TB-064 COM TAB

SAGUARO IML DIAGNOSTIC COMMUNICATION TABLE
IML DISKETTE IMPLEMENTATION

The IML diskette Power on diagnostics will be executed both for normal power on IML 'Functional Code' and for 'Install Diagnostics'.

The Power on Diagnostics are selected Saguaro Support Diagnostics, modified to log the error information into a Table that resides in Control Store (COMTAB)

The diagnostics are as follows and will be executed in the sequence that they are listed:

    (a)   DISKETTE LOADER - Not a support diagnostic (executed from the PROM, any error information will be placed into the COMTAB).
    (b)   JIB PROCESSOR TESTS
    (c)   EXTERNAL REGISTERS TESTS
    (d)   BUFFER TESTS
    (e)   LOOP WRITE TO READ TESTS
    (f)   STATUS STORE TESTS
    (g)   CHANNEL TESTS (All channels available in the Control Unit)
    (h)   HARDWARE CHECKERS - Not a Support Diagnostic

The Communication Table will be built as each diagnostic is executed. The errors that are detected will be categorized into two types:

'SOFT' errors are defined as those that would not affect the operation of the remaining diagnostics, or that would not stop the customer from using the subsystem.

    (a)   'SOFT' - A entry will be made in the Communication Table and the diagnostics will continue execution.

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****************************************************************************
```
NOTE:
       The initial implementation for Release 23 will treat all errors as through they were 'SOFT' as described above.
```
****************************************************************************
```

'HARD' errors are defined as those that would affect the operation of the remaining diagnostics, or that would stop the customer from using the subsystem.

    (b)   'HARD' - A entry will be made in the Communication Table and the diagnostics will terminate. (Note: Control will be returned to the functional code from the por).

The errors that are detected will be surfaced via the Functional Code.

During the Initialization time, Functional Code will look at the 'COMPCODE' in the Communication Table. If an error occurred during Power on Reset Diagnostics, a error code of '1000' will be sent up to the system when the Control Unit goes ON LINE.

COMMUNICATION TABLE LAYOUT:

The Communication Table will reside in Control Store starting at address '0xx40'. On Release 23 this address is at '03f40' and can be located via the 'OSVDADOS' Table. This area must not be overlayed when loading either the Functional Code or the Install Diagnostics from the IML diskette.

Note: This Table must always reside in Page 0 of Control Store.

The Table will consist of 1 nibble for a Return Code, 4 nibbles of bit Flags for each Diagnostic Area that failed, 1 word of Parms to pass information between Diagnostics if necessary and 3 words for each Functional Area defined on the following pages.

Note: the 3 words reserved for each Functional Area may or may not all be used currently. The first word will always contain an Error Code and the second word will contain a Selection Code to invoke the companion diagnostic from the Support Diskette. (For the IML diskette and Hardware Checkers Functional Area, there is no Support Diagnostic Selection Code)

Note: All of the address's below are correct for Release 23 Functional Code. This could change with later releases but the Offset will always remain the same.

COMTAB ENTRIES:

LABEL	ADDRESS	LENGTH	DESCRIPTION
COMPCODE	'03F40'	1 WORD	DIAG COMPLETION CODES
PARMS	'03F41'	1 WORD	INTER-DIAGNOSTIC COMMUNICATION
JIB	'03F42'	3 WORDS	JIB TEST
EXTREG	'03F45'	3 WORDS	EXTERNAL REGISTER TEST
BUFFER	'03F48'	3 WORDS	DATA BUFFER TESTS
LOOPWR	'03F4B'	3 WORDS	LOOP WRITE TO READ TEST
STATSTOR	'03F4E'	3 WORDS	STATUS STORE TESTS
CHANNELA	'03F51'	3 WORDS	CHANNELA 'INTERNAL WRAP' TEST
CHANNELB	'03F54'	3 WORDS	CHANNELB 'INTERNAL WRAP' TEST
CHANNELC	'03F57'	3 WORDS	CHANNELC 'INTERNAL WRAP' TEST
CHANNELD	'03F5A'	3 WORDS	CHANNELD 'INTERNAL WRAP' TEST
HDWCHKER	'03F5D'	3 WORDS	HARDWARE CHECKERS TEST
SPARE	'03F60'	3 WORDS	CURRENTLY AN UNUSED ENTRY
IMLDISK	'03F63'	3 WORDS	IML DISKETTE TESTS

BIT DEFINITION OF LOCATION '03F40'

```
COMPCODE   0123 4567   0123 4567
           |||| ||||   |||| ||||__ TABLE ENTRY '03F63' (IML DISK FAILURE
           |||| ||||   |||| |||___ TABLE ENTRY '03F5A' (CHANNELD FAILURE
           |||| ||||   |||| ||____ TABLE ENTRY '03F57' (CHANNELC FAILURE
           |||| ||||   |||| |_____ TABLE ENTRY '03F54' (CHANNELB FAILURE
           |||| ||||   ||||_____ TABLE ENTRY '03F51' (CHANNELA FAILURE
           |||| ||||   |||_____ TABLE ENTRY '03F60' (SPARE ENTRY)
           |||| ||||   ||_____ TABLE ENTRY '03F5D' (HDWCHKER FAILURE
           |||| ||||   |_____ TABLE ENTRY '03F4E' (STATSTOR FAILURE
           |||| ||||
           |||| ||||_____    TABLE ENTRY '03F4B' (LOOPWR FAILURE)
           |||| |||_____    TABLE ENTRY '03F48' (BUFFER FAILURE)
           |||| ||_____    TABLE ENTRY '03F45' (EXT REG FAILURE)
           |||| |_____    TABLE ENTRY '03F42' (JIB FAILURE)
           ||||
           ||||                  | These 3 bits(1-3) are encoded
           |||_____  | with the RETURN CODE
           ||_____   | '0' = SUCCESSFUL
           |_____    | '1' = CHECK 2
                                 | '2' = CHECK 1
                                 | '3' - '7' UNUSED
           
           |_____       This Bit(0) is used by the
                                   MAINTENANCE PACKAGE to define a
                                   Hang AT '04009' - '0400B' as
                                   the INSTALL CODE losded and waiting
                                   for the switch to go 'ONLINE'
                              *** It is also an indication that the
                                   NORMAL/TEST switch is on TEST.  ***
```

BIT DEFINITION OF LOCATION '03F41'

```
PARMS (0)   0123 4567 0123 4567
            |||| |||| |||| ||||__
            |||| |||| |||| |||___    This Word is used for
            |||| |||| |||| ||____    passing Parms between
            |||| |||| |||| |_____    Diagnostics, where necessary.
            |||| |||| ||||_____    And will be defined as
            |||| |||| |||_____   Input/Output in each of
            |||| |||| ||_____   the Module prologues where used.
            |||| |||| |_____   (Currently unused)
            |||| ||||
            |||| |||_____
            |||| ||_____
            |||| |_____
            ||||_____
            |||_____
            ||_____
            |_____
```

BIT DEFINITION OF LOCATION '03F42'

JIB (0)   01234567 01234567

