## 2920 FAULT CODE DICTIONARY

## INDUSTRY STANDARD INTERFACE

This dictionary corresponds to given release levels of subsystem microcode.  To ascertain the microcode release level,  use the following front panel sequence:

    <ENTER ADDR>,1FFA,<ENTER>:  displays msb of the release level
                    <ENTER>:  displays lsb of the release level

It is important that the user  of this dictionary ensures the matching of dictionary text to microcode level.  The following table associates microcode EC and release level to dictionary page changes.  The latest EC covered by this  dictionary is indicated by the last entry of this table or any subsequent  EC's which do not indicate an  impact to this publication.

| EC | Microcode Level | Page(s) Changed |
|----|-----------------|-----------------|
| 49763 | C102 | Initial Release |
| 49791 | C102/D101 | All pages |
| 49831 | C102/D102 | All pages |

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

001  TEST00  Drive not loaded before forward motion request.

002  TEST00  EOT status detected before forward motion set.

Card: WR IF
Slot: A4 A3

003  TEST00  EOT detected via sensors during forward motion.

Card: WR IF
Slot: A4 A3

011  TEST01  Drive not loaded before backward motion request.

012  TEST01  BOT status detected before backward motion set.

Card: WR IF
Slot: A4 A3

013  TEST01  BOT detected via sensors during backward motion.

Card: WR IF
Slot: A4 A3

021  TEST02  Drive not loaded before motion request.

022  TEST02  EOT status detected before motion set.

Card: WR IF
Slot: A4 A3

023  TEST02  EOT detected via sensors during forward motion.

Card: WR IF
Slot: A4 A3

031  TEST03  Drive not loaded before motion request.

| Code | Detected by | Fault Description--FRU'S |
| --- | --- | --- |

032   TEST03   EOT status detected before motion set.

                Card: WR IF
                Slot: A4 A3


033   TEST03   BOT or EOT detected during motion via sensors.

                Card: WR IF
                Slot: A4 A3


041   TEST01   Reject or Machine check during mode switch.
                See description of reject codes preceeding code E01.


091   TEST09   Can not execute maintenance reel/capstan driver
                while drive is loaded.


092   TEST09   Tape presence was detected in thread path via
                sensors. Can not execute maintenance reel/capstan
                driver.

                Card: WR IF
                Slot: A4 A3


0E1   TESTOE   Maintenance write requires drive loaded.


0E2   TESTOE   Maintenance write will not run on file protected
                tape.


0E3   TESTOE   EOT status detected before motion.


0E4   TESTOE   EOT detected via sensors during forward motion.


0F1   TESTOF   Maintenance write requires drive loaded.


0F2   TESTOF   Maintenance write will not run on file protected
                tape.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             |                          |

OF3  TESTOF   EOT status detected before motion.


OF4  TESTOF   EOT detected via sensors during forward motion.


121  TEST12   Initial write of memory compared incorrectly
              while testing functional RAM (C000-C7FF).

              **Card: IF**
              **Slot: A3**


122  TEST12   Read,write complement,read sequence failed
              while testing functional RAM (C000-C7FF).

              **Card: IF**
              **Slot: A3**


123  TEST12   Initial write of memory compared incorrectly
              while testing diagnostic RAM (A000-A0FF).

              **Card: IF**
              **Slot: A3**


124  TEST12   Read,write complement,read sequence failed
              while testing diagnostic RAM (A000-A0FF).

              **Card: IF**
              **Slot: A3**


125  TEST12   Checksum incorrect in PROM 1 (0000-1FFF).

              **Card: IF**
              **Slot: A3**


126  TEST12   Checksum incorrect in PROM 2 (2000-3FFF).

              **Card: IF**
              **Slot: A3**

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

127  TEST12    Checksum incorrect in PROM 3 (4000-5FFF).

               Card: IF
               Slot: A3


128  TEST12    Checksum incorrect in PROM 4 (6000-7FFF).

               Card: IF
               Slot: A3


129  TEST12    Checksum incorrect in PROM 5 (8000-9FFF).

               Card: IF
               Slot: A3


12A  TEST12    Release level mis-match between proms.
               Locations: PROM 1 = (1FFA,B)
                          PROM 2 = (3FFA,B)
                          PROM 3 = (5FFA,B)
                          PROM 4 = (7FFA,B)
                          PROM 5 = (9FFA,B)
               Card: IF
               Slot: A3


151  TEST15    Multiple keyboard columns active in sense register
               (E008) for a given row selection (E013).
               Check for proper panel cable connection.

