEMORY  
2352  
2353 | .....?..... MOD APR 74 .....  
2354 R1P644 112737 000000 022670 MOVB #0,#CMD IFAKE CUR YT ENTRY  
2355 R1P652 R12737 R01100 019500 MOV #CMENUSI#END,#ENTRY1 ILOAD EXPECTED YT ENTRY 1  
2356 R1P660 113737 022660 019540 MOVB #DEV,#ENTRY2 ISECOND YT ENTRY = DXCA  
2357 R1P666 113737 022670 019541 MOVB #CMD,#ENTRY2+1 I  
2358 R1P674 113777 022660 178424 MOVB #DEV,#CUAR ILOAD DEV ADRS
```

D2DXG.C (OFF LINE EXERCISER) UPDATE APRIL 74 W:A  
DXOFFL.P11 T14 I/O STOP DURING ACTIVE READ

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2338	71772	113777	722678	173428	MOVH
2339	71772	112737	717718	022556	MOV
2340	717716	704737	716162		JSR
2341					
2342					
2343					
2344					

08CMD,0CUCR	ILoad COMMAND IN CUCR
0,10TEMPC	DEFINE ORIGIN OF TRACE ERROR
PC:STATUSPRESENTATION	EXECUTE SELECTION

```
2345 | .....  
2346 |TEST 15 I/ STOP DURING WRITE  
2347 | .....  
2348 P1P722 104400 TST15: 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 P10740 020340 MOV #SCP15,0#RETURN ISCOPE LOOP RETURN ADRS  
2352 P1P740 SCP15:  
2353  
2354  
2355  
2356 P1P746 012737 000001 022670 MOV #WRITEC,0#CMD ILOAD COMMAND  
2357 P1P754 004737 P15654 JSR PC,0#TRANT IYT TRACE TRACE INIT  
2358 P1P760 012737 000200 019500 MOV #CHIS,0#ENTRY1 ILOAD EXPECTED YT ENTRY 1  
2359 P1P766 013737 001272 177776 MOV #%ESS1,PS ILOWER PROCESSOR STATUS  
2360 P1P774 012737 P10774 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 #DXF1,0DXCB I  
2367 | ..... MOD APR 74 .....  
2368 |  
2369 | TIMING  
2370 | MOS,BIPOLAR RESPONSE MOD  
2371 |  
2372 |  
2373 P11030 004737 016024 JSR PC,IDLAY IDELAY FOR FAST BIPOLAR MEMORY  
2374 |  
2375 | ..... MOD APR 74 .....  
2376 011034 012701 030710 MOV #WDATA,R1 IDATA DESTINATION  
2377 011040 012737 000001 022724 MOV #10,0#COUNT ITRANSFER 1 BYTE  
2378 011046 012737 000040 019500 MOV #CHDEND,0#ENTRY1 ILOAD EXPECTED YT ENTRY 1  
2379 011054 113737 022660 019540 MOV# #%EV,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# #DEV,0CUAR ILOAD DEV ADRS  
2382 011076 012737 P11076 020506 MOV #,0#TERPC IDEFINE ORIGIN OF TRACE ERROR  
2383 0111P4 004737 016240 JSR PC,TRANSFER IDO TRANSFER 1 BYTE  
2384 |SERVICE-IN UP AGAIN  
2385 011110 052777 002000 170172 BIS #CMD0,0DXMO IKILL WITH I/O STOP  
2386 011116 042777 002000 170164 BIC #CMD0,0DXMO I  
2387 | ..... MOD APR 74 .....  
2388 | TIMING  
2389 | MOS,BIPOLAR RESPONSE MOD  
2390 011124 004737 P16024 JSR PC,IDLAY IDELAY FOR FAST BIPOLAR MEMORY  
2391 |  
2392 | MOS,BIPOLAR RESPONSE MOD  
2393 | ..... MOD APR 74 .....  
2394 |  
2395 |  
2396 011130 112737 000000 022670 MOV# #0,0#CMD IFAKE CUCR YT ENTRY  
2397 011136 012737 P01100 019500 MOV #CHENUSIESEND,0#ENTRY1 ILOAD EXPECTED YT ENTRY 1  
2398 011144 113737 022660 019540 MOV# #DEV,0#ENTRY2 ISECOND YT ENTRY = DXCA
```

2399 F11152 113737 F22670 019541  
2420 F11160 113777 F22666 178140  
2421 F11166 113777 F22670 178134  
2422 F11174 012737 F11174 020566  
2423 F11202 004737 F16162  
2424  
2425  
2426

MOVB @CCHD,@ENTRY2+1  
MOVB @@JEV,@CUAR ;LOAD DEV ADRS  
MOVB @CCHD,@CUCR ;LOAD COMMAND IN CUCR  
MOV @,@TEMPC ;DEFINE ORIGIN OF TRACE ERROR  
JSR PC,STATUSPRESENTATION ;EXECUTE SELECTION



```

2427      | .....
2428      | TEST 16      HI DURING ACTIVE WRITE
2429      | .....
2430      | TEST16: SCOPE
2431      |      MOV      @16,@ICOUNT      IITERATION COUNT
2432      |      MOV      @16,@ENTSYN      ISAVE TEST # FOR ERROR REPORT
2433      |      MOV      @SCP16,@RETURN   ISCOPE LOOP RETURN ADRS
2434      | SCP16:
2435      |
2436      | .REM      *
2437      |
2438      | THE FUNCTION OF THIS TEST IS TO VERIFY THAT THE DX11 CAN RESPOND
2439      | TO A STOP I/C 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      |
2449      |
2450      |
2451      |
2452      |
2453      |      MOV      @WRITEC,@CMD      ILOAD COMMAND
2454      |      JSR      PC,@TRINVT        IYT TRACE TRACE INIT
2455      |      MOV      @CHIS,@ENTRY1     ILOAD EXPECTED TY ENTRY 1
2456      |      MOV      @LESS1,PS         ILOWER PROCESSOR STATUS
2457      |      MOV      @,@INTERPC        IORIGIN OF TRAP ERROR
2458      |      JSR      PC,ISS,SUB        ISELECT
2459      |
2460      |
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2461	R11454	113777	R22670	167646	MOVB	R#CMD,DCUCR	ILOAD COMMAND IN CUCR
2462	R11462	012737	R11462	022506	MOV	R,TRAPTRPC	IDEFINE ORIGIN OF TRACE ERROR
2463	R11470	004737	R17160		JSR	PC,MID,SUB	IEXECUTE SELECTION
2464							
2465	R11474	112777	R00014	167630	MOVB	RCE+DE,DCUSR	ILOAD CE/DE STATUS
2466	R11502	052777	R00007	167570	BIS	RDXFSTIG0,DXCS	ISET FCTN/STATUS/GO
2467							ISTATUS-IN SHOULD RISE
2468	R11510	112737	R00000	022670	MOVB	RTRAPCMD	IFAKE CUCR TT ENTRY
2469	R11516	R12737	000002	022670	MOV	RREADC,RCMD	ILOAD COMMAND
2470	R11524	004737	R15654		JSR	PC,TRAPTRNT	ITT TRACE TRACE INIT
2471	R11530	R12737	R01100	013500	MOV	RCHENUSIESEND,RENTRY1	ILOAD EXPECTED TT ENTRY 1
2472	R11536	R13737	001272	177776	MOV	RLESS1,PS	ILOWER PROCESSOR STATUS
2473	R11544	R12737	R11544	022506	MOV	R,TRAPTRPC	IORIGIN OF TRAP ERROR
2474	R11552	004737	017510		JSR	PC,CUIS,GO	ISELECT
2475							
2476	R11556	R32777	100000	167526	BIT	RULLI,POXMI	IOPLI SHOULD BE UP
2477	R11564	001001			BNE	.+0	I BRANCH IF NO ERROR CONDITION
2478	R11566	104000			ERROR		IOPLI NOT SET
2479	R11570	R32777	R04000	167514	BIT	RSTAI,POXMI	ISTATUS-IN SHOULD SET
2480	R11576	R01001			BNE	.+0	I BRANCH IF NO ERROR CONDITION
2481	R11600	104000			ERROR		I STAI NOT SET
2482	R11602	R12777	011040	167494	MOV	RHESEINT,POXIV	IENDING STATUS INTERRUPT
2483	R11610	052777	R01000	167472	BIS	RSRVO,POXMO	ISERVICE-OUT UP
2484							I STATUS-IN SHOULD FALL
2485	R11616	R32777	R01000	167464	BIT	RSRVO,POXMO	
2486	R11624	001001			BNE	.+0	I BRANCH IF NO ERROR CONDITION
2487	R11626	104000			ERROR		
2488					BIT	RSTAI,POXMI	
2489					ERCALL	BEY,<STAI DID NOT DROP>	
2490	R11630	R42777	R01000	167492	BIC	RSRVO,POXMO	IDROP SERVICE-OUT,
2491							ITMIS ENDS ES =- ESEND INT SHOULD
2492							IBE UP AND CUBSY CLEAR
2493	R11636	R00424			BR	ESE2	IENIT
2494							
2495							
2496							
2497	R11640	R32777	R00200	167432	HESEINTBIT	RDONE,POXCS	ICHECK FOR VALID INTERRUPT
2498	R11646	R01001			BNE	.+0	I BRANCH IF NO ERROR CONDITION
2499	R11650	104000			ERROR		IINVALID INTERRUPT
2500	R11652	R42777	R00200	167420	BIC	RDONE,POXCS	ICLEAR DONE
2501	R11660	R12737	R01100	013500	MOV	RCIENDSIESEND,RENTRY1	IT? ENTRY 1
2502	R11666	112737	R00000	013541	MOVB	RTRAPENTRY2+1	IENTRY2
2503	R11674	R12737	R11674	022506	MOV	R,TRAPTRPC	IORIGIN OF TRACE ERROR
2504	R11702	R04737	R15432		JSR	PC,TT,TRACE	
2505	R11706	R00002			RTI		I RETJRN
2506							
2507	R11710	R00240			ESE2I	NOP	
2508							
2509							
2510							

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2511 | .....  
2512 |TEST 17 WIO DURING ACTIVE READ  
2513 | .....  
2514 711712 104400 TSP171 SCOPE  
2515 711714 712737 P00010 020334 MOV #10,00ICOUNT IITERATION COUNT  
2516 711722 712737 P00017 021316 MOV #11,00ENTSYN ISAVE TEST # FOR ERROR REPORT  
2517 711730 712737 711730 020340 MOV #SCP17,00RETURN ISCOPE LOOP RETURN ADRS  
2518 711736 SCP171  
2519  
2520  
2521 711736 712737 P00002 022670 MOV #READC,00CMD ILOAD COMMAND  
2522 711744 704737 P15054 JSR PC;00STRAINT IYY TRACE TRACE INIT  
2523 711750 712737 P00200 019500 MOV #CHIS,00ENTRY1 ILOAD EXPECTED TT ENTRY 1  
2524 711756 713737 P01272 177776 MOV #LESS1,PS ILOWER PROCESSOR STATUS  
2525 711764 712737 P11764 020506 MOV #,00TERPC IORIGIN OF TRAP ERROR  
2526 711772 704737 P16332 JSR PC;ISS,SUB ISELECT  
2527  
2528  
2529 711776 712777 177400 167382 MOV #256,,0DXBC ISET UP DATA TRANSFER  
2530 712004 712777 P30310 167272 MOV #DATA,0DXBA IFOR OUTPUT  
2531 712012 752777 P00005 167200 BIS #DXFO,0DXCS I  
2532 712020 012737 P00200 019500 MOV #CZ15,00ENTRY1 ILOAD EXPECTED TT ENTRY 1  
2533 712026 113737 P22066 019540 MOV# #DEV,00ENTRY2 ISECOND TT ENTRY = DXCA  
2534 712034 113737 P22070 019541 MOV# #CMD,00ENTRY2+1 I  
2535 712042 113777 P22066 167296 MOV# #DEV,0CUAR ILOAD DEV ADRS  
2536 712050 113777 P22070 167292 MOV# #CMD,0CUCR ILOAD COMMAND IN CUCR  
2537 712056 712737 012056 020506 MOV #,00TERPC IDEFINE ORIGIN OF TRACE ERROR  
2538 712064 704737 P17500 JSR PC;CUI,SUB IEXECUTE SELECTION  
2539  
2540 712070 752777 P01000 167212 BIS #SRVO,0DXMO ISTART THE TRANSFER  
2541 712076 742777 P01000 167204 BIC #SHVO,0DXMO I  
2542 IFAKE CUCR TT ENTRY  
2543 712104 117727 167240 MOV# #TTNOX,(PC)+ ISAVE TTNOX  
2544 712110 000000 181 0 IHERE  
2545 100 AN INTERFACE DISCONNECT  
2546 712112 112737 000000 022670 MOV# #00CMD IFAKE CUCR ENTRY  
2547 712120 712737 P04040 019500 MOV #INFOSC;CHEND,00ENTRY1 ILOAD EXPECTED TT ENTRY 1  
2548 712126 113737 P22066 019540 MOV# #DEV,00ENTRY2 ISECOND TT ENTRY = DXCA  
2549 712134 113737 P22070 019541 MOV# #CMD,00ENTRY2+1 I  
2550 712142 113777 P22066 167196 MOV# #DEV,0CUAR ILOAD DEV ADRS  
2551 712150 113777 P22070 167192 MOV# #CMD,0CUCR ILOAD COMMAND IN CUCR  
2552 712156 712737 012156 020506 MOV #,00TERPC IDEFINE ORIGIN OF TRACE ERROR  
2553 712164 704737 P17160 JSR PC;HIO,SUB IEXECUTE SELECTION  
2554  
2555 712170 112777 000014 167134 MOV# #CE+DE,0CUSR ILOAD CE/DE STATJS  
2556 712176 752777 P00007 167074 BIS #DXFST;GO,0DXCS ISET FCTN/STATUS/GO  
2557 ISTATUS-IN SHOULD RISE  
2558 712204 712737 000002 022670 MOV #READC,00CMD ILOAD COMMAND  
2559 712212 704737 P15054 JSR PC;00STRAINT IYY TRACE TRACE INIT  
2560 712216 712737 P01100 019500 MOV #CHEND;ISEND,00ENTRY1 ILOAD EXPECTED TT ENTRY 1  
2561 712224 713737 P01272 177776 MOV #LESS1,PS ILOWER PROCESSOR STATUS  
2562 712232 712737 712232 020506 MOV #,00TERPC IORIGIN OF TRAP ERROR  
2563 712240 704737 P17510 JSR PC;CUI,GO ISELECT  
2564
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2565	712244	732777	104000	167040	BIF	0OPLI,0DXMI	IOPLI SHOULD BE JP
2566	712252	701001			BNE	,04	IBRANCH IF NO ERROR CONDITION
2567	712254	104000			ERROR		IOPLI NOT SET
2568	712256	732777	704000	167020	BIF	0STAI,0DXMI	
2569	712264	701001			BNE	,07	IBRANCH IF NO ERROR CONDITION
2570	712266	104000			ERROR		ISTAI NOT SET
2571	712273	712777	012320	166700	MOV	0ESEINT,0DXIV	IENDING STATUS INTERRUPT
2572	712276	752777	701000	167004	BIS	0SRVO,0DXMO	ISERVICE=OUT UP
2573							ISTATUS-IN SHOULD FALL
2574	712324	732777	701000	166770	BIF	0SRVC,0DXMO	
2575	712312	701001			BNE	,01	IBRANCH IF NO ERROR CONDITION
2576	712314	104000			ERROR		
2577					BIF	0STAI,0DXMI	
2578					ERCALL	BE ,<STAI DID NOT DROP>	
2579	712316	742777	701000	166704	BIC	0SRVO,0DXMO	IDROP SERVICE=OUT,
2580							IThis ENDS ES 0- ESEND INT SHOULD
2581							BE UP AND CUBSY CLEAR
2582	712324	700424			BR	ESE1	IEXIT
2583							
2584							END STATUS INTERRUPT SERVICE
2585							
2586	712326	732777	000200	166744	ESEINTI BIF	0DONE,0DXCS	ICHECK FOR VALID INTERRUPT
2587	712334	701001			BNE	,04	IBRANCH IF NO ERROR CONDITION
2588	712336	104000			ERROR		IINVALID INTERRUPT
2589	712340	742777	000200	166732	BIC	0DONE,0DXCS	ICLEAR DONE
2590	712346	712737	701100	015500	MOV	0CJENDSIESEND,0BENTHY1	ITV ENTRY 1
2591	712354	712737	000000	015541	MOVB	00I0BENTRY2+1	IENTRY2
2592	712362	712737	012362	020506	MOV	0,,0BTERPC	IORIGIN OF TRACE ERROR
2593	712370	704737	015432		JSR	PC,TT,TRACE	
2594	712374	700000			RTI	IRETURN	
2595							
2596	712376	700240			ESE1I	NOP	
2597							
2598							
2599							

```

2000 I .....
2001 ITEST 20 CONTENTION TEST
2002 I .....
2003 F124F0 104400 TS12F1 SCOPE
2004 F124F2 112737 000010 023334 MOV #10,#COUNT IITERATION COUNT
2005 F12410 112737 000020 021316 MOV #20,#ENTSYN ISAVE TEST # FOR ERROR REPORT
2006 F12410 112737 112424 023340 MOV #SCP20,#RETURN ISCOPE LOOP RETURN ADRS
2007 112424 SCP20:
2008
2009
2010 F12424 112737 000024 022202 BIT #BIT2,#PARA ITEST MUX BIT
2011 F12432 001510 BEQ NCONT INC MUX# NO CONT TEST
2012 F12434 112737 000032 022202 BIT #BIT1,#PARA ISYEN MUST BE 0
2013 F12442 001104 BNE NCONT IBRANCH IF BSYEN
2014 F12444 004737 015654 JSR PC#STRAY I00 TT TRACE INIT
2015 F12450 113777 022072 100650 MOV# DEV,A,#CUAR ISET UP DEVICE 2 FOR
2016 F12456 112777 000200 100600 MOV# #ATN,#CUR IASNGM STATUS
2017
2018
2019
2020
2021
2022
2023
2024
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2026
2027 F12464 112777 000007 100600 BIS #DXFST,#DXCS IREQUEST-IN SHOULD BE UP
2028 F12472 032777 020000 100612 BIT #REQ1,#DXM ILOOK FOR REQUEST IN
2029 F12500 001031 BNE ,0 IBRANCH IF NO ERROR CONDITION
2030 F12502 104000 ERROR IREQ1 DID NOT SET
2031 F12504 012737 000403 022670 MOV #NIPC,CMD
2032
2033 F12512 112737 001200 019500 MOV #CHENDS:CHIS,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2034 F12520 113737 022660 019500 MOV# #DEV,#ENTRY2 ISECOND TT ENTRY = DXCA
2035 F12526 112737 000003 019501 MOV# #J,#ENTRY2+1 IMUX TT CUCR
2036 F12534 113777 022660 100504 MOV# #DEV,#CUAR ILOAD DEV ADRS
2037 F12542 012737 012542 020506 MOV #,#TEMPC IDEFINE ORIGIN OF TRACE ERROR
2038
2039
2040 F12550 004737 017732 JSR PC#FASTISS ISS FOR DEVICE 1
2041
2042 F12554 112777 000200 100510 BIT #DONE,#DXCS
2043 F12562 113777 022660 100536 MOV# DEV,#CUAR ITRY STATUS FOR DEV 1
2044 F12570 112777 000200 100534 MOV# #ATN,#CUR
2045 F12576 052777 000007 100474 BIS #DXFST,#DXCS IREQUEST IN SHOULD BE UP
2046 F12604 112737 000403 022670 MOV #NIPC,CMD ILOAD NOP COMMAND
2047 F12612 012737 001200 019500 MOV #CHENDS:CHIS,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2048 F12620 113737 022660 019500 MOV# #DEV,#ENTRY2 ISECOND TT ENTRY = DXCA
2049 F12626 112737 000003 019501 MOV# #J,#ENTRY2+1 IMUX TT CUCR
2050 F12634 113777 022660 100404 MOV# #DEV,#CUAR ILOAD DEV ADRS
2051 F12642 112737 012642 020506 MOV #,#TEMPC IDEFINE ORIGIN OF TRACE ERROR
2052 F12650 004737 017732 JSR PC#FASTISS
2053 F12654 NCONT:

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

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2654  
2655

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2656 | .....
2657 | ITEST 21 WIO AND TIO TO RELEASE STATUS ( ON BSYEN ONLY)
2658 | .....
2659 | TST211 SCOPE
2660 | R12654 104400 MOV @10,@ICOUNT IITERATION COUNT
2661 | R12656 R12737 @00010 @20334
2662 | R12664 R12737 @00021 @21316 MOV @21,@RENTSYN ISAVE TEST # FOR ERROR REPORT
2663 | R12672 R12737 R12700 @20340 MOV @SCP21,@RETURN ISCOPE LOOP RETURN ADRS
2664 | SCP211
2665 |
2666 | R12700 R32737 @00004 @22202 BIT @BIT2,@PARA IMUX CHANNEL?
2667 | R12706 @01005 BNE 15 IIF MUX MUST BE BSYEN
2668 | R12710 @32737 @00002 @22202 BIT @BIT1,@PARA IIF SEL MUST NOT BE BSYEN
2669 | R12716 @01407 BEQ TST6A IBRANCH IF NOT BSYEN
2670 | R12720 @00404 BR 25 ISEL AND BSYEN IS NOT VALID FOR THIS TEST
2671 | R12722 @32737 @00002 @22202 18i BIT @BIT1,PARA IMUX W/O BSYEN?
2672 | R12730 @01002 BNE TST6A IYES = GO
2673 | R12732 @00137 @13452 28i JMP @TST6B IIGNORE TEST
2674 | R12736 TST6A1
2675 | R12736 R12737 @00001 @22670 MOV @WRITEC,@CMD ILOAD COMMAND
2676 | R12744 @04737 @15054 JSR PC,@STRAINT ITY TRACE TRACE INIT
2677 | R12750 R12737 @00200 @15500 MOV @CHIS,@ENTRY1 ILOAD EXPECTED TY ENTRY 1
2678 | R12756 R13737 @01272 177776 MOV @LESS1,PS ILOWER PROCESSOR STATUS
2679 | R12764 R12737 R12764 @20506 MOV @,@TERPC IORIGIN OF TRAP ERROR
2680 | R12772 @04737 @16332 JSR PC,@S,SUB ISELECT
2681 |
2682 |
2683 | ID0 INTER FACE DISCONNECT
2684 |
2685 | R12776 R12737 @04000 @15500 MOV @INFOC,@ENTRY1 ILOAD EXPECTED TY ENTRY 1
2686 | R13004 113737 @22066 @15540 MOV @DEV,@ENTRY2 ISECOND TY ENTRY = DXCA
2687 | R13012 113737 @22070 @15541 MOV @CMD,@ENTRY2+1 I
2688 | R13020 113777 @22066 166300 MOV @DEV,@CUAR ILOAD DEV ADRS
2689 | R13026 113777 @22070 166274 MOV @CMD,@CUCR ILOAD COMMAND IN CUCR
2690 | R13034 @12737 @13034 @20506 MOV @,@TERPC IDEFINE ORIGIN OF TRACE ERROR
2691 | R13042 @04737 @17166 JSR PC,WIO,SUB IEXECUTE SELECTION
2692 |
2693 |
2694 | IATTEMPT TO PRESENT ASYNCHRONOUS STATUS WHILE DISCONNECTED
2695 |
2696 | R13046 R52777 @00014 166296 BIS @CEIDE,@CUCR IGENERATE CEIDE STATUS
2697 | R13054 R52777 @00007 166216 BIS @DXFST,@DXCS ISET FUNCTION STATUS & GO
2698 | ISTATUS=IN UP
2699 | R13062 112737 @00000 @22670 MOV @,@CMD IFAKE CUCR ENTRY
2700 | R13070 @32737 @00004 @22202 BIT @BIT2,@PARA ITEST FOR MUX
2701 | R13076 @01407 BEQ 15
2702 | R13080 113737 @22066 @22670 MOV @DEV,@CMD IFAKE CUCR ENTRY
2703 | R13086 @12737 @01012 @15500 MOV @CHENDS,ISSREJISTKSTB,@ENTRY1
2704 | R13114 @00403 BR 1506
2705 | R13116 18i
2706 | R13116 R12737 @01002 @15500 MOV @CHENDS,ISTKSTB,@ENTRY1 ILOAD EXPECTED TY ENTRY 1
2707 | R13124 113737 @22066 @15540 MOV @DEV,@ENTRY2 ISECOND TY ENTRY = DXCA
2708 | R13132 113737 @22070 @15541 MOV @CMD,@ENTRY2+1 I
2709 | R13140 113777 @22066 166160 MOV @DEV,@CUAR ILOAD DEV ADRS

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2710	113146	113777	022070	166194	MOV	00CMD,00CUCR	ILCAN COMMAND IN CUCR
2711	113154	112737	013154	020506	MOV	0,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2712	113162	104737	017910		JSR	PC,CUIS,GO	IEEXECUTE SELECTION
2713							
2714	113166	152777	002000	166114	BIS	00CMD,00XMO	ISET 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,00DXCS	ITEST FOR STACKED STATUS
2719	113214	001001			BNE	,04	IBRANCH IF NO ERROR CONDITION
2720	113216	104000			ERROR		ISTKSTA NOT SET
2721	113220	112763	000000	000000	MOV	00T0(N3)	ILOAD STATUS FOR TEST I/O COMMAND
2722	113226	112737	000400	022670	MOV	0TIOC,00CMD	ITEST I/O
2723	113234	112737	000200	019900	MOV	00CHIS,00ENTRY1	ILOAD EXPECTED TT ENTRY 1 FOR SEL
2724	113242	113737	022666	019940	MOV	00DEV,00ENTRY2	ISECOND TT ENTRY = DXCA
2725	113250	132737	000004	022202	BIT	00BIT2,00PARA	ITEST FOR MUX
2726	113256	101407			BEQ	15	IBR IF SELECTOR
2727	113260	112737	000000	019941	MOV	00T00ENTRY2+1	IMUX TT CUCR
2728	113266	112737	001311	019900	MOV	01311,00ENTRY1	IOS FOR MUX
2729	113274	100403			BR	25	IGO
2730	113276	112737	000000	019941	MOV	00T00ENTRY2+1	ICUCR OF DXCA TT ENTRY
2731	113304	113777	022666	166014	MOV	00DEV,00CUAR	ILOAD DEV ADRS
2732	113312	112737	013312	020506	MOV	0,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2733	113320	104737	013320		JSR	PC,TIO,ISS	
2734	113324	100452			BR	TST00	
2735							ISS FOR WIO/TIO TO RELEASE STATUS TEST
2736							
2737	113326	105077	166004		TIO.ISSIC,00	00BUS0	ICLEAR BUS OUT
2738	113332	053777	022666	169790	BIS	DEV,00XMO	IPUT DEVICE ADRS ON OUT TABS
2739	113340	052777	004000	169742	BIS	0A3RO,00XMO	IRaise ADRS=OUT
2740	113346	052777	060000	169734	BIS	0ML00ISELO,00XMO	IRaise SELECT=OUT, HOLD=OUT
2741	113354	042777	004000	169726	BIC	0ADRO,00XMO	IREMOVE ADRS=OUT
2742							
2743	113362	143777	022666	169720	BIC	DEV,00XMO	IREMOVE ADRS
2744	113370	153777	022670	169712	BIS	CMD,00XMO	IPUT COMMAND ON OUT TABS
2745	113376	152777	002000	169704	BIS	00CMD,00XMO	IRaise CMD=OUT
2746	113404	143777	022670	169676	BIC	CMD,00XMO	IREMOVE CMD
2747	113412	042777	002000	169670	BIC	00CMD,00XMO	IREMOVE CMD=OUT
2748	113420	052777	001000	169662	BIS	0SRVO,00XMO	IRELEASE STATUS
2749	113426	042777	001000	169654	BIC	0S3VO,00XMO	I
2750	113434	117700	169710		MOV	0T,NOX,00	IFETCH TT INDEX
2751	113440	042700	177000		BIC	0177000,00	I
2752	113444	063700	001440		ADD	TT,00	IFIND NEXT TT ENTRY POINT
2753	113450	200207			RTS	PC	
2754	113452	204737	024254		JSR	PC,RESRES	
2755	113456	112763	000000	000000	MOV	00T0(N3)	IRESTORE STATUS
2756							
2757							