```
|||||||| ||||||||___
|||||||| |||||||____
|||||||| ||||||_____      This Byte contains the second
|||||||| |||||_____      half of the Error Code
|||||||| ||||_____      hex '00' through '2F'
|||||||| |||_____
|||||||| ||_____
|||||||| |_____
||||||||
|||||||_____
||||||_____
|||||_____      This Byte contains the
||||_____      first half of the Error
|||_____      Code and is always a
||_____      hex 'EC'
|_____
```

JIB (1)   01234567 01234567
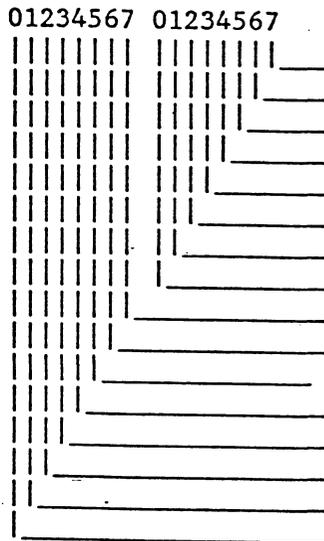
```
|||||||| ||||||||___
|||||||| |||||||____
|||||||| ||||||_____      This Word contains the
|||||||| |||||_____      Diagnostic Selection Code
|||||||| ||||_____      for the companion Support
|||||||| |||_____      diagnostic.
|||||||| ||_____      (on Support diskette)
|||||||| |_____
||||||||
|||||||_____         'EE12'
||||||_____         'EE13'
|||||_____         'EE14'
||||_____
|||_____
||_____
|_____
```

JIB (2)   01234567 01234567
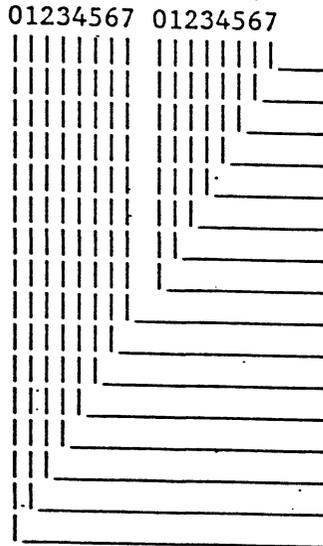
This Word is currently
unused and will be initialized
to zero at Power On time.

BIT DEFINITION OF LOCATION '03F45'

EXTREG (0)   01234567 01234567
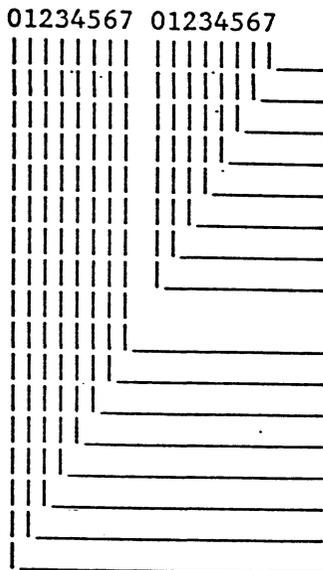
This Byte contains the second
half of the Error Code
hex '30' through '4F'

This Byte contains the
first half of the ERROR
CODE and is always a
hex 'EC'

EXTREG (1)   01234567 01234567
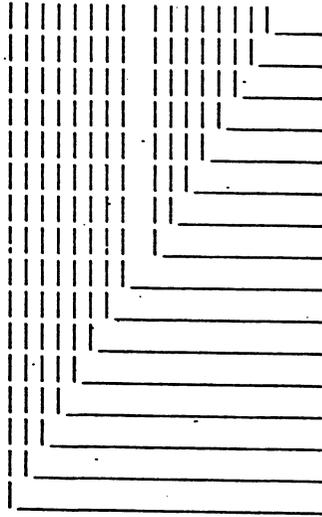
```
||||||| ||||||||___
||||||| |||||||____
||||||| ||||||:____   This Word contains the
||||||| |||||_____   Diagnostic Selection Code
||||||| ||||_____    for the companion Support
||||||| |||_____     Diagnostic.
||||||| ||_____      (on Support diskette)
||||||| |_____
||||||| _____        'EE85'
||||||_____
|||||_____
||||_____
|||_____
||_____
||_____
|_____
```

EXTREG (2)   01234567 01234567
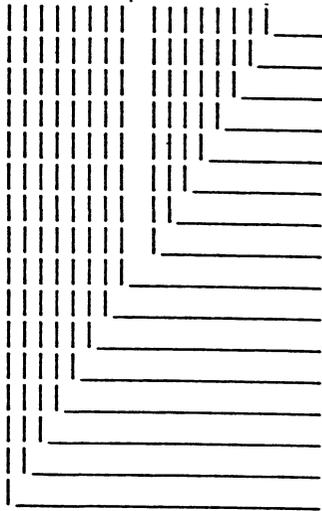
```
||||||| |||||||___
||||||| ||||||____
||||||| |||||_____    This word is currently
||||||| ||||_____    unused and will be initialized
||||||| |||_____     to zero at Power On time
||||||| ||_____
||||||| |_____
||||||_____
|||||_____
||||_____
||||_____
|||_____
||_____
||_____
|_____
```

BIT DEFINITION OF LOCATION '03F48'

BUFFER (0)   01234567 01234567
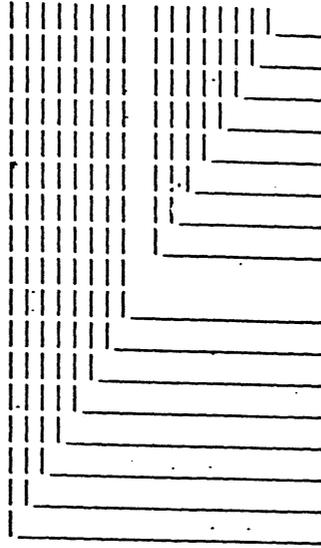
This byte contains the second
half of the Error Code
hex '50' through 'BF'

This Byte contains the
first half of the Error
Code and is always a
Hex 'EC'

BUFFER (1)   01234567 01234567
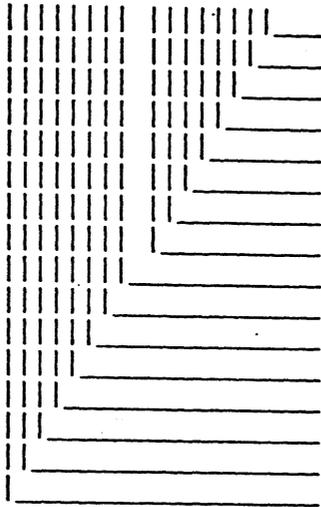
This Word contains the
Diagnostic Selection Code
for the companion Support
diagnostic.
(on Support diskette)

'EE32'
'EE33'
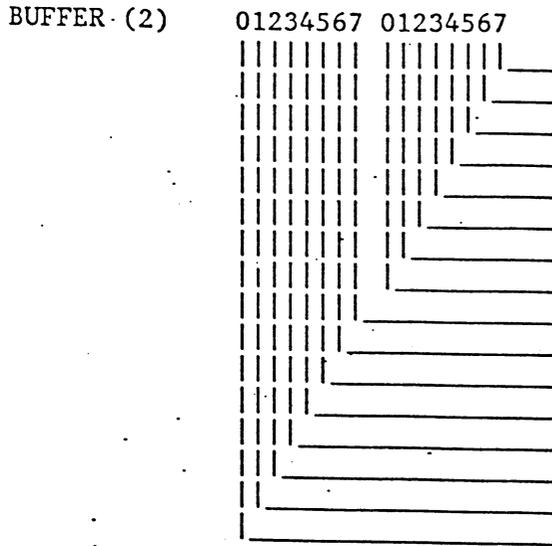
January 29, 1985   Engineering Dept. 9216   VALENCIA PLANT

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BUFFER (2)   01234567 01234567

This word is currently
unused and will be initialized
to zero at Power On time.

BIT DEFINITION OF LOCATION '03F4B' —

LOOPWR (0)   01234567 01234567
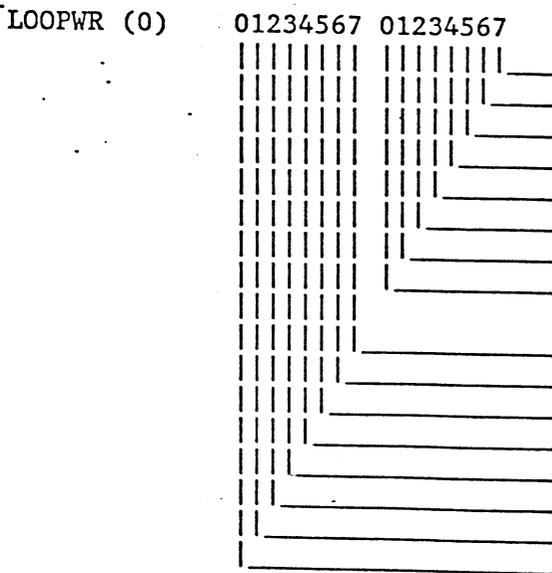
This Byte contains the second
half of the Error Code
hex 'C0' through 'FF'

ECXT

This byte contains the
first half of the Error
Code and is always a
hex 'EC'

LOOPWR (2)

LOOPWR (1)   01234567 01234567
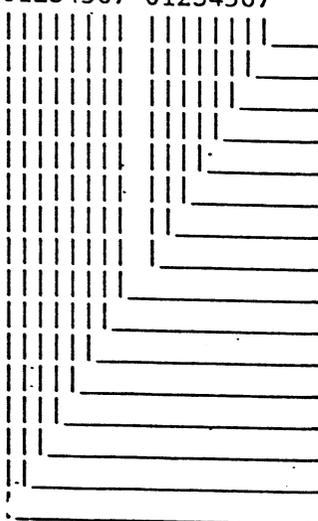
This word contains the
Diagnostic Selection Code
for the companion Support
diagnostic.
(on Support diskette`

'EE53'
'EE54'

LOOPWR (2)   01234567 01234567
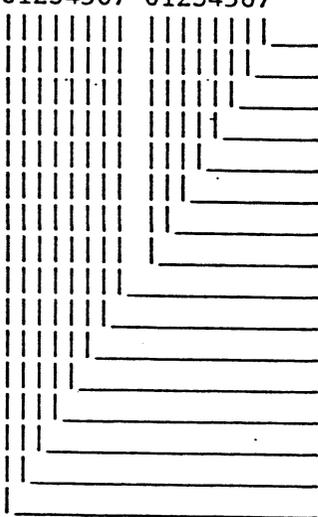
This word is currently
unused and will be initalized
to zero at Power On time

BIT DEFINITION OF LOCATION '03F4E'

STATSTOR (0)   01234567 01234567
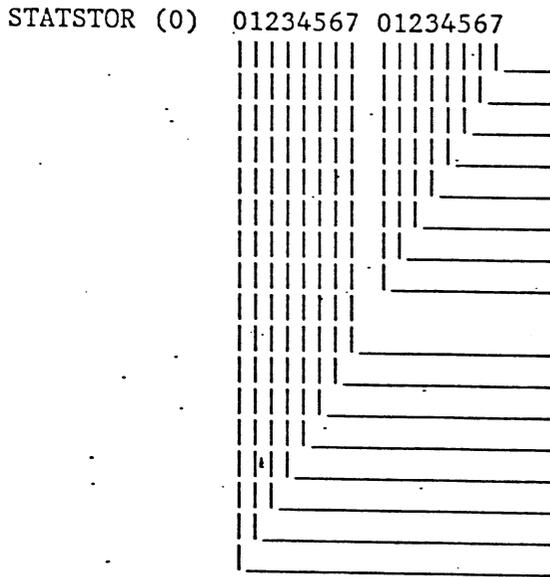
This byte contains the second half of the Error Code hex '00' through '1F'

This Byte contains the first half of the Error Code and is always a hex 'ED'
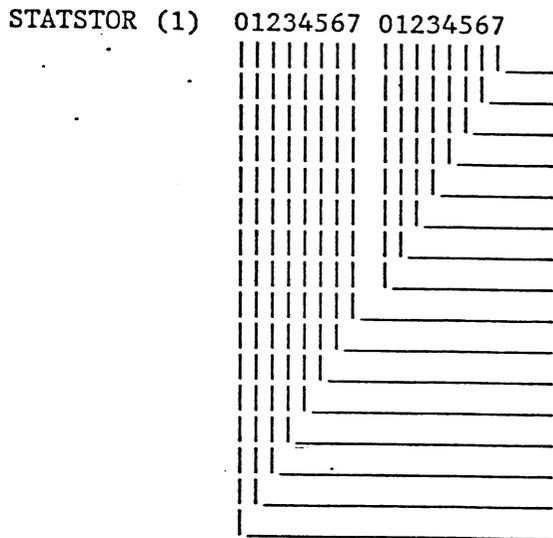
STATSTOR (1)   01234567 01234567

This word contains the Diagnostic Selection Code for the companion Support diagnostic.
(on Support diskette)

'EE92'
'EE93'
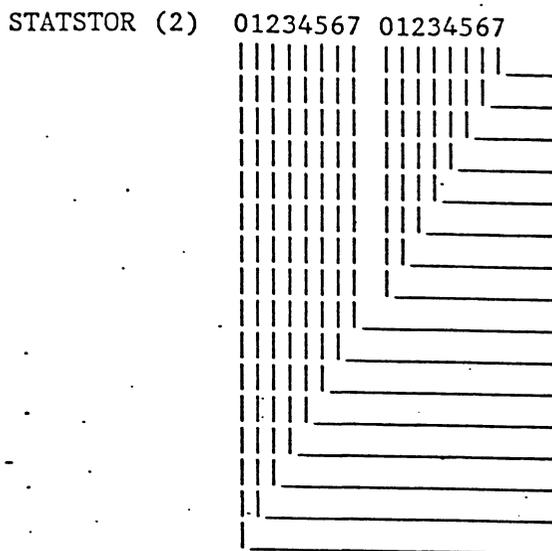
STATSTOR (2)   01234567 01234567

This word is currently
unused and will be initialized
to zero at Power on time.

BIT DEFINITION OF LOCATION '03F51'

CHANNELA (0)   01234567 01234567
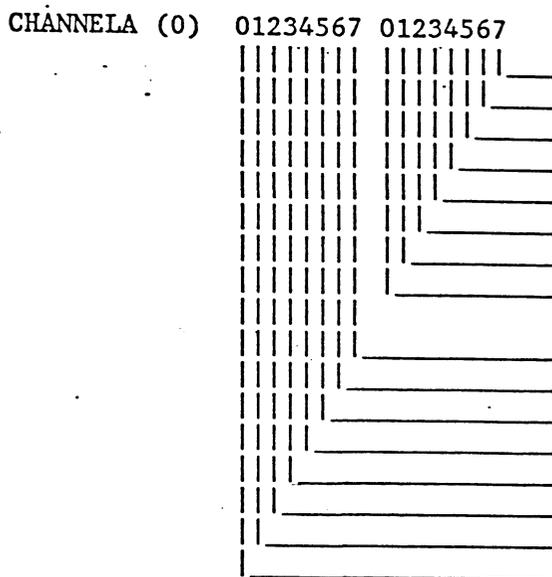
This Byte contains the second
half of the Error Code
hex '20' through hex '3F'

This Byte contains the
first half of the Error
Code and is always a
Hex 'ED'

CHANNELA (1)   01234567 01234567
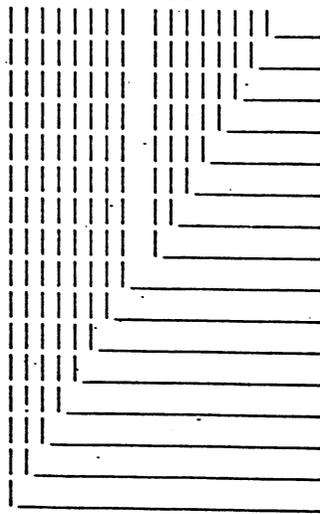
```
|||||||| ||||||||___
|||||||| |||||||___
|||||||| ||||||___        This word contains the
|||||||| |||||___        Diagnostic Selection Code
|||||||| ||||___         for the companion Support
|||||||| |||___          diagnostic.
|||||||| ||___           (on Support diskette)
|||||||| |___
||||||||___              'EE64'
|||||||___
||||||___
|||||___
||||___
|||___
||___
|___
```

CHANNELA (2)   01234567 01234567
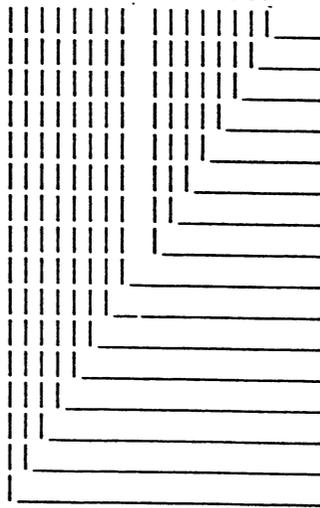
```
||||||| |||||||___
||||||| ||||||___
||||||| |||||___         This word is currently
||||||| ||||___          unused and will be initialized
||||||| |||___           to zero at Power On time.
||||||| ||___
||||||| |___
|||||||___
||||||___
|||||___
||||___
|||___
||___
|___
```

CHANNELB (2)   01234567 01234567

This word is currently
unused and will be initialized
to zero at Power On time.

BIT DEFINITION OF LOCATION '03F57'

CHANNELC (0)   01234567 01234567
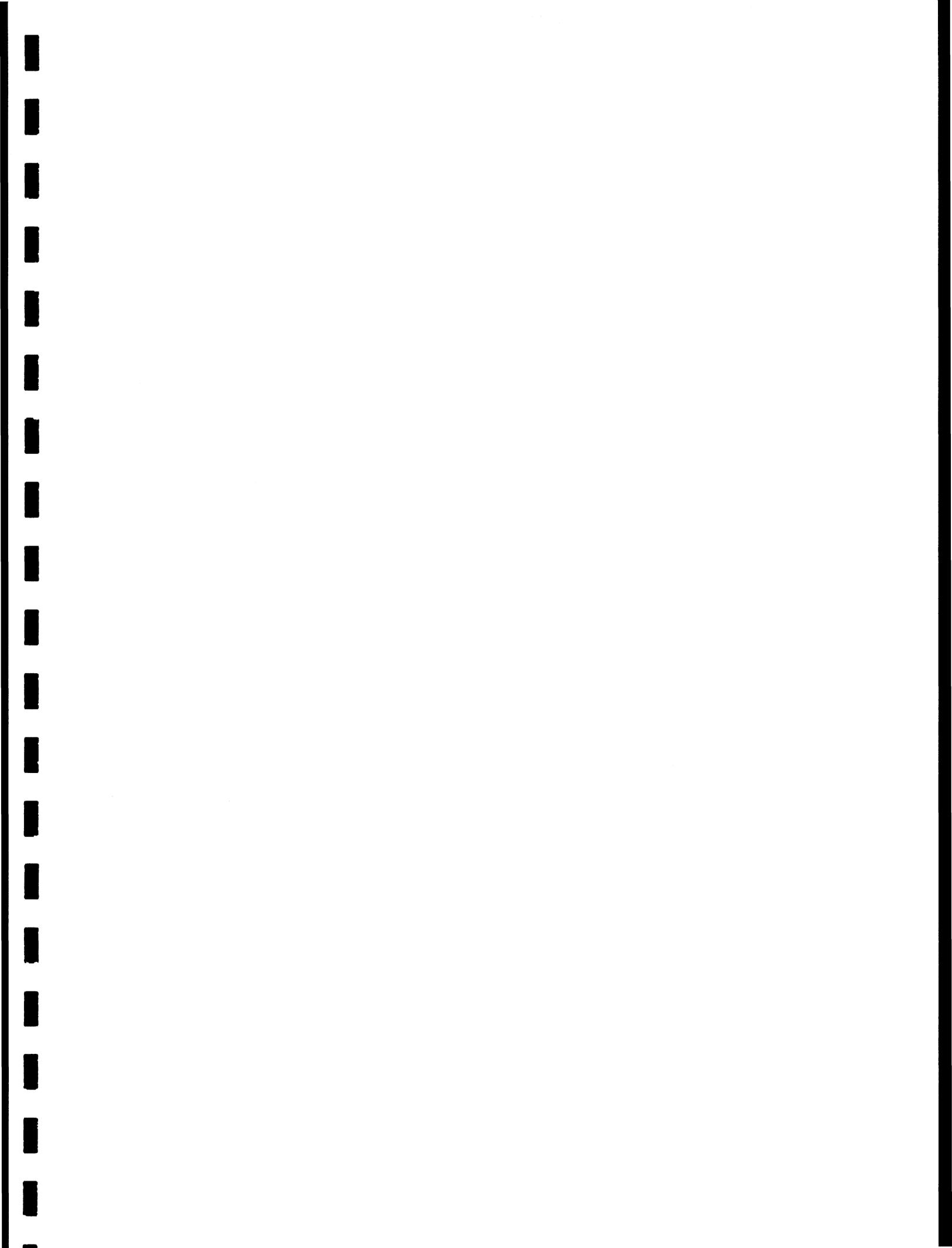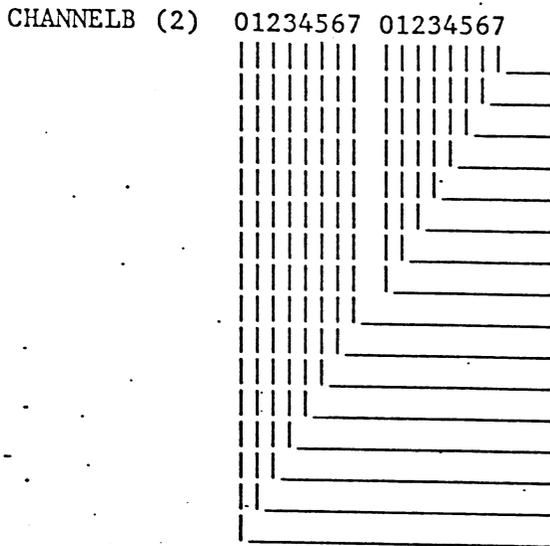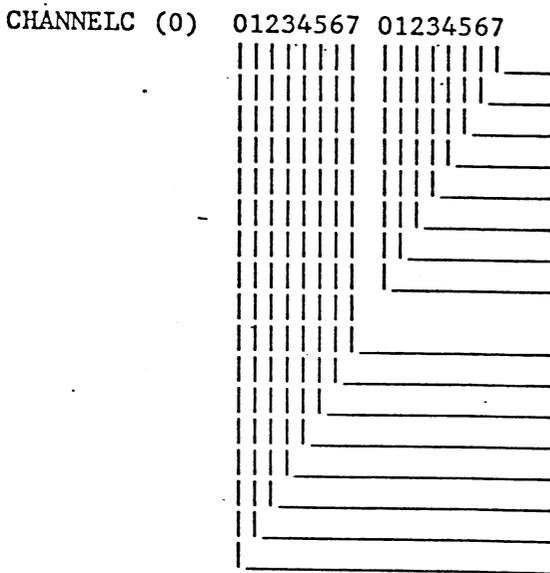
This Byte contains the second
half of the Error Code
hex '20' through hex '3F'

This Byte contains the
first half of the Error
Code and is always a
hex 'ED'

CHANNELC (1)   01234567 01234567
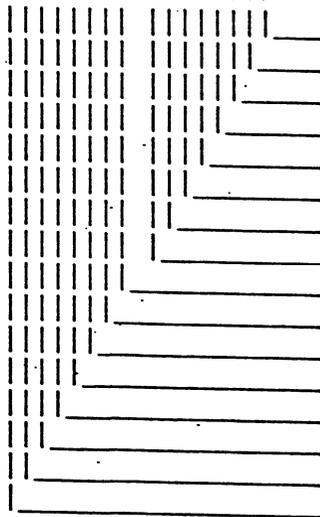
This word contains the
Diagnostic Selection Code
for the companion Support
diagnostic.
(on Support diskette)

'EE64'

CHANNELC (2)   01234567 01234567
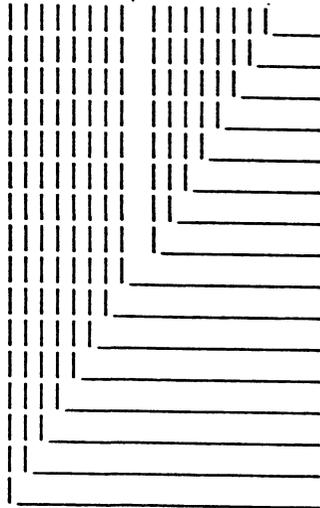
This word is currently
unused and will be initialized
to zero at Power On time.

BIT DEFINITION OF LOCATION '03F5A'
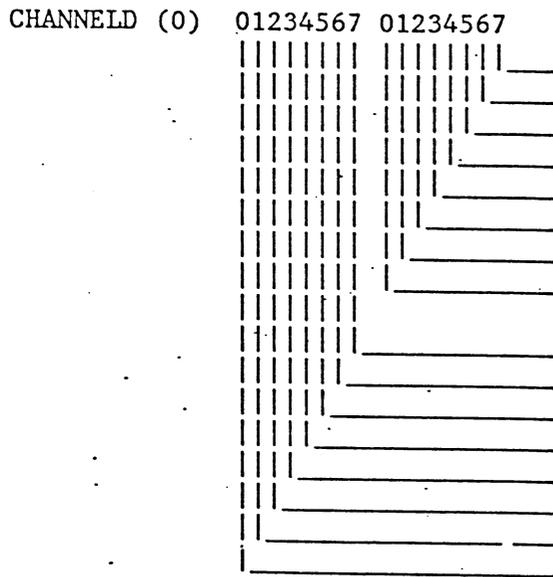
CHANNELD (0)   01234567 01234567

This byte contains the second
half of the Error Code
hex '20' through hex '3F'

This Byte contains the
first half of the Error
Code and is always a
hex 'ED'

CHANNELD (1)   01234567 01234567

This word contains the
Diagnostic Selection Code
for the companion Support
diagnostic.
(on Support diskette)

'EE64'

CHANNELD (2)   01234567 01234567