               Card:  IF  KK
               Slot:  A3


153  TEST15    More than one front panel key detected (E008)
               for different row selections (E013).
               Check for proper panel cable connection.

               Card:  IF  KK
               Slot:  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

181  TEST18   Position counter (SV card, XCS chip) could not
              be looped correctly (wrt: E0A3; rd: E0A5).

              Status A-0: expected pattern
              Status A-1: actual pattern

              Card:  IF  SV  DP  WR
              Slot:  A3  A1  A5  A4


183  TEST18   Velocity register (SV card, XCS chip) could not
              be looped correctly (wrt: E0A6,A8,A9; rd: E0A7).

              Status A-0: pattern
              Status A-2: should be pattern shifted left once

              Card:  IF  SV  DP  WR
              Slot:  A3  A1  A5  A4


185  TEST18   Machine swing arm position (SV card, XRS chip) could
              not be looped correctly (wrt: E0B0,B2; rd: E0B4).

              Status A-0: pattern
              Status A-3: should be pattern shifted left twice

              Card:  IF  SV  DP  WR
              Slot:  A3  A1  A5  A4


187  TEST18   File swing arm position (SV card, XRS chip) could
              not be looped correctly (wrt: E0B1,B3; rd: E0B5).

              Status A-0: pattern
              Status A-4: should be pattern shifted left 3 bits

              Card:  IF  SV  DP  WR
              Slot:  A3  A1  A5  A4


1B1  TEST1B   Data path status B (E0C2) not 0 with resets active.

              Card:  DP  IF  WR  SV
              Slot:  A5  A3  A4  A1

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

1B3   TEST1B    Data path status B (EOC2) not indicating CRC + CRCA (06h) after resets cleared and GCR mode set.

```
Card:  DP   IF   WR   SV
Slot:  A5   A3   A4   A1
```

1B4   TEST1B    Dead track register (EOCO) not inactive (FFh) following data path reset.

```
Card:  DP   IF
Slot:  A5   A3
```

1B5   TEST1B    Data path status A (EOC1) not 0 following data path reset.

```
Card:  DP   IF
Slot:  A5   A3
```

1B6   TEST1B    Data path status C (EOC3) not inactive (04h) following data path reset.

```
Card:  DP   IF
Slot:  A5   A3
```

1B7   TEST1B    Phase pointer register (EOC4) not 0 following data path reset.

```
Card:  DP   IF
Slot:  A5   A3
```

1B8   TEST1B    Amp sensor register (EOC5) not 0 following data path reset.

```
Card:  DP   IF
Slot:  A5   A3
```

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

1D1   TEST1D   Following the disabling of all sensors (EOE8), only
               file protect status (EOEO) should have been active.

               Status A-O:  sensor bit(s) in error

               Card:   WR   IF
               Slot:   A4   A3

               Sensor: EOT/BOT, File Protect, Leader


1D2   TEST1D   After enabling EOT sensor only (EOE8), sensor
               status (EOEO) was incorrect.

               Status A-O:  sensor bit(s) in error

               Card:   WR   IF
               Slot:   A4   A3

               Sensor: EOT/BOT, File Protect, Leader


1D3   TEST1D   After enabling BOT sensor only (EOE8), sensor
               status (EOEO) was incorrect.

               Status A-O:  sensor bit(s) in error

               Card:   WR   IF
               Slot:   A4   A3

               Sensor: EOT/BOT, File Protect, Leader


1D4   TEST1D   After enabling tape present sensor only (EOE8),
               status (EOEO) was incorrect.

               Status A-O:  sensor bit(s) in error

               Card:   WR   IF
               Slot:   A4   A3

               Sensor: EOT/BOT, File Protect, Leader

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

1D5  TEST1D   After enabling leader sensor only (EOE8),
              status (EOEO) was incorrect.

              Status A-0:  sensor bit(s) in error

              Card:   WR   IF
              Slot:   A4   A3

              Sensor: EOT/BOT, File Protect, Leader


1D6  TEST1D   After enabling file protect sensor only (EOE8),
              status (EOEO) was incorrect.

