BELL TELEPHONE LABORATORIES, INCORPORATED

MAY 1 1981

6-145

COMMON SYSTEMS

FOR USE WITH NO. 3 ESS

ARRANGED WITH 2-WIRE FEATURES

STORE WRITE PROTECT TEST

(CDGSWP)

PRINTED IN U.S.A.

SECTION DICTIONARY

NUMBER	NAME	MAXIMUM	ORIGIN	TYP	ADDRESS-MODIFICATION
01	CSTWP1	0000535		C	
02	CSTWP2	0000432		C	
03	CSTWP3	0000642		C	
04	WPTEST	0000067		C	
05	CPATCH	0000000		C	
06	CPATCH1	0000723		C	
07	CPATCH2	0000000		C	
08	CPATCH3	0000000		C	
09	CPATCH7	0000000		C	
0A	TFAPCH2	0000000		C	
0B	TPATCH	0000000		C	

VERSION W77D OF SWAP; VERSION   OF EPL   0:06:56   2/06/81 ****

                                                                        CDGSWP   W77D

```
0025071            01        DBNAM   NO33E3I3.OFF.DATABASE
0025071            02        RELNAM  NO3ESS
0025071            03        GETLIB  LIBRARY,MEMBER=MOPTBL
                   04        GETLIB  LIBRARY,MEMBER=SYSMAC
                   05        GETLIB  LIBRARY,MEMBER=SYSSYM
                   06        GETLIB  LIBRARY,MEMBER=PATCH2
                   07        FIRSTOPTSS
                   08        VERSION 3ACC,FIELD,ESS2E
                   09        PATCHINIT
                   10 NO33E3I3.OFF.OPMS(O) DECK
                   11        DSQUAL  NO33E3I3
                   12        LISTING N,CRUNCH=Y,SYSOUT=N
                   13 #################
                   14 ##
                   15 ## UNIX ID = NO3PAG
                   16 ##
                   17 #################
                   18 ###########################################
                   19 ###
                   20 ####  pid  date     time   rel
                   21 ###
                   22 #### cdgswp 1/24/81 17:40:04 7.1.1.1
                   23 ###
                   24 ###########################################
```

              31 # THIS DATA SET EDITED FOR UNIX ON 05/25/78

```
01          GETLIB  MEMBER=MEMDGM
02          GETLIB  MEMBER=TTYMAC
03          GETLIB  MEMBER=CTVTAB
04          GETLIB  MEMBER=BSAIMAC
05          GETLIB  MEMBER=BSAIMAC
06          GETLIB  MEMBER=DGNMAC        # SELECT FIELD MACROS
07          NAME    CDGSWP


         11 ## The following is a list of the valid csects for program CDGSWP

0025071  13 CSTWP1 CSECT
0025626  14 CSTWP2 CSECT
0026260  15 CSTWP3 CSECT
0025002  16 WPTEST CSECT


         19 ## The following csects are necessary for patching

0111432  21 CPATCH CSECT
0112562  22 CPATCH1 CSECT
0114107  23 CPATCH2 CSECT
0115073  24 CPATCH3 CSECT
0121236  25 CPATCH7 CSECT

0116774  27 TFAPCH2 CSECT

0600000  29 TPATCH CSECT
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
                                                            0:06:56   2/06/81   ****

                                                               CDGSWP          W77D

                01           BEGIN_DIAG DGSWP,3ACC      # RUN ON 3ACC
       -001- 02 CDGNM   EXTERN   NMICRO
       -001- 03 CDGNM   EXTERN   NRETRN
       -001- 04 CDGNM   EXTERN   N2RETRN
       -001- 05 CDGNM   EXTERN   NSTRT
       -001- 06 CDGNM   EXTERN   NSTOP
       -001- 07 CDGNM   EXTERN   NDISABA
       -001- 08 CDGNM   EXTERN   NDISABB
       -001- 09 CDGNM   EXTERN   NSTRTCLK
       -001- 10 CDGNM   EXTERN   NSTPCLK
       -001- 11 CDGNM   EXTERN   NTGCLK
       -001- 12 CDGNM   EXTERN   NRESCLK
       -001- 13 CDGNM   EXTERN   NZERO_ER
       -001- 14 CDGNM   EXTERN   NPROS
       -001- 15 CDGNM   EXTERN   NTESTSEG
       -001- 16 CDGNM   EXTERN   NFAILTST
       -001- 17 CDGNM   EXTERN   NTTY
       -001- 18 CDGNM   EXTERN   NMASK
       -001- 19 CDGNM   EXTERN   NPASSTST
       -001- 20 CDGNM   EXTERN   NSEND
       -001- 21 CDGNM   EXTERN   N2SEND
       -001- 22 CDGNM   EXTERN   NADD_OFF
       -001- 23 CDGNM   EXTERN   NADMIC
       -001- 24 CDGNM   EXTERN   NLDMIR
       -001- 25 CDGNM   EXTERN   NEXECUTE
       -001- 26 CDGNM   EXTERN   NCOMPARE
       -001- 27 CDGNM   EXTERN   NFRZ
       -001- 28 CDGNM   EXTERN   NBEGIN
       -001- 29 CDGNM   EXTERN   NLP_END
       -001- 30 CDGNM   EXTERN   NSKIP
       -001- 31 CDGNM   EXTERN   NABT
       -001- 32 CDGNM   EXTERN   NRDMICRO
       -001- 33 CDGNM   EXTERN   NCLRMS
       -001- 34 CDGNM   EXTERN   NNO3CD
       -001- 35 CDGNM   EXTERN   NTMTEST
       -001- 36 CDGNM   EXTERN   NZERPT
       -001- 37 CDGNM   EXTERN   NFLBITS
       -001- 38 CDGNM   DIRECT   INTRPNO3
       -001- 39 CDGNM   EXTERN   NBGN
       -001- 40 CDGNOF  EXTERN   PASSOFF
       -001- 41 CDGNOF  EXTERN   FAILOFF
       -001- 42 CDGNM   EXTERN   SLDMCHBF
       -001- 43 CDGNM   EXTERN   SLDMIRLF
       -001- 44 CDGNM   EXTERN   SMCHF
       -001- 45 CDGNM   EXTERN   NRTNBLM
       -001- 46 CDGNM   EXTERN   NWDTST
```

0600000

```
-001- 01 #   THIS DIAGNOSTIC PROGRAM IS ALL OR PARTIALLY WRITTEN IN A MACRO
-001- 02 #   LANGUAGE WHICH PRODUCES TABLES WHICH ARE INTERPRETED BY THE
-001- 03 #   DIAGNOSTIC MONITOR PROGRAM.  FOR INFORMATION REGARDING THE
-001- 04 #   STRUCTURE OF THE TABLES,  SEE THE SECTION OF PROGRAM CDGNM (PR-1C910-01)
-001- 05 #   ENTITLED ''DIAGNOSTIC TABLE INTERPRETER''.  FOR A GENERAL DESCRIPTION
-001- 06 #   OF THE DIAGNOSTIC PHILOSOPHY AND THE DATAILED REPAIR PROCEEDURE,
-001- 07 #   SEE THE TROUBLE LOCATION MANUAL (TLM-1C900) SECTION B.
```

0:06:56   2/06/81   ****
CDGSWP   W77D

0600000   01   SYMLIB

```
-002- 01 # EXTERNS REQUIRED BY STORE DIAGNOSTIC TESTS:

-002- 04 MASACS EXTERN   MASCIOSC

-002- 06 CBLM   EXTERN   PRTMASER
-002- 07 CBLM   EXTERN   WAIT

-002- 09 CDGNM  EXTERN   LOOPIND
-002- 10 CDGNM  EXTERN   NOSTPMES
-002- 11 CDGNM  EXTERN   PASSTST
-002- 12 CTSD   EXTERN   DGNLIM

-002- 14 CDGSBS EXTERN   MEMOP
-002- 15 CDGSBS EXTERN   MEMOPI

-002- 17 CDGSFA EXTERN   FOBNDX

-002- 19 CDGSIO DIRECT   MASIOM
-002- 20 CDGSIO EXTERN   MDSELMSK
-002- 21 CDGSIO EXTERN   MODSIZE
-002- 22 CDGSIO EXTERN   STRSIZE
-002- 23 CDGSIO EXTERN   STSELMSK
-002- 24 CDGSIO EXTERN   FINAL
-002- 25 CDGSIO EXTERN   CONTPREP


-002- 28 CSYSUB EXTERN   EXCOFLPG
-002- 29 CSYSUB EXTERN   INIT_OCC
-002- 30 CSYSUB EXTERN   INITOST
-002- 31 CSYSUB EXTERN   INSYNC
-002- 32 CSYSUB EXTERN   RGCHKADR
-002- 33 CSYSUB EXTERN   UPD_OTS

-002- 35 CTSD   EXTERN   MASERCNT
-002- 36 CTSD   EXTERN   PAGSCR
-002- 37 CTSD   EXTERN   DGREQ

-002- 39 MASACS EXTERN   MASONOFF

-002- 41 TDATA  EXTERN   STRLIM
-002- 42 TDATA  EXTERN   WDSTR
-002- 43 TDATA  EXTERN   WPTBL
```

```
          -002- 01 # STORE DIAGNOSTIC REGISTER DEFINITIONS

0000010   -002- 04 CHKNDX  EQUR    8                    # INDEX REGISTER FOR REFRESH SELECT CHECK
0000010   -002- 05 FOBCNT  EQUR    8                    # SCRATCH REG FOR CURRENT FANOUT BOARD
                                                        COUNT
0000011   -002- 07 RANGE   EQUR    9                    # NUMBER OF OFF-LINE WORDS TO BE TESTED


          -002- 11 # REGISTER SYMBOLS USED IN THE MEMORY MODULE TEST:
0000000   -002- 12 PATBAK   EQUR   R0                   # DATA READ/WRITTEN VIA OTHER-STORE
0000001   -002- 13 HIPATBAK EQUR   R1                   # HIGH DATA READ/WRITTEN VIA OTHER-STORE
          -002- 14 HIPATBAK%T SYN R1%T                  # DEFINE FOR IGNORANT MIMODE MACRO
0000002   -002- 15 BLKMSK   EQUR   R2                   # MASK TO BLOCK INTERRUPTS & CHECKS
0000003   -002- 16 STRSTAT  EQUR   R3                   # SAVE (WIDE) STORE STATUS
0000004   -002- 17 LSTPAT   EQUR   R4                   # PATTERN PREVIOUSLY WRITTEN
0000005   -002- 18 NXTPAT   EQUR   R5                   # PATTERN CURRENTLY BEING WRITTEN
0000006   -002- 19 PATNDX   EQUR   R6                   # NUMBER OF TEST PATTERN BEING MATCHED
0000007   -002- 20 MNRNDX   EQUR   R7                   # MINOR LOOP INDEX
0000010   -002- 21 ERSAVE   EQUR   R8                   # ERROR REGISTER AFTER OTHER-STORE READ
0000010   -002- 22 PARSLT   EQUR   R8                   # PARITY TEST RESULTS - FIELD ONLY
0000014   -002- 23 MEMADDR0 EQUR   R12                  # UPPER ADDRESS BITS OF MEMORY TEST AREA
0000015   -002- 24 MEMADDR1 EQUR   R13                  # LOWER ADDRESS BITS OF MEMORY TEST AREA
0000014   -002- 25 MEMADDR EQURA   RA0                  # BASE ADDRESS OF MEMORY TEST AREA
0000016   -002- 26 PATADDR EQURA   RA1                  # ADDRESS OF TEST PATTERN TABLE
```

```
-002- 01 # FUNCTION OF BITS WITHIN I/O MESSAGE SENT TO STORE:
-002- 02 CIOBUF LAYOUT


-002- 05 CINIT    ITEM    1              # MAIN STORE CONTROLLER INITIALIZATION
-002- 06 CKSTP    ITEM    1              # CONTROLLER CLOCK STEP
-002- 07 CKHLT    ITEM    1              # CONTROLLER CLOCK HALT
-002- 08 REFST    ITEM    1              # STORE REFRESH STOP
-002- 09 STORDER  ITEM    8              # 4/8 MAINTENANCE STATE CODE
-002- 10 O10TM    ITEM    1              # 0-10 BIT TIMING SHIFTER FAKE
-002- 11 LDFG     ITEM    1              # ORDER CHECKER EXCLUSIVE-OR LOAD
-002- 12 FSEL     ITEM    1              # STORE SELECT FORCE ON TIMING BOARD A
-002- 13 FBT09    ITEM    1              # FORCE BIT 15 ACTIVE IN MAIN SHIFTER
-002- 14          LOEND
-005- 15 #
```

```
CIOBUF
001| FBT09 | FSEL | LDFG | O10TM |                STORDER                | REFST | CKHLT | CKSTP | CINIT |
   |                              |        4/8 MAINTENANCE STATE CODE     |                               |
   |   15  |  14  |  13  |  12  |  11  |  10  |  9  |  8  |  7  |  6  |  5  |  4  |  3  |  2  |  1  |  0  |
```
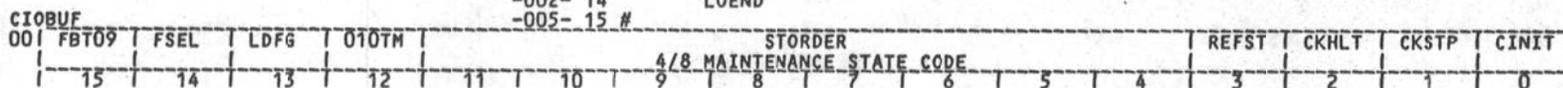
STORE WRITE PROTECT TEST   PR-1C927-50

```
-002- 01 # LAYOUT OF DIAGNOSTIC REQUEST WORD (DGREQ) WITH TEST NUMBER REQUESTED
-002- 02 #     NOTES: 1. REST OF BITS (CONTROLBITS) ARE DEFINED BY DGREQIP LAYOUT
-002- 03 #                 FOUND IN PROLOGUE OF DIAGNOSTIC MONITOR (CDGNM)
-002- 04 #              2. IF TEST NUMBER (TSTNUM) IS ZERO, THE ENTIRE DIAGNOSTIC
-002- 05 #                 TEST SEQUENCE HAS BEEN REQUESTED
-002- 06 #              3. STORAGE SPACE FOR DGREQ IS ALLOCATED IN CTSD


-002- 09 TSTNUM ITEM   7                         # DIAGNOSTIC TEST NUMBER REQUESTED
-002- 10 SPARE  ITEM   2
-002- 11 CONTROLBITS ITEM 7
-002- 12        LOEND
-005- 13 #
```
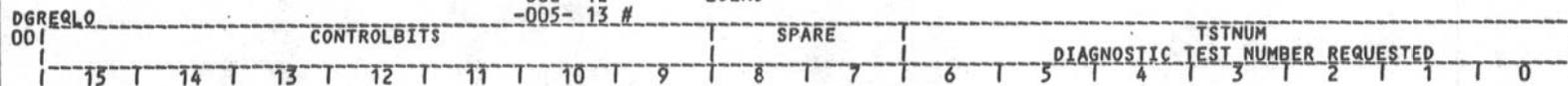
```
DGREQLO
001 |                       CONTROLBITS              |      SPARE      |          TSTNUM
    |                                                |                 |  DIAGNOSTIC TEST NUMBER REQUESTED
    |  15  |  14  |  13  |  12  |  11  |  10  |  9  |  8  |  7  |  6  |  5  |  4  |  3  |  2  |  1  |  0  |
```

-002- 01 # STORAGE FORMAT FOR MAIN STORE (MY & OTHER) SUBCHANNEL ADDRESS:

```
-002- 04 MSSC0   ITEM   16                    #  ADDRESS OF MY STORE SUBCHANNEL 0
-002- 05 OSSC0   ITEM   16                    #  ADDRESS OF OTHER STORE SUBCHANNEL 0
-002- 06 MSSC1   ITEM   16                    #  ADDRESS OF MY STORE SUBCHANNEL 1
-002- 07 OSSC1   ITEM   16                    #  ADDRESS OF OTHER STORE SUBCHANNEL 1
-002- 08 MSSC2   ITEM   16                    #  ADDRESS OF MY STORE SUBCHANNEL 2
-002- 09 OSSC2   ITEM   16                    #  ADDRESS OF OTHER STORE SUBCHANNEL 2
-002- 10 MSSC3   ITEM   16                    #  ADDRESS OF MY STORE SUBCHANNEL 3
-002- 11 OSSC3   ITEM   16                    #  ADDRESS OF OTHER STORE SUBCHANNEL 3
-002- 12         LOEND
-005- 13 #
```

```
MASCIOSC
00 |----------------------------------------------MSSC0-----------------------------------------|
   |                          ADDRESS OF MY STORE SUBCHANNEL 0                                  |
01 |----------------------------------------------OSSC0-----------------------------------------|
   |                         ADDRESS OF OTHER STORE SUBCHANNEL 0                                |
02 |----------------------------------------------MSSC1-----------------------------------------|
   |                          ADDRESS OF MY STORE SUBCHANNEL 1                                  |
03 |----------------------------------------------OSSC1-----------------------------------------|
   |                         ADDRESS OF OTHER STORE SUBCHANNEL 1                                |
04 |----------------------------------------------MSSC2-----------------------------------------|
   |                          ADDRESS OF MY STORE SUBCHANNEL 2                                  |
05 |----------------------------------------------OSSC2-----------------------------------------|
   |                         ADDRESS OF OTHER STORE SUBCHANNEL 2                                |
06 |----------------------------------------------MSSC3-----------------------------------------|
   |                          ADDRESS OF MY STORE SUBCHANNEL 3                                  |
07 |----------------------------------------------OSSC3-----------------------------------------|
   |                         ADDRESS OF OTHER STORE SUBCHANNEL 3                                |
   | 15  |  14  |  13  |  12  |  11  |  10  |  9  |  8  |  7  |  6  |  5  |  4  |  3  |  2  |  1  |  0  |
```

```
-002- 01 # WORDS IN PAGING BUFFER USED BY STORE DIAGNOSTIC TESTS:
-002- 02 LOOPSUB ITEM    16                    # ADDRESS OF SUBSTITUTE FOR 'LOOP' IN TTY
                                                 TROUBLE MESSAGE
-002- 04 IOADDR  ITEM    16                    # I/O SUBCHANNEL ADDRESS FOR CURRENT
                                                 STORE CONTROLLER
-002- 06 FOBNUM  ITEM    16                    # NUMBER OF MEMORY MODULES (OR FANOUT
                                                 BOARDS) IN STORE CURRENTLY UNDER TEST
-002- 08 TIMSAV  ITEM    16                    # SAVE TIMING CONSTANT FOR TIMOUT
                                                 SUBROUTINE
-002- 10 UPADDR  ITEM    ADDR                  # ADDRESS OF NEXT BLOCK OF MEMORY TO BE
                                                 UPDATED AFTER MEMORY PATTERN TEST
-002- 12 BASADDR ITEM    ADDR                  # BASE ADDRESS OF STORE/MOD UNDER TEST


-002- 15         LOEND
-005- 16 #
```

```
PAGSCR
24 |                              LOOPSUB
   |           ADDRESS OF SUBSTITUTE FOR 'LOOP' IN TTY TROUBLE MESSAGE
25 |                              IOADDR
   |           I/O SUBCHANNEL ADDRESS FOR CURRENT STORE CONTROLLER
26 |                              FOBNUM
   |  NUMBER OF MEMORY MODULES (OR FANOUT BOARDS) IN STORE CURRENTLY UNDER TEST
27 |                              TIMSAV
   |           SAVE TIMING CONSTANT FOR TIMOUT SUBROUTINE
28 |                                                               UPADDR
   | *********************************************************** |
29 |
   |
30 |                                                               BASADDR
   | *********************************************************** |
31 |
   |
   | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
```

```
-002- 01 # STORE ERROR REGISTER (SER) BIT ASSIGNMENT:
-002- 02 #     NOTE: THESE INPUTS ARE ENABLED BY BIT09 OF THE MAIN SHIFTER


-002- 05 SER     LAYOUT
-002- 06 FOBTERB ITEM    1                           # STORE TIMING ERROR FROM UNSELECTED FOB
-002- 07 MPXER   ITEM    1                           # MULTIPLEXOR ERROR DETECTED BY CHECK
                                                       BOARD
-002- 09 CHDIF   ITEM    1                           # ERROR INDICATED BY STORE COMMAND
                                                       CHECKER
-002- 11 SCMER   ITEM    1                           # PREMATURE STORE COMPLETE(SCM)
-002- 12 SHER    ITEM    1                           # ERROR IN MAIN SHIFTER OPERATION
-002- 13 MODER   ITEM    1                           # ALL-SEEMS-WELL SIGNAL NOT RECEIVED FROM
                                                       MODULE(FOB) ACCESSED DURING NORMAL CYCL
-002- 15 RSELER  ITEM    1                           # ALL MEMORY MODULES(FOBS) NOT SELECTED
                                                       DURING REFRESH
-002- 17 FOBTERA ITEM    1                           # STORE TIMING ERROR FROM SELECTED FOB
-002- 18 FOBPARER ITEM   1                           # PARITY ERROR DETECTED IN ADDRESS
                                                       REACHING FANOUT BOARD(S)
-004- 20 #*#*#*#*#*#*# FOBPARER WILL APPEAR AS FOBPARE IN PICTURES
-002- 21 DHPER   ITEM    1                           # ERROR IN PARITY OVER HIGH DATA BITS
-002- 22 PWER    ITEM    1                           # ERROR IN PARITY FOR WIDE STORE
-002- 23 TBER    ITEM    1                           # ERROR DETECTED ON TIMING BOARD
-002- 24         ITEM    1                           # SPARE
-002- 25 DLPER   ITEM    1                           # ERROR IN PARITY OVER LOW DATA BITS
-002- 26         ITEM    1                           # SPARE
-002- 27         ITEM    1                           # RESERVED
-002- 28         LOEND
-005- 29 #
```

```
SER
001 ----------------------------------------------------------------------------------------------
    |       | DLPER |       | TBER. | PWER  | DHPER |FOBPARE|FOBTERA|RSELER | MODER | SHER  | SCMER | CHDIF | MPXER |FOBTERB|
    |       | SPARE |       | SPARE |       |       |       |       |       |       |       |       |       |       |       |
    --------------------------------------------------------------------------------------------------------------------------
    |  15   |  14   |  13   |  12   |  11   |  10   |   9   |   8   |   7   |   6   |   5   |   4   |   3   |   2   |   1   |   0   |
```

```
-002- 01 # STORE BUS CHECK BIT ASSIGNMENTS IN RESPONSE MESSAGE:
-002- 02 #      NOTE: THESE INPUTS ARE ENABLED BY ISOLATE CHECK(ISOCHK) I/O ORDER
-002- 03 #                 W/ LOAD F & G(LDFG) OPTION SET


-002- 06 ISOBTS ITEM   7              # SD0-6,SD8-14 ISOLATE TEST RESULTS
-002- 07 RSVD0  ITEM   1              # SD7,SD15 ISOLATE TEST RESULT - ONLY
                                        GATED INTO BY LOAD I/O DECODER CHECK
                                        (LOADCHK) OPTION
-002- 10 WDISOL ITEM   4              # RESULTS OF WIDE DATA(SD16-23) ISOLATE
-002- 11 SDPCK  ITEM   1              # RESULT OF STORE DATA PARITY ISOLATION
-002- 12 2EPCK  ITEM   1              # RESULT OF EXTENDED(3 BIT) PARITY
                                        ISOLATE
-002- 14 CTRLCK ITEM   1              # RESULT OF STORE CONTROL LEADS ISOLATION
-002- 15 FXORG  ITEM   1              # I/O ORDER CHECKER EXCLUSIVE-OR RESULT
-002- 16        LOEND
-005- 17 #
```

```
CHKWRD
001| FXORG |CTRLCK | 2EPCK | SDPCK |           WDISOL           | RSVD0 |                    ISOBTS
   |       |       |       |       |                            |       |          SD0-6,SD8-14 ISOLATE TEST RESULTS
   |   15  |   14  |   13  |   12  |  11  |  10  |   9  |   8    |   7   |   6   |   5   |   4   |   3   |   2   |   1   |   0
```

```
-002- 01 #      REFRESH SELECT CHECK BIT ASSIGNMENTS IN STORE ERROR REGISTER
-002- 02 #            NOTE: THESE INPUTS ARE ENABLED BY EXTERNAL-ERROR-LOAD(EXERLD) ORDER

-002- 05 RSEL06 ITEM    7                    # REFRESH SELECTS FROM FANOUT BOARDS 0-6
-002- 06 RSVD1  ITEM    1                    # RESERVED - FOBTERA IS SET AFTER INIT
-002- 07 SAPHLP ITEM    1                    # STORE ADDRESS PARITY HIGH LOOP RESULT
-002- 08 SA17LP ITEM    1                    # STORE ADDRESS BIT 17 LOOP RESULT
-002- 09 STRSLP ITEM    1                    # STORE SELECT ADDRESS BITS LOOP RESULT
-002- 10        ITEM    1                    # SPARE
-002- 11 RSEL7  ITEM    1                    # REFRESH SELECT FROM FANOUT BOARD 7
-002- 12        ITEM    3                    # SPARE BITS
-002- 13        LOEND
-005- 14 #
```

```
RSLCHK_____
00|            |            |RSEL7 |       |STRSLP |SA17LP |SAPHLP | RSVD1 |                  RSEL06
 |     SPARE BITS          |      |  SPARE |       |       |       |       |        REFRESH SELECTS FROM FANOUT BOARDS 0-6
 |   15  |   14  |   13   |  12   |   11   |  10   |   9   |   8   |   7   |   6   |   5   |   4   |   3   |   2   |   1   |   0   |
```
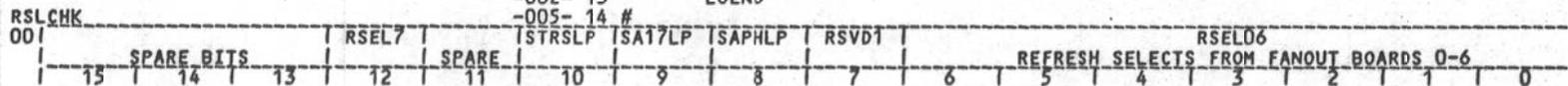
```
0010177    -002- 22 RSELBTS  EQU    M(RSEL06)|M(RSEL7)      # MASK FOR REFRESH SELECT BITS
0167600    -002- 23 RSELBTSN EQU    (¬RSELBTS)&B(111111111111111)
```

```
                                                    0:06:56    2/06/81  ****

                                                         CDGSWP         W77D

        -002- 01 # STORE STATUS REGISTER LAYOUT -- INCL BITS USED IN FIELD VERSION(S) OF TESTS
        -002- 02 PLBAK  ITEM   1                    # PARITY LOW VALUE READ BACK
        -002- 03 PHBAK  ITEM   1                    # PARITY HIGH VALUE READ BACK
        -002- 04        ITEM   2                    # UNUSED
        -002- 05 OWDSTRO ITEM  1                    # WIDE STORE INDICATOR BIT
        -002- 06 SNGBTER ITEM  1                    # SINGLE BIT ERROR FLAG
        -002- 07 PASBT  ITEM   1                    # REPEAT PASS THRU TEST INDICATOR
        -002- 08        ITEM   9                    # UNUSED
        -002- 09        LOEND
        -005- 10 #
```

```
STRSTAT_____
001|                                              | PASBT |SNGBTER|OWDSTRO|               | PHBAK | PLBAK |
|                       UNUSED                     |       |       |       |    UNUSED     |       |       |
|   15  |   14  |   13  |   12  |   11  |   10  |  9  |  8  |  7  |  6  |  5  |  4  |  3  |  2  |  1  |  0  |
```

```
                    -002- 01 #     STORE DIAGNOSTIC SYMBOL LIBRARY:

        0000000     -002- 05 BITO      EQU    0
        0000001     -002- 06 BIT1      EQU    1
        0000002     -002- 07 BIT2      EQU    2
        0000003     -002- 08 BIT3      EQU    3
        0000004     -002- 09 BIT4      EQU    4
        0000005     -002- 10 BIT5      EQU    5
        0000006     -002- 11 BIT6      EQU    6
        0000007     -002- 12 BIT7      EQU    7
        0000010     -002- 13 BIT8      EQU    8
        0000011     -002- 14 BIT9      EQU    9
        0000012     -002- 15 BIT10     EQU    10
        0000013     -002- 16 BIT11     EQU    11
        0000014     -002- 17 BIT12     EQU    12
        0000015     -002- 18 BIT13     EQU    13
        0000016     -002- 19 BIT14     EQU    14
        0000017     -002- 20 BIT15     EQU    15
        0000020     -002- 21 BIT16     EQU    16
        0000021     -002- 22 BIT17     EQU    17
        0000022     -002- 23 BIT18     EQU    18
        0000023     -002- 24 BIT19     EQU    19
        0000004     -002- 25 FOUR      EQU    4
                    -002- 26 IOBRK     TEXT   '!&'              # DELIMITERS FOR I/O ORDER STRINGS
        0000000     -002- 27 MODO      EQU    0
        0000001     -002- 28 MOD1      EQU    1
        0000002     -002- 29 MOD2      EQU    2
        0000003     -002- 30 MOD3      EQU    3
        0000004     -002- 31 MOD4      EQU    4
        0000005     -002- 32 MOD5      EQU    5
        0000006     -002- 33 MOD6      EQU    6
        0000007     -002- 34 MOD7      EQU    7
        0000001     -002- 35 ONE       EQU    1
        0177777     -002- 36 ONES      EQU    0(177777)         # ALL ONE'S REGISTER
        0000200     -002- 37 OFLNCHNK  EQU    B(10000000)       # ON-LINE TESTS 128 WORDS/MINOR LOOP
        0007760     -002- 38 OFLNDONE  EQU    B(111111110000)   # SIGNAL THAT OFF-LINE MEMORY TEST IS
                                                                  DONE

                    -002- 41 # NOTE: THE FOLLOWING CONSTANTS ALLOW GENERATION OF ARBITRARY PARITY. APPLICABLE
                    -002- 42 #          BITS ARE 0 & 1 SUCH THAT BIT 0 = VALUE FOR PARITY LOW
                    -002- 43 #                                   BIT 1 = VALUE FOR PARITY HIGH
0600000             -002- 44                                    #  DATA BITS (23-16)(15-8) (7-0)
        0000020     -002- 45 PRHOLO    EQU    B(10000)          # SET PARITY (WIDE=)HIGH=0 LOW=0
        0000005     -002- 46 PRHOL1    EQU    B(00101)          # SET PARITY (WIDE=)HIGH=0 LOW=1
        0000012     -002- 47 PRH1LO    EQU    B(01010)          # SET PARITY (WIDE=)HIGH=1 LOW=0
        0000017     -002- 48 PRH1L1    EQU    B(01111)          # SET PARITY (WIDE=)HIGH=1 LOW=1
        0000002     -002- 49 PRWOH1LO  EQU    B(00010)          # SET PARITY WIDE=0 HIGH=1 LOW=0
```

```
0000007      -002- 01 PRW0H1L1 EQU   B(00111)              # SET PARITY WIDE=0 HIGH=1 LOW=1
0000010      -002- 02 PRW1H0L0 EQU   B(01000)              # SET PARITY WIDE=1 HIGH=0 LOW=0
0000015      -002- 03 PRW1H0L1 EQU   B(01101)              # SET PARITY WIDE=1 HIGH=0 LOW=1

0000003      -002- 05 THREE    EQU   3
0000002      -002- 06 TWO      EQU   2
0010000      -002- 07 WPBLKSZE EQU   0(10000)              # WRITE PROTECT BLOCK SIZE = 4K (4096)
0000000      -002- 08 ZERO     EQU   0
0000000      -002- 09 ZEROS    EQU   0                     # ZERO CONSTANT
0000000      -002- 10 0TEST    EQU   0                     # VALUES FOR
0000001      -002- 11 1TEST    EQU   1                     #         TEST MACRO




             -002- 18 # MAIN MEMORY STATUS CONSTANTS ASSUMING FOLLOWING CONDITIONS:
             -002- 19 #    1. MY STORE BUS PORT IS ISOLATED FROM INPUT FROM OTHER PROCESSOR
             -002- 20 #    2. MAIN MEMORY CONTROLLER IS NOT UPDATING OTHER STORE
             -002- 21 #    3. MY STORE BUS PORT IS ACCESSING MY STORE, E. NOT REVERSED


0106263      -002- 24 MTCRD    EQU   0(106263)             # MAIN MEMORY STATUS FOR MAINTENANCE READ
                                                             OPERATION
0106203      -002- 26 MTCWR    EQU   0(106203)             # MAIN MEMORY STATUS FOR MAINTENANCE
                                                             WRITE OPERATION
0106260      -002- 28 NMLRD    EQU   0(106260)             # MAIN MEMORY STATUS FOR NORMAL READ
                                                             OPERATION
0106200    . -002- 30 NMLWR    EQU   0(106200)             # MAIN MEMORY STATUS FOR NORMAL WRITE
                                                             OPERATION
0106274      -002- 32 SPRRD    EQU   0(106274)             # MAIN MEMORY STATUS FOR SPARE READ
                                                             OPERATION
0106214      -002- 34 SPRWR    EQU   0(106214)             # MAIN MEMORY STATUS FOR SPARE WRITE
                                                             OPERATION
```

```
                -002- 01 # MAIN STORE I/O ORDERS:

   0020016      -002- 04 ALLZERO EQU     0(20016)
                -002- 05 ALLZEROT TEXT   'APPLY ERRONEOUS ORDER(0/8) TO CHECKER'
   0063476      -002- 06 BADCODE EQU     0(63476)
                -002- 07 BADCODET TEXT   'APPLY ERRONEOUS ORDER(5/8) TO CHECKER'
   0047214      -002- 08 BUSCHK EQU      0(47214)
                -002- 09 BUSCHKT TEXT    'CHECK BUS ISOLATION USING SER'
   0040374      -002- 10 CKTINIT EQU     0(40374)                # STORE CONTROLLER INITIALIZATION (W/O
                                                                   WRITE PROTECT CLEAR)
                -002- 12 CKTINITT TEXT   'INITIALIZE ALL STORE CONTROLLER CIRCUITS'
   0043310      -002- 13 CLRSER EQU      0(43310)
                -002- 14 CLRSERT TEXT    'CLEAR STORE ERROR REGISTER'
   0046074      -002- 15 CLKSTOP EQU     0(46074)
                -002- 16 CLKSTOPT TEXT   'DISABLE STORE CONTROLLER CLOCK OUTPUT'
   0046070      -002- 17 CLKSTRT EQU     0(46070)
                -002- 18 CLKSTRTT TEXT   'ENABLE STORE CONTROLLER CLOCK OUTPUT'
   0146074      -002- 19 ERCOLL EQU      0(146074)
                -002- 20 ERCOLLT TEXT    'COLLECT ERRORS IN STORE ERROR REG'
   0145454      -002- 21 EXERLD EQU      0(145454)               # FAST REFRESH WITH REFRESH & CLOCK
                                                                   STOPPED
                -002- 23 EXERLDT TEXT    'ENABLE EXTERNAL LOAD OF STORE ERROR REG'
   0145454      -002- 24 EXLDB15 EQU     0(145454)
                -002- 25 EXLDB15T TEXT   'ENABLE EXTERNAL LOAD OF STORE ERROR REG W/ ERROR COLLECT OPTION'
   0005440      -002- 26 FASTREF EQU     0(5440)
                -002- 27 FASTREFT TEXT   'PERFORM FAST REFRESH ON STORE'
   0045454      -002- 28 FASTRNC EQU     0(45454)
                -002- 29 FASTRNCT TEXT   'FORCE FAST REFRESH W/O CLOCK'
   0145454      -002- 30 FFRMB15 EQU     0(145454)
                -002- 31 FFRMB15T TEXT   'FORCE FAST REFRESH & BIT 15'
   0146074      -002- 32 FBIT09 EQU      0(146074)               # FORCE BIT 09 (COMMON ERROR STROBE)
                                                                   ACTIVE
                -002- 34 FBIT09T TEXT    'COLLECT ERRORS IN STORE ERROR REGISTER'
   0146064      -002- 35 FBIT09R EQU     0(146064)
                -002- 36 FBIT09RT TEXT   'COLLECT ERRORS IN SER W/ REFRESH ON'
   0146076      -002- 37 FBRMB15 EQU     0(146076)
                -002- 38 FBRMB15T TEXT   'FANOUT BOARD REFRESH W/ ERROR COLLECT'
   0046314      -002- 39 FCHKBT EQU      0(46314)                # FORCE MAIN SHIFTER CHECK BIT ACTIVE
                -002- 40 FCHKBTT TEXT    'ACTIVATE MAIN SHIFTER CHECK BIT'
   0046304      -002- 41 FCHKBTR EQU     0(46304)
                -002- 42 FCHKBTRT TEXT   'ACTIVATE SHIFTER CHECK BIT W/ REFRESH ENABLED'
   0040574      -002- 43 FCHKOS EQU      0(40574)
                -002- 44 FCHKOST TEXT    'FORCE ZEROS TO MODULE SELECT XOR CHECK & WRITE PROTECT SELECT
                                           XOR CHECK CIRCUITS'
   0041274      -002- 46 FCHK1S EQU      0(41274)
                -002- 47 FCHK1ST TEXT    'FORCE ONES  TO MODULE SELECT XOR CHECK & WRITE PROTECT SELECT
                                           XOR CHECK CIRCUITS'
   0140574      -002- 49 FCKOS15 EQU     0(140574)
```