This word is currently
unused and will be initialized
to zero at Power On time.

BIT DEFINITION OF LOCATION '03F5D'

HDWCHKER (0)   01234567 01234567
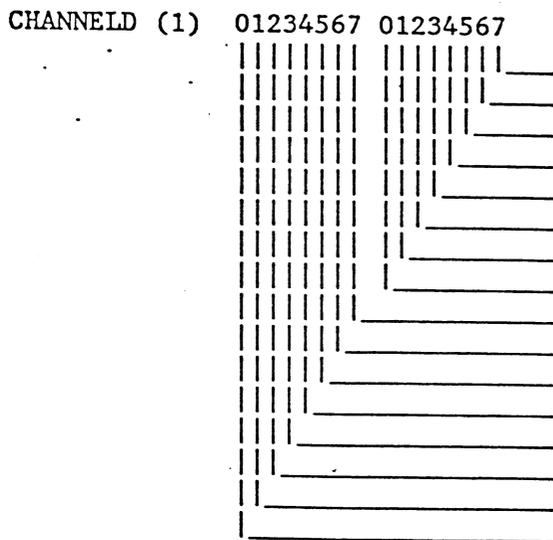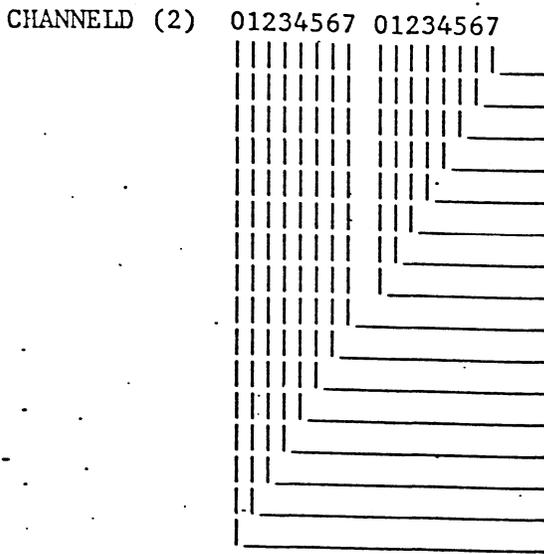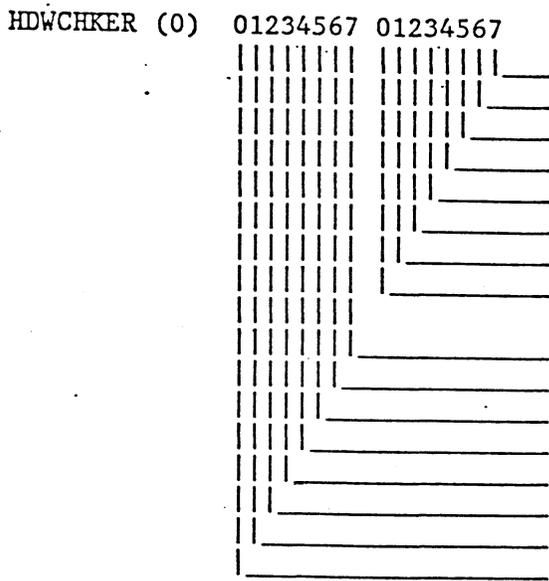
This Byte contains the second
half of the Error Code
hex '40' through hex '5F'

This Byte contains the first
half of the Error Code and
is always a hex 'ED'

HDWCHKER (1)   01234567 01234567
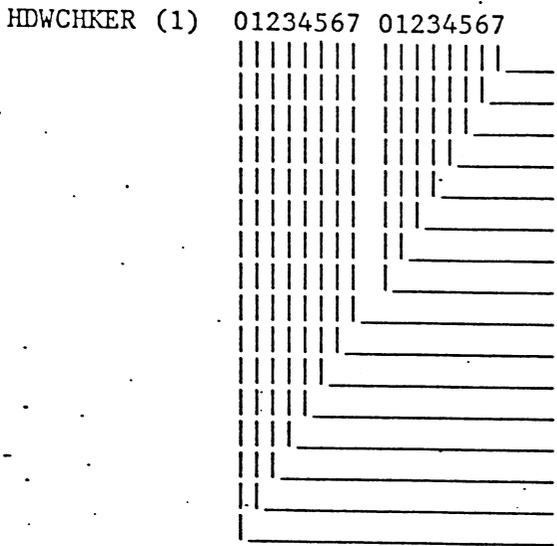
The first byte contains the
expected value in the Register
being tested and the second byte
contains the actual value received.
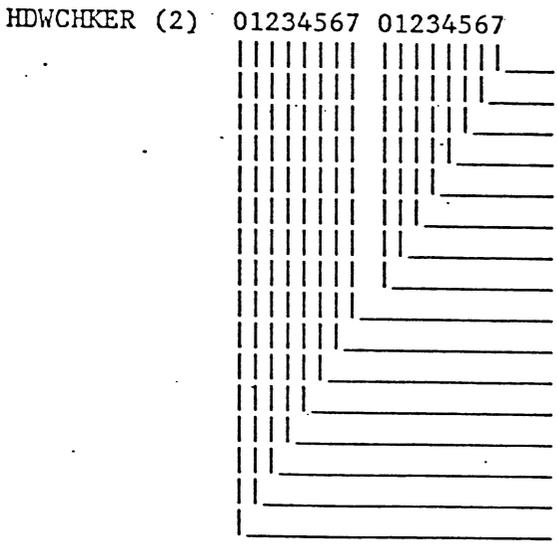
HDWCHKER (2)   01234567 01234567

This word is currently
unused and will be initialized
to zero at Power On time.

BIT DEFINITION OF LOCATION '03F60'

SPARE (0)   01234567 01234567
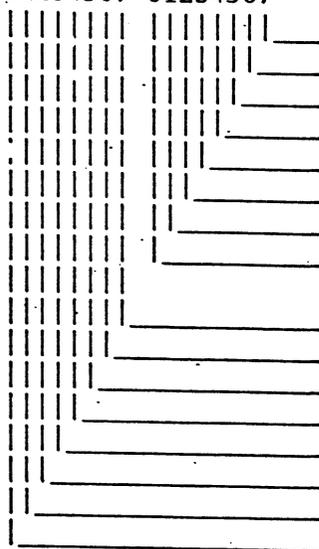
This byte contains the second
half of the Error Code
hex '60' through hex '7F'

This byte contains the first
half of the Error Code and
is always a hex 'ED'

SPARE (1)   01234567 01234567
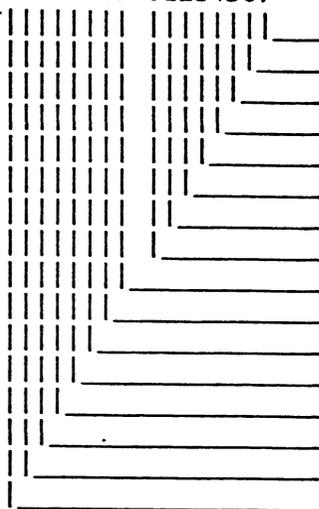
SPARE (2)   01234567 01234567
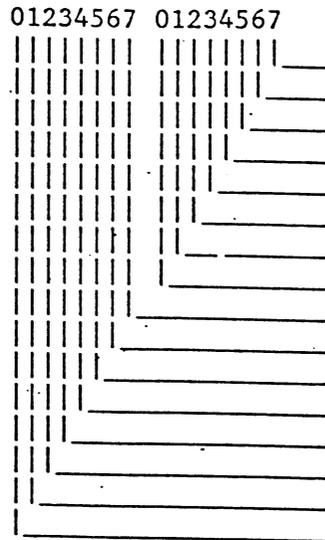
This word is currently unused and will be initialized to zero at Power On time.

BIT DEFINITION OF LOCATION '03F63'

IMLDISK (0)   01234567 01234567
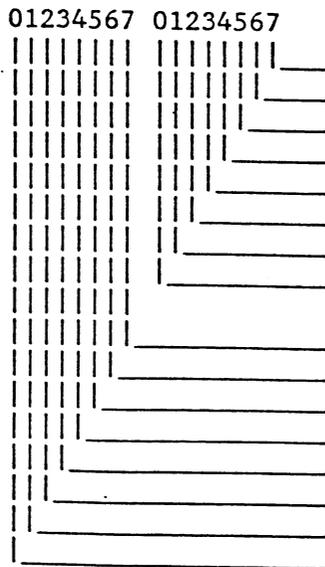
This byte contains the second half of the Error Code hex '80' through hex 'D2'

This byte contains the first half of the Error Code and is always a hex 'ED'

IMLDISK (1)   01234567 01234567

This word is currently undefined.

IMLDISK (2)   01234567 01234567

This word is currently undefined.

ERROR CODES GENERATED FOR THE JIB DIAGNOSTICS.

'EC00' = Undefined.
'EC01' = FAILURE OCCURRED WHEN TESTING BRANCH CONDITIONS
            FOR ACTIVE AND RESET CONDITIONS.
'EC02' = FAILURE OCCURRED DURING LOCAL STORAGE PAGING OR
            ADDRESSING OPERATIONS.
'EC03' = LOCATE STORAGE REGISTER FAILED WHEN TESTED WITH
            AA, 55, AND 01 PATTERNS.
'EC04' = EXTERNAL REGISTER IMMEDIATE OPERATION FAILED.
'EC05' = FAILURE OCCURRED DURING A REGISTER-TO-REGISTER OP.
'EC06' = LOCAL STORAGE REGISTER IMMEDIATE OPERATION FAILED.
'EC07' = FAILURE OCCURRED DURING A PROCESSOR-TO-CONTROL
            STORAGE OPERATION.
'EC08' = FAILURE OCCURRED WHEN TESTING IF INTERRUPTS
            CAN BE SUSPENDED.
'EC09' = INVALID SUBROUTINE RETURN CODE.
'EC0A' = INTERRUPT MASK REGISTER (IMR) HAS STUCK FAULTS.
'EC0B' = WHILE USING THE INTERRUPT MASK REGISTER (IMR)
            AN XR ERROR IS DETECTED.
'EC0C' = THE LOAD STORE PAGE WAS NOT SAVED CORRECTLY OR
'EC0D'   A PSW SWAP OCCURRED TO THE WRONG INTERRUPT LEVEL.
'EC0E' = CURRENT LEVEL INTERRUPT / PREVIOUS LEVEL INTERRUPT
            ARE NOT CORRECT.
'EC0F' = AN XR ERROR OCCURRED WHILE EXERCISING THE
            PROCESSOR EXTERNAL REGISTERS.
'EC10' = Undefined.
'EC11' = LSR='00' BAD PSW SWAP
'EC12' = PSR = EXTERNAL REGISTER ERROR
'EC13' = THE INTERRUPTS OCCURRED IN THE WRONG SEQUENCE. THE
'EC14' = PSR CURRENT AND/OR PREVIOUS VALUES ARE WRONG.
'EC15' = PSR EXTENDED BITS STUCK
'EC16' = EXTEND BITS FOR EXTERNAL REGISTER ADDRESSING WERE
'EC17' = NOT SAVED AND SET/RESET PROPERLY.
'EC18' = EXTERNAL REGISTER ERROR DURING INTERRUPT*
    'EC19' = LEVEL 7 INTERRUPT WAS EARLY
    'EC1A' = THE CONDITION CODE IS NOT SET PROPERLY IN THE PSW.
    'EC1B' = THE INTERVAL TIMER FAILED DURING INTERRUPT HANDLING.
    'EC1C' = PSR = EXTERNAL REGISTER ERROR
    'EC1D' = CHECK 1 ERROR OCCURRED DURING THE INTERRUPT TEST.
    'EC1E' = INTERRUPT TIMER ERROR
    'EC1F' = INTERRUPT LEVEL STUCK
    'EC20' = Undefined.
    'EC21' = JUMP ADDRESS HIGH REGISTER FAILED
    'EC22' = FORCE JUMP OPERATION FAILED
'EC23' = JUMP ADDRESS LOW REGISTER FAILED
'EC24' = INTERVAL TIMER REGISTERS A AND/OR B FAILED
'EC25' = INTERVAL TIMER A AND/OR B TIMINGS WRONG
'EC26' = PROCESSOR CONTROL REGISTER (PCR)
'EC27' = INTERRUPT MASK REGISTER (IMR)
'EC28' = PROCESSOR DIAGNOSTIC REGISTER (PDR)
'EC29' = LOCAL STORAGE PAGE REGISTER (LSP) FAILED
'EC2A' = Undefined.

'EC2B' = Undefined.
'EC2C' = Undefined.
'EC2D' = Undefined.
'EC2E' = Undefined.
'EC2F' = Undefined.

ERROR CODES GENERATED FOR THE EXTERNAL REGISTER DIAGNOSTICS.

'EC30' = Undefined.
'EC31' = XR ERROR IS ON AFTER THE HARDWARE, CHECK1, AND
         USERS RESET AT THE START OF THE TEST.
'EC32' = THE XRA DID NOT COMPARE WITH THE DATE COMPARE TABLE
         DURING TEST OF ALL POSSIBLE COMBINATIONS OF DATA
         INTO THE XRA.
'EC33' = AN XR ERROR OCCURRED WHILE USING PROCEDURE REGISTERS
         DURING THE TESTING OF THE XRA DATA.
'EC34' = USING DIAGNOSTIC MODE AND FORCING AN ERROR WHILE
         WRITING TO THE JAH REGISTER(DATA = '00'), AND
         USING EXTEND BITS FOR ADDRESSING EXTERNAL REGISTERS
         A OR B, AN XR ERROR IS EXPECTED ALONG WITH SPECIFIC
         DATA IN THE XRA.
'EC35' = XR OR CHECK 2 IS ON UNEXPECTEDLY DURING TEST OF XRA
         FOLLOWING A USER RESET.
'EC36' = AN XR ERROR IS FORCED CAUSING A LEVEL 0 INTERRUPT.
         THE FOLLOWING RESULTS ARE EXPECTED: XR ERROR, CHECK 2
         AND USER WRITE ERROR.
         (A) AN XR INTERRUPT OCCURRED, HOWEVER THE XR ERROR
             OR CHECK 2 ARE NOT SET.
         (B) AN AX ERROR IS FORCED WITH INTERRUPTS DISABLED
             WITH XR ERRORS AND CHECK 2 IN THE PER.
         (C) CURRENT OR PROCEEDING INTERRUPT LEVELS ARE NOT
             CORRECT.
'EC37' = A LEVEL 0 INTERRUPT OCCURRED; HOWEVER, THE CURRENT
         AND PROCEEDING INTERRUPT LEVELS DO NOT MATCH.
         CURRENT = 0 AND PREVIOUS = 7.
'EC38' = A LEVEL 0 INTERRUPT OCCURRED AND THE XTA DID NOT
         HAVE THE CORRECT VALUE IN IT.
         (A) THE RETURN FROM LEVEL 0 INTERRUPT DID NOT
             OCCUR OR THE LEVEL 0 INTERRUPT OCCURRED TO SOON.
         (B) THE JAH REGISTER DID NOT ACTIVATE 'USERS ACTIVE'
             WHEN THE ERROR IS FORCED ON THE DATA BUS. (ADDRESS
             IS OK)H
         (C) EXTERNAL REGISTER ERROR INTERRUPT DID NOT OCCUR.
         (D) CHECK RESET IS ACTIVATED AND CHECK 2 AND/OR
             EXTERNAL REGISTER ERROR DID NOT RESET.
'EC39' = BOTH READ AND WRITE OPERATIONS ARE PERFORMED WHILE
         FORCING AN ADDRESSING ERROR ON THE EXTERNAL REGISTER
         ADDRESS.
         (A) EXTERNAL REGISTER ERROR OR CHECK 2 ERROR DID NOT
             OCCUR.
         (B) PER EXTERNAL REGISTER ERRORS WERE NOT SET OR RESET

                    CORRECTLY.
                    (C) THE IMR RESPONDED TO AN ADDRESS WITH BAD PARITY.