              Status A-0:  sensor bit(s) in error

              Card:   WR   IF
              Slot:   A4   A3

              Sensor: EOT/BOT, File Protect, Leader


1D7  TEST1D   After disabling the write/erase currents (EOE8),
              current status (EOE1) should indicate
              off and stable.

              Status A-0:  sensor bit(s) in error

              Card:   WR   IF   Rd/Wrt head,cable
              Slot:   A4   A3


1F1  TEST1F   Functional code detected machine check condition
              during swing arm extend/retract cycle.

              Status A-6:  Machine check code
                           See listing for code Fxx, where
                               xx= contents of this status location

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

1F2   TEST1F    INDEX's from both arm position sensors (EOE1) were
                detected when retracting from 'EXTENDED'. However,
                the FILE arm's upper EPO area ('INDEX' off) was not
                detected before the MACHINE arm reached 'Retracted'.

                Check FILE arm sensor for 'INDEX' off capability.
                Check MACH arm sensor for false 'INDEX'.

                Card:  SV  WR  IF
                Slot:  A1  A4  A3


1F3   TEST1F    INDEX's from both arm position sensors (EOE1) were
                detected when retracting from 'EXTENDED'. However,
                the MACHINE arm's upper EPO area ('INDEX' off) was
                not detected before the FILE arm reached 'Retracted'.

                Check MACH arm sensor for 'INDEX' off capability.
                Check FILE arm sensor for false 'INDEX'.

                Card:  SV  WR  IF
                Slot:  A1  A4  A3


1F8   TEST1F    Software count of MACHINE arm tachs (EOB6) was
                extremely low through the 'INDEX' area. This may
                indicate inoperable phase A and/or B tach lines.

                Status B-2,B-3: MACH index dist (low, high byte)
                Allowed range:  00F0h -> 0108h

                Check MACH arm tach assembly for tach signals.

                Card:  SV  WR  IF
                Slot:  A1  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

1F9  TEST1F  Software count of FILE arm tachs (EOB6) was
extremely low through the 'INDEX' area. This may
indicate inoperable phase A and/or B tach lines.

Status B-4,B-5: FILE index dist (low, high byte)
Allowed range: OOFOh -> 0108h

Check FILE arm tach assembly for tach signals.

Card: SV  WR  IF
Slot: A1  A4  A3


1FA  TEST1F  Software count of MACHINE arm tachs (EOB6) thru
'INDEX' area was not as expected.

Status B-2,B-3: MACH index dist (low, high byte)
Allowed range: OOFOh -> 0108h

Card: SV  WR  IF
Slot: A1  A4  A3


1FB  TEST1F  Software count of FILE arm tachs (EOB6) through
'INDEX' area was not as expected.

Status B-4,B-5: FILE index dist (low, high byte)
Allowed range: OOFOh -> 0108h

Card: SV  WR  IF
Slot: A1  A4  A3


1FC  TEST1F  Insufficient EPO margin ('EXTENDED' to 'INDEX')
was indicated by the MACH arm tach (EOB6).

Status B-0:     MACH epo distance (quarter tachs)
   minimum:     03 hex

Check MACH arm tach assembly.

Card: SV  WR  IF
Slot: A1  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             |                          |

1FD   TEST1F   Insufficient EPO margin ('EXTENDED' to 'INDEX')
               was indicated by the FILE arm tach (EOB6).

               Status B-1:   FILE epo distance (quarter tachs)
                  minimum:   03 hex

               Check FILE arm tach assembly.

               Card:  SV  WR  IF
               Slot:  A1  A4  A3


1FE   TEST1F   Software counts of MACHINE arm position tachs were
               within allowable limits. However, hardware counter
               (read from EOB4 and placed in Status B-6) was not
               within 10 (decimal) counts of the software count.
               (Note: only the low byte of software count is used
               in the compare).

               Status B-2,B-3: mach index dist (low, high byte)
               Status B-6:      mach index dist (from hardware)

               Card:  SV  WR  IF
               Slot:  A1  A4  A3


1FF   TEST1F   Software counts of FILE arm position tachs were
               within allowable limits. However, hardware counter
               (read from EOB5 and placed in Status B-7) was not
               within 10 (decimal) counts of the software count.
               (Note: only the low byte of software count is used
               in the compare).