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                              -002- 01 FCKOS15T TEXT  'FORCE ZEROS TO CHECK CKTS W/ ERROR COLLECT'
0141274                       -002- 02 FCK1S15  EQU   O(141274)
                              -002- 03 FCK1S15T TEXT  'FORCE ONES  TO CHECK CKTS W/ ERROR COLLECT'
0043074                       -002- 04 FDISIDLE EQU   O(43074)
                              -002- 05 FDISIDLET TEXT 'FORCE DISABLE OF IDLE FLOP'
0046156                       -002- 06 FLSHO    EQU   O(46156)          # FORCE LOAD THE SHIFTER WITH ZERO
                                                                          (W/CLOCK)
                              -002- 08 FLSHOT   TEXT  'START ZERO INTO MAIN SHIFTER'
0046154                       -002- 09 FLSHONC  EQU   O(46154)          # PUT ZERO ON INPUT OF SHIFTER (W/O
                                                                          CLOCK)
                              -002- 11 FLSHONCT TEXT  'PRESENT ZERO TO INPUT OF MAIN SHIFTER'
0045434                       -002- 12 FNOWRT   EQU   O(45434)
                              -002- 13 FNOWRTT  TEXT  'FORCE WRITING OF ALL-ONES DATA'
0045430                       -002- 14 FNOWRTC  EQU   O(45430)
                              -002- 15 FNOWRTCT TEXT  'FORCE WRITING OF ONES W/ CLOCK RUNNING'
0044474                       -002- 16 FNOTIM   EQU   O(44474)          # DISABLE TRANSMISSION OF TIMING SIGNALS
                                                                          TO FANOUT BOARDS
                              -002- 18 FNOTIMT  TEXT  'INHIBIT TIMING SIGNALS TO FANOUT BOARDS'
0044470                       -002- 19 FNOTIMC  EQU   O(44470)
                              -002- 20 FNOTIMCT TEXT  'BLOCK TIMING TO FANOUT BOARDS(W/CLOCK)'
0041550                       -002- 21 FOBMT    EQU   O(41550)
                              -002- 22 FOBMTT   TEXT  'FANOUT BOARD MAINTENANCE TEST'
0041474                       -002- 23 FRFSELO  EQU   O(41474)          # FORCE REFRESH SELECT SIGNAL FROM FOB0
                              -002- 24 FRFSELOT TEXT  'CANCEL SELECT FROM FOB0 DURING REFRESH'
0042334                       -002- 25 FRFSEL1  EQU   O(42334)          # FORCE REFRESH SELECT SIGNAL FROM FOB1
                              -002- 26 FRFSEL1T TEXT  'CANCEL SELECT FROM FOB1 DURING REFRESH'
0042534                       -002- 27 FRFSEL2  EQU   O(42534)          # FORCE REFRESH SELECT SIGNAL FROM FOB2
                              -002- 28 FRFSEL2T TEXT  'CANCEL SELECT FROM FOB2 DURING REFRESH'
0043234                       -002- 29 FRFSEL3  EQU   O(43234)          # FORCE REFRESH SELECT SIGNAL FROM FOB3
                              -002- 30 FRFSEL3T TEXT  'CANCEL SELECT FROM FOB3 DURING REFRESH'
0043434                       -002- 31 FRFSEL4  EQU   O(43434)          # FORCE REFRESH SELECT SIGNAL FROM FOB4
                              -002- 32 FRFSEL4T TEXT  'CANCEL SELECT FROM FOB4 DURING REFRESH'
0044354                       -002- 33 FRFSEL5  EQU   O(44354)          # FORCE REFRESH SELECT SIGNAL FROM FOB5
                              -002- 34 FRFSEL5T TEXT  'CANCEL SELECT FROM FOB5 DURING REFRESH'
0044554                       -002- 35 FRFSEL6  EQU   O(44554)          # FORCE REFRESH SELECT SIGNAL FROM FOB6
                              -002- 36 FRFSEL6T TEXT  'CANCEL SELECT FROM FOB6 DURING REFRESH'
0045254                       -002- 37 FRFSEL7  EQU   O(45254)          # FORCE REFRESH SELECT SIGNAL FROM FOB7
                              -002- 38 FRFSEL7T TEXT  'CANCEL SELECT FROM FOB7 DURING REFRESH'
0044334                       -002- 39 FRREQA   EQU   O(44334)          # SET REFRESH REQUEST FLOP (DFFRREQ) ON
                                                                          TIMING BOARD (FA1071)
                              -002- 41 FRREQAT  TEXT  'SET REFRESH REQUEST ON TIMING BOARD (FA1071)'
0040674                       -002- 42 FRREQB   EQU   O(40674)          # SET REFRESH REQUEST FLOP (RREQB) ON
                                                                          CHECK BOARD A (FA1062)
                              -002- 44 FRREQBT  TEXT  'SET REFRESH REQ COPY (.' CHECK BOARD A (FA1062)''
0040664                       -002- 45 FRREQBR  EQU   O(40664)
                              -002- 46 FRREQBRT TEXT  'SET REFRESH REQUEST ON FA1062 W/ REFRESH ENABLED'
0046074                       -002- 47 FSELA    EQU   O(46074)
                              -002- 48 FSELAT   TEXT  'FORCE STORE SELECT(ISOLATE) SIGNAL ON FA1071'
0006074                       -002- 49 NSELA    EQU   O(6074)
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                    -002- 01 NSELAT TEXT    'RESET STORE SELECT(ISOLATE) SIGNAL ON FA1071'
0004714             -002- 02 FSELB  EQU     0(4714)                    # FORCE STORE SELECT (TBBSEL) FROM CHECK
                                                                         BOARD A (FA1062)
                    -002- 04 FSELBT TEXT    'FORCE DUPLICATED STORE SELECT(SELB) ACTIVE'
0004710             -002- 05 FSELBC EQU     0(4710)
                    -002- 06 FSELBCT TEXT   'FORCE DUPLICATED STORE SELECT(SELB) W/ CLOCK'
0046516             -002- 07 FSTFBRM EQU    0(46516)
                    -002- 08 FSTFBRMT TEXT  'FORCE CONTROLLER & FANOUT BOARDS TO REFRESH'
0042354             -002- 09 FSTNM  EQU     0(42354)                   # FORCE MODE FLOP TO NORMAL STATE
                    -002- 10 FSTNMT TEXT    'FORCE MODE FLOP TO NORMAL STATE'
0052354             -002- 11 FSTNMFR EQU    0(52354)
                    -002- 12 FSTNMFRT TEXT  'FORCE NORMAL MODE IN CONTROLLER & REFRESH TO FANOUT BOARDS'
0042344             -002- 13 FSTNMR EQU     0(42344)
                    -002- 14 FSTNMRT TEXT   'FORCE MODE TO NORMAL W/ REFRESH ENABLED'
0046514             -002- 15 FSTRM  EQU     0(46514)                   # FORCE MODE FLOP TO REFRESH STATE
                    -002- 16 FSTRMT TEXT    'FORCE MODE FLOP TO REFRESH STATE'
0046234             -002- 17 FTINWP EQU     0(46234)
                    -002- 18 FTINWPT TEXT   'FORCE IN-WRITE-PROTECT INHIBIT'
0006220             -002- 19 IOGO   EQU     0(6220)
                    -002- 20 IOGOT   TEXT   'ENABLE ON-LINE I/O ACCESS TO OFF-LINE STORE'
0125252             -002- 21 IOTSTA EQU     0(125252)
                    -002- 22 IOTSTAT TEXT   'I/O TEST PATTERN #1'
0052525             -002- 23 IOTST5 EQU     0(52525)
                    -002- 24 IOTST5T TEXT   'I/O TEST PATTERN #2'
0067214             -002- 25 ISOCHK EQU     0(67214)                   # CHECK ISOLATION FROM HIGHER STORES -
                                                                         PUT RESULTS OF TEST INTO STORE ERROR
                                                                         REGISTER (SER)
                    -002- 28 ISOCHKT TEXT   'ISOLATE FROM FAR STORES & VERIFY VIA SER'
0027214             -002- 29 ISOCHKU EQU    0(27214)
                    -002- 30 ISOCHKUT TEXT  'APPLY ONES TO STORE DATA BUS(W/O ISOLATE)'
0043454             -002- 31 KILL12 EQU     0(43454)                   # WIPE OUT SHIFTER BIT AT POSITION 12
                    -002- 32 KILL12T TEXT   'CLEAR SHIFTER BIT IN POSITION 12'
0046071             -002- 33 MASCINT EQU    0(46071)
                    -002- 34 MASCINTT TEXT  'INITIALIZE STORE CONTROLLER'
0006071             -002- 35 MSCITNS EQU    0(6071)
                    -002- 36 MSCITNST TEXT  'INITIALIZE STORE CONTROLLER W/O FORCE SELECT'
0046076             -002- 37 MASCLK EQU     0(46076)                   # ACTIVATE STORE CONTROLLER CLOCK (CK)
                                                                         SIGNAL
                    -002- 39 MASCLKT TEXT   'FAKE FIRST HALF OF STORE CLOCK CYCLE'
0046074             -002- 40 MASCLKN EQU    0(46074)
                    -002- 41 MASCLKNT TEXT  'FAKE SECOND HALF OF STORE CLOCK CYCLE'
0047410             -002- 42 RDAD   EQU     0(47410)
                    -002- 43 RDADT   TEXT   'GATE STORE ADDRESS BUS(SA0-16,PL) TO STORE DATA BUS(SD0-15,PL,PH
                                            ) W/ CLOCK'
0047414             -002- 45 RDADNC EQU     0(47414)
                    -002- 46 RDADNCT TEXT   'GATE STORE ADDRESS BITS TO STORE DATA BUS'
0006070             -002- 47 REFSTOP EQU    0(6070)
                    -002- 48 REFSTOPT TEXT  'INHIBIT REFRESHING OF STORE'
0006060             -002- 49 REFSTRT EQU    0(6060)
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                 -002- 01 REFSTRTT TEXT  'RESUME REGULAR REFRESHING OF STORE'
0046060          -002- 02 RFWISOL  EQU   O(46060)
                 -002- 03 RFWISOLT TEXT  'RESUME REGULAR REFRESH W/ STORE ISOLATED'
0047214          -002- 04 RTNADHI  EQU   O(47214)           # RETURN UPPER ADDRESS (SA16-19) BITS &
                                                              SELECTED CONTROL SIGNALS VIA I/O CHANNE
                 -002- 06 RTNADHIT TEXT  'LOAD SA17 & SAPH INTO SER'
0044714          -002- 07 SPAREA   EQU   O(44714)
                 -002- 08 SPAREAT  TEXT  'SPARE I/O ORDER'
0047114          -002- 09 SERREAD  EQU   O(47114)           # STORE ERROR REGISTER (SER) READ
                 -002- 10 SERREADT TEXT  'READ BACK STORE ERROR REGISTER(SER)'
0041634          -002- 11 STSBY    EQU   O(41634)
                 -002- 12 STSBYT   TEXT  'SET STORE BUSY(SBY) SIGNAL'
0041630          -002- 13 STSBYCL  EQU   O(41630)
                 -002- 14 STSBYCLT TEXT  'SET STORE BUSY(SBY) W/ CLOCK'
0007114          -002- 15 USERRED  EQU   O(7114)
                 -002- 16 USERREDT TEXT  'READ STORE ERROR REG (W/O ISOLATE)'
0046061          -002- 17 WPCLR    EQU   O(46061)
                 -002- 18 WPCLRT   TEXT  'STORE INITIALIZE, INCL. WRITE PROTECT'
0052354          -002- 19 O10NOR   EQU   O(52354)           # FORCE 0-10 (O10TIM) SIGNAL & RESET
                                                              REFRESH REQUEST FLOP
                 -002- 21 O10NORT  TEXT  '0-10 TIMING(O10TIM)THEN REFRESH REQUEST CLEAR'
0054334          -002- 22 O10REF   EQU   O(54334)           # FORCE 0-10 (O10TIM) SIGNAL & SET
                                                              REFRESH REQUEST FLOP
                 -002- 24 O10REFT  TEXT  '0-10 TIMING(O10TIM)THEN REFRESH REQUEST SET'
0056074          -002- 25 O10TIM   EQU   O(56074)
                 -002- 26 O10TIMT  TEXT  'FORCE 0-10 TIMING SIGNAL ACTIVE'




                 -002- 33 # STORE MAINTENANCE ORDER OPTIONS:


0010000          -002- 36 FAKO10   EQU   O(10000)            # FAKE 0-10 TIMING SIGNAL
                 -002- 37 # NOTE: NEXT OPTION BIT IS SHARED
0020000          -002- 38 FBUSRDN  EQU   O(20000)            # FORCE BUS READ INACTIVE TO BIT-SLICES
0020000          -002- 39 LOADCHK  EQU   O(20000)            # LOAD I/O ORDER CHECK RESULTS
0040000          -002- 40 ISOLATE  EQU   O(40000)            # ISOLATE THIS STORE FROM HIGHER STORES
0100000          -002- 41 FSBIT09  EQU   O(100000)           # FORCE SHIFTER BIT 09 ACTIVE
0000001          -002- 42 INITBIT  EQU   O(1)                # INITIALIZE STORE CONTROLLER
                 -002- 43 # NOTE: NEXT OPTION BIT IS SHARED
0000002          -002- 44 FFOBRM   EQU   O(2)                # FORCE FANOUT BOARDS TO REFRESH MODE
0000002          -002- 45 STEPCLK  EQU   O(2)                # HALF-CYCLE OF STORE CLOCK
0000004          -002- 46 HALTCLK  EQU   O(4)                # DISABLE STORE CONTROLLER CLOCK
0000010          -002- 47 STOPREF  EQU   O(10)               #DISABLE AUTONOMOUS REFRESH
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0177771     -002- 01 CLOCKON EQU   0(177771)              # MASK OUT CLOCK OFF OPTIONS
0020016     -002- 02 FGLDNCFR EQU  0(20016)               # LOAD I/O ORDER CHECK RESULTS WITH CLOCK
                                                            STOPPED AND FANOUT BOARDS IN REFRESH
                                                            MODE


                  07 # SYMBOLS USED ONLY IN WRITE PROTECT TESTS:


0000004           09 BITPTR EQUR    4                      # WRITE PROTECT BIT POINTER
0000005           10 RESULT EQUR    5                      # WRITE PROTECT TEST RESULTS
```

```
TEST 49                                                    0:06:56   2/06/81  ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                         CDGSWP      W77D

                            -001- 01 #      ***********************************************************
                            -001- 02 #      ***********************************************************
                            -001- 03 #      **                                                      **
                            -001- 04 #      **      CU DIAGNOSTIC TEST NO. 49, MAIN_STORE_WRITE_PROTECT **
                            -001- 05 #      **                                                      **
                            -001- 06 #      ***********************************************************
                            -001- 07 #      ***********************************************************


0025071                     -001- 10 CSTWP1 CSECT


0025071 01 000000 000145 ------ CDGNM    -001- 14        VFD     1,0 2,0 2,0 2,0 3,1 6,NBGN


                              18 # SEGMENT 1
                              19 #     THIS SEGMENT CHECKS TO MAKE SURE THAT ALL OF THE WRITE PROTECT BITS CAN
                              20 # BE INITIALIZED. THE  STORE INITIALIZE MAINTENANCE OPTION (MASCINT) IS USED TO
                              21 # CLEAR ALL OF THE WRITE PROTECT BITS. THE WRITE PROTECT TEST SUBROUTINE
                              22 # (WPTEST) CHECKS THAT ALL FOUR 16-BIT WRITE PROTECT REGISTERS ARE ALL-ZEROES.
                              23 # IF ANY WRITE PROTECT BIT IS NOT ZERO, THE WPTEST ROUTINE WILL SET THE
                              24 # CORRESPONDING BIT IN THE MAINTENANCE CHANNEL BUFFER BEFORE RETURNING CONTROL.
                              25 # ANY SET BITS WILL THEN BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.


                              28 # SEGMENT 2
                              29 #     THIS SEGMENT VERIFIES THAT EACH REGISTER OF 16 WRITE PROTECT BITS CAN BE
                              30 # WRITTEN AND READ INDEPENDENTLY. THIS REQUIRES THAT WRITES OR READS OF ONE OF
                              31 # THE FOUR WRITE PROTECT REGISTERS CAN BE ACCOMPLISHED WITHOUT AFFECTING OR
                              32 # BEING AFFECTED BY THE CONTENTS OF THE OTHER THREE REGISTERS. THIS IS DONE
                              33 # FUNCTIONALLY BY WRITING A BACKGROUND PATTERN OF ALL-ZEROS OR ALL-ONES INTO ALL
                              34 # OF THE WRITE PROTECT REGISTERS, AND THEN WRITING THE COMPLEMENT OF THAT
                              35 # PATTERN INTO ONE OF THE WRITE PROTECT REGISTERS. THE WRITE PROTECT TEST
                              36 # SUBROUTINE (WPTEST) IS USED TO CHECK THE CONTENTS OF ALL FOUR OF THE REGISTERS
                              37 # FOR THE CORRECT PATTERNS. THIS IS REPEATED FOR EACH WRITE PROTECT REGISTER AND
                              38 # BOTH OF THE TEST PATTERNS. THE WPTEST ROUTINE INDICATES ANY DISCREPANCIES BY
                              39 # SETTING THE CORRESPONDING BIT IN THE MAINTENANCE CHANNEL BUFFER. AGAIN,
                              40 # ANY SET BITS WILL THEN BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.
```

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TEST 49                                                              0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                      CDGSWP      W77D

                                  01 CSTWP1 OW      0(1),0(16)              # 12706
                          -001- 02        NOTE     ************** THE FIRST ADDRESS OVERWRITTEN IS 000001 **********

0025072                           05 WP1INIT PREPARE
                          -002- 06 #      RTN_BLM
                          -002- 07 #  TURN OFF AUTOMATIC RETURNS TO BLM EVERY 20 TABLE ENTRIES.
0025072 01 000001 000144 ------ CDGNM  -002- 08        VFD      1,0 2,0 6,0 1,1 6,NRTNBLM

                          -002- 10 #      SEND
                          -002- 11 #  SEND 0(0000001) TO OFF-LINE MCHB.
                          -002- 12 #  PARITY IS 0(2).
0025073 01 000002 047707 ------ CDGNM  -002- 13        VFD      1,0 2,2 7,B(0111111) 6,N2SEND
0025074 01 000003 000040 000001        -002- 14        ADDR     0(0000001),0(2)

                          -002- 16 #      MICRO
                          -002- 17 #  PERFORM MICRO INSTRUCTION IN OFF-LINE CU.
                          -002- 18 #  TO FIELD = MS%T    FROM FIELD = MCHB%F
0025076 01 000005 020005 ------ CDGNM . -002- 19        VFD      1,0 2,1 7,0 6,NMICRO
0025077 01 000006 106631 ------        -002- 20        VFD      8,MS%T 8,MCHB%F

                          -002- 22 #      NO3_CODE
                          -002- 23 #  PROCESS 3ACC CODED ROUTINE AT ADDRESS *+2.
0025100 01 000007 040043 000000 CDGNM  -002- 24        VFD      1,0 2,2 7,0 6,NNO3CD
0025101 01 000010 000000 025103 0025103 -002- 25       ADDR     *+2

                          -001- 27 # SUBSTITUTE 'MAS' FOR'LOOP' IN TROUBLE PRINTOUT
0025103 01 000012 103501 000151 TTYTBL -002- 28        LI       R4,M%AS
0025105 01 000014 034500 043132 CTSD   -001- 29        STL      R4,PAGSCR+24
                          -001- 30 # USE THE DIAGNOSTIC LOOP INDEX(LOOPIND) TO ACCESS THE PROPER I/Q
                          -001- 31 # SUBCHANNEL ADDRESS IN THE MAIN STORE CONTROLLER I/Q SUBCHANNEL TABLE
                          -001- 32 # (MASCIOSC) AND STORE IT IN THE ASSIGNED SLOT(IOADDR) IN PAGING BUFFER(PAGSCR)

0025107 01 000016 103240 ------        -001- 34        ZR       LOOPIND
0025110 01 000017 004257 ------        -001- 35        SN       LOOPIND,1              #ASSURE THAT LOOPIND IS ZERO BEFORE
                                                                                        PROCEEDING WITH TEST
0025111 01 000020 072652 ------ CDGNM  -001- 37        HN       LOOPIND,LOOPIND
0025112 01 000021 037020 012757 CDGSIO -002- 38        BSA      CONTPREP
0025114 01 000023 172652 ------ CDGNM  -001- 39        HN       LOOPIND,LOOPIND
0025115 01 000024 137020 012667 CDGSIO -003- 40        BSA      MASIOM
0025117 01 000026 046071 ------        -002- 41        DATA     MASCINT               # INITIALIZE STORE CONTROLLER

0025120 01 000027 171400 ------        -002- 43        GA
0025121 01 000030 031000 025125 0025125 -002- 44       LAL      R0,*+4,RA0
0025123 01 000032 037000 011162 CDGNM  -002- 45        BL       INTRPNO3


    STORE WRITE PROTECT TEST                                             PR-1C927-50

     0:06:56   2/06/81  TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET  CDGSWP    ISSUE 05     PAGE  24
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TEST 49   0:06:56   2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

0025125   01   EOW   # 12706
                               -001- 02   NOTE   **************** THE LAST ADDRESS OVERWRITTEN IS 000033 **********

```
TEST 49  SEGMENT 1                                                        0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                        CDGSWP      W77D

                             -001- 01 #     ********************************************************
                             -001- 02 #     *                                                 *
                             -001- 03 #     *    TEST 49    SEGMENT 1                          *
                             -001- 04 #     *                                                 *
                             -001- 05 #     ********************************************************


0025125 01 000034 000100 ------ CDGNM  -001- 08      VFD    1,0 2,0 2,0 5,D(1) 6,NTESTSEG


                                       11 #    THIS SEGMENT CHECKS TO MAKE SURE THAT ALL OF THE WRITE PROTECT BITS CAN
                                       12 # BE INITIALIZED. THE  STORE INITIALIZE MAINTENANCE OPTION (MASCINT) IS USED TO
                                       13 # CLEAR ALL OF THE WRITE PROTECT BITS. THE WRITE PROTECT TEST SUBROUTINE
                                       14 # (WPTEST) CHECKS THAT ALL FOUR 16-BIT WRITE PROTECT REGISTERS ARE ALL-ZEROES.
                                       15 # IF ANY WRITE PROTECT BIT IS NOT ZERO, THE WPTEST ROUTINE WILL SET THE
                                       16 # CORRESPONDING BIT IN THE MAINTENANCE CHANNEL BUFFER BEFORE RETURNING CONTROL.
                                       17 # ANY SET BITS WILL THEN BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.



                             -001- 22 #     NO3_CODE
                             -001- 23 #  PROCESS 3ACC CODED ROUTINE AT ADDRESS WPRCK0.
0025126 01 000035 040043 000000 CDGNM  -001- 24      VFD    1,0 2,2 7,0 6,NNO3CD
0025127 01 000036 000000 025131 0025131 -001- 25      ADDR   WPRCK0

                                       27 # CHECK THAT WRITE PROTECT BITS CAN BE CLEARED

0025131                                29 WPRCK0
0025131                                30      SIOM   MASCINT                      # CLEAR WRITE PROTECT BITS
0025131 01 000040 137020 012667 CDGSIO -002- 31      BSA    MASIOM
0025133 01 000042 046071 ------       -001- 32      DATA   MASCINT                # INITIALIZE STORE CONTROLLER
0025134 01 000043 103200 ------             33      ZR     R8                     # SET UP ALL-ZEROS TEST PATTERN
0025135 01 000044 031700 043140 CTSD        34      LAL    R12,BASADDR,RA1
0025137 01 000046 040721 ------             35      L      R13,1(RA1)             # ADDRESS FIRST MEMORY MOD
0025140 01 000047 003363 ------             36      LN     R15,3                  # CHECK ALL FOUR (4) WRITE PROTECT REGS
0025141                                37      CALL   WPTEST
0025141 01 000050 037020 025002 0025002 -001- 38      BSA    WPTEST

0025143                                40      RTN_TBL *+4
0025143 01 000052 171400 ------       -001- 41      GA
0025144 01 000053 031000 025150 0025150 -001- 42      LAL    R0,*+4,RA0
0025146 01 000055 037000 011162 CDGNM  -001- 43      BL     INTRPNO3

                             -001- 45 #     COMPARE
                             -001- 46 #  COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                             -001- 47 #  IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025150 01 000057 050014 ------ CDGNM  -001- 48      VFD    1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
0025151 01 000060 000000 000000       -001- 49      ADDR   0(0000000)


  STORE WRITE PROTECT TEST                                                    PR-1C927-50

    0:06:56   2/06/81  TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET  CDGSWP    ISSUE 05    PAGE  26
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TEST 49 SEGMENT 1   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                    -001- 02 #       FAILBIT
                                    -001- 03 #       FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                                    -001- 04 #       WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0025153 01 000062 020220 ------ CDGNM  -001- 05         VFD     1,0 2,1 5,0 2,2 6,NFLBITS
0025154 01 000063 000002 ------        -001- 06         VFD     16,WPSLC

                                    08 # A WRITE PROTECT BIT IS STUCK-AT-ONE


                                    -001- 11 #       COMPARE
                                    -001- 12 #       COMPARE ON-LINE MCHB BIT PL TO  0.
                                    -001- 13 #       IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025155 01 000064 022414 ------ CDGNM  -001- 14         VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0025156 01 000065 000000 ------        -001- 15         VFD     15,0 1,0

                                    -001- 17 #       FAILTST
                                    -001- 18 #       FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                                    -001- 19 #       DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025157 01 000066 020217 ------ CDGNM  -001- 20         VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025160 01 000067 000022 ------        -001- 21         VFD     16,WPSLCPL

                                    23 # A WRITE PROTECT REGISTER PARITY LOW BIT CANNOT BE INITIALIZED TO ZERO


                                    -001- 26 #       COMPARE
                                    -001- 27 #       COMPARE ON-LINE MCHB BIT PH TO  0.
                                    -001- 28 #       IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025161 01 000070 022514 ------ CDGNM  -001- 29         VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0025162 01 000071 000000 ------        -001- 30         VFD     15,0 1,0

                                    -001- 32 #       FAILTST
                                    -001- 33 #       FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                                    -001- 34 #       DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025163 01 000072 020217 ------ CDGNM  -001- 35         VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025164 01 000073 000023 ------        -001- 36         VFD     16,WPSLCPH

                                    38 # A WRITE PROTECT REGISTER PARITY HIGH BIT CANNOT BE INITIALIZED TO ZERO
```

TEST 49 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                     -001- 01 #      ************************************************************
                                     -001- 02 #      *                                                        *
                                     -001- 03 #      *   TEST 49    SEGMENT 2                                  *
                                     -001- 04 #      *                                                        *
                                     -001- 05 #      ************************************************************


0025165 01 000074 000200 ------ CDGNM  -001- 08      VFD    1,0 2,0 2,0 5,D(2) 6,NTESTSEG


                                           11 #      THIS SEGMENT VERIFIES THAT EACH REGISTER OF 16 WRITE PROTECT BITS CAN BE
                                           12 # WRITTEN AND READ INDEPENDENTLY. THIS REQUIRES THAT WRITES OR READS OF ONE OF
                                           13 # THE FOUR WRITE PROTECT REGISTERS CAN BE ACCOMPLISHED WITHOUT AFFECTING OR
                                           14 # BEING AFFECTED BY THE CONTENTS OF THE OTHER THREE REGISTERS. THIS IS DONE
                                           15 # FUNCTIONALLY BY WRITING A BACKGROUND PATTERN OF ALL-ZEROS OR ALL-ONES INTO ALL
                                           16 # OF THE WRITE PROTECT REGISTERS, AND THEN WRITING THE COMPLEMENT OF THAT
                                           17 # PATTERN INTO ONE OF THE WRITE PROTECT REGISTERS. THE WRITE PROTECT TEST
                                           18 # SUBROUTINE (WPTEST) IS USED TO CHECK THE CONTENTS OF ALL FOUR OF THE REGISTERS
                                           19 # FOR THE CORRECT PATTERNS. THIS IS REPEATED FOR EACH WRITE PROTECT REGISTER AND
                                           20 # BOTH OF THE TEST PATTERNS. THE WPTEST ROUTINE INDICATES ANY DISCREPANCIES BY
                                           21 # SETTING THE CORRESPONDING BIT IN THE MAINTENANCE CHANNEL BUFFER. AGAIN,
                                           22 # ANY SET BITS WILL THEN BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.


                                     -001- 25 #      NO3_CODE
                                     -001- 26 #   PROCESS 3ACC CODED ROUTINE AT ADDRESS WPRWCK0.
0025166 01 000075 040043 000000 CDGNM  -001- 27      VFD    1,0 2,2 7,0 6,NNO3CD
0025167 01 000076 000000 025171 0025171 -001- 28     ADDR   WPRWCK0


                                           30 # CAN ONES BE WRITTEN/READ THRU ONE WRITE PROTECT REG W/O AFFECTING THE OTHERS?

0025171                                     32 WPRWCK0
0025171 01 000100 131700 043140 CTSD        33      LAL    R12,BASADDR,RA1
0025173 01 000102 040721 ------             34      L      R13,1(RA1)          # ADDRESS FIRST WRITE PROTECT REG (MOD 0)
0025174 01 000103 003103 ------             35      LN     R4,3                # REPEAT TEST FOR EACH WRITE PROTECT REG
0025175                                     36 WPRWLP0
0025175 01 000104 130620 043133 CTSD        37      LL     R9,IOADDR           # RESTORE SUBCHANNEL ADDRESS
0025177                                     38      SIOM   MASCINT             # CLEAR WRITE PROTECT BITS
0025177 01 000106 037020 012667 CDGSIO -002- 39     BSA    MASIOM              # INITIALIZE STORE CONTROLLER
0025201 01 000110 046071 ------        -001- 40  ·   DATA   MASCINT
0025202                                     41      MTCWRIT RA0,ONES           # WRITE ONES IN WRITE PROTECT REG
0025202 01 000111 103561 106203        -001- 42     LI     R7,MTCWR
0025204 01 000113 003741 177777        -001- 43     LI     R14,ONES            # SET UP ONES TO BE WRITTEN (SD0-15)
0025206 01 000115 003360 ------        -001- 44     ZR     R15                 # CLEAR HIGH BITS (SD16-23)
0025207 01 000116 006054 ------        -001- 45     LR     R2,R12
0025210 01 000117 006075 ------        -001-;46     LR     R3,R13
0025211 01 000120 003541 000000        -001- 47     LI     R6,0                # LOAD SPECIAL PARITY
0025213 01 000122 037020 013027 CDGSBS -002- 48     BSA    MEMOP
0025215                                     49      SIOM   CLRSER              # CLEAR POSSIBLE NORMAL SELECT ERROR
```

STORE WRITE PROTECT TEST   PR-1C927-50

TEST 49 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
0025215 01 000124 137020 012667 CDGSIO   -002- 01        BSA     MASIOM
0025217 01 000126 043310 103601          -001- 02        DATA    CLRSER          # CLEAR STORE ERROR REGISTER
0025220 01 000127 103601 177777                03        LI      R8,ONES         # SET UP ALL-ONES TEST PATTERN
0025222 01 000131 003360 ------                04        ZR      R15             # ONLY CHECK REG THAT WAS WRITTEN
0025223                                         05        CALL    WPTEST
0025223 01 000132 037020 025002 0025002  -001- 06        BSA     WPTEST
0025225 01 000134 112403 ------                07        UNPK    MCHB
0025226 01 000135 014063 ------                08        TZ      R3              # ANY MISMATCH BITS SET?
0025227 01 000136 055006 ------ 0025235        09        BNC     DIRFAL
0025230 01 000137 057403 ------                10        TSRPL   MCHB            # PARITY LOW ERROR?
0025231 01 000140 054004 ------ 0025235        11        BC      DIRFAL
0025232 01 000141 057423 ------                12        TSRPH   MCHB            # PARITY HIGH ERROR?
0025233 01 000142 054002 ------ 0025235        13        BC      DIRFAL
0025234 01 000143 053030 ------ 0025264        14        B       UPWPAD0         # SKIP OVER FAILURE RESOLUTION ROUTINE


0025235                                     17 DIRFAL
0025235                                     18        RTN_TBL *+4
0025235 01 000144 171400 ------          -001- 19        GA
0025236 01 000145 031000 025242 0025242  -001- 20        LAL     R0,*+4,RAO
0025240 01 000147 037000 011162 CDGNM    -001- 21        BL      INTRPN03

                                         -001- 23 #        COMPARE NOT
                                         -001- 24 #    COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0177777).
                                         -001- 25 #    IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0025242 01 000151 054014 ------ CDGNM    -001- 26        VFD     1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0025243 01 000152 000000 177777          -001- 27        ADDR    0(0177777)

                                         -001- 29 #        FAILTST
                                         -001- 30 #    FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPDRFL.
                                         -001- 31 #    DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025245 01 000154 020217 ------ CDGNM    -001- 32        VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025246 01 000155 000024 ------          -001- 33        VFD     16,WPDRFL

                                            35 # NONE OF THE WRITE PROTECT BITS WERE WRITTEN/READ CORRECTLY


                                         -001- 38 #        COMPARE
                                         -001- 39 #    COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                         -001- 40 #    IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025247 01 000156 050014 ------ CDGNM    -001- 41        VFD     1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0025250 01 000157 000000 000000          -001- 42        ADDR    0(0000000)

                                         -001- 44 #        FAILBIT
                                         -001- 45 #    FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                                         -001- 46 #    WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0025252 01 000161 020220 ------ CDGNM    -001- 47        VFD     1,0 2,1 5,0 2,2 6,NFLBITS
0025253 01 000162 000002 ------          -001- 48        VFD     16,WPSLC
```

TEST 49 SEGMENT 2   0:06:56   2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                     01 # ONE OF THE WRITE PROTECT BITS WAS NOT WRITTEN/READ CORRECTLY

                          -001- 03 #        COMPARE
                          -001- 04 #    COMPARE ON-LINE MCHB BIT PL TO  0.
                          -001- 05 #    IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025254 01 000163 022414 ------ CDGNM    -001- 06        VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0025255 01 000164 000000 ------          -001- 07        VFD     15,0 1,0

                          -001- 09 #        FAILTST
                          -001- 10 #    FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                          -001- 11 #    DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025256 01 000165 020217 ------ CDGNM    -001- 12        VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025257 01 000166 000022 ------          -001- 13        VFD     16,WPSLCPL

                                     15 # A WRITE PROTECT REGISTER PARITY LOW BIT WAS NOT WRITTEN/READ CORRECTLY

                          -001- 18 #        COMPARE
                          -001- 19 #    COMPARE ON-LINE MCHB BIT PH TO  0.
                          -001- 20 #    IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025260 01 000167 022514 ------ CDGNM    -001- 21        VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0025261 01 000170 000000 ------          -001- 22        VFD     15,0 1,0

                          -001- 24 #        FAILTST
                          -001- 25 #    FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                          -001- 26 #    DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025262 01 000171 020217 ------ CDGNM    -001- 27        VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025263 01 000172 000023 ------          -001- 28        VFD     16,WPSLCPH

                                     30 # A WRITE PROTECT REGISTER PARITY HIGH BIT WAS NOT WRITTEN/READ CORRECTLY


0025264                               35 UPWPAD0
0025264 01 000173 106014 ------       36        LR      R0,R12              # SAVE CURRENT STORE SELECT BITS
0025265 01 000174 030420 012754 CDGSIO 37       LL      R1,MODSIZE
0025267 01 000176 001721 ------       38        AR      R13,R1
0025270 01 000177 001721 ------       39        AR      R13,R1              # POINT TO NEXT WRITE PROTECT REGISTER
0025271 01 000200 055010 ------ 0025301 40      BNC     WPORCK0             # CARRY PAST LOW ADDRESS BITS?
0025272 01 000201 004701 ------       41        AN      R12,1               # IF SO, INCREMENT HI ADDRESS BITS
0025273 01 000202 030420 012756 CDGSIO 42       LL      R1,STSELMSK
0025275 01 000204 014001 ------       43        NR      R0,R1               # ORIGINAL STORE SELECT BITS
0025276 01 000205 015421 ------       44        COM     R1
0025277 01 000206 014301 ------       45        NR      R12,R1              # NEW MODULE SELECT BITS
0025300 01 000207 014700 ------       46        OR      R12,R0              # OLD STORE SELECT W/ NEW MOD SELECT BITS
```

STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 49  SEGMENT 2                                                              0:06:56    2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                             CDGSWP        W77D

                                    01 # WERE ANY OTHER WRITE PROTECT REGISTERS AFFECTED?

0025301                             03 WPORCK0
0025301 01 000210 103200 ------     04       ZR      R8                      # SET UP ALL-ZEROS TEST PATTERN
0025302 01 000211 003362 ------     05       LN      R15,2                   # CHECK THREE REMAINING WRITE PROTECT
                                                                               REGS
0025303                             07       CALL    WPTEST
0025303 01 000212 037020 025002 0025002 -001- 08  BSA  WPTEST
0025305 01 000214 112403 ------     09       UNPK    MCHB
0025306 01 000215 014063 ------     10       TZ      R3                      # ANY MISMATCH BITS SET?
0025307 01 000216 055014 ------ 0025323  11  BNC     INDIRF
0025310 01 000217 057403 ------     12       TSRPL   MCHB                    # PARITY LOW ERROR?
0025311 01 000220 054012 ------ 0025323  13  BC      INDIRF
0025312 01 000221 057423 ------     14       TSRPH   MCHB                    # PARITY HIGH ERROR?
0025313 01 000222 054010 ------ 0025323  15  BC      INDIRF

                                    17 CSTWP1 OW      0(223)                  # 12988
                              -001- 18       NOTE    ************** THE FIRST ADDRESS OVERWRITTEN IS 000223 **********

                                    21 CPATCH1 BGNP   0(626)                  # 12988
0025314 01 000223 037000 113410 0000626 -001- 22  BL  XXX352
                              -001- 23       NOTE    CPATCH1 'CSECT'
                              -001- 24       NOTE    ****************** PATCH AREA BEGINS AT 000626 *****************

0113410                       -001- 27 XXX352 PATCHAREA
0113410                             28       CALL    WAIT                    # TAKE A REAL TIME BREAK.
0113410 06 000626 173025 ------ -001- 29     BSAI    WXAIT                   # SUBROUTINE WAIT IS IN PROGRAM CBLM
0113411 06 000627 136100 025175 0000104  30  BX      R4,WPRWLPD
0113413                             31       ENDP                           # 12988
0113413 06 000631 037000 025316 0000225 -001- 32  BL  XXX355
                              -001- 33       NOTE    ************ LAST PATCH ADDRESS USED IS 000632 ***************
                              -001- 34       NOTE    ****** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *********

0025316                       -001- 37 XXX355 OWCONTINUE
0025316                             38       RTN_TBL WPCKOXT                 # SKIP OVER FAILURE RESOLUTION ROUTINE
0025316 01 000225 171400 ------ -001- 39     GA
0025317 01 000226 031000 025352 0025352 -001- 40  LAL  R0,WPCKOXT,RA0
0025321 01 000230 037000 011162 CDGNM -001- 41  BL   INTRPNO3

0025323                             43       EOW                            # 12988
                              -001- 44       NOTE    ************** THE LAST ADDRESS OVERWRITTEN IS 000231 **********
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TEST 49  SEGMENT 2                                                        0:06:56    2/06/81   ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                      CDGSWP       W77D


0025323                                    03 INDIRF
0025323                                    04     RTN_TBL *+4
0025323 01 000232 171400 ------     -001- 05        GA
0025324 01 000233 031000 025330 0025330  -001- 06        LAL      R0,*+4,RA0
0025326 01 000235 037000 011162 CDGNM    -001- 07        BL       INTRPNO3

                                          -001- 09 #        COMPARE NOT
                                          -001- 10 #   COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0177777).
                                          -001- 11 #   IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0025330 01 000237 054014 ------ CDGNM     -001- 12        VFD      1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
0025331 01 000240 000000 177777           -001- 13        ADDR     0(0177777)

                                          -001- 15 #        FAILTST
                                          -001- 16 #   FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPIDFL.
                                          -001- 17 #   DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025333 01 000242 020217 ------ CDGNM     -001- 18        VFD      1,0 2,1 5,0 2,2 6,NFAILTST
0025334 01 000243 000025 ------           -001- 19        VFD      16,WPIDFL

                                           21 # AN ENTIRE WRITE PROTECT REGISTER WAS AFFECTED BY WRITING/READING ANOTHER REG


                                          -001- 24 #        COMPARE
                                          -001- 25 #   COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                          -001- 26 #   IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025335 01 000244 050014 ------ CDGNM     -001- 27        VFD      1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
0025336 01 000245 000000 000000           -001- 28        ADDR     0(0000000)

                                          -001- 30 #        FAILBIT
                                          -001- 31 #   FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                                          -001- 32 #   WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0025340 01 000247 020220 ------ CDGNM     -001- 33        VFD      1,0 2,1 5,0 2,2 6,NFLBITS
0025341 01 000250 000002 ------           -001- 34        VFD      16,WPSLC

                                           36 # A BIT IN A WRITE PROTECT REGISTER WAS AFFECTED BY WRITING/READING ANOTHER REG


                                          -001- 39 #        COMPARE
                                          -001- 40 #   COMPARE ON-LINE MCHB BIT PL TO  0.
                                          -001- 41 #   IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025342 01 000251 022414 ------ CDGNM     -001- 42        VFD      1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0025343 01 000252 000000 ------           -001- 43        VFD      15,0 1,0

                                          -001- 45 #        FAILTST
                                          -001- 46 #   FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                                          -001- 47 #   DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025344 01 000253 020217 ------ CDGNM     -001- 48        VFD      1,0 2,1 5,0 2,2 6,NFAILTST
0025345 01 000254 000022 ------           -001- 49        VFD      16,WPSLCPL


   STORE WRITE PROTECT TEST                                                  PR-1C927-50

     0:06:56   2/06/81  TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET  CDGSWP   ISSUE  05      PAGE   32
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TEST 49  SEGMENT 2                                                    0:06:56    2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                        CDGSWP      W77D


                                    02 # A PARITY LOW BIT IN A WRITE PROTECT REGISTER WAS WRITTEN/READ WITH ANOTHER REG


                          -001- 05 #      COMPARE
                          -001- 06 #      COMPARE ON-LINE MCHB BIT PH TO 0.
                          -001- 07 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025346 01 000255 022514 ------ CDGNM  -001- 08      VFD    1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0025347 01 000256 000000 ------        -001- 09      VFD    15,0 1,0

                          -001- 11 #      FAILTST
                          -001- 12 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                          -001- 13 #      DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025350 01 000257 020217 ------ CDGNM  -001- 14      VFD    1,0 2,1 5,0 2,2 6,NFAILTST .
0025351 01 000260 000023 ------        -001- 15      VFD    16,WPSLCPH

                                    17 # PARITY HIGH BIT IN A WRITE PROTECT REGISTER WAS WRITTEN/READ WITH ANOTHER REG


0025352                             20 WPCKOXT
                          -001- 21 #      NO3_CODE
                          -001- 22 #      PROCESS 3ACC CODED ROUTINE AT ADDRESS WPRWCK1.
0025352 01 000261 040043 000000 CDGNM  -001- 23      VFD    1,0 2,2 7,0 6,NNO3CD
0025353 01 000262 000000 025355 0025355 -001- 24    ADDR   WPRWCK1


                                    28 # CAN ZEROS BE WRITTEN/READ FROM ONE WRITE PROTECT REG W/O AFFECTING THE OTHERS?