'EC3A' = WHILE TESTING TO ASSURE THAT 'A' AND 'B' BUS DOES
         NOT EFFECT THE PROCESSOR BUS, AND XR OR CHECK 1
         ERROR OCCURRED.
'EC3B' = AN XR ADDRESS PARITY ERROR WAS FORCED AND THE MTI
         DID NOT CONTAIN MTIFRU1 INDICATING THAT THE ERROR
         ERROR WAS NOT DETECTED ON THE MA CARD.
'EC3C' = AN ERROR OCCURRED DURING THE FUNCTIONAL EXTERNAL
         REGISTER TEST.
'EC3D' = AN ERROR OCCURRED DURING THE FUNCTIONAL EXTERNAL
         REGISTER TEST.
'EC3E' = AN ERROR OCCURRED DURING THE FUNCTIONAL EXTERNAL
         REGISTER TEST.
'EC3F' = Undefined.
'EC40' = Undefined.
'EC41' = Undefined.
'EC42' = Undefined.
'EC43' = Undefined.
'EC44' = Undefined.
'EC45' = Undefined.
'EC46' = Undefined.
'EC47' = Undefined.
'EC48' = Undefined.
'EC49' = Undefined.
'EC4A' = Undefined.
'EC4B' = Undefined.
'EC4C' = Undefined.
'EC4D' = Undefined.
'EC4E' = Undefined.
'EC4F' = Undefined.

ERROR CODES GENERATED FOR THE BUFFER DIAGNOSTICS.

'EC50' = Undefined.
'EC51' = A BUFFER CHANNEL STATUS ERROR OCCURRED DURING A
         CHANNEL MICROPROCESSOR WRITE.
'EC52' = A BUFFER DEVICE STATUS ERROR OCCURRED DURING A
         DEVICE MICROPROCESSOR READ.
'EC53' = A BUFFER DEVICE STATUS ERROR OCCURRED ON THE LAST
         PASS DURING A DEVICE MICROPROCESSOR READ.
'EC54' = DATA READ FROM THE BUFFER DID NOT MATCH THE DATA
         WRITTEN INTO THE BUFFER.
'EC55' = THE BDSE STATUS BIT 0 'DEVICE POINTER STOP' WAS NOT
         ACTIVE AFTER A DEVICE MICROPROCESSOR READ.
'EC56' = DEVICE POINTER STOP OR DEVICE COMPLETE WAS NOT
         ACTIVE AFTER A DEVICE MICROPROCESSOR READ.
'EC57' = A BUFFER DEVICE STATUS ERROR OCCURRED DURING A
         DEVICE MICROPROCESSOR WRITE.
'EC58' = A BUFFER CHANNEL STATUS ERROR OCCURRED DURING A
         CHANNEL MICROPROCESSOR WRITE.o

'EC59' = A BUFFER CHANNEL STATUS ERROR OCCURRED ON THE LAST
     PASS DURING A CHANNEL MICROPROCESSOR READ.

'EC5A' = DATA READ FROM THE BUFFER DID NOT MATCH THE DATA
     WRITTEN INTO THE BUFFER.

'EC5B' = SERVICE IN DID NOT COME ACTIVE OR DATA IN IS
     ACTIVE ON A CHANNEL OPERATION.

'EC5C' = DATA IN DID NOT COME ACTIVE OR SERVICE IN IS ACTIVE
     ON A CHANNEL OPERATION.

'EC5D' = CHANNEL POINTER EQUALS STOP BIT WAS NOT ACTIVE
     AFTER A CHANNEL OPERATION.

'EC5E' = MICROPROCESSOR WRITE COMPLETE DID NOT COME ACTIVE
     ON A CHANNEL WRITE OPERATION.

'EC5F' = BUFFER CHANNEL STATUS ERROR OCCURRED DURING A
     CHANNEL WRITE.

'EC60' = BUFFER CHANNEL STATUS ERROR OCCURRED AFTER A STORE
     CRC COMMAND.

'EC61' = DATA READ FROM THE BUFFER DID NOT MATCH THE DATA
     WRITTEN INTO THE BUFFER.

'EC62' = DEVICE POINTER STOP OR DEVICE COMPLETE WAS NOT
     ACTIVE AFTER A DEVICE MICROPROCESSOR READ.

'EC63' = BUFFER DEVICE STATUS ERROR OCCURRED DURING A DEVICE
     READ.

'EC64' = BUFFER DEVICE STATUS ERROR OCCURRED DURING A DEVICE
     WRITE.

'EC65' = DEVICE READ END AND DEVICE DATA TRANSFER COMPLETE
     BITS WERE NOT ON AFTER A DEVICE WRITE.

'EC66' = SERVICE IN DID NOT COME ACTIVE OR DATA IN IS ACTIVE
     ON A CHANNEL OPERATION.

'EC67' = DATA IN DID NOT COME ACTIVE OR SERVICE IN IS ACTIVE
     ON A CHANNEL OPERATION.

'EC68' = DATA READ FROM THE BUFFER DID NOT MATCH THE DATA
     WRITTEN INTO THE BUFFER.

'EC69' = BUFFER CHANNEL STATUS ERROR OCCURRED DURING A
     CHANNEL WRITE.

'EC6A' = CHANNEL POINTER EQUALS STOP WAS NOT ON IN THE
     BUFFER CHANNEL STATUS/ERROR BCSE REGISTER AFTER A
     CHANNEL OPERATION.

'EC6B' = A FAILURE WAS DETECTED BY THE BUFFER CHANNEL
     STATUS/ERROR BCSE REGISTER AFTER A READ OR WRITE
     INTO THE BUFFER.C

'EC6C' = BUFFER CHANNEL REMAINDER VALUE IS INCORRECT.

'EC6D' = THE CRC CHARACTER GENERATED BY THE DATA TRANSFER
     HARDWARE AND THE EXPECTED CRC DO NOT COMPARE.

'EC6E' = A FAILURE WAS DETECTED BY THE BUFFER DEVICE
     STATUS/ERROR BDSE REGISTER AFTER A READ OR WRITE
     INTO THE BUFFER.

'EC6F' = BUFFER CHANNEL REMAINDER VALUE IS INCORRECT.

'EC70' = THE CRC CHARACTER GENERATED BY THE DATA TRANSFER
     HARDWARE AND THE EXPECTED CRC DO NOT COMPARE.

'EC71' = A BUFFER CHANNEL STATUS ERROR WAS RECEIVED AFTER
     A WRITE OF MODULO 32 ADDRESS INTO THE BUFFER.

'EC72' = A BUFFER DEVICE STATUS ERROR WAS RECEIVED AFTER A
     READ OF THE MODULO 32 ADDRESSES JUST WRITTEN INTO
     THE BUFFER.

'EC73' = THE ADDRESS READ OUT OF THE BUFFER DOES NOT COMPARE
          WITH THE EXPECTED ADDRESS.
'EC74' = BUFFER CHANNEL STATUS ERROR WAS RECEIVED AFTER A
          SPECIFIED DATA PATTERN WAS WRITTEN INTO THE BUFFER.
'EC75' = BUFFER DEVICE STATUS ERROR WAS RECEIVED AFTER A
          SPECIFIED DATA PATTERN WAS READ FROM THE BUFFER.
'EC76' = THE DATA READ OUT OF THE BUFFER DOWS NOT COMPARE
          WITH THE EXPECTED DATA.
'EC77' = A BUFFER CHANNEL STATUS ERROR WAS RECEIVED AFTER
          AFTER A CHANNEL WRAP WRITE TEST.
'EC78' = THE BUFFER CHANNEL POINTER AND THE ACTUAL BUFFER
          ADDRESS DO NOT COMPARE AFTER A BUFFER WRAP WRITE.
'EC79' = A BUFFER DEVICE STATUS ERROR WAS RECEIVED AFTER
          A BUFFER WRAP READ TEST.
'EC7A' = THE BUFFER DEVICE POINTER AND THE ACTUAL BUFFER
          ADDRESS DID NOT COMPARE AFTER A BUFFER WRAP READ.
'EC7B' = BUFFER SIZE ERROR (FROM KETCHSIZ SUBRTN)
'EC7C' = EXTERNAL REGISTER ERROR (FROM KETCHSIZ SUBRTN)
'EC7D' = Undefined.
'EC7E' = Undefined.
'EC7F' = Undefined.
'EC80' = Undefined.
'EC81' = Undefined.
'EC82' = Undefined.
'EC83' = Undefined.
'EC84' = Undefined.
'EC85' = Undefined.
'EC86' = Undefined.
'EC87' = Undefined.
'EC88' = Undefined.
'EC89' = Undefined.
'EC8A' = Undefined.
'EC8B' = Undefined.
'EC8C' = Undefined.
'EC8D' = Undefined.
'EC8E' = Undefined.
'EC8F' = Undefined.
'EC90' = Undefined.
'EC91' = AFTER A CHANNEL MP WRITE OF 255 BYTES OF DATA
          FOLLOWED BY A CHANNEL STORE CRC, ERRORS WERE
          DETECTED BY THE HARDWARE.
'EC92' = DURING A DEVICE MP READ OF 255 BYTES OF DATA,
          THE DATA READ DID NOT COMPARE TO THE DATA WRITTEN
          THROUGH THE CHANNEL MP PORT.
'EC93' = AFTER A DEVICE MP READ OF 255 BYTES OF DATA TO
          INITIALIZE THE DEVICE SAMS, ERRORS WERE DETECTED
          BY THE HARDWARE.
'EC94' = AFTER A CHANNEL MP WRITE OF 135 BYTES OF DATA
          ('87' - '01') FOLLOWED BY A CHANNEL STORE CRC,
          ERRORS WERE DETECTED BY THE HARDWARE.
'EC95' = THIS ERROR IS SET WHEN EITHER SERVICE IN OR DATA
          IN DID NOT COME ACTIVE WHILE READING A 520 USEC
          DELAY IS USED TO WAIT FOR THE TAGS.
'EC96' = THE FIRST 45 BYTES HAVE BEEN READ, SUPPRESS OUT