               Status B-4,B-5: file index dist (low, high byte)
               Status B-7:      file index dist (from hardware)

               Card:  SV  WR  IF
               Slot:  A1  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
| | | |

221  TEST22   Write and/or Read complete (E028) failed
              to initialize following a reset (E012).

              STATUS B-0: patterns in order of execution--
                          0- FF's to data path
                          1- 00's to data path
                          2- AA55 pattern
                          3- 55AA pattern
                          4- walking 0 bit
                          5- walking 1 bit
                          6- pseudo random (long records)
              STATUS B-1: byte count    (range: 5 -> 8)
              STATUS B-2: byte pointer (walking bit patterns)
              STATUS B-3: bit pointer   ( "       "      "    )

              Card:  DP  IF
              Slot:  A5  A3


222  TEST22   Attempt to clear data-path-complete interrupt
              failed--see code 221 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


223  TEST22   After setting byte count (IP card) and allowing
              write transfer, write complete did not occur--
              see code 221 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


224  TEST22   Data path complete was returned early; before
              the expected termination of postamble writing--
              see code 221 for status locations.

              Card:  DP  IF
              Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             |                          |

225  TEST22  After issuing read command, setting short reset
to data path front end (E010), and allowing data
transfer, timeout occurred waiting for read com-
plete--see code 221 for status locations.

Card:  DP   IF   WR
Slot:  A5   A3   A4


226  TEST22  After readback of given byte count, data-path-
complete interrupt (indicating completion of
postamble write) did not occur--see code 221 for
status locations.

Card:  DP   RD   IF   WR
Slot:  A5   A6   A3   A4


227  TEST22  Parity was incorrect (E028) following completion
of readback--see code 221 for status locations.

Card:  DP   IF
Slot:  A5   A3


229  TEST22  Reject occurred during speed switch operation.
See description of reject codes preceeding code E01.


22A  TEST22  Following completion of write and read portions
of the loop-write-read, DPSTATA (E0C1) was not as
expected (00h or 01h)--see code 221 for status
locations.

Card:  DP   RD   WR   IF
Slot:  A5   A6   A4   A3


22B  TEST22  Following completion of write and read portions
of the loop-write-read, DPSTATB (E0C2) was not as
expected (00h or 02h)--see code 221 for status
locations.

Card:  DP   RD   WR   IF
Slot:  A5   A6   A4   A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

22C TEST22   Following completion of write and read portions
of the loop-write-read, DPSTATC (EOC3) was not as
expected (00h -> 07h)--see code 221 for status
locations.

  Card:  DP  RD  WR  IF
  Slot:  A5  A6  A4  A3

22F TEST22   Following completion of write and read portions
of the loop-write-read without detectable errors,
write and read buffer data miscompared--see code
221 for status locations.

  Card:  DP  IF
  Slot:  A5  A3

231 TEST23   Data path "Status A" (EOC1) not indicating velocity
error only (02 hex) following a "loop-write-to-read"
record written at 12.5% high velocity.

  STATUS A-0: failing status bits

  Card:  DP  IF
  Slot:  A5  A3

232 TEST23   Data path "Status A" (EOC1) not zero following a
"loop-write-to-read" record written at 2.1% high
velocity.

  Card:  DP  IF
  Slot:  A5  A3

233 TEST23   Data path "Status A" (EOC1) not zero following a
"loop-write-to-read" record written at 11.7% low
velocity.

  Card:  DP  IF
  Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

234  TEST23   Data path "Status A" (E0C1) not indicating velocity
              error only (02 hex) following a "loop-write-to-read"
              record written at 18.6% low velocity.

              STATUS A-0: failing status bits

              Card:  DP  IF
              Slot:  A5  A3


239  TEST23   Reject occurred during speed switch operation.
              See description of reject codes preceeding code E01.


241  TEST24   Write and/or Read complete (E028) failed
              to initialize following a reset (E012).

              STATUS B-0: patterns in order of execution--
                          0- FF's to data path
                          1- 00's to data path
                          2- AA55 pattern
                          3- 55AA pattern
                          4- walking 0 bit
                          5- walking 1 bit
                          6- pseudo random (long records)
              STATUS B-1: byte count    (range: 1 -> 6)
              STATUS B-2: byte pointer (walking bit patterns)
              STATUS B-3: bit pointer  ( "      "     "    )

              Card:  DP  IF
              Slot:  A5  A3


242  TEST24   Attempt to clear data-path-complete interrupt
              failed--see code 241 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


243  TEST24   After setting byte count (IP card) and allowing
              write transfer, write complete did not occur--
              see code 241 for status locations.