0025355                             30 WPRWCK1
0025355 01 000264 131700 043140 CTSD   31      LAL    R12,BASADDR,RA1
0025357 01 000266 040721 ------        32      L      R13,1(RA1)
0025360 01 000267 003501 000003        33      LI     R4,3                    # WRITE ONES IN ALL FOUR WRITE PROTECT
                                                                                REGS
0025362                             35 WPONLP1
0025362                             36      MTCWRIT RA0,ONES
0025362 01 000271 103561 106203        37      LI     R7,MTCWR
0025364 01 000273 003741 177777  -001- 38      LI     R14,ONES               # SET UP ONES TO BE WRITTEN (SD0-15)
0025366 01 000275 003360 ------  -001- 39      ZR     R15                    # CLEAR HIGH BITS (SD16-23)
0025367 01 000276 006054 ------  -001- 40      LR     R2,R12
0025370 01 000277 006075 ------  -001-;41      LR     R3,R13
0025371 01 000300 003541 000000  -001- 42      LI     R6,0                   # LOAD SPECIAL PARITY
0025373 01 000302 037020 013027 CDGSBS -002- 43      BSA    MEMOP
0025375                             44      SIOM   CLRSER                 # CLEAR POSSIBLE NORMAL SELECT ERROR
0025375 01 000304 137020 012667 CDGSIO -002- 45      BSA    MASIOM
0025377 01 000306 043310 ------  -001- 46      DATA   CLRSER                 # CLEAR STORE ERROR REGISTER
0025400 01 000307 106014 ------        47      LR     R0,R12                 # SAVE CURRENT STORE SELECT BITS
0025401 01 000310 030420 012754 CDGSIO 48      LL     R1,MODSIZE
0025403 01 000312 001721 ------        49      AR     R13,R1


STORE WRITE PROTECT TEST                                                          PR-1C927-50

    0:06:56   2/06/81  TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET  CDGSWP   ISSUE 05    PAGE  33
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TEST 49 SEGMENT 2   0:06:56   2/06/81 ****

  MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
0025404 01 000313 001721 ------          01         AR      R13,R1          # POINT TO NEXT WRITE PROTECT REGISTER
0025405 01 000314 055010 ------ 0025415  02         BNC     WPONBX1         # CARRY PAST LOW ADDRESS BITS?
0025406 01 000315 004701 ------          03         AN      R12,1           # IF SO, INCREMENT HI ADDRESS BITS
0025407 01 000316 030420 012756 CDGSIO   04         LL      R1,STSELMSK
0025411 01 000320 014001 ------          05         NR      R0,R1           # ORIGINAL STORE SELECT BITS
0025412 01 000321 015421 ------          06         COM     R1
0025413 01 000322 014301 ------          07         NR      R12,R1          # NEW MODULE SELECT BITS
0025414 01 000323 014700 ------          08         OR      R12,R0          # OLD STORE SELECT W/ NEW MOD SELECT BITS
                                         09 CSTWP1   OW      0(324)          # 12988
                                 -001- 10            NOTE    ************** THE FIRST ADDRESS OVERWRITTEN IS 000324 **********


0025415                                  13 WPONBX1
                                         14 CPATCH1  BGNP    0(633)          # 12988
0025415 01 000324 137000 113415 0000633  -001- 15           BL      %%%377
                                 -001- 16            NOTE    CPATCH1 'CSECT'
                                 -001- 17            NOTE    ****************** PATCH AREA BEGINS AT 000633 ****************


0113415                          -001- 20 %%%377 PATCHAREA
0113415 06 000633 136100 025362 0000271  21           BX      R4,WPONLP1


                                         23 #     ALL WRITE PROTECT BITS SHOULD BE SET -- NOW WRITE ALL ZEROS IN WRITE
                                         24 # PROTECT BITS POINTED TO BY FIRST ADDRESS REG PAIR(RA0), CHECK WHETHER THEY
                                         25 # WERE WRITTEN CORRECTLY AND CHECK WHETHER ANY OTHER BITS WERE AFFECTED

0113417                                  27           CALL    WAIT            # TAKE A REAL TIME BREAK.
0113417 06 000635 073025 ------          -001- 28     BSAI    W%AIT           # SUBROUTINE WAIT IS IN PROGRAM CBLM
0113420                                  29           ENDP                    # 12988
0113420 06 000636 137000 025417 0000326  -001- 30    BL      %%%380
                                 -001- 31            NOTE    ************** LAST PATCH ADDRESS USED IS 000637 ****************
                                 -001- 32            NOTE    ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) ********


0025417                          -001- 35 %%%380 OWCONTINUE
0025417 01 000326 131700 043140 CTSD     36           LAL     R12,BASADDR,RA1
0025421                                  37           EOW                     # 12988
                                 -001- 38            NOTE    ***************** THE LAST ADDRESS OVERWRITTEN IS 000327 **********


0025421 01 000330 040721 ------          41           L       R13,1(RA1)      # RE-ESTABLISH BASE ADDRESS
0025422 01 000331 003103 ------          42           LN      R4,3            # TEST ALL FOUR WRITE PROTECT REGISTERS

0025423                                  44 WPRWLP1
0025423                                  45           MTCWRIT RA0,ZEROS,PRHOLO
0025423 01 000332 103561 106203          -001- 46     LI      R7,MTCWR
0025425 01 000334 003741 000000          -001- 47     LI      R14,ZEROS       # SET UP ZEROS TO BE WRITTEN (SD0-15)
0025427 01 000336 003360 ------          -001- 48     ZR      R15             # CLEAR HIGH BITS (SD16-23)
0025430 01 000337 006054 ------          -001- 49     LR      R2,R12
```

  STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 49  SEGMENT 2                                                      0:06:56   2/06/81  ****

  MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                         CDGSWP    W77D

0025431 01 000340 006075 ------       -001-;01      LR    R3,R13
0025432 01 000341 003541 000020       -001- 02      LI    R6,PRHOLO        # LOAD SPECIAL PARITY
0025434 01 000343 037020 013027 CDGSBS -002- 03      BSA   MEMOP
0025436                                      04      SIOM  CLRSER           # CLEAR POSSIBLE NORMAL SELECT ERROR
0025436 01 000345 137020 012667 CDGSIO -002- 05      BSA   MASIOM
0025440 01 000347 043310 ------       -001- 06      DATA  CLRSER           # CLEAR STORE ERROR REGISTER
0025441 01 000350 103200 ------            07      ZR    R8               # ALL-ZEROS TEST PATTERN
0025442 01 000351 003360 ------            08      ZR    R15              # JUST CHECK SECOND WRITE PROTECT REG
0025443                                      09      CALL  WPTEST
0025443 01 000352 037020 025002 0025002 -001- 10    BSA   WPTEST

0025445 01 000354 112403 ------            12      UNPK  MCHB
0025446 01 000355 014063 ------            13      TZ    R3               # ANY MISMATCH BITS SET?
0025447 01 000356 055006 ------ 0025455     14      BNC   DRFAIL
0025450 01 000357 057403 ------            15      TSRPL MCHB             # PARITY LOW ERROR?
0025451 01 000360 054004 ------ 0025455     16      BC    DRFAIL
0025452 01 000361 057423 ------            17      TSRPH MCHB             # PARITY HIGH ERROR?
0025453 01 000362 054002 ------ 0025455     18      BC    DRFAIL
0025454 01 000363 053030 ------ 0025504     19      B     UPWPAD1          # SKIP OVER FAILURE RESOLUTION ROUTINE


0025455                                   22 DRFAIL
0025455                                   23      RTN_TBL *+4
0025455 01 000364 171400 ------       -001- 24      GA
0025456 01 000365 031000 025462 0025462 -001- 25    LAL   R0,*+4,RA0
0025460 01 000367 037000 011162 CDGNM  -001- 26      BL    INTRPN03

                                     -001- 28 #    COMPARE NOT
                                     -001- 29 #    COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0177777).
                                     -001- 30 #    IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0025462 01 000371 054014 ------ CDGNM  -001- 31      VFD   1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0025463 01 000372 000000 177777       -001- 32      ADDR  0(0177777)

                                     -001- 34 #    FAILTST
                                     -001- 35 #    FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPDRFL.
                                     -001- 36 #    DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025465 01 000374 020217 ------ CDGNM  -001- 37      VFD   1,0 2,1 5,0 2,2 6,NFAILTST
0025466 01 000375 000024 ------       -001- 38      VFD   16,WPDRFL

                                        40 #    NONE OF THE WRITE PROTECT BITS WERE WRITTEN/READ CORRECTLY


                                     -001- 43 #    COMPARE
                                     -001- 44 #    COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                     -001- 45 #    IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025467 01 000376 050014 ------ CDGNM  -001- 46      VFD   1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0025470 01 000377 000000 000000       -001- 47      ADDR  0(0000000)
```

TEST 49 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                              -001- 01 #      FAILBIT
                              -001- 02 #      FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                              -001- 03 #      WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0025472 01 000401 020220 ------ CDGNM  -001- 04      VFD      1,0 2,1 5,0 2,2 6,NFLBITS
0025473 01 000402 000002 ------        -001- 05      VFD      16,WPSLC

                              07 # ONE OF THE WRITE PROTECT BITS WAS NOT WRITTEN/READ CORRECTLY


                              -001- 10 #      COMPARE
                              -001- 11 #      COMPARE ON-LINE MCHB BIT PL TO 0.
                              -001- 12 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025474 01 000403 022414 ------ CDGNM  -001- 13      VFD      1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0025475 01 000404 000000 ------        -001- 14      VFD      15,0 1,0

                              -001- 16 #      FAILTST
                              -001- 17 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                              -001- 18 #      DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025476 01 000405 020217 ------ CDGNM  -001- 19      VFD      1,0 2,1 5,0 2,2 6,NFAILTST
0025477 01 000406 000022 ------        -001- 20      VFD      16,WPSLCPL

                              22 # A WRITE PROTECT REGISTER PARITY LOW BIT WAS NOT WRITTEN/READ CORRECTLY


                              -001- 25 #      COMPARE
                              -001- 26 #      COMPARE ON-LINE MCHB BIT PH TO 0.
                              -001- 27 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025500 01 000407 022514 ------ CDGNM  -001- 28      VFD      1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0025501 01 000410 000000 ------        -001- 29      VFD      15,0 1,0

                              -001- 31 #      FAILTST
                              -001- 32 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                              -001- 33 #      DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025502 01 000411 020217 ------ CDGNM  -001- 34      VFD      1,0 2,1 5,0 2,2 6,NFAILTST
0025503 01 000412 000023 ------        -001- 35      VFD      16,WPSLCPH

                              37 # A WRITE PROTECT REGISTER PARITY HIGH BIT WAS NOT WRITTEN/READ CORRECTLY


0025504                                 42 UPWPAD1
0025504 01 000413 106014 ------         43      LR      R0,R12              # SAVE CURRENT STORE SELECT BITS
0025505 01 000414 030420 012754 CDGSIO  44      LL      R1,MODSIZE
0025507 01 000416 001721 ------         45      AR      R13,R1
0025510 01 000417 001721 ------         46      AR      R13,R1              # POINT TO NEXT WRITE PROTECT REGISTER
0025511 01 000420 055010 ------ 0025521 47      BNC     WPORCK1             # CARRY PAST LOW ADDRESS BITS?
0025512 01 000421 004701 ------         48      AN      R12,1               # IF SO, INCREMENT HI ADDRESS BITS
0025513 01 000422 030420 012756 CDGSIO  49      LL      R1,STSELMSK
```

STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 49  SEGMENT 2                                                              0:06:56   2/06/81  ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                              CDGSWP      W77D

0025515 01 000424 014001 ------         01        NR      R0,R1           # ORIGINAL STORE SELECT BITS
0025516 01 000425 015421 ------         02        COM     R1
0025517 01 000426 014301 ------         03        NR      R12,R1          # NEW MODULE SELECT BITS
0025520 01 000427 014700 ------         04        OR      R12,R0          # OLD STORE SELECT W/ NEW MOD SELECT BITS

                                        06 # WERE ANY OTHER WRITE PROTECT REGISTERS AFFECTED?

0025521                                 08 WPORCK1
0025521 01 000430 103601 177777         09        LI      R8,ONES         # SET UP ALL-ONES TEST PATTERN
0025523 01 000432 003362 ------         10        LN      R15,2           # CHECK OTHER THREE WRITE PROTECT REGS
0025524                                 11        CALL    WPTEST
0025524 01 000433 037020 025002 0025002 -001- 12  BSA     WPTEST

0025526 01 000435 112403 ------         14        UNPK    MCHB
0025527 01 000436 014063 ------         15        TZ      R3              # ANY MISMATCH BITS SET?
0025530 01 000437 055035 ------ 0025565 16        BNC     INDRFAIL
0025531 01 000440 057403 ------         17        TSRPL   MCHB            # PARITY LOW ERROR?
0025532 01 000441 054033 ------ 0025565 18        BC      INDRFAIL
0025533 01 000442 057423 ------         19        TSRPH   MCHB            # PARITY HIGH ERROR?
0025534 01 000443 054031 ------ 0025565 20        BC      INDRFAIL

                                        22 # RESTORE ONES TO WRITE PROTECT REG UNDER TEST

0025535 01 000444 031700 043140 CTSD    24        LAL     R12,BASADDR,RA1
0025537 01 000446 040721 ------         25        L       R13,1(RA1)      # RE-ESTABLISH BASE ADDRESS
0025540                                 26        MTCWRIT RA0,ONES
0025540 01 000447 003561 106203   -001- 27        LI      R7,MTCWR
0025542 01 000451 003741 177777   -001- 28        LI      R14,ONES        # SET UP ONES TO BE WRITTEN (SD0-15)
0025544 01 000453 003360 ------   -001- 29        ZR      R15             # CLEAR HIGH BITS (SD16-23)
0025545 01 000454 006054 ------   -001- 30        LR      R2,R12
0025546 01 000455 006075 ------   -001-;31        LR      R3,R13
0025547 01 000456 003541 000000   -001- 32        LI      R6,0            # LOAD SPECIAL PARITY
0025551 01 000460 037020 013027 CDGSBS  -002- 33        BSA     MEMOP
0025553                                 34        SIOM    CLRSER          # CLEAR POSSIBLE NORMAL SELECT ERROR
0025553 01 000462 137020 012667 CDGSIO  -002- 35        BSA     MASIOM
0025555 01 000464 043310 137000   -001- 36        DATA    CLRSER          # CLEAR STORE ERROR REGISTER
                                        37 CSTWP1 OW      0(465)          # 12988
                                  -001- 38        NOTE    ************** THE FIRST ADDRESS OVERWRITTEN IS 000465 **********

                                        41 CPATCH1 BGNP    0(640)          # 12988
0025556 01 000465 137000 113422 0000640 -001- 42  BL      %%%405
                                  -001- 43        NOTE    CPATCH1 'CSECT'
                                  -001- 44        NOTE    ***************** PATCH AREA BEGINS AT 000640 *****************
```

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TEST 49  SEGMENT 2                                                              0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                                 CDGSWP      W77D

0113422                                      -001- 01 XXX405 PATCHAREA
0113422                                            02         CALL    WAIT              # TAKE A REAL TIME BREAK.
0113422 06 000640 173025 -------            -001- 03         BSAI    WXAIT             # SUBROUTINE WAIT IS IN PROGRAM CBLM
0113423 06 000641 136100 025423 0000332     -001- 04         BX      R4,WPRWLP1
0113425                                            05  -      ENDP                      # 12988
0113425 06 000643 037000 025560 0000467     -001- 06         BL      XXX408
                                            -001- 07         NOTE    ************* LAST PATCH ADDRESS USED IS 000644 ***************
                                            -001- 08         NOTE    ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) ********


0025560                                      -001- 11 XXX408 OWCONTINUE
0025560                                            12         RTN_TBL WPRWXT
0025560 01 000467 171400 -------            -001- 13         GA
0025561 01 000470 031000 025614 0025614     -001- 14         LAL     RO,WPRWXT,RAO
0025563 01 000472 037000 011162 CDGNM       -001- 15         BL      INTRPNO3

0025565                                            17         EOW                       # 12988
                                            -001- 18         NOTE    **************** THE LAST ADDRESS OVERWRITTEN IS 000473 **********


                                            21 # IF WE REACH HERE, ALL WRITE PROTECT READ/WRITE TESTS HAVE PASSED


0025565                                            24 INDRFAIL
0025565                                            25         RTN_TBL *+4
0025565 01 000474 171400 -------            -001- 26         GA
0025566 01 000475 031000 025572 0025572     -001- 27         LAL     RO,*+4,RAO
0025570 01 000477 037000 011162 CDGNM       -001- 28         BL      INTRPNO3

                                            -001- 30 #       COMPARE NOT
                                            -001- 31 #       COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0177777).
                                            -001- 32 #       IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0025572 01 000501 054014 ------ CDGNM       -001- 33         VFD     1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0025573 01 000502 000000 177777             -001- 34         ADDR    0(0177777)

                                            -001- 36 #       FAILTST
                                            -001- 37 #       FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPIDFL.
                                            -001- 38 #       DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025575 01 000504 020217 ------ CDGNM       -001- 39         VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025576 01 000505 000025 -------            -001- 40         VFD     16,WPIDFL

                                            42 # AN ENTIRE WRITE PROTECT REGISTER WAS AFFECTED BY WRITING/READING ANOTHER REG


                                            -001- 45 #       COMPARE
                                            -001- 46 #       COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                            -001- 47 #       IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025577 01 000506 050014 ------ CDGNM       -001- 48         VFD     1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0025600 01 000507 000000 000000             -001- 49         ADDR    0(0000000)

STORE WRITE PROTECT TEST                                                        PR-1C927-50
```

TEST 49 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                     -001- 02 #      FAILBIT
                                     -001- 03 #   FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                                     -001- 04 #   WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0025602 01 000511 020220 ------ CDGNM -001- 05      VFD      1,0 2,1 5,0 2,2 6,NFLBITS
0025603 01 000512 000002 ------       -001- 06      VFD      16,WPSLC

                                         08 # A BIT IN A WRITE PROTECT REGISTER WAS AFFECTED BY WRITING/READING ANOTHER REG


                                     -001- 11 #      COMPARE
                                     -001- 12 #   COMPARE ON-LINE MCHB BIT PL TO  0.
                                     -001- 13 #   IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025604 01 000513 022414 ------ CDGNM -001- 14      VFD      1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0025605 01 000514 000000 ------       -001- 15      VFD      15,0 1,0

                                     -001- 17 #      FAILTST
                                     -001- 18 #   FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                                     -001- 19 #   DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025606 01 000515 020217 ------ CDGNM -001- 20      VFD      1,0 2,1 5,0 2,2 6,NFAILTST
0025607 01 000516 000022 ------       -001- 21      VFD      16,WPSLCPL

                                         23 # A PARITY LOW BIT IN A WRITE PROTECT REGISTER WAS WRITTEN/READ WITH ANOTHER REG


                                     -001- 26 #      COMPARE
                                     -001- 27 #   COMPARE ON-LINE MCHB BIT PH TO  0.
                                     -001- 28 #   IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025610 01 000517 022514 ------ CDGNM -001- 29      VFD      1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0025611 01 000520 000000 ------       -001- 30      VFD      15,0 1,0

                                     -001- 32 #      FAILTST
                                     -001- 33 #   FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                                     -001- 34 #   DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025612 01 000521 020217 ------ CDGNM -001- 35      VFD      1,0 2,1 5,0 2,2 6,NFAILTST
0025613 01 000522 000023 ------       -001- 36      VFD      16,WPSLCPH

                                         38 # PARITY HIGH BIT IN A WRITE PROTECT REGISTER WAS WRITTEN/READ WITH ANOTHER REG
                                         39 WPRWXT
0025614                              -001- 40 #      NO3_CODE
                                     -001- 41 #   PROCESS 3ACC CODED ROUTINE AT ADDRESS *+2.
0025614 01 000523 040043 000000 CDGNM -001- 42      VFD      1,0 2,2 7,0 6,NNO3CD
0025615 01 000524 000000 025617 0025617 -001- 43    ADDR     *+2

                                         45 # THIS WILL RESTORE THE APPROPRIATE SUBCHANNEL ADDRESS IN REGISTER 9
```

```
TEST 49  SEGMENT 2                                                           0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                               CDGSWP      W77D

                                    01 CSTWP1 OW       0(526),0(530)            # 12706
                            -001- 02           NOTE    ************* THE FIRST ADDRESS OVERWRITTEN IS 000526 **********

0025617                             05         FINALE  WP1INIT
0025617 01 000526 137020 012771 CDGSIO  -002- 06       BSA     FINAL
0025621 01 000530 137000 025114 0025114 -001- 07       BL      BKCSTWP1
0025623 01 000532 171400 ------         -001- 08       GA
0025624 01 000533 037000 011725 CDGNM   -001- 09       BL      PASSTST              # TEST COMPLETED
0025624                             10         EOW                               # 12706
                            -001- 11           NOTE    *************** THE LAST ADDRESS OVERWRITTEN IS 000534 **********
```

TEST 50   0:06:56   2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                              -001- 01 #    ****************************************************************
                              -001- 02 #    ****************************************************************
                              -001- 03 #    **                                                          **
                              -001- 04 #    **    CU DIAGNOSTIC TEST NO. 50, MAIN_STORE_WRITE_PROTECT
                              -001- 05 #    **                                                          **
                              -001- 06 #    ****************************************************************
                              -001- 07 #    ****************************************************************
```

0025626   -001- 10 CSTWP2 CSECT

0025626 02 000000 000145 ------ CDGNM   -001- 14   VFD   1,0 2,0 2,0 2,0 3,1 6,NBGN ·


```
18 # SEGMENT 1
19 #     THIS SEGMENT CHECKS THAT A STORE COMMAND OTHER THAN WRITE PROTECT
20 # (MAINTENANCE) WRITE IS NOT ABLE TO LOAD THE WRITE PROTECT BITS. TO VERIFY THIS
21 # A NORMAL WRITE TO THE OFF-LINE STORE IS EXECUTED USING THE MEMORY OPERATION
22 # SUBROUTINE (MEMOP). BECAUSE THE WRITE PROTECT BITS HAVE ALL BEEN CLEARED BY
23 # A STORE INITIALIZE, IT IS SUFFICIENT TO PERFORM A WRITE OF ALL-ONES DATA TO
24 # EACH OF THE FOUR 16-BIT WRITE PROTECT REGISTERS. IF THE MAINTENANCE WRITE
25 # ENABLE (WPWR1) IS STUCK-AT-ONE (HIGH) ON ANY OF THE BIT-SLICED WRITE PROTECT
26 # BITS, THEN THE WRITE PROTECT TEST (WPTEST) WILL SET THE APPROPRIATE BIT(S) IN
27 # THE MAINTENANCE CHANNEL BUFFER TO BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.


30 # SEGMENT 2
31 #     THIS SEGMENT VERIFIES THAT THE WRITE PROTECT BITS ARE WRITTEN AT THE
32 # PROPER TIME IN THE STORE CYCLE. FIRST, THE WRITE PROTECT REGISTER IS WRITTEN
33 # WITH THE ALL-ONES DATA PATTERN. AFTER THE STORE CONTROLLER CLOCK HAS BEEN
34 # STOPPED, THE INFORMATION REQUIRED TO EXECUTE A WRITE PROTECT WRITE OF ALL-
35 # ZEROES IS PUT ON THE OFF-LINE STORE BUS USING THE MEMORY OPERATION SUBROUTINE
36 # (MEMOD). THIS IS FOLLOWED BY INFORMATION FOR A 'SPARE WRITE' WHICH IS USED TO
37 # TERMINATE THE WRITE PROTECT (MAINTENANCE) WRITE STROBE ON THE INPUT OF THE
38 # WRITE PROTECT REGISTER. THIS TEST PROCEDURE IS REPEATED FOR ALL FOUR OF THE
39 # WRITE PROTECT REGISTERS. ONCE AGAIN IF THE INPUT STROBE (ERCOLL1) IS STUCK-AT-
40 # ONE (HIGH) ON ANY OF THE BIT-SLICED WRITE PROTECT BITS, THEN THE WRITE PROTECT
41 # TEST (WPTEST) WILL LEAVE THE APPROPRIATE BIT(S) IN THE MAINTENANCE CHANNEL
42 # BUFFER SET, SO THAT IT(THEY) CAN BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.


45 # SEGMENT 3
46 #     THIS SEGMENT CHECKS THAT A STORE COMMAND OTHER THAN WRITE PROTECT
47 # (MAINTENANCE) READ IS NOT ABLE TO ACCESS THE WRITE PROTECT BITS. TO VERIFY
48 # THIS AN ALL-ONES DATA PATTERN IS WRITTEN TO THE WRITE PROTECT REGISTER AND
49 # A 'SPARE READ' IS PERFORMED USING THE SAME ADDRESS AND THE SAME MEMORY
```

TEST 50   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
01 # OPERATION SUBROUTINE (MEMOP). THIS PROCEDURE IS FOLLOWED FOR ALL FOUR WRITE
02 # PROTECT REGISTERS. AFTER EACH SPARE READ THE DATA IS CHECKED FOR THE EXPECTED
03 # ALL-ZEROS PATTERN. IF THE WRITE PROTECT READ ENABLE (WPRDB1) IS STUCK-AT-ONE
04 # (HIGH) ON ANY OF THE WRITE PROTECT BIT OUTPUT GATES, THEN A ONE WILL BE READ
05 # BACK IN THAT BIT POSITION. THIS DATA MISMATCH WILL EFFECT AN IMMEDIATE EXIT
06 # FROM THE TEST ROUTINE TO A FAULT RESOLUTION ROUTINE OF DIAGNOSTIC MACROS WHICH
07 # PINPOINTS THE FAILING BIT.
```

STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 50                                                                    0:06:56    2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                            CDGSWP      W77D

                                        01 CSTWP2 OW        0(1),0(16)              # 12736
                                -001- 02        NOTE    ************* THE FIRST ADDRESS OVERWRITTEN IS 000001 **********

0025627                                 05 WP2INIT PREPARE
                                -002- 06 #      RTN_BLM
                                -002- 07 #   TURN OFF AUTOMATIC RETURNS TO BLM EVERY 20 TABLE ENTRIES.
0025627 02 000001 000144 ------ CDGNM   -002- 08        VFD     1,0 2,0 6,0 1,1 6,NRTNBLM

                                -002- 10 #      SEND
                                -002- 11 #   SEND 0(0000001) TO OFF-LINE MCHB.
                                -002- 12 #   PARITY IS 0(2).
0025630 02 000002 047707 ------ CDGNM   -002- 13        VFD     1,0 2,2 7,B(0111111) 6,N2SEND
0025631 02 000003 000040 000001        -002- 14        ADDR    0(0000001),0(2)

                                -002- 16 #      MICRO
                                -002- 17 #   PERFORM MICRO INSTRUCTION IN OFF-LINE CU.
                                -002- 18 #   TO FIELD = MS%T    FROM FIELD = MCHB%F
0025633 02 000005 020005 ------ CDGNM   -002- 19        VFD     1,0 2,1 7,0 6,NMICRO
0025634 02 000006 106631 ------        -002- 20        VFD     8,MS%T 8,MCHB%F

                                -002- 22 #      NO3_CODE
                                -002- 23 #   PROCESS 3ACC CODED ROUTINE AT ADDRESS *+2.
0025635 02 000007 040043 000000 CDGNM   -002- 24        VFD     1,0 2,2 7,0 6,NNO3CD
0025636 02 000010 000000 025640 0025640 -002- 25        ADDR    *+2

                                -001- 27 # SUBSTITUTE 'MAS' FOR'LOOP' IN TROUBLE PRINTOUT
0025640 02 000012 103501 000151 TTYTBL  -002- 28        LI      R4,M%AS
0025642 02 000014 034500 043132 CTSD    -001- 29        STL     R4,PAGSCR+24
                                -001- 30 # USE THE DIAGNOSTIC LOOP INDEX(LOOPIND) TO ACCESS THE PROPER I/Q
                                -001- 31 # SUBCHANNEL ADDRESS IN THE MAIN STORE CONTROLLER I/Q SUBCHANNEL TABLE
                                -001- 32 # (MASCIOSC) AND STORE IT IN THE ASSIGNED SLOT(IOADDR) IN PAGING BUFFER(PAGSCR)

0025644 02 000016 103240 ------        -001- 34        ZR      LOOPIND
0025645 02 000017 004257 ------        -001- 35        SN      LOOPIND,1              #ASSURE THAT LOOPIND IS ZERO BEFORE
                                                                                      PROCEEDING WITH TEST
0025646 02 000020 072652 ------ CDGNM   -001- 37        HN      LOOPIND,LOOPIND
0025647 02 000021 037020 012757 CDGSIO  -002- 38        BSA     CONTPREP
0025651 02 000023 172652 ------        -001- 39        HN      LOOPIND,LOOPIND
0025652 02 000024 137020 012667 CDGSIO  -003- 40        BSA     MASIOM
0025654 02 000026 046071 ------        -002- 41        DATA    MASCINT                # INITIALIZE STORE CONTROLLER

0025655 02 000027 171400 ------        -002- 43        GA
0025656 02 000030 031000 025662 0025662 -002- 44        LAL     R0,*+4,RA0
0025660 02 000032 037000 011162 CDGNM   -002- 45        BL      INTRPNO3


STORE WRITE PROTECT TEST                                                            PR-1C927-50
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TEST 50   0:06:56   2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

0025662   01   EOW   # 12736
                             -001- 02   NOTE   **************** THE LAST ADDRESS OVERWRITTEN IS 000033 **********

TEST 50 SEGMENT 1   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

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                                    -001- 01 #     ***********************************************
                                    -001- 02 #     *                                             *
                                    -001- 03 #     *   TEST 50    SEGMENT 1                       *
                                    -001- 04 #     *                                             *
                                    -001- 05 #     ***********************************************


0025662 02 000034 000100 ------ CDGNM   -001- 08       VFD     1,0 2,0 2,0 5,D(1) 6,NTESTSEG


                                       11 #      THIS SEGMENT CHECKS THAT A STORE COMMAND OTHER THAN WRITE PROTECT
                                       12 # (MAINTENANCE) WRITE IS NOT ABLE TO LOAD THE WRITE PROTECT BITS. TO VERIFY THIS
                                       13 # A NORMAL WRITE TO THE OFF-LINE STORE IS EXECUTED USING THE MEMORY OPERATION
                                       14 # SUBROUTINE (MEMOP). BECAUSE THE WRITE PROTECT BITS HAVE ALL BEEN CLEARED BY
                                       15 # A STORE INITIALIZE, IT IS SUFFICIENT TO PERFORM A WRITE OF ALL-ONES DATA TO
                                       16 # EACH OF THE FOUR 16-BIT WRITE PROTECT REGISTERS. IF THE MAINTENANCE WRITE
                                       17 # ENABLE (WPWR1) IS STUCK-AT-ONE (HIGH) ON ANY OF THE BIT-SLICED WRITE PROTECT
                                       18 # BITS, THEN THE WRITE PROTECT TEST (WPTEST) WILL SET THE APPROPRIATE BIT(S) IN
                                       19 # THE MAINTENANCE CHANNEL BUFFER TO BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.




                                    -001- 26 #     NO3_CODE
                                    -001- 27 #     PROCESS 3ACC CODED ROUTINE AT ADDRESS WPMWCK.
0025663 02 000035 040043 000000 CDGNM   -001- 28       VFD     1,0 2,2 7,0 6,NNO3CD
0025664 02 000036 000000 025666 0025666 -001- 29       ADDR    WPMWCK

0025666                                 31 WPMWCK
0025666                                 32       SIOM    MASCINT              # CLEAR WRITE PROTECT BITS
0025666 02 000040 137020 012667 CDGSIO  -002- 33       BSA     MASIOM
0025670 02 000042 046071 137020         -001- 34       DATA    MASCINT              # INITIALIZE STORE CONTROLLER
0025671                                 35       SIOM    FNOTIMC
0025671 02 000043 137020 012667 CDGSIO  -002- 36       BSA     MASIOM
0025673 02 000045 044470 ------         -001- 37       DATA    FNOTIMC              # BLOCK TIMING TO FANOUT BOARDS(W/CLOCK)
0025674 02 000046 103103 ------         38       LN      R4,3                 # LOOP INDEX (ALL FOUR WRITE PROTECT
                                                                                   REGS)
0025675 02 000047 031700 043140 CTSD    40       LAL     R12,BASADDR,RA1
0025677 02 000051 040721 ------         41       L       R13,1(RA1)           # ADDRESS FOR FIRST WRITE PROTECT REG
0025700                                 42 WPNMLP
0025700                                 43       NMLWRIT RA0,ONES
0025700 02 000052 103561 106200         -001- 44       LI      R7,B(1000110010000000)  # MAIN MEMORY STATUS
0025702 02 000054 003741 177777         -001- 45       LI      R14,ONES             # TO BE WRITTEN - SD0-15
0025704 02 000056 003761 177777         -001-;46       LI      R15,ONES             # TO BE WRITTEN - SD16-23
                                        -001- 47 # IF ADDRESS(RA0) IS ADDRESS REG PAIR(RA0), LOAD R2 & R3 DIRECTLY FROM RA0
0025706 02 000060 006054 ------         -001- 48       LR      R2,R12
0025707 02 000061 006075 ------         -001-;49       LR      R3,R13
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STORE WRITE PROTECT TEST   PR-1C927-5D

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TEST 50  SEGMENT 1                                                         0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                              CDGSWP       W77D

0025710 02 000062 003140 -------          -001- 01       ZR    R6              # NO SPECIAL PARITY
0025711                                   -001- 02       CALL  MEMOP           # INITIATE NORMAL WRITE(OFF-LINE)
0025711 02 000063 037020 013027 CDGSBS    -002- 03       BSA   MEMOP
0025713                                          04       SIOM  CLRSER         # CLEAR POSSIBLE NORMAL SELECT ERROR
0025713 02 000065 137020 012667 CDGSIO    -002- 05       BSA   MASIOM
0025715 02 000067 043310 -------          -001- 06       DATA  CLRSER          # CLEAR STORE ERROR REGISTER
0025716 02 000070 106014 -------                07       LR    R0,R12          # SAVE CURRENT STORE SELECT BITS
0025717 02 000071 030420 012754 CDGSIO          08       LL    R1,MODSIZE
0025721 02 000073 001721 -------                09       AR    R13,R1
0025722 02 000074 001721 -------                10       AR    R13,R1          # POINT TO NEXT WRITE PROTECT REGISTER
0025723 02 000075 055010 ------- 0025733        11       BNC   WPNMBX          # CARRY PAST LOW ADDRESS BITS?
0025724 02 000076 004701 -------                12       AN    R12,1           # IF SO, INCREMENT HI ADDRESS BITS
0025725 02 000077 030420 012756 CDGSIO          13       LL    R1,STSELMSK
0025727 02 000101 0140J1 -------                14       NR    R0,R1           # ORIGINAL STORE SELECT BITS
0025730 02 000102 015421 -------                15       COM   R1
0025731 02 000103 014301 -------                16       NR    R12,R1          # NEW MODULE SELECT BITS
0025732 02 000104 014700 -------                17       OR    R12,R0          # OLD STORE SELECT W/ NEW MOD SELECT BITS
0025733                                         18 WPNMBX
0025733 02 000105 136100 025700 0025700         19       BX    R4,WPNMLP

                                                21 # NO WRITE PROTECT BIT SHOULD HAVE BEEN AFFECTED BY THIS OPERATION
0025735 02 000107 003200 -------                22       ZR    R8              # ALL-ZEROS TEST PATTERN
0025736 02 000110 003363 -------                23       LN    R15,3           # CHECK ALL FOUR(4) REGISTERS
                                                24 CSTWP2 OW   0(111)          # 12988
                                          -001- 25       NOTE  ************* THE FIRST ADDRESS OVERWRITTEN IS 000111 **********

                                                28 CPATCH1 BGNP  0(716)        # 12988
0025737 02 000111 037000 113500 0000716   -001- 29       BL    XXX459
                                          -001- 30       NOTE  CPATCH1 'CSECT'
                                          -001- 31       NOTE  ***************** PATCH AREA BEGINS AT 000716 *****************

0113500                                   -001- 34 XXX459 PATCHAREA
0113500                                         35       CALL  WAIT            # TAKE A REAL TIME TIME BREAK
0113500 06 000716 173025 -------          -001- 36       BSAI  WXAIT           # SUBROUTINE WAIT IS IN PROGRAM CBLM
0113501                                         37       CALL  WPTEST
0113501 06 000717 137020 025002 04 000    -001- 38       BSA   WPTEST
0113503                                         39       ENDP                  # 12988
0113503 06 000721 137000 025741 0000113   -001- 40       BL    XXX463
                                          -001- 41       NOTE  ************ LAST PATCH ADDRESS USED IS 000722 ****************
                                          -001- 42       NOTE  ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) ********

0025741                                   -001- 45 XXX463 OWCONTINUE
0025741                                         46       EOW                   # 12988
                                          -001- 47       NOTE  *************** THE LAST ADDRESS OVERWRITTEN IS 000112 **********
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STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 50  SEGMENT 1                                                    0:06:56    2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                       CDGSWP      W77D

0025741                                       01        RTN_TBL  *+4
0025741 02 000113 171400 -------             -001- 02        GA
0025742 02 000114 031000 025746 0025746      -001- 03        LAL     R0,*+4,RA0
0025744 02 000116 037000 011162 CDGNM        -001- 04        BL      INTRPN03

                                             -001- 06 #      COMPARE
                                             -001- 07 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                             -001- 08 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025746 02 000120 050014 ------- CDGNM        -001- 09        VFD     1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
0025747 02 000121 000000 000000              -001- 10        ADDR    0(0000000)

                                             -001- 12 #      FAILBIT
                                             -001- 13 #      FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                                             -001- 14 #      WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0025751 02 000123 020220 ------- CDGNM        -001- 15        VFD     1,0 2,1 5,0 2,2 6,NFLBITS
0025752 02 000124 000002 -------             -001- 16        VFD     16,WPSLC

                                        18 # A WRITE PROTECT BIT HAS A MAINTENANCE WRITE ENABLE STUCK-AT-ONE

                                             -001- 21 #      COMPARE
                                             -001- 22 #      COMPARE ON-LINE MCHB BIT PL TO  0.
                                             -001- 23 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025753 02 000125 022414 ------- CDGNM        -001- 24        VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0025754 02 000126 000000 -------             -001- 25        VFD     15,0 1,0

                                             -001- 27 #      FAILTST
                                             -001- 28 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                                             -001- 29 #      DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0U25755 02 000127 020217 ------- CDGNM  .     -001- 30        VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025756 02 000130 000022 -------             -001- 31        VFD     16,WPSLCPL

                                        33 # A WRITE PROTECT REG PARITY LOW BIT HAS A MTC WRITE ENABLE STUCK-AT-ONE

                                             -001- 36 #      COMPARE
                                             -001- 37 #      COMPARE ON-LINE MCHB BIT PH TO  0.
                                             -001- 38 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0025757 02 000131 022514 ------- CDGNM        -001- 39        VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0025760 02 000132 000000 -------             -0G1- 40        VFD     15,0 1,0