```

2758 | .....|
2759 | TEST 22 CUBSV/CUE TEST (MUX/BSYEN ONLY)
2760 | .....|
2761 | P13464 104400 | TST21 SCOPE
2762 | P13466 012737 000010 020334 | MOV 010,00ICOUNT ITERATION COUNT
2763 | P13474 012737 000022 021316 | MOV 024,00ENTSYN ISAVE TEST # FOR ERROR REPORT
2764 | P13502 012737 013510 020340 | MOV 0SCP22,00RETURN ISCOPE LOOP RETURN ADDR
2765 | P13510 | SCP22:
2766 |
2767 |
2768 |
2769 | P13510 032737 000004 022202 | BIT 0BIT2,PARA IMUX CHANNEL 1
2770 | P13516 001474 | BEO TS_9,0 INO - IGNORE
2771 | P13520 032737 000002 022202 | BIT 0BIT1,PARA IBSYEN MODE?
2772 | P13526 001002 | ONE TS_9,1
2773 | 013530 000137 014232 | TST9,01 JMP 00,STV,2
2774 | P13534 | TST9,11
2775 | P13534 012737 000002 022670 | MOV 0READC,00CMD ILOAD COMMAND
2776 | P13542 004737 019654 | JSR PC,00TRAIK IIT TRACE TRACE INIT
2777 | 013546 012737 000200 019500 | MOV 0CMIS,00ENTRY1 ILOAD EXPECTED IT ENTRY 1
2778 | P13554 013737 001272 177776 | MOV 00YESS1,PS ILOWER PROCESSOR STATUS
2779 | P13562 012737 013562 020506 | MOV 0,,00TERPC IORIGIN OF TRAP ERROR
2780 | P13570 004737 016332 | JSR PC,ISS,SUB ISELECT
2781 |
2782 |
2783 | P13574 053777 022672 109506 | BIS DEV,A,0DXMO ITRY TO SELECT SECOND
2784 | P13602 052777 004000 109500 | BIS 0ADRO,0DXMO IADDRESS OUT
2785 | P13610 052777 040000 109472 | BIS 0HLD0,0DXMO IHOLD OUT
2786 | P13616 052777 020000 109404 | BIS 0SELO,0DXMO ISELECT OUT
2787 | | ISTATUS-IN SHOULD RISE
2788 | | IWITH SM + BSY ON BUS
2789 | P13624 042777 064000 109496 | BIC 0ADRO,HLD0ISELO,0DXMO IISREJ SHOULD
2790 | P13632 043777 022672 109490 | BIC DEV,A,0DXMO IBE UP
2791 | P13640 113777 022666 109400 | MOV 0DEV,0CUAR IRESET CUAR
2792 | P13646 012737 000002 022724 | MOV 02,COUNT IDO A 2 BYTE DATA
2793 | P13654 012777 177776 109424 | MOV 002,0DXBC ITRANSFER
2794 | P13662 012777 030310 109414 | MOV 0DATA,0DX0A
2795 | 013670 052777 000000 109402 | BIS 0DXFD,0DXCS
2796 | P13676 012737 000200 019500 | MOV 0C-10,00ENTRY1 ILOAD EXPECTED IT ENTRY 1
2797 | P13704 113737 022666 019540 | MOV 00DEV,00ENTRY2 ISECOND IT ENTRY = DXCA
2798 | P13712 113737 022670 019541 | MOV 00CMD,00ENTRY2+1
2799 | P13720 113777 022666 109400 | MOV 00DEV,0CUAR ILOAD DEV ADDR
2800 | P13726 113777 022670 109374 | MOV 00CMD,0CUCR ILOAD COMMAND IN CUCR
2801 | P13734 012737 013734 020506 | MOV 0,,00TERPC IDEFINE ORIGIN OF TRACE ERROR
2802 | P13742 004737 017500 | JSR PC,CUIS,SUB IEXECUTE SELECTION
2803 |
2804 | P13746 112737 000000 022670 | MOV 007,00CMD IFAKE CUCR IT ENTRY
2805 | P13754 012737 000030 019500 | MOV 0CUDEND,ISSREJ,00ENTRY1 ILOAD EXPECTED IT ENTRY 1
2806 | P13762 113737 022666 019540 | MOV 00DEV,00ENTRY2 ISECOND IT ENTRY = DXCA
2807 | P13770 113737 022670 019541 | MOV 00CMD,00ENTRY2+1
2808 | P13776 113777 022666 109322 | MOV 00DEV,0CUAR ILOAD DEV ADDR
2809 | P14004 113777 022670 109316 | MOV 00CMD,0CUCR ILOAD COMMAND IN CUCR
2810 | P14012 012737 014012 020506 | MOV 0,,00TERPC IDEFINE ORIGIN OF TRACE ERROR
2811 | P14020 004737 016240 | JSR PC,TRANSFER IEXECUTE SELECTION
    
```

2812						
2813	F14024	F12737	001110	019500	MOV	#CHENDS;#SEND;#ISSREJ,#ENTRY1 ;LOAD EXPECTED TT ENTRY 1
2814	F14032	113737	F22060	019540	MOVB	#DEV,#ENTRY2 ;SECOND TT ENTRY = DXCA
2815	F14040	113737	F22070	019541	MOVB	#CMD,#ENTRY2+1 ;
2816	F14046	113777	F22060	109292	MOVB	#DEV,#CUAR ;LOAD DEV ADRS
2817	F14054	113777	F22070	109240	MOVB	#CMD,#CUCR ;LOAD COMMAND IN CUCR
2818	F14062	F12737	F14062	020500	MOV	0,#TERPC ;DEFINE ORIGIN OF TRACE ERROR
2819	F14070	F04737	010162		JSR	PC;STATUSPRESENTATION ;EXECUTE SELECTION
2820						
2821						;ISSREJ SHOULD STILL BE
2822						IUP, ALONG WITH CUBSY
2823						
2824	F14074	112777	000040	109230	MOVB	#CUE,#CUSR ;PRESENT CUE
2825	F14102	292777	000007	109170	BIS	#UXFST,#DXCS ;GO
2826	F14110	112737	000000	022070	MOVB	#,#CMD ;FAKE CUCR TT ENTRY
2827	F14116	012737	000100	019500	MOV	#SEND,#ENTRY1 ;LOAD EXPECTED TT ENTRY 1
2828	F14124	113737	022060	019540	MOVB	#DEV,#ENTRY2 ;SECOND TT ENTRY = DXCA
2829	F14132	113737	022070	019541	MOVB	#CMD,#ENTRY2+1 ;
2830	F14140	113777	022060	109160	MOVB	#DEV,#CUAR ;LOAD DEV ADRS
2831	F14146	113777	022070	109194	MOVB	#CMD,#CUCR ;LOAD COMMAND IN CUCR
2832	F14154	F12737	014154	020500	MOV	0,#TERPC ;DEFINE ORIGIN OF TRACE ERROR
2833	F14162	004737	017500		JSR	PC;CUI;S,SUB ;EXECUTE SELECTION
2834						
2835	F14166	122777	000040	109140	CHPB	#CUEND,#BUSI ;CHECK STATUS ON BUS=IN
2836	F14174	001401			BEQ	,+4 ;BRANCH IF NO ERROR CONDITION
2837	F14176	104000			ERROR	;BUSI STATUS ERROR
2838	F14200	032777	000010	109000	BIF	#ISSREJ,#DXDS ;CHECK FOR ISS REJECT
2839	F14206	001001			BNE	,+4 ;BRANCH IF NO ERROR CONDITION
2840	F14210	104000			ERROR	;ISSREJ NOT SET
2841	F14212	092777	001000	109070	BIS	#SRVD,#DXMD ;ACCEPT STATUS
2842	F14220	042777	001000	109002	BIC	#SRVD,#DXMD ;ISSREJ CLEARS
2843	F14226	005077	109110		CLR	#BUSI ;CLEAR BUSI
2844	F14232	005777	109030		TSY	TSY ;DXDS SHOULD BE 0
2845						
2846	F14236	001401			BEQ	,+4 ;BRANCH IF NO ERROR CONDITION
2847	F14240	104000			ERROR	;DXDS NOT 0
2848						
2849						
2850						

```

2051 I .....
2052 ITEST P3 IN LEAVE TEST (MUX AND V0 BSYEN ONLY)
2053 I .....
2054 *14242 104470 TST231 SCOP
2055 *14244 *12737 P00020 022334 MOV #23,PCICOUNT ITERATION COUNT
2056 *14252 *12737 P00023 021310 MOV #23,PCENTSTN ISAVE TEST # FOR ERROR REPORT
2057 *14263 *12737 *14260 022340 MOV #SCP23,PCRETURN ISCOPE LOOP RETURN ADNS
2058 *14266 SCP231
2059
2060
2061 *14266 *12737 P00024 022202 BIT #BIT2,PARA IMLX?
2062 *14274 *01474 REC TST12A INC = NO GOOD
2063 *14276 *12737 P00022 022202 BIT #BIT1,PARA IBSVEN?
2064 *14374 *01472 REC TST12B INC = OK
2065
2066 *14376 *00137 P15176 TST12A1 JMP #TST12C
2067 *14312 TST12B1
2068 *14312 *12737 P00022 022670 MOV #READC,#CMD ILOAD COMMAND
2069 *14323 *04737 P15054 JSR PC,#TRIN IIT TRACE TRACE INIT
2070 *14324 *12737 P00200 019530 MOV #CHIS,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2071 *14332 *13737 P01272 177776 MOV #LESS1,PS ILOWER PROCESSOR STATUS
2072 *14340 *12737 P14340 020506 MOV #,#BYTERPC IORIGIN OF TRAP ERROR
2073 *14346 *04737 P16332 JSR PC,ISS,SUB ISELECT
2074
2075
2076 *14352 *13737 P22066 022720 MOV DEV,SAVDEV ISAVE ADDRESS
2077 P14360 013737 P22072 022606 MOV DEV,A,DEV ISET SECOND DEVICE
2078 P14366 *12737 P00002 022670 MOV #READC,#CMD ILOAD COMMAND
2079 *14374 *04737 P15054 JSR PC,#TRIN IIT TRACE TRACE INIT
2080 *14400 *12737 P00200 019530 MOV #CHIS,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2081 *14406 *13737 P01272 177776 MOV #LESS1,PS ILOWER PROCESSOR STATUS
2082 *14414 *12737 P14414 020506 MOV #,#BYTERPC IORIGIN OF TRAP ERROR
2083 *14422 *04737 P16332 JSR PC,ISS,SUB ISELECT
2084
2085
2086 *14426 *13737 P22720 022606 MOV SAVDEV,DEV IRESTORE ADDRESS
2087
2088 P14434 113777 P22066 104604 MOVB DEV,PCUAR ISET FOR DEV 1
2089 P14442 *12737 P00004 022724 MOV #4,COUNT IDT FOR 1 (4 BYTES)
2090 P14450 *12777 177774 104630 MOV #4,PCXBC
2091 P14456 *12777 P30310 104620 MOV #DATA,PCXBA
2092 P14464 *52777 000005 104606 BIS #DXFD,PCXCB
2093 P14472 *12737 P00200 019530 MOV #CHIS,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2094 P14500 113737 022066 019540 MOVB #DEV,#ENTRY2 ISECOND TT ENTRY = DXCA
2095 P14506 113737 022070 019541 MOVB #CMD,#ENTRY2+1 I
2096 P14514 113777 P22066 104604 MOVB #DEV,PCUAR ILOAD DEV ADNS
2097 P14522 113777 022070 104600 MOVB #CMD,PCUCR ILOAD COMMAND IN CUCR
2098 P14530 *12737 P14530 020506 MOV #,#BYTERPC IDEFINE ORIGIN OF TRACE ERROR
2099 P14536 *04737 P17500 JSR PC,CUIS,SUB IEXECUTE SELECTION
2900
2921 P14542 112737 P00000 022670 MOVB #0,#CMD IFAKE CUCR TT ENTRY
2922 P14550 *12737 P00020 019530 MOV #CUDEND,#ENTRY1 ILOAD EXPECTED TT ENTRY 1
2923 P14556 113737 P22066 019540 MOVB #LEV,#ENTRY2 ISECOND TT ENTRY = DXCA
2924 P14564 113737 P22070 019541 MOVB #CMD,#ENTRY2+1 I
    
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2925	#14572	113777	022666	164926	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2926	#14670	113777	022670	164922	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2927	#14676	012737	014600	023506	MOV	0,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2928	#14614	004737	016240		JSR	PC,TRANSFER	IEXECUTE SELECTION
2929							
2910							
2911	#14620	013737	022666	022720	MOV	DEV,SAVDEV	ISAVE ADDRESS
2912	#14626	013737	022672	022666	MOV	DEV,A,DEV	ISSET SECOND DEVICE
2913	#14634	012737	000002	022724	MOV	02,COUNT	I2 BYTES
2914	#14642	012777	177770	164436	MOV	000,0DXBC	
2915	#14650	012777	030310	164426	MOV	0DATA,0DXBA	
2916	#14656	012777	000005	164414	BIB	0DXFO,0DXCS	
2917	#14664	012737	000200	019500	MOV	0CHIS,0ENTRY1	ILOAD EXPECTED TT ENTRY 1
2918	#14672	113737	022666	019540	MOVB	00DEV,0ENTRY2	ISECOND TT ENTRY = DXCA
2919	014700	113737	022670	019541	MOVB	00CMD,0ENTRY2+1	I
2920	#14706	113777	022666	164412	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2921	#14714	113777	022670	164406	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2922	#14722	012737	014722	023506	MOV	0,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2923	014730	004737	017500		JSR	PC,CUIS,SUB	IEXECUTE SELECTION
2924							
2925	#14734	112737	000000	022670	MOVB	00,00CMD	IFAKE CUCR TT ENTRY
2926	014742	012737	000020	019500	MOV	0CUDENO,0ENTRY1	ILOAD EXPECTED TT ENTRY 1
2927	014750	113737	022666	019540	MOVB	00DEV,0ENTRY2	ISECOND TT ENTRY = DXCA
2928	014756	113737	022670	019541	MOVB	00CMD,0ENTRY2+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	020506	MOV	0,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2932	#15006	004737	016240		JSR	PC,TRANSFER	IEXECUTE SELECTION
2933							
2934	#15012	013737	022720	022666	MOV	SAVDEV,DEV	IRESTORE ADDRESS
2935							
2936	#15020	112737	000000	022670	MOVB	00,00CMD	IFAKE CUCR TT ENTRY
2937	#15026	012737	001100	019500	MOV	0CHENDS,0SEND,0ENTRY1	ILOAD EXPECTED TT ENTRY 1
2938	#15034	113737	022666	019540	MOVB	00DEV,0ENTRY2	ISECOND TT ENTRY = DXCA
2939	015042	113737	022670	019541	MOVB	00CMD,0ENTRY2+1	I
2940	#15050	113777	022666	164290	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2941	#15056	113777	022670	164244	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2942	015064	012737	015064	023506	MOV	0,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2943	015072	004737	016162		JSR	PC,STATUSPRESENTATION	IEXECUTE SELECTION
2944							
2945							
2946	#15076	013737	022666	022720	MOV	DEV,SAVDEV	ISAVE ADDRESS
2947	#15104	013737	022672	022666	MOV	DEV,A,DEV	ISSET SECOND DEVICE
2948	#15112	112737	000000	022670	MOVB	00,00CMD	IFAKE CUCR TT ENTRY
2949	#15120	012737	001100	019500	MOV	0CHENDS,0SEND,0ENTRY1	ILOAD EXPECTED TT ENTRY 1
2950	#15126	113737	022666	019540	MOVB	00DEV,0ENTRY2	ISECOND TT ENTRY = DXCA
2951	#15134	113737	022670	019541	MOVB	00CMD,0ENTRY2+1	I
2952	#15142	113777	022666	164196	MOVB	00DEV,0CUAR	ILOAD DEV ADRS
2953	#15150	113777	022670	164192	MOVB	00CMD,0CUCR	ILOAD COMMAND IN CUCR
2954	#15156	012737	015156	023506	MOV	0,00TERPC	IDEFINE ORIGIN OF TRACE ERROR
2955	#15164	004737	016162		JSR	PC,STATUSPRESENTATION	IEXECUTE SELECTION
2956							
2957							
2958	#15170	013737	022720	022666	MOV	SAVDEV,DEV	IRESTORE ADDRESS