              Card:  DP  IF
              Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

244   TEST24   Data path complete was returned early; before
the expected termination of postamble writing--
see code 241 for status locations.

Card:   DP   IF
Slot:   A5   A3


245   TEST24   After issuing read command, setting short reset
to data path front end (E010), and allowing data
transfer, timeout occurred waiting for read com-
plete--see code 241 for status locations.

Card:   DP   IF
Slot:   A5   A3


246   TEST24   After readback of given byte count, data-path-
complete interrupt (indicating completion of
postamble write) did not occur--see code 241 for
status locations.

Card:   DP   RD   IF   WR
Slot:   A5   A6   A3   A4


247   TEST24   Parity was incorrect (E028) following completion
of readback--see code 241 for status locations.

Card:   DP   IF
Slot:   A5   A3


249   TEST24   Reject occurred during speed switch operation.
See description of reject codes preceeding code E01.


24A   TEST24   Following completion of write and read portions
of the loop-write-read, DPSTATA (EOC1) was not as
expected (00h or 01h)--see code 241 for status
locations.

Card:   DP   RD   WR   IF
Slot:   A5   A6   A4   A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

24B  TEST24    Following completion of write and read portions
of the loop-write-read, DPSTATB (EOC2) was not as
expected (00h or 08h)--see code 241 for status
locations.

                      Card:  DP  RD  WR  IF
                      Slot:  A5  A6  A4  A3

24C  TEST24    Following completion of write and read portions
of the loop-write-read, DPSTATC (EOC3) was not as
expected (00h -> 07h)--see code 241 for status
locations.

                      Card:  DP  RD  WR  IF  .
                      Slot:  A5  A6  A4  A3

24F  TEST24    Following completion of write and read portions
of the loop-write-read without detectable errors,
write and read buffer data miscompared--see code
241 for status locations.

                      Card:  DP  IF
                      Slot:  A5  A3

251  TEST25    Data path "Status A" (EOC1) not indicating velocity
error only (02 hex) following a "loop-write-to-read"
record written at 12.5% high velocity.

                      STATUS A-0: failing status bits

                      Card:  DP  IF
                      Slot:  A5  A3

252  TEST25    Data path "Status A" (EOC1) not zero following a
"loop-write-to-read" record written at 2.1% high
velocity.

                      Card:  DP  IF
                      Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

253 TEST25    Data path "Status A" (EOC1) not zero following a "loop-write-to-read" record written at 11.7% low velocity.

Card:  DP  IF
Slot:  A5  A3


254 TEST25    Data path "Status A" (EOC1) not indicating velocity error only (02 hex) following a "loop-write-to-read" record written at 18.6% low velocity.

STATUS A-0: failing status bits

Card:  DP  IF
Slot:  A5  A3


259 TEST25    Reject occurred during speed switch operation.
             See description of reject codes preceeding code E01.


261 TEST26    Write and/or Read complete (E028) failed to initialize following a reset (E012).

STATUS C-0: dead tracks (tracks 0-7, initially 01)
STATUS C-1: dead tracks (track P, initially 00)

STATUS B-0: patterns in order of execution--
            4- walking 0 bit
            6- pseudo random (long records)
STATUS B-1: byte count    (8 bytes for pattern 4)
STATUS B-2: byte pointer (walking bit patterns)
STATUS B-3: bit pointer   ( "       "      "    )

Card:  DP  IF
Slot:  A5  A3


262 TEST26    Attempt to clear data-path-complete interrupt failed--see code 261 for status locations.

Card:  DP  IF
Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

263 TEST26    After setting byte count (IP card) and allowing
            write transfer, write complete did not occur--
            see code 261 for status locations.

            Card:  DP  IF
            Slot:  A5  A3


264 TEST26    Data path complete was returned early; before
            the expected termination of postamble writing--
            see code 261 for status locations.

            Card:  DP  IF
            Slot:  A5  A3


265 TEST26    After issuing read command, setting short reset
            to data path front end (E010), and allowing data
            transfer, timeout occurred waiting for read com-
            plete--see code 261 for status locations.