                                             -001- 42 #      FAILTST
                                             -001- 43 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                                             -001- 44 #      DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0025761 02 000133 020217 ------- CDGNM        -001- 45        VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0025762 02 000134 000023 -------             -001- 46        VFD     16,WPSLCPH
```

TEST 50 SEGMENT 1   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

                    01 # A WRITE PROTECT REG PARITY HIGH BIT HAS A MTC WRITE ENABLE STUCK-AT-ONE

TEST 50 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

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                              -001- 01 #     **************************************************
                              -001- 02 #     *                                              *
                              -001- 03 #     *   TEST 50    SEGMENT 2                        *
                              -001- 04 #     *                                              *
                              -001- 05 #     **************************************************

0025763 02 000135 000200 ------ CDGNM  -001- 08      VFD    1,0 2,0 2,0 5,D(2) 6,NTESTSEG

                              11 #      THIS SEGMENT VERIFIES THAT THE WRITE PROTECT BITS ARE WRITTEN AT THE
                              12 # PROPER TIME IN THE STORE CYCLE. FIRST, THE WRITE PROTECT REGISTER IS WRITTEN
                              13 # WITH THE ALL-ONES DATA PATTERN. AFTER THE STORE CONTROLLER CLOCK HAS BEEN
                              14 # STOPPED, THE INFORMATION REQUIRED TO EXECUTE A WRITE PROTECT WRITE OF ALL-
                              15 # ZEROES IS PUT ON THE OFF-LINE STORE BUS USING THE MEMORY OPERATION SUBROUTINE
                              16 # (MEMOD). THIS IS FOLLOWED BY INFORMATION FOR A 'SPARE WRITE' WHICH IS USED TO
                              17 # TERMINATE THE WRITE PROTECT (MAINTENANCE) WRITE STROBE ON THE INPUT OF THE
                              18 # WRITE PROTECT REGISTER. THIS TEST PROCEDURE IS REPEATED FOR ALL FOUR OF THE
                              19 # WRITE PROTECT REGISTERS. ONCE AGAIN IF THE INPUT STROBE (ERCOLL1) IS STUCK-AT-
                              20 # ONE (HIGH) ON ANY OF THE BIT-SLICED WRITE PROTECT BITS, THEN THE WRITE PROTECT
                              21 # TEST (WPTEST) WILL LEAVE THE APPROPRIATE BIT(S) IN THE MAINTENANCE CHANNEL
                              22 # BUFFER SET, SO THAT IT(THEY) CAN BE DETECTED BY THE COMPARE DIAGNOSTIC MACRO.


                              -001- 29 #     NO3_CODE
                              -001- 30 #     PROCESS 3ACC CODED ROUTINE AT ADDRESS WPWTCK.
0025764 02 000136 040043 000000 CDGNM  -001- 31      VFD    1,0 2,2 7,0 6,NNO3CD
0025765 02 000137 000000 025767 0025767 -001- 32      ADDR   WPWTCK

0025767                                34 WPWTCK
0025767                                35      SIOM     MASCINT
0025767 02 000141 137020 012667 CDGSIO -002- 36      BSA      MASIOM
0025771 02 000143 046071 ------        -001- 37      DATA     MASCINT         # INITIALIZE STORE CONTROLLER
0025772 02 000144 131700 043140 CTSD         38      LAL      R12,BASADDR,RA1
0025774 02 000146 040721 ------              39      L        R13,1(RA1)
0025775 02 000147 003103 ------              40      LN       R4,3            # REPEAT FOR EACH WRITE PROTECT REG

0025776                                42 WPWTLP
0025776                                43      MTCWRIT RA0,ONES
0025776 02 000150 103561 106203        -001- 44      LI       R7,MTCWR
0026000 02 000152 003741 177777        -001- 45      LI       R14,ONES        # SET UP ONES TO BE WRITTEN (SD0-15)
0026002 02 000154 003360 ------        -001- 46      ZR       R15             # CLEAR HIGH BITS (SD16-23)
0026003 02 000155 006054 ------        -001- 47      LR       R2,R12
0026004 02 000156 006075 ------        -001-;48      LR       R3,R13
0026005 02 000157 003541 000000        -001- 49      LI       R6,0            # LOAD SPECIAL PARITY
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STORE WRITE PROTECT TEST   PR-1C927-50

C08

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TEST 50  SEGMENT 2                                              0:06:56   2/06/81  ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                         CDGSWP        W77D

0026007 02 000161 037020 013027 CDGSBS  -002- 01    BSA   MEMOP
0026011                                       02    SIOM  CLRSER           # CLEAR POSSIBLE NORMAL SELECT ERROR
0026011 02 000163 137020 012667 CDGSIO  -002- 03    BSA   MASIOM
0026013 02 000165 043310 137020         -001- 04    DATA  CLRSER           # CLEAR STORE ERROR REGISTER
0026014                                       05    SIOM  CLKSTOP
0026014 02 000166 137020 012667 CDGSIO  -002- 06    BSA   MASIOM
0026016 02 000170 046074 ------         -001- 07    DATA  CLKSTOP          # DISABLE STORE CONTROLLER CLOCK OUTPUT
0026017                                       08 MTCWRIT RAO,ZEROS,PRHOLO
0026017 02 000171 103561 106203         -001- 09    LI    R7,MTCWR
0026021 02 000173 003741 000000         -001- 10    LI    R14,ZEROS        # SET UP ZEROS TO BE WRITTEN (SD0-15)
0026023 02 000175 003360 ------         -001- 11    ZR    R15              # CLEAR HIGH BITS (SD16-23)
0026024 02 000176 006054 ------         -001- 12    LR    R2,R12
0026025 02 000177 006075 ------         -001-;13    LR    R3,R13
0026026 02 000200 003541 000020         -001- 14    LI    R6,PRHOLO        # LOAD SPECIAL PARITY
0026030 02 000202 037020 013027 CDGSBS  -002- 15    BSA   MEMOP
0026032                                       16    SIOM  CLRSER|HALTCLK   # CLEAR NORMAL SELECT ERROR W/ CLOCK OFF
0026032 02 000204 137020 012667 CDGSIO  -002- 17    BSA   MASIOM
0026034 02 000206 043314 ------         -001- 18    DATA  CLRSER|HALTCLK   # CLEAR STORE ERROR REGISTER
0026035                                       19 SPRWRIT RAO,ZEROS,PRHOLO
0026035 02 000207 103561 106214         -001- 20    LI    R7,SPRWR
0026037 02 000211 003741 000000         -001- 21    LI    R14,ZEROS        # TO BE WRITTEN - SD0-15
0026041 02 0G0213 003761 000000         -001-;22    LI    R15,ZEROS        # TO BE WRITTEN - SD16-23
0026043 02 000215 003541 000020         -001- 23    LI    R6,PRHOLO        # LOAD SPECIAL PARITY
0026045 02 000217 006054 ------         -001- 24    LR    R2,R12
0026046 02 000220 006075 ------         -001-;25    LR    R3,R13
0026047 02 000221 003000 ------         -001- 26    ZR    R0               # NO SPECIAL PARITY
0026050 02 000222 037020 013027 CDGSBS  -002- 27    BSA   MEMOP
0026052                                       28    SIOM  CLRSER|HALTCLK   # CLEAR NORMAL SELECT ERROR W/ CLOCK OFF
0026052 02 000224 137020 012667 CDGSIO  -002- 29    BSA   MASIOM
0026054 02 000226 043314 137020         -001- 30    DATA  CLRSER|HALTCLK   # CLEAR STORE ERROR REGISTER

                                              32 # THIS WILL ONLY REMOVE WRITE PROTECT WRITE ENABLE(WPWR) TO PERMIT A CLEAR &
                                              33 #      GATE OF ANY WRITE PROTECT BIT WITH SHIFTER BIT ENABLE(ERCOLL) STUCK ACTIVE

0026055                                       35    SIOM  CLKSTRT
0026055 02 000227 137020 012667 CDGSIO  -002- 36    BSA   MASIOM
0026057 02 000231 046070 ------         -001- 37    DATA  CLKSTRT          # ENABLE STORE CONTROLLER CLOCK OUTPUT
0026060 02 000232 106014 ------               38    LR    R0,R12           # SAVE CURRENT STORE SELECT BITS
0026061 02 000233 030420 012754 CDGSIO        39    LL    R1,MODSIZE
0026063 02 000235 001721 ------               40    AR    R13,R1
0026064 02 000236 001721 ------               41    AR    R13,R1           # POINT TO NEXT WRITE PROTECT REGISTER
0026065 02 000237 055010 ------ 0026075       42    BNC   WPWTBX           # CARRY PAST LOW ADDRESS BITS?
0026066 02 000240 004701 ------               43    AN    R12,1            # IF SO, INCREMENT HI ADDRESS BITS
0026067 02 000241 030420 012756 CDGSIO        44    LL    R1,STSELMSK
0026071 02 000243 014001 ------               45    NR    R0,R1            # ORIGINAL STORE SELECT BITS
0026072 02 000244 015421 ------               46    COM   R1
0026073 02 000245 014301 ------               47    NR    R12,R1           # NEW MODULE SELECT BITS
0026074 02 000246 014700 ------               48    OR    R12,R0           # OLD STORE SELECT W/ NEW MOD SELECT BITS
                                              49 CSTWP2 OW  0(247)          # 12988

   STORE WRITE PROTECT TEST                                               PR-1C927-50

      0:06:56   2/06/81  TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET   CDGSWP   ISSUE 05   PAGE 50
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TEST 50  SEGMENT 2                                                        0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                         CDGSWP      W77D

                                          -001- 01      NOTE   *************** THE FIRST ADDRESS OVERWRITTEN IS 000247 **********

0026075                                   04 WPWTBX
                                          05 CPATCH1 BGNP   0(645)                    # 12988
0026075 02 000247 137000 113427 0000645   -001- 06      BL     XXX497
                                          -001- 07      NOTE   CPATCH1 'CSECT'
                                          -001- 08      NOTE   **************** PATCH AREA BEGINS AT 000645 *****************


0113427                                   -001- 11 XXX497 PATCHAREA
0113427 06 000645 124100 ------           12        TBN    R4,0                      # TAKE A BREAK EVERY OTHER TIME THRU
                                                                                       LOOP.
0113430 06 000646 054002 ------ 0113432   14        BC     NOBREAK
0113431                                   15        CALL   WAIT                      # REAL TIME BREAK.
0113431 06 000647 073025 ------           -001- 16      BSAI   WXAIT                     # SUBROUTINE WAIT IS IN PROGRAM CBLM
0113432                                   17 NOBREAK
0113432 06 000650 136100 025776 0000150   18        BX     R4,WPWTLP
0113434                                   19        ENDP                             # 12988
0113434 06 000652 037000 026077 0000251   -001- 20      BL     XXX500
                                          -001- 21      NOTE   ************ LAST PATCH ADDRESS USED IS 000653 ***************
                                          -001- 22   .   NOTE   ***** NUMBER OF PATCH WORDS USED IS 7 (DECIMAL) ********


0026077                                   -001- 25 XXX500 OWCONTINUE
0026077 02 000251 103601 177777           26        LI     R8,0(177777)             # ALL ONES TEST PATTERN.
0026101                                   27        EOW                             # 12988
                                          -001- 28      NOTE   **************** THE LAST ADDRESS OVERWRITTEN IS 000252 **********


0026101 02 000253 003363 ------           31        LN     R15,3                    # CHECK ALL FOUR WRITE PROTECT REGS
0026102                                   32        CALL   WPTEST
0026102 02 000254 037020 025002 0025002   -001- 33      BSA    WPTEST

0026104                                   35        RTN_TBL *+4
0026104 02 000256 171400 ------           -001- 36      GA
0026105 02 000257 031000 026111 0026111   -001- 37      LAL    R0,*+4,RA0
0026107 02 000261 037000 011162 CDGNM     -001- 38      BL     INTRPNO3

                                          -001- 40 #      COMPARE NOT
                                          -001- 41 #   COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0177777).
                                          -001- 42 #   IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026111 02 000263 054014 ------ CDGNM     -001- 43      VFD    1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0026112 02 000264 000000 177777           -001- 44      ADDR   0(0177777)
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TEST 50 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                  -001- 01 #       FAILTST
                                  -001- 02 #       FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPWTFL.
                                  -001- 03 #       DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026114 02 000266 020017 ------- CDGNM   -001- 04       VFD       1,0 2,1 5,0 2,0 6,NFAILTST
0026115 02 000267 000024 -------         -001- 05       VFD       16,WPWTFL

                                       07 # ENTIRE WRITE PROTECT REGISTER WAS WRITTEN IMPROPERLY - SHIFTER ENABLE STUCK


                                  -001- 10 #       COMPARE
                                  -001- 11 #       COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                  -001- 12 #       IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026116 02 000270 050014 ------- CDGNM   -001- 13       VFD       1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026117 02 000271 000000 000000         -001- 14       ADDR      0(0000000)

                                  -001- 16 #       FAILBIT
                                  -001- 17 #       FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                                  -001- 18 #       WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0026121 02 000273 020220 ------- CDGNM   -001- 19       VFD       1,0 2,1 5,0 2,2 6,NFLBITS
0026122 02 000274 000002 -------         -001- 20       VFD       16,WPSLC

                                       22 # SHIFTER BIT ENABLE TO A WRITE PROTECT BIT IS STUCK ACTIVE


                                  -001- 25 #       COMPARE
                                  -001- 26 #       COMPARE ON-LINE MCHB BIT PL TO  0.
                                  -001- 27 #       IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026123 02 000275 022414 ------- CDGNM   -001- 28       VFD       1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0026124 02 000276 000000 -------         -001- 29       VFD       15,0 1,0

                                  -001- 31 #       FAILTST
                                  -001- 32 #       FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                                  -001- 33 #       DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0026125 02 000277 020217 ------- CDGNM   -001- 34       VFD       1,0 2,1 5,0 2,2 6,NFAILTST
0026126 02 000300 000022 -------         -001- 35       VFD       16,WPSLCPL

                                       37 # SHIFTER BIT ENABLE TO A PARITY  LOW WRITE PROTECT BIT IS STUCK ACTIVE


                                  -001- 40 #       COMPARE
                                  -001- 41 #       COMPARE ON-LINE MCHB BIT PH TO  0.
                                  -001- 42 #       IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026127 02 000301 022514 ------- CDGNM   -001- 43       VFD       1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0026130 02 000302 000000 -------         -001- 44       VFD       15,0 1,0
```

TEST 50 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                    -001- 01 #       FAILTST
                                    -001- 02 #    FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                                    -001- 03 #    DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0026131 02 000303 020217 ------ CDGNM  -001- 04       VFD      1,0 2,1 5,0 2,2 6,NFAILTST
0026132 02 000304 000023 ------        -001- 05       VFD      16,WPSLCPH

                                     07 # SHIFTER BIT ENABLE TO A PARITY HIGH WRITE PROTECT BIT IS STUCK ACTIVE
```

TEST 50 SEGMENT 3   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                              -001- 01 #      *********************************************************
                              -001- 02 #      *                                                       *
                              -001- 03 #      *    TEST 50     SEGMENT 3                               *
                              -001- 04 #      *                                                       *
                              -001- 05 #      *********************************************************


0026133 02 000305 000300 ------ CDGNM    -001- 08      VFD      1,0 2,0 2,0 5,D(3) 6,NTESTSEG


                              11 #      THIS SEGMENT CHECKS THAT A STORE COMMAND OTHER THAN WRITE PROTECT
                              12 # (MAINTENANCE) READ IS NOT ABLE TO ACCESS THE WRITE PROTECT BITS. TO VERIFY
                              13 # THIS AN ALL-ONES DATA PATTERN IS WRITTEN TO THE WRITE PROTECT REGISTER AND
                              14 # A 'SPARE READ' IS PERFORMED USING THE SAME ADDRESS AND THE SAME MEMORY
                              15 # OPERATION SUBROUTINE (MEMOP). THIS PROCEDURE IS FOLLOWED FOR ALL FOUR WRITE
                              16 # PROTECT REGISTERS. AFTER EACH SPARE READ THE DATA IS CHECKED FOR THE EXPECTED
                              17 # ALL-ZEROS PATTERN. IF THE WRITE PROTECT READ ENABLE (WPRDB1) IS STUCK-AT-ONE
                              18 # (HIGH) ON ANY OF THE WRITE PROTECT BIT OUTPUT GATES, THEN A ONE WILL BE READ
                              19 # BACK IN THAT BIT POSITION. THIS DATA MISMATCH WILL EFFECT AN IMMEDIATE EXIT
                              20 # FROM THE TEST ROUTINE TO A FAULT RESOLUTION ROUTINE OF DIAGNOSTIC MACROS WHICH
                              21 # PINPOINTS THE FAILING BIT.




                              -001- 28 #      NO3_CODE
                              -001- 29 # PROCESS 3ACC CODED ROUTINE AT ADDRESS WPRDCK.
0026134 02 000306 040043 000000 CDGNM    -001- 30      VFD      1,0 2,2 7,0 6,NNO3CD
0026135 02 000307 000000 026137 0026137  -001- 31      ADDR     WPRDCK

0026137                                   33 WPRDCK
0026137                                   34          SIOM     MASCINT
0026137 02 000311 137020 012667 CDGSIO   -002- 35      BSA      MASIOM
0026141 02 000313 046071 ------          -001- 36      DATA     MASCINT           # INITIALIZE STORE CONTROLLER
0026142 02 000314 131700 043140 CTSD     37             LAL      R12,BASADDR,RA1
0026144 02 000316 040721 ------          38             L        R13,1(RA1)
0026145 02 000317 003103 ------          39             LN       R4,3              # REPEAT FOR EACH WRITE PROTECT REG

0026146                                   41 WPRDLP
0026146                                   42          MTCWRIT RAO,ONES
0026146 02 000320 103561 106203          -001- 43      LI       R7,MTCWR
0026150 02 000322 003741 177777          -001- 44      LI       R14,ONES          # SET UP ONES TO BE WRITTEN (SD0-15)
0026152 02 000324 003360 ------          -001- 45      ZR       R15               # CLEAR HIGH BITS (SD16-23)
0026153 02 000325 006054 ------          -001- 46      LR       R2,R12
0026154 02 000326 006075 ------          -001-;47      LR       R3,R13
0026155 02 000327 003541 000000          -001- 48      LI       R6,0              # LOAD SPECIAL PARITY
0026157 02 000331 037020 013027 CDGSBS   -002- 49      BSA      MEMOP
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
TEST 50   SEGMENT 3                                                      0:06:56    2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                    CDGSWP        W77D

0026161                                      01       SIOM    CLRSER       # CLEAR POSSIBLE NORMAL SELECT ERROR
0026161 02 000333 137020 012667 CDGSIO  -002- 02      BSA     MASIOM
0026163 02 000335 043310 ------         -001- 03      DATA    CLRSER       # CLEAR STORE ERROR REGISTER

                                       05 # SET ALL WRITE PROTECT BITS

0026164                                      07       SPRREAD RA0
0026164 02 000336 103561 106274         -001- 08      LI      R7,SPRRD
0026166 02 000340 006054 ------         -001- 09      LR      R2,R12
0026167 02 000341 006075 ------         -001-;10      LR      R3,R13
0026170 02 000342 003140 ------         -001- 11      ZR      R6           # NO SPECIAL PARITY
0026171 02 000343 037020 013027 CDGSBS  -002- 12      BSA     MEMOP
0026173                                      13       SIOM    CLRSER       # CLEAR POSSIBLE NORMAL SELECT ERROR
0026173 02 000345 137020 012667 CDGSIO  -002- 14      BSA     MASIOM
0026175 02 000347 043310 ------         -001- 15      DATA    CLRSER       # CLEAR STORE ERROR REGISTER
0026176 02 000350 112403 ------               16      UNPK    MCHB
0026177 02 000351 014063 ------               17      TZ      R3           # WERE ANY WRITE PROTECT BITS READ BACK?
0026200 02 000352 055024 ------ 0026224       18      BNC     WPRDFL       # IF SO, GO TO FAULT RESOLUTION ROUTINE
0026201 02 000353 057403 ------               19      TSRPL   MCHB         # WAS WRITE PROTECT PARITY LOW  READ
                                                                           BACK?
0026202 02 000354 054022 ------ 0026224       21      BC      WPRDFL
0026203 02 000355 057423 ------               22      TSRPH   MCHB         # WAS WRITE PROTECT PARITY HIGH READ
                                                                           BACK?
0026204 02 000356 054020 ------ 0026224       24      BC      WPRDFL
0026205 02 000357 006014 ------               25      LR      R0,R12       # SAVE CURRENT STORE SELECT BITS
0026206 02 000360 030420 012754 CDGSIO        26      LL      R1,MODSIZE
0026210 02 000362 001721 ------               27      AR      R13,R1
0026211 02 000363 001721 ------               28      AR      R13,R1       # POINT TO NEXT WRITE PROTECT REGISTER
0026212 02 000364 055010 ------ 0026222       29      BNC     WPRDBX       # CARRY PAST LOW ADDRESS BITS?
0026213 02 000365 004701 ------               30      AN      R12,1        # IF SO, INCREMENT HI ADDRESS BITS
0026214 02 000366 030420 012756 CDGSIO        31      LL      R1,STSELMSK
0026216 02 000370 014001 ------               32      NR      R0,R1        # ORIGINAL STORE SELECT BITS
0026217 02 000371 015421 ------               33      COM     R1
0026220 02 000372 014301 ------               34      NR      R12,R1       # NEW MODULE SELECT BITS
0026221 02 000373 014700 ------               35      OR      R12,R0       # OLD STORE SELECT W/ NEW MOD SELECT BITS
0026222                                  36 WPRDBX
0026222 02 000374 136100 026146 0026146       37      BX      R4,WPRDLP

                                       39 # FAILURE ROUTINE FOR WRITE PROTECT READ CHECK

0026224                                  41 WPRDFL
0026224                                       42      RTN_TBL *+4
0026224 02 000376 171400 ------         -001- 43      GA
0026225 02 000377 031000 026231 0026231 -001- 44      LAL     R0,*+4,RA0
0026227 02 000401 037000 011162 CDGNM   -001- 45      BL      INTRPNO3
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
TEST 50  SEGMENT 3                                                          0:06:56    2/06/81  ****

  MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                            CDGSWP      W77D

                                        -001- 01 #     COMPARE
                                        -001- 02 #     COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                        -001- 03 #     IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026231 02 000403 050014 ------ CDGNM   -001- 04       VFD     1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0026232 02 000404 000000 000000         -001- 05       ADDR    0(0000000)

                                        -001- 07 #     FAILBIT
                                        -001- 08 #     FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSLCXX
                                        -001- 09 #     WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0026234 02 000406 020220 ------ CDGNM   -001- 10       VFD     1,0 2,15 5,0 2,2 6,NFLBITS
0026235 02 000407 000002 ------         -001- 11       VFD     16,WPSLC

                                           13 # THE WRITE PROTECT READ ENABLE(WPRD) ON A WRITE PROTECT OUTPUT IS STUCK ACTIVE

                                        -001- 16 #     COMPARE
                                        -001- 17 #     COMPARE ON-LINE MCHB BIT PL TO  0.
                                        -001- 18 #     IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026236 02 000410 022414 ------ CDGNM   -001- 19       VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PL 6,NCOMPARE
0026237 02 000411 000000 ------         -001- 20       VFD     15,0 1,0

                                        -001- 22 #     FAILTST
                                        -001- 23 #     FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPL.
                                        -001- 24 #     DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0026240 02 000412 020217 ------ CDGNM   -001- 25       VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0026241 02 000413 000022 ------         -001- 26       VFD     16,WPSLCPL

                                           28 # A WRITE PROTECT PARITY LOW HAS WRITE PROTECT READ ENABLE(WPRD) STUCK ACTIVE

                                        -001- 31 #     COMPARE
                                        -001- 32 #     COMPARE ON-LINE MCHB BIT PH TO  0.
                                        -001- 33 #     IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026242 02 000414 022514 ------ CDGNM   -001- 34       VFD     1,LPINDX 2,1 1,0 1,SUCCES 5,PH 6,NCOMPARE
0026243 02 000415 000000 ------         -001- 35       VFD     15,0 1,0

                                        -001- 37 #     FAILTST
                                        -001- 38 #     FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSLCPH.
                                        -001- 39 #     DATA WORDS IN FAILURE MESSAGE ARE SPECIFIED BY "TTY_DATA" MACRO.
0026244 02 000416 020217 ------ CDGNM   -001- 40       VFD     1,0 2,1 5,0 2,2 6,NFAILTST
0026245 02 000417 000023 ------         -001- 41       VFD     16,WPSLCPH

                                           43 # A WRITE PROTECT PARITY HIGH HAS WRITE PROTECT READ ENABLE(WPRD) STUCK ACTIVE
```

```
TEST 50  SEGMENT 3                                                          0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                        CDGSWP       W77D

                                    -001- 01 #      NO3_CODE
                                    -001- 02 #      PROCESS 3ACC CODED ROUTINE AT ADDRESS WPRDXT.
0026246 02 000420 040043 000000 CDGNM    -001- 03        VFD      1,0 2,2 7,0 6,NNO3CD
0026247 02 000421 000000 026251 0026251  -001- 04        ADDR     WPRDXT

0026251                                             06 WPRDXT
```

```
TEST 50  SEGMENT 3                                                              0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                                  CDGSWP    W77D

                                        01 CSTWP2 OW      0(423),0(425)         # 12736
                                  -001- 02        NOTE    ************** THE FIRST ADDRESS OVERWRITTEN IS 000423 **********

0026251                                  05        FINALE  WP2INIT
0026251 02 000423 137020 012771 CDGSIO   -002- 06        BSA     FINAL
0026253 02 000425 137000 025651 0025651  -001- 07        BL      BKCSTWP2
0026255 02 000427 171400 ------          -001- 08        GA
0026256 02 000430 037000 011725 CDGNM    -001- 09        BL      PASSTST            # TEST COMPLETED
0026256                                  10        EOW                        # 12736
                                  -001- 11        NOTE    *************** THE LAST ADDRESS OVERWRITTEN IS 000431 **********
```

TEST 51   0:06:56   2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                              -001- 01 #     ***********************************************************************
                              -001- 02 #     ***********************************************************************
                              -001- 03 #     **                                                                 **
                              -001- 04 #     **    CU DIAGNOSTIC TEST NO. 51, MAIN_STORE_WRITE_PROTECT
                              -001- 05 #     **                                                                 **
                              -001- 06 #     ***********************************************************************
                              -001- 07 #     ***********************************************************************
```

0026260   -001- 10 CSTWP3 CSECT

0026260 03 000000 000145 ------ CDGNM   -001- 14   VFD   1,0 2,0 2,0 2,0 3,1 6,NBGN


```
18 # SEGMENT 1
19 #      THIS SEGMENT BEGINS THE TESTING OF THE WRITE PROTECT CHECK CIRCUITRY BY
20 # CHECKING THE WRITE PROTECT BIT INPUTS TO THE SELECTOR GATES FOR STUCK-ACTIVE
21 # (HIGH) FAULTS AND ALSO VERIFYING THAT THE OUTPUT COLLECTOR-TIE OF THE SELECTOR
22 # GATES IS NOT BEING JAMMED ACTIVE (LOW). THIS IS DONE BY INITIALIZING THE
23 # WRITE PROTECT REGISTERS (RESETTING ALL WRITE PROTECT BITS) AND EXECUTING A
24 # WRITE IN EACH 4K WRITE PROTECT BLOCK. IF A WRITE PROTECT ERROR IS RECORDED
25 # FOR EACH WRITE, THEN THE OUTPUT COLLECTOR TIE, IN-WRITE-PROTECT NET (TINWP),
26 # MUST BE JAMMED LOW. IF A SINGLE ERROR OCCURS, ONE OF THE WRITE PROTECT BIT
27 # INPUTS TO ITS SELECTOR GATE MUST BE STUCK HIGH. SINCE THERE ARE EIGHT WRITE
28 # PROTECT BITS PER BIT-SLICED BOARD, IT IS ONLY NECESSARY TO KEEP EIGHT ERROR
29 # BITS TO RESOLVE THE LATTER FAULT.


32 # SEGMENT 2
33 #      THIS SEGMENT CHECKS THAT EACH INDIVIDUAL WRITE PROTECT BIT CAN CAUSE A
34 # WRITE PROTECT ERROR WHEN A WRITE IS ATTEMPTED WITHIN THE 4K BLOCK ASSOCIATED
35 # WITH THAT SPECIFIC BIT. THE TEST INVOLVES SETTING ONE WRITE PROTECT BIT AND
36 # ATTEMPTING A WRITE INTO A LOCATION WITHIN THE 4K BLOCK THAT IS SUPPOSED TO BE
37 # PROTECTED BY THAT PARTICULAR BIT. THIS IS REPEATED FOR EACH ONE OF THE 64
38 # WRITE PROTECT BITS IN THE CONTROLLER. IF THE OUTPUT OF ONE WRITE PROTECT
39 # SELECTOR GATE  (FFWPX-AG10/BG10) IS STUCK INACTIVE (HIGH), THEN A WRITE
40 # PROTECT ERROR WILL BE INDICATED FOR EVERY BIT EXCEPT THE ONE CONNECTED TO THIS
41 # GATE. IF ONE OF THE WRITE PROTECT BLOCK ENABLES (WPSEG0-7) TO THE SELECTOR
42 # GATES IS STUCK INACTIVE (LOW), THEN THE WRITE PROTECT ERROR WILL NOT SHOW UP
43 # IN THAT BIT-SLICE OF THE ERROR RESULT REGISTER. IF A MODULE SELECT ENABLE
44 # (MSEL0-7) TO THE SELECTOR GATES IS STUCK INACTIVE, THEN THE ABSENCE OF A WRITE
45 # PROTECT ERROR WILL ALSO BE INDICATED IN ONE OF ERROR RESULT BIT-SLICES (0-7)
46 # AND AGAIN BE RESOLVABLE TO A SPECIFIC BIT-SLICED BOARD. THIS TEST ALSO
47 # VERIFIES THAT THE CIRCUITRY THAT DECODES THE SPECIFIC WRITE PROTECT BLOCK
48 # WHERE THE WRITE IS BEING ATTEMPTED WORKS PROPERLY. FROM THE RESULTANT PATTERN
49 # OF WRITE PROTECT ERRORS (OR THE ABSENCE THEREOF) IT IS POSSIBLE TO RESOLVE
```

STORE WRITE PROTECT TEST   PR-1C927-50

TEST 51   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
01 # WHICH OF THE FOUR UNTESTED ADDRESS LEADS TO THE DECODER CIRCUITRY IS FAULTY.


04 # SEGMENT 3
05 #      THIS SEGMENT CHECKS THAT WRITES IN UNPROTECTED AREAS DO NOT PRODUCE WRITE
06 # PROTECT ERRORS EVEN IF EVERY OTHER AREA IN THE STORE IS PROTECTED, I.E., ALL
07 # OF THE WRITE PROTECT BITS ARE SET EXCEPT ONE CORRESPONDING TO THE AREA WHERE
08 # THE WRITE IS ATTEMPTED. FUNCTIONALLY THIS TEST IS THE CONVERSE OF THE
09 # PRECEDING SEGMENT. IF ONE OF THE WRITE PROTECT SEGMENT ENABLES (WPSEG0-7)
10 # TO  A  WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) IS STUCK ACTIVE
11 # (HIGH) ON THE GATE, THEN THE WRITE PROTECT ERROR WILL SHOW UP IN THE BIT
12 # OF THE TEST RESULT REGISTER CORRESPONDING TO THAT FAULTY BIT-SLICED BOARD.
13 # ON THE OTHER HAND, IF THAT SAME ENABLE (WPSEG0-7) IS STUCK ACTIVE BETWEEN THE
14 # DECODER CIRCUIT AND THE BIT-SLICED BOARD, THEN A WRITE PROTECT ERROR WILL BE
15 # RECORDED FOR EVERY BIT-SLICED BOARD EXCEPT THE FAULTY ONE. SIMILARLY, IF A
16 # MODULE SELECT ENABLE (MSEL0-7) IS STUCK ACTIVE (LOW) BETWEEN THE MODULE-SELECT
17 # DECODER CIRCUIT AND ALL OF THE BIT-SLICED BOARDS, THEN ANY OF THE BIT-SLICED
18 # BOARD  OR  THE BOARD THAT CONTAINS THE DECODER MAY BE FAULTY. AND IF THE
19 # STUCK-ACTIVE ENABLE FAULT IS CONFINED TO ONE BIT-SLICED BOARD, THEN IT WILL
20 # BE INDICATED BY A SINGLE WRITE PROTECT ERROR IN THE TEST RESULT REGISTER IN
21 # THE BIT POSITION CORRESPONDING TO THE FAULTY BOARD.


24 # SEGMENT 4
25 #      THIS SEGMENT CHECKS THAT THE WRITE-COMMAND ENABLE (NOTWC0) ON THE INPUT
26 # TO THE WRITE PROTECT ERROR FF (SERB) IS NOT STUCK-AT-ONE (HIGH). THIS CAN BE
27 # FUNCTIONALLY TESTED VERY EASILY BY SETTING A WRITE PROTECT BIT TO PROTECT THE
28 # FIRST 4K BLOCK IN THE STORE UNDER TEST AND IMMEDIATELY CLEARING THE SAME BIT
29 # USING AN ADDRESS THAT IS WITHIN THE FIRST 4K. THE WRITE PROTECT COMMAND USED
30 # TO CLEAR THE BIT SHOULD FORCE THE WRITE-COMMAND ENABLE INACTIVE (LOW), SO
31 # THAT THE WRITE PROTECT ERROR IS NOT SET. IF THE CONTENTS OF THE ERROR REGISTER
32 # RETRIEVED FROM THE OFF-LINE PROCESSOR SHOW THE MY-WRITE-ERROR BIT (MWRTER)
33 # SET, THEN THE WRITE-COMMAND ENABLE MUST BE STUCK-ACTIVE (HIGH).
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
TEST 51                                                       0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                               CDGSWP    W77D

                          01 CSTWP3 OW     0(1),0(16)              # 12706
                    -001- 02      NOTE    ************* THE FIRST ADDRESS OVERWRITTEN IS 000001 **********

0026261                   05 WP3INIT PREPARE
                    -002- 06 #     RTN_BLM
                    -002- 07 #  TURN OFF AUTOMATIC RETURNS TO BLM EVERY 20 TABLE ENTRIES.
0026261 03 000001 000144 ------ CDGNM  -002- 08      VFD     1,0 2,0 6,0 1,1 6,NRTNBLM

                    -002- 10 #     SEND
                    -002- 11 #  SEND 0(0000001) TO OFF-LINE MCHB.
                    -002- 12 #  PARITY IS 0(2).
0026262 03 000002 047707 ------ CDGNM  -002- 13      VFD     1,0 2,2 7,B(0111111) 6,N2SEND
0026263 03 000003 000040 000001       -002- 14      ADDR    0(0000001),0(2)

                    -002- 16 #     MICRO
                    -002- 17 #  PERFORM MICRO INSTRUCTION IN OFF-LINE CU.
                    -002- 18 #  TO FIELD = MS%T    FROM FIELD = MCHB%F
0026265 03 000005 020005 ------ CDGNM  -002- 19      VFD     1,0 2,1 7,0 6,NMICRO
0026266 03 000006 106631 ------        -002- 20      VFD     8,MS%T 8,MCHB%F

                    -002- 22 #     NO3_CODE
                    -002- 23 #  PROCESS 3ACC CODED ROUTINE AT ADDRESS *+2.
0026267 03 000007 040043 000000 CDGNM  -002- 24      VFD     1,0 2,2 7,0 6,NNO3CD
0026270 03 000010 000000 026272 0026272 -002- 25     ADDR    *+2

                    -001- 27 # SUBSTITUTE 'MAS' FOR'LOOP' IN TROUBLE PRINTOUT
0026272 03 000012 103501 000151 TTYTBL -002- 28      LI      R4,M%AS
0026274 03 000014 034500 043132 CTSD   -001- 29      STL     R4,PAGSCR+24
                    -001- 30 # USE THE DIAGNOSTIC LOOP INDEX(LOOPIND) TO ACCESS THE PROPER I/Q
                    -001- 31 # SUBCHANNEL ADDRESS IN THE MAIN STORE CONTROLLER I/Q SUBCHANNEL TABLE
                    -001- 32 # (MASCIOSC) AND STORE IT IN THE ASSIGNED SLOT(IOADDR) IN PAGING BUFFER(PAGSCR)

0026276 03 000016 103240 ------        -001- 34      ZR      LOOPIND
0026277 03 000017 004257 ------        -001- 35      SN      LOOPIND,1              #ASSURE THAT LOOPIND IS ZERO BEFORE
                                                                                    PROCEEDING WITH TEST
0026300 03 000020 072652 ------ CDGNM  -001- 37      HN      LOOPIND,LOOPIND
0026301 03 000021 037020 012757 CDGSIO -002- 38      BSA     CONTPREP
0026303 03 000023 172652 ------ CDGNM  -001- 39      HN      LOOPIND,LOOPIND
0026304 03 000024 137020 012667 CDGSIO -003- 40      BSA     MASIOM
0026306 03 000026 046071 ------        -002- 41      DATA    MASCINT               # INITIALIZE STORE CONTROLLER

0026307 03 000027 171400 ------        -002- 43      GA
0026310 03 000030 031000 026314 0026314 -002- 44     LAL     R0,*+4,RAO
0026312 03 000032 037000 011162 CDGNM  -002- 45      BL      INTRPNO3
```

STORE WRITE PROTECT TEST   PR-1C927-50

TEST 51   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

0026314   D1   EOW   # 12706
                                    -001- D2   NOTE   **************** THE LAST ADDRESS OVERWRITTEN IS 000033 **********

TEST 51 SEGMENT 1   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                      -001- 01 #     ****************************************************
                                      -001- 02 #     *                                                  *
                                      -001- 03 #     *   TEST 51    SEGMENT 1                            *
                                      -001- 04 #     *                                                  *
                                      -001- 05 #     ****************************************************


0026314 03 000034 000100 ------ CDGNM  -001- 08     VFD      1,0 2,0 2,0 5,D(1) 6,NTESTSEG


                                            11 #      THIS SEGMENT BEGINS THE TESTING OF THE WRITE PROTECT CHECK CIRCUITRY BY
                                            12 # CHECKING THE WRITE PROTECT BIT INPUTS TO THE SELECTOR GATES FOR STUCK-ACTIVE
                                            13 # (HIGH) FAULTS AND ALSO VERIFYING THAT THE OUTPUT COLLECTOR-TIE OF THE SELECTOR
                                            14 # GATES IS NOT BEING JAMMED ACTIVE (LOW). THIS IS DONE BY INITIALIZING THE
                                            15 # WRITE PROTECT REGISTERS (RESETTING ALL WRITE PROTECT BITS) AND EXECUTING A
                                            16 # WRITE IN EACH 4K WRITE PROTECT BLOCK. IF A WRITE PROTECT ERROR IS RECORDED
                                            17 # FOR EACH WRITE, THEN THE OUTPUT COLLECTOR TIE, IN-WRITE-PROTECT NET (TINWP),
                                            18 # MUST BE JAMMED LOW. IF A SINGLE ERROR OCCURS, ONE OF THE WRITE PROTECT BIT
                                            19 # INPUTS TO ITS SELECTOR GATE MUST BE STUCK HIGH. SINCE THERE ARE EIGHT WRITE
                                            20 # PROTECT BITS PER BIT-SLICED BOARD, IT IS ONLY NECESSARY TO KEEP EIGHT ERROR
                                            21 # BITS TO RESOLVE THE LATTER FAULT.


                                      -001- 24 #      NO3_CODE
                                      -001- 25 #   PROCESS 3ACC CODED ROUTINE AT ADDRESS WPCKTSTO.
0026315 03 000035 040043 000000 CDGNM  -001- 26     VFD      1,0 2,27 7,0 6,NNO3CD
0026316 03 000036 000000 026320 0026320 -001- 27    ADDR     WPCKTSTO

0026320                                     29 WPCKTSTO
0026320 03 000040 131700 043140 CTSD       30     LAL      R12,BASADDR,RA1      # FIRST WRITE PROTECT BLOCK IN STORE
0026322 03 000042 040721 ------            31     L        R13,1(RA1)          # CLEAR ERROR BIT POINT
0026323 03 000043 003100 ------            32     ZR       BITPTR              # CLEAR ERROR BIT POINT
0026324 03 000044 003120 ------            33     ZR       RESULT              # CLEAR ERROR RESULT REGISTER
0026325                                     34 WPCKLPO
0026325                                     35     SIOM     MASCINT
0026325 03 000045 137020 012667 CDGSIO  -002- 36    BSA      MASIOM
0026327 03 000047 046071 103401         -001- 37    DATA     MASCINT             # INITIALIZE STORE CONTROLLER
0026330 03 000050 103401 025750            38     LI       R0,ZER%             # ZERO OFF-LINE ERROR REGISTER
0026332 03 000052 007400 ------            39     LSR      MCHTR,R0
0026333                                     40     LMCH     LDMIRL
0026333                                 -001- 41    CALL     SLDMIRL
0026333 03 000053 037020 111075 CSYSUB  -002- 42    BSA      SLDMIRL

0026335                                     44     SIOM     FNOTIMC
0026335 03 000055 137020 012667 CDGSIO  -002- 45    BSA      MASIOM
0026337 03 000057 044470 ------         -001- 46    DATA     FNOTIMC             # BLOCK TIMING TO FANOUT BOARDS(W/CLOCK)
0026340                                     47     NMLWRIT RAO
0026340 03 000060 103561 106200         -001- 48    LI       R7,B(1000110010000000)  # MAIN MEMORY STATUS
0026342 03 000062 003741 000000         -001- 49    LI       R14,0               # TO BE WRITTEN - SD0-15
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
    TEST 51  SEGMENT 1                                                    0:06:56   2/06/81  ****

    MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                       CDGSWP      W77D

0026344 03 000064 003761 000000        -001-;01      LI     R15,0                 # TO BE WRITTEN - SD16-23
                                       -001- 02  # IF ADDRESS(RA0) IS ADDRESS REG PAIR(RA0), LOAD R2 & R3 DIRECTLY FROM RA0
0026346 03 000066 006054 ------        -001- 03      LR     R2,R12
0026347 03 000067 006075 ------        -001-;04      LR     R3,R13
0026350 03 000070 003140 ------        -001- 05      ZR     R6                    # NO SPECIAL PARITY
0026351                                -001- 06      CALL   MEMOP                 # INITIATE NORMAL WRITE(OFF-LINE)
0026351 03 000071 037020 013027 CDGSBS -002- 07      BSA    MEMOP
0026353                                      08      SIOM   CLRSER                # CLEAR POSSIBLE NORMAL SELECT ERROR
0026353 03 000073 137020 012667 CDGSIO -002- 09      BSA    MASIOM
0026355 03 000075 043310 103401        -001- 10      DATA   CLRSER                # CLEAR STORE ERROR REGISTER

                                             12  # RETRIEVE OFF-LINE ERROR REGISTER

0026356 03 000076 103401 114652              14      LI     R0,MCHB%T*E(8)+ER%F
0026360 03 000100 007400 ------              15      LSR    MCHTR,R0
0026361                                      16      LMCH   LDMIRL
0026361                                -001- 17      CALL   SLDMIRL
0026361 03 000101 037020 111075 CSYSUB -002- 18      BSA    SLDMIRL
0026363                                      19      LMCH   RTNMCHB
0026363 03 000103 103401 000261        -001- 20      LI     R0,RTNMCHB
0026365                                -001- 21      CALL   SMCH
0026365 03 000105 073027 ------        -002- 22      BSAI   S%MCH                 # SUBROUTINE SMCH IS IN PROGRAM CSYSUB

                                             24  # RECORD WRITE PROTECT ERROR FROM OFF-LINE CONTROL UNIT

0026366 03 000106 112403 ------              26      UNPK   MCHB
0026367 03 000107 024073 ------              27      TBN    R3,S(MWRTER)          # OFF-LINE WRITE PROTECT ERROR?
0026370 03 000110 055002 ------ 0026372      28      BNC    WPCKOK0               # RECORD WRITE PROTECT ERROR
0026371 03 000111 026524 ------              29      SBR    RESULT,BITPTR         # RECORD WRITE PROTECT ERROR
0026372                                      30 WPCKOK0
0026372 03 000112 104501 ------              31      AN     BITPTR,1              # INCREMENT BIT POINTER
0026373 03 000113 024103 ------              32      TBN    BITPTR,3              # NINTH BIT-SLICE?
0026374 03 000114 055002 ------ 0026376      33      BNC    WPCKON0               # IF NOT, SKIP RESET
0026375 03 000115 003100 ------              34      ZR     BITPTR                # RESET BIT POINTER TO FIRST BIT-SLICE
0026376                                      35 WPCKON0
0026376                                      36      CALL   WAIT                  # TAKE A CALL-PROCESSING BREAK
0026376 03 000116 173025 ------        -001- 37      BSAI   W%AIT                 # SUBROUTINE WAIT IS IN PROGRAM CBLM
0026377 03 000117 103720 010000              38      AI     R13,WPBLKSZE          # NEXT WRITE PROTECT BLOCK
0026401 03 000121 055724 ------ 0026325      39      BNC    WPCKLP0
0026402 03 000122 004701 ------              40      AN     R12,1                 # INCREMENT HIGH ADDRESS BITS
0026403 03 000123 030400 012756 CDGSIO       41      LL     R0,STSELMSK
0026405 03 000125 030420 043140 CTSD         42      LL     R1,BASADDR
0026407 03 000127 014020 ------              43      NR     R1,R0                 # STORE UNDER TEST
0026410 03 000130 014014 ------              44      NR     R0,R12                # CURRENT WRITE PROTECT CHECK ADDRESS
0026411 03 000131 020020 ------              45      CR     R1,R0                 # ADDRESS STILL WITHIN STORE UNDER TEST?
0026412 03 000132 054713 ------ 0026325      46      BC     WPCKLP0               # IF SO, CONTINUE TEST
```

TEST 51 SEGMENT 1   0:06:56   2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
0026413 03 000133 007465 -------                01      LSR     MCHB,RESULT         # PREPARE FOR COMPARE
0026414                                         02      RTN_TBL *+4
0026414 03 000134 071400 -------        -001-   03      GA
0026415 03 000135 031000 026421 0026421 -001-   04      LAL     R0,*+4,RA0
0026417 03 000137 037000 011162 CDGNM   -001-   05      BL      INTRPN03

                                        -001-   07 #        COMPARE NOT
                                        -001-   08 #        COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0177777).
                                        -001-   09 #        IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026421 03 000141 054014 ------- CDGNM   -001-  10      VFD     1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026422 03 000142 000000 177777        -001-   11      ADDR    0(0177777)

                                        -001-   13 #        FAILTST
                                        -001-   14 #        FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPCKSTK1.
                                        -001-   15 #        DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026424 03 000144 020017 ------- CDGNM   -001-  16      VFD     1,0 2,1 5,0 2,0 6,NFAILTST
0026425 03 000145 000002 -------        -001-   17      VFD     16,WPCKSTK1

                                                19 # CONSTANT WRITE PROTECT ERROR IMPLIES IN-WRITE-PROTECT SIGNAL STUCK ACTIVE(LOW)

                                        -001-   22 #        COMPARE
                                        -001-   23 #        COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000000).
                                        -001-   24 #        IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026426 03 000146 050014 ------- CDGNM   -001-  25      VFD     1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026427 03 000147 000000 000000        -001-   26      ADDR    0(0000000)

                                        -001-   28 #        FAILBIT
                                        -001-   29 #        FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPS1BSXX
                                        -001-   30 #        WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0026431 03 000151 020020 ------- CDGNM   -001-  31      VFD     1,0 2,1 5,0 2, 6,NFLBITS
0026432 03 000152 000003 -------        -001-   32      VFD     16,WPS1BS

                                                34 # A WRITE PROTECT BIT INPUT TO A SELECTOR GATE ON BIT-SLICE IS STUCK ACTIVE (HI)
```

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TEST 51  SEGMENT 2                                                            0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                                CDGSWP        W77D

                                  -001- 01 #      ****************************************************
                                  -001- 02 #      *                                              *
                                  -001- 03 #      *  TEST 51    SEGMENT 2                         *
                                  -001- 04 #      *                                              *
                                  -001- 05 #      ****************************************************


0026433 03 000153 000200 ------ CDGNM   -001- 08       VFD     1,0 2,0 2,0 5,D(2) 6,NTESTSEG


                                        11 #     THIS SEGMENT CHECKS THAT EACH INDIVIDUAL WRITE PROTECT BIT CAN CAUSE A
                                        12 # WRITE PROTECT ERROR WHEN A WRITE IS ATTEMPTED WITHIN THE 4K BLOCK ASSOCIATED
                                        13 # WITH THAT SPECIFIC BIT. THE TEST INVOLVES SETTING ONE WRITE PROTECT BIT AND
                                        14 # ATTEMPTING A WRITE INTO A LOCATION WITHIN THE 4K BLOCK THAT IS SUPPOSED TO BE
                                        15 # PROTECTED BY THAT PARTICULAR BIT. THIS IS REPEATED FOR EACH ONE OF THE 64
                                        16 # WRITE PROTECT BITS IN THE CONTROLLER. IF THE OUTPUT OF ONE WRITE PROTECT
                                        17 # SELECTOR GATE  (FFWPX-AG10/BG10) IS STUCK INACTIVE (HIGH), THEN A WRITE
                                        18 # PROTECT ERROR WILL BE INDICATED FOR EVERY BIT EXCEPT THE ONE CONNECTED TO THIS
                                        19 # GATE. IF ONE OF THE WRITE PROTECT BLOCK ENABLES (WPSEG0-7) TO THE SELECTOR
                                        20 # GATES IS STUCK INACTIVE (LOW), THEN THE WRITE PROTECT ERROR WILL NOT SHOW UP
                                        21 # IN THAT BIT-SLICE OF THE ERROR RESULT REGISTER. IF A MODULE SELECT ENABLE
                                        22 # (MSEL0-7) TO THE SELECTOR GATES IS STUCK INACTIVE, THEN THE ABSENCE OF A WRITE
                                        23 # PROTECT ERROR WILL ALSO BE INDICATED IN ONE OF ERROR RESULT BIT-SLICES (0-7)
                                        24 # AND AGAIN BE RESOLVABLE TO A SPECIFIC BIT-SLICED BOARD. THIS TEST ALSO
                                        25 # VERIFIES THAT THE CIRCUITRY THAT DECODES THE SPECIFIC WRITE PROTECT BLOCK
                                        26 # WHERE THE WRITE IS BEING ATTEMPTED WORKS PROPERLY. FROM THE RESULTANT PATTERN
                                        27 # OF WRITE PROTECT ERRORS (OR THE ABSENCE THEREOF) IT IS POSSIBLE TO RESOLVE
                                        28 # WHICH OF THE FOUR UNTESTED ADDRESS LEADS TO THE DECODER CIRCUITRY IS FAULTY.