2959 715176  
2960  
2961

TST12C1

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2962 | .....
2963 | TEST 24 END OF TEST STRING
2964 | .....
2965 | P15176 104470 | TS1241 SCOPE
2966 | P15200 012737 000001 020334 | MOV #17,01COUNT | ITERATION COUNT
2967 | P15206 012737 000024 021316 | MOV #24,00ERTSTN | SAVE TEST # FOR ERROR REPORT
2968 | P15214 012737 P15222 020340 | MOV #SCP24,00RETURN | SCOPE LOOP RETURN ADRS
2969 | P15222 | 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 |
2980 | P15222 700137 022340 | JMP 00LPCNTL
2981 |
2982 |
2983 |
2984 | INTERRUPT HANDLES
2985 |
2986 | 015226 104000 | FALSE1 ERROR | IFALSE OR UNEXPECTED INTERRUPT
2987 | P15230 700002 | RTI
2988 |
2989 | P15232 032777 000200 104040 | INTR1 B17 #DONE,0DXCS | TEST DONE
2990 | P15240 001001 | BNE #4 | BRANCH ON DONE
2991 | P15242 104000 | ERROR | IFALSE INTERRUPT
2992 | P15244 042777 000200 104026 | BIC #DONE,0DXCS | CLEAR INT CONDITION
2993 | P15252 052737 100000 015262 | B18 #INTOK,INTPAS | SET INT PASS FLAG
2994 | P15260 000002 | RTI
2995 |
2996 | P15262 000000 | INTPAS1 0 | INTERRUPT PASS FLAG
2997 |
2998 |
2999 | INTERRUPT ROUTINE TO TEST FOR SUCCESSFUL INTERRUPT
3000 |
3001 | P15264 | INTERR1
3002 | P15264 032737 100000 015262 | B17 #INTOK,INTPAS | DID INTERRUPT OCCUR
3003 | P15272 001405 | BEQ IRR | BRANCH IF NOT
3004 | P15274 762716 000002 | IRR21 ADD #2,0SP | INC RETURN PC
3005 | P15300 042737 100000 015262 | BIC #INTOK,INTPAS | CLEAR PASS FLAG
3006 | P15306 000207 | IRR1 RTS PC
3007 |
3008 |
3009 | ZEROYTY ROUTINE TO ZERO TUMBLE TABLE
3010 |
3011 | P15310 | ZEROYTY1
3012 | P15310 713146 | MOV R1,0(SP)
3013 | P15312 010246 | MOV R2,0(SP)
3014 | P15314 013701 001440 | MOV TT,R1
3015 | P15320 012702 000400 | MOV #250, R2
3016 | P15324 005021 | ZTY11 CLR (R1)*
  
```

3216	#15326	0053F2			DEC	R2		
3217	#15330	001375			BNE	ZTT1		
3218	#15332	0126F2			MOV	(SP)+,R2		
3219	#15334	012601			MOV	(SP)+,R1		
3220	#15336	0002F7			RTS	PC		
3221								
3222								
3223								
3224	#15340							
3225	#15340	#10146			MOV	R1,=(SP)		
3226	#15342	#10246			MOV	R2,=(SP)		
3227	#15344	#13771	001440		MOV	TT,R1		
3228	#15350	#12702	000400		MOV	#256,,R2		
3229	#15354	005721			TYE11	TSY	(R1)+	
3230	#15356	001401			BEO	,+4		IBRANCH IF NO ERROR CONDITION
3231	#15360	104000			ERROR			ILLEGAL TT ENTRY
3232	#15362	005302			DEC	R2		
3233	#15364	001373			BNE	TYE11		
3234	#15366	012602			MOV	(SP)+,R2		
3235	#15370	012601			MOV	(SP)+,R1		
3236	#15372	0002F7			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,TT,TRACE
3248								
3249								
3250								
3251	#15432							
3252								
3253	#15432	#10146			MOV	R1,=(SP)		
3254	#15434	#13771	015640		MOV	#TTTRACE,R1		ILOAD R1 WITH SOFTWARE IT
3255	#15440	020137	001440		CMP	R1,#0TT		ICHECK FOR BOTTOM OF TABLE
3256	#15444	001025			BNE	IS		IBRANCH IF NOT BOTTOM
3257	#15446	005737	003776		TSY	003776		ILOOK AT TOP OF TT
3258	#15452	001401			BEO	,+4		IBRANCH IF NO RAP AROUND
3259	#15454	104002			TRACER			IREPORT TT TRACE ERROR
3260	#15456	000404			BR	25		
3261	#15460	005741			151	TSY	=(R1)	ICHECK FOR TT OVERFLOW
3262	#15462	001401			BEO	,+1		IBRANCH IF NO RAP AROUND
3263	#15464	104002			TRACER			ITT OVERFLOW ERROR
3264	#15466	005721			TSY	(R1)+		IING TO ENTRY
3265	#15470	011127			251	MOV	(R1),(PC)+	ISAVE ENTRY ONE
3266	#15472	000000			SENRY11	B		HERE
3267	#15474	023727	#15472		ENTRY11	B		ICOMPARE SAVED ENTRY WITH
3268	#15500	000000			ENTRY11	B		IEXPECTED ENTRY
3269	#15502	001407			BEO	IS		IBRANCH IF DXCS ENTRY OK

3170	15504	13737	15472	13046		MOV	00SEMHV1,00TYMAS	
3171	15512	13737	15520	13050		MOV	00ENTRY1,00TYSHOULD	
3172	15520	104002				TRACER		IREPORT TT TRACE ERROR
3173	15522	005037	15500		181	CLR	ENTRY1	
3174	15526	005021				CLR	(R1)+	ICLEAR ENTRY AND ADVANCE POINTER
3175	15530	11127				MOV	(R1),(PC)+	ISAVE ENTRY TWO
3176								
3177	15532	000020			SENRY21 2			HERE
3178	15534	23727	15532			CHP	00SEMHV2,(PC)+	ICOMPARE SAVED ENTRY WITH
3179	15540	000000			ENTRY21 0			EXPECTED ENTRY
3180	15542	001411			TY,T01	BEQ	25	IBRANCH IF DXCA ENTRY OK
3181	15544	13737	15532	13046		MOV	00SEMHV2,00TYMAS	
3182	15552	13737	15540	13050		MOV	00ENTRY2,00TYSHOULD	
3183	15560	104002				TRACER		IREPORT TT TRACE ERROR
3184	15562	005037	15540			CLR	ENTRY2	
3185	15566	005021			281	CLR	(R2)+	ICLEAR
3186	15570	22721	004000			CHP	0TST1,R1	ICHECK FOR SOFTWARE
3187	15574	001022				BNE	TY,T1	IBRANCH IF NO OVERFLOW
3188	15576	13701	001440			MOV	00TY,R1	
3189	15602	005037	15612		TY,T11	CLR	00TY,T2	
3190	15606	117727	163536			MOVB	0TYNDX,(PC)+	ISAVE TYNDX
3191	15612	000000			TY,T21			HERE
3192	15614	006337	15612			ASL	TY,T2	ISCALE MOD(2)
3193	15620	063737	001440	13012		ADD	00TY,00TY,T2	IADD BASE OF TY TO INDEX
3194	15626	123701	15612			CHPB	00TY,T2,R1	ICOMPARE TY POINTERS
3195	15632	001401				BEQ	.+3	IBRANCH IF HARDWARE AND SOFTWARE TY POINTERS MATCH
3196	15634	104002				TRACER		IREPORT TT TRACE ERROR
3197	15636	10127				MOV	R1,(PC)+	ISAVE TY TRACE
3198	15640	000000			YTRACE1 0			HERE
3199	15642	012601				MOV	(SP)+,R1	
3100	15644	000207				RTS	PC	IRETURN
3121	15646	000000			TYMAS1			IACTUAL CONTENTS OF TY
3122	15650	000000			TYSHOULD1			IEXPECTED CONTENTS OF TY
3123								
3124	15652	000002			SEL.X1 RT1			
3125								
3126								
3127								
3108	15654	142777	777777	163426	YRINIY1	BIC	077777,0DXMO	IDeselect
3129	15662	112777	000100	163552		MOVB	0S4,0DST	IRESPONSE TO TEST IO
3110	15670	032737	000002	022202		BIT	0BIT1,0PARA	ICHECK FOR CUBSY MODE
3111	15676	001410				BEQ	TY,0	IBRANCH IF NOT CU BUSY
3112	15700	092777	004000	163372		BIS	0BSYEN,0DXCS	ISet BSYEN
3113	15706	032777	004000	163304		BIT	0BSYEN,0DXCS	IVERIFY SET
3114	15714	001021				BNE	.+3	IBRANCH IF NO ERROR CONDITION
3115	15716	104000				ERROR		IBSYEN NOT SET
3116	15720	113737	022666	15540	TY,01	MOVB	0DEV,0ENTRY2	ISECOND TY ENTRY = DXCA
3117	15726	113737	022670	15541		MOVB	0CMD,0ENTRY2+1	
3118	15734	113777	022670	163306		MOVB	0CMD,0CUAR	ILOAD COMMAND
3119	15742	113777	022666	163356		MOVB	0DEV,0CUAR	ILOAD COMMAND IN CUAR
3120	15750	092777	000100	163322		BIS	0INTEN,0DXCS	ISet INTERRUPT ENABLE
3121	15756	032777	000100	163314		BIT	0INTEN,0DXCS	IVERIFY SET
3122	15764	001001				BNE	.+4	IBRANCH IF NO ERROR CONDITION
3123	15766	104000				ERROR		INTEN NOT SET



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3124 *15770 *13777 *01270 163270      MOV      @DXPHY,@DXIS  JLOC INY STATUS
3125 *15776 *12777 *15374 163200      MOV      @SEL,DONE,@DXIV JLOC INY 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      @1041,0
3133 |.....?..... MOD APR 74 .....
3134 |0 11/40,11/45 RTT
3135 |0 TRACE TRAP MOD
3136
3137 *16016 *00072      YESRT!! RTI
3138 *16020 *00022      RTXI  RTI  IMODIFIED FOR 11/40,11/45 TO RTT
3139 |.....?..... MOD APR 74 .....
3140 |0 TIMING
3141 |0 MOD,BIPOLAR RESPONSE MOD
3142
3143 *16022 *00020      DELAY!  Z0
3144 *16024 *13727 *16022      RDLAY!  MOV      DELAY,(PC)+
3145 *16030 *00000      ISI  0
3146 *16032 *05337 *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 .SBYTL  SETUP SELECTED PARAMETERS
3155
3156 ISETUP: ROUTINE TO CLEAR DX AND SETUP THE FOLLOWING
3157 | 0192= MUX CH
3158 | 0191= BSYEN
3159 | 0190= ON-LINE
3160
3161 *16042 *00240      SETUP!  NOP
3162 *16044 *42777 *00200 163226      BIC      @DONE,@DXCS  JCLM=DONE= THEREFORE "LOCKO"
3163 *16052 *42777 *00000 163230      BIC      @HLDO,SELO,@DXMO  IGET READY FOR NEXT ISS
3164 *16060 *42777 *177000 163224      BIC      @17000,@DXHI  |
3165 *16066 *52777 *000010 163224      BIS      @TIMDIS,@DXES  ISET DXT0 DISABLE
3166 *16074 *42737 *000000 015202      BIC      @I'TOK,INTPAS  ICLEAR INTERRUPT PASS FLAG
3167 *16102 *12777 *000100 163332      SP1:  MOV@B  @SM,@DST  IRESPONSE TO TIO
3168 *16110 *32737 *000002 022262      BIT      @BIT1,PARA  IHAS BSYEN SELECTED
3169 *16116 *001405      BEQ      SP4  IBRANCH IF NOT
3170 *16120 *52777 *004000 163192      BIS      @BSYEN,@DXCS  ISET BUSY ENABLE
3171 *16126 *05077 *163310      CLR@B  @DST  ITIO GETS STATUS BY HARDWARE
3172 *16132 *12777 *015232 163124      SP2:  MOV      @INTR,@DXIV  ISET UP DX INTERRUPT VECTOR
3173 *16140 *13777 *001270 163120      MOV      @DXPRY,@DXIS  ISET UP DX INTERRUPT STATUS
3174 *16146 *52777 *000100 163124      BIS      @INTEN,@DXCS  ISET INT ENABLE
3175 *16154 *05037 *177776      CLR      PS  ICLEAR PROCESSOR STATUS
3176 *16160 *00207      SP4:  RTS  PC  IRETURN
3177

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3178							
3179							
3180							
3181							
3182	P16162						
3183	P16162	742777	000200	163110	BIC	#DONE,#DXCS	ICLEAR DONE AND LOCKO
3184							
3185							
3186							
3187							
3188							
3189							
3190							
3191							
3192							
3193							
3194							
3195							
3196	P16170	112777	000014	163134	MOVH	#CE#DE,#CUSR	ILCA^ CE/DE STATUS
3197							
3198	P16176	752777	000007	163074	BIS	#DXFST;GO,#DXCS	ISET FCTN/STATUS/GO ISTATUS=IN SHOULD RISE
3199							
3200							
3201	P16204	004737	P17500		JSR	X7;CUI5,SUB	IEEXECUTE CUIS
3202	P16210	742777	000000	163072	BIC	#HLDO;SELO,#DXMO	IDROP SELO;HLDO FOR NONZERO STATUS
3203	P16216	752777	001000	163004	BIS	#SRVO,#DXMO	ISERVICE=OUT UP ISTATUS=IN SHOULD FALL
3204							
3205							
3206							
3207	P16224	742777	001000	163056	BIC	#SRVO,#DXMO	IDROP SERVICE=OUT, ITWIS ENDS ES -- ESEND INT SHOULD IBE UP AND CUBSY CLEAR ICHECK FOR INTERRUPTS
3208							
3209							
3210							
3211	P16232	705077	163054		CLR	#DXMI	ICLEAR DXMI
3212	P16236	700207			RTS	X7	
3213							
3214							
3215	P16240						
3216	P16240	732737	000001	022670	BIF	#1;CMD	IS COMMAND READ OR WRITE?
3217	P16246	001012			BNE	TR;WRITE	INWRITE
3218							
3219							
3220	P16250						
3221	P16250	752777	001000	163032	BIS	#SRVC,#DXMO	ISERVICE=OUT UP ISERVICE=IN SHOULD FALL
3222							
3223	P16256	742777	001000	163024	BIC	#SRVO,#DXMO	ISERVICE=OUT DOWN ISERVICE=IN JP AGAIN IF MORE
3224							
3225	P16264	005337	022724		DEC	COJNT	ILoop TILL DONE
3226	P16270	001367			BNE	TR;READ	...
3227	P16272	700416			BR	TR;OJY	
3228							
3229							
3230	P16274						
3231	P16274	752177	163030		BIS	(R1)+,#BUSO	IPUT DATA ON BUS

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3232	R16300	792777	001000	163002	BIS	SRVO,POXMO	ISENVICE-OUT UP
3233							ISENVICE-IN SHOULD FALL
3234	R16306	742777	R01000	162774	BIC	SRVO,POXMO	ISENVICE-OUT DOWN
3235	R16314	042777	R00777	163014	BIC	0777,09US0	ITAKE DATA OFF BUS (SERVICE-IN UP)
3236	R16322	R05337	R22724		DEC	COJNT	
3237	R16326	R01302			BNE	TM WRITE	
3238							
3239	R16330	R00277			TR,OUTI RTS	X7	

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```
.SOTTL ONLINE ROUTINE  
| .....|  
|ONLIN, ROUTINE TO SET DX ONLINE  
|AND WAIT FOR RELAY TO PICK  
|
```

```
.SOTTL INITIAL SELECTION SEQUENCE
```

```
INITIAL SELECTION SEQUENCE
```

```
ISS.SUBI
```

```
BIS DEV,POXMO ILOAD BUS0 WITH DEVICE ADRS  
CMPB DEV,POXMO ITEST BUS0 FOR CORRECT ADRS  
BEQ ,01 IBRANCH IF NO ERROR CONDITION  
ERROR IBUS0 D15 NOV LOAD
```

```
|.....MOD APR 74 .....  
| INITIAL SELECTION CLEANUP MOD
```

3286	#16352	113777	022000	102746	MOV8	DEV,PCUAR	
3287	#16362	123777	022000	102740	CHPB	DEV,PCUAR	
3288	#16366	001431			BEG	,03	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	#12,PCOND	ITEST ADRO UP
3294	#16406	001071			BNE	,04	IBRANCH IF NO ERROR CONDITION
3295	#16410	104000			ERROR		IADNO DID NOT SET
3296							
3297	#16412	092777	040000	102670	BIS	#HLD0,POXMO	ISET HOLD=OUT
3298	#16420	032777	040000	102662	BIT	#HLD0,POXMO	ITEST FOR HOLD=OUT UP
3299	#16426	001001			BNE	,03	IBRANCH IF NO ERROR CONDITION
3300	#16430	104000			ERROR		IHOLD OUT DID NOT SET
3301							
3302	#16432	092777	020000	102690	BIS	#SELO,POXMO	ISET SELECT=OUT
3303	#16440	132777	000040	102672	BITB	#4,PCOND	ITEST FOR SELECT=OUT
3304	#16446	001001			BNE	,04	IBRANCH IF NO ERROR CONDITION
3305	#16450	104000			ERROR		ISELECT=OUT DID NOT SET
3306							
3307							
3308	#16452	032777	000002	102634	BIT	#ADRECC,POXCB	IHAS CU ADRS RECOGNISED
3309							IIS DEV A VALID CU ADRS
3310	#16460	001001			BNE	,04	IBRANCH IF NO ERROR CONDITION
3311	#16462	104000			ERROR		IDX DID NOT RECOGNISE CU ADRS
3312							IIF YES CHECK JUMPERS
3313							IADRECC LOGIC
3314							
3315							
3316	#16464	032777	000010	102602	BIT	#ISSREJ,POXDS	ITEST FOR ISS REJECT
3317	#16472	001431			BEG	,04	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	,01	IBRANCH IF NO ERROR CONDITION
3321	#16506	104000			ERROR		IOPLI DID NOT SET
3322							IIS DEV A VALID DEVICE ON CUP
3323							
3324	#16510	042777	004000	102572	BIC	#ADRO,POXMO	IDROP ADRO=OUT
3325	#16514	132777	000010	102614	BITB	#12,PCOND	IIS ADRO DOWN
3326	#16524	001431			BEG	,03	IBRANCH IF NO ERROR CONDITION
3327	#16526	104000			ERROR		IADNO DID NOT DROP
3328	#16530	032737	000004	022202	BIT	#BIT2,PARA	ITEST FOR MUX CH
3329	#16536	001415			BEG	ISS3	IBRANCH IF NOT MUX
3330	#16540	042777	000000	102542	BIC	#S'LC;HLD0,POXMO	ICLEAR SELECT=OUT, HOLD=OUT
3331	#16546	032777	020000	102534	BIT	#SELO,POXMO	IDID SELO CLEAR
3332	#16554	001401			BEG	,04	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			BEG	,03	IBRANCH IF NO ERROR CONDITION
3336	#16570	104000			ERROR		IHLD0 DID NOT CLEAR
3337	#16572	032777	010000	102512	ISS31	BIT	IADDRESS-IN SHOULD BE UP
3338	#16600	001001			BNE	,04	IBRANCH IF NO ERROR CONDITION
3339	#16602	104000			ERROR		IADMI DID NOT COME UP