            Card:  DP  IF
            Slot:  A5  A3


266 TEST26    After readback of given byte count, data-path-
            complete interrupt (indicating completion of
            postamble write) did not occur--see code 261 for
            status locations.

            Card:  DP  RD  IF  WR
            Slot:  A5  A6  A3  A4


267 TEST26    Parity was incorrect (E028) following completion
            of readback--see code 261 for status locations.

            Card:  DP  IF
            Slot:  A5  A3


269 TEST26    Reject occurred during speed switch operation.
            See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

26A TEST26   Following completion of write and read portions
             of the loop-write-read, DPSTATA (EOC1) was not as
             expected (08h or 09h)--see code 261 for status
             locations.

             Card:  DP   RD   WR   IF
             Slot:  A5   A6   A4   A3


26B · TEST26   Following completion of write and read portions
               of the loop-write-read, DPSTATB (EOC2) was not as
               expected (00h or 02h)--see code 261 for status
               locations.

               Card:  DP   RD   WR   IF          .
               Slot:  A5   A6   A4   A3


26C  TEST26    Following completion of write and read portions
               of the loop-write-read, DPSTATC (EOC3) was not as
               expected (00h -> 07h)--see code 261 for status
               locations.

               Card:  DP   RD   WR   IF
               Slot:  A5   A6   A4   A3


26F  TEST26    Following completion of write and read portions
               of the loop-write-read without detectable errors,
               write and read buffer data miscompared--see code
               261 for status locations.

               Card:  DP   IF
               Slot:  A5   A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

271   TEST27    Write and/or Read complete (E028) failed
to initialize following a reset (E012).

                STATUS C-0: dead tracks (tracks 0-7, initially 01)
                STATUS C-1: dead tracks (track P, initially 00)

                STATUS B-0: patterns in order of execution--
                            4- walking 0 bit
                            6- pseudo random (long records)
                STATUS B-1: byte count    (6 bytes for pattern 4)
                STATUS B-2: byte pointer (walking bit patterns)
                STATUS B-3: bit pointer   ( "       "       "  )

                Card: DP  IF
                Slot: A5  A3

272   TEST27    Attempt to clear data-path-complete interrupt
failed--see code 271 for status locations.

                Card: DP  IF
                Slot: A5  A3

273   TEST27    After setting byte count (IP card) and allowing
write transfer, write complete did not occur--
see code 271 for status locations.

                Card: DP  IF
                Slot: A5  A3

274   TEST27    Data path complete was returned early; before
the expected termination of postamble writing--
see code 271 for status locations.

                Card: DP  IF
                Slot: A5  A3

275   TEST27    After issuing read command, setting short reset
to data path front end (E010), and allowing data
transfer, timeout occurred waiting for read com-
plete--see code 271 for status locations.

                Card: DP  IF
                Slot: A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

276  TEST27   After readback of given byte count, data-path-
              complete interrupt (indicating completion of
              postamble write) did not occur--see code 271 for
              status locations.

              Card:  DP  RD  IF  WR
              Slot:  A5  A6  A3  A4


277  TEST27   Parity was incorrect (E028) following completion
              of readback--see code 271 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


279  TEST27   Reject occurred during speed switch operation.
              See description of reject codes preceeding code E01.


27A  TEST27   Following completion of write and read portions
              of the loop-write-read, DPSTATA (EOC1) was not as
              expected (08h or 09h)--see code 271 for status
              locations.

              Card:  DP  RD  WR  IF
              Slot:  A5  A6  A4  A3


27B  TEST27   Following completion of write and read portions
              of the loop-write-read, DPSTATB (EOC2) was not as
              expected (00h or 08h)--see code 271 for status
              locations.

              Card:  DP  RD  WR  IF
              Slot:  A5  A6  A4  A3


27C  TEST27   Following completion of write and read portions
              of the loop-write-read, DPSTATC (EOC3) was not as
              expected (00h -> 07h)--see code 271 for status
              locations.

              Card:  DP  RD  WR  IF
              Slot:  A5  A6  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

27F  TEST27  Following completion of write and read portions
of the loop-write-read without detectable errors,
write and read buffer data miscompared--see code
271 for status locations.