                                  -001- 31 #     NO3_CODE
                                  -001- 32 #     PROCESS 3ACC CODED ROUTINE AT ADDRESS WPCKTST1.
0026434 03 000154 040043 000000 CDGNM   -001- 33       VFD     1,0 2,2 7,0 6,NNO3CD
0026435 03 000155 000000 026437 0026437 -001- 34       ADDR    WPCKTST1

0026437                                      36 WPCKTST1
0026437 03 000157 103101 ------              37       LN      BITPTR,1          # START WITH WRITE PROTECT BIT 0
0026440 03 000160 003120 ------              38       ZR      RESULT            # CLEAR RESULT STORAGE REGISTER
0026441 03 000161 031700 043140 CTSD         39       LAL     R12,BASADDR,RA1
0026443 03 000163 040721 ------              40       L       R13,1(RA1)        # STORE UNDER TEST
0026444                                      41 WPCKLP1
0026444                                      42       SIOM    MASCINT
0026444 03 000164 137020 012667 CDGSIO  -002- 43      BSA     MASIOM
0026446 03 000166 046071 103401        -001- 44      DATA     MASCINT           # INITIALIZE STORE CONTROLLER
0026447 03 000167 103401 025750              45       LI      R0,ZERX           # ZERO OFF-LINE ERROR REGISTER
0026451 03 000171 007400 ------              46       LSR     MCHTR,R0
0026452                                      47       LMCH    LDMIRL
0026452                                -001- 48       CALL    SLDMIRL
0026452 03 000172 037020 111075 CSYSUB  -002- 49      BSA     SLDMIRL
```

STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 51  SEGMENT 2                                                    0:06:56    2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                    CDGSWP        W77D

0026454 03 000174 106054 ------              01      LR    R2,R12          # ADDRESS TO LOAD WRITE PROTECT REGISTER
0026455 03 000175 003060 ------              02      ZR    R3              # MMSR = MAINTENANCE WRITE
0026456 03 000176 003561 106203              03      LI    R7,MTCWR        # WRITE PROTECT BIT TO BE SET
0026460 03 000200 006344 ------              04      LR    R14,BITPTR      # CLEAR HIGH BITS (SD16-23)
0026461 03 000201 003360 ------              05      ZR    R15
0026462                                      06      CALL  MEMOP           # SET WRITE PROTECT BIT
0026462 03 000202 037020 013027 CDGSBS -001- 07      BSA   MEMOP
0026464                                      08      SIOM  CLRSER          # CLEAR POSSIBLE NORMAL SELECT ERROR
0026464 03 000204 137020 012667 CDGSIO -002- 09      BSA   MASIOM
0026466 03 000206 043310 ------        -001- 10      DATA  CLRSER          # CLEAR STORE ERROR REGISTER

0026467 03 000207 106054 ------              12      LR    R2,R12
0026470 03 000210 006075 ------              13      LR    R3,R13          # ADDRESS TO ATTEMPT WRITE
0026471 03 000211 003561 106200              14      LI    R7,NMLWR        # .MMSR = NORMAL WRITE
0026473                                      15      CALL  MEMOP           # ATTEMPT WRITE OF PROTECTED LOCATION
0026473 03 000213 037020 013027 CDGSBS -001- 16      BSA   MEMOP
0026475                                      17      SIOM  CLRSER          # CLEAR POSSIBLE NORMAL SELECT ERROR
0026475 03 000215 137020 012667 CDGSIO -002- 18      BSA   MASIOM
0026477 03 000217 043310 103401        -001- 19      DATA  CLRSER          # CLEAR STORE ERROR REGISTER

                                             21 # RETRIEVE OFF-LINE ERROR REGISTER

0026500 03 000220 103401 114652              23      LI    R0,MCHB%T*E(8)+ER%F
0026502 03 000222 007400 ------              24      LSR   MCHTR,R0
0026503                                      25      LMCH  LDMIRL
0026503                                -001- 26      CALL  SLDMIRL
0026503 03 000223 037020 111075 CSYSUB ·002- 27      BSA   SLDMIRL
0026505                                      28      LMCH  RTNMCHB
0026505 03 000225 103401 000261        -001- 29      LI    R0,RTNMCHB
0026507                                -001- 30      CALL  SMCH
0026507 03 000227 073027 ------        -002- 31      BSAI  S%MCH           # SUBROUTINE SMCH IS IN PROGRAM CSYSUB

                                             33 # RECORD ABSENCE CF WRITE PROTECT ERROR FROM OFF-LINE CONTROL UNIT

0026510 03 000230 112403 ------              35      UNPK  MCHB
0026511 03 000231 024073 ------              36      TBN   R3,S(MWRTER)    # OFF-LINE WRITE PROTECT ERROR?
0026512 03 000232 054002 ------ 0026514      37      BC    WPCKOK1
0026513 03 000233 014524 ------              38      OR    RESULT,BITPTR   # IF NOT, SET BIT IN RESULT REGISTER
0026514                                      39 WPCKOK1
0026514                                      40      CALL  WAIT            # TAKE A CALL-PROCESSING BREAK
0026514 03 000234 173025 ------        -001- 41      BSAI  W%AIT           # SUBROUTINE WAIT IS IN PROGRAM CBLM
0026515 03 000235 103720 010000              42      AI    R13,WPBLKSZE    # POINT TO NEXT WRITE PROTECT BLOCK
0026517 03 000237 010517 ------              43      RLN   BITPTR,1        # NEXT WRITE PROTECT BIT
0026520 03 000240 024100 ------              44      TBN   BITPTR,0        # NEW WRITE PROTECT REGISTER?
0026521 03 000241 055723 ------ 0026444      45      BNC   WPCKLP1         # IF NOT, RETURN FOR REPEAT
```

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TEST 51   SEGMENT 2                                                                      0:06:56   2/06/81  ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                                 CDGSWP        W77D


                                                      01 # CHECK FOR TEST COMPLETION

0026522 03 000242 004701 ------           03        AN       R12,1                    # INCREMENT HIGH ADDRESS BITS
0026523 03 000243 030400 012756 CDGSIO    04        LL       R0,STSELMSK
0026525 03 000245 030420 043140 CTSD      05        LL       R1,BASADDR
0026527 03 000247 014020 ------           06        NR       R1,R0                    # ADDRESS OF STORE UNDER TEST
0026530 03 000250 014014 ------           07        NR       R0,R12                   # ADDRESS OF STORE BEING TESTED
0026531 03 000251 020001 ------           08        CR       R0,R1                    # STILL IN STORE UNDER TEST?
0026532 03 000252 054712 ------ 0026444   09        BC       WPCKLP1                  # IF SO, REPEAT

                                                      11 # COLLAPSE RESULT TO RESOLVE TO ONE OF EIGHT BIT-SLICED BOARDS

0026533 03 000253 006005 ------           13        LR       R0,RESULT
0026534 03 000254 010410 ------           14        RRN      R0,8
0026535 03 000255 014520 ------           15        OR       RESULT,R0                # COMBINE RESULTS FOR SAME BIT-SLICE
0026536 03 000256 003522 000377           16        NI       RESULT,B(11111111)       # CLEAR UPPER 8 BITS
0026540 03 000260 007465 ------           17        LSR      MCHB,RESULT              # PREPARE FOR COMPARE
0026541                                    18        RTN_TBL  *+4
0026541 03 000261 071400 ------     -001- 19        GA
0026542 03 000262 031000 026546 0026546 -001- 20    LAL      R0,*+4,RA0
0026544 03 000264 037000 011162 CDGNM   -001- 21    BL       INTRPNO3

                                        -001- 23 #        COMPARE NOT
                                        -001- 24 #    COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000377).
                                        -001- 25 #    IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026546 03 000266 054014 ------ CDGNM   -001- 26        VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026547 03 000267 000000 000377         -001- 27        ADDR     0(0000377)

                                        -001- 29 #        FAILTST
                                        -001- 30 #    FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS MSL15SA0.
                                        -001- 31 #    DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026551 03 000271 020017 ------ CDGNM   -001- 32        VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0026552 03 000272 000013 ------         -001- 33        VFD      16,MSL15SA0

                                                      35 # STORE ADDRESS BIT 15 (SA15) IS STUCK-AT-ZERO IN THE MODULE-SELECT CIRCUITRY


                                        -001- 38 #        COMPARE NOT
                                        -001- 39 #    COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000252).
                                        -001- 40 #    IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026553 03 000273 054014 ------ CDGNM   -001- 41        VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026554 03 000274 000000 000252         -001- 42        ADDR     0(0000252)

                                        -001- 44 #        FAILTST
                                        -001- 45 #    FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPB12SA0.
                                        -001- 46 #    DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026556 03 000276 020017 ------ CDGNM   -001- 47        VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0026557 03 000277 000014 ------         -001- 48        VFD      16,WPB12SA0
```

TEST 51 SEGMENT 2   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

                      01 # STORE ADDRESS BIT 12 (SA12) IS STUCK-AT-ZERO IN WRITE PROTECT SEGMENT SELECT

                              -001- 04 #   COMPARE NOT
                              -001- 05 #   COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000125).
                              -001- 06 #   IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026560 03 000300 054014 ------- CDGNM   -001- 07   VFD   1,LPINDX 2,2 1,1 1,SUCCES   5,0 6,NCOMPARE
0026561 03 000301 000000 000125   -001- 08   ADDR   0(0000125)

                              -001- 10 #   FAILTST
                              -001- 11 #   FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPB12SA1.
                              -001- 12 #   DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026563 03 000303 020017 ------- CDGNM   -001- 13   VFD   1,0 2,1 5,0 2,0 6,NFAILTST
0026564 03 000304 000015 -------   -001- 14   VFD   16,WPB12SA1

                      16 # STORE ADDRESS BIT 12 (SA12) IS STUCK-AT-ONE IN WRITE PROTECT SEGMENT SELECT

                              -001- 19 #   COMPARE NOT
                              -001- 20 #   COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000314).
                              -001- 21 #   IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026565 03 000305 054014 ------- CDGNM   -001- 22   VFD   1,LPINDX 2,2 1,1 1,SUCCES   5,0 6,NCOMPARE
0026566 03 000306 000000 000314   -001- 23   ADDR   0(0000314)

                              -001- 25 #   FAILTST
                              -001- 26 #   FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPB13SA0.
                              -001- 27 #   DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026570 03 000310 020017 ------- CDGNM   -001- 28   VFD   1,0 2,1 5,0 2,0 6,NFAILTST
0026571 03 000311 000016 -------   -001- 29   VFD   16,WPB13SA0

                      31 # STORE ADDRESS BIT 13 (SA13) IS STUCK-AT-ZERO IN WRITE PROTECT SEGMENT SELECT

                              -001- 34 #   COMPARE NOT
                              -001- 35 #   COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000063).
                              -001- 36 #   IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026572 03 000312 054014 ------- CDGNM   -001- 37   VFD   1,LPINDX 2,2 1,1 1,SUCCES   5,0 6,NCOMPARE
0026573 03 000313 000000 000063   -001- 38   ADDR   0(0000063)

                              -001- 40 #   FAILTST
                              -001- 41 #   FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPB13SA1.
                              -001- 42 #   DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026575 03 000315 020017 ------- CDGNM   -001- 43   VFD   1,0 2,1 5,0 2,0 6,NFAILTST
0026576 03 000316 000017 -------   -001- 44   VFD   16,WPB13SA1

STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 51  SEGMENT 2                                                    C:06:56   2/06/81  ****

  MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                       CDGSWP      W77D

                                        01 # STORE ADDRESS BIT 13 (SA13) IS STUCK-AT-ONE IN WRITE PROTECT SEGMENT SELECT


                             -001- 04 #      COMPARE NOT
                             -001- 05 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO O(0000360).
                             -001- 06 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026577 03 000317 054014 ------ CDGNM  -001- 07         VFD     1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
0026600 03 000320 000000 000360        -001- 08         ADDR    O(0000360)

                             -001- 10 #      FAILTST
                             -001- 11 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPB14SA0.
                             -001- 12 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026602 03 000322 020017 ------ CDGNM  -001- 13         VFD     1,0 2,1 5,0 2,0 6,NFAILTST
0026603 03 000323 000020 ------        -001- 14         VFD     16,WPB14SA0

                                        16 # STORE ADDRESS BIT 14 (SA14) IS STUCK-AT-ZERO .IN WRITE PROTECT SEGMENT SELECT


                             -001- 19 #      COMPARE NOT
                             -001- 20 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO O(0000017).
                             -001- 21 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026604 03 000324 054014 ------ CDGNM  -001- 22         VFD     1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
0026605 03 000325 000000 000017        -001- 23         ADDR    O(0000017)

                             -001- 25 #      FAILTST
                             -001- 26 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPB14SA1.
                             -001- 27 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026607 03 000327 020017 ------ CDGNM  -001- 28         VFD     1,0 2,1 5,0 2,0 6,NFAILTST
0026610 03 000330 000021 ------        -001- 29         VFD     16,WPB14SA1

                                        31 # STORE ADDRESS BIT 14 (SA14) IS STUCK-AT-ONE IN WRITE PROTECT SEGMENT SELECT


                             -001- 34 #      COMPARE
                             -001- 35 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO O(0000000).
                             -001- 36 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0026611 03 000331 050014 ------ CDGNM  -001- 37         VFD     1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
0026612 03 000332 000000 000000        -001- 38         ADDR    O(0000000)

                             -001- 40 #      FAILBIT
                             -001- 41 #      FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPSOBSXX
                             -001- 42 #      WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0026614 03 000334 020020 ------ CDGNM  -001- 43         VFD     1,0 2,1 5,0 2, 6,NFLBITS
0026615 03 000335 000022 ------        -001- 44         VFD     16,WPSOBS




  STORE WRITE PROTECT TEST                                                      PR-1C927-50
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TEST 51 SEGMENT 2   0:06:56   2/06/81   ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

01 # ONE OF THE BIT-SLICED WRITE PROTECT SELECTOR GATES IS FAULTY

```
TEST 51  SEGMENT 3                                                    0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                      CDGSWP      W77D

                                  -001- 01 #       ***********************************************
                                  -001- 02 #       *                                            *
                                  -001- 03 #       *   TEST 51   SEGMENT 3                       *
                                  -001- 04 #       *                                            *
                                  -001- 05 #       ***********************************************


0026616 03 000336 000300 ------- CDGNM  -001- 08        VFD    1,0 2,0 2,0 5,D(3) 6,NTESTSEG


                                  11 #      THIS SEGMENT CHECKS THAT WRITES IN UNPROTECTED AREAS DO NOT PRODUCE WRITE
                                  12 # PROTECT ERRORS EVEN IF EVERY OTHER AREA IN THE STORE IS PROTECTED, I.E., ALL
                                  13 # OF THE WRITE PROTECT BITS ARE SET EXCEPT ONE CORRESPONDING TO THE AREA WHERE
                                  14 # THE WRITE IS ATTEMPTED. FUNCTIONALLY THIS TEST IS THE CONVERSE OF THE
                                  15 # PRECEDING SEGMENT. IF ONE OF THE WRITE PROTECT SEGMENT ENABLES (WPSEG0-7)
                                  16 # TO  A  WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) IS STUCK ACTIVE
                                  17 # (HIGH) ON THE GATE, THEN THE WRITE PROTECT ERROR WILL SHOW UP IN THE BIT
                                  18 # OF THE TEST RESULT REGISTER CORRESPONDING TO THAT FAULTY BIT-SLICED BOARD.
                                  19 # ON THE OTHER HAND, IF THAT SAME ENABLE (WPSEG0-7) IS STUCK ACTIVE BETWEEN THE
                                  20 # DECODER CIRCUIT AND THE BIT-SLICED BOARD, THEN A WRITE PROTECT ERROR WILL BE
                                  21 # RECORDED FOR EVERY BIT-SLICED BOARD EXCEPT THE FAULTY ONE. SIMILARLY, IF A
                                  22 # MODULE SELECT ENABLE (MSEL0-7) IS STUCK ACTIVE (LOW) BETWEEN THE MODULE-SELECT
                                  23 # DECODER CIRCUIT AND ALL OF THE BIT-SLICED BOARDS, THEN ANY OF THE BIT-SLICED
                                  24 # BOARD  OR  THE BOARD THAT CONTAINS THE DECODER MAY BE FAULTY. AND IF THE
                                  25 # STUCK-ACTIVE ENABLE FAULT IS CONFINED TO ONE BIT-SLICED BOARD, THEN IT WILL
                                  26 # BE INDICATED BY A SINGLE WRITE PROTECT ERROR IN THE TEST RESULT REGISTER IN
                                  27 # THE BIT POSITION CORRESPONDING TO THE FAULTY BOARD.


                                  -001- 30 #      NO3_CODE
                                  -001- 31 #      PROCESS 3ACC CODED ROUTINE AT ADDRESS WPCKTST2.
0026617 03 000337 040043 000000 CDGNM  -001- 32        VFD    1,0 2,2 7,0 6,NNO3CD
0026620 03 000340 000000 026622 0026622 -001- 33        ADDR   WPCKTST2

0026622                                 35 WPCKTST2
0026622 03 000342 103101 -------        36        LN     BITPTR,1               # START WITH WRITE PROTECT BIT 0
0026623 03 000343 003120 -------        37        ZR     RESULT                 # CLEAR RESULT STORAGE REGISTER
0026624 03 000344 031700 043140 CTSD    38        LAL    R12,BASADDR,RA1
0026626 03 000346 040721 -------        39        L      R13,1(RA1)             # STORE UNDER TEST

                                  41 # FIRST, SET UP DESIRED WRITE PROTECT BIT PATTERN
                                  42 # NOTE: ONLY 15 WRITE PROTECT BITS NEED TO BE SET AT ANY ONE TIME IN ORDER TO
                                  43 #       DETECT THE SPECIFIED STUCK-AT-ONE FAULTS ON OR AMONG BIT-SLICED BOARDS.

0026627                                 45 WPCKLP2
0026627                                 46        SIOM   MASCINT
0026627 03 000347 137020 012667 CDGSIO  -002- 47        BSA    MASIOM
0026631 03 000351 046071 103401  -001- 48        DATA   MASCINT                # INITIALIZE STORE CONTROLLER
0026632 03 000352 103401 025750         49        LI     R0,ZER%                # ZERO OFF-LINE ERROR REGISTER


   STORE WRITE PROTECT TEST                                                    PR-1C927-50
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TEST 51 SEGMENT 3   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

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0026634 03 000354 007400 ------          01      LSR    MCHTR,R0
0026635                                  02      LMCH   LDMIRL
0026635                           -001-  03      CALL   SLDMIRL
0026635 03 000355 037020 111075 CSYSUB   -002-  04      BSA    SLDMIRL
0026637 03 000357 106054 ------          05      LR     R2,R12
0026640 03 000360 003060 ------          06      ZR     R3              # ADDRESS TO LOAD WRITE PROTECT REGISTER
0026641 03 000361 003561 106203          07      LI     R7,MTCWR        # MMSR = MAINTENANCE WRITE
0026643 03 000363 015504 ------          08      COM    BITPTR          # CLEAR ONE BIT - SET THE REST
0026644 03 000364 006344 ------          09      LR     R14,BITPTR      # WRITE PROTECT BITS TO BE SET
0026645 03 000365 003360 ------          10      ZR     R15             # CLEAR HIGH BITS (SD16-23)
0026646                                  11      CALL   MEMOP
0026646 03 000366 037020 013027 CDGSBS   -001-  12      BSA    MEMOP
0026650                                  13      SIOM   CLRSER          # CLEAR POSSIBLE NORMAL SELECT ERROR
0026650 03 000370 137020 012667 CDGSIO   -002-  14      BSA    MASIOM
0026652 03 000372 043310 ------          -001-  15      DATA   CLRSER          # CLEAR STORE ERROR REGISTER

                                         17 # SECOND, ATTEMPT WRITE IN UNPROTECTED AREA

0026653 03 000373 106054 ------          19      LR     R2,R12
0026654 03 000374 006075 ------          20      LR     R3,R13          # ADDRESS FOR WRITE ATTEMPT
0026655 03 000375 003561 106200          21      LI     R7,NMLWR        # MMSR = NORMAL WRITE
0026657                                  22      CALL   MEMOP
0026657 03 000377 037020 013027 CDGSBS   -001-  23      BSA    MEMOP
0026661                                  24      SIOM   CLRSER          # CLEAR POSSIBLE NORMAL SELECT ERROR
0026661 03 000401 137020 012667 CDGSIO   -002-  25      BSA    MASIOM
0026663 03 000403 043310 103401          -001-  26      DATA   CLRSER          # CLEAR STORE ERROR REGISTER

                                         28 # THIRD, RETRIEVE OFF-LINE ERROR REGISTER

0026664 03 000404 103401 114652          30      LI     R0,MCHB%T*E(8)+ER%F
0026666 03 000406 007400 ------          31      LSR    MCHTR,R0
0026667                                  32      LMCH   LDMIRL
0026667                           -001-  33      CALL   SLDMIRL
0026667 03 000407 037020 111075 CSYSUB   -002-  34      BSA    SLDMIRL
0026671                                  35      LMCH   RTNMCHB
0026671 03 000411 103401 000261          -001-  36      LI     R0,RTNMCHB
0026673                           -001-  37      CALL   SMCH
0026673 03 000413 073027 ------          -002-  38      BSAI   S%MCH           # SUBROUTINE SMCH IS IN PROGRAM CSYSUB

                                         40 # RECORD WRITE PROTECT ERROR FROM OFF-LINE CONTROL UNIT

0026674 03 000414 115504 ------          42      COM    BITPTR          # CONVERT BACK TO SINGLE BIT POINTER
0026675 03 000415 012403 ------          43      UNPK   MCHB
0026676 03 000416 024073 ------          44      TBN    R3,S(MWRTER)    # OFF-LINE WRITE PROTECT ERROR?
0026677 03 000417 055002 ------ 0026701  45      BNC    WPCKOK2
0026700 03 000420 014524 ------          46      OR     RESULT,BITPTR   # IF SO, RECORD IN TEST RESULT REGISTER
0026701                                  47 WPCKOK2
0026701                                  48      CALL   WAIT            # TAKE A CALL-PROCESSING BREAK
0026701 03 000421 173025 ------          -001-  49      BSAI   W%AIT           # SUBROUTINE WAIT IS IN PROGRAM CBLM
```

STORE WRITE PROTECT TEST   PR-1C927-50

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TEST 51  SEGMENT 3                                                          0:06:56    2/06/81   ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                             CDGSWP      W77D

0026702 03 000422 103720 010000          01        AI      R13,WPBLKSZE.      # POINT TO NEXT WRITE PROTECT BLOCK
0026704 03 000424 010517 ------          02        RLN     BITPTR,1           # NEXT WRITE PROTECT BIT
0026705 03 000425 024100 ------          03        TBN     BITPTR,0           # NEW WRITE PROTECT REGISTER?
0026706 03 000426 055721 ------ 0026627  04        BNC     WPCKLP2            # IF NOT, RETURN FOR REPEAT

                                         06 # FINALLY, CHECK FOR TEST COMPLETION

0026707 03 000427 004701 ------          08        AN      R12,1              # INCREMENT HIGH ADDRESS BITS
0026710 03 000430 030400 012756 CDGSIO   09        LL      R0,STSELMSK
0026712 03 000432 030420 043140 CTSD     10        LL      R1,BASADDR
0026714 03 000434 014020 ------          11        NR      R1,R0              # ADDRESS OF STORE UNDER TEST
0026715 03 000435 014014 ------          12        NR      R0,R12             # ADDRESS OF STORE BEING TESTED
0026716 03 000436 020001 ------          13        CR      R0,R1              # STILL IN STORE UNDER TEST?
0026717 03 000437 054710 ------ 0026627  14        BC      WPCKLP2            # IF SO, REPEAT

                                         16 # COLLAPSE RESULT TO RESOLVE FAULT TO ONE OF EIGHT BIT-SLICED BOARDS

0026720 03 000440 006005 ------          18        LR      R0,RESULT
0026721 03 000441 010410 ------          19        RRN     R0,8
0026722 03 000442 014520 ------          20        OR      RESULT,R0          # COMBINE RESULTS FOR SAME BIT-SLICE
0026723 03 000443 003522 000377          21        NI      RESULT,B(11111111) # CLEAR UPPER EIGHT BITS
0026725 03 000445 007465 ------          22        LSR     MCHB,RESULT        # PREPARE FOR COMPARE
0026726                                  23        RTN_TBL *+4
0026726 03 000446 071400 ------     -001-24        GA
0026727 03 000447 031000 026733 0026733 -001-25        LAL     R0,*+4,RA0
0026731 03 000451 037000 011162 CDGNM   -001-26        BL      INTRPN03

                                        -001-28 #        COMPARE NOT
                                        -001-29 #        COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000377).
                                        -001-30 #        IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026733 03 000453 054014 ------ CDGNM   -001-31        VFD     1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0026734 03 000454 000000 000377         -001-32        ADDR    0(0000377)

                                        -001-34 #        FAILTST
                                        -001-35 #        FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS MSELXSA1.
                                        -001-36 #        DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026736 03 000456 020017 ------ CDGNM   -001-37        VFD     1,0 2,1 5,0 2,0 6,NFAILTST
0026737 03 000457 000032 ------         -001-38        VFD     16,MSELXSA1

                                         40 # A MODULE SELECT ENABLE TO WRITE PROTECT BIT SELECTOR GATES IS STUCK ACTIVE

                                        -0C1-43 #        COMPARE NOT
                                        -001-44 #        COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000376).
                                        -001-45 #        IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026740 03 000460 054014 ------ CDGNM   -001-46        VFD     1,LPINDX 2,2 1,1 1,SUCCES     5,0 6,NCOMPARE
0026741 03 000461 000000 000376         -001-47        ADDR    0(0000376)
```

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TEST 51  SEGMENT 3                                                      0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                      CDGSWP        W77D

                                        -001- 01 #        FAILTST
                                        -001- 02 #        FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG0S1.
                                        -001- 03 #        DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026743 03 000463 020017 ------ CDGNM   -001- 04         VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0026744 03 000464 000033 ------         -001- 05         VFD      16,WPSEG0S1

                                        07 # WRITE PROTECT SEGMENT 0 ENABLE (WPSEG0) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                        -001- 10 #        COMPARE NOT
                                        -001- 11 #        COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000375).
                                        -001- 12 #        IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026745 03 000465 054014 ------ CDGNM   -001- 13         VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026746 03 000466 000000 000375         -001- 14         ADDR     0(0000375)

                                        -001- 16 #        FAILTST
                                        -001- 17 #        FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG1S1.
                                        -001- 18 #        DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026750 03 000470 020017 ------ CDGNM   -001- 19         VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0026751 03 000471 000034 ------         -001- 20         VFD      16,WPSEG1S1

                                        22 # WRITE PROTECT SEGMENT 1 ENABLE (WPSEG1) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                        -001- 25 #        COMPARE NOT
                                        -001- 26 #        COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000373).
                                        -001- 27 #        IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026752 03 000472 054014 ------ CDGNM   -001- 28         VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026753 03 000473 000000 000373         -001- 29         ADDR     0(0000373)

                                        -001- 31 #        FAILTST
                                        -001- 32 #        FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG2S1.
                                        -001- 33 #        DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0026755 03 000475 020017 ------ CDGNM   -001- 34         VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0026756 03 000476 000035 ------         -001- 35         VFD      16,WPSEG2S1

                                        37 # WRITE PROTECT SEGMENT 2 ENABLE (WPSEG2) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                        -001- 40 #        COMPARE NOT
                                        -001- 41 #        COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000367).
                                        -001- 42 #        IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0026757 03 000477 054014 ------ CDGNM   -001- 43         VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0026760 03 000500 000000 000367         -001- 44         ADDR     0(0000367)
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TEST 51  SEGMENT 3                                                    0:06:56   2/06/81  ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                      CDGSWP      W77D

                                           -001- 01 #      FAILTST
                                           -001- 02 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG3S1.
                                           -001- 03 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
   0026762 03 000502 020017 ------ CDGNM    -001- 04       VFD    1,0 2,1 5,0 2,0 6,NFAILTST
   0026763 03 000503 000036 ------           -001- 05       VFD    16,WPSEG3S1

                                           07 # WRITE PROTECT SEGMENT 3 ENABLE (WPSEG3) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                           -001- 10 #      COMPARE NOT
                                           -001- 11 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000357).
                                           -001- 12 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
   0026764 03 000504 054014 ------ CDGNM    -001- 13       VFD    1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
   0026765 03 000505 000000 000357           -001- 14       ADDR   0(0000357)

                                           -001- 16 #      FAILTST
                                           -001- 17 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG4S1.
                                           -001- 18 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
   0026767 03 000507 020017 ------ CDGNM    -001- 19       VFD    1,0 2,1 5,0 2,0 6,NFAILTST
   0026770 03 000510 000037 ------           -001- 20       VFD    16,WPSEG4S1

                                           22 # WRITE PROTECT SEGMENT 4 ENABLE (WPSEG4) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                           -001- 25 #      COMPARE NOT
                                           -001- 26 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000337).
                                           -001- 27 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
   0026771 03 000511 054014 ------ CDGNM    -001- 28       VFD    1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
   0026772 03 000512 000000 000337           -001- 29       ADDR   0(0000337)

                                           -001- 31 #      FAILTST
                                           -001- 32 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG5S1.
                                           -001- 33 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
   0026774 03 000514 020017 ------ CDGNM    -001- 34       VFD    1,0 2,1 5,0 2,0 6,NFAILTST
   0026775 03 000515 000040 ------           -001- 35       VFD    16,WPSEG5S1

                                           37 # WRITE PROTECT SEGMENT 5 ENABLE (WPSEG5) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                           -001- 40 #      COMPARE NOT
                                           -001- 41 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO 0(0000277).
                                           -001- 42 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
   0026776 03 000516 054014 ------ CDGNM    -001- 43       VFD    1,LPINDX 2,2 1,1 1,SUCCES    5,0 6,NCOMPARE
   0026777 03 000517 000000 000277           -001- 44       ADDR   0(0000277)
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TEST 51  SEGMENT 3                                                        0:06:56    2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                         CDGSWP        W77D

                                      -001- 01 #      FAILTST
                                      -001- 02 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG6S1.
                                      -001- 03 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0027001 03 000521 020017 ------ CDGNM  -001- 04       VFD    1,0 2,1 5,0 2,0 6,NFAILTST
0027002 03 000522 D00041 -------       -001- 05       VFD    16,WPSEG6S1

                                      07 # WRITE PROTECT SEGMENT 6 ENABLE (WPSEG6) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                      -001- 10 #      COMPARE NOT
                                      -001- 11 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO O(0000177).
                                      -001- 12 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0027003 03 000523 054014 ------ CDGNM  -001- 13       VFD    1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0027004 03 000524 000000 000177        -001- 14       ADDR   O(0000177)

                                      -001- 16 #      FAILTST
                                      -001- 17 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS WPSEG7S1.
                                      -001- 18 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0027006 03 000526 020017 ------ CDGNM  -001- 19       VFD    1,0 2,1 5,0 2,0 6,NFAILTST
0027007 03 000527 000042 -------       -001- 20       VFD    16,WPSEG7S1

                                      22 # WRITE PROTECT SEGMENT 7 ENABLE (WPSEG7) IS STUCK ACTIVE (LOW) BETWEEN BOARDS


                                      -001- 25 #      COMPARE
                                      -001- 26 #      COMPARE ON-LINE MAINTENANCE CHANNEL  BUFFER  TO O(0000000).
                                      -001- 27 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0027010 03 000530 050014 ------ CDGNM  -001- 28       VFD    1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
0027011 03 000531 000000 000000        -001- 29       ADDR   O(0000000)

                                      -001- 31 #      FAILBIT
                                      -001- 32 #      FAILURE EXIT.  SYMBOLIC TROUBLE NUMBER IS WPENNGXX
                                      -001- 33 #      WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0027013 03 000533 020020 ------ CDGNM  -001- 34       VFD    1,0 2,1 5,0 2, 6,NFLBITS
0027014 03 000534 000043 -------       -001- 35       VFD    16,WPENNG

                                      37 # ONE OF THE ENABLES ON A SINGLE WRITE PROTECT BIT SELECTOR GATE IS STUCK ACTIVE




STORE WRITE PROTECT TEST                                                         PR-1C927-50

   0:06:56   2/06/81  TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET   CDGSWP   ISSUE  05     PAGE   77
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TEST 51  SEGMENT 4                                                          0:06:56   2/06/81  ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                     CDGSWP          W77D

                                    -001- 01 #     ************************************************************
                                    -001- 02 #     *                                                        *
                                    -001- 03 #     *   TEST 51   SEGMENT 4                                   *
                                    -001- 04 #     *                                                        *
                                    -001- 05 #     ************************************************************


0027015 03 000535 000400 ------ CDGNM   -001- 08      VFD     1,0 2,0 2,0 5,D(4) 6,NTESTSEG


                                       11 #       THIS SEGMENT CHECKS THAT THE WRITE-COMMAND ENABLE (NOTWCO) ON THE INPUT
                                       12 # TO THE WRITE PROTECT ERROR FF (SERB) IS NOT STUCK-AT-ONE (HIGH). THIS CAN BE
                                       13 # FUNCTIONALLY TESTED VERY EASILY BY SETTING A WRITE PROTECT BIT TO PROTECT THE
                                       14 # FIRST 4K BLOCK IN THE STORE UNDER TEST AND IMMEDIATELY CLEARING THE SAME BIT
                                       15 # USING AN ADDRESS THAT IS WITHIN THE FIRST 4K. THE WRITE PROTECT COMMAND USED
                                       16 # TO CLEAR THE BIT SHOULD FORCE THE WRITE-COMMAND ENABLE INACTIVE (LOW), SO
                                       17 # THAT THE WRITE PROTECT ERROR IS NOT SET. IF THE CONTENTS OF THE ERROR REGISTER
                                       18 # RETRIEVED FROM THE OFF-LINE PROCESSOR SHOW THE MY-WRITE-ERROR BIT (MWRTER)
                                       19 # SET, THEN THE WRITE-COMMAND ENABLE MUST BE STUCK-ACTIVE (HIGH).