3340								
3341	P166P4	123777	P22666	162538		CHPB	DEV,0BUSI	IADNS SHOULD BE ON BUSI
3342	P16612	001401				BEO	,+2	IBRANCH IF NO ERROR CONDITION
3343	P16614	104000				ERROR		IBUSI DOES NOT CONTAIN
3344								ICORRECT ADNS
3345								
3346	P16616	043777	P22666	162512		BIC	DEV,0BUS0	IREMOVE ADNS FROM BUS=OUT
3347	P16624	105777	162500			TSYB	00JSC	IADNS REMOVED
3348	P16630	001401				BEO	,+2	IBRANCH IF NO ERROR CONDITION
3349	P16632	104000				ERROR		IBUS0 DID NOT CLEAR
3350								
3351	P16634	053777	P22670	162474		BIS	CMD,0BUS0	IBUT COMMAND ON BUS0
3352	P16642	123777	022670	162406		CHPB	CMD,0BUS0	IDID COMMAND LOAD OK
3353	P16650	001401				BEO	,+2	IBRANCH IF NO ERROR CONDITION
3354	P16652	104000				ERROR		ICMD DID NOT LOAD PROPERLY
3355								
3356	P16654	092777	002000	162426		BIS	0CMD0,0DXM0	ISET COMMAND OUT
3357	P16662	132777	0000P4	162490		BITB	04,0CON0	IDID CMD0 SET
3358	P16670	001001				BNE	,+4	IBRANCH IF NO ERROR CONDITION
3359	P16672	104000				ERROR		ICMD0 DID NOT SET
3360								
3361	P16674	032777	000001	162372		BIT	0CMDREJ,0DXM0	ITEST FOR COMMAND REJECT
3362	P16702				ISSCRJI			
3363	P16702	001401				BEO	,+4	IBRANCH IF NO ERROR CONDITION
3364	P16704	104000				ERROR		ICOMMAND REJECTED
3365								
3366	P16706	032777	010000	162376		BIT	0ADR1,0DXM1	IADR1 SHOULD FALL
3367	P16714	001401				BEO	,+2	IBRANCH IF NO ERROR CONDITION
3368	P16716	104000				ERROR		IADR1 DID NOT DROP
3369								
3370	P16720	043777	022670	162362		BIC	CMD,0DXM0	IREMOVE CMD FROM BUS0
3371	P16726	105777	162404			TSYB	0BUS0	IWAS CMD REMOVED
3372	P16732	001401				BEO	,+4	IBRANCH IF NO ERROR CONDITION
3373	P16734	104000				ERROR		ICMD DID NOT CLEAR
3374	P16736	042777	002000	162344		BIC	0CMD0,0DXM0	
3375	P16744	032777	002000	162336		BIT	0CMD0,0DXM0	
3376	P16752	001401				BEO	,+2	IBRANCH IF NO ERROR CONDITION
3377	P16754	104000				ERROR		ICMD0 STUCK HIGH
3378								
3379								
3380	P16756	032737	004000	001312		BIT	0STAT,DXM1	ITEST FOR STATUS-IN
3381	P16764	001001				BNE	,+2	IBRANCH IF NO ERROR CONDITION
3382	P16766	104000				ERROR		ISTATUS-IN DID NOT RISE
3383	P16770	010146				MOV	R17,(SP)	
3384	P16772	113701	P22670			MOV	00CMD,R1	
3385	P16776	042731	177400			BIC	0177400,R1	
3386	P17002	063701	001442			ADD	00DST,R1	
3387	P17006	121177	162320			CHPB	0R1,0CUSR	
3388	P17012	001401				BEO	,+4	IBRANCH IF NO ERROR CONDITION
3389	P17014	104000				ERROR		ISTATUS FROM DST TRANSFER ERROR
3390	P17016	121177	162320			CHPB	0R1,0BUSI	
3391	P17022	001401				BEO	,+4	IBRANCH IF NO ERROR CONDITION
3392	P17024	104000				ERROR		ICUSR TO BUSI TRANSFER ERROR
3393	P17026	012601				MOV	(SP)+,R1	

```

3394
3395
3396
3397 017030 032737 000000 022202      BIT 0BIT2,PARA      ITEST FOR WUX CH
3398 017036 001023      BNE 1552             IBRANCH IF MJX
3399 017040 105737 022070      TSTB CM)           ITEST FOR *TEST I/O* COMMAND
3400 017044 001403      BEQ 1551           ICLEAR SEL0,HL00 IF T10 CMD
3401 017046 105777 102270      TSTB 0B:SI        ITEST BUSI FOR ZERO STATUS
3402 017052 001415      BEQ 1552           IONLY CLEAR SEL0,HL00 ON P STATUS
3403 017054 042777 060000 102226 15511  BIC 0SEL0,HL00,0DXMO ICLEAR SELECT=OUT, HOLD=OUT
3404 017062 032777 020000 102220      BIT 0S:LO,0DXMO   IJID SEL0 CLEAR
3405 017070 001401      BEQ .+3           IBRANCH IF NO ERROR CONDITION
3406 017072 104000      ERROR             IREPORT SEL0 NOT CLEAR
3407 017074 032777 040000 102226      BIT 0HL00,0DXMO   IJID 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 15521  BIS 0SRV0,0DXMO    ISET SERVICE=OUT
3412 017114 032777 001000 102106      BIT 0SRV0,0DXMO   ITEST SERVICE OUT
3413 017122 001001      BNE .+2           IBRANCH IF NO ERROR CONDITION
3414 017124 104000      ERROR             ISERVICE=OUT DID NOT SET
3415      | ..... CAN'T READ DXMI .....
3416      | BIT 0STA1,0DXMI  ISTATUS=IN SHOULD DROP
3417      |
3418      | ERCALL BEQ,
3419      | .....
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 .+3           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      TSTB 0BUS0        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.SUBI  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 .+3           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 102096      BIT 0ADRO,0DXMO
3446 017232 001001      BNE .+5           IBRANCH IF NO ERROR CONDITION
3447 017234 104000      ERROR             IADRO NOT SET

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3448	P17236	P32777	P40000	162044	BIS	#HLDC,POXMO	ISET & CHECK HLDC
3449	P17244	P32777	P40000	162036	BIT	#HLDC,POXMO	
3450	P17252	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3451	P17254	104000			ERROR		HLDC NOT SET
3452							
3453	P17256	P32777	P20000	162024	BIS	#SELO,POXMO	ISET & CHECK SELECT-OUT
3454	P17264	P32777	P20000	162016	BIT	#SELO,POXMO	
3455	P17272	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3456	P17274	104000			ERROR		SELO NOT SET
3457							
3458	P17276	P32737	P00002	022202	BIT	#BIT1,PARA	ITEST FOR BSV SELECT
3459	P17304	001400			BEQ	HIO,B	
3460	P17306	122777	000120	162026	CMPB	#SIAMOD,BSV,#BUSI	ICHECK STATUS
3461	P17314	001401			BEQ	,+3	IBRANCH IF NO ERROR CONDITION
3462	P17316	104000			ERROR		BUSI STATUS ERROR
3463	P17320	000431			BR	HIO,B	
3464	P17322						
3465	P17322	123777	022066	161776	CMPB	DEV,#CUAR	IVERIFY DEVICE ADDRESS
3466	P17330	001401			BEQ	,+4	IBRANCH IF NO ERROR CONDITION
3467	P17332	104000			ERROR		BUSO TO CUAR TRANSFER ERROR
3468							
3469	P17334	042777	004000	161746	BIC	#ADRO,POXMO	ICLEAR & CHECK
3470	P17342	P32777	004000	161740	BIT	#ADRO,POXMO	
3471	P17350	001401			BEQ	,+3	IBRANCH IF NO ERROR CONDITION
3472	P17352	104000			ERROR		ADRO SET
3473							
3474	P17354	123777	022066	161700	CMPB	DEV,#BUSI	IS CORRECT ADRS BEING ECHOED
3475	P17362	001401			BEQ	,+4	IBRANCH IF NO ERROR CONDITION
3476	P17364	104000			ERROR		BUSI LOAD ERROR
3477							ICHECK ASRECC,0
3478							
3479	P17366	P43777	022066	161714	BIC	DEV,POXMO	IREMOVE ADRS FROM BUSO
3480	P17374	103737	001310		TSYB	DXMO	IBRANCH IF CLEAR
3481	P17400	001401			BEQ	,+3	IBRANCH IF NO ERROR CONDITION
3482	P17402	104000			ERROR		BUSO DID NOT CLEAR
3483							
3484							
3485							
3486	P17404						
3487	P17404	042777	000000	161676	HIO,B	IIINTERFACE DISCONNECT	
3488	P17412	P32777	P40000	161670	BIC	#HLDC,SELO,POXMO	
3489	P17420	001401			BIT	#HLDC,POXMO	
3490	P17422	104000			BEQ	,+3	IBRANCH IF NO ERROR CONDITION
3491					ERROR		HLDC SET
3492	P17424	P32777	P20000	161656	BIT	#SELO,POXMO	
3493	P17432	001401			BEQ	,+4	IBRANCH IF NO ERROR CONDITION
3494	P17434	104000			ERROR		SELO SET
3495							
3496	P17436	P32777	004000	161644	BIS	#ADRO,POXMO	
3497							
3498	P17444	P32777	004000	161636	BIT	#ADRO,POXMO	
3499	P17452	001001			BNE	,+4	IBRANCH IF NO ERROR CONDITION
3500	P17454	104000			ERROR		ADRO NOT SET
3501							

3572	717456	742777	784000	101024	BIC	#ADR0,DXMO	
3573							
3574	717464	732777	784200	101016	BIF	#ADR0,DXMO	
3575	717472	701471			REQ	,02	IBRANCH IF NO ERROR CONDITION
3576	717474	104000			ERROR		IADR0 SET
3577	717476	700277			MIO,21	RTS	PC
3578					,SOFTL	CUIS	SUBROUTINE
3579							
3580							
3581							
3582							
3583							
3584							
3585	717570						
3586							
3587	717570	732737	780004	022202	BIF	#UIT2,PARA	
3588	717576	701510			REQ	CUIS	
3589							
3590							
3591							
3592							
3593							
3594							
3595							
3596							
3597							
3598							
3599							
3600							
3601							
3602							
3603							
3604							
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3606							
3607							
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3610							
3611							
3612							
3613							
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3615							
3616							
3617							
3618							
3619							
3620							
3621							
3622	717510	732777	720000	101574	BIF	#REQ0,DXMO	ITEST FOR REQUEST-IN OP
3623	717516	701071			BNE	,02	IBRANCH IF NO ERROR CONDITION
3624	717520	104000			ERROR		IREQ0 NOT SET
3625							
3626	717522	752777	760000	101500	BIS	#SEL0,HLDO,DXMO	ISET SELECT-OUT & HOLD-OUT
3627	717530	732777	720000	101592	BIF	#SEL0,DXMO	ITEST FOR SELECT-OUT
3628	717536	701001			BNE	,02	IBRANCH IF NO ERROR CONDITION
3629	717540	104000			ERROR		ISEL0 NOT SET
3630							
3631	717542	732777	740000	101540	BIF	#HLDO,DXMO	ITEST FOR HOLD-OUT
3632	717550	701001			BNE	,04	IBRANCH IF NO ERROR CONDITION
3633	717552	104000			ERROR		IMLDO NOT SET
3634							
3635	717554	732777	100000	101530	BIF	#OPL1,DXMO	ITEST FOR OPERATIONAL-IN
3636	717562	701001			BNE	,04	IBRANCH IF NO ERROR CONDITION
3637	717564	104000			ERROR		IOPL1 NOT SET
3638							
3639	717566	732777	720000	101516	BIF	#REQ1,DXMO	ITEST FOR REQ1
3640	717574	701421			BEO	,04	IBRANCH IF NO ERROR CONDITION
3641	717576	104000			ERROR		IREQ1 DID NOT DROP
3642							
3643	717600	732777	010000	101504	BIF	#ADR1,DXMO	ITEST FOR ADDRESS IN
3644	717606	701071			BNE	,04	IBRANCH IF NO ERROR CONDITION
3645	717610	104000			ERROR		IADR1 NOT SET
3646							
3647	717612	123777	722000	101522	CHPB	DEV,0WJ1	IADDRESS ON BUS1
3648	717620	701401			BEO	,04	IBRANCH IF NO ERROR CONDITION
3649	717622	104000			ERROR		IBUS1 LOAD ERROR
3650							
3651	717624	752777	702000	101496	BIS	#CMD0,DXMO	ISET COMMAND-OUT
3652	717632	732777	702000	101490	BIF	#CMD0,DXMO	
3653	717640	701071			BNE	,04	IBRANCH IF NO ERROR CONDITION
3654	717642	104000			ERROR		ICMD0 DID NOT SET
3655							



3556	#17644	732777	010000	161440	BIF	#ADM1,@DXM1	JADM1 SHOULD DROP
3557	#17652	701401			BEG	.+?	JBRANCH IF NO ERROR CONDITION
3558	#17654	104000			ERROR		JADM1 DID NOT DROPS
3559							
3560	#17656	742777	760000	161424	BIC	#SELO,HLD0,@DXM0	
3561	#17664	732777	740000	161416	BIF	#HLD0,@DXM0	JTEST HOLD=OUT
3562	#17672	701401			BEG	.+?	JBRANCH IF NO ERROR CONDITION
3563	#17674	104000			ERROR		HLD0 SET
3564							
3565	#17676	732777	720000	161404	BIF	#SELO,@DXM0	JTEST SELECT=OUT
3566	#17704	701401			BEG	.+?	JBRANCH IF NO ERROR CONDITION
3567	#17706	104000			ERROR		SELO SET
3568							
3569	#17710	042777	002000	161372	BIC	#CMD0,@DXM0	JCLEAR COMMAND=OUT
3570	#17716	032777	002000	161364	BIF	#CMD0,@DXM0	JTEST FOR CMD0 CLEAR
3571	#17724	701401			BEG	.+?	JBRANCH IF NO ERROR CONDITION
3572	#17726	104000			ERROR		CMDO SET
3573							
3574	#17730	000207					
3575							
3576							
3577							
3578	#17732						
3579	#17732	#53777	022666	161350	BIS	DEV,@DXM0	JPUT DEVICE ADRS ON OUT TAGS
3580	#17740	052777	004000	161342	BIS	#ADRO,@DXM0	JRAISE ADRS=OUT
3581	#17746	052777	000000	161334	BIS	#HLD0,SELO,@DXM0	JRAISE SELECT=OUT, HOLD=OUT
3582	#17754	042777	004000	161326	BIC	#ADRO,@DXM0	JREMOVE ADRS=OUT
3583	#17762	043777	022666	161320	BIC	DEV,@DXM0	JREMOVE ADRS
3584	#17770	#53777	022670	161312	BIS	CMJ,@DXM0	JPUT COMMAND ON OUT TAGS
3585	#17776	052777	002000	161304	BIS	#CMD0,@DXM0	JRAISE CMD=OUT
3586	#20004	043777	022670	161276	BIC	CM0,@DXM0	JREMOVE CMD
3587	#20012	042777	000000	161270	BIC	#CMD0,@DXM0	JREMOVE CMD=OUT
3588	#20020	032737	000004	022262	BIF	#BIT2,PARA	JTEST FOR MUX CH
3589	#20026	001000			BNE	FISS1	JBRANCH PI MUX
3590	#20030	105737	022670		TSYB	CM0	JTEST FOR "TEST I/O" COMMAND
3591	#20034	001403			BEG	FISS1	JCLEAR SELO,HLD0 IF TIO CMD
3592	#20036	105777	161300		TSYB	#BUS1	JTEST BUS1 FOR ZERO STATUS
3593	#20042	001403			BEG	FISS2	JDON'T CLEAR SELO,HLD0 ON 0 STATUS
3594	#20044	042777	060000	161236	FISS1: BIC	#HLD0,SELO,@DXM0	JCLEAR SELO AND HLD0
3595	#20052	052777	001000	161230	FISS2: BIS	#SHV0,@DXM0	JRELEASE STATUS
3596	#20060	042777	001000	161222	BIC	#SHV0,@DXM0	J
3597	#20066	000207			RTS	PC	
3598							
3599							
3600							
3601	#20070						
3602	#20070	053777	022666	161230	BIS	DEV,@CUAR	JPRESET COM/ADD REG DEV ADDRESS
3603	#20076	042777	000400	161222	BIC	#4 0,@CUAR	JPARITY RESET
3604	#20104	053777	022666	161176	BIS	DEV,@DXM0	JPUT DEVICE ADRS ON OUT TAGS
3605	#20112	052777	004000	161170	BIS	#ADRO,@DXM0	JRAISE ADRS=OUT
3606	#20120	052777	060000	161162	BIS	#HLD0,SELO,@DXM0	JRAISE SELECT=OUT, HOLD=OUT
3607	#20126	042777	004000	161154	BIC	#ADRO,@DXM0	JREMOVE ADRS=OUT
3608	#20134	043777	022666	161146	BIC	DEV,@DXM0	JREMOVE ADRS
3609	#20142	053777	022670	161140	BIS	CM0,@DXM0	JPUT COMMAND ON OUT TAGS

3610	R2F150	752777	R02000	161132		BIS	@CMD0,@DXMO	I RAISE CMD=OUT
3611	R2F156	743777	R22670	161124		BIC	CM2,@UXMO	I REMOVE CMD
3612	R2F164	742777	R02000	161116		BIC	@CMD0,@DXMO	I REMOVE CMD=OUT
3613	R2F172	752777	R01000	161110		BIS	@S2VO,@DXMO	I RELEASE STATUS
3614	R2F200	742777	R01000	161102		BIC	@S2VO,@DXMO	I
3615	R2F206	700207				RTS	PC	
3616								I SCOPE LOOP AND CONTROL SUBROUTINE
3617								
3618	R20210	105777	161162		SCOPECI	TSYB	@TAS	
3619	R20214	100014				BPL	SCOPEM	
3620	R20216	017727	161150			MOV	@TK0,(PC)+	
3621	R20222	000000			DTMPI	B		
3622	R20224	042737	000200	020222		BIC	@200,DTMP	
3623	R20232	123727	020222	000003		CMPB	DTMP,#3	
3624	R20240	001002				BNE	SCOPEM	
3625	R20242	000137	021404			JMP	@MON1,B	
3626	R20246	032737	040000	177570	SCOPEM1	BIT	@BIT14,SR	I TEST FOR SCOPE
3627	R20254	001012				BNE	SCOPEB	I BRANCH IF SCOPE SELECTED
3628	R20256	032737	004000	177570		BIT	@BIT11,SR	I TEST FOR ITERATIONS
3629	R20264	001020				BNE	SCOPEA	I EXIT IF ITERATIONS INHIBITED
3630	R20266	005237	R20336			INC	SCOPEF	I INCREMENT ITERATION COUNT
3631	R20272	023737	020336	020334		CMR	SCOPEF,ICOUNT	I TEST FOR COMPLETION OF ITERATIONS
3632	R20300	701410				BEQ	SCOPEG	I BRANCH IF COMPLETE
3633	R20302	712737	177777	022600	SCOPEB1	MOV	@0,ONESMOV	I SO YOU CAN SCOPE ON ONCE ONLY CODE
3634	R20310	005726				TSY	(SP)+	I POP RETURN PC
3635	R20312	712637	177776			MOV	(SC)+,PS	I RESTOR PROCESSOR STATUS
3636	R20316	000177	000010			JMP	@RETURN	I
3637	R20322	311637	020340		SCOPEG1	MOV	@SP,RETURN	I SET UP SCOPE RETURN ADRS
3638	R20326	005037	R20336		SCOPEA1	CLR	SCOPEF	I CLEAR ITERATION COUNT
3639	R20332	000002				RTI		
3640	R20334	000001			ICOUNT1	1		I NUMBER OF REQUESTED ITERATIONS
3641	R20336	000000			SCOPEF1	0		I ITERATION COUNT
3642	R20340	004000			RETURN1	TSY1		I DEFAULT RETURN
3643	R20342				TSYABLE1			I BEGINNING OF TABLE OF TEST ADDRESSES
3644		R20442				.0,+100		I TEST ADDRESS LIST
3645								
3646								
3647								
3648								
3649	R20442							
3650	R20442	711646			EM9DECODER1	MOV	@R6,@(R6)	I DUPLICATE PC ON STACK
3651	R20444	102716	000002			SUB	@2,@R6	I POINT PC TO EMT INST.
3652	R20450	017616	000000			MOV	@(R6),@R6	I MOV EMT INST ONTO STACK
3653	R20454	121627	000024			CMPB	@R6,@20.	I TEST THAT CALL IS WITHIN LIMITS
3654	R20460	101401				BLOS	EMTOK	I BRANCH IF WITHIN LIMITS
3655	R20462	104000				ERROR		
3656	R20464	006116			EMTOK1	ROL	@R6	I EMT ARGUMENT X 2,
3657	R20466	042716	177001			BIC	@177001,@R6	I CLEAR HIGH BYTE
3658	R20472	762716	020504			ADD	@EMTAG,@R6	I FORM ADRS OF ROUTINE ADRS
3659	R20476	717616	000000			MOV	@(R6),@R6	I PUT ROUTINE ADRS ON STACK
3660	R20502	700136				JMP	@(R6)+	I JUMP TO ROUTINE
3661								I TAGS FOR EMT CALL
3662								
3663	R20504				EMTAG1			I BEGINNING OF EMT TABLE

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3664
3665 P2P5R4 000024 .BLKW 20; IRESERVE 10. WORDS FOR ADDR LIST
3666
3667
3668 IENTRY POINT FOR MAP ERRORS
3669 P2P554 Y,MAPERRI
3670 P2P554 012737 177777 021262 MOV 00E,ENFLG IFLAG THAT THIS IS MAP ERROR
3671 P2P562 000137 020724 JMP 000EF
3672 P2P566 000000 TERPC1 0 IORIGIN OF TRACE ERROR
3673 IUMBLE TABLE TRACE ERROR TRAP
3674 P2P570 Y,TRACERI
3675 P2P570 012737 177776 021262 MOV 002,ENFLG
3676 P2P576 000004 030037 TYPE ,TRC1
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 ,TRC1 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 0BIT1,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)
3702 P2P716 000402 BR 00F
3703
3704 IENTRY POINT FOR MOST ERRORS
3705
3706 P2P720 Y,ERRORI
3707 P2P720 005037 021262 CLR ERPLG IFLAG THIS AS NORMAL "RROR
3708 P2P724 005237 021314 OEP: 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 P2P750 010437 021330 MOV R4,E,R4 ISAVE R4
3714 P2P754 010537 021332 MOV R5,E,R5 ISAVE R5
3715 P2P760 032737 020000 177570 BIT 0BIT13,SR ITEST FOR INHIBIT PRINT
3716 P2P766 001003 BNE PERRPC IBRANCH IF INHIBIED
3717 P2P770 000004 027553 TYPE ,EMPC
  
```

3718	220774	711627			MOV	OSP,(PC)+	ISAVE ERROR PC +2
3719	220776	700070			P		IMHF
3720	221000	162737	000002	020776	ETMPC1	SUB	02,ETMPC
3721	221006	710546			MOV	TTY,=(SP)	ICORRECT PC
3722	221010	713725	220776		MOV	01,ETMPC,TTY	ISAVE TTY
3723	221014	704737	025460		JSR	PC,PRINTR	ITYPE IN OCTAL
3724	221020	712605			MOV	(SP)+,TTY	ITYPE LEADING ZERO'S
3725	221022	732737	010000	177570	BIT	0BIT12,SR	IRESTORE TTY
3726	221030	701042			BNE	PE,RPC	ITEST FOR SHORT ERROR REPORT
3727	221032	722737	177776	021202	CMR	002,ERFLG	IBRANCH IF SHORT SELECTED
3728	221040	701410			BEQ	IS	
3729	221042	000004	027767		TYPE	,MSG35	IBRANCH IN TEST1
3730	221046	710546			MOV	TTY,=(SP)	ISAVE TTY
3731	221050	713725	021310		MOV	ERTSTN,TTY	ITYPE ERTSTN IN OCTAL
3732	221054	704737	025476		JSR	X7,PRINTS	IAND SUPPRESS LEADING ZERO'S
3733	221060	712605			MOV	(SP)+,TTY	IRESTORE TTY
3734	221062	700004	027716		151	TYPE	,MSG26
3735	221066	710546			MOV	TTY,=(SP)	ISAVE TTY
3736	221070	713725	022676		MOV	CUDRS,TTY	ITYPE IN OCTAL
3737	221074	704737	025466		JSR	PC,PRINTR	ITYPE LEADING ZERO'S
3738	221100	712605			MOV	(SP)+,TTY	IRESTORE TTY
3739	221102	700004	027522		TYPE	,CRLF	
3740	221106	732737	000002	022202	BIT	0B T1,00PARA	ITEST FOR BUSY ENABLE MODE
3741	221114	701402			BEQ	EMOD1	IBRANCH IF NOT
3742	221116	700004	030132		TYPE	,AUSYM	ITYPE BUSY ENABLE
3743	221122	732737	000004	022202	EMOD11	BIT	0BIT2,00PARA
3744	221130	701402			BEQ	EMOD2	IBRANCH IF SELECTOR
3745	221132	700004	030151		TYPE	,AMUXM	ITYPE MUX CH
3746	221136				EMOD21		
3747	221136	732737	100000	177570	PERRPC1	BIT	0HLTSH,SR
3748	221144	701402			BEQ	ERRLOP	IBRANCH IF NO HALT
3749							
3750							
3751	221146	700000				HALT	IBALT ON ERROR
3752	221150				ERRLOP1		
3753	221150	713720	021320		MOV	E,R0,H0	IRESTORE R0
3754	221154	713721	021322		MOV	E,1,H1	IRESTORE R1
3755	221160	713702	021324		MOV	E,R2,H2	IRESTORE R2
3756	221164	713703	021326		MOV	E,R3,H3	IRESTORE R3
3757	221170	713704	021330		MOV	E,R4,H4	IRESTORE R4
3758	221174	713705	021332		MOV	E,R5,H5	IRESTORE R5
3759	221200	732737	040000	177570	BIT	0LOPSH,SR	ITEST FOR SCOPE LOOP
3760	221206	701424			BEQ	EXIR1	
3761	221210	712706	001100		MOV	0BEGIN,SP	IREINIT STACK POINTER
3762	221214	712737	177777	022600	MOV	001,ONESHOY	IREINIT ONESHOY TEST FLAGS
3763	221222	742777	000002	160070	BIC	0MCKEN,0DXES	ICLEAR MAINT CLOCK
3764	221230	705077	160054		CLR	0DXMO	ISYSTEM RESEY
3765	221234	752777	000001	160036	BIS	0UAFMS,0DXCS	IDX RESEY
3766	221242	704737	024114		JSR	PC,PREI	IREINITIALIZE DX
3767	221246	713737	001272	177776	MOV	LESS1,PS	IDX PRIORITY MINUS ONE
3768	221254	700177	177060		JMP	0RETURN	
3769							
3770	221260	700002			EXPR11	RTI	
3771	221262	700000			ERFLG1	0	IBRANCH IF NO HALT

IBRANCH IF NO HALT

3772  
 3773  
 3774 \*21264 \*27570  
 3775 \*21266 \*27577  
 3776 \*21270 \*27600  
 3777 \*21272 \*27615  
 3778 \*21274 \*27624  
 3779 \*21276 \*27633  
 3780 \*21300 \*27642  
 3781 \*21302 \*27651  
 3782 \*21304 \*27660  
 3783 \*21306 \*27667  
 3784 \*21310 \*27676  
 3785 \*21312 \*27705

LIST OF ASCII MESSAGE ADDRESSES

ADRA1 ADXDS  
 ADXCA  
 ADXCS  
 ADXOS  
 ADXBA  
 ADXBC  
 ADXMO  
 ADXMI  
 ADXCB  
 ADXND  
 ADXES  
 ADRAE1 ADXES1

3786  
 3787  
 3788  
 3789

ERROR COUNT

3790  
 3791 \*21314 \*00000  
 3792 \*21316 \*00000

ERRCNT1 ?  
 ERYSYNI ? ITST NUMBER

3793  
 3794  
 3795

REGISTER STORAGE FOR ERROR REPORTING

3796  
 3797 \*21320 \*00000  
 3798 \*21322 \*00000  
 3799 \*21324 \*00000  
 3800 \*21326 \*00000  
 3801 \*21330 \*00000  
 3802 \*21332 \*00000

E,R01 0 ISAVED REGISTERS FOR ERROR REPORTING  
 E,R11 0 ISAVED REGISTERS FOR ERROR REPORTING  
 E,R21 0 ISAVED REGISTERS FOR ERROR REPORTING  
 E,R31 0 ISAVED REGISTERS FOR ERROR REPORTING  
 E,R41 0 ISAVED REGISTERS FOR ERROR REPORTING  
 E,R51 0 ISAVED REGISTERS FOR ERROR REPORTING

3803  
 3804  
 3805

SBTTL MONITOR

3806  
 3807 \*21334  
 3808  
 3809  
 3810

MONITOR1  
 | .....  
 | .....  
 | .....

3811  
 3812 \*21334 012706 001100  
 3813 \*21340 012737 000340 177776  
 3814 \*21346 004737 023172  
 3815  
 3816 \*21352 012737 025624 000000  
 3817 \*21360 012737 000200 000002  
 3818 \*21366 \*000004 027443  
 3819  
 3820 \*21372 \*000004 026474  
 3821 \*21376 012737 021020 021374  
 3822  
 3823 \*21404 \*000005  
 3824 \*21406 \*005777 157766  
 3825 \*21412 \*027777 000100 157756

MOV #BEGIN,SP ISET UP STACK POINTER  
 MOV #LEVEL7,PS IMONITOR AT LEVEL 7  
 JSR PC,MONDFLT ISET UP DEFAULT PARAMETERS  
 MOV #TTY1,0060 TTY KEYBOARD INT VEC  
 MOV #LEVEL4,0062 ILEVEL 4  
 TYPE ,HOME IHOME UP AND ERASE SCREEN  
 HI TYPE ,HEADER  
 MOV #R100,00H02 IHEADER TEXT GETS WIPEO BY NPRIS  
 MON1,01 RESET  
 TSY #TKB ICLEAR FLAG  
 BIS #INTEN,0TKS ISET INTERRUPT ENABLE

3826	2142J	12706	001130		MOV	#BEGIN,SP	ISET UP STACK POINTER
3827	21424	12737	000340	177776	MOV	#LEVEL,PS	IMONITOR AT LEVEL 7
3828	21432	0000F4	227063		TYPE	,FSTART	
3829	21436	1040F6			KEY,TO,NO		
3830	2144J	1227F0	000104		CHPB	#ID,R0	ID = DEFAULT PARAMETERS
3831	21444	0010F3			BNE	15	
3832	21446	004737	023172		JSR	PCT,00MONDFLT	
3833	21452	000423			BR	25	
3834	21454	122700	000120	151	CHPB	#IP,R0	IP = PREVIOUSLY SELECTED PARAMETERS
3835	2146J	0010F2			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			BEG	NO:1	
3839	21474	122700	000110		CHPB	#IN,R0	IN = START AT THIS TEST #
3840	215F0	001341			BNE	NO:1,0	
3841	215F2	000004	27141		TYPE	,MSG9	
3842	215F6	104005			ACCEPTO		
3843	21510	013737	022704	022706	MOV	OCTNUM,FIRST,TST	
3844	21516	000761			BR	25	
3845							
3846	21520	001137	046105	040517	RELOAD	,ASCIZ "RELOAD FOR HEADER TEXT"	
3847	21526	0201F4	047900	020122			
3848	21534	042510	042101	051105			
3849	21542	052040	0541F9	000124			
3850							
3851							
3852							
3853	2155J	004737	023172		MON11	JSR PCT,MONDFLT	ISET UP DEFAULT PARAMETERS
3854	21554	000004	027141		TYPE	,MSG9	IFIRST TEST #
3855							
3856	2156J	104005			ACCEPTO	IACCEPT TEST NUMBER FROM KEYBOARD	
3857							
3858							
3859	21562	005737	022704		TST	OCTNUM	ITEST FOR DEFAULT
3860	21566	001403			BEG	MON3	IBRANCH ON DEFAULT
3861	21570	013737	022704	022706	MOV	OCTNUM,FIRST,TST	ILOAD FIRST TEST #
3862							
3863	21576	000004	027077		MON31	TYPE ,MSG2	IBASE ADDRESS1
3864							
3865							
3866	21672	104005			ACCEPTO	IACCEPT BASE ADDRESS FROM KEYBOARD	
3867							
3868	21674	005737	022704		TST	OCTNUM	ITEST FOR DEFAULT
3869	21610	001403			BEG	MON4	IBRANCH IF DEFAULT
3870	21612	013737	022704	001202	MOV	OCTNUM,DXBASE	ILOAD NON-DEFAULT ADDRESS
3871							
3872	21620	000004	027733		MON41	TYPE ,MSG20	IACCEPT INTERRUPT VECTOR
3873	21624	104005			ACCEPTO		
3874	21626	005737	022704		TST	OCTNUM	ITEST FOR DEFAULT
3875	21632	001411			BEG	NO:4,1	IBRANCH IF DEFAULT
3876	21634	013737	022704	001264	MOV	OCTNUM,DXIV	ILOAD NON-DEFAULT INT VECTOR ADRS
3877	21642	002737	000002	022704	ADD	#2 OCTNUM	IFORM INT STATUS ADRS
3878	21650	013737	022704	001266	MOV	0 OCTNUM,0DXIS	IINT STATUS ADDRESS
3879							

3880								
3881	F21656	000054	F27344	MON4.11	TYPE	,MSG12		IPRIORITY
3882	F21662	104075			ACCEPTO		IACCEPT	DX PRIORITY LEVEL
3883	F21664	005737	F22704		TST	OCTNUM		IYES FOR DEFAULT
3884	F21670	001425			BEG	MON6		IBRANCH ON DEFAULT
3885	F21672	006337	F22704		ASL	OCTNUM		ISHIFT PRIORITY
3886	F21676	006337	F22704		ASL	OCTNUM		IINTC PROCESSOR
3887	F21702	006337	F22704		ASL	OCTNUM		IPRIORITY BITS OF
3888	F21706	006337	F22704		ASL	OCTNUM		IPROCESSOR STATUS WORD
3889	F21712	006337	F22704		ASL	OCTNUM		
3890	F21716	113737	F22704	001270	MOV	OCTNUM,DXPRY		ILOAD PRIORITY
3891	F21724	005337	F22704		DEC	OCTNUM		
3892	F21730	142737	F00037	F22704	BIC	03,00OCTNUM		ICLEAR TNZVC
3893	F21736	113737	F22704	001272	MOV	OCTNUM,LESS1		IPRIORITY TO ALLOW DX INTERRUPTS

3894  
3895  
3896

IGENERATE A LIST OF LEGAL ADDRESSES

3898								
3899	F21744	000024	F27160	MON61	TYPE	,MSG4		ILEGAL ADDRESS LIST
3900	F21750	012723	F22720		MOV	0LEGAL,ADRS,R3		ISTART OF LEGAL ADRS TABLE
3901	F21754	000024	F27252	MON71	TYPE	,MSG6		IADRS1
3902	F21760	004737	F24400		JSR	PC,GETHEX		IGET HEXADECIMAL CU ADDRESS
3903	F21764	104007	F25010		PARITY	,HEXNUM		IPUT PARITY (000) ON ADRS
3904	F21770	F13723	F25010		MOV	HEXNUM,(R3)+		ISAVE LEGAL ADDRESS
3905	F21774	104006			KEY,TO,R0			
3906	F21776	122720	000015		CHPB	0CR,R0		IALL DONE?
3907	F22002	001304			BNE	MON7		ICONTINUE LIST IF NOT <CR>

..... MOD APR 74 .....