```
                  WAS RAISED AND EITHER DATA IN OR SERVICE IN ARE
                  ACTIVE.
'EC97' = THIS ERROR IS SET WHEN THE BUFFER CHANNEL OPERATION
                  IS STOPPED AND A CHECK 1, XR ERROR OR DEVICE BUFFER
                  ERROR IS DETECTED BY THE HARDWARE.
'EC98' = THE BCSE ACTUAL DOES NOT EQUAL THE EXPECTED.
                  THE EXPECTED IS AN C0000, AND CHANNEL PTR EQUAL STOP.
'EC99' = THIS ERROR IS SET WHEN THE BUFFER CHANNEL POINTER
                  VALUE IS NOT = '0005', AFTER STOP OUT WAS RAISED,
                  INDICATING THAT THE DATA XFER DID NOT END CORRECTLY.
'EC9A' = AFTER A CHANNEL MP WRITE OF 135 BYTES OF DATA
                  ('87' - '01') FOLLOWED BY A CHANNEL STORE CRC,
                  ERRORS WERE DETECTED BY THE HARDWARE.
'EC9B' = THIS ERROR IS SET WHEN EITHER SERVICE IN OR DATA
                  IN DID NOT COME ACTIVE WHILE READING A 520 USEC
                  DELAY IS USED TO WAIT FOR THE TAGS.
'EC9C' = THE FIRST 45 BYTES HAVE BEEN READ, SUPPRESS OUT
                  WAS RAISED AND EITHER DATA IN OR SERVICE IN ARE
                  ACTIVE.
'EC9D' = THIS ERROR IS SET WHEN THE BUFFER CHANNEL OPERATION
                  IS STOPPED AND A CHECK 1, XR ERROR OR DEVICE BUFFER
                  ERROR IS DETECTED BY THE HARDWARE.
'EC9E' = THE BCSE ACTUAL DOES NOT EQUAL THE EXPECTED.
                  THE EXPECTED IS AN C0000, CHANNEL PTR EQUAL STOP
                  AND CHANNEL STOP COMMAND.
'EC9F' = THIS ERROR IS SET WHEN THE BUFFER CHANNEL POINTER
                  VALUE IS NOT = '0005', AFTER STOP OUT WAS RAISED,
                  INDICATING THAT THE DATA XFER DID NOT END CORRECTLY.
'ECA0' = THIS ERROR IS SET WHEN THE PAD COUNTER (BCSS)
                  REGISTER VALUE IS INCORRECT ON A READ BACKWARD
                  COMMAND.
'ECA1' = AN XR ERROR OR A CHECK 1 ERROR IS DETECTED.p
'ECA2' = THE BCSE ACTUAL DOES NOT EQUAL THE EXPECTED.
                  THE EXPECTED IS AN 5C800, ANY CHANNEL ERROR, CHANNEL
                  OVERRUN ERROR AND HOST/CHANNEL ADAPTER ERROR.
'ECA3' = THE BUFFER CHANNEL POINTER IS EXPECTED TO CONTAIN
                  0008 AFTER AN OVERRUN IS DETECTED AND IT DOES NOT.
'ECA4' = THE BDSE ACTUAL DOES NOT EQUAL THE EXPECTED.
                  THE EXPECTED IS AN 1C100, ANY DEVICE ERROR, DEVICE
                  OVERRUN ERROR AND READ DATA FLOW ERROR.
'ECA5' = THE BUFFER DEVICE POINTER IS EXPECTED TO CONTAIN
                  0008 AFTER AN OVERRUN IS DETECTED AND IT DOES NOT.
'ECA6' = AN XR ERROR OR A CHECK 1 ERROR IS DETECTED.
'ECA7' = THE BCSE ACTUAL DOES NOT EQUAL THE EXPECTED.
                  THE EXPECTED IS AN 1C800, ANY CHANNEL ERROR, CHANNEL
                  OVERRUN ERROR AND HOST/CHANNEL ADAPTER ERROR.
'ECA8' = THE BUFFER CHANNEL POINTER IS EXPECTED TO CONTAIN
                  0008 AFTER AN OVERRUN IS DETECTED AND IT DOES NOT.
'ECA9' = THE BDSE ACTUAL DOES NOT EQUAL THE EXPECTED.
                  THE EXPECTED IS AN 1C100, ANY DEVICE ERROR, DEVICE
                  OVERRUN ERROR AND READ DATA FLOW ERROR.
'ECAA' = THE BUFFER DEVICE POINTER IS EXPECTED TO CONTAIN|
                  0008 AFTER AN OVERRUN IS DETECTED AND IT DOES NOT.
'ECAB' = THIS ERROR IS SET WHEN DATA IN, OR SERVICE IN DID
```

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                    NOT BECOME ACTIVE IN 703 MICRO SECONDS.
     'ECAC' = THIS ERROR IS SET WHEN THE NUMBER OF BYTES READ
              BY THE CHANNEL EXCEEDS 128, INDICATING THE CHANNEL
              IS OVERRUNNING THE DEVICE.
     'ECAD' = AN XR ERROR OR A CHECK 1 ERROR IS DETECTED.
     'ECAE' = THE BDSE ACTUAL DOES NOT EQUAL THE EXPECTED OF
              70000 OR THE BCSE DOES NOT EQUAL THE EXPECTED OF
              90000.
     'ECAF' = THIS ERROR IS DETECTED WHEN THE BUFFER DEVICE
              REMAINDER REGISTER DOES NOT EQUAL 133 AFTER
              THE LAST READ OF 6 BYTES.
     'ECB0' = THE BUFFER DEVICE POINTER EXPECTED IS 000C AND
              THE BUFFER CHANNEL POINTER EXPECTED IS 000D, ONE
              OR BOTH OF THE POINTERS IS WRONG.
     'ECB1' = THE BCSS ACTUAL DOES NOT EQUAL THE EXPECTED. THE
              EXPECTED IS 86.
     'ECB2' = Undefined.
     'ECB3' = Undefined.
     'ECB4' = Undefined.
     'ECB5' = Undefined.
     'ECB6' = Undefined.
     'ECB7' = Undefined.
     'ECB8' = Undefined.
     'ECB9' = Undefined.
     'ECBA' = Undefined.
     'ECBB' = Undefined.
     'ECBC' = Undefined.
     'ECBD' = Undefined.
     'ECBE' = Undefined.
     'ECBF' = Undefined.
```