                                    -001- 22 #     NO3_CODE
                                    -001- 23 #     PROCESS 3ACC CODED ROUTINE AT ADDRESS WPCKTST3.
0027016 03 000536 040043 000000 CDGNM   -001- 24      VFD     1,0 2,2 7,0 6,NNO3CD
0027017 03 000537 000000 027021 0027021 -001- 25      ADDR    WPCKTST3

0027021                                27 WPCKTST3
0027021                                28      SIOM    MASCINT
0027021 03 000541 137020 012667 CDGSIO  -002- 29      BSA     MASIOM
0027023 03 000543 046071 103401         -001- 30      DATA    MASCINT            # INITIALIZE STORE CONTROLLER
0027024 03 000544 103401 025750               31      LI      RO,ZER%            # ZERO OFF-LINE ERROR REGISTER
0027026 03 000546 007400 ------               32      LSR     MCHTR,RO
0027027                                        33      LMCH    LDMIRL
0027027                                 -001- 34      CALL    SLDMIRL
0027027 03 000547 037020 111075 CSYSUB  -002- 35      BSA     SLDMIRL
0027031                                        36      MTCWRIT BASADDR,ONE        # PROTECT FIRST 4K BLOCK
0027031 03 000551 103561 106203         -001- 37      LI      R7,MTCWR
0027033 03 000553 003741 000001         -001- 38      LI      R14,ONE            # SET UP ONE TO BE WRITTEN (SD0-15)
0027035 03 000555 003360 ------         -001- 39      ZR      R15                # CLEAR HIGH BITS (SD16-23)
0027036 03 000556 031040 043140 CTSD    -001- 40      LAL     R2,BASADDR,RAO
0027040 03 000560 040061 ------         -001-;41      L       R3,1(RAO)
0027041 03 000561 003541 000000         -001- 42      LI      R6,0               # LOAD SPECIAL PARITY
0027043 03 000563 037020 013027 CDGSBS  -002- 43      BSA     MEMOP
0027045                                        44      SIOM    CLRSER             # CLEAR POSSIBLE NORMAL SELECT ERROR
0027045 03 000565 137020 012667 CDGSIO  -002- 45      BSA     MASIOM
0027047 03 000567 043310 ------         -001- 46      DATA    CLRSER             # CLEAR STORE ERROR REGISTER
0027050                                        47      MTCWRIT BASADDR,ZERO
0027050 03 000570 103561 106203         -001- 48      LI      R7,MTCWR
0027052 03 000572 003741 000000         -001- 49      LI      R14,ZERO           # SET UP ZERO TO BE WRITTEN (SD0-15)
```

```
                                                                                                  CDGSWP        W77D
     MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST

0027054 03 000574 003360 ------         -001- 01        ZR    R15                      # CLEAR HIGH BITS (SD16-23)
0027055 03 000575 031040 043140 CTSD    -001- 02        LAL   R2,BASADDR,RAO
0027057 03 000577 040061 ------         -001-;03        L     R3,1(RAO)
0027060 03 000600 003541 000000         -001- 04        LI    R6,0                     # LOAD SPECIAL PARITY
0027062 03 000602 037020 013027 CDGSBS  -002- 05        BSA   MEMOP
0027064                                        06        SIOM  CLRSER                   # CLEAR POSSIBLE NORMAL SELECT ERROR
0027064 03 000604 137020 012667 CDGSIO  -002- 07        BSA   MASIOM
0027066 03 000606 043310 103401         -001- 08        DATA  CLRSER                   # CLEAR STORE ERROR REGISTER
0027067 03 000607 103401 114652                09        LI    RO,MCHB%T*E(8)+ER%F      # RETRIEVE OFF-LINE ERROR REGISTER
0027071 03 000611 007400 ------                10        LSR   MCHTR,RO
0C27072                                        11        LMCH  LDMIRL
0027072                                 -001- 12        CALL  SLDMIRL
0027072 03 000612 037020 111075 CSYSUB  -002- 13        BSA   SLDMIRL
0027074                                        14        LMCH  RTNMCHB
0027074 03 000614 103401 000261         -001- 15        LI    RO,RTNMCHB
0027076                                 -001- 16        CALL  SMCH
0027076 03 000616 073027 ------         -002- 17        BSAI  S%MCH                    # SUBROUTINE SMCH IS IN PROGRAM CSYSUB
0027077                                        18        RTN_TBL **+4
0027077 03 000617 171400 ------         -001- 19        GA
0027100 03 000620 031000 027104 0027104 -001- 20        LAL   RO,*+4,RAO
0027102 03 000622 037000 011162 CDGNM   -001- 21        BL    INTRPNO3


                                        -001- 23 #       COMPARE
                                        -001- 24 # COMPARE ON-LINE MCHB BIT S(MWRTER) TO  0.
                                        -001- 25 # IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0027104 03 000624 021314 ------ CDGNM   -001- 26        VFD   1,LPINDX 2,1 1,0 1,SUCCES 5,S(MWRTER) 6,NCOMPARE
0027105 03 000625 000000 ------         -001- 27        VFD   15,0 1,ZERO


                                        -001- 29 #       FAILTST
                                        -001- 30 # FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS ERBENSTK.
                                        -001- 31 # DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0027106 03 000626 020017 ------ CDGNM   -001- 32        VFD   1,0 2,1 5,0 2,0 6,NFAILTST
0027107 03 000627 000053 ------         -001- 33        VFD   16,ERBENSTK

                                              35 # THE WRITE-COMMAND (NOTWCO) ENABLE ON WRITE PROTECT ERROR(SERB) IS STUCK-AT-ONE


                                        -001- 38 #       NO3_CODE
                                        -001- 39 # PROCESS 3ACC CODED ROUTINE AT ADDRESS *+2.
0027110 03 000630 040043 000000 CDGNM   -001- 40        VFD   1,0 2,2 7,0 6,NNO3CD
0027111 03 000631 000000 027113 0027113 -001- 41        ADDR  *+2
```

```
TEST 51   SEGMENT 4                                                          0:06:56   2/06/81  ****

   MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST                                          CDGSWP      W77D

                                         01 CSTWP3 OW      0(633),0(635)          # 12706
                                   -001- 02        NOTE    ************** THE FIRST ADDRESS OVERWRITTEN IS 000633 **********

0027113                                  05        FINALE  WP3INIT
0027113 03 000633 137020 012771 CDGSIO  -002- 06   BSA     FINAL
0027115 03 000635 137000 026303 0026303 -001- 07   BL      BKCSTWP3
0027117 03 000637 171400 ------         -001- 08   GA
0027120 03 000640 037000 011725 CDGNM   -001- 09   BL      PASSTST              # TEST COMPLETED
0027120                                        10   EOW                         # 12706
                                   -001- 11        NOTE    *************** THE LAST ADDRESS OVERWRITTEN IS 000641 **********
```

TEST 51 SEGMENT 4   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
                                        01 # WPTEST SUBROUTINE:

                                        03 # DESCRIPTION:
                                        04 #    THIS ROUTINE READS SPECIFIED WRITE PROTECT REGISTER CONTENTS FROM THE
                                        05 # STORE UNDER TEST. IT COMPARES THE CONTENTS WITH THE PATTERN SPECIFIED AND
                                        06 # EXITS IMMEDIATELY IF THERE IS A MISMATCH. IF THE COMPARE(S) IS(ARE)
                                        07 # SUCCESSFUL, EXIT WILL BE MADE WITH MAINTENANCE CHANNEL BUFFER(MCHB) ALL ZEROS
                                        08 #   NOTE: WRITE PROTECT PARITY LOW & HIGH ARE COMPARED WITH REG 8,BITS 7 & 15.

                                        10 # ENTRY CONDITIONS:
                                        11 #                     R8 = PATTERN TO BE COMPARED AGAINST
                                        12 #                     R15 = NUMBER OF  REPEATED  WRITE PROTECT REGISTER FETCHES
                                        13 #                     R12/13 = ADDRESS OF FIRST WRITE PROTECT BLOCK TO BE CHECKED

                                        15 # EXIT CONDITIONS:
                                        16 #                     MCHB = MISMATCH PATTERN (BIT SET FOR EACH FAILURE, INCL PAR)


0025002                                 20 WPTEST  CSECT
0025002                                 21         BEGIN   (RA0,RA0+1)
0025002 04 000000 172714 -------  -002- 22         HN      RA0,12
0025003 04 000001 072735 -------  -002-;23         HN      RA0+1,13
0025004 04 000002 030520 012754 CDGSIO  24         LL      R5,MODSIZE            # INCREMENT FOR REPEATED PASSES
0025006                                 25 WPTSTLP
0025006                                 26         MTCREAD RA0                    # FETCH WRITE PROTECT REGISTER CONTENTS
0025006 04 000004 103561 106263  -001- 27         LI      R7,B(1000110010110011) # MAIN MEMORY STATUS
0025010 04 000006 006054 -------  -001- 28         LR      R2,R12
0025011 04 000007 006075 -------  -001-;29         LR      R3,R13
0025012 04 000010 003140 -------  -001- 30         ZR      R6                    # NO SPECIAL PARITY
0025013 04 000011 037020 013027 CDGSBS  -002- 31    BSA    MEMOP
0025015                                 32         SION    CLRSER                # CLEAR POSSIBLE NORMAL SELECT ERROR
0025015 04 000013 137020 012667 CDGSIO  -002- 33    BSA    MASIOM
0025017 04 000015 043310 -------  -001- 34         DATA    CLRSER                # CLEAR STORE ERROR REGISTER
0025020 04 000016 112403 -------        35         UNPK    MCHB
0025021 04 000017 015070 -------        36         XR      R3,R8
0025022 04 000020 055033 ------- 0025055 37        BNC     WPTSTXT
0025023 04 000021 057403 -------        38         TSRPL   MCHB
0025024 04 000022 030027 -------        39         ICF     R1,7                  # SET UP MTC CHANNEL PARITY LOW
0025025 04 000023 057423 -------        40         TSRPH   MCHB
0025026 04 000024 030037 -------        41         ICF     R1,15                 # SET UP MTC CHANNEL PARITY HIGH

0025027 04 000025 003001 -------        43         LN      R0,1                  # PARITY LOW = 1 (IF TEST FAILS)
0025030 04 000026 017030 000200        44         CRM     R1,R8,X(0080)         # DOES PARITY LOW = TEST PATTERN BIT 7?
0025032 04 000030 055023 ------- 0025055 45        BNC     WPTSTXT
0025033 04 000031 003002 -------        46         LN      R0,2                  # PARITY HIGH = 1 (IF TEST FAILS)
0025034 04 000032 017030 100000        47         CRM     R1,R8,X(8000)
0025036 04 000034 055017 ------- 0025055 48        BNC     WPTSTXT
0025037 04 000035 006014 -------        49         LR      R0,R12                # SAVE UPPER STORE ADDRESS BITS
```

STORE WRITE PROTECT TEST   PR-1C927-50

TEST 51 SEGMENT 4   0:06:56   2/06/81 ****

MAIN_STORE_WRITE_PROTECT DIAGNOSTIC TEST   CDGSWP   W77D

```
0025040 04 000036 001725 ------              01        AR      R13,R5
0025041 04 000037 001725 ------              02        AR      R13,R5       # UPDATE WRITE PROTECT REG POINTER
0025042 04 000040 055010 ------ 0025052      03        BNC     UPDTXT       # EXIT IF NO CARRY
0025043 04 000041 004701 ------              04        AN      R12,1        # INCREMENT UPPER BITS
0025044 04 000042 030420 012756 CDGSIO       05        LL      R1,STSELMSK
0025046 04 000044 014001 ------              06        NR      R0,R1        # ORIGINAL STORE SELECT BITS
0025047 04 000045 015421 ------              07        COM     R1
0025050 04 000046 014301 ------              08        NR      R12,R1       # NEW MODULE SELECT BITS
0025051 04 000047 014700 ------              09        OR      R12,R0       # OLD STORE SELECT W/ NEW MOD SELECT BITS
0025052                                      10 UPDTXT
0025052 04 000050 136360 025006 0025006      11        BX      R15,WPTSTLP
                                             12 # REPEAT FOR NUMBER OF WRITE PROTECT REGISTERS SPECIFIED
0025054 04 000052 003000 ------              13        ZR      R0           # IF TEST PASSES, MCHB PARITY BITS = 0

0025055                                      15 WPTSTXT
0025055 04 000053 112000 ------              16        PACK    MCHTR
0025056                                      17        MIMODE
0025056 04 000054 013400 ------        -001- 18        MI      0
0025057                                      19        L       BR,R0
0025057 04 000055 070523 ------        -001- 20        VFD        8,BR%T 8,R0%F   # LOAD BR BITS 0&1 INTO PL&PH OF MTC CHAN
0025060                                      21        LDPAR
0025060 04 000056 025730 ------        -001- 22        DATA    LDPAR%
0025061                                      23        MCHTRXMCHB
0025061 04 000057 026472 ------        -001- 24        DATA    MCHTRXMCHB%
0025062                                      25        ZMINT
0025062 04 000060 026750 ------        -001- 26        DATA    ZMINT%

                                             28 # SAVE ADDRESS USED TO ACCESS WRITE PROTECT REGISTER IN
                                             29 #        TEMPDT1 & TEMPDT2 OF PAGING BUFFER SCRATCH AREA (PAGSCR)

0025063 04 000061 035700 043112 CTSD         31        STAL    R12,PAGSCR+8,RA1
0025065 04 000063 044721 ------              32        ST      R13,1(RA1)   # STORE ADDRESS FOR TROUBLE PRINTOUT
0025066                                      33        RETURN
0025066 04 000064 072314 ------        -001- 34        GN      RA0,RA0
0025067 04 000065 072335 ------        -001-;35        GN      RA0+1,RA0+1
0025070 04 000066 056400 ------        -001- 36        BTSA
                                             37 CSTWP1 MAXSIZE 0,535
                                             38 CSTWP2 MAXSIZE 0,432
                                             39 CSTWP3 MAXSIZE 0,642
                                             40 WPTEST MAXSIZE 0,67
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
PATCH HISTORY                                                    0:06:56    2/06/81   ****

LISTING OF INDIVIDUAL PATCHES                                          CDGSWP        W77D

          */*/*/*/012706/*/*/*/*     -002- 01       PBEGIN  PROG=CDGSWP              TRNO=12706  SERNOB=47325
                                           02 # THIS PATCH CORRECTS THE FOLLOWING PROBLEMS:
                                           03 #    1. INCORRECT STORE NUMBER IN FAIL MESSAGE
                                           04 #       WHEN MORE THAN STORE O DEFINED
                                           05 #    2. TESTS WOULD NOT DIAGNOSE ANY STORE
                                           06 #       HIGHER THAN STORE 1
0025070                                    07       TCEND
                                     -001- 08       NOTE    ***********************************************************



          */*/*/*/012736/*/*/*/*     -002- 15       PBEGIN  PROG=CDGSWP              TRNO=12736  SERNOB=47756
                                           16 # THIS PATCH CORRECTS A PORTION OF TC47325 AND ALLOWS TEST 50 TO ATP
0025070                                    17       TCEND
                                     -001- 18       NOTE    ***********************************************************



          */*/*/*/012988/*/*/*/*     -002- 25       PBEGIN  PROG=CDGSWP              TRNO=12988  SERNOB=49898
                                           26 # THIS PATCH BREAKS UP TEST 49 AND 50 INTO SMALLER REAL TIME SEGMENTS.
0025070                                    27       TCEND
                                     -001- 28       NOTE    ***********************************************************
```

```
                              -001- 03 #& TBL 4901
                              -001- 04 #& TEST 49
                              -001- 05 #& SEGMENT 0, 1, OR 2
                              -001- 06 #& PR CDGSWP
                              -001- 07 #
                                    08 #      TWO SUCCESSIVE I/O TRANSMISSIONS TO THE STORE CONTROLLER UNDER TEST FAILED
                                    09 # TO COMPLETE PROPERLY.
                                    10 #      DATA = I/O ORDER WHICH WAS UNSUCCESSFULLY TRANSMITTED
                                    11 #   ADDRESS = FAILURE EXIT(FAILTST) IN 'MASIOM' SUBROUTINE
                                    12
  0025070                           13 #      MASCM 08-20  FA1064  MAIN STORE CONTROLLER - I/O ORDER DECODER
                                    14 #      MASCM 08-22  FA1063  MAIN STORE CONTROLLER - I/O ORDER RECEIVER
                                    15 #      MASCM 08-23  FC203   MAIN STORE CONTROLLER CLOCK & I/O INTERFACE


                              -001- 18 #& TBL 4902
                              -001- 19 #& TEST 49
                              -001- 20 #& SEGMENT 1 OR 2
                              -001- 21 #& PR CDGSWP
                              -001- 22 #
                                    23 #      WRITE PROTECT BIT  0 ( FIRST  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    24 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
                                    25
  0025070                           26 #      MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8
                                    27 #      MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                                    28 #      MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
                                    29 #      MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                                    30 #      MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9
                                    31 #      MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10
```

```
TROUBLE LOCATION MANUAL                                          0:06:56   2/06/81  ****

4903    WPSLC01                                                       CDGSWP        W77D

                            -001- 01 #& TBL 4903
                            -001- 02 #& TEST 49
                            -001- 03 #& SEGMENT 1 OR 2
                            -001- 04 #& PR CDGSWP
                            -001- 05 #
                                  06 #      WRITE PROTECT BIT  1 ( SECOND BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                  07 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
 0025070                          08
                                  09 #          MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9


                            -001- 12 #& TBL 4904
                            -001- 13 #& TEST 49
                            -001- 14 #& SEGMENT 1 OR 2
                            -001- 15 #& PR CDGSWP
                            -001- 16 #
                                  17 #      WRITE PROTECT BIT  2 ( THIRD  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                  18 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
 0025070                          19
                                  20 #          MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10


                            -001- 23 #& TBL 4905
                            -001- 24 #& TEST 49
                            -001- 25 #& SEGMENT 1 OR 2
                            -001- 26 #& PR CDGSWP
                            -001- 27 #
                                  28 #      WRITE PROTECT BIT  3 ( FOURTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                  29 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
 0025070                          30
                                  31 #          MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
```

0:06:56   2/06/81   ****

CDGSWP   W77D

```
                              -001- 01 #& TBL 4906
                              -001- 02 #& TEST 49
                              -001- 03 #& SEGMENT 1 OR 2
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #      WRITE PROTECT BIT  4 ( FIFTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    07 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               08
                                    09 #         MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                                    10 #         MASCM 08-22  FA1063  MAIN STORE CONTROLLER - I/O ORDER RECEIVER


                              -001- 13 #& TBL 4907
                              -001- 14 #& TEST 49
                              -001- 15 #& SEGMENT 1 OR 2
                              -001- 16 #& PR CDGSWP
                              -001- 17 #
                                    18 #      WRITE PROTECT BIT  5 ( SIXTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    19 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               20
                                    21 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
                                    22 #         MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                                    23 #         MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH
                                    24 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                                    25 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
                                    26 #         MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A


                              -001- 29 #& TBL 4908
                              -001- 30 #& TEST 49
                              -001- 31 #& SEGMENT 1 OR 2
                              -001- 32 #& PR CDGSWP
                              -001- 33 #
                                    34 #      WRITE PROTECT BIT  6 (SEVENTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    35 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               36
                                    37 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
```

```
                              -001- 01 #& TBL 4909
                              -001- 02 #& TEST 49
                              -001- 03 #& SEGMENT 1 OR 2
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #     WRITE PROTECT BIT  7 ( EIGHTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    07 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               08
                                    09 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 815


                              -001- 12 #& TBL 4910
                              -001- 13 #& TEST 49
                              -001- 14 #& SEGMENT 1 OR 2
                              -001- 15 #& PR CDGSWP
                              -001- 16 #
                                    17 #     WRITE PROTECT BIT  8 ( FIRST  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    18 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               19
                                    20 #         MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8


                              -001- 23 #& TBL 4911
                              -001- 24 #& TEST 49
                              -001- 25 #& SEGMENT 1 OR 2
                              -001- 26 #& PR CDGSWP
                              -001- 27 #
                                    28 #     WRITE PROTECT BIT  9 ( SECOND BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    29 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               30
                                    31 #         MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9
```

```
TROUBLE LOCATION MANUAL                                          0:06:56   2/06/81  ****

4912    WPSLC10                                                          CDGSWP      W77D

                              -001- 01 #& TBL 4912
                              -001- 02 #& TEST 49
                              -001- 03 #& SEGMENT 1 OR 2
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #      WRITE PROTECT BIT 10 ( THIRD  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    07 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                             08
                                    09 #          MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10


                              -001- 12 #& TBL 4913
                              -001- 13 #& TEST 49
                              -001- 14 #& SEGMENT 1 OR 2
                              -001- 15 #& PR CDGSWP
                              -001- 16 #
                                    17 #      WRITE PROTECT BIT 11 ( FOURTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    18 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                             19
                                    20 #          MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11


                              -001- 23 #& TBL 4914
                              -001- 24 #& TEST 49
                              -001- 25 #& SEGMENT 1 OR 2
                              -001- 26 #& PR CDGSWP
                              -001- 27 #
                                    28 #      WRITE PROTECT BIT 12 ( FIFTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    29 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                             30
                                    31 #          MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
```

TROUBLE LOCATION MANUAL   0:06:56   2/06/81   ****

4915   WPSLC13   CDGSWP   W77D

```
                        -001- 01 #& TBL 4915
                        -001- 02 #& TEST 49
                        -001- 03 #& SEGMENT 1 OR 2
                        -001- 04 #& PR CDGSWP
                        -001- 05 #
                              06 #      WRITE PROTECT BIT 13 ( SIXTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                              07 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
                              08
0025070                       09 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13


                        -001- 12 #& TBL 4916
                        -001- 13 #& TEST 49
                        -001- 14 #& SEGMENT 1 OR 2
                        -001- 15 #& PR CDGSWP
                        -001- 16 #
                              17 #      WRITE PROTECT BIT 14 (SEVENTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                              18 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
                              19
0025070                       20 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14


                        -001- 23 #& TBL 4917
                        -001- 24 #& TEST 49
                        -001- 25 #& SEGMENT 1 OR 2
                        -001- 26 #& PR CDGSWP
                        -001- 27 #
                              28 #      WRITE PROTECT BIT 15 ( EIGHTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                              29 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
                              30
0025070                       31 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
```

```
                        -001- 01 #& TBL 4918
                        -001- 02 #& TEST 49
                        -001- 03 #& SEGMENT 1 OR 2
                        -001- 04 #& PR CDGSWP
                        -001- 05 #
                              06 #      WRITE PROTECT PL BIT ( PARITY BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                              07 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                       08
                              09 #         MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH


                        -001- 12 #& TBL 4919
                        -001- 13 #& TEST 49
                        -001- 14 #& SEGMENT 1 OR 2
                        -001- 15 #& PR CDGSWP
                        -001- 16 #
                              17 #      WRITE PROTECT PH BIT ( PARITY BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                              18 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025C70                       19
                              20 #         MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH


                        -001- 23 #& TBL 4920
                        -001- 24 #& TEST 49
                        -001- 25 #& SEGMENT 2
                        -001- 26 #& PR CDGSWP
                        -001- 27 #
                              28 #   ONE ENTIRE WRITE PROTECT REGISTER WAS WRITTEN/READ INCORRECTLY
                              29 #      DATA = ADDRESS OF FIRST WRITE PROTECT BLOCK IN FAILING WRITE PROTECT REG
0025070                       30
                              31 #         MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                              32 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
                              33 # STORE ADDRESS BIT 15 IS ON THIS BOARD
```

```
TROUBLE LOCATION MANUAL                                      0:06:56   2/06/81  ****

4921    WPIDFL                                                       CDGSWP      W77D

                        -001- 01 #& TBL 4921
                        -001- 02 #& TEST 49
                        -001- 03 #& SEGMENT 2
                        -001- 04 #& PR CDGSWP
                        -001- 05 #
                              06 #    ONE ENTIRE WRITE PROTECT REGISTER WAS WRITTEN/READ INCORRECTLY
                              07 #      DATA = ADDRESS OF FIRST WRITE PROTECT BLOCK IN FAILING WRITE PROTECT REG
                              08
                              09 #         MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                              10 #         MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH
0025070                       11 # STORE ADDRESS BIT 16 IS ON THIS BOARD
                              12 #         MASCM 08-23  FC203   MAIN STORE CONTROLLER CLOCK & I/O INTERFACE
                              13 # STORE ADDRESS BIT 17 IS ON THIS BOARD
                              14 #         MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8
                              15 #         MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9
                              16 #         MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10
                              17 #         MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
                              18 #         MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                              19 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
                              20 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                              21 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15


                        -001- 24 #& TBL 5001
                        -001- 25 #& TEST 50
                        -001- 26 #& SEGMENT 0, 1, 2 OR 3
                        -001- 27 #& PR CDGSWP
                        -001- 28 #
                              29 #    TWO SUCCESSIVE I/O TRANSMISSIONS TO THE STORE CONTROLLER UNDER TEST FAILED
                              30 # TO COMPLETE PROPERLY.
                              31 #      DATA = I/O ORDER WHICH WAS UNSUCCESSFULLY TRANSMITTED
                              32 #   ADDRESS = FAILURE EXIT(FAILTST) IN 'MASIOM' SUBROUTINE
                              33
0025070                       34 #         MASCM 08-20  FA1064  MAIN STORE CONTROLLER - I/O ORDER DECODER
                              35 #         MASCM 08-22  FA1063  MAIN STORE CONTROLLER - I/O ORDER RECEIVER
                              36 #         MASCM 08-23  FC203   MAIN STORE CONTROLLER CLOCK & I/O INTERFACE
```

TROUBLE LOCATION MANUAL

0:06:56   2/06/81   ****

5002   WPSLC00

CDGSWP   W77D

```
                              -001- 01 #& TBL 5002
                              -001- 02 #& TEST 50
                              -001- 03 #& SEGMENT 1, 2 OR 3
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #      WRITE PROTECT BIT  0 ( FIRST  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    07 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               08
                                    09 #      MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8


                              -001- 12 #& TBL 5003
                              -001- 13 #& TEST 50
                              -001- 14 #& SEGMENT 1, 2 OR 3
                              -001- 15 #& PR CDGSWP
                              -001- 16 #
                                    17 #      WRITE PROTECT BIT  1 ( SECOND BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    18 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               19
                                    20 #      MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9


                              -001- 23 #& TBL 5004
                              -001- 24 #& TEST 50
                              -001- 25 #& SEGMENT 1, 2 OR 3
                              -001- 26 #& PR CDGSWP
                              -001- 27 #
                                    28 #      WRITE PROTECT BIT  2 ( THIRD  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    29 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               30
                                    31 #      MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10
```

STORE WRITE PROTECT TEST

PR-1C927-50

```
-001- 01 #& TBL 5005
-001- 02 #& TEST 50
-001- 03 #& SEGMENT 1, 2 OR 3
-001- 04 #& PR CDGSWP
-001- 05 #
      06 #      WRITE PROTECT BIT  3 ( FOURTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
      07 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
      08
      09 #          MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11


-001- 12 #& TBL 5006
-001- 13 #& TEST 50
-001- 14 #& SEGMENT 1, 2 OR 3
-001- 15 #& PR CDGSWP
-001- 16 #
      17 #      WRITE PROTECT BIT  4 ( FIFTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
      18 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
      19
      20 #          MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12


-001- 23 #& TBL 5007
-001- 24 #& TEST 50
-001- 25 #& SEGMENT 1, 2 OR 3
-001- 26 #& PR CDGSWP
-001- 27 #
      28 #      WRITE PROTECT BIT  5 ( SIXTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
      29 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
      30
      31 #          MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
      32 #          MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH
      33 #          MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
      34 #          MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
      35 #          MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
```

0025070

0025070

0025070

```
                    -001- 01 #& TBL 5008
                    -001- 02 #& TEST 50
                    -001- 03 #& SEGMENT 1, 2 OR 3
                    -001- 04 #& PR CDGSWP
                    -001- 05 #
                          06 #      WRITE PROTECT BIT  6 (SEVENTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                          07 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
     0025070               08
                          09 #          MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14


                    -001- 12 #& TBL 5009
                    -001- 13 #& TEST 50
                    -001- 14 #& SEGMENT 1, 2 OR 3
                    -001- 15 #& PR CDGSWP
                    -001- 16 #
                          17 #      WRITE PROTECT BIT  7 ( EIGHTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                          18 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
     0025070               19
                          20 #          MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15


                    -001- 23 #& TBL 5010
                    -001- 24 #& TEST 50
                    -001- 25 #& SEGMENT 1, 2 OR 3
                    -001- 26 #& PR CDGSWP
                    -001- 27 #
                          28 #      WRITE PROTECT BIT  8 ( FIRST  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                          29 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
     0025070               30
                          31 #          MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8
```

```
                              -001- 01 #& TBL 5011
                              -001- 02 #& TEST 50
                              -001- 03 #& SEGMENT 1, 2 OR 3
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #      WRITE PROTECT BIT  9 ( SECOND BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    07 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               08
                                    09 #         MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9


                              -001- 12 #& TBL 5012
                              -001- 13 #& TEST 50
                              -001- 14 #& SEGMENT 1, 2 OR 3
                              -001- 15 #& PR CDGSWP
                              -001- 16 #
                                    17 #      WRITE PROTECT BIT 10 ( THIRD  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    18 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               19
                                    20 #         MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10


                              -001- 23 #& TBL 5013
                              -001- 24 #& TEST 50
                              -001- 25 #& SEGMENT 1, 2 OR 3
                              -001- 26 #& PR CDGSWP
                              -001- 27 #
                                    28 #      WRITE PROTECT BIT 11 ( FOURTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    29 # DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               30
                                    31 #         MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
```

A06

```
                              -001- 01 #& TBL 5014
                              -001- 02 #& TEST 50
                              -001- 03 #& SEGMENT 1, 2 OR 3
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #      WRITE PROTECT BIT 12 ( FIFTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    07 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               08
                                    09 #         MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12


                              -001- 12 #& TBL 5015
                              -001- 13 #& TEST 50
                              -001- 14 #& SEGMENT 1, 2 OR 3
                              -001- 15 #& PR CDGSWP
                              -001- 16 #
                                    17 #      WRITE PROTECT BIT 13 ( SIXTH  BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    18 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               19
                                    20 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13


                              -001- 23 #& TBL 5016
                              -001- 24 #& TEST 50
                              -001- 25 #& SEGMENT 1, 2 OR 3
                              -001- 26 #& PR CDGSWP
                              -001- 27 #
                                    28 #      WRITE PROTECT BIT 14 (SEVENTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                                    29 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                               30
                                    31 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
```

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5017   WPSLC15   CDGSWP   W77D

```
                         -001- 01 #& TBL 5017
                         -001- 02 #& TEST 50
                         -001- 03 #& SEGMENT 1, 2 OR 3
                         -001- 04 #& PR CDGSWP
                         -001- 05 #
                               06 #     WRITE PROTECT BIT 15 ( EIGHTH BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                               07 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                        08
                               09 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15


                         -001- 12 #& TBL 5018
                         -001- 13 #& TEST 50
                         -001- 14 #& SEGMENT 1, 2 OR 3
                         -001- 15 #& PR CDGSWP
                         -001- 16 #
                               17 #     WRITE PROTECT PL BIT ( PARITY BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                               18 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                        19
                               20 #         MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH


                         -001- 23 #& TBL 5019
                         -001- 24 #& TEST 50
                         -001- 25 #& SEGMENT 1, 2 OR 3
                         -001- 26 #& PR CDGSWP
                         -001- 27 #
                               28 #     WRITE PROTECT PH BIT ( PARITY BIT-SLICED BOARD) WILL NOT CLEAR AND/OR SET.
                               29 #  DATA = ADDRESS USED TO ACCESS WRITE PROTECT REGISTER WHEN FAILURE OCCURRED.
0025070                        30
                               31 #         MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH
```

0:06:56   2/06/81 ****

CDGSWP   W77D

```
-001- 01 #& TBL 5020
-001- 02 #& TEST 50
-001- 03 #& SEGMENT 2
-001- 04 #& PR CDGSWP
-001- 05 #
      06 #       ENABLE FROM MAIN SHIFTER WHICH ALLOWS WRITE PROTECT REGISTER(S) TO BE
      07 # WRITTEN IS STUCK ACTIVE IN THE BACKPLANE
      08
      09 #            MASCM 08-18  FA1071  MAIN STORE CONTROLLER  - TIMING GENERATOR
      10 #            MASCM 08-17  FA1062  MAIN STORE CONTROLLER  - CHECK CIRCUIT A
      11 #            MASCM 08-02  FA1060  MAIN STORE CONTROLLER  - BITS 0 & 8
      12 #            MASCM 08-03  FA1060  MAIN STORE CONTROLLER  - BITS 1 & 9
      13 #            MASCM 08-04  FA1060  MAIN STORE CONTROLLER  - BITS 2 &10
      14 #            MASCM 08-05  FA1060  MAIN STORE CONTROLLER  - BITS 3 &11
      15 #            MASCM 08-06  FA1060  MAIN STORE CONTROLLER  - BITS 4 &12
      16 #            MASCM 08-07  FA1060  MAIN STORE CONTROLLER  - BITS 5 &13
      17 #            MASCM 08-08  FA1060  MAIN STORE CONTROLLER  - BITS 6 &14
      18 #            MASCM 08-09  FA1060  MAIN STORE CONTROLLER  - BITS 7 &15
      19 #            MASCM 08-16  FA1060  MAIN STORE CONTROLLER  - BITS PL&PH
```

0025070

```
-001- 22 #& TBL 5101
-001- 23 #& TEST 51
-001- 24 #& SEGMENT 0, 1, 2, 3 OR 4
-001- 25 #& PR CDGSWP
-001- 26 #
      27 #       TWO SUCCESSIVE I/O TRANSMISSIONS TO THE STORE CONTROLLER
      28 # UNDER TEST FAILED TO COMPLETE PROPERLY.
      29 #       ADR(LEFT) = ADDRESS OF FAILURE EXIT IN 'MASION' SUBROUTINE
      30 #       DATA(LEFT) = I/O MESSAGE AS IT WAS TRANSMITTED FROM CC
      31 #       DATA(RIGHT) = I/O MESSAGE AS IT WAS RECEIVED BY CC
      32
      33 #            MASCM 08-20  FA1064  MAIN STORE CONTROLLER - I/O ORDER DECODER
      34 #            MASCM 08-22  FA1063  MAIN STORE CONTROLLER - I/O ORDER RECEIVER
      35 #            MASCM 08-23  FC203   MAIN STORE CONTROLLER CLOCK & I/O INTERFACE
```

0025070

STORE WRITE PROTECT TEST   PR-1C927-50

```
                         -001- 01 #& TBL 5102
                         -001- 02 #& TEST 51
                         -001- 03 #& SEGMENT 1
                         -001- 04 #& PR CDGSWP
                         -001- 05 #
                               06 #      THE CONSTANT WRITE PROTECT ERROR IMPLIES THAT THE IN-WRITE-PROTECT SIGNAL
                               07 # (TINWP) IS STUCK ACTIVE (LOW) ON THE NET AMONG BIT-SLICE BOARDS & TIMING PACK.
                               08
                               09 #       MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8
                               10 #       MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9
                               11 #       MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10
                               12 #       MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
                               13 #       MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                               14 #       MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
                               15 #       MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                               16 #       MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
                               17 #       MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                               18 #  SINCE STORE ERROR 'B' (SERB) CANNOT BE ISOLATED FROM HIGHER
                               19 #  STORES, THE LAST CIRCUIT PACK LISTED ABOVE MIGHT BE FAULTY
                               20 #  IN ANY, REPEAT ANY, OF THE EQUIPPED STORE CONTROLLERS.


                         -001- 23 #& TBL 5103
                         -001- 24 #& TEST 51
                         -001- 25 #& SEGMENT 1
                         -001- 26 #& PR CDGSWP
                         -001- 27 #
                               28 #      ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                               29 # FIRST BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
                               30
                               31 #       MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8
                               32 #       MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                               33 #  SINCE STORE ERROR 'B' (SERB) CANNOT BE ISOLATED FROM HIGHER
                               34 #  STORES, THE LAST CIRCUIT PACK LISTED ABOVE MIGHT BE FAULTY
                               35 #  IN ANY, REPEAT ANY, OF THE EQUIPPED STORE CONTROLLERS.
                               36 #       PROC  02-23  FA1046  DOUBLE STORE READ
```

0025070

0025070

TROUBLE LOCATION MANUAL   0:06:56   2/06/81   ****

5104   WPS1BS01   CDGSWP   W77D

```
                            -001- 01 #& TBL 5104
                            -001- 02 #& TEST 51
                            -001- 03 #& SEGMENT 1
                            -001- 04 #& PR CDGSWP
                            -001- 05 #
                                  06 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
0025070                           07 #  SECOND BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
                                  08
                                  09 #        MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9


                            -001- 12 #& TBL 5105
                            -001- 13 #& TEST 51
                            -001- 14 #& SEGMENT 1
                            -001- 15 #& PR CDGSWP
                            -001- 16 #
                                  17 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
0025070                           18 #  THIRD  BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
                                  19
                                  20 #        MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10


                            -001- 23 #& TBL 5106
                            -001- 24 #& TEST 51
                            -001- 25 #& SEGMENT 1
                            -001- 26 #& PR CDGSWP
                            -001- 27 #
                                  28 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
0025070                           29 #  FOURTH BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
                                  30
                                  31 #        MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
```

```
                    -001- 01 #& TBL 5107
                    -001- 02 #& TEST 51
                    -001- 03 #& SEGMENT 1
                    -001- 04 #& PR CDGSWP
                    -001- 05 #
                          06 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                          07 #  FIFTH  BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
0025070                   08
                          09 #         MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12


                    -001- 12 #& TBL 5108
                    -001- 13 #& TEST 51
                    -001- 14 #& SEGMENT 1
                    -001- 15 #& PR CDGSWP
                    -001- 16 #
                          17 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                          18 #  SIXTH  BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
0025070                   19
                          20 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13


                    -001- 23 #& TBL 5109
                    -001- 24 #& TEST 51
                    -001- 25 #& SEGMENT 1
                    -001- 26 #& PR CDGSWP
                    -001- 27 #
                          28 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                          29 # SEVENTH BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
0025070                   30
                          31 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
```

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TROUBLE LOCATION MANUAL                                           0:06:56   2/06/81  ****

5110    WPS1BS07                                                          CDGSWP        W77D

                         -001- 01 #& TBL 5110
                         -001- 02 #& TEST 51
                         -001- 03 #& SEGMENT 1
                         -001- 04 #& PR CDGSWP
                         -001- 05 #
                               06 #      ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                               07 #  EIGHTH BIT-SLICED BOARD HAS ITS WRITE PROTECT BIT INPUT STUCK ACTIVE (HIGH).
0025070                        08
                               09 #        MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15


                         -001- 12 #& TBL 5111
                         -001- 13 #& TEST 51
                         -001- 14 #& SEGMENT 2
                         -001- 15 #& PR CDGSWP
                         -001- 16 #
                               17 #      STORE ADDRESS BIT 15(SA15) IS STUCK-AT-ZERO IN THE MODULE-SELECT CIRCUITRY
0025070                        18
                               19 #        MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                               20 #        MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
                               21 #        PROC  02-23  FA1046  DOUBLE STORE READ


                         -001- 24 #& TBL 5112
                         -001- 25 #& TEST 51
                         -001- 26 #& SEGMENT 2
                         -001- 27 #& PR CDGSWP
                         -001- 28 #
                               29 #      STORE ADDRESS BIT 12 (SA12) IS STUCK-AT-ZERO IN WRITE PROTECT SELECT CKT.
0025070                        30
                               31 #        MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                               32 #        MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                               33 #        STORE ADDRESS BIT 12 (SA12)
```

```
                           -001- 01 #& TBL 5113
                           -001- 02 #& TEST 51
                           -001- 03 #& SEGMENT 2
                           -001- 04 #& PR CDGSWP
                           -001- 05 #
                                 06 #        STORE ADDRESS BIT 12 (SA12) IS STUCK-AT-ONE  IN WRITE PROTECT SELECT CKT.
0025070                          07
                                 08 #            MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                 09 #            MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                                 10 #        STORE ADDRESS BIT 12 (SA12)

                           -001- 13 #& TBL 5114
                           -001- 14 #& TEST 51
                           -001- 15 #& SEGMENT 2
                           -001- 16 #& PR CDGSWP
                           -001- 17 #
                                 18 #        STORE ADDRESS BIT 13 (SA13) IS STUCK-AT-ZERO IN WRITE PROTECT SELECT CKT.
0025070                          19
                                 20 #            MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                 21 #            MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
                                 22 #        STORE ADDRESS BIT 13 (SA13)

                           -001- 25 #& TBL 5115
                           -001- 26 #& TEST 51
                           -001- 27 #& SEGMENT 2
                           -001- 28 #& PR CDGSWP
                           -001- 29 #
                                 30 #        STORE ADDRESS BIT 13 (SA13) IS STUCK-AT-ONE  IN WRITE PROTECT SELECT CKT.
0025070                          31
                                 32 #            MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                 33 #            MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
                                 34 #        STORE ADDRESS BIT 13 (SA13)
                                 35 #            MASCM 03-33  JK3     MAIN STORE FANOUT BOARD FOR MODULE 1
                                 36 #                MODTIM0 GATES MODULE ENABLE (MENB0) ON FANOUT BOARD
```

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TROUBLE LOCATION MANUAL                                          0:06:56   2/06/81  ****

  5116    WPB14SA0                                                 CDGSWP        W77D


                       -001- 01 #& TBL 5116
                       -001- 02 #& TEST 51
                       -001- 03 #& SEGMENT 2
                       -001- 04 #& PR CDGSWP
                       -001- 05 #
  0025070                     06 #        STORE ADDRESS BIT 14 (SA14) IS STUCK-AT-ZERO IN WRITE PROTECT SELECT CKT.
                              07
                              08 #           MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                              09 #           MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                              10 #        STORE ADDRESS BIT 14 (SA14)


                       -001- 13 #& TBL 5117
                       -001- 14 #& TEST 51
                       -001- 15 #& SEGMENT 2
                       -001- 16 #& PR CDGSWP
                       -001- 17 #
  0025070                     18 #        STORE ADDRESS BIT 14 (SA14) IS STUCK-AT-ONE  IN WRITE PROTECT SELECT CKT.
                              19
                              20 #           MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                              21 #           MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                              22 #        STORE ADDRESS BIT 14 (SA14)


                       -001- 25 #& TBL 5118
                       -001- 26 #& TEST 51
                       -001- 27 #& SEGMENT 2
                       -001- 28 #& PR CDGSWP
                       -001- 29 #
                              30 #        ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                              31 #     FIRST  BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                              32 #     ITS OUTPUT STUCK-AT-ZERO (HIGH).
  0025070                     33
                              34 #           MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8
                              35 #           MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                              36 #           MASCM 08-24  FA1068  MAIN STORE CONTROLLER - BUS CONTROL
                              37 #           MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9
                              38 #           MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10
                              39 #           MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
                              40 #           MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
```

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TROUBLE LOCATION MANUAL                                    0:06:56   2/06/81   ****

5119    WPSOBS01                                                 CDGSWP        W77D


                        -001- 01 #& TBL 5119
                        -001- 02 #& TEST 51
                        -001- 03 #& SEGMENT 2
                        -001- 04 #& PR CDGSWP
                        -001- 05 #
                              06 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                              07 #  SECOND BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                              08 #  ITS OUTPUT STUCK-AT-ZERO (HIGH).
                              09
0025070                       10 #          MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9
                              11 #          MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A