Card:  DP  IF
Slot:  A5  A3

281  TEST28  Write and/or Read complete (E028) failed
to initialize following a reset (E012).

STATUS C-0: dead tracks (tracks 0-7, initially 03)
STATUS C-1: dead tracks (track P, initially 00)

STATUS B-0: patterns in order of execution--
            4- walking 0 bit
            6- pseudo random (long records)
STATUS B-1: byte count   (8 bytes for pattern 4)
STATUS B-2: byte pointer (walking bit patterns)
STATUS B-3: bit pointer  ( "       "      "    )

Card:  DP  IF
Slot:  A5  A3

282  TEST28  Attempt to clear data-path-complete interrupt
failed--see code 281 for status locations.

Card:  DP  IF
Slot:  A5  A3

283  TEST28  After setting byte count (IP card) and allowing
write transfer, write complete did not occur--
see code 281 for status locations.

Card:  DP  IF
Slot:  A5  A3

284  TEST28  Data path complete was returned early; before
the expected termination of postamble writing--
see code 281 for status locations.

Card:  DP  IF
Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

285   TEST28   After issuing read command, setting short reset
to data path front end (E010), and allowing data
transfer, timeout occurred waiting for read com-
plete--see code 281 for status locations.

     Card:   DP   IF
     Slot:   A5   A3


286   TEST28   After readback of given byte count, data-path-
complete interrupt (indicating completion of
postamble write) did not occur--see code 281 for
status locations.

     Card:   DP   RD   IF   WR
     Slot:   A5   A6   A3   A4


289   TEST28   Reject occurred during speed switch operation.
See description of reject codes preceeding code E01.


28A   TEST28   Following completion of write and read portions
of the loop-write-read, DPSTATA (EOC1) was not as
expected (74h; 09h bits don't care)--see code 281
for status locations.

     Card:   DP   RD   WR   IF
     Slot:   A5   A6   A4   A3


28B   TEST28   Following completion of write and read portions
of the loop-write-read, DPSTATB (EOC2) was not as
expected (00h; 0Bh bits don't care)--see code 281
for status locations.

     Card:   DP   RD   WR   IF
     Slot:   A5   A6   A4   A3


28C   TEST28   Following completion of write and read portions
of the loop-write-read, DPSTATC (EOC3) was not as
expected (00h -> 07h)--see code 281 for status
locations.

     Card:   DP   RD   WR   IF
     Slot:   A5   A6   A4   A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

28D  TEST28  CRC-C and BUPER did not both set in DPSTATB (EOC2)
             at some time during multi-track error PE loop-
             write to read testing.

             Card:  DP  IF
             Slot:  A5  A3


291  TEST29  Write and/or Read complete (E028) failed
             to initialize following a reset (E012).

             STATUS C-0: dead tracks (tracks 0-7, initially 03)
             STATUS C-1: dead tracks (track P, initially 00)

             STATUS B-0: patterns in order of execution--
                         4- walking 0 bit
                         6- pseudo random (long records)
             STATUS B-1: byte count    (6 bytes for pattern 4)
             STATUS B-2: byte pointer (walking bit patterns)
             STATUS B-3: bit pointer   ( "        "        "    )

             Card:  DP  IF
             Slot:  A5  A3


292  TEST29  Attempt to clear data-path-complete interrupt
             failed--see code 291 for status locations.

             Card:  DP  IF
             Slot:  A5  A3


293  TEST29  After setting byte count (IP card) and allowing
             write transfer, write complete did not occur--
             see code 291 for status locations.

             Card:  DP  IF
             Slot:  A5  A3


294  TEST29  Data path complete was returned early; before
             the expected termination of postamble writing--
             see code 291 for status locations.

             Card:  DP  IF
             Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

295  TEST29   After issuing read command, setting short reset
              to data path front end (E010), and allowing data
              transfer, timeout occurred waiting for read com-
              plete--see code 291 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


296  TEST29   After readback of given byte count, data-path-
              complete interrupt (indicating completion of
              postamble write) did not occur--see code 291 for
              status locations.

              Card:  DP  RD  IF  WR
              Slot:  A5  A6  A3  A4


297  TEST29   Parity was incorrect (E028) following completion
              of readback--see code 291 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


299  TEST29   Reject occurred during speed switch operation.
              See description of reject codes preceeding code E01.


29A  TEST29   Following completion of write and read portions
              of the loop-write-read, DPSTATA (EOC1) was not as
              expected (10h,11h,18h, or 19h)--see code 291 for
              status locations.