ERROR CODES GENERATED FOR THE LOOP WRITE TO READ DIAGNOSTICS.

```
     'ECC0' = Undefined.
     'ECC1' = Undefined.
     'ECC2' = AN EXTERNAL REGISTER ERROR OCCURRED DURING A LOOP
              WRITE TO READ.
     'ECC3' = A CHECK 1 ERROR HAS OCCURRED.
     'ECC4' = A WSE ERROR HAS OCCURRED.
     'ECC5' = BUFFER STATUS IN INCORRECT OR THE BUFFER HAS DETECTED
              AN ERROR.
     'ECC6' = A READ DATA FLOW ERROR OCCURRED DURING A LOOP
              WRITE TO READ.
     'ECC7' = A READ DATA FLOW ERROR OCCURRED DURING A LOOP
              WRITE TO READ.
     'ECC8' = THE RETURN CODE WAS NOT VALID AFTER AN ERROR
              OCCURRED DURING A LOOP WRITE TO READ.
     'ECC9' = AN EXTERNAL REGISTER ERROR OCCURRED DURING A LOOP
              WRITE TO READ.
     'ECCA' = A CHECK 1 ERROR HAS OCCURRED.
     'ECCB' = A WSE ERROR HAS OCCURRED.
```

```
'ECCC' = BUFFER STATUS IN INCORRECT OR THE BUFFER HAS DETECTED
           AN ERROR.
'ECCD' = A READ DATA FLOW ERROR OCCURRED DURING A LOOP
           WRITE TO READ.
'ECCE' = A READ DATA FLOW ERROR OCCURRED DURING A LOOP
           WRITE TO READ.
'ECCF' = THE RETURN CODE WAS NOT VALID AFTER AN ERROR
           OCCURRED DURING A LOOP WRITE TO READ.
'ECD0' = AN EXTERNAL REGISTER ERROR OCCURRED DURING A LOOP
           WRITE TO READ.
'ECD1' = A CHECK 1 ERROR HAS OCCURRED.
'ECD2' = A WSE ERROR HAS OCCURRED.
'ECD3' = BUFFER STATUS IN INCORRECT OR THE BUFFER HAS DETECTED
           AN ERROR.
'ECD4' = A READ DATA FLOW ERROR OCCURRED DURING A LOOP
           WRITE TO READ.
'ECD5' = A READ DATA FLOW ERROR OCCURRED DURING A LOOP
           WRITE TO READ.
'ECD6' = THE RETURN CODE WAS NOT VALID AFTER AN ERROR
           OCCURRED DURING A LOOP WRITE TO READ.
'ECD7' = Undefined.
'ECD8' = Undefined.
'ECD9' = Undefined.
'ECDA' = Undefined.
'ECDB' = Undefined.
'ECDC' = Undefined.
'ECDD' = Undefined.
'ECDE' = Undefined.
'ECDF' = Undefined.
'ECE0' = Undefined.
'ECE1' = Undefined.
'ECE2' = Undefined.
'ECE3' = Undefined.
'ECE4' = Undefined.
'ECE5' = Undefined.
'ECE6' = Undefined.
'ECE7' = Undefined.
'ECE8' = Undefined.
'ECE9' = Undefined.
'ECEA' = Undefined.
'ECEB' = Undefined.
'ECEC' = Undefined.
'ECED' = Undefined.
'ECEE' = Undefined.
'ECEF' = Undefined.
'ECF0' = Undefined.
'ECF1' = Undefined.
'ECF2' = Undefined.
'ECF3' = Undefined.
'ECF4' = Undefined.
'ECF5' = Undefined.
'ECF6' = Undefined.
'ECF7' = Undefined.
'ECF8' = Undefined.
```

```
'ECF9' = Undefined.
'ECFA' = Undefined.
'ECFB' = Undefined.
'ECFC' = Undefined.
'ECFD' = Undefined.
'ECFE' = Undefined.
'ECFF' = Undefined.
```