3908  
3909  
3910  
3911  
ADDRESS RESPONSE MOD

3912	022004	113727	F25010		MOV	HEXNUM,(PC)+		
3913	022010	000000		VLUHEX10				
3914	022012	142737	000400	022010	BIC	0400,VLUHEX		
3915	022020	123727	F22010	000376	CHP	VLUHEX,0376		IYES FOR > FF
3916	022026	003403			BLR	15		I(OK) BRANCHES
3917	022030	000004	F27371		TYPE,	MSG13		IOUTPUT " ILLEGAL ?" I.E. > "FF"
3918	022034	000747			BR	MON7		ITRY AGAIN
3919	022036	112723	177777	151	MOV	001,(R3)+		IMARK END OF LIST

..... MOD APR 74 .....

3920  
3921  
3922  
3923  
3924  
3925  
3926  
3927  
3928  
3929  
3930  
3931  
3932  
3933  
0DEV/CU MOD

ISET UP MAXIMUM NUMBER OF DEVICES PER CONTROL UNIT  
ITHIS INFORMATION DETERMINES WHAT THE SPW TABLE LOOKS LIKE

3926	F22042	000024	F27117	MON51	TYPE	,MSG3		IMAX # DEVICES/CU
3927	F22046	104005			ACCEPTO			IACCEPT NUMBER OF DEVICES/CU
3928	F22050	005737	F22704		TST	OCTNUM		IUSE 16- ON DEPAULT
3929	F22054	001003			BNE	X1		
3930	F22056	000024	F27371		TYPE,	MSG13		IOUTPUT " ILLEGAL ?" I.E. = "00"
3931	F22062	000767			BR	MON5		ITRY AGAIN
3932								
3933	F22064	113727	F22704	X151	MOV	OCTNUM,(PC)+		

```

3934 R22070 000070          RDXXI  5
3935 R22072 005337  R22070          DEC      RDXX          RANGE MODULO 1
3936 R22076 013727  P22010          MOV      VLUHLX,(PC)+
3937 R22102 000000          MDXXI  3          RANGE MASK
3938 R22104 003737  R22070  022102          ADD      RDXX,MDXX    ISCALE
3939 R22112 105137  P22102          COMB     MDXX        IFORM FINAL
3940 R22116 042737  177400  022102          BIC      #1,7400,MDXX  ICU PORTION CLR
3941
3942
3943
3944 R22124 013737  R22704  022710          MOV      PC,NUM,MAX,DEV,CU
3945 R22132 004737  024000          MON5,11 JSR      PC,CXCUA  ICHECK FOR LEGAL NUMBER OF DEV PER CU
3946
3947
3948
3949
3950
3951
3952
3953
3954
3955
3956
3957
3958
3959 R22136 012704  R23152          MON81  MOV      #CMD,STAT,R4
3960 R22142 012703  P23112          MOV      #CMD,ADRS,R3
3961 R22146 000004  P27301          TYPE     ,MSG0          ILEGAL CMD LIST
3962 R22152 000004  P27332          MON91  TYPE     ,MSG1          ICMDI
3963 R22156 104005          ACCEPTO          IACCEPT LEGAL COMMANDS FROM KEYBOARD
3964 R22160 005737  022704          TST     OCTNUM
3965 R22164 001417          BEQ     MON10
3966 R22166 104007  022704          PARITY  ,OCTNUM
3967 R22172 013723  022704          MOV     OCTNUM,(R3)+
3968 R22176 000004  027755          TYPE     ,MSG31          I"STATUS;"
3969 R22202 104005          ACCEPTO
3970 R22204 113724  P22704          MOVB    OCTNUM,(R4)+
3971 R22210 104006          KEY,TO,R0
3972 R22212 120027  000015          CMPE    R0,RCH
3973 R22216 001355          BNE     #0'19
3974 R22220 012723  177777          MOV     #',(R3)+          ILOAD TERMINATOR
3975
3976
3977
3978
3979 R22224          MON101
3980 R22224 012737  177777  022600          MOV     #1,CNESH0Y
3981 R22232 005037  P21314          CLR     ERMCNT
3982 R22236 000004  P27202          TYPE     ,MSG7          ISET DYNAMIC SWITCHES
3983 R22242 104006          KEY,TO,R0          ITYPE ANYTHING
3984 R22244 122700  000003          CMPE    #3,R0          ITEST FOR CONTROL C
3985 R22250 001002          BNE     MON11          IGO IF NO C
3986 R22252 000137  021404          JMP     #MON1,0
3987

```



```

3998
3999
3990
3991 P22256 113727 177570 MON111 MOV BWR,(PC)+ ISAVE MODE CONTROL SWITCH SETTINGS
3992 P22262 000000 PARAI ? JNEHF
3993 P22264 004737 P24000 JSR PC;CKCUA ICMP ADRS VS MAX DEV PER CU
3994 P22270 004737 P23020 JSR PC;SPH,SETUP ISET UP STATUS POINTER WORDS
3995 P22274 004737 P23444 JSR PC;TY,CLR ICLEAR TUMBLE TABLE
3996 P22300 004737 P23750 JSR PC;DST,SETUP ISETUP DEVICE STATUS TABLE
3997 P22304 004737 P23402 JSR PC;ODAT ISET 360 SIM OUTPUT DATA FILE
3998 P22310 004737 P24302 JSR PC;REG,SETUP ISCALE ADDRESSES
3999
4000 P22314 LPCSU1
4001 P22314 P12737 000001 022700 MOV #17,DEV CNT IINIT DEVICE COUNT
4002 P22322 P12737 P22720 022674 MOV #LEGAL,ADRS,ACUA IADRS OF CU ADRS
4003 P22330 117737 000340 022676 MOVB DABUA,CUADR5 ICU ADDRESS
4004 P22336 000472 BR LPC1
4005
4006 P22340 000004 P27440 LPCNTLI TYPE ,BELL
4007
4008 P22344 002737 000001 022676 ADD #17,CLADMS I
4009 P22352 005237 022700 INC DEV CNT IINC DEVICE COUNT
4010 P22356 023737 P22700 022710 CMP DEV CNT,MAX;DEV;CU
4011 P22364 003457 BLE LP;1
4012 P22366 P12737 000001 022700 MOV #18,DEV CNT IINIT DEVICE COUNT
4013 P22374 027727 000274 177777 CMP DABUA,#-1
4014 P22402 001042 BNE LP;2
4015 P22404 002737 000002 022202 ADD #27,PARA IINC TO NEXT PARA COMBINATION
4016 P22412 022737 000010 022202 CMP #10,PARA IHAVE ALL PARA COMBS BEEN TESTED?
4017 P22420 002030 BGE LPC5 IBRANCH IF NOT
4018 P22422 042737 177776 022202 BIC #17776,00PARA IALL BUT ONLINE IF SET
4019
4020 ;..... MOD APR 74 .....
4021 ;
4022 ; OPLI TIMEOUT RESET MOD
4023 ;
4024 P22430 P12777 000001 150642 MOV #17,DXCS IOX RESET OPLI
4025
4026 ;..... MOD APR 74 .....
4027 ;
4028 P22436 000004 P27450 TYPE ,ENDTST
4029 P22442 000004 P27462 TYPE ,E;M IERROR COUNT MESSAGE
4030 P22446 010546 MOV TTY,=(SP) ISAVE TTY
4031 P22450 013705 021314 MOV ENRCNT,TTY ITYPE IN OCTAL
4032 P22454 004737 025400 JSR PC;PRINTR ITYPE LEADING ZERO'S
4033 P22460 012605 MOV (SP)+,TTY IRESTORE TTY
4034
4035 ;THE FOLLOWING CODE IS FOR INTERFACE WITH DDP AND ACT11
4036
4037 P22462 013700 000042 MOV #42,NO IIF 42 = 0 REMAIN IN OX DIAGNOSTIC
4038 P22466 001405 BEQ LP;5
4039 P22470 000005 RESET ILINK TO DDP OR ACT11
4040 P22472 LOGICALI
4041 P22472 004710 JSR PC;OR0

```

4242	#22474	300240				NOP		
4243	#22476	300240				NOP		
4244	#22570	300240				NOP		
4245	#22502	012737	022720	022674	LPC51	MOV	0LEGAL,ADRS,ACUA	
4246	#22510	017737	000100	022676	LPC21	MOV	0ACUA,CUADRS	
4247	#22516	002737	000002	022674		ADD	02,ACUA	
4248	#22524	104007	022670		LPC11	PARITY	,CUADRS	
4249	#22530	013737	022670	022666		MOV	CUADRS,DEV	
4250	#22536	013737	022666	022672		MOV	DEV,DEV,A	IMULTI THREAD
4251	#22544	023737	022700	022710		CMR	DEVCT,MAX;DEV,CU	
4252	#22552	001404				BCD	LP,3	
4253	#22554	002737	000001	022672		ADD	01,DEV,A	
4254	#22562	000403				BR	LP,4	
4255	#22564	102737	000001	022672	LPC31	SUB	01,DEV,A	
4256	#22572	104007	022672		LPC41	PARITY	,DEV,A	
4257								
4258								
4259	#22576	004737	024114		MON121	JSR	0C;PHE1	100 PRF INIT
4260	#22602	012777	015220	150494		MOV	0FALSE,0DXIV	1SET UP PALSE INTERRUPT VECTOR TRAP
4261	#22610	013777	001270	150490		MOV	0XPRT,0DXIS	1SET UP INTERRUPT PRIORITY
4262	#22616	013700	022700			MOV	FIRST,TST,00	1TEST FOR DEFAULT
4263	#22622	001002				BNE	MON13	1BRANCH IF NOT DEFAULT
4264	#22624	005237	022700			INC	FIRST,TST	1DEFAULT TEST NUMBER IS ONE
4265	#22630	013737	022700	021316	MON131	MOV	FIRST,TST,ERTSYN	
4266	#22636	006300				ASL	00	
4267	#22640	010037	020340	020340		MOV	TSTABLE=2(00),00RETURN	
4268	#22646	002737	000024	020340		ADD	02,00RETURN	
4269	#22654	000170	020340		MON141	JMP	0TSTABLE=2(00)	1JUMP TO SELECTED TEST
4270								
4271								
4272								
4273								
4274								
4275								
4276		000071						15 SEC OPLI TIMER TEST
4277	#22660	177777						1ONE PASS FLAGS
4278	#22662	000000						1CARRY COUNT
4279	#22664	000000						1TEMPORARY STORAGE
4280	#22666	000020						1DEVICE ADDRESS TO SELECT - MUST INCLUDE PARITY
4281								1 ( I.E. 441 IS DEV=1, CU=2)
4282	#22670	000403						1COMMAND TO PRESET - MUST INCLUDE PARITY
4283								1 (403 IS BASIC NOP COMMAND)
4284								
4285	#22672	000421						1SECOND DEVICE FOR DUAL TESTS
4286								
4287								
4288	#22674	000000						1ADRS OF CU ADRS
4289								
4290								
4291	022676	000000						1CU ADRS
4292	#22700	000000						1DEVICE COUNT
4293								
4294	#22702	002000						1OFFSET TO ADDRESS REGISTER
4295	022704	000000						1OCTAL INPUT FROM TTY

.SBTTL MONITOR FILES

1 ONE PASS FLAGS

FIVESEC=1  
 ONESHOT1  
 CARRY1 0  
 TMPI 2  
 DEVI 20  
 CMD1 403  
 DEV.A1 421  
 ACUA1 0  
 CUADRS1 0  
 DEVCNT1 0  
 OFFSET1 2000  
 OCTNUM1 0

4296 #22706 000000  
4297 #22710 000000  
4298  
4299  
4300  
4301 #22712 000777  
4302 #22714 000000  
4303 #22716 000000  
4304 #22720 000000  
4305 #22722 000000  
4306 #22724 000000

FIRST.TST: 2  
MAX.DEV.CUI 2  
  
DIAGNOSTIC VARIABLES  
  
SSTAT: 777  
SRCCNT: 0  
DSYCN: 0  
SAVDEV: 0  
YSSFT: 0  
COUNT: 0

FIRST TEST TO RUN  
MAXIMUM # OF DEVICES/CU  
  
ISAVED STATUS  
ISOURCE DATA  
IDESTINATION DATA  
ISAVED DEVICE ADDRESS  
ITSSP TRACE  
USED BY CM SIM TO COUNT BYTES TRANSFERED

4307  
4308  
4309  
4310

ILEGAL ADDRESS LIST

4311 #22726  
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

LEGAL ADRES:

.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  
.WORD 0

4330  
4331 #22770  
4332

SCALD. ADRES:

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  
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4202  
4203

P23032  
P23032 700400  
P23034 700001  
P23036 700002  
P23040 700403  
P23042 700004  
P23044 700405  
P23046 177777  
P23050 177777  
P23052 177777  
P23054 177777  
P23056 177777  
P23060 177777  
P23062 177777  
P23064 177777  
P23066 177777  
P23070 177777

ILIST OF DEFAULT COMMANDS

DFLT.CMDI

YIOC	ITEST I/O COMMAND
WRITEC	IWRITE COMMAND
READC	IREAD COMMAND
NOPC	INOP COMMAND
SENSEC	ISENSE COMMAND
ILLC	ILLGAL 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
-1	ILIST TERMINATOR

IDEFAULT STATUS LIST

DFLT.STATI

.BYTE	B
.BYTE	B
.BYTE	B
.BYTE	CE10C
.BYTE	B
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC
.BYTE	UC

ILIST OF LEGAL COMMANDS

CMD.ADRSI

.WORD B

```

4204 *23114 *00070 .WORD 7
4205 *23116 *00070 .WORD 7
4206 *23120 *00070 .WORD 7
4207 *23122 *00070 .WORD 7
4208 *23124 *00070 .WORD 7
4209 *23126 *00070 .WORD 7
4210 *23130 *00070 .WORD 7
4211 *23132 *00070 .WORD 7
4212 *23134 *00070 .WORD 7
4213 *23136 *00070 .WORD 7
4214 *23140 *00070 .WORD 7
4215 *23142 *00070 .WORD 7
4216 *23144 *00070 .WORD 7
4217 *23146 *00070 .WORD 7
4218 *23150 *00070 .WORD 7
  
```

!COMMAND STATUS

```

4220
4221
4222 *23152
4223
  
```

!CMD.STATUS

```

4224 *23152 070 .BYTE 7
4225 *23153 070 .BYTE 7
4226 *23154 070 .BYTE 7
4227 *23155 070 .BYTE 7
4228 *23156 070 .BYTE 7
4229 *23157 070 .BYTE 7
4230 *23160 070 .BYTE 7
4231 *23161 070 .BYTE 7
4232 *23162 070 .BYTE 7
4233 *23163 070 .BYTE 7
4234 *23164 070 .BYTE 7
4235 *23165 070 .BYTE 7
4236 *23166 070 .BYTE 7
4237 *23167 070 .BYTE 7
4238 *23170 070 .BYTE 7
4239 *23171 070 .BYTE 7
  
```

```

4240
4241
4242
4243
  
```

!SET UP DEFAULT PARAMETERS

```

4244
4245
4246 *23172
4247 *23172 *05037 *15500
4248 *23176 *05037 *15540
4249 *23202 *13737 *01440 019040
4250 *23210 *12737 17777 022600
4251 *23216 *05037 022700
4252 *23222 *05037 021310
4253 *23226 *05037 021314
4254 *23232 *13737 *23424 020340
4255 *23240 *13737 023420 001202
4256 *23246 *13737 023430 001204
4257 *23254 *13737 023442 001206
  