                        -001- 14 #& TBL 5120
                        -001- 15 #& TEST 51
                        -001- 16 #& SEGMENT 2
                        -001- 17 #& PR CDGSWP
                        -001- 18 #
                              19 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                              20 #  THIRD  BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                              21 #  ITS OUTPUT STUCK-AT-ZERO (HIGH).
                              22
0025070                       23 #          MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10
                              24 #          MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A


                        -001- 27 #& TBL 5121
                        -001- 28 #& TEST 51
                        -001- 29 #& SEGMENT 2
                        -001- 30 #& PR CDGSWP
                        -001- 31 #
                              32 #     ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                              33 #  FOURTH BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                              34 #  ITS OUTPUT STUCK-AT-ZERO (HIGH).
                              35
0025070                       36 #          MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
                              37 #          MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
```

```
              -001- 01 #& TBL 5122
              -001- 02 #& TEST 51
              -001- 03 #& SEGMENT 2
              -001- 04 #& PR CDGSWP
              -001- 05 #
                    06 #      ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                    07 # FIFTH  BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                    08 # ITS OUTPUT STUCK-AT-ZERO (HIGH).
                    09
                    10 #         MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                    11 #         MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A


              -001- 14 #& TBL 5123
              -001- 15 #& TEST 51
              -001- 16 #& SEGMENT 2
              -001- 17 #& PR CDGSWP
              -001- 18 #
                    19 #      ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                    20 # SIXTH  BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                    21 # ITS OUTPUT STUCK-AT-ZERO (HIGH).
                    22
                    23 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
                    24 #         MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                    25 #         MASCM 08-24  FA1068  MAIN STORE CONTROLLER - BUS CONTROL
                    26 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                    27 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
                    28 # NOTE--1 MASCM 08-11  FA1060  MAIN STORE CONTROLLER - BITS 17&21
                    29 # NOTE--1 MASCM 08-10  FA1060  MAIN STORE CONTROLLER - BITS 16&20
```

0025070

0025070

```
                        -001- 01 #& TBL 5124
                        -001- 02 #& TEST 51
                        -001- 03 #& SEGMENT 2
                        -001- 04 #& PR CDGSWP
                        -001- 05 #
                              06 #      ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                              07 # SEVENTH BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                              08 # ITS OUTPUT STUCK-AT-ZERO (HIGH).
0025070                       09
                              10 #          MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                              11 #          MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A


                        -001- 14 #& TBL 5125
                        -001- 15 #& TEST 51
                        -001- 16 #& SEGMENT 2
                        -001- 17 #& PR CDGSWP
                        -001- 18 #
                              19 #      ONE OF THE WRITE PROTECT BIT SELECTOR GATES (FFWPX-AG10/BG10) ON THE
                              20 # EIGHTH BIT-SLICED BOARD EITHER HAS AN INPUT STUCK-AT-ZERO (LOW) OR
                              21 # ITS OUTPUT STUCK-AT-ZERO (HIGH).
0025070                       22
                              23 #          MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
                              24 #          MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A


                        -001- 27 #& TBL 5126
                        -001- 28 #& TEST 51
                        -001- 29 #& SEGMENT 3
                        -001- 30 #& PR CDGSWP
                        -001- 31 #
                              32 #      ONE OF THE MODULE SELECT ENABLES (MSELX) IS STUCK ACTIVE (LOW) BETWEEN
                              33 # THE DECODER CIRCUITRY AND THE BIT-SLICED BOARDS.
0025070                       34
                              35 #          MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
                              36 #          MASCM 08-02  FA1060  MAIN STORE CONTROLLER - BITS 0 & 8
                              37 #          MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9
                              38 #          MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10
                              39 #          MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
                              40 #          MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12
                              41 #          MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
                              42 #          MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
                              43 #          MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15
                              44 #          MASCM 08-16  FA1060  MAIN STORE CONTROLLER - BITS PL&PH
```

```
                              -001- 01 #& TBL 5127
                              -001- 02 #& TEST 51
                              -001- 03 #& SEGMENT 3
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #     A WRITE PROTECT SEGMENT 0 ENABLE (WPSEG0) IS STUCK ACTIVE (LOW) BETWEEN
                                    07 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 0.
                                    08
                                    09 #          MASCM 08-17   FA1062   MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                    10 #          MASCM 08-02   FA1060   MAIN STORE CONTROLLER - BITS 0 & 8


                              -001- 13 #& TBL 5128
                              -001- 14 #& TEST 51
                              -001- 15 #& SEGMENT 3
                              -001- 16 #& PR CDGSWP
                              -001- 17 #
                                    18 #     A WRITE PROTECT SEGMENT 1 ENABLE (WPSEG1) IS STUCK ACTIVE (LOW) BETWEEN
                                    19 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 1.
                                    20
                                    21 #          MASCM 08-17   FA1062   MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                    22 #          MASCM 08-03   FA1060   MAIN STORE CONTROLLER - BITS 1 & 9


                              -001- 25 #& TBL 5129
                              -001- 26 #& TEST 51
                              -001- 27 #& SEGMENT 3
                              -001- 28 #& PR CDGSWP
                              -001- 29 #
                                    30 #     A WRITE PROTECT SEGMENT 2 ENABLE (WPSEG2) IS STUCK ACTIVE (LOW) BETWEEN
                                    31 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 2.
                                    32
                                    33 #          MASCM 08-17   FA1062   MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                    34 #          MASCM 08-04   FA1060   MAIN STORE CONTROLLER - BITS 2 &10
```

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                              -001- 01 #& TBL 5130
                              -001- 02 #& TEST 51
                              -001- 03 #& SEGMENT 3
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #      A WRITE PROTECT SEGMENT 3 ENABLE (WPSEG3) IS STUCK ACTIVE (LOW) BETWEEN
0025070                               07 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 3.
                                      08
                                      09 #         MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                      10 #         MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11


                              -001- 13 #& TBL 5131
                              -001- 14 #& TEST 51
                              -001- 15 #& SEGMENT 3
                              -001- 16 #& PR CDGSWP
                              -001- 17 #
                                    18 #      A WRITE PROTECT SEGMENT 4 ENABLE (WPSEG4) IS STUCK ACTIVE (LOW) BETWEEN
                                    19 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 4.
0025070                               20
                                    21 #         MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                    22 #         MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12

                              -001- 25 #& TBL 5132
                              -001- 25 #& TEST 51
                              -001- 27 #& SEGMENT 3
                              -001- 28 #& PR CDGSWP
                              -001- 29 #
                                    30 #      A WRITE PROTECT SEGMENT 5 ENABLE (WPSEG5) IS STUCK ACTIVE (LOW) BETWEEN
                                    31 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 5.
0025070                               32
                                    33 #         MASCM 08-17  FA1062  MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                    34 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13
```

```
                            -001- 01 #& TBL 5133
                            -001- 02 #& TEST 51
                            -001- 03 #& SEGMENT 3
                            -001- 04 #& PR CDGSWP
                            -001- 05 #
                                  06 #     A WRITE PROTECT SEGMENT 6 ENABLE (WPSEG6) IS STUCK ACTIVE (LOW) BETWEEN
                                  07 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 6.
0025070                           08
                                  09 #         MASCM 08-17   FA1062   MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                  10 #         MASCM 08-08   FA1060   MAIN STORE CONTROLLER - BITS 6 &14


                            -001- 13 #& TBL 5134
                            -001- 14 #& TEST 51
                            -001- 15 #& SEGMENT 3
                            -001- 16 #& PR CDGSWP
                            -001- 17 #
                                  18 #     A WRITE PROTECT SEGMENT 7 ENABLE (WPSEG7) IS STUCK ACTIVE (LOW) BETWEEN
                                  19 # ITS DECODER CIRCUITRY AND BIT-SLICED BOARD 7.
0025070                           20
                                  21 #         MASCM 08-17   FA1062   MAIN STORE CONTROLLER - CHECK CIRCUIT A
                                  22 #         MASCM 08-09   FA1060   MAIN STORE CONTROLLER - BITS 7 &15


                            -001- 25 #& TBL 5135
                            -001- 26 #& TEST 51
                            -001- 27 #& SEGMENT 3
                            -001- 28 #& PR CDGSWP
                            -001- 29 #
                                  30 #     ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE FIRST
                                  31 # BIT-SLICED BOARD IS STUCK ACTIVE.
0025070                           32
                                  33 #         MASCM 08-02   FA1060   MAIN STORE CONTROLLER - BITS 0 & 8
```

```
                              -001- 01 #& TBL 5136
                              -001- 02 #& TEST 51
                              -001- 03 #& SEGMENT 3
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #     ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE SECOND
                                    07 # BIT-SLICED BOARD IS STUCK ACTIVE.
0025070                             08
                                    09 #        MASCM 08-03  FA1060  MAIN STORE CONTROLLER - BITS 1 & 9


                              -001- 12 #& TBL 5137
                              -001- 13 #& TEST 51
                              -001- 14 #& SEGMENT 3
                              -001- 15 #& PR CDGSWP
                              -001- 16 #
                                    17 #     ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE THIRD
                                    18 # BIT-SLICED BOARD IS STUCK ACTIVE.
0025070                             19
                                    20 #        MASCM 08-04  FA1060  MAIN STORE CONTROLLER - BITS 2 &10


                              -001- 23 #& TBL 5138
                              -001- 24 #& TEST 51
                              -001- 25 #& SEGMENT 3
                              -001- 26 #& PR CDGSWP
                              -001- 27 #
                                    28 #     ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE FOURTH
                                    29 # BIT-SLICED BOARD IS STUCK ACTIVE.
0025070                             30
                                    31 #        MASCM 08-05  FA1060  MAIN STORE CONTROLLER - BITS 3 &11
```

```
            -001- 01 #& TBL 5139
            -001- 02 #& TEST 51
            -001- 03 #& SEGMENT 3
            -001- 04 #& PR CDGSWP
            -001- 05 #
                  06 #     ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE FIFTH
                  07 # BIT-SLICED BOARD IS STUCK ACTIVE.
```
0025070
```
                  08
                  09 #         MASCM 08-06  FA1060  MAIN STORE CONTROLLER - BITS 4 &12


            -001- 12 #& TBL 5140
            -001- 13 #& TEST 51
            -001- 14 #& SEGMENT 3
            -001- 15 #& PR CDGSWP
            -001- 16 #
                  17 #     ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE SIXTH
                  18 # BIT-SLICED BOARD IS STUCK ACTIVE.
```
0025070
```
                  19
                  20 #         MASCM 08-07  FA1060  MAIN STORE CONTROLLER - BITS 5 &13


            -001- 23 #& TBL 5141
            -001- 24 #& TEST 51
            -001- 25 #& SEGMENT 3
            -001- 26 #& PR CDGSWP
            -001- 27 #
                  28 #     ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE SEVENTH
                  29 # BIT-SLICED BOARD IS STUCK ACTIVE.
```
0025070
```
                  30
                  31 #         MASCM 08-08  FA1060  MAIN STORE CONTROLLER - BITS 6 &14
```

```
                              -001- 01 #& TBL 5142
                              -001- 02 #& TEST 51
                              -001- 03 #& SEGMENT 3
                              -001- 04 #& PR CDGSWP
                              -001- 05 #
                                    06 #    ONE OF THE ENABLES ON A WRITE PROTECT BIT SELECTOR GATE ON THE EIGHTH
                                    07 # BIT-SLICED BOARD IS STUCK ACTIVE.
0025070                             08
                                    09 #         MASCM 08-09  FA1060  MAIN STORE CONTROLLER - BITS 7 &15

                              -001- 12 #& TBL 5143
                              -001- 13 #& TEST 51
                              -001- 14 #& SEGMENT 4
                              -001- 15 #& PR CDGSWP
                              -001- 16 #
                                    17 #    THE WRITE-COMMAND ENABLE (NOTWCO) ENABLE ON THE INPUT OF THE WRITE PROTECT
                                    18 # ERROR FF (SERB) IS STUCK-AT-ONE (HIGH).
0025070                             19
                                    20 #         MASCM 08-21  FA1065  MAIN STORE CONTROLLER - COMMAND DECODER
0025070                             21         END
```

```
TROUBLE LOCATION MANUAL                                      0:06:56   2/06/81  ****

    VALUE  T  NAME        DEF/REF    ATTRIBUTES AND REFERENCES         CDGSWP        W77D

    14144660 S  .STOP
     0113410 L  %%%352      31-27   31-22
 06  0025316 L  %%%355      31-37   31-32
     0113415 L  %%%377      34-20   34-15
 06  0025417 L  %%%380      34-35   34-30
     0113422 L  %%%405      38-01   37-42
 06  0025560 L  %%%408      38-11   38-06
     0113500 L  %%%459      46-34   46-29
 06  0025741 L  %%%463      46-45   46-40
     0113427 L  %%%497      51-11   51-06
 06  0026077 L  %%%500      51-25   51-20
     0000201 A  %BITCNT              1-08
           0 U  %BOP                 1-08
     0000001 A  %CLAS       LIBNUM=15       1-08
     0000001 A  %MAXWRD     LIBNUM=15       1-08
 'CDGSWP'    T  %NAME%
           0 J  %OW%        1-10
           0 J  %PFT%
 '(RAO,RAO+1)
 '           T  %SAVREGS
     0000010 A  %TA1%       24-02  31-18, 34-10, 37-38, 40-02, 43-02, 46-25, 51-01, 58-02, 61-02, 80-02
           0 J  %TCHEAD%    1-10
 'PRLINE 1,1,
 '           ----------
             ----------
             ----------
             ----------
             ----------
             ----------
             ----------
             ----------
             ----------
             ----------'T  %US%
 TT----------    T  %USING12
 ''              T  %USING14
     0000001 A  %WRDCNT     LIBNUM=15       1-08
           0 U  AA
     0000107 A  AA%         LIBNUM=15       1-08
     0020016 A  ALLZERO     18-04
 'APPLY ERRON
 EOUS ORDER(0
 /8) TO CHECK
 ER'         T  ALLZEROT
     0063476 A  BADCODE     18-06
 'APPLY ERRON
 EOUS ORDER(5
 /8) TO CHECK
 ER'         T  BADCODET
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
      TROUBLE LOCATION MANUAL                                                    0:06:56    2/06/81  ****

           VALUE  T  NAME        DEF/REF    ATTRIBUTES AND REFERENCES                        CDGSWP        W77D

'PAGSCR+30'  T BASADDR           W=4  S=0  N=36  CL=2          26-34, 28-33, 33-31, 34-36, 37-24, 45-40, 49-38, 54-37, 63-30,
                                                              64-42, 66-39, 68-05, 72-38, 74-10, 78-40, 79-02
          0 U BB%                 1-08
          0 U BF
          4 R BITPTR             22-09 63-32, 64-29, 64-31, 64-32, 64-34, 66-37, 67-04, 67-38, 67-43, 67-44, 72-36, 73-08, 73-09,
                                        73-42, 73-46, 74-02, 74-03
     0000000 A BIT0              16-05
     0000001 A BIT1              16-06
     0000012 A BIT10             16-15
     0000013 A BIT11             16-16
     0000014 A BIT12             16-17
     0000015 A BIT13             16-18
     0000016 A BIT14             16-19
     0000017 A BIT15             16-20
     0000020 A BIT16             16-21
     0000021 A BIT17             16-22
     0000022 A BIT18             16-23
     0000023 A BIT19             16-24
     0000002 A BIT2              16-07
     0000003 A BIT3              16-08
     0000004 A BIT4              16-09
     0000005 A BIT5              16-10
     0000006 A BIT6              16-11
     0000007 A BIT7              16-12
     0000010 A BIT8              16-13
     0000011 A BIT9              16-14
  06 0025114 L BKCSTWP1          24-39 40-07
  06 0025651 L BKCSTWP2          43-39 58-07
  06 0026303 L BKCSTWP3          61-39 80-07
          2 R BLKMSK             7-15
     0000161 A BR%T              LIBNUM=15        82-20
     0047214 A BUSCHK            18-08
'CHECK BUS I
SOLATION USI
NG SER'      T BUSCHKT
         17 R CC                 W=1  S=14  N=0  CL=1  LIBNUM=15
'SER+0'      T CHDIF             W=1  S=2   N=0  CL=2
         10 R CHKNDX             7-04
'CIOBUF+0'   T CINIT             W=1  S=0   N=0  CL=2
'CIOBUF+0'   T CKHLT             W=1  S=2   N=0  CL=2
'CIOBUF+0'   T CKSTP             W=1  S=1   N=0  CL=2
     0040374 A CKTINIT           18-10
'INITIALIZE
ALL STORE CO
NTROLLER CIR
CUITS'       T CKTINITT
     0046074 A CLKSTOP           18-15  50-07
'DISABLE STO
RE CONTROLLE
```

VALUE	T NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSWP	W77D

```
R CLOCK OUTP
UT'        T CLKSTOPT
   0046070 A CLKSTRT     18-17  50-37
'ENABLE STOR
E CONTROLLER
 CLOCK OUTPU
T'         T CLKSTRTT
   0177771 A CLOCKON     22-01
   0043310 A CLRSER      18-13  29-02, 33-46, 35-06, 37-36, 46-06, 50-04, 50-18, 50-30, 55-03, 55-15, 64-10, 67-10, 67-19,
                                73-15, 73-26, 78-46, 79-08, 81-34
'CLEAR STORE
 ERROR REGIS
TER'       T CLRSERT
'CLRSER'   T COMENT
'
```

```
    ¢.<(+|&
        !$*);
 ¬/
,%_>?
    :#∂'=" ab
cdefghi ₙ≤⌐
† jklmnopqr^
  ¤>±=-~stuvw
xyz◦⌐ᴸ⌐[≥◦012
3456789↑⌐↓]≠
-¢abcdefghi
     >jklmno
pqr      \ s
tuvwxyz
 0123456789
     '        T CONLC              LIBNUM=7
'n
```

```
     z
  ¢e<hp|x
       v$fgs
¬al          :
↑%_>k
   jo#b'd" ab
cdefghi ₙ≤⌐
† jklmnopqr^
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
TROUBLE LOCATION MANUAL                                        0:06:56   2/06/81  ****

   VALUE  T  NAME        DEF/REF    ATTRIBUTES AND REFERENCES                 CDGSWP        W77D
```

```
x)±=-~stuvw
xyz+L[≥012
3456789↑↵]≠
-(ABCDEFGHI
   )JKLMNO
PQR     \ S
TUVWXYZ
 0123456789
```

```
'          T CONSC            LIBNUM=7
   CDGSIO  V CONTPREP    6-25  24-38, 43-38, 61-38
'DGREQLO+0' T CONTROLBITS      W=7  S=11  N=0  CL=2
   0000053 A COUNT       23-11 LIBNUM=16      41-11, 59-11, 84-01, 84-03, 84-18, 85-01, 85-12, 85-23, 86-01, 86-13, 86-29,
                               87-01, 87-12, 87-23, 88-01, 88-12, 88-23, 89-01, 89-12, 89-23, 90-01, 90-12, 90-23, 91-01,
                               91-22, 91-24, 92-01, 92-12, 92-23, 93-01, 93-12, 93-23, 94-01, 94-12, 94-23, 95-01, 95-12,
                               95-23, 96-01, 96-12, 96-23, 97-01, 97-12, 97-23, 98-01, 98-20, 98-22, 99-01, 99-23,100-01,
                               100-12,100-23,101-01,101-12,101-23,102-01,102-12,102-24,103-01,103-13,103-25,104-01,104-13,
                               104-25,105-01,105-14,105-27,106-01,106-14,107-01,107-14,107-27,108-01,108-13,108-25,109-01,
                               109-13,109-25,110-01,110-13,110-25,111-01,111-12,111-23,112-01,112-12,112-23,113-01,113-12

   0111432 L CPATCH      2-21
   0112562 L CPATCH1     2-22  31-22, 34-15, 37-42, 46-29, 51-06
   0114107 L CPATCH2     2-23
   0115073 L CPATCH3     2-24
   0121236 L CPATCH7     2-25
06 0025071 L CSTWP1      2-13  23-11
06 0025626 L CSTWP2      2-14  41-11
06 0026260 L CSTWP3      2-15  59-11
'CHKWRD+0'  T CTRLCK           W=1  S=16  N=0  CL=2
   0000000 A DATAWD      23-11 41-11, 59-11
```

```
¢.<(+!&
    !$*);
~/
,%_>?
  :#@'="
      n≤(+

↑
 x)±=-~
  +L[≥012
3456789↑↵]≠
-(ABCDEFGHI
   )JKLMNO
PQR     \ S
TUVWXYZ
 0123456789
```

TROUBLE LOCATION MANUAL

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES
'	T	DELLC		LIBNUM=7
0	U	DF		
CTSD	V	DGNLIM	6-12	
CTSD	V	DGREQ	6-37	
'SER+0'	T	DHPER		W=1 S=11 N=0 CL=2
06 0025235	L	DIRFAL	29-17	29-09, 29-11, 29-13
'SER+0'	T	DLPER		W=1 S=15 N=0 CL=2
06 0025455	L	DRFAIL	35-22	35-14, 35-16, 35-18
'#	P			
ROC 02-23				
FA1046 DOUB				
LE STORE REA				
D'	T	DSR		LIBNUM=13
0	U	EF		
0000252	A	ER%F		LIBNUM=15 64-14, 67-23, 73-30, 79-09
0000053	A	ERBENSTK	113-12	79-33,113-12
0146074	A	ERCOLL	18-19	
'COLLECT ERR				
ORS IN STORE				
ERROR REG'	T	ERCOLLT	7-21	
10	R	ERSAVE	7-21	
0	J	ESS2	1-10	
1	J	ESS2E	1-09	
CSYSUB	V	EXCOFLPG	6-28	
0145454	A	EXERLD	18-21	
'ENABLE EXTE				
RNAL LOAD OF				
STORE ERROR				
REG'	T	EXERLDT		
0145454	A	EXLDB15	18-24	
'ENABLE EXTE				
RNAL LOAD OF				
STORE ERROR				
REG W/ ERRO				
R COLLECT OP				
TION'	T	EXLDB15T		
CDGNOF	V	FAILOFF	3-41	
0010000	A	FAKO10	21-36	
0005440	A	FASTREF	18-26	
'PERFORM FAS				
T REFRESH ON				
STORE'	T	FASTREFT		
0045454	A	FASTRNC	18-28	
'FORCE FAST				
REFRESH W/O				
CLOCK'	T	FASTRNCT		
0	U	FB		
0146074	A	FBITO9	18-32	
0146064	A	FBITO9R	18-35	

STORE WRITE PROTECT TEST

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES			
'COLLECT ERR ORS IN SER W / REFRESH ON'	T	FBIT09RT					
'COLLECT ERR ORS IN STORE ERROR REGIS TER'	T	FBIT09T					
0146076	A	FBRMB15	18-37				
'FANOUT BOAR D REFRESH W/ ERROR COLLE CT'	T	FBRMB15T					
'CIOBUF+0'	T	FBT09		W=1	S=17	N=0	CL=2
0020000	A	FBUSRDN	21-38				
0046314	A	FCHKBT	18-39				
0046304	A	FCHKBTR	18-41				
'ACTIVATE SH IFTER CHECK BIT W/ REFRE SH ENABLED'	T	FCHKBTRT					
'ACTIVATE MA IN SHIFTER C HECK BIT'	T	FCHKBTT					
0040574	A	FCHK0S	18-43				
'FORCE ZEROS TO MODULE S ELECT XOR CH ECK & WRITE PROTECT SELE CT XOR CHECK CIRCUITS'	T	FCHK0ST					
0041274	A	FCHK1S	18-46				
'FORCE ONES TO MODULE S ELECT XOR CH ECK & WRITE PROTECT SELE CT XOR CHECK CIRCUITS'	T	FCHK1ST					
0140574	A	FCK0S15	18-49				
'FORCE ZEROS TO CHECK CK TS W/ ERROR COLLECT'	T	FCK0S15T					
0141274	A	FCK1S15	19-02				
'FORCE ONES TO CHECK CK TS W/ ERROR COLLECT'	T	FCK1S15T					

STORE WRITE PROTECT TEST

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TROUBLE LOCATION MANUAL

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES
0	U	FD		
0043074	A	FDISIDLE	19-04	
'FORCE DISAB
LE OF IDLE F
LOP' | | | | |
	T	FDISIDLET		
0	U	FE		
0	U	FF		
0000002	A	FFOBRM	21-44	
0145454	A	FFRMB15	18-30	
'FORCE FAST
REFRESH & BI
T 15' | | | | |
	T	FFRMB15T		
0020016	A	FGLDNCFR	22-02	
1	J	FIELD	1-09	
CDGSIO	V	FINAL	6-24	40-06, 58-06, 80-06
0046156	A	FLSHO	19-06	
0046154	A	FLSHONC	19-09	
'PRESENT ZER
O TO INPUT O
F MAIN SHIFT
ER' | | | | |
| | T | FLSHONCT | | |
'START ZERO
INTO MAIN SH
IFTER' | | | | |
	T	FLSHOT		
0044474	A	FNOTIM	19-16	
0044470	A	FNOTIMC	19-19	45-37, 63-46
'BLOCK TIMIN
G TO FANOUT
BOARDS(W/CLO
CK)' | | | | |
| | T | FNOTIMCT | | |
'INHIBIT TIM
ING SIGNALS
TO FANOUT BO
ARDS' | | | | |
	T	FNOTIMT		
0045434	A	FNOWRT	19-12	
0045430	A	FNOWRTC	19-14	
'FORCE WRITI
NG OF ONES W
/ CLOCK RUNN
ING' | | | | |
| | T | FNOWRTCT | | |
'FORCE WRITI
NG OF ALL-ON
ES DATA' | | | | |
	T	FNOWRTT		
10	R	FOBCNT	7-05	
0041550	A	FOBMT	19-21	
'FANOUT BOAR
D MAINTENANC
E TEST' | | | | |
| | T | FOBMTT | | |
| CDGSFA | V | FOBNDX | 6-17 | |

STORE WRITE PROTECT TEST

TROUBLE LOCATION MANUAL

CDGSWP   W77D

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES
'PAGSCR+26'	T	FOBNUM		W=20 S=0 N=32 CL=2
'SER+0'	T	FOBPARER		W=1 S=10 N=0 CL=2
'SER+0'	T	FOBTERA		W=1 S=7 N=0 CL=2
'SER+0'	T	FOBTERB		W=1 S=0 N=0 CL=2
0000004	A	FOUR	16-25	
0041474	A	FRFSEL0	19-23	
'CANCEL SELE CT FROM FOB0 DURING REFR ESH'	T	FRFSEL0T		
0042334	A	FRFSEL1	19-25	
'CANCEL SELE CT FROM FOB1 DURING REFR ESH'	T	FRFSEL1T		
0042534	A	FRFSEL2	19-27	
'CANCEL SEI.E CT FROM FOB2 DURING REFR ESH'	T	FRFSEL2T		
0043234	A	FRFSEL3	19-29	
'CANCEL SELE CT FROM FOB3 DURING REFR ESH'	T	FRFSEL3T		
0043434	A	FRFSEL4	19-31	
'CANCEL SELE CT FROM FOB4 DURING REFR ESH'	T	FRFSEL4T		
0044354	A	FRFSEL5	19-33	
'CANCEL SELE CT FROM FOB5 DURING REFR ESH'	T	FRFSEL5T		
0044554	A	FRFSEL6	19-35	
'CANCEL SELE CT FROM FOB6 DURING REFR ESH'	T	FRFSEL6T		
0045254	A	FRFSEL7	19-37	
'CANCEL SELE CT FROM FOB7 DURING REFR ESH'	T	FRFSEL7T		
0044334	A	FRREQA	19-39	
'SET REFRESH REQUEST ON TIMING BOARD				

STORE WRITE PROTECT TEST

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TROUBLE LOCATION MANUAL

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES
(FA1071)'	T	FRREQAT		
0040674	A	FRREQB	19-42	
0040664	A	FRREQBR	19-45	
'SET REFRESH REQUEST ON FA1062 W/ RE FRESH ENABLE D'	T	FRREQBRT		
'SET REFRESH REQ COPY ON CHECK BOARD A (FA1062)''	T	FRREQBT		
0100000	A	FSBIT09	21-41	
'CIOBUF+0'	T	FSEL		W=1 S=16 N=0 CL=2
0046074	A	FSELA	19-47	
'FORCE STORE SELECT(ISOL ATE) SIGNAL ON FA1071'	T	FSELAT		
0004714	A	FSELB	20-02	
0004710	A	FSELBC	20-05	
'FORCE DUPLI CATED STORE SELECT(SELB) W/ CLOCK'	T	FSELBCT		
'FORCE DUPLI CATED STORE SELECT(SELB) ACTIVE'	T	FSELBT		
0046516	A	FSTFBRM	20-07	
'FORCE CONTR OLLER & FANO UT BOARDS TO REFRESH'	T	FSTFBRMT		
0042354	A	FSTNM	20-09	
0052354	A	FSTNMFR	20-11	
'FORCE NORMA L MODE IN CO NTROLLER & R EFRESH TO FA NOUT BOARDS'	T	FSTNMFRT		
0042344	A	FSTNMR	20-13	
'FORCE MODE TO NORMAL W/ REFRESH ENA BLED'	T	FSTNMRT		
'FORCE MODE FLOP TO NORM AL STATE'	T	FSTNMT		

STORE WRITE PROTECT TEST

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TROUBLE LOCATION MANUAL                                               0:06:56    2/06/81  ****

      VALUE  T  NAME     DEF/REF    ATTRIBUTES AND REFERENCES                     CDGSWP       W77D

    0046514 A FSTRM       20-15
'FORCE MODE
FLOP TO REFR
ESH STATE'   T FSTRMT
    0046234 A FTINWP      20-17
'FORCE IN-WR
ITE-PROTECT
INHIBIT'     T FTINWPT
'CHKWRD+0'   T FXORG                   W=1  S=17  N=0  CL=2
          0 U F0
          0 U F7
    0000004 A HALTCLK     21-46  50-18, 50-30
          1 R HIPATBAK     7-13
            HIPATBAK%T     7-14 IS A SYNONYM OF R1%T
'ILLEGAL CON
DITIONAL IN
THE IF MACRO'T IFERROR1
'DATA > 0 OR
 DATA < 0 IS
 MEANINGLESS
, USE DATA ¬
= 0'         T IFERROR2
'TWO CONSTAN
TS ARE BEING
 COMPARED IN
 IF MACRO'   T IFERROR3
'AN ITEM WAS
 COMPARED TO
 SOMETHING O
THER THAN A
CONSTANT'    T IFERROR4
'DESTINATION
 OF AN = STA
TEMENT IS A
CONSTANT'    T IFERROR5
'ATTEMPTING
TO SET ITEM
= TO SOMETHI
NG OTHER THA
N A CONSTANT'T IFERROR6
'ITEM MAY ON
LY USE THE =
 AND ¬= COND
ITIONALS'    T IFERROR7
 06 0025323 L INDIRF      32-03  31-11, 31-13, 31-15
 06 0025565 L INDRFAIL    38-24  37-16, 37-18, 37-20
   CSYSUB    V INIT_OCC    6-29
    0000001 A INITBIT     21-42
   CSYSUB    V INITOST     6-30


   STORE WRITE PROTECT TEST                                            PR-1C927-50
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TROUBLE LOCATION MANUAL   0:06:56   2/06/81 ****

| VALUE | T | NAME | DEF/REF | ATTRIBUTES AND REFERENCES | CDGSWP   W77D |

```
      CSYSUB  V INSYNC          6-31
      CDGNM   X INTRPNO3        3-38  24-45, 26-43, 29-21, 31-41, 32-07, 35-26, 38-15, 38-28, 43-45, 47-04, 51-38, 55-45, 61-45,
                                      65-05, 68-21, 74-26, 79-21
'PAGSCR+25'   T IOADDR                W=20  S=0  N=31  CL=2        28-37
'!&'          T IOBRK
      0006220 A IOGO            20-19
'ENABLE ON-L
INE I/O ACCE
SS TO OFF-LI
NE STORE'     T IOGOT
      0000001 A IOPRTYER        84-03  91-24, 98-22
      0125252 A IOTSTA          20-21
'I/O TEST PA
TTERN #1'     T IOTSTAT
      0052525 A IOTST5          20-23
'I/O TEST PA
TTERN #2'     T IOTST5T
'CHKWRD+0'    T ISOBTS                W=7  S=0  N=0  CL=2
      0067214 A ISOCHK          20-25
'ISOLATE FRO
M FAR STORES
& VERIFY VI
A SER'        T ISOCHKT
      0027214 A ISOCHKU         20-29
'APPLY ONES
TO STORE DAT
A BUS(W/O IS
OLATE)'       T ISOCHKUT
      0040000 A ISOLATE         21-40
      0043454 A KILL12          20-31
'CLEAR SHIFT
ER BIT IN PO
SITION 12'    T KILL12T
'CIOBUF+0'    T LDFG                  W=1  S=15  N=0  CL=2
      0025730 A LDPARX                LIBNUM=15        82-22
      0020000 A LOADCHK         21-39
'PAGSCR'      T LONAM_BASADD
                R
'SER'         T LONAM_CHDIF
'CIOBUF'      T LONAM_CINIT
'CIOBUF'      T LONAM_CKHLT
'CIOBUF'      T LONAM_CKSTP
'DGREQLO'     T LONAM_CONTRO
                LBITS
'CHKWRD'      T LONAM_CTRLCK
'SER'         T LONAM_DHPER
'SER'         T LONAM_DLPER
'CIOBUF'      T LONAM_FBT09
'PAGSCR'      T LONAM_FOBNUM
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TROUBLE LOCATION MANUAL                                          0:06:56    2/06/81  ****

    VALUE   T  NAME        DEF/REF    ATTRIBUTES AND REFERENCES            CDGSWP        W77D

'SER'          T LONAM_FOBPAR
               ER
'SER'          T LONAM_FOBTER
               A
'SER'          T LONAM_FOBTER
               B
'CIOBUF'       T LONAM_FSEL
'CHKWRD'       T LONAM_FXORG
'PAGSCR'       T LONAM_JOADDR
'CHKWRD'       T LONAM_ SOBTS
'CIOBUF'       T LONAM_LOFG
'PAGSCR'       T LONAM_LOOPSU
               B
'SER'          T LONAM_MODER
'SER'          T LONAM_MPXER
'MASCIOSC'     T LONAM_MSSC0
'MASCIOSC'     T LONAM_MSSC1
'MASCIOSC'     T LONAM_MSSC2
'MASCIOSC'     T LONAM_MSSC3
'STRSTAT'      T LONAM_PASBT
'STRSTAT'      T LONAM_PHBAK
'STRSTAT'      T LONAM_PLBAK
'SER'          T LONAM_PWER
'CIOBUF'       T LONAM_REFST
'SER'          T LONAM_RSELER
'RSLCHK'       T LONAM_RSEL06
'RSLCHK'       T LONAM_RSEL7
'CHKWRD'       T LONAM_RSVD0
'RSLCHK'       T LONAM_RSVD1
'RSLCHK'       T LONAM_SAPHLP
'RSLCHK'       T LONAM_SA17LP
'SER'          T LONAM_SCMER
'CHKWRD'       T LONAM_SDPCK
'SER'          T LONAM_SHER
'STRSTAT'      T LONAM_SNGBTE
               R
'DGREQLO'      T LONAM_SPARE
'CIOBUF'       T LONAM_STORDE
               R
'RSLCHK'       T LONAM_STRSLP
'SER'          T LONAM_TBER
'PAGSCR'       T LONAM_TIMSAV
'DGREQLO'      T LONAM_TSTNUM
'PAGSCR'       T LONAM_UPADDR
'CHKWRD'       T LONAM_WDISOL
'MASCIOSC'     T LONAM_OSSC0
'MASCIOSC'     T LONAM_OSSC1
'MASCIOSC'     T LONAM_OSSC2
'MASCIOSC'     T LONAM_OSSC3
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STORE WRITE PROTECT TEST   PR-1C927-50

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   TROUBLE LOCATION MANUAL                                                    0:06:56   2/06/81  ****

        VALUE   T  NAME        DEF/REF   ATTRIBUTES AND REFERENCES                            CDGSWP      W77D

'STRSTAT'    ,T LONAM_OWDSTR
                0
'CIOBUF'      T LONAM_010TM
'CHKWRD'      T LONAM_2EPCK
   CDGNM      V LOOPIND       6-09  24-34, 24-35, 24-37, 24-37, 24-39, 24-39, 43-34, 43-35, 43-37, 43-37, 43-39, 43-39, 61-34,
                                    61-35, 61-37, 61-37, 61-39, 61-39
'PAGSCR+24'   T LOOPSUB             W=20  S=0  N=30  CL=2
   0000000    A LPINDX        26-45  26-48, 27-11, 27-14, 27-26, 27-29, 29-23, 29-26, 29-38, 29-41, 30-03, 30-06, 30-18, 30-21,
                                     32-09, 32-12, 32-24, 32-27, 32-39, 32-42, 33-05, 33-08, 35-28, 35-31, 35-43, 35-46, 36-10,
                                     36-13, 36-25, 36-28, 38-30, 38-33, 38-45, 38-48, 39-11, 39-14, 39-26, 39-29, 47-06, 47-09,
                                     47-21, 47-24, 47-36, 47-39, 51-40, 51-43, 52-10, 52-13, 52-25, 52-28, 52-40, 52-43, 56-01,
                                     56-04, 56-16, 56-19, 56-31, 56-34, 65-07, 65-10, 65-22, 65-25, 68-23, 68-26, 68-38, 68-41,
                                     69-04, 69-07, 69-19, 69-22, 69-34, 69-37, 70-04, 70-07, 70-19, 70-22, 70-34, 70-37, 74-28,
                                     74-31, 74-43, 74-46, 75-10, 75-13, 75-25, 75-28, 75-40, 75-43, 76-10, 76-13, 76-25, 76-28,
                                     76-40, 76-43, 77-10, 77-13, 77-25, 77-28, 79-23, 79-26
           4 R LSTPAT         7-17
    TTYTBL   X M%AS           24-28  24-28, 43-28, 61-28
'#          M
ASCM 08-24
FA1068 MAIN
 STORE CONTR
OLLER - BUS
CONTROL'      T MASCBSCL            LIBNUM=13
'#          M
ASCM 08-02
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 0 & 8'       T MASCBS0             LIBNUM=13
'#          M
ASCM 08-03
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 1 & 9'       T MASCBS1             LIBNUM=13
'# NOTE--1 M
ASCM 08-11
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 17&21'       T MASCBS10            LIBNUM=13
'#          M
ASCM 08-04
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 2 &10'       T MASCBS2             LIBNUM=13
'#          M
ASCM 08-05
```

TROUBLE LOCATION MANUAL   0:06:56   2/06/81   ****

          VALUE T. NAME   DEF/REF   ATTRIBUTES AND REFERENCES   CDGSWP   W77D

FA1060 MAIN
 STORE CONTR
OLLER - BITS
 3 &11'   T MASCBS3   LIBNUM=13
 '#   M
ASCM 08-06
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 4 &12'   T MASCBS4   LIBNUM=13
 '#   M
ASCM 08-07
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 5 &13'   T MASCBS5   LIBNUM=13
 '#   M
ASCM 08-08
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 6 &14'   T MASCBS6   LIBNUM=13
 '#   M
ASCM 08-09
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 7 &15'   T MASCBS7   LIBNUM=13
 '#   M
ASCM 08-16
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 PL&PH'   T MASCBS8   LIBNUM=13
 '# NOTE--1 M
ASCM 08-10
FA1060 MAIN
 STORE CONTR
OLLER - BITS
 16&20'   T MASCBS9   LIBNUM=13
 '#   M
ASCM 08-17
FA1062 MAIN
 STORE CONTR
OLLER - CHEC
K CIRCUIT A' T MASCCHKA   LIBNUM=13
 '#   M
ASCM 08-23
FC203   MAIN

STORE WRITE PROTECT TEST   PR-1C927-50

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        VALUE   T  NAME      DEF/REF   ATTRIBUTES AND REFERENCES           CDGSWP      W77D

  STORE CONTR
  OLLER CLOCK
  & I/O INTERF
  ACE'          T  MASCCLK             LIBNUM=13
  '#        M
ASCM 08-21
FA1065  MAIN
  STORE CONTR
  OLLER - COMM
  AND DECODER'  T  MASCCOMD            LIBNUM=13
    0046071     A  MASCINT    20-33   24-41, 26-32, 28-40, 43-41, 45-34, 49-37, 54-36, 61-41, 63-37, 66-44, 72-48, 78-30
  'INITIALIZE
  STORE CONTRO
  LLER'         T  MASCINTT
    MASACS      V  MASCIOSC    6-04
    0046076     A  MASCLK     20-37
    0046074     A  MASCLKN    20-40
  'FAKE SECOND
   HALF OF STO
  RE CLOCK CYC
  LE'           T  MASCLKNT
  'FAKE FIRST
  HALF OF STOR
  E CLOCK CYCL
  E'            T  MASCLKT
  '#        M
ASCM 08-22
FA1063  MAIN
   STORE CONTR
  OLLER - I/O
  ORDER RECEIV
  ER'           T  MASCMTCA            LIBNUM=13
  '#        M
ASCM 08-20
FA1064  MAIN
   STORE CONTR
   OLLER - I/O
  ORDER DECODE
  R'            T  MASCMTCB            LIBNUM=13
  '#        M
ASCM 08-18
FA1071  MAIN
   STORE CONTR
   OLLER  - TIM
  ING GENERATO
  R'            T  MASCTIM             LIBNUM=13
    CTSD        V  MASERCNT    6-35
  '#        M
ASCM 03-33
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TROUBLE LOCATION MANUAL                                        0:06:56   2/06/81  ****