ERROR CODES GENERATED FOR THE STATUS STORE DIAGNOSTICS.

```
'ED00' = WRITE SS TIME OUT, NO HARDWARE CHECKS ACTIVE
'ED01' = READ SS TIME OUT, NO HARDWARE CHECKS ACTIVE
'ED02' = READ DATA DID NOT COMPARE WITH THE WRITE DATA,
         NO HARDWARE CHECKS ARE ACTIVE.
'ED03' = SS WORKED OK BUT SOME HARDWARE CHECK IS ACTIVE
'ED04' = READ DATA DID NOT COMPARE WITH THE WRITE DATA,
         AND SOME HARDWARE CHECK IS ACTIVE.
'ED05' = WRITE SS TIME OUT, SOME HARDWARE CHECK IS ACTIVE
'ED06' = READ SS TIME OUT, SOME HARDWARE CHECK IS ACTIVE
'ED07' = Undefined.
'ED08' = Undefined.
'ED09' = Undefined.
'ED0A' = Undefined.
'ED0B' = Undefined.
'ED0C' = Undefined.
'ED0D' = Undefined.
'ED0E' = Undefined.
'ED0F' = Undefined.
'ED10' = TIMEOUT OCCURRED WHILE TRYING TO READ FEATURE
'ED11' = TIMEOUT WHILE DISCONNECTING SECOND CONTROL UNIT
'ED12' = TIMEOUT OCCURRED FOR STATUS STORE ORDER BUT
         NO HARDWARE CHECKS ARE ACTIVE.
'ED13' = TIMEOUT OCCURRED FOR DUAL STATUS STORE ORDER BUT
         NO HARDWARE CHECKS ARE ACTIVE.
'ED14' = RECEIVED BIT NOT RESET FOR RESET READ BUF ORDER
'ED15' = RESET READ BUFFER ORDER NOT SUCCESSFUL
'ED16' = STATUS INDICATES THAT BOTH CU'S ARE CONNECTED
'ED17' = ORDER SUCCESSFUL BUT HARDWARE ERROR DETECTED
'ED18' = TIMEOUT OCCURRED FOR STATUS STORE ORDER AND
         HARDWARE CHECKS ARE ACTIVE.
'ED19' = TIMEOUT OCCURRED FOR DUAL STATUS STORE ORDER AND
         HARDWARE CHECKS ARE ACTIVE.
'ED1A' = Undefined.
'ED1B' = Undefined.
'ED1C' = Undefined.
'ED1D' = Undefined.
'ED1E' = Undefined.
'ED1F' = Undefined.
```