```

!MONDFLT

```

CLR 00ENTHY1 IYT TRACE ENRY1
CLR 00ENTHY2 IYT TRACE ENRY2
MOV 00TY,00YTRACE IINIT YT TRACE
MOV 001,00NESHOT IONE PASS FLAGS
CLR FIRST,YST IDEFAULT TEST #
CLR ER,STN IERRCH TEST NUMBER
CLR ER,CNT IERROR COUNT
MOV 000,FIRST,YST,00RETURN IFIRST TEST
MOV 001,DXBASE,00DXBASE IBASE ADDRESS
MOV 000,DXIV,00DXIV IINT VECTOR ADRS
MOV 001,DXIS,00DXIS IINT 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,ADRS02	
4263	223320	212737	020000	001442	MOV	00STADRS,00DST	IINIT DST ADRS
4264	223326	212700	023032		MOV	00PLT,CMD,R0	IADRS OF DEFAULT CMD LIST
4265	223332	212701	023112		MOV	00CMD,ADRS,R1	IADRS OF LEGAL CMD LIST
4266							
4267	223336	212021			MON21 MOV	(R0)+,(R1)+	ILOAD DEFAULT CMD LIST
4268	223340	222710	177777		CMR	001,000	IYES FOR TERMINATOR
4269	223344	001374			BNE	MON2	
4270	223346	212721	177777		MOV	000,(R1)+	ILOAD TERMINATOR
4271	223352	012727	000020		MOV	010,,(PC)+	
4272	223356	200000			MON2,01 B		
4273	223360	212700	023072		MOV	00PLT,STAT,R0	IDEFAULT STATUS
4274	223364	212701	023152		MOV	00'D,STAT,R1	ISTATUS FOR EACH COMMAND
4275	223370	112021			MON2,11 MOV	(R0)+,(R1)+	
4276	223372	205337	023350		SEC	MON2,0	
4277	223376	201374			BNE	MON2,1	
4278							
4279	223400	213737	022702	001436	MOV	OFFSET,SPH	ILOAD ADRS OF SPH
4280	223406	213737	022702	001440	MOV	OFFSET,TT	ILOAD ADRS OF TT
4281	223414	202737	001000	001440	ADD	01000,TT	I " " " "
4282	223422	200207			MON2,31 RTS	PC	
4283							
4284							
4285	223424	204000			D,FIRST,TSYI	TSYI	IFIRST TEST
4286	223426	170200			D,DXBASEI	170200	IBASE ADDRESS
4287	223430	000300			D,DXIVI	300	IINT VECTOR ADRS
4288	223432	200200			D,DXPRTI	LEVEL4	IDX PRIORITY LEVEL
4289	223434	200020			D,MAX,DEV,CUI	20	IMAX # DEVICES PER CU
4290	223436	000020			D,LEGAL,ADRSI	020	IDEFAULT CU ADRS
4291	223440	200421			D,DEV,AI	420	
4292	223442	200302			D,DXISI	302	IINT STATUS ADRS
4293							
4294							
4295							
4296							
4297							
4298							
4299							
4300	223444				TT:CLRI		
4301	223444	013701	001440		MOV	TT,R1	IBOTTOM OF TT
4302	223450	005021			CLRI	(R1)+	ICLEAR TT
4303	223452	220127	004000		CMR	R1:0ENDTT	IYES FOR END OF TT
4304	223456	201374			BNE	CLRI	IBRANCH IF NOT END
4305	223460	200207			RTS	PC	
4306							
4307							
4308							
4309							
4310							
4311	223462				ODATI		

4312	23462	715046			MOV	R07,(SP)	
4313	23464	712720	030710		MOV	#WDATA,R7	
4314	23470	705027			CLR	(PC)+	
4315	23472	700000		ODAT1:	B		
4316	23474	104007	023472	ODAT2:	PARITY	,ODAT1	
4317	23500	013720	023472		MOV	ODAT1,(R7)+	
4318	23504	042737	000400	023472	BIC	#PARO,ODAT1	
4319	23512	105237	023472		INCB	ODAT1	
4320	23516	001366			BVE	ODAT2	
4321	23520	012620			MOV	(S)+,R0	
4322	23522	700207			RTS	PC	
4323							
4324							
4325							
4326							
4327							
4328							
4329							
4330							
4331							
4332							
4333							
4334							
4335							
4336							
4337							
4338							
4339							
4340							
4341	23524				T,PARITY:		
4342	23524	017627	000000		MOV	0(SP),(PC)+	IFETCH ADDRESS OF SOURCE DATA
4343	23530	700000		SDAPG:	B		ISOURCE DATA ADDRESS
4344	23532	017727	177772		MOV	0SDAPG,(PC)+	IFETCH SOURCE DATA
4345	23536	000000		YDAT:	B		ISOURCE DATA
4346	23540	005027			CLR	(PC)+	
4347	23542	000000		PRTY:	B		
4348							
4349	23544	106337	023536	PG2:	ASLB	YDAT	
4350	23550	102002			BVC	PG2	
4351	23552	005137	023542		COM	PRTY	
4352							
4353	23556	106337	023536	PG3:	ASLB	YDAT	
4354	23562	001370			BNE	PG3	
4355	23564	005737	023542		TSQ	PRTY	
4356	23570	100404			BHI	PG3	
4357	23572	052777	000400	177730	BIS	#PARO,0SDAPG	IFETCH PARITY BIT
4358	23600	000403			BR	PG5	
4359	23602	042777	000400	177720	BIC	#PARO,0SDAPG	ICLEAR PARITY BIT
4360							
4361	23610	062716	000002	PG5:	ADD	0270SP	IADD 2 TO RETURN PC
4362	23614	000002			RTI		
4363							
4364							
4365							

IFETCH ADDRESS OF SOURCE DATA  
 ISOURCE DATA ADDRESS  
 IFETCH SOURCE DATA  
 ISOURCE DATA  
 ISET PARITY BIT  
 ICLEAR PARITY BIT  
 IADD 2 TO RETURN PC  
 ISETUP SPW TABLE  
 MOD APR 74

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4366                                     10          ADDRESS RESOLUTION MOD
4367
4368  P23616  177470          MARK1  177420
4369
4370  P2362J  SPW.SETUPI
4371  P23620  712720  022720          MOV      @LEGAL,ADRS,R0  ;FETCH ADRS OF LEGAL ADRS LIST
4372  P23624  712721  022770          MOV      @S:ALU,ADRS,R1 ;FETCH ADRS OF SCALED LEGAL ADRS LIST
4373
4374  P23630  712011          SP:01  MOV      (R2)+,R1      ;MAKE DUPLICATE ADRS LIST
4375  P23632  743711  023610          BIC      MARK,R1
4376  1..... MOD APR 74 .....
4377  P23636  706311          ASL      R1              ;MAKE INDX MOD(2)
4378  P23640  763721  001430          ADD      SPW,(R1)+      ;EQUALS REAL SPW ADRS
4379  P23644  721027  177777          CMP      @R0,@=1       ;TEST FOR TERMINATION
4380  P23650  001367          BNE      SP:0           ;FETCH NEXT ADRS
4381
4382  P23652  012721  177777          MOV      @=1,(R1)+     ;MARK END OF SCALED ADRS LIST
4383
4384  P23656  713771  001430          MOV      SPW,R1        ;ADRS OF SPW
4385  P23662  713722  001442          MOV      DST,R2        ;ADRS OF DST
4386  P23666  712700  P22770          SP:11  MOV      @S:ALU,ADRS,R0
4387  P23672  P20110          SP:21  CMP      R1,@R0       ;RUN THRU LIST
4388  P23674  001407          BEQ      SP:3          ;BRANCH ON LEGAL ADRS
4389  P23676  005720          TST      (R0)+
4390  P23700  022710  177777          CMP      @=1,@R0      ;TEST FOR END OF LIST
4391  P23704  001372          BNE      SP:2          ;BRANCH IF NOT ENT
4392  P23706  012721  025000          MOV      @ERRDST,(R1)+ ;LOAD SPW WITH ERROR DST ADRS
4393  P23712  000407          BR       SP:6
4394  P23714  713727  022710          SP:31  MOV      MAX,DEV,CU,(PC)+
4395  P23720  000000          SP:41  B
4396  P23722  710221          SP:51  MOV      R2,(R1)+
4397  P23724  005337  025720          DEC      SP:4
4398  P23730  001374          BNE      SP:5
4399  P23732  720137  001440          SP:61  CMP      R1,TT        ;TEST FOR END OF SPW
4400  P23736  002753          BLT      SP:1
4401  P23740  001405          BEQ      SP:7
4402  P23742  005720          TST      (SP)+        ;POP STACK
4403  P23744  000004  024050          TYPE      ,LEVN
4404  P23750  000137  021404          JMP      MON1,0       ;GO BACK TO MONITOR
4405  P23754  000207          SP:71  RTS      PC
4406
4407          ;DEVICE STATUS TABLE SETUP
4408
4409  P23756          DST.SETUPI
4410  P23756  713701  001442          MOV      DST,R1
4411  P23762  012727  000020          MOV      @1,,(PC)+
4412  P23766  000000          DS:11  B
4413  P23770  712702  P23152          DS:21  MOV      @CMD,STAT,R2
4414  P23774  112221          DS:21  MOV      (R2)+,(R1)+
4415  P23776  005337  P23760          DEC      DS:1
4416  P24002  001374          BNE      DS:2
4417  P24004  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 P24006 012700 P22720 CKCUA1 MOV @LEGAL,ADR0,R0 I
4423 P24012 005027 CKC11 CLR (P.)+
4424 P24014 000000 CKC21 ?
4425 P24016 111037 P24014 MOV0 @R3,@CKC2 IFETCH CU ADDRESS
4426 |.....MOD APR 74 .....
4427 |
4428 | ADDRESS RANGE MOD
4429 |
4430 P24022 122737 000020 022710 CKC31 CMP0 @2,@MAX,DEV,CU ICHECK LIMIT 10.
4431
4432 |.....MOD APR 74 .....
4433 |
4434 P24030 103005 BUIS CKC4 IBRANCH IF WITHIN LIMITS
4435 P24032 000004 024050 TYPE ,IDVN IILLEGAL NUMBER OF DEVICES PER CU
4436 P24036 012716 022042 MOV @MINS,(SP) ICHANGE RETURN PC
4437 P24042 000207 RTS PC
4438 P24044 005720 CKC41 TST (R0)+
4439 P24046 021027 177777 CMP @R0,@=1
4440 P24052 001357 BNE CKC1
4441 P24054 000207 RTS PC
4442 P24056 044537 040114 043505 IDVNI ,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
4448 .EVEN
4449
4450 IPRE-INIT SUBROUTINE
4451 P24114 012737 024250 000004 PREI1 MOV @PREI0,4
4452 P24122 012737 000340 000006 MOV @LEVEL7,6
4453 P24130 005077 155164 CLR @DIES ICLEAR MAINT CLK
4454 P24134 004737 P24254 JSR PC,RESRES ION RESET AND RESTORE
4455 |THE FOLLOWING INSTRUCTION GET MODIFIED UPON THE COMPLETION
4456 |OF THE SYSTEM RESET TEST,IF SCOPE PROBLEMS DEVELOP BEFORE THIS TEST
4457 |PASSES THIS INST, CAN BE PATCHED TO A TSET,NOP,
4458 P24140 004737 P24246 PREI,11 JSR PC,@NOCLR IMODIFIED TO CLRMO
4459 P24144 005077 155130 CLR @DXCS ICLR DONE,LOCK0
4460 P24150 004737 P24254 JSR PC,RESRES ION RESET AND RESTORE
4461 P24154 013777 001436 155120 MOV @SPH,@UXOS
4462 P24162 023777 001436 155112 CMP @SP,@UXOS
4463 P24170 001401 BEQ ,+0 IBRANCH IF NO ERROR CONDITION
4464 P24172 104000 ERROR I
4465 P24174 052777 000010 155116 BIS @TIMDIS,@OXES ITIMER DISABLE
4466 P24202 032777 000010 155110 BIT @TIMDIS,@OXES
4467 P24210 001001 BNE ,+0 IBRANCH 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 IZERO TUMBLE TABLE
4472 P24234 004737 015340 JSR PC,TTZERO IVERIFY TT ZERO
4473 P24240 000207 RTS PC
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4474
4475
4476
4477
4478
4479
4480  *24242  *05077  155042      CLR#01  CLR      @DX#0  J00 SYSTEM WRESET
4481  *24246  *00227                NOCLR#  RTS      PC
4482
4483  *24253  104000      PRETC#  ERROR      IPREINIT TIME OUT ERROR
4484
4485
4486  *24252  *00002                RT#
4487
4488
4489      J0X RESET AND RESTORE ROUTINE
4490
4491
4492
4493
4494
4495
4496
4497
4498
4499
4500  *24254      RESRES#
4501
4502  *24254  242777  000200  159016      B,C      @D#NE,@DX#B  ICLEAR LOCK#
4503  *24262  212777  000001  159010      MOV      @DX#RS,@DX#S  J0X RESET
4504  *24273  013737  001440  015040      MOV      @B,T,TRACE  JRELOAD SOFT TT POINTER
4505  *24276  000240      NOP      JINSERT RES#T 1,E,"5" HERE IF REQUIRED
4506  *24300  000207      RTS      PC
4507
4508
4509
4510
4511
4512      JREGISTER ADDRESS SETUP ROUTINE
4513
4514  *24302      REG.SETUP#
4515  *24302  013700  001262      MOV      DX#BASE,R0  JFETCH BASE ADRS
4516  *24306  012701  001274      MOV      @DX#S,R1  JFETCH ADRS OF DX#S ADRS
4517  *24312  010021      RS,1#  MOV      R0,(R1)+
4518  *24314  002700  000002      ADD      @2,RE  JINC TO NEXT DX ADRS
4519  *24320  020127  001326      CMP      R1,@DX#S1+2
4520  *24324  001372      ONE      RS,1
4521
4522  *24326  004537  024362      JSR      RS,SBYTE  JSETUP 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		DXM;		
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			SBYTE:		
4544	*24362	012570		MOV	(R5)+,R3	
4545	*24364	012521		MOV	(R5)+,R1	
4546	*24366	011021		MOV	0R0,(R1)+	
4547	*24370	011011		MOV	0R2,0R1	
4548	*24372	005221		INC	(R3)+	
4549	*24374	021527	177777	CHP	0R5,001	
4550	*24400	001370		BNE	SBYTE	
4551	*24402	005725		TSY	(R5)+	IPOP OVER TERMINATOR
4552	*24404	000205		RTS	R5	
4553						
4554						
4555				IACCEPT	HEX NUMBER FROM TTY	
4556						
4557	*24406	005037	025010	GETHEX:	CLR	HEXNUM
4558	*24412	010246			MOV	R2,(SP)
4559	*24414	010146			MOV	R1,(SP)
4560	*24416	010046			MOV	R0,(SP)
4561	*24420	005001		ACPTH:	CLR	R1
4562	*24422	104006		ACPTH,1:		KEY,TO,R0
4563	*24424	120027	000003		CHPB	R0,03
4564	*24430	001022			BNE	AH,2
4565	*24432	000137	021404		JMP	00MON1,0
4566	*24436	122700	000177	AH,2:	CHPB	0177,R0
4567	*24442	001424			BEO	RUBOUM
4568	*24444	122700	000015		CHPB	017,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	R0,071
4575	*24472	003021			BGT	AH,X
4576	*24474	042700	177760	AH,3:	BIC	017760,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
						I CHALK'N UP

4582	724512	700743			RR	ACPTH,1		IFETCH NEXT CHAR
4583								
4584	724514	700024	727986		RUBOUMI	TYPE	,,JUE5	ITYPE?
4585	724523	700737				BR	ACPTH	
4586	724522	710137	725218		CARGHI	MOV	R1,HEXNUM	PLACE HEX NUMBER HERE
4587	724526	712670				MOV	(SP)+,R0	RESTORE R0
4588	724530	712671				MOV	(SP)+,R1	RESTORE R1
4589	724532	712672				MOV	(SP)+,R2	RESTORE R2
4590	724534	700277				RTS	PC	
4591								
4592	724536	705072			AHEX1	CLR	R2	
4593	724540	127062	725012		AHEX01	CMQB	R0,ATBL(R2)	LOOK THRU ASCII TABLE
4594	724544	701406				BEG	AHEX1	BRANCH ON MATCH
4595	724546	705272				INC	R2	
4596	724553	126227	725012	000000		CMQB	ATBL(R2),00	LOOK FOR END OF TABLE
4597	724556	701370				BNE	AHEXP	BRANCH IF NOT END
4598	724563	700755				RR	RUBOUM	BRANCH ON NO MATCH
4599	724562	116230	725027		AHEX11	MOVB	ATBL(R2),R0	LOAD BINARY OF FIND
4600	724566	700742				BR	AH,3	
4601								
4602								
4603								
4604								
4605								
4606								
4607								
4608								
4609								
4610								
4611	725000							
4612	725000	002				.BYTE	UC	UNIT CHECK ENTRIES
4613	725001	0F2				.BYTE	UC	UNIT CHECK ENTRIES
4614	725002	002				.BYTE	UC	UNIT CHECK ENTRIES
4615	725003	022				.BYTE	UC	UNIT CHECK ENTRIES
4616	725004	0F2				.BYTE	UC	UNIT CHECK ENTRIES
4617	725005	002				.BYTE	UC	UNIT CHECK ENTRIES
4618	725006	0F2				.BYTE	UC	UNIT CHECK ENTRIES
4619	725007	002				.BYTE	UC	UNIT CHECK ENTRIES
4620								
4621	725010	700030			HEXNUM1	0		HEX NUMBER
4622	725012	741101	742103	043105	ATBL1	,ASCII	'ABCDEF'	
4623	725020	000000			,WORD	0		
4624	725022	012	013	014	ATBL1	.BYTE	10',11',12',13',14',15'	
4625	725025	015	016	017				
4626								
4627								
4628	725030							
4629	725030	705037	722704			CLR	OCYNUM	CLEAR OCTAL NUMBER LOCATION
4630	725034	710146				MOV	R1,=(SP)	SAVE R1
4631	725036	710046				MOV	R0,=(SP)	SAVE R0
4632	725040	705001			ACPT01	CLR	R1	
4633	725042	104006			ACPT0.11	KEY,TD,RR		FETCH AN ASCII CHAR FROM KEYBOARD
4634	725044	120027	000003			CMQB	R0,03	CONTROL C?
4635	725050	701002				BNE	AO,2	

4636	*25052	000137	P21404		JMP	00001,0	
4637	*25056	122700	P00177	AO:21	CMPB	0177,00	ITEST FOR RUROJT
4638	*25062	001423			BEG	RUMOLT	
4639	*25064	122700	000015		CMPB	017,00	ITEST FOR (CR)
4640	*25070	001423			REQ	CARG	
4641	*25072	120027	000040		CMPB	00,000	ITEST IF SPACE
4642	*25076	001420			BEG	CARG	
4643	*25100	120027	000000		CMPB	00 00	ITEST FOR VALID OCTAL NUMBER
4644	*25104	002412			BLT	RUBOUT	
4645	*25106	120027	000067		CMPB	00,0'7	
4646	*25112	003007			BGT	RUBOJT	
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		RUBOUTI	TYPE	ITYPE?
4655	*25136	000740			BR	ACPTO	
4656	*25140	010137	022704		CARGI	MOV	R1,OCTNUM
4657	*25144	012600			MOV	(SP)+,R0	IPRACE OCTAL NUMBER HERE
4658	*25146	012601			MOV	(SP)+,R1	IRESTORE R0
4659	*25150	000002			RTI		IRESTORE R1
4660							IRETURN
4661							
4662							IFETCH AN ASCII CHARACTER FROM KEYBOARD
4663	*25152				T,KEY,TO,R0I		
4664	*25152	105777	154220		TSTB	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	IECHO
4668	*25172	004737	025204		JSR	PC,TTYFLG	INWAIT FOR DONE
4669	*25176	042700	177600		BIC	0177000,00	ITEST FOR ASCII
4670	*25202	000002			RTI		
4671							ITEST FOR TRANSMITTER DONE
4672							
4673	*25204				TTYFLGI		
4674	*25204	105777	154172		25I	TSTB	0TPS
4675	*25210	100375			BPL	25	
4676	*25212	000207			RTS	PC	
4677							.SBTTL TTY ASCII OUTPUT ROUTINE
4678							
4679							
4680	*25214	032737	020000	177570	.IOTI	BIF	0BIT13,SR
4681	*25222	001040			BNE	.IOTE	ITEST FOR INHIBIT PRINT
4682	*25224	010537	025332		MOV	TTY,,SAV	ISAVE TTY
4683	*25230	017605	000000		MOV	0(2),TTY	IGET ADDRESS TO BE TYPED
4684	*25234	122715	000044		.MOREI	CMPB	013,(TTY)
4685	*25240	001425			BEG	.TERM	ITERMINATOR?
4686	*25242	105715			TSTB	(TTY)	ITERMINATOR?
4687	*25244	001423			BEG	.TERM	
4688	*25246	122715	000001		CMPB	01:(TTY)	IRESTORE OLD SEQUENCE
4689	*25252	001416			BEG	.REST	

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4690 25254 122715 000137      CHPB      02,(TTY)      ISET UP CR LF
4691 25263 001436      BEQ      ,CR LF
4692 25262 109777 154114      TSYB      BTPS
4693 25266 100375      BPL      ,=4
4694 25273 112577 154110      MOVB      (TTY)+,BTPT
4695 25274 000757      BR      ,MORE
4696 25276 005255      ,CR LF I INC      TTY
4697 25300 010546      MOV      TTY,=(0)
4698 25302 012705 025334      MOV      R,CAR,TTY
4699 25306 000752      BR      ,MORE
4700 25310 012675      ,REST: MOV      (0)+,TTY
4701 25312 000750      BR      ,MORE
4702 25314 004737 029204      ,TERM: JSR      PC,TTYFLG      IWAIT FOR DONE
4703 25320 013705 025332      MOV      ,SAV,TTY
4704 25324 062716 000002      ,OTE:  ADD      02(0) IPOP
4705 25330 000002      RTI
4706
4707 25332 000000      ,SAVI  B
4708 25334 005015 001002 001002 ,CARI  ,ASCII <CR><LF><2><2><2><2><2><2><1>
4709 25342 001002 001      ,EVEN
4710 25346 025346      ,TYPE: B
4711 25346 000000      ,SBTTL SAVE AND RESTORE REGISTERS
4712
4713      ,SAVE REGS 0 TO 4 SUBROUTINE,
4714 25350 012637 025400      T,SAVRG: MOV      (0)+,SVRPC      ISAVE PC AND PSW,
4715 25354 012637 025410      MOV      (0)+,SVRPSW
4716 25360 010546      MOV      X5,=(0)
4717 25362 010446      MOV      X4,=(0) ISAVE REGS 0 - 4
4718 25364 010346      MOV      X3,=(0)      IIN STACK,
4719 25366 010246      MOV      X2,=(0)
4720 25370 010146      MOV      X1,=(0)
4721 25372 010046      MOV      X0,=(0)
4722 25374 013746 025410      MOV      SVRPSW,=(0)      IRESTORE PC AND PSW,
4723 25400 013746 025400      MOV      SVRPC,=(0)
4724 25404 000002      RTI      IEXIT,
4725 25406 000000      SVRPC: B
4726 25410 000000      SVRPSW: B
4727      IRESTORE REGS 0 TO 4 SUBROUTINE,
4728 25412 012637 025450      T,RSTRG: MOV      (0)+,RSTPC      ISAVE PC AND PSW,
4729 25416 012637 025492      MOV      (0)+,RSTPSW
4730 25422 012600      MOV      (0)+,X0      IRESTORE REGS 0 - 4
4731 25424 012601      MOV      (0)+,X1      IFROM STACK,
4732 25426 012602      MOV      (0)+,X2
4733 25430 012603      MOV      (0)+,X3
4734 25432 012604      MOV      (0)+,X4
4735 25434 012605      MOV      (0)+,X5
4736
4737 25436 013746 025452      MOV      RSTPSW,=(0)      IRESTORE PC AND PSW,
4738 25442 013746 025450      MOV      RSTPC,=(0)
4739 25446 000002      RTI      IEXIT
4740 25450 000000      RSTPC: B
4741 25452 000000      RSTPSW: B
4742      ,SBTTL OCTAL DUMP ROUTINE
4743

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4744	R25454	000000	000000	000000	PRINT21	,WORD	0,3,2,0	
4745	025462	000000						
4746	R25464	000	000		PRINT31	,BYTE	0,2	
4747								
4748	025466	112737	000001	029404	PRINTA1	MOVB	01,PRINT3	ISET ZERO FILL SWITCH
4749	R25474	000402				BR	,00	
4750	R25476	005037	029464		PRINTS1	CLR	PRINT3	ISUPPRESS LEADING ZERO'S
4751	R25502	112737	177772	029405		MOVB	000,PRINT3+1	ISET COUNT
4752	R25510	032737	R20000	177570		BIT	0BIT13,SR	
4753	R25516	001041				BNE	PRVE	
4754	R25522	010440				MOV	X4,(0)	ISAVE R4
4755	R25522	012704	R29454			MOV	0PRINT2,X4	ISET POINTER TO FIRST ASCII CHAR,
4756	R25526	105010				CLRB	(4)	ICLEAR FIRST BYTE
4757	R25530	000405				BR	PRINT1	IRotate FIRST BIT
4758	R25532	105010			PRINTL1	CLRB	(4)	ICLEAR BYTE OF CHARACTER
4759	R25534	006105				ROL	TTY	IRotate BIT INTO C
4760	R25536	106110				ROLB	(4)	IPACK IT
4761	R25540	006105				ROL	TTY	IRotate BIT INTO C
4762	R25542	106110				ROLB	(4)	IPACK IT
4763	R25544	006105			PRINTF1	ROL	TTY	IRotate BIT INTO C
4764	R25546	106110				ROLB	(4)	IPACK IT
4765	R25550	105710				TSTB	(4)	
4766	R25552	001402				BEQ	,00	
4767	R25554	105237	025464			INCB	PRINT3	
4768	R25560	105737	025464			TSTB	PRINT3	ICHECK FILL SWITCH
4769	R25564	001402				BEQ	,00	
4770	R25566	152720	000000			BISB	010,(4)+	IMAKE INTO ASCII CHAR
4771	R25572	105237	025465			INCB	PRINT3+1	
4772	R25576	001355				BNE	PRINTL	IREPEAT
4773	R25600	022704	029454			CHP	0PRINT2,X4	
4774	R25604	001002				BNE	,01	
4775	R25606	112720	000000			MOVB	010,(4)+	
4776	R25612	105010				CLRB	(4)	
4777	R25614	000004	R29454			TYPE	,PRINT2	ITYPE IT
4778	R25620	012604				MOV	(0)+,X4	IRESTORE R5
4779	R25622	000207				RTS	X7	
4780					PRVE1			
4781		000003			ITTY WATCH DOG FOR CONTROL C			
4782					CNTLC=3			IAScii CONTROL C
4783	R25624	117727	153550		TTY11	MOVB	0TKB,(PC)+	ISAVE CHAR
4784	R25630	000000			SCCHAR1	B		IMERE
4785	R25632	042737	000200	025630		BIC	0200,00SCCHAR	ISEVEN LEVEL ASCII
4786	R25640	122737	000003	025630		CHPB	0C TLC,00SCCHAR	ICHECK FOR CONTROL C
4787	R25646	001004				BNE	TTY10	
4788	R25650	000004	025674			TYPE	,ALC ITYPE CONTROL C	
4789	R25654	000137	R21404			JMP	00MON1,0	
4790	R25660	004737	029204		TTY101	JSR	PC,TTYFLG	
4791	R25664	113777	025630	153512		MOVB	003CHAR,0TPB	IECHO CHARACTER
4792	R25672	000022				RTI		
4793								
4794	R25674	041530	000		ALC1	,ASCIZ	<130><103>	
4795		R25700			,EVEN			
4796								
4797		R26000			,=1377+1			IFORM MOD(400) BOUNDARY

Address	Hex	OSFADRS=	Byte	Default	OST
4798					
4799	726070				
4800					
4801	726070	000	,BYTE 0	ITIO	
4802	726071	020	,BYTE 0	IWRITE	
4803	726072	020	,BYTE 0	IREAD	
4804	726073	014	,BYTE CE:DE	INOP	
4805	726074	020	,BYTE 0	ISENSE	
4806					
4807	726075	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4808	726076	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4809	726077	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4810	726078	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4811	726079	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4812	726080	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4813	726081	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4814	726082	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4815	726083	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4816	726084	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4817	726085	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4818	726086	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4819	726087	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4820	726088	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4821	726089	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4822	726090	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4823	726091	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4824	726092	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4825	726093	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4826	726094	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4827	726095	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4828	726096	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4829	726097	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4830	726098	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4831	726099	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4832	726100	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4833	726101	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4834	726102	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4835	726103	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4836	726104	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4837	726105	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4838	726106	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4839	726107	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4840	726108	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4841	726109	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4842	726110	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4843	726111	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4844	726112	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4845	726113	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4846	726114	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4847	726115	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4848	726116	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4849	726117	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4850	726118	002	,BYTE UC	ILLEGAL	,UNIT CHECK
4851	726119	002	,BYTE UC	ILLEGAL	,UNIT CHECK



4852	*26062	0F2	.BYTE	JC	ILLEGAL	,UNIT	CHECK
4853	*26063	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4854	*26064	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4855	*26065	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4856	*26066	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4857	*26067	0F2	.BYTE	JC	ILLEGAL	,UNIT	CHECK
4858	*26070	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4859	*26071	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4860	*26072	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4861	*26073	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4862	*26074	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4863	*26075	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4864	*26076	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4865	*26077	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4866	*26100	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4867	*26101	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4868	*26102	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4869	*26103	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4870	*26104	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4871	*26105	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4872	*26106	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4873	*26107	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4874	*26110	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4875	*26111	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4876	*26112	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4877	*26113	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4878	*26114	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4879	*26115	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4880	*26116	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4881	*26117	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4882	*26120	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4883	*26121	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4884	*26122	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4885	*26123	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4886	*26124	0F2	.BYTE	JC	ILLEGAL	,UNIT	CHECK
4887	*26125	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4888	*26126	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4889	*26127	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4890	*26130	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4891	*26131	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4892	*26132	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4893	*26133	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4894	*26134	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4895	*26135	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4896	*26136	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4897	*26137	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4898	*26140	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4899	*26141	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4900	*26142	002	.BYTE	JC	ILLEGAL	,UNIT	CHECK
4901	*26143	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4902	*26144	0F2	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4903	*26145	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4904	*26146	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK
4905	*26147	002	.BYTE	UC	ILLEGAL	,UNIT	CHECK

4916	26150	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4917	26151	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4918	26152	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4919	26153	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4920	26154	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4921	26155	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4922	26156	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4923	26157	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4930	26166	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4931	26167	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4932	26170	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4933	26171	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4934	26172	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4935	26173	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4936	26174	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4937	26175	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4938	26176	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4939	26177	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4940	26200	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4941	26201	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4942	26202	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4943	26203	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4944	26204	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4945	26205	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4946	26206	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4947	26207	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4948	26210	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4949	26211	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4950	26212	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4951	26213	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4953	26215	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4955	26217	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4956	26220	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4957	26221	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4959	26223	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4962	26226	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4963	26227	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4964	26230	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4965	26231	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4966	26232	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4968	26234	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4969	26235	072	,BYTE	UC	ILLEGAL	,UNIT	CHECK

4960	F26236	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4961	F26237	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4962	F26240	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4963	F26241	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4968	F26246	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4969	F26247	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4971	F26251	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4972	F26252	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4978	F26260	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4983	F26265	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4984	F26266	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4985	F26267	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
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4988	F26272	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4989	F26273	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4990	F26274	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4991	F26275	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4992	F26276	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4993	F26277	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4994	F26300	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4995	F26301	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4996	F26302	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4997	F26303	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4998	F26304	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
4999	F26305	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5000	F26306	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5001	F26307	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5002	F26310	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5003	F26311	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5004	F26312	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5005	F26313	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5006	F26314	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5007	F26315	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5008	F26316	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5009	F26317	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5010	F26320	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5011	F26321	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5012	F26322	002	,BYTE	UC	ILLEGAL	,UNIT	CHECK
5013	F26323	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	JC	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.PCH1				
5261	226400	000012	.BLKH	10;			
5262							
5263	226424		T.PCH2				
5264	226424	000012	.BLKH	10;			
5265							
5266	226450		T.PCH3				
5267	226450	000012	.BLKH	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 P42923 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 *40537 051104 039.23
(1) *27262 *51537 052109 0514.0
(1) *27301      137 P44514 052123
(1) *27332 *41537 P46517 040515
(1) *27344 *42137 P20130 051120
(1) *27371      137 P30440 044440
(1)
(1)
(1) *27407      137 042522 051507
(1) *27443      039 000037
(1) *27446 *00207
(1) *27450 *42537 042116 052040
(1) *27462 *20137 P51105 047522
(1) *27506 *57477      000
(1) *27511      040 P20040 020040
(1) *27520 *00040
(1) *27522 *00137
(1) *27524 *52137 P50131 020105
(1) *27553      137 P42537 051122
(1)
(1) *27570 *42137 P42130 039123
(1) *27579      137 P54104 040503
(1) *27606 *42137 P41530 039123
(1) *27615      137 P54104 051517
(1) *27624 *42137 P41130 039101
(1) *27633      137 P54104 041502
(1) *27642 *42137 P46530 039117
(1) *27651      137 P54104 044515
          ,SBTTL  MESSAGES
          LF=12
          CR=15
          HEADER1
          JO
          HEADER TEXT MOD
          |..... MOD APR 74 .....
          ,NLIST  HEX
          ,ASCII  "MAINDEC-11-DDXG-C-D DIAGNOSTIC EXERCISER (APR 74) "
          JO
          HEADER TEXT MOD
          |..... 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"
          ,ASCII  "      <N>,START THIS TEST NUMBER"
          JO
          HEADER TEXT MOD
          |..... MOD APR 74 .....
          FSTART1 ,ASCII  "D,P,S,N "
          MSG21  ,ASCII  "BASE ADDRESS1 "
          MSG31  ,ASCII  "DEVICES PER CUI "
          MSG51  ,ASCII  "TEST NUMBER1 "
          MSG41  ,ASCII  "TYPE CU ADRES1S IN HEX <CR><LF>1 <CR><CR> TERMINATES LIST"
          MSG61  ,ASCII  "ADDR1 "
          MSG71  ,ASCII  "SET SWITCHES="
          MSG91  ,ASCII  "LIST ALL LEGAL COMMANDS"
          MSG101 ,ASCII  "COMMAND1"
          MSG121 ,ASCII  "X PRIORITY LEVEL1 "
          MSG131 ,ASCII  "  ILLEGAL ?"
          RDW1  ,ASCII  "REGYTR  SHOULD BE  WAS"
          HOME1 ,ASCII  "<J5><J7>"
          BELL1  ,ASCII  "<277>"
          ENDTST1,ASCII  "END TEST"
          ECH1  ,ASCII  "ERHONS DETECTED1 "
          ,QUES1 ,ASCII  "? "
          SPAC41 ,ASCII  "<41><42><40><4E><4E><40>"
          SPACE1 ,ASCII  "<40>"
          CRLF1  ,ASCII  ""
          STALL1 ,ASCII  "TYPE IN STALL COUNT1 "
          ERPCI  ,ASCII  "ERROR PCI "
          ADXDS1 ,ASCII  "DXDS1"
          ADXCA1 ,ASCII  "DXCA1"
          ADXCS1 ,ASCII  "DXCS1"
          ADXOS1 ,ASCII  "DXOS1"
          ADXBA1 ,ASCII  "DXBA1"
          ADXBC1 ,ASCII  "DXBC1"
          ADXMO1 ,ASCII  "DXMO1"
          ADXMI1 ,ASCII  "DXMI1"
```