    VALUE   T NAME      DEF/REF   ATTRIBUTES AND REFERENCES              CDGSWP      W77D

JK3      MAIN    ,
STORE FANOU
T BOARD FOR
MODULE 1'    T MASFOB1            LIBNUM=13
    CDGSIO   X MASIOM    6-19     24-40, 26-31, 28-39, 29-01, 33-45, 35-05, 37-35, 43-40, 45-33, 45-36, 46-05, 49-36, 50-03,
                                  50-06, 50-17, 50-29, 50-36, 54-35, 55-02, 55-14, 61-40, 63-36, 63-45, 64-09, 66-43, 67-09,
                                  67-18, 72-47, 73-14, 73-25, 78-29, 78-45, 79-07, 81-33
    MASACS   V MASONOFF  6-39
         3   R MCHB               LIBNUM=15       29-07, 29-10, 29-12, 31-09, 31-12, 31-14, 35-12, 35-15, 35-17, 37-14, 37-17,
                                  37-19, 55-16, 55-19, 55-22, 64-26, 65-01, 67-35, 68-17, 73-43, 74-22, 31-35, 81-38, 81-40
  0000231    A MCHB%F             LIBNUM=15       24-20, 43-20, 61-20
  0000231    A MCHB%T             LIBNUM=15       64-14, 67-23, 73-30, 79-09
        0    R MCHTR              LIBNUM=15       63-39, 64-15, 66-46, 67-24, 73-01, 73-31, 78-32, 79-10, 82-16
  0026472    A MCHTRXMCHB%        LIBNUM=15       82-24
    CDGSIO   V MDSELMSK  6-20
        14   P MEMADDR   7-25
        14   R MEMADDRO  7-23
        15   R MEMADDR1  7-24
    CDGSBS   V MEMOP     6-14     28-48, 33-43, 35-03, 37-33, 46-03, 50-01, 50-15, 50-27, 54-49, 55-12, 64-07, 67-07, 67-16,
                                  73-12, 73-23, 78-43, 79-05, 81-31
    CDGSBS   V MEMOPI    6-15
```

```
 {.-( 18
  . 1$*);
 ¬/__?
 ,X__?
  :#@'=" ab
cdefghi n≤(+
† jklmnopqr^
x)±=~~stuvw
xyz+L[[3@012
3456789†↓¬]≠
-(ABCDEFGHI
 )JKLMNO
PQR    \ S
TUVWXYZ
0123456789
         '
         T MICODETR            LIBNUM=15
        7  R MNRNDX    7-20
'SEP.+0'    T MODER               W=1  S=5  N=0  CL=2
    CDGSIO   V MODSIZE   6-21     30-37, 33-48, 36-44, 46-08, 50-39, 55-26, 81-24
  0000000    A MOD0      16-27
  0000001    A MOD1      16-28
  0000002    A MOD2      16-29
```

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STORE WRITE PROTECT TEST                                                       PR-1C927-50
```

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```
      VALUE  T NAME       DEF/REF   ATTRIBUTES AND REFERENCES                            CDGSWP        W77D

     0000003 A MOD3       16-30
     0000004 A MOD4       16-31
     0000005 A MOD5       16-32
     0000006 A MOD6       16-33
     0000007 A MOD7       16-34
'SER+0'       T MPXER               W=1  S=1  N=0  CL=2
     0000215 A MSXT                 LIBNUM=15        24-20, 43-20, 61-20
     0006071 A MSCITNS    20-35
'INITIALIZE
STORE CONTRO
LLER W/O FOR
CE SELECT'    T MSCITNST
     0000032 A MSELXSA1   107-27   74-38,107-27
     0000013 A MSL15SA0   102-12   68-33,102-12
'MASCIOSC+0'  T MSSC0               W=20  S=0  N=0  CL=2
'MASCIOSC+2'  T MSSC1               W=20  S=0  N=2  CL=2
'MASCIOSC+4'  T MSSC2               W=20  S=0  N=4  CL=2
'MASCIOSC+6'  T MSSC3               W=20  S=0  N=6  CL=2
     0106263 A MTCRD      17-24
     0106203 A MTCWR      17-26    28-42, 33-37, 34-46, 37-27, 49-44, 50-09, 54-43, 67-03, 73-07, 78-37, 78-48
          12 R MWRTER              W=1  S=13  N=0  CL=1  LIBNUM=15        64-27, 67-36, 73-44, 79-26
       CDGNM  V NABT       3-31
       CDGNM  V NADD_OFF   3-22
       CDGNM  V NADMIC     3-23
       CDGNM  V NBEGIN     3-28
       CDGNM  V NBGN       3-39    23-14, 41-14, 59-14
       CDGNM  V NCLRMS     3-33
       CDGNM  V NCOMPARE   3-26    26-48, 27-14, 27-29, 29-26, 29-41, 30-06, 30-21, 32-12, 32-27, 32-42, 33-08, 35-31, 35-46,
                                   36-13, 36-28, 38-33, 38-48, 39-14, 39-29, 47-09, 47-24, 47-39, 51-43, 52-13, 52-28, 52-43,
                                   56-04, 56-19, 56-34, 65-10, 65-25, 68-26, 68-41, 69-07, 69-22, 69-37, 70-07, 70-22, 70-37,
                                   74-31, 74-46, 75-13, 75-28, 75-43, 76-13, 76-28, 76-43, 77-13, 77-28, 79-26
       CDGNM  V NDISABA    3-07
       CDGNM  V NDISABB    3-08
       CDGNM  V NEXECUTE   3-25
       CDGNM  V NFAILTST   3-16    27-20, 27-35, 29-32, 30-12, 30-27, 32-18, 32-48, 33-14, 35-37, 36-19, 36-34, 38-39, 39-20,
                                   39-35, 47-30, 47-45, 52-04, 52-34, 53-04, 56-25, 56-40, 65-16, 68-32, 68-47, 69-13, 69-28,
                                   69-43, 70-13, 70-28, 74-37, 75-04, 75-19, 75-34, 76-04, 76-19, 76-34, 77-04, 77-19, 79-32,
       CDGNM  V NFLBITS    3-37    27-05, 29-47, 32-33, 36-04, 39-05, 47-15, 52-19, 56-10, 65-31, 70-43, 77-34
       CDGNM  V NFRZ       3-27
       CDGNM  V NLDMIR     3-24
       CDGNM  V NLP_END    3-29
       CDGNM  V NMASK      3-18
       CDGNM  V NMICRO     3-02    24-19, 43-19, 61-19
     0106260 A NMLRD      17-28
     0106200 A NMLWR      17-30    67-14, 73-21
       CDGNM  V NNO3CD     3-34    24-24, 26-24, 28-27, 33-23, 39-42, 43-24, 45-28, 49-31, 54-30, 57-03, 61-24, 63-26, 66-33,
                                   72-32, 78-24, 79-40
     0113432 L NOBREAK    51-17   51-14
```

STORE WRITE PROTECT TEST   PR-1C927-50

```
       VALUE  T  NAME      DEF/REF    ATTRIBUTES AND REFERENCES                    CDGSWP        W77D

       CDGNM  , V NOSTPMES    6-10
       CDGNM    V NPASSTST    3-19
       CDGNM    V NPROS       3-14
       CDGNM    V NRDMICRO    3-32
       CDGNM    V NRESCLK     3-12
       CDGNM    V NRETRN      3-03
       CDGNM    V NRTNBLM     3-45     24-08, 43-08, 61-08
       0006074  A NSELA      19-49
'RESET STORE
 SELECT(ISOL
 ATE) SIGNAL
 ON FA1071'    T NSELAT
       CDGNM    V NSEND       3-20
       CDGNM    V NSKIP       3-30
       CDGNM    V NSTOP       3-06
       CDGNM    V NSTPCLK     3-10
       CDGNM    V NSTRT       3-05
       CDGNM    V NSTRTCLK    3-09
       CDGNM    V NTESTSEG    3-15     26-08, 28-08, 45-08, 49-08, 54-08, 63-08, 66-08, 72-08, 78-08
       CDGNM    V NTGCLK      3-11
       CDGNM    V NTMTEST     3-35
       CDGNM    V NTTY        3-17
       0000000  A NUM        22-11     40-14, 58-14
     . CDGNM    V NWDTST      3-46
           5    R NXTPAT      7-18
       CDGNM    V NZERO_ER    3-13
       CDGNM    V NZERPT      3-36
       CDGNM    V N2RETRN     3-04
     . CDGNM    V N2SEND      3-21     24-13, 43-13, 61-13
       0000200  A OFLNCHNK   16-37
       0007760  A OFLNDONE   16-38
       0000001  A ONE        16-35     78-38
       0177777  A ONES       16-36     28-43, 29-03, 33-38, 37-09, 37-28, 45-45, 45-46, 49-45, 54-44
```

```
 4.<(AON
     X$*);
-S/
,%_>?
  :#@'L" ab
cdefghi n≤(+
+ jklmnopqr^
 ¤)±■--stuvw
xyz+┗┏[≥●012
3456789↑␘┐]≠
```

C02

          VALUE T NAME   DEF/REF   ATTRIBUTES AND REFERENCES   CDGSWP   W77D

-CIBCLEFGHI
 }JKLMNO
PQR   \ S
LLLWLYZ
 0123456789
        '   T OPTR
    0001036 A ORG_000001   24-02   43-02, 61-02
    0000711 A ORG_000111   46-25
    0000536 A ORG_000223   31-18
    0000757 A ORG_000247   51-01
    0000567 A ORG_000324   34-10
    0001027 A ORG_000423   58-02
    0000623 A ORG_000465   37-38
    0000647 A ORG_000526   40-02
    0000540 A ORG_000626   31-28
    0001246 A ORG_000633   34-21   80-02
    0000625 A ORG_000640   38-02
    0000761 A ORG_000645   51-12
    0000713 A ORG_000716   46-35
         16 R OVLOF   W=1 S=0 N=0 CL=1 LIBNUM=15
      CTSD   V PAGSCR   6-36   24-29, 26-34, 28-33, 28-37, 33-31, 34-36, 37-24, 43-29, 45-40, 49-38, 54-37, 61-29, 63-30,
                                   64-42, 66-39, 68-05, 72-38, 74-10, 78-40, 79-02, 82-31
    0000002 A PARITY   24-10   43-10, 61-10
         10 R PARSLT   7-22
          3 R PASBT   15-08 W=1 S=6 N=0 CL=1
      CDGNOF V PASSOFF   3-40
      CDGNM V PASSTST   6-11   40-09, 58-09, 80-09
         16 P PATADDR   7-26
          0 R PATBAK   7-12
          6 R PATNDX   7-19
    0000025 A PH   LIBNUM=15   27-29, 30-21, 33-08, 36-28, 39-29, 47-39, 52-43, 56-34
          3 R PHBAK   15-04 W=1 S=1 N=0 CL=1
    0000024 A PL   LIBNUM=15   27-14, 30-06, 32-42, 36-13, 39-14, 47-24, 52-28, 56-19
          3 R PLBAK   15-03 W=1 S=0 N=0 CL=1
   'CDGSWP'   T PNAME
    0000020 A PRHOL0   16-45   35-02, 50-14, 50-23
    0000005 A PRHOL1   16-46
    0000012 A PRH1L0   16-47
    0000017 A PRH1L1   16-48
      CBLM   V PRTMASER   6-06
    0000002 A PRWOH1L0   16-49
    0000007 A PRWOH1L1   17-01
    0000010 A PRW1HOL0   17-02
    0000015 A PRW1HOL1   17-03
   'SER+0'   T PWER   W=1 S=12 N=0 CL=2
         11 R RANGE   7-07
         14 P RA0   LIBNUM=3   7-25, 24-44, 26-42, 29-20, 31-40, 32-06, 35-25, 38-14, 38-27, 43-44, 47-03,
                                   51-37, 55-44, 61-44, 65-04, 68-20, 74-25, 78-40, 78-41, 79-02, 79-03, 79-20, 81-22, 81-23,
                                   82-34, 82-35

   STORE WRITE PROTECT TEST   PR-1C927-50

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSWP	W77D

```
          16 P RA1                     LIBNUM=3       7-26, 26-34, 26-35, 28-33, 28-34, 33-31, 33-32, 34-36, 34-41, 37-24, 37-25,
                                                      45-40, 45-41, 49-38, 49-39, 54-37, 54-38, 63-30, 63-31, 66-39, 66-40, 72-38, 72-39, 82-31,
                                                      82-32
     0047410 A RDAD            20-42
     0047414 A RDADNC          20-45
'GATE STORE
 ADDRESS BITS
 TO STORE DA
TA BUS'         T RDADNCT
'GATE STORE
 ADDRESS BUS(
 SAO-16,PL) T
 O STORE DATA
 BUS(SD0-15,
 PL,PH) W/ CL
OCK'            T RDADT
'CIOBUF+0'      T REFST           W=1   S=3   N=0   CL=2
     0006070 A REFSTOP          20-47
'INHIBIT REF
RESHING OF S
TORE'           T REFSTOPT
     0006060 A REFSTRT          20-49
'RESUME REGU
LAR REFRESHI
NG OF STORE'    T REFSTRTT
           5 R RESULT           22-10  63-33, 64-29, 65-01, 66-38, 67-38, 68-13, 68-15, 68-16, 68-17, 72-37, 73-46, 74-18, 74-20,
                                       74-21, 74-22
     0046060 A RFWISOL          21-02
'RESUME REGU
LAR REFRESH
W/ STORE ISO
LATED'          T RFWISOLT
   CSYSUB     V RGCHKADR         6-32
' BASE ADDRE
SS OF STORE/
MOD UNDER TE
ST'            T RMK_BASADDR
' ERROR INDI
CATED BY STO
RE COMMAND C
HECKER'        T RMK_CHDIF
' MAIN STORE
 CONTROLLER
 INITIALIZATI
ON'            T RMK_CINIT
' CONTROLLER
 CLOCK HALT'   T RMK_CKHLT
' CONTROLLER
 CLOCK STEP'   T RMK_CKSTP
```

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   VALUE   T NAME   DEF/REF   ATTRIBUTES AND REFERENCES   CDGSWP   W77D

```
''              T RMK_CONTROLB
                  ITS
' RESULT OF
STORE CONTRO
L LEADS ISOL
ATION'          T RMK_CTRLCK
' ERROR IN P
ARITY OVER H
IGH DATA BIT
S'              T RMK_DHPER
' ERROR IN P
ARITY OVER L
OW DATA BITS'   T RMK_DLPER
' FORCE BIT
15 ACTIVE IN
 MAIN SHIFTE
R'              T RMK_FBT09
' NUMBER OF
MEMORY MODUL
ES (OR FANOU
T BOARDS) IN
 STORE CURRE
NTLY UNDER T
EST'            T RMK_FOBNUM
' PARITY ERR
OR DETECTED
IN ADDRESS R
EACHING FANO
UT BOARD(S)'    T RMK_FOBPARER
' STORE TIMI
NG ERROR FRO
M SELECTED F
OB'            T RMK_FOBTERA
' STORE TIMI
NG ERROR FRO
M UNSELECTED
 FOB'           T RMK_FOBTERB
' STORE SELE
CT FORCE ON
TIMING BOARD
 A'             T RMK_FSEL
' I/O ORDER
CHECKER EXCL
USIVE-OR RES
ULT'            T RMK_FXORG
' I/O SUBCHA
NNEL ADDRESS
 FOR CURRENT
 STORE CONTR
```

   STORE WRITE PROTECT TEST   PR-1C927-5D

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    VALUE T NAME   DEF/REF   ATTRIBUTES AND REFERENCES   CDGSWP   W77D

VALUE	T	NAME
OLLER'	T	RMK_IOADDR
' SDO-6,SD8-14 ISOLATE TEST RESULTS'	T	RMK_ISOBTS
' ORDER CHECKER EXCLUSIVE-OR LOAD'	T	RMK_LDFG
' ADDRESS OF SUBSTITUTE FOR 'LOOP' IN TTY TROUBLE MESSAGE'	T	RMK_LOOPSUB
' ALL-SEEMS-WELL SIGNAL NOT RECEIVED FROM MODULE (FOB) ACCESSED DURING NORMAL CYCLE'	T	RMK_MODER
' MULTIPLEXOR ERROR DETECTED BY CHECK BOARD'	T	RMK_MPXER
' ADDRESS OF MY STORE SUBCHANNEL 0'	T	RMK_MSSC0
' ADDRESS OF MY STORE SUBCHANNEL 1'	T	RMK_MSSC1
' ADDRESS OF MY STORE SUBCHANNEL 2'	T	RMK_MSSC2
' ADDRESS OF MY STORE SUBCHANNEL 3'	T	RMK_MSSC3
' REPEAT PASS THRU TEST INDICATOR'	T	RMK_PASBT
' PARITY HIGH VALUE READ BACK'	T	RMK_PHBAK
' PARITY LOW VALUE READ BACK'	T	RMK_PLBAK
' ERROR IN PARITY FOR WIDE STORE'	T	RMK_PWER
' STORE REFRESH STOP'	T	RMK_REFST

STORE WRITE PROTECT TEST   PR-1C927-50

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES		CDGSWP	W77D

```
' ALL MEMORY
MODULES(FOB
S) NOT SELEC
TED DURING R
EFRESH'        T RMK_RSELER
' REFRESH SE
LECTS FROM F
ANOUT BOARDS
0-6'           T RMK_RSEL06
' REFRESH SE
LECT FROM FA
NOUT BOARD 7'T RMK_RSEL7
' SD7,SD15 I
SOLATE TEST
RESULT - ONL
Y GATED INTO
BY LOAD I/O
DECODER CHE
CK (LOADCHK)
OPTION'        T RMK_RSVD0
' RESERVED -
FOBTERA IS
SET AFTER IN
IT'            T RMK_RSVD1
' STORE ADDR
ESS PARITY H
IGH LOOP RES
ULT'           T RMK_SAPHLP
' STORE ADDR
ESS BIT 17 L
OOP RESULT'    T RMK_SA17LP
' PREMATURE
STORE COMPLE
TE(SCM)'       T RMK_SCMER
' RESULT OF
STORE DATA P
ARITY ISOLAT
ION'           T RMK_SDPCK
' ERROR IN M
AIN SHIFTER
OPERATION'     T RMK_SHER
' SINGLE BIT
 ERROR FLAG'   T RMK_SNGBTER
''             T RMK_SPARE
' 4/8 MAINTE
NANCE STATE
CODE'          T RMK_STORDER
' STORE SELE
CT ADDRESS B
```

STORE WRITE PROTECT TEST   PR-1C927-50

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES		

CDGSWP   W77D

ITS LOOP RES
ULT'   T RMK_STRSLP
' ERROR DETE
CTED ON TIMI
NG BOARD'   T RMK_TBER
' SAVE TIMIN
G CONSTANT F
OR TIMOUT SU
BROUTINE'   T RMK_TIMSAV
' DIAGNOSTIC
TEST NUMBER
REQUESTED'   T RMK_TSTNUM
' ADDRESS OF
NEXT BLOCK
OF MEMORY TO
BE UPDATED
AFTER MEMORY
PATTERN TES
T'   T RMK_UPADDR
' RESULTS OF
WIDE DATA(S
D16-23) ISOL
ATE'   T RMK_WDISOL
' ADDRESS OF
OTHER STORE
SUBCHANNEL
0'   T RMK_OSSC0
' ADDRESS OF
OTHER STORE
SUBCHANNEL
1'   T RMK_OSSC1
' ADDRESS OF
OTHER STORE
SUBCHANNEL
2'   T RMK_OSSC2
' ADDRESS OF
OTHER STORE
SUBCHANNEL
3'   T RMK_OSSC3
' WIDE STORE
INDICATOR B
IT'   T RMK_OWDSTR0
' 0-10 BIT T
IMING SHIFTE
R FAKE'   T RMK_010TM
' RESULT OF
EXTENDED(3 B
IT) PARITY I
SOLATE'   T RMK_2EPCK

STORE WRITE PROTECT TEST

TROUBLE LOCATION MANUAL   0:06:56   2/06/81   ****

   VALUE T NAME   DEF/REF   ATTRIBUTES AND REFERENCES   CDGSWP   W77D

```
       0010177 A RSELBTS     14-22  14-23
       0167600 A RSELBTSN    14-23
'SER+0'         T RSELER               W=1   S=6   N=0   CL=2
'RSLCHK+0'      T RSEL06               W=7   S=0   N=0   CL=2   14-22
'RSLCHK+0'      T RSEL7                W=1   S=14  N=0   CL=2          14-22
'CHKWRD+0'      T RSVD0                W=1   S=7   N=0   CL=2
'RSLCHK+0'      T RSVD1                W=1   S=7   N=0   CL=2
       0047214 A RTNADHI     21-04
'LOAD SA17 &
SAPH INTO S
ER'             T RTNADHIT
'DGSWP'         T RTNAME
       0000261 A RTNMCHB              LIBNUM=15      64-20, 67-29, 73-36, 79-15
             0 R R0                   LIBNUM=3        7-12, 24-44, 26-42, 29-20, 30-36, 30-43, 30-46, 31-40, 32-06, 33-47, 34-05,
                                                     34-08, 35-25, 36-43, 37-01, 37-04, 38-14, 38-27, 43-44, 46-07, 46-14, 46-17, 47-03, 50-26,
                                                     50-38, 50-45, 50-48, 51-37, 55-25, 55-32, 55-35, 55-44, 61-44, 63-38, 63-39, 64-14, 64-15,
                                                     64-20, 64-41, 64-43, 64-44, 64-45, 65-04, 66-45, 66-46, 67-23, 67-24, 67-29, 68-04, 68-06,
                                                     68-07, 68-08, 68-13, 68-14, 68-15, 68-20, 72-49, 73-01, 73-30, 73-31, 73-36, 74-09, 74-11,
                                                     74-12, 74-13, 74-14, 74-19, 74-20, 74-25, 78-31, 78-32, 79-09, 79-10, 79-15, 79-20, 81-43,
                                                     81-46, 81-49, 82-06, 82-09, 82-13
       0000123 A R0XF                 LIBNUM=15      82-20
             1 R R1                   LIBNUM=3        7-13, 30-37, 30-38, 30-39, 30-42, 30-43, 30-44, 30-45, 33-48, 33-49, 34-01,
                                                     34-04, 34-05, 34-06, 34-07, 36-44, 36-45, 36-46, 36-49, 37-01, 37-02, 37-03, 46-08, 46-09,
                                                     46-10, 46-13, 46-14, 46-15, 46-16, 50-39, 50-40, 50-41, 50-44, 50-45, 50-46, 50-47, 55-26,
                                                     55-27, 55-28, 55-31, 55-32, 55-33, 55-34, 64-42, 64-43, 64-45, 68-05, 68-06, 68-08, 74-10,
                                                     74-11, 74-13, 81-39, 81-41, 81-44, 81-47, 82-05, 82-06, 82-07, 82-08
       0000125 A R1XT                 LIBNUM=15      7-14
            14 R R12                  LIBNUM=3        7-23, 26-34, 28-33, 28-45, 30-36, 30-41, 30-45, 30-46, 33-31, 33-40, 33-47,
                                                     34-03, 34-07, 34-08, 34-36, 34-49, 36-43, 36-48, 37-03, 37-04, 37-24, 37-30, 45-40, 45-48,
                                                     46-07, 46-12, 46-16, 46-17, 49-38, 49-47, 50-12, 50-24, 50-38, 50-43, 50-47, 50-48, 54-37,
                                                     54-46, 55-09, 55-25, 55-30, 55-34, 55-35, 63-30, 64-03, 64-40, 64-44, 66-39, 67-01, 67-12,
                                                     68-03, 68-07, 72-38, 73-05, 73-19, 74-08, 74-12, 81-28, 81-49, 82-04, 82-08, 82-09, 82-31
            15 R R13                  LIBNUM=3        7-24, 26-35, 28-34, 28-46, 30-38, 30-39, 33-32, 33-41, 33-49, 34-01, 34-41,
                                                     35-01, 36-45, 36-46, 37-25, 37-31, 45-41, 45-49, 46-09, 46-10, 49-39, 49-48, 50-13, 50-25,
                                                     50-40, 50-41, 54-38, 54-47, 55-10, 55-27, 55-28, 63-31, 64-04, 64-38, 66-40, 67-13, 67-42,
                                                     72-39, 73-20, 74-01, 81-29, 82-01, 82-02, 82-32
            16 R R14                  LIBNUM=3        28-43, 33-38, 34-47, 37-28, 45-45, 49-45, 50-10, 50-21, 54-44, 63-49, 67-04,
                                                     73-09, 78-38, 78-49
            17 R R15                  LIBNUM=3        26-36, 28-44, 29-04, 31-05, 33-39, 34-48, 35-08, 37-10, 37-29, 45-46, 46-23,
                                                     49-46, 50-11, 50-22, 51-31, 54-45, 64-01, 67-05, 73-10, 78-39, 79-01, 82-11
             2 R R2                   LIBNUM=3        7-15, 28-45, 33-40, 34-49, 37-30, 45-48, 49-47, 50-12, 50-24, 54-46, 55-09,
                                                     64-03, 67-01, 67-12, 73-05, 73-19, 78-40, 79-02, 81-28
             3 R R3                   LIBNUM=3        7-16, 28-46, 29-08, 31-10, 33-41, 35-01, 35-13, 37-15, 37-31, 45-49, 49-48,
                                                     50-13, 50-25, 54-47, 55-10, 55-17, 64-04, 64-27, 67-02, 67-13, 67-36, 73-06, 73-20, 73-44,
                                                     78-41, 79-03, 81-29, 81-36
             4 R R4                   LIBNUM=3        7-17, 24-28, 24-29, 28-35, 31-30, 33-33, 34-21, 34-42, 38-04, 43-28, 43-29,
                                                     45-38, 46-19, 49-40, 51-12, 51-18, 54-39, 55-37, 61-28, 61-29
             5 R R5                   LIBNUM=3        7-18, 81-24, 82-01, 82-02
             6 R R6                   LIBNUM=3        7-19, 28-47, 33-42, 35-02, 37-32, 46-01, 49-49, 50-14, 50-23, 54-48, 55-11,
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STORE WRITE PROTECT TEST   PR-1C927-50

```
        VALUE  T NAME      DEF/REF    ATTRIBUTES AND REFERENCES                          CDGSWP        W77D

                                      64-05, 78-42, 79-04, 81-30
            7 R R7                    LIBNUM=3       7-20, 28-42, 33-37, 34-46, 37-27, 45-44, 49-44, 50-09, 50-20, 54-43, 55-08,
                                                     63-48, 67-03, 67-14, 73-07, 73-21, 78-37, 78-48, 81-27
           10 R R8                    LIBNUM=3       7-21,  7-22, 26-33, 29-03, 31-04, 35-07, 37-09, 46-22, 51-26, 81-36, 81-44,
                                                     81-47
           11 R R9                    LIBNUM=3       28-37
    CTVTAB     V S%MCH                LIBNUM=7       64-22, 67-31, 73-38, 79-17
           14 P S%MCH%_%CSYS
                 UB                   LIBNUM=7
'RSLCHK+0'     T SAPHLP               W=1   S=10  N=0  CL=2
'RSLCHK+0'     T SA17LP               W=1   S=11  N=0  CL=2
'SER+0'        T SCMER                W=1   S=3   N=0  CL=2
'CHKWRD+0'     T SDPCK                W=1   S=14  N=0  CL=2
      0001275 A SERNO_047325  83-02
      0001301 A SERNO_047756  83-16
      0001305 A SERNO_049898  83-26
      0047114 A SERREAD       21-09
'READ BACK S
TORE ERROR R
EGISTER(SER)'T SERREADT
'SER+0'        T SHER                 W=1   S=4   N=0  CL=2
   CDGNM       V SLDMCHBF     3-42
   CSYSUB      V SLDMIRL      63-41  63-42, 64-17, 64-18, 66-48, 66-49, 67-26, 67-27, 73-03, 73-04, 73-33, 73-34, 78-34, 78-35,
                                     79-12, 79-13
   CDGNM       V SLDMIRLF     3-43
   CSYSUB      V SMCH         64-21  67-30, 73-37, 79-16
   CDGNM       V SMCHF        3-44
            3 R SNGBTER       15-07  W=1   S=5   N=0  CL=1
'DGREQLO+0'    T SPARE               W=2   S=7   N=0  CL=2
      0044714 A SPAREA        21-07
'SPARE I/O O
RDER'          T SPAREAT
      0106274 A SPRRD         17-32  55-08
      0106214 A SPRWR         17-34  50-20
'M%AS'         T SPWORD
      0000002 A STEPCLK       21-45
      0000010 A STOPREF       21-47
'CIOBUF+0'     T STORDER             W=10  S=4   N=0  CL=2
   TDATA       V STRLIM       6-41
   CDGSIO      V STRSIZE      6-22
'RSLCHK+0'     T STRSLP              W=1   S=12  N=0  CL=2
            3 R STRSTAT       7-16  15-03, 15-04, 15-06, 15-07, 15-08
      0041634 A STSBY         21-11
      0041630 A STSBYCL       21-13
'SET STORE B
USY(SBY) W/
CLOCK'         T STSBYCLT
'SET STORE B
USY(SBY) SIG
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    TROUBLE LOCATION MANUAL                                                    0:06:56   2/06/81  ****

        VALUE   T  NAME      DEF/REF    ATTRIBUTES AND REFERENCES                         CDGSWP      W77D

NAL'          T  STSBYT
    CDGSIO    V  STSELMSK   6-23   30-42, 34-04, 36-49, 46-13, 50-44, 55-31, 64-41, 68-04, 74-09, 82-05
    0000061   A  STWP1             LIBNUM=16    22-11
    0000062   A  STWP2             LIBNUM=16    40-14
    0000063   A  STWP3             LIBNUM=16    58-14
    0000000   A  SUCCES     26-45  26-48, 27-11, 27-14, 27-26, 27-29, 29-23, 29-26, 29-38, 29-41, 30-03, 30-06, 30-18, 30-21,
                                   32-09, 32-12, 32-24, 32-27, 32-39, 32-42, 33-05, 33-08, 35-28, 35-31, 35-43, 35-46, 36-10,
                                   36-13, 36-25, 36-28, 38-30, 38-33, 38-45, 38-48, 39-11, 39-14, 39-26, 39-29, 47-06, 47-09,
                                   47-21, 47-24, 47-36, 47-39, 51-40, 51-43, 52-10, 52-13, 52-25, 52-28, 52-40, 52-43, 56-01,
                                   56-04, 56-16, 56-19, 56-31, 56-34, 65-07, 65-10, 65-22, 65-25, 68-23, 68-26, 68-38, 68-41,
                                   69-04, 69-07, 69-19, 69-22, 69-34, 69-37, 70-04, 70-07, 70-19, 70-22, 70-34, 70-37, 74-28,
                                   74-31, 74-43, 74-46, 75-10, 75-13, 75-25, 75-28, 75-40, 75-43, 76-10, 76-13, 76-25, 76-28,
                                   76-40, 76-43, 77-10, 77-13, 77-25, 77-28, 79-23, 79-26
    0000000   A  SV_REG
'SER+0'       T  TBER              W=1   S=13  N=0   CL=2
    0000063   A  TESTNO     22-11  40-14, 58-14, 84-01, 91-22, 98-20
    0116774   L  TFAPCH2    2-27
    0000003   A  THREE      17-05
'PAGSCR+27'   T  TIMSAV            W=20  S=0   N=33  CL=2
    0000061   A  TLMFRST    5-01   22-11, 84-01
    0600000   L  TPATCH     2-29
    0001275   A  TR_012706  83-02
    0001301   A  TR_012736  83-16
    0001305   A  TR_012988  83-26
    0001246   A  TR_12706   24-02  40-02, 61-02, 80-02
    0001027   A  TR_12736   43-02  58-02
    0000761   A  TR_12988   31-18  31-28, 34-10, 34-21, 37-38, 38-02, 46-25, 46-35, 51-01, 51-12
06  0027113   L  TRORG      24-02  31-18, 34-10, 37-38, 40-02, 43-02, 46-25, 51-01, 58-02, 61-02, 80-02
'DGREQLO+0'   T  TSTNUM            W=7   S=0   N=0   CL=2
        0     U  TTYTBL
    0000002   A  TWO        17-06
'4'           T  TXTSEG
'PAGSCR+28'   T  UPADDR            W=4   S=0   N=34  CL=2
    CSYSUB    V  UPD_OTS    6-33
06  0025052   L  UPDTXT     82-10  82-03
06  0025264   L  UPWPAD0    30-35  29-14
06  0025504   L  UPWPAD1    36-42  35-19
    0007114   A  USERRED    21-15
'READ STORE
ERROR REG (W
/O ISOLATE)'  T  USERREDT
    CTVTAB    V  WXAIT             LIBNUM=7    31-29, 34-28, 38-03, 46-36, 51-16, 64-37, 67-41, 73-49
        14    P  WXAITX_XCBLM      LIBNUM=7
    CBLM      V  WAIT       6-07
'CHKWRD+0'    T  WDISOL            W=4   S=10  N=0   CL=2
    TDATA     V  WDSTR      6-42
    0010000   A  WPBLKSZE   17-07  64-38, 67-42, 74-01
    0000014   A  WPB12SA0   102-24 68-48,102-24
    0000015   A  WPB12SA1   103-01 69-14,103-01
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   VALUE  T  NAME      DEF/REF    ATTRIBUTES AND REFERENCES              CDGSWP        W77D

      0000016 A WPB13SA0    103-13   69-29,103-13
      0000017 A WPB13SA1    103-25   69-44,103-25
      0000020 A WPB14SA0    104-01   70-14,104-01
      0000021 A WPB14SA1    104-13   70-29,104-13
06    0026325 L WPCKLP0     63-34    64-39, 64-46
06    0026444 L WPCKLP1     66-41    67-45, 68-09
06    0026627 L WPCKLP2     72-45    74-04, 74-14
06    0026372 L WPCKOK0     64-30    64-28
06    0026514 L WPCKOK1     67-39    67-37
06    0026701 L WPCKOK2     73-47    73-45
06    0026376 L WPCKON0     64-35    64-33
      0000002 A WPCKSTK1    99-01    65-17, 99-01
06    0026320 L WPCKTST0    63-29    63-27
06    0026437 L WPCKTST1    66-36    66-34
06    0026622 L WPCKTST2    72-35    72-33
06    0027021 L WPCKTST3    78-27    78-25
06    0025352 L WPCKOXT     33-20    31-40
      0046061 A WPCLR       21-17
'STORE INITI
ALIZE, INCL.
WRITE PROTE
CT'        T WPCLRT
      0000024 A WPDRFL      90-23    29-33, 35-38, 90-23
      0000043 A WPENNG      110-25   77-35
      0000043 A WPENNG00    110-25
      0000044 A WPENNG01    111-01
      0000045 A WPENNG02    111-12
      0000046 A WPENNG03    111-23
      0000047 A WPENNG04    112-01
      0000050 A WPENNG05    112-12
      0000051 A WPENNG06    112-23
      0000052 A WPENNG07    113-01
      0000025 A WPIDFL      91-01    32-19, 38-40, 91-01
06    0025666 L WPMWCK      45-31    45-29
06    0025733 L WPNMBX      46-18    46-11
06    0025700 L WPNMLP      45-42    46-19
06    0025415 L WPONBX1     34-13    34-02
06    0025362 L WPONLP1     33-35    34-21
06    0025301 L WPORCK0     31-03    30-40
06    0025521 L WPORCK1     37-08    36-47
06    0025131 L WPRCK0      26-29    26-25
06    0026222 L WPRDBX      55-36    55-29
06    0026137 L WPRDCK      54-33    54-31
06    0026224 L WPRDFL      55-41    55-18, 55-21, 55-24
06    0026146 L WPRDLP      54-41    55-37
06    0026251 L WPRDXT      57-06    57-04
06    0025171 L WPRWCK0     28-32    28-28
06    0025355 L WPRWCK1     33-30    33-24
06    0025175 L WPRWLP0     28-36    31-30
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TROUBLE LOCATION MANUAL                                                    0:06:56   2/06/81   ****

    VALUE  T  NAME        DEF/REF    ATTRIBUTES AND REFERENCES                         CDGSWP       W77D

06 0025423'L WPRWLP1       34-44    38-04
06 0025614 L WPRWXT        39-39    38-14
   0000033 A WPSEG0S1     108-01    75-05,108-01
   0000034 A WPSEG1S1     108-13    75-20,108-13
   0000035 A WPSEG2S1     108-25    75-35,108-25
   0000036 A WPSEG3S1     109-01    76-05,109-01
   0000037 A WPSEG4S1     109-13    76-20,109-13
   0000040 A WPSEG5S1     109-25    76-35,109-25
   0000041 A WPSEG6S1     110-01    77-05,110-01
   0000042 A WPSEG7S1     110-13    77-20,110-13
   0000002 A WPSLC         92-01    27-06, 29-48, 32-34, 36-05, 39-06, 47-16, 52-20, 56-11
   0000023 A WPSLCPH       97-23    27-36, 30-28, 33-15, 36-35, 39-36, 47-46, 53-05, 56-41, 90-12, 97-23
   0000022 A WPSLCPL       97-12    27-21, 30-13, 32-49, 36-20, 39-21, 47-31, 52-35, 56-26, 90-01, 97-12
   0000002 A WPSLC00       84-18    92-01
   0000003 A WPSLC01       85-01    92-12
   0000004 A WPSLC02       85-12    92-23
   0000005 A WPSLC03       85-23    93-01
   0000006 A WPSLC04       86-01    93-12
   0000007 A WPSLC05       86-13    93-23
   0000010 A WPSLC06       86-29    94-01
   0000011 A WPSLC07       87-01    94-12
   0000012 A WPSLC08       87-12    94-23
   0000013 A WPSLC09       87-23    95-01
   0000014 A WPSLC10       88-01    95-12
   0000015 A WPSLC11       88-12    95-23
   0000016 A WPSLC12       88-23    96-01
   0000017 A WPSLC13       89-01    96-12
   0000020 A WPSLC14       89-12    96-23
   0000021 A WPSLC15       89-23    97-01
   0000022 A WPSOBS       104-25    70-44
   0000022 A WPSOBS00     104-25
   0000023 A WPSOBS01     105-01
   0000024 A WPSOBS02     105-14
   0000025 A WPSOBS03     105-27
   0000026 A WPSOBS04     106-01
   0000027 A WPSOBS05     106-14
   0000030 A WPSOBS06     107-01
   0000031 A WPSOBS07     107-14
   0000003 A WPS1BS        99-23    65-32
   0000003 A WPS1BS00      99-23
   0000004 A WPS1BS01     100-01
   0000005 A WPS1BS02     100-12
   0000006 A WPS1BS03     100-23
   0000007 A WPS1BS04     101-01
   0000010 A WPS1BS05     101-12
   0000011 A WPS1BS06     101-23
   0000012 A WPS1BS07     102-01
   TDATA   V WPTBL         6-43
06 0025002 L WPTEST         2-16    26-38, 29-06, 31-08, 35-10, 37-12, 46-38, 51-33
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G03

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    VALUE  T NAME      DEF/REF   ATTRIBUTES AND REFERENCES              CDGSWP      W77D

06 0025006 L WPTSTLP    81-25  82-11
06 0025055 L WPTSTXT    82-15  81-37, 81-45, 81-48
06 0026075 L WPWTBX     51-04  50-42
06 0025767 L WPWTCK     49-34  49-32
   0000024 A WPWTFL     98-01  52-05, 98-01
06 0025776 L WPWTLP     49-42  51-18
06 0025072 L WP1INIT    24-05
06 0025627 L WP2INIT    43-05
06 0026261 L WP3INIT    61-05
   0025750 A ZER%              LIBNUM=15        63-38, 66-45, 72-49, 78-31
   0000000 A ZERO       17-08  78-49, 79-27
   0000000 A ZEROS      17-09  34-47, 50-10, 50-21, 50-22
   0026750 A ZMINT%            LIBNUM=15        82-26
         0 U OF
'MASCIOSC+1' T OSSC0           W=20  S=0  N=1  CL=2
'MASCIOSC+3' T OSSC1           W=20  S=0  N=3  CL=2
'MASCIOSC+5' T OSSC2           W=20  S=0  N=5  CL=2
'MASCIOSC+7' T OSSC3           W=20  S=0  N=7  CL=2
   0000000 A OTEST      17-10
         3 R OWDSTR0    15-06  W=1  S=4  N=0  CL=1
   0052354 A O10NOR     21-19
'0-10 TIMING
(O10TIM)THEN
 REFRESH REQ
UEST CLEAR'  T O10NORT
   0054334 A O10REF     21-22
'0-10 TIMING
(O10TIM)THEN
 REFRESH REQ
UEST SET'    T O10REFT
   0056074 A O10TIM     21-25
'FORCE 0-10
TIMING SIGNA
L ACTIVE'    T O10TIMT
'CIOBUF+0'   T O10TM           W=1  S=14  N=0  CL=2
   0000001 A 1TEST      17-11
'CHKWRD+0'   T 2EPCK           W=1  S=15  N=0  CL=2
         1 J 3ACC       1-09
         0 U 7F

NO FLAG(S) FOUND IN THIS ASSEMBLY
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