ERROR CODES GENERATED FOR THE CHANNEL DIAGNOSTICS.

          'ED20' = Undefined.
          'ED21' = Undefined.
          'ED22' = Undefined.
          'ED23' = Undefined.
          'ED24' = Undefined.
          'ED25' = Undefined.
          'ED26' = Undefined.
          'ED27' = Undefined.
          'ED28' = Undefined.
          'ED29' = Undefined.
          'ED2A' = Undefined.
          'ED2B' = Undefined.
          'ED2C' = Undefined.
          'ED2D' = Undefined.
          'ED2E' = Undefined.
          'ED2F' = Undefined.
          'ED30' = Undefined.
          'ED31' = Undefined.
          'ED32' = Undefined.
          'ED33' = Undefined.
          'ED34' = Undefined.
          'ED35' = Undefined.
          'ED36' = Undefined.
          'ED37' = Undefined.
          'ED38' = Undefined.
          'ED39' = Undefined.
          'ED3A' = Undefined.
          'ED3B' = Undefined.
          'ED3C' = Undefined.
          'ED3D' = Undefined.
          'ED3E' = Undefined.
          'ED3F' = Undefined.

ERROR CODES GENERATED FOR THE HARDWARE CHECKERS DIAGNOSTICS.

          'ED40' = Undefined.
          'ED41' = BCSE GROUP 0 ERROR
          'ED42' = BCSE GROUP 1 ERROR
          'ED43' = BCSE GROUP 2 ERROR
          'ED44' = BCSE GROUP 3 ERROR
          'ED45' = CHANNEL CRC CHECKER FAILED
          'ED46' = BDSE GROUP 0 ERROR
          'ED47' = BDSE GROUP 1 ERROR
          'ED48' = BDSE GROUP 2 ERROR
          'ED49' = BDSE GROUP 3 ERROR
          'ED4A' = DEVICE CRC CHECKER FAILED
          'ED4C' = BUFFER XR CHECK 2 ERROR
          'ED4D' = TIMED OUT WHILE WAITING FOR SERVICE IN AFTER

```
                    SETTING CHANNEL READ  FORWARD COMMAND.
    'ED4E' = DEVICE CRC CHECKER FAILED (WSE ERRORS)
    'ED4F' = DEVICE PARITY CHECKER FAILED (BUF TOGGLE WRITE)
    'ED50' = BUFFER XR CHECK 2 ERROR (WRITE DATA FLOW)
    'ED51' = DEVICE PARITY CHECKER FAILED (BUF TOGGLE READ)
    'ED52' = TIMED OUT WHILE WAITING FOR BEGINNING SYNC
    'ED53' = Timed Out waiting for BOB.
    'ED54' = Timed Out waiting for IBC
    'ED55' = Undefined.
    'ED56' = Undefined.
    'ED57' = Undefined.
    'ED58' = Undefined.
    'ED59' = Undefined.
    'ED5A' = Undefined.
    'ED5B' = Undefined.
    'ED5C' = Undefined.
    'ED5D' = Undefined.
    'ED5E' = Undefined.
    'ED5F' = Undefined.
```

ERROR CODES TO BE USED FOR THE SPARE ENTRY

```
'ED60' = Undefined.
'ED61' = Undefined.
'ED62' = Undefined.
'ED63' = Undefined.
'ED64' = Undefined.
'ED65' = Undefined.
'ED66' = Undefined.
'ED67' = Undefined.
'ED68' = Undefined.
'ED69' = Undefined.
'ED6A' = Undefined.
'ED6B' = Undefined.
'ED6C' = Undefined.
'ED6D' = Undefined.
'ED6E' = Undefined.
'ED6F' = Undefined.
'ED70' = Undefined.
'ED71' = Undefined.
'ED72' = Undefined.
'ED73' = Undefined.
'ED74' = Undefined.
'ED75' = Undefined.
'ED76' = Undefined.
'ED77' = Undefined.
'ED78' = Undefined.
'ED79' = Undefined.
'ED7A' = Undefined.
'ED7B' = Undefined.
'ED7C' = Undefined.
'ED7D' = Undefined.
'ED7E' = Undefined.
'ED7F' = Undefined.
```

ERROR CODES GENERATED FOR THE IML DISKETTE LOADER ERROR DETECTION.

```
'ED80' = IML successful.
'ED81' = Requested file not found.
'ED82' = Incorrect file password.
'ED83' = Requested number of blocks too large.
'ED84' = Directory not open.
'ED85' = Illegal file I/O request.
'ED86' = Duplicate file name.
'ED87' = Requested directory not found.
'ED88' = Insufficient disk space.
'ED89' = Directory full.
'ED8A' = File not open.
'ED8B' = File not closed.
'ED8C' = Attempting to write a read only file.
```

'ED8D' = File not a directory.

'ED8E' = File I/O busy.

'ED90' = Diskette read error. The diskette controller status registers 0,1,2 & the cylinder number are posted in the next two words.

'ED91' = Diskette write error. The diskette controller status registers 0,1,2 & the cylinder number are posted in the next two words.

'ED92' = Diskette read back compare error. The diskette controller status registers 0,1,2 & the cylinder number are posted in the next two words.

'ED93' = Diskette seek error. The diskette controller status registers 0,1,2 & the cylinder number are posted in the next two words.

'ED94' = Diskette recalibrate error. The diskette controller status registers 0,1,2 & the cylinder number are posted in the next two words.

'ED95' = Invalid sector number.

'ED96' = Timeout while trying to read diskette controller data register.

'ED97' = Timeout while trying to write diskette controller data register.

'ED98' = Timeout while trying to do a diskette operation (read,write,readback,seek,recalibrate). Probably due to no diskette or the diskette not being loaded in correctly.

'EDB1' = Swap to level 0 failed.

'EDB2' = Control store read/write failure. The failing control store address and the pattern are posted in the next two words.0

'EDB3' = Check 1 during control store R/W check. The control store address and ERA & ERB are posted in the next two words.

'EDB4' = Second Boot not loaded. The diskette controller status registers 0,1,2 & 3 are posted in the next two words.

'EDB5' = Invalid Second Boot.

'EDB6' = Microprocessor not reset to level 7.

'EDB7' = Diskette controller write timeout.

'EDB8' = Diskette controller read timeout.

'EDB9' = Diskette data transfer timeout.

'EDBA' = External register error.

'EDBB' = Unidentified level 0 interrupt.

'EDBC' = Checksum error.

'EDBD' = Collision detect error during IML.

'EDBE' = Hardware Check 1 Error followed by Diskette I/O Error loading 2nd Bootstrap.

'EDBF' = Hardware Check 1 Error.

'EDC1' = Invalid Parameter specified on CS Dump / Load Command ('8C'x).

'EDC2' = POR Diagnostics detected a hardware error during IML.

'EDD0' = This IML Disk has been configured for some Other Control Unit with Special Patches. The IML of This Control Unit with the Wrong Disk is Not Allowed.

'EDD1' = When Reading in the Control Unit Patch Table, the Check Sum did Not Compare. No Patching was done and the IML of this Control Unit will Not Continue.

'EDD2' = When Reading in the Actual Patch from the Disk, the Check Sum did Not Compare. The Patch was Not Applied. The IML of this Control Unit will Not Continue.

ERROR CODES RESERVED FOR FUTURE EXPANSION.

```
'EDD3' = Undefined.
'EDD4' = Undefined.
'EDD5' = Undefined.
'EDD6' = Undefined.
'EDD7' = Undefined.
'EDD8' = Undefined.
'EDD9' = Undefined.
'EDDA' = Undefined.
'EDDB' = Undefined.
'EDDC' = Undefined.
'EDDD' = Undefined.
'EDDE' = Undefined.
'EDDF' = Undefined.
'EDE0' = Undefined.
'EDE1' = Undefined.
'EDE2' = Undefined.
'EDE3' = Undefined.
'EDE4' = Undefined.
'EDE5' = Undefined.
'EDE6' = Undefined.
'EDE7' = Undefined.
'EDE8' = Undefined.
'EDE9' = Undefined.
'EDEA' = Undefined.
'EDEB' = Undefined.
'EDEC' = Undefined.
'EDED' = Undefined.
'EDEE' = Undefined.
'EDEF' = Undefined.
'EDF0' = Undefined.
'EDF1' = Undefined.
'EDF2' = Undefined.
'EDF3' = Undefined.
'EDF4' = Undefined.
```

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'EDF5' = Undefined.
'EDF6' = Undefined.
'EDF7' = Undefined.
'EDF8' = Undefined.
'EDF9' = Undefined.
'EDFA' = Undefined.
'EDFB' = Undefined.
'EDFC' = Undefined.
'EDFD' = Undefined.
'EDFE' = Undefined.
'EDFF' = Undefined.
```