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(1) P27668 P42137 041530 039182 ADXCB1 ,ASCIZ "DXCB1"  
(1) P27669 137 P54104 042116 ADXND1 ,ASCIZ "DXND1"  
(1) P27676 P42137 042530 039183 ADXES1 ,ASCIZ "DXES1"  
(1) P277P9 137 0941P4 051505 ADXES11 ,ASCIZ "DXES11"  
(1) } MOD APR 74  
(1) } ERROR TEXT MOD  
(1)  
(1) P27716 P20137 P52903 042101 MSG201 ,ASCIZ "CUADMS/MO1"  
(1) } MOD APR 74  
(1) P27733 137 P42526 052103 MSG201 ,ASCIZ "VECTOR ADDRESS"  
(1) P27755 137 052123 052101 MSG311 ,ASCIZ "STATUS"  
(1) P27767 137 P51105 047522 MSG351 ,ASCIZ "ERROR IN TEST"  
(1) P3P010 P47537 P44522 044907 MSG361 ,ASCIZ "ORIGIN OF MAP ERROR"  
(1) P3P037 137 P52124 052040 TRCM11 ,ASCIZ "TT TRACE ERROR IN TEST"  
(1) P3P071 137 051117 043911 TRCM1 ,ASCIZ "ORIGIN OF LAST TT TRACE UPDATE"  
(1) P3P132 P41040 051525 020131 ABSYM1 ,ASCIZ "BUSY ENABLE"  
(1) P3P151 115 046125 044924 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 P47105 051124 TTDS1 ,ASCIZ "ENTRY WAS FROM DXJS"  
(1) P3P262 042537 P52110 054922 TTCA1 ,ASCIZ "ENTRY WAS FROM DXCA"  
(1) ,LIST BEX  
5276  
5277 ,SBTTL DATA BUFFERS  
5278  
5279 ,DATA BUFFER ** CONTAINS 0 - 255 IN ONE BYTE ITEMS  
5280  
5281 ,DATA FILE FOR CHANNEL SIMULATOR WRITE CMDS  
5282 P30310 ,EVEN  
5283  
5284 P3P310 ,DATA  
5285  
5286  
5287  
5288 000001 N=1  
5289 P3P310 000001 ,WORD N  
5290 000002 N=N2  
5291 P3P312 000002 ,WORD N  
5292 000004 N=N2  
5293 P30314 000004 ,WORD N  
5294 000010 N=N2  
5295 P3P316 000010 ,WORD N  
5296 000020 N=N2  
5297 P30320 000020 ,WORD N  
5298 000040 N=N2  
5299 P30322 000040 ,WORD N  
5100 000100 N=N2  
5101 P30324 000100 ,WORD N  
5102 000200 N=N2  
5103 P3P326 000200 ,WORD N  
5104 000400 N=N2  
5105 P3P330 000400 ,WORD N  
5106 001000 N=N2  
5107 P3P332 001000 ,WORD N
```

5178		702070	NaN#2	
5179	73P334	702070	,WORD	.
5180		704070	NaN#2	
5181	73P336	704070	,WORD	.
5182		710070	NaN#2	
5183	73P340	710070	,WORD	.
5184		720070	NaN#2	
5185	73P342	720070	,WORD	.
5186		740070	NaN#2	
5187	73P344	740070	,WORD	.
5188		100070	NaN#2	
5189	73P346	100070	,WORD	.
5190		700070	NaN#2	
5191		700082	NaN#2	
5192	73P350	177775	,WORD	NaN#1
5193		700034	NaN#1	
5194	73P352	177773	,WORD	NaN#1
5195		200010	NaN#1	
5196	73P354	177767	,WORD	NaN#1
5197		700020	NaN#1	
5198	73P356	177757	,WORD	NaN#1
5199		700040	NaN#1	
5200	73P360	177737	,WORD	NaN#1
5201		700170	NaN#1	
5202	73P362	177677	,WORD	NaN#1
5203		700280	NaN#1	
5204	73P364	177577	,WORD	NaN#1
5205		700470	NaN#1	
5206	73P366	177377	,WORD	NaN#1
5207		701070	NaN#1	
5208	73P370	176777	,WORD	NaN#1
5209		002070	NaN#1	
5210	73P372	175777	,WORD	NaN#1
5211		004070	NaN#1	
5212	73P374	173777	,WORD	NaN#1
5213		710070	NaN#1	
5214	73P376	167777	,WORD	NaN#1
5215		020070	NaN#1	
5216	73P400	157777	,WORD	NaN#1
5217		040070	NaN#1	
5218	73P402	137777	,WORD	NaN#1
5219		100070	NaN#1	
5220	73P404	277777	,WORD	NaN#1
5221		000070	NaN#1	
5222	73P426	177777	,WORD	NaN#1
5223		700070	NaN#1	
5224		000071	NaN#1	
5225	73P410	700071	,WORD	.
5226		700082	NaN#2	
5227	73P412	700082	,WORD	.
5228		700084	NaN#2	
5229	73P414	700084	,WORD	.
5230		700010	NaN#2	
5231	73P416	700010	,WORD	.

9162		700020	VeNo2	
9163	73P420	700020	,WORD	V
9164		700040	VeNo2	
9165	73P422	700040	,WORD	V
9166		700170	VeNo2	
9167	73P424	700170	,WORD	V
9168		700270	VeNo2	
9169	73P426	700270	,WORD	N
9170		700400	VeNo2	
9171	73P43J	000400	,WORD	N
9172		001070	VeNo2	
9173	73P432	701070	,WORD	V
9174		002000	VeNo2	
9175	73P434	702000	,WORD	V
9176		704000	VeNo2	
9177	73P436	704000	,WORD	N
9178		710030	VeNo2	
9179	73P440	710030	,WORD	N
9180		720070	VeNo2	
9181	73P442	720070	,WORD	N
9182		740000	VeNo2	
9183	73P444	740000	,WORD	V
9184		100000	VeNo2	
9185	73P446	100020	,WORD	V
9186		700000	VeNo2	
9187		700002	W=2	
9188	73P450	177775	,WORD	=W=1
9189		000004	W=H+W	
9190	73P452	177773	,WORD	=W=1
9191		700010	W=H+W	
9192	73P454	177767	,WORD	=W=1
9193		700020	W=H+W	
9194	03P456	177757	,WORD	=W=1
9195		000040	W=H+W	
9196	73P46J	177737	,WORD	=W=1
9197		700170	W=H+W	
9198	73P462	177677	,WORD	=W=1
9199		700270	W=H+W	
9200	73P464	177577	,WORD	=W=1
9201		700400	W=H+W	
9202	73P466	177377	,WORD	=W=1
9203		701070	W=H+W	
9204	73P470	176777	,WORD	=W=1
9205		702000	W=H+W	
9206	73P472	175777	,WORD	=W=1
9207		004000	W=H+W	
9208	73P474	173777	,WORD	=W=1
9209		710000	W=H+W	
9210	73P476	167777	,WORD	=W=1
9211		220000	W=H+W	
9212	73P5P0	157777	,WORD	=W=1
9213		740070	W=H+W	
9214	73P5P2	137777	,WORD	=W=1
9215		100000	W=H+W	



5216	737504	177777	,WORD	=W=1
5217		000020	W=W+W	
5218	737506	177777	,WORD	=W=1
5219		000020	W=W+W	
5220		000001	W=1	
5221	737510	000001	,WORD	'
5222		000002	W=N=2	
5223	737512	000002	,WORD	'
5224		000004	W=N=2	
5225	737514	000004	,WORD	'
5226		000010	W=N=2	
5227	737516	000010	,WORD	'
5228		000020	W=N=2	
5229	737520	000020	,WORD	'
5230		000040	W=N=2	
5231	737522	000040	,WORD	'
5232		000100	W=N=2	
5233	737524	000100	,WORD	'
5234		000200	W=N=2	
5235	737526	000200	,WORD	'
5236		000400	W=N=2	
5237	737530	000400	,WORD	'
5238		001000	W=N=2	
5239	737532	001000	,WORD	'
5240		002000	W=N=2	
5241	737534	002000	,WORD	'
5242		004000	W=N=2	
5243	737536	004000	,WORD	'
5244		010000	W=N=2	
5245	737540	010000	,WORD	'
5246		020000	W=N=2	
5247	737542	020000	,WORD	'
5248		040000	W=N=2	
5249	737544	040000	,WORD	'
5250		100000	W=N=2	
5251	737546	100000	,WORD	'
5252		000000	W=N=2	
5253		000002	W=2	
5254	737550	177775	,WORD	=W=1
5255		000004	W=W+W	
5256	737552	177773	,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		000040	W=W+W	
5262	737562	177737	,WORD	=W=1
5263		000100	W=W+W	
5264	737562	177677	,WORD	=W=1
5265		000200	W=W+W	
5266	737564	177577	,WORD	=W=1
5267		000400	W=W+W	
5268	737566	177377	,WORD	=W=1
5269		001000	W=W+W	

5270	73F570	176777	.WORD	=W-1
5271		702020	W=W+W	
5272	73F572	175777	.WORD	=W-1
5273		704000	W=W+W	
5274	73F574	173777	.WORD	=W-1
5275		710000	W=W+W	
5276	73F576	167777	.WORD	=W-1
5277		720000	W=W+W	
5278	73F600	157777	.WORD	=W-1
5279		040000	W=W+W	
5280	73F602	137777	.WORD	=W-1
5281		100000	W=W+W	
5282	73F604	777777	.WORD	=W-1
5283		700000	W=W+W	
5284	73F606	177777	.WORD	=W-1
5285		000000	W=W+W	
5286		000001	N=1	
5287	73F610	700001	.WORD	N
5288		000002	N=N+2	
5289	73F612	700002	.WORD	N
5290		000004	N=N+2	
5291	73F614	700004	.WORD	N
5292		700010	N=N+2	
5293	73F616	000010	.WORD	N
5294		000020	N=N+2	
5295	73F620	000020	.WORD	N
5296		000040	N=N+2	
5297	73F622	000040	.WORD	N
5298		000100	N=N+2	
5299	73F624	000100	.WORD	N
5300		000200	N=N+2	
5301	73F626	000200	.WORD	N
5302		000400	N=N+2	
5303	73F630	700400	.WORD	N
5304		001000	N=N+2	
5305	73F632	001000	.WORD	N
5306		002000	N=N+2	
5307	73F634	002000	.WORD	N
5308		004000	N=N+2	
5309	73F636	704000	.WORD	N
5310		010000	N=N+2	
5311	73F640	010000	.WORD	N
5312		020000	N=N+2	
5313	73F642	720000	.WORD	N
5314		040000	N=N+2	
5315	73F644	740000	.WORD	N
5316		100000	N=N+2	
5317	73F646	100000	.WORD	N
5318		000000	N=N+2	
5319		000002	W=2	
5320	73F650	177775	.WORD	=W-1
5321		700004	W=W+W	
5322	73F652	177773	.WORD	=W-1
5323		700010	W=W+W	

5324	737654	177767	,WORD	=w=1
5325		700020	W@W@W	
5326	737656	177757	,WORD	=w=1
5327		700040	W@W@W	
5328	737660	177737	,WORD	=w=1
5329		000100	W@W@W	
5330	737662	177677	,WORD	=w=1
5331		700200	W@W@W	
5332	737664	177577	,WORD	=w=1
5333		000400	W@W@W	
5334	737666	177377	,WORD	=w=1
5335		701000	W@W@W	
5336	737670	176777	,WORD	=w=1
5337		002000	W@W@W	
5338	737672	175777	,WORD	=w=1
5339		704000	W@W@W	
5340	737674	173777	,WORD	=w=1
5341		710000	W@W@W	
5342	737676	167777	,WORD	=w=1
5343		020000	W@W@W	
5344	737700	157777	,WORD	=w=1
5345		240000	W@W@W	
5346	737702	137777	,WORD	=w=1
5347		100000	W@W@W	
5348	737704	277777	,WORD	=w=1
5349		000000	W@W@W	
5350	737706	177777	,WORD	=w=1
5351		700000	W@W@W	
5352				
5353		037710	,:	
5354	737710	700000	W@DATA, @	INDICATE ADDRESS OF END OF BUFFER
5355		731710	NPRDATA=W@DATA+512,	BEGINNING OF WRITE DATA FILE
5356			INDATA AND NPRDAT OVER WRITE ASCII TEXT	
5357		000001	,END	

ADSYM	#3P132	3742	5379#																	
ACCEPT#	1248P9	934#	3942	3856	3866	3873	3882	3927	3963	3969										
ACLC	#25674	4788	4794#																	
ACPTM	#24422	4561#	4589																	
ACPTM'	#24422	4562#	4582																	
ACPTO	#25843	4632#	4659																	
ACPTO'	#25842	4633#	4652																	
ACUA	#22674	4882#	4883	4813	4845#	4846	4847#	4888#												
ADRA	#21264	3774#																		
ADRAE	#21312	3785#																		
ADRECC#	#0P002	778#	2150	3388																
ADRECD#	#0P001	771#	2161																	
ADRI	#1P000	749#	2888	2181	2178	2188	3337	3366	3543	3556										
ADRO	#048P8	737#	2150	2164	2739	2741	2784	2789	3292	3324	3444	3445	3469	3478						
		3496	3498	3982	3984	3188	3982	3885	3887											
ADYBA	#27624	3778	5879#																	
ADYBC	#27633	3779	5879#																	
ADYCA	#27577	3775	5879#																	
ADYCB	#27668	3782	5879#																	
ADYCS	#27686	3776	5879#																	
ADYDS	#27573	3774	5879#																	
ADYES	#27676	3784	5879#																	
ADYES1	#27785	3785	5879#																	
ADY41	#27651	3781	5879#																	
ADY40	#27642	3788	5879#																	
ADY43	#27667	3783	5879#																	
ADYOS	#27615	3777	5879#																	
AHEX	#24536	4575	4592#																	
AHEX'	#24548	4593#	4597																	
AHEX1	#24562	4594	4598#																	
AM,2	#24436	4564	4568#																	
AM,3	#24474	4576#	4688																	
AMUXM	#38151	3745	5879#																	
AO,2	#25856	4635	4637#																	
ATBL	#25812	4593	4596	4622#																
ATVEN	#0P288	719#																		
ATV'	#0P288	888#	2618	2644																
BA	#0P018	795#																		
BALF	#0P018	768#																		
BC	#0P012	796#																		
BEBIN	#81188	963	967#	999	3761	3812	3826													
BELL	#27446	4886	5879#																	
BGN8	#81216	989	993#																	
BGN1	#81238	994	998#																	
BGN2	#81244	997	999#																	
B1P8	#0P001	858#	1899																	
B1P1	#0P002	857#	1928	2238	2612	2668	2671	2771	2863	3118	3168	3458	3696	3748						
B1P1P	#02888	848#	992																	
B1P11	#04888	847#	991	3628																
B1P12	#1P000	846#	998	3925																
B1P13	#2P000	845#	989	3715	4688	4752														
B1P14	#4P000	844#	888	3626																
B1P15	#10P000	843#	987																	
B1P2	#0P004	856#	1698	1783	1884	1924	1892	1929	1952	2453	261P	2666	2788	2725						

		2769	2961	3328	3397	3517	358A	3747						
BIY3	• P3P013	855#												
BIY4	• P3P020	854#												
BIY5	• P3P04J	853#												
BIY6	• P3P100	852#												
BIY7	• P00200	851#												
BIY8	• P00400	850#												
BIY9	• P01000	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	P01336	1039#	1559#	1556	1884#	1889	2177#	217#	2179#	2183#	2737#	3231#	3239#	3281
		3346#	3347	3351#	3352	3371	3426	344F	4531					
BUSCR	P01352	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	1503	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	2500	259F	2633
		2647	2703	2706	2813	2937	2949							
CHIS	• P00200	687#	1520	1940	1624	1849	167F	1602	1740	1761	1857	1869	2149	229F
		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#												
CLMO	P24242	4400#												
CL1	P23450	4302#	4304											
CMD	P22670	1490#	1524#	1542	1544	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#
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		3590	3609	3611	4002#									
CHDCHN	• P00004	692#	2149	2203										
CMDD	• P02000	730#	2896	2897	2114	2119	2179	2184	2323	2324	2385	2386	2714	2716
		2745	2747	3356	3374	3279	3551	3552	3569	3570	3585	3587	361F	3612
CMDEJ	• P00001	694#	1649	3361										
CMO,AD	P23112	3960	4201#	4265										
CMO,SY	P23152	3959	4222#	4274	4413									
CNYLC	• P00003	4701#	4706											
CONI	P01344	1045#												

CONO	701340	10400	3293	3323	3325	3357								
CONOB	701354	10540												
COUY	722724	15330	19790	16760	17540	18200	18630	19490	23150	23770	27920	28890	29130	32250
		32360	41000											
CR	700019	3906	3972	4928	50710									
CRLF	727522	3739	50790											
CS	700004	7930												
CS10	702000	7030												
CS12	710000	7010												
CUADRS	722676	3730	40030	40200	40460	4340	4040	40910						
CUAR	701326	10290	19430	16850	16930	17030	17640	18290	18720	19570	20000	21500	22040	23190
		23370	23010	24000	24430	21600	25300	25500	26150	26360	26430	26500	26800	27890
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		31190	32000	3207	3465	35020	36030	4525						
		7050												
CUBSY	700400	10300	19440	16860	17650	18730	23300	24010	24440	24610	25300	25510	26090	27100
CUCR	701330	20000	20090	20170	20310	20970	20060	20210	20300	20410	20530	31100		
		6900	1994	1690	1770	1070	2005	2002	2026					
CUBEAD	700020	7610												
CUBX	700400	0020	2024											
CUE	700040	7210	2039											
CUEAD	700040	6990	2241	2244	2276									
CUFBM	740000	2474	2903	2712	35200									
CUIS.C	717510	1946	1600	1767	1875	2440	2530	2042	2033	2099	2023	3001	35150	
CUIS.S	717500	3010	39740											
CUISE	717730	10350												
CUOR	701334	10340	19040	20410	20420	2043	22000	24650	25590	26160	26440	26960	28240	31960
CUSR	701332	3307	4920											
		1750	1757	2304	2530	2794	2091	2915	50040					
		0700	1122	1903	2200	2469	2555	2696	3196	4103	4004			
DATA	730310	31430	3144											
DE	700004	1541	1943	1596	1603	1605	1691	1693	1697	1703	1702	1764	1823	1829
		1070	1072	1951	1957	2059	2000	2092	2150	2151	2159	2174	2177	2204
		2203	2264	2317	2319	2335	2337	2379	2301	2390	2400	2441	2443	2450
		2400	2533	2535	2540	2550	2034	2636	2643	2640	2650	2680	2680	2702
		2707	2709	2724	2731	2730	2743	2791	2797	2799	2000	2000	2014	2016
		2020	2030	2076	20770	20000	2000	2094	2096	2003	2005	2911	29120	2910
		2920	2927	2929	29340	2930	2940	2946	29490	2950	2952	29500	3110	3119
		3200	3201	3200	3207	3141	3346	3439	3440	3465	3474	3479	3547	3579
		3503	3602	3604	3600	40400	4050	40000						
DEVCNT	722700	40010	40090	4010	40120	4051	40920							
DEVEND	700004	7240												
DEV.A	722672	2615	2703	2790	2877	2912	2947	40500	40530	42550	4056	40050	42000	
DFLY.C	723032	41540	4264											
DFLY.S	723072	41790	4273											
DOFLIN	700002	0730												
DONE	700200	7060	1590	1593	2497	2500	2500	2509	2642	2009	2092	3040	3043	3044
		3162	3103	4502										
		7910												
DSCRSP	700002	7060												
DSY	701442	11010	1492	2165	2717	31000	31670	31710	3300	42630	4305	4410		
DSYADR	726000	1101	4263	49990										
DSYCNT	722716	41030												
DSY.SE	723756	3996	44090											

DS:1	723766	4412#	4419#												
DS:2	723774	4414#	4416												
SYM	723222	3621#	3522#	3623											
DXBA	701374	1015#	1534#	1678#	1757#	1969#	2324#	230#	243#	253#	274#	294#	291#	291#	
DXBASE	701262	1026#	397#	4255#	4515										
DXBC	701376	1216#	1532#	1677#	1755#	1804#	2307#	2304#	2437#	2529#	274#	299#	291#	291#	
DXCA	701276	1012#	452#												
DXC	701314	1019#	1998	2081	2734	2158	2161	332#	3434						
DXCS	701371	1013#	1539#	1536	1539#	1797	1593#	1679#	1759#	1969#	1987#	1981	1985#	2713#	
		2014	2046	2049#	2281#	2241#	2244	2276	2725#	2366#	2439#	246#	2497	252#	
		2531#	2556#	2586	2589#	2327#	2647#	264#	2697#	2715	2795#	2825#	2892#	2916#	
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		3198#	3769#	4824#	4459#	4582#	4583#								
DXDS	701274	1011#	2938	2844	3316	3381	4916								
DXES	701372	1021#	3169#	3763#	4453#	4765#	4486	4536							
DXES1	701324	1023#	4519												
DXFI	701373	712#	1539	1868	2366	2439									
DXFC	701375	713#	1679	1758	2325	2531	2795	2742	2916						
DXFS	701371	711#	3769	4523											
DXFS*	701377	714#	1989	2049	2221	2468	2556	2627	2645	2697	2925	3198			
DXIS	701266	1028#	3124#	3173#	3878#	4761#	4257#								
DXIV	701264	1007#	1552#	2482#	2571#	3125#	3172#	3976#	4867#	4256#					
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		2050	2067	2082	2784	2788	2181	2125#	2167	217#	218#	2185	2282	2256	
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DXMO	701312	1017#	1114	1561#	1562	1572#	1571	1779#	1789	1792#	1791	1796#	1797	188#	
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		1939	1942	1944#	1945	1979#	1989#	1997	1996#	2028#	2089	204#	2053#	2054	
		2063#	2064	2071#	2272	2576	2896#	2947	2125#	2186	211#	2114#	2115	2116#	
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DXMO3	701322	1022#													
DXND	701316	1028#													
DXOS	701382	1014#	1133#	4461#	4462	4527									
DXPT	701273	1009#	3124	3173	3892#	4761	4258#								
DXPD	701328	779#													
D.NEV.	723447	4262	4291#												
D.DX9A	723426	4255	4286#												
D.DXIS	723442	4257	4292#												
D.DXIV	723433	4256	4287#												
D.DXPR	723432	4258	4288#												
D.FIRS	723424	4254	4289#												
D.LEGA	723436	4261	4290#												
D.MAX.	723434	4259	4289#												

AIC

E	207013	9240	9290	9380	9310	9320	9330	9340	9350	9360	9370	9380	9390
EC	207001	14760											
ECM	27462	4029	58790										
EMOD1	21122	3741	37430										
EMOD2	21136	3744	37460										
EMTABL	22532	9250	9290	9380	9310	9320	9330	9340	9350	9360	9370	9380	9390
EMTAG	22504	925	3650	36630									
EMTDEC	22442	955	36490										
EMTOK	22464	3654	36500										
ENDCC	10173	22150											
ENDC:	22000	7880											
ENDSR	10442	2240	22700										
ENDSTR	01633	11590											
ENDTST	27453	4020	58790										
ENDTY	04000	14750	4303										
ENTRY1	15500	15260	15400	15940	16240	16490	16700	16820	16980	16960	17480	17610	17700
		18570	19690	18780	19500	20580	21490	22030	22520	22620	22970	23160	23340
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		28000	28930	29020	29170	29260	29370	29490	30000	3071	30730	42470	
ENTRY2	15543	15410	15420	15950	15960	16030	16040	16910	16920	16970	17000	17020	17620
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ERFLG	21262	36700	36790	37070	3727	37710							
ERPC	27553	3717	58790										
ERRCNT	21314	37000	37910	39810	4031	42530							
ERRDST	25000	1160	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179
		1181	1182	1183	1187	1188	1189	1190	1191	1192	1193	1194	1195
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		1213	1214	1215	1216	1217	1218	1219	1220	1221	1225	1226	1227
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													2003



		2086	2011	2716	2745	2749	2852	275A	2765	2769	2774	2879	2882	278A
		209P	2894	2899	2183	2188	2117	2107	2163	2169	2177	217A	2182	2187
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ES	# P01W30	801#	929#	938#	931#	932#	933#	934#	935#	936#	937#	938#	939#	
ESE1:Y	P12326	2571	2986#											
ESE4:0	# P0R180	688#	1596	1822	1958	2358	2283	2334	2347	2471	2521	2562	2548	2813
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ESE1	P12376	2582	2996#											
ESE2	P11718	2493	2987#											
EYMP2	"27776	3719#	3728#	3722										
EXR,SH#	#P0P0P1	2#	9	653	3735	3747	3749	3751	4219	4252	4282	5879		
EXYR1	"21263	3768	3778#											
E,R0	"21328	3789#	3753	3797#										
E,R1	"21322	3718#	3754	3798#										
E,R2	"21324	3711#	3759	3799#										
E,R3	"21326	3712#	3758	3800#										
E,R4	"21332	3713#	3757	3801#										
E,R5	"21332	3714#	3758	3802#										
FALSE	"15226	2986#	4862											
FASTCU#	"020P0	759#												
FASTIS	"17732	2648	2852	3978#										
FCY#	"080P6	718#												
FIRST,	"22776	3843#	3961#	4862	4864#	4869	4896#	4251#						
FISS1	"28244	3589	3591	3594#										
FISS2	"28852	3593	3595#											
FIVESE#	"080P1	4876#												
FSPART	"27863	3828	5879#											
GEYHEX	"24486	3982	4957#											
GO	# 788881	715#	1539	1679	1868	2466	2556	314A						
H	"21372	3828#	3821#											
HEADER	"26474	3828	5872#											
HERE	# 788888	859#												
HEXVJM	"25818	3983	3984	3912	4557#	4586#	4621#							
H10S,0	"17322	3459	3464#											
H10,SU	"17166	2463	2953	2691	3434#									
H10,2	"17484	3435	3463	3486#										
H10,2	"17476	3587#												
HLDD	# "48888	732#	1996	2888	2871	2876	2185	2186	2116	2157	2288	2268	274P	2785
		2789	3163	3282	3297	3298	333P	3334	3483	3487	3448	3449	3487	3488
		3526	3531	3568	3561	3581	3594	3686						
HLYS#	# 18P888	887#	3747											
HOME	"27443	3818	5879#											
HTAG	"13234	2723#												
HTBL	"25822	4599	4624#											
IBHRST#	"348P2	683#												
ICOUNT	"27334	1482#	1911#	1618#	1634#	1661#	1712#	1839#	1965#	2824#	2131#	2231#	2288#	2349#

P10

IDV	724856	24110	29190	26240	26670	27620	28550	29660	3631	36470												
IISW	704080	4423	4439	44420																		
ILLC	700495	8910																				
INFOSC	704000	8680	1647	4161																		
INITB	701154	6820	683	2457	2547	2689																
INITC	701160	974	9810																			
INITZ	701144	988	9820																			
INVEN	700100	977	9790																			
INVER	715264	7870	3120	3121	3174	3829																
INXOK	100070	38810																				
INXPAS	715262	8720	2993	3882	3205	3166																
INXR	715232	29930	29960	3882	32050	31660																
INXREQ	700200	29890	3172																			
IOD	700200	7810																				
IRR	815306	7620																				
IRR2	715274	3083	38800																			
IRS	700001	38840																				
ISSCRJ	716702	7850																				
ISSREJ	700010	16430	18540	33620																		
ISS,SU	716332	6910	2703	2889	2813	2830	3316															
		1499	1929	1627	1652	1673	1751	1867	2253	2327	2361	2434	2526	2607								
		2780	2873	2883	32790																	
ISS1	717054	3480	34830																			
ISS2	717106	3398	3482	34110																		
ISS3	716572	3329	33370																			
KEY,70	104006	9390	3829	3925	3971	3983	4962	4633														
LEGAL	722726	3980	4882	4845	41110	42610	42620	4371	4422													
LESS1	701272	18180	1927	1625	1650	1671	1749	1858	2251	2298	2359	2432	2472	2524								
		2561	2678	2778	2871	2981	3767	38930														
LEVEL0	700000	8960																				
LEVEL1	700040	8970																				
LEVEL2	700100	8980																				
LEVEL3	700140	8990	1818																			
LEVEL4	700200	9000	1889	3817	4288																	
LEVEL5	700240	9010																				
LEVEL6	700300	9020																				
LEVEL7	700340	9030	946	949	952	955	958	968	1888	3813	3827	4452										
LF	700012	4780	58780																			
LOCK0	100000	7570	1998																			
LOGICA	722472	48480																				
LOPSW	740000	8880	3759																			
LPC\YL	722340	2980	48800																			
LPC\SJ	722314	48800																				
LPC1	722524	4884	4811	48480																		
LPC2	722510	4814	48480																			
LPC3	722564	4852	48590																			
LPC4	722572	4854	48500																			
LPC5	722502	4817	4838	48450																		
MAPERR	104001	9380																				
MARK	723616	43680	4379																			
MAX,DE	722710	39440	4818	4851	42970	42590	4394	4439														
MCCSW	702000	8920																				
MCKEN	707002	7760	3763																			
MCKP	700001	7750																				

MC1,SM#	787200	20	9	144	344	693	1103	1149	3119	3588	4554	4622	5075	
MC2,SM#	787200	20	9	144	344	3119	3588	4313	4809	5058	5072	5075		
MDXX	722172	3937#	3938#	3939#	3940#									
MEM,SM#	787200	20	10	374	381	930	1003	1101	1476	3668	4313	4314	5075	
M1	787201	7980												
MISC	781346	10480	4537											
M0	787201	7970												
MONCFL	723172	3814	3932	3853	4246#									
MON170	721334	995	3807#											
MON1	721550	3838	3853#											
MON1.0	721494	990	3132	3625	3823#	3842	3986	4424	4565	4636	4789			
MON13	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	723372	4275#	4277											
MON2.3	723422	4282#												
MON3	721576	3860	3963#											
MON4	721623	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	5075#											
MSG12	727344	3881	5075#											
MSG13	727371	3917	3930	5075#										
MSG2	727077	3863	5075#											
MSG26	727716	3734	5075#											
MSG28	727733	3872	5075#											
MSG3	727117	3926	5075#											
MSG31	727755	3968	5075#											
MSG35	727767	3729	5075#											
MSG36	737012	5075#												
MSG4	727162	3899	5075#											
MSG5	727141	3841	3854	5075#										
MSG6	727252	3901	5075#											
MSG7	727262	3902	5075#											
MSG9	727301	3961	5075#											
V	787200	1164#	1169	1184#	1203#	1222#	1241#	1260#	1279#	1298#	1317#	1336#	1355#	1374#
		1393#	1412#	1431#	1450#	1469#	1476#	1478	1486#	1507	1515#	1606	1614#	1630
		1638#	1657	1665#	1708	1716#	1835	1843#	1901	1969#	2020	2028#	2127	2135#
		2227	2239#	2284	2292#	2345	2353#	2407	2415#	2511	2519#	2600	2608#	2656
		2664#	2750	2766#	2851	2859#	2962	2970#	5080#	5089	5090#	5091	5092#	5093
		5094#	5095	5096#	5097	5098#	5099	5100#	5101	5102#	5103	5104#	5105	5106#
		5107	5108#	5109	5110#	5111	5112#	5113	5114#	5115	5116#	5117	5118#	5119
		5120#	5154#	5155	5156#	5157	5158#	5159	5160#	5161	5162#	5163	5164#	5165
		5166#	5167	5168#	5169	5170#	5171	5172#	5173	5174#	5175	5176#	5177	5178#
		5179	5180#	5181	5182#	5183	5184#	5185	5186#	5220#	5221	5222#	5223	5224#



PCM1	134010	9370																		
PCM2	134011	9380																		
PCM3	134012	9390																		
PER1	204464	1550	15920																	
PER10	204543	15990																		
PER11	204546	1522	1599	16220																
PERRPC	221136	3716	3726	37470																
PEY3	204146	1521	15230																	
PEW	204344	15510	1576																	
PFAIL	201444	952	11110	1132																
PFLC	201610	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																		
PHS22	207000	8230																		
PHS11	214000	8240																		
PHS12	210000	8250																		
PHS21	224000	8260																		
PHS22	220000	8270																		
PHS31	234000	8280																		
PHS32	230000	8290																		
PHS41	244000	8300																		
PHS42	240000	8310																		
PHS51	254000	8320																		
PHS52	250000	8330																		
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	47500	4772																	
PR1.1R	225466	3684	3689	3694	3923	3937	4032	47480												
PR1.1S	225476	3679	3732	47500																
PR1.12	225454	47440	4755	4773	4777															
PR1.13	225464	47460	47400	47500	47510	47670	4768	47710												
PRYE	225622	4753	47790																	
PRYV	223542	43470	43510	4355																
PRYV2	204460	1549	15830																	
PS	177776	9200	9600	10000	11460	15270	16250	16500	16710	17490	18580	22510	22900	23590						



R4	•X78P874	9110	3713	37570	39590	39780											
R5	•X78P875	9120	3714	37580	45220	4544	4545	4549	4551	45520							
R6	•X78P876	9140	1112	11300	36580	36510	36520	3653	36560	36570	36580	36590	3660				
S	•78P871	14760															
SAVDEV	722723	28760	2980	29110	2934	29400	2958	41840									
SAVRG	•134273	9320	1111														
SAVR6	781086	11120	1130	11480													
SBYTE	724362	4522	49430	4552													
SCALD.	722773	41310	4372	4386													
SCHAR	725633	47840	47890	4786	4791												
SCOPE	•134473	8410	1481	1510	1609	1633	1662	1711	1838	1964	2023	2132	2232	2287			
		2340	2410	2914	2683	2059	2761	2854	2969								
SCOPEA	727326	3629	36300														
SCOPEB	727302	3627	36330														
SCOPEC	720210	950	30100														
SCOPEF	727336	36300	3631	36380	36410												
SCOPEG	727322	3632	36370														
SCOPEH	727246	3619	3624	36260													
SCP1	704024	1484	14890														
SCP12	706662	1967	19680														
SCP11	707186	2026	20270														
SCP12	707556	2133	21340														
SCP13	710222	2233	22340														
SCP14	710466	2290	22910														
SCP15	710746	2351	23520														
SCP16	711232	2413	24140														
SCP17	711736	2517	25180														
SCP2	704132	1513	15140														
SCP27	712424	2606	26070														
SCP21	712700	2662	26630														
SCP22	713510	2764	27650														
SCP23	714266	2857	28580														
SCP24	715222	2960	29690														
SCP3	704576	1612	16130														
SCP4	704662	1636	16370														
SCP5	704762	1663	16640														
SCP6	705272	1714	17150														
SCP7	706032	1841	18420														
SDAPG	723530	43430	4344	43570	43590												
SEL1	•740080	7450															
SELC	•720000	7330	1114	1996	2020	2071	2072	2105	2112	2116	2157	2200	2260	2740			
		2786	2789	3163	3282	3302	3332	3331	3403	3404	3453	3454	3487	3492			
		3526	3527	3560	3565	3601	3594	3606									
SELRY1	720000	0000	603	2262													
SEL,JO	715374	30390	3129														
SEL,IS	720070	30010															
SEL,X	715652	3047	31040														
SENRY1	715472	30660	3067	3072													
SENRY2	715532	30770	3078	3081													
SENSEC	707004	0670	1060	4160													
SES	•717000	0900															
SETJP	716042	31610															
SM	•700100	0010	3100	3167													
SOSIEN	700004	7770															

SP	*X2380P6	919#	967#	976#	977#	981#	999#	1146	1599#	3084#	3011#	3012#	3018	3719
		3025#	3220#	3034	3235	3247#	3253#	3299	3131	3303#	3393	3634	3635	3637
		3677#	3688	3682#	3685	3207#	3698	3642#	3695	3718	3721#	3724	3730#	3733
		3735#	3738	3761#	3812#	3820#	4030#	4033	4312#	4321	4342	4361#	4407	4436#
		4558#	4559#	456	4587	4588	4589	4637#	4631#	4657	4658			
SPACE	227520	5075#												
SPAC4	227511	5075#												
SPW	201436	1093#	1133	4279#	4378	4384	4461	4462						
SPW,SE	223623	3994	4370#											
SP,2	223630	4374#	4388											
SP,1	223666	4386#	4408											
SP,2	223672	4387#	4391											
SP,3	223714	4388	4394#											
SP,4	223723	4395#	4397#											
SP,5	223722	4396#	4398											
SP,6	223732	4393	4399#											
SP,7	223754	4401	4405#											
SP1	216102	3167#												
SP2	216132	3169	3172#											
SP4	216160	3176#												
SR	*17757J	922#	996	3626	3628	3715	3725	3747	3759	4682	4752			
SRCC:Y	222714	4102#												
SRVI	*202000	751#	1951	1966	1972	1987	1888	1881	1894	1933				
SRVO	*201000	739#	1961	1962	1978	1971	1979	1987	1996	1997	1880#	1881	1817	1888
		1889	1921	1922	1925	1928	1942	1944	1945	2117	2121	2196	2199	2210#
		2211	2449	2450	2483	2585	2490#	2547	2541	2572	2574	2579	2748	2749
		2841	2942	3203	3207	3221	3223	3252	3254	3411	3412	3420#	3421	3595
		3596	3613	3614										
SSTAT	222712	1678	4101#											
STAI	*204000	758#	1119	2185	2202	2479	2568	3387						
STALL	227524	5075#												
STAMPD	200100	720#	3468											
START	200200	963#												
STATUS	216162	1785	1831	1959	2340	2403	2819	2943	2955	3182#				
STKSTA	200040	788#	1988	1981	2013	2014	2046	2718						
STKSTB	200022	693#	2703	2706										
SUPD	*210000	734#	1798	1791	1813	1814	1815	1816	1939	1939	1989	1992	2008	2009
		2053	2054	2063	2064	2188	2192	2215	2267	2271	2272			
SVRPC	225406	4714#	4723	4725#										
SVRPSW	225410	4715#	4722	4726#										
SWR	*17757J	921#	3991											
SYNC	*201000	768#	2004											
SYSRST	210000	681#	683											
S1	*215222	1486#	1515#	1614#	1638#	1665#	1716#	1843#	1969#	2028#	2135#	2235#	2292#	2353#
		2415#	2519#	2688#	2664#	2668#	2859#	2972#						
		4345#	4349#	4353#										
YDAY	223536													
YDXBA	201416	1081#												
YDXCA	201418	1078#												
YDXCB	201424	1084#												
YDXCS	201412	1079#												
YDXDS	201406	1077#												
YDXES	201433	1086#												
YDXES1	201432	1087#												
YDXFI	201422	1083#												



YDXPC	#81423	18820												
YDXVJ	#81426	18850												
YDXJS	#81414	18880												
YERPC	#28566	15280	15450	15970	16260	16510	16720	16870	16940	17340	17500	17660	17710	18300
		18590	18740	18800	19580	23020	21530	22060	22520	22660	22990	23200	23390	23600
		23820	24020	24330	24450	24620	24730	25030	25250	25370	25520	25620	25920	26370
		26510	26790	26900	27110	27320	27790	28010	28100	28100	28320	28720	28820	29000
		29870	29220	29310	29420	29540	30720	3603						
YESTAB	#28412	14760	14860	15150	16140	16300	16650	17160	18430	19690	20200	21350	22350	22920
		23530	24150	25190	26000	26640	27660	28590	29700					
		7700	3169	4465	4466									
YINDIS	#80010	8630	1622	2722	4156									
YIOC	#80400	2733	27370											
YIO,IS	#13326	27530												
YIS,2	#13450	3111	31100											
YI,2	#15720	18700	3020	3824	4666	4667	4783							
YKB	#81400	18090	3610	38250	4664									
YKS	#81376	48790												
YMP	#22664	18720	46670	46940	47910									
YPB	#81404	18710	4674	4692										
YPS	#81402	9310	3859	3863	3872	3383	3896							
YRACER	#84002	1525	1623	1648	1669	1747	1856	2140	2249	2296	2357	2430	2470	2522
YRAINT	#15654	2599	2614	2676	2976	2869	2879	31000						
		1695	2321	2383	2811	2900	2932	32150						
YRASF	#16240	3681	58750											
YRCH	#30071	3676	58750											
YRCM1	#30037	3686	58750											
YRC1	#30171	3691	58750											
YRC2	#30213	3227	32390											
YR,CUT	#16330	32200	3220											
YR,REA	#16250	3217	32300	3237										
YR,ARI	#16274	8160												
YSSF	#80400	41850												
YSSFY	#22722	1476	36430	4867	4869									
YSTARL	#28342	14810	1480	3886	3642	4289								
YSY1	#80400	19640	1969											
YSY1C	#86636	2862	28660											
YSY1,7A	#14306	2864	28670											
YSY1,0B	#14312	28230	2820											
YSY11	#807062	21300	2139											
YSY12	#807532	2866	29590											
YSY12C	#15176	22300	2239											
YSY13	#10176	22870	2292											
YSY14	#10442	23480	2353											
YSY15	#10722	24100	2419											
YSY16	#11206	25140	2519											
YSY17	#11712	15100	1519											
YSY2	#84106	26030	2600											
YSY2?	#12400	26590	2664											
YSY21	#12654	27610	2766											
YSY22	#13464	28540	2959											
YSY23	#14242	29650	2970											
YSY24	#15176	16090	1614											
YSY3	#84552	16330	1630											
YSY4	#84636													

TSY5	#84736	166P8	1665											
TSY6	#85246	1711#	1716											
TSY6A	#12736	2669	2572	2674#										
TSY6B	#13452	2673	2734	2754#										
TSY7	#868P8	1838#	1943											
TSY9.0	#13532	277P	2773#											
TSY9.1	#13534	2772	2774#											
TSY9.2	#14232	2773	2844#											
TS1	#848P8	817#	822	824	826	928	837	832	834	836				
TS2	#878P8	818#	823	825	827	829	831	833	835	937				
TY	#81448	1897#	2752	3813	3327	3799	3888	3893	4249	4282#	4281#	4321	4399	4584
TYCA	#38262	3788	5879#											
TYDS	#38239	3698	5879#											
TYNDX	#81358	1849#	2943	2752	389P									
TYRACE	#15648	3854	3898#	4249#	4584#									
TYSHOU	#15658	3871#	3882#	3182#	3693									
TYTNDX	#81434	1888#												
TYTAS	#15646	3872#	3881#	3181#	3688									
TYT	#X88888	913#	3677	3678#	3688#	3682	3683#	3685#	3689	3688#	3692#	3692	3693#	3695#
		3721	3722#	3724#	3738	3731#	3733#	3735	3736#	3738#	4838	4831#	4833#	4882
		4683#	4684	4686	4688	4692	4694	4696#	4699	4698#	478P#	4783#	4759#	4761#
		4763#												
TYVFLG	#25284	4668	4673#	4782	4798									
TYVI	#25624	3816	4783#											
TYVIG	#25668	4787	4798#											
TYBERD	#15348	3824#	4472											
TYE1	#15354	3829#	3833											
TY:CLR	#23444	3999	4388#											
TY:TRA	#15432	1598	2984	2993	3851#									
TY:T2	#15542	3888#												
TY:T1	#15682	3887	3889#											
TY:T2	#15612	3889#	3891#	3892#	3893#	3894								
TYPE	#888884	918#	1139	3676	3681	3886	3691	3698	3788	3717	3729	3734	3739	3742
		3745	3818	3828	3828	3841	3854	3863	3872	3881	3899	3981	3917	3926
		3938	3961	3962	3968	3882	4886	4828	4829	4483	4435	4584	4654	4777
		4788												
Y.ACCE	#25838	934	4828#											
Y:ERRO	#28728	929	3788#											
Y:KEY:	#25192	935	4863#											
Y:MAPE	#28554	938	3869#											
Y:PAR1	#25524	936	4341#											
Y:PCH1	#26488	937	5888#											
Y:PCH2	#26424	938	5883#											
Y:PCH3	#26458	939	5886#											
Y:RSTR	#25412	933	4728#											
Y:SAVR	#25358	932	4714#											
Y:TRAC	#28578	931	3874#											
UC	#888882	879#	1498	4185	4186	4187	4188	4189	4197	4191	4192	4193	4194	4195
		4812	4813	4814	4815	4816	4817	4818	4819	4887	4888	4889	4818	4811
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 VLUMEX# 022010  
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CHECK	675#														
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COPYR!	2#	627													
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DSYM	2#	4797													
DUMP	675#	3682	3687	3692	3921	3935	4338								
DXBITS	2#	676													
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DXREG	2#	1803													
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EDFF	2#														
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ASL2	4349	4353													
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BGE	4217														
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BHIS	4434														
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DU

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	3890	3893	3900	3904	3912	3919	3933	3936	3944	3959	3968	3967	3974	3988	4001
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	1871	1872	1873	1879	1951	1954	1956	1957	1984	2059	2062	2061	2150	2151	2152
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RESET	3023	4039													
ROL	3656	4759	4761	4763											
ROLB	4760	4762	4764												
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	4724	4739	4792												
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RTT	978														
SUB	1902	1903	3651	3720	4055										
TRAP	041														
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.ASCIZ	1149	3846	4442	4794	5075										
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	4A46	4A47	484A	4849	4852	4A51	4852	4857	4A54	4A59	4A56	4A57	485P	4859	486P
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	1415	1434	1453	4113	4133	4162	4203	4224	4612	4807	5088	5089	5122	5155	518A
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5167	5169	5171	5173	5175	5177	5179	5181	5183	5185	5185	5190	5192	5194	5196
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ERRORS DETECTED: 0

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CORE USED 39K