              Card:  DP  RD  WR  IF
              Slot:  A5  A6  A4  A3


29B  TEST29   Following completion of write and read portions
              of the loop-write-read, DPSTATB (EOC2) was not as
              expected (00h or 08h)--see code 291 for status
              locations.

              Card:  DP  RD  WR  IF
              Slot:  A5  A6  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|---|---|---|

29C  TEST29    Following completion of write and read portions
                of the loop-write-read, DPSTATC (E0C3) was not as
                expected (00h -> 07h)--see code 291 for status
                locations.

                Card:  DP  RD  WR  IF
                Slot:  A5  A6  A4  A3


29F  TEST29    Following completion of write and read portions
                of the loop-write-read without detectable errors,
                write and read buffer data miscompared--see code
                291 for status locations.

                Card:  DP  IF
                Slot:  A5  A3


2C1  TEST2C    Write and/or read complete (E028) failed
                to initialize following a reset (E012).

                STATUS B-0: patterns in order of execution--
                            0- FF's to data path
                            1- 00's to data path
                            2- AA55 pattern
                            3- 55AA pattern
                            4- walking 0 bit
                            5- walking 1 bit
                            6- pseudo random (long records)
                STATUS B-1: byte count    (range: 5 -> 8)
                STATUS B-2: byte pointer (walking bit patterns)
                STATUS B-3: bit pointer  ( "      "      "    )

                Card:  DP  IF
                Slot:  A5  A3


2C2  TEST2C    Attempt to clear data-path-complete interrupt
                failed--See code 2C1 for status locations.

                Card:  DP  IF
                Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

2C3  TEST2C   After setting byte count (IP card) and allowing
              write transfer, write complete did not occur--
              See code 2C1 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


2C4  TEST2C   Data path complete was returned early; before
              the expected termination of postamble writing--
              See code 2C1 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


2C5  TEST2C   After issuing read command, setting short reset
              to data path front end (E010), and allowing data
              transfer, timeout occurred waiting for read com-
              plete--see code 2C1 for status locations.

              Card:  DP  IF  WR
              Slot:  A5  A3  A4


2C6  TEST2C   After readback of given byte count, data-path-
              complete interrupt (indicating completion of
              postamble write) did not occur--see code 2C1 for
              status locations.

              Card:  DP  RD  IF  WR
              Slot:  A5  A6  A3  A4


2C7  TEST2C   Parity was incorrect (E028) following completion
              of readback--see code 2C1 for status locations.

              Card:  DP  IF
              Slot:  A5  A3


2C9  TEST2C   Reject occurred during speed switch operation.
              See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

2CA  TEST2C   Following completion of write and read portions
                 of the loop-write-read, DPSTATA (EOC1) was not as
                 expected (00h or 01h)--see code 2C1 for status
                 locations.

                 Card:  DP  RD  WR  IF
                 Slot:  A5  A6  A4  A3


2CB  TEST2C   Following completion of write and read portions
                 of the loop-write-read, DPSTATB (EOC2) was not as
                 expected (00h or 02h)--see code 2C1 for status
                 locations.

                 Card:  DP  RD  WR  IF
                 Slot:  A5  A6  A4  A3


2CC  TEST2C   Following completion of write and read portions
                 of the loop-write-read, DPSTATC (EOC3) was not as
                 expected (00h -> 07h)--see code 2C1 for status
                 locations.

                 Card:  DP  RD  WR  IF
                 Slot:  A5  A6  A4  A3


2CF  TEST2C   Following completion of write and read portions
                 of the loop-write-read without detectable errors,
                 write and read buffer data miscompared--see code
                 2C1 for status locations.

                 Card:  DP  IF
                 Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

2E1   TEST2E   Write and/or Read complete (E028) failed
               to initialize following a reset (E012).

               STATUS B-0: patterns in order of execution--
                           0- FF's to data path
                           1- 00's to data path
                           2- AA55 pattern
                           3- 55AA pattern
                           4- walking 0 bit
                           5- walking 1 bit
                           6- pseudo random (long records)
               STATUS B-1: byte count    (range: 1 -> 6)
               STATUS B-2: byte pointer (walking bit patterns)
               STATUS B-3: bit pointer   ( "      "      "    )

               Card:  DP  IF
               Slot:  A5  A3


2E2   TEST2E   Attempt to clear data-path-complete interrupt
               failed--see code 2E1 for status locations.

               Card:  DP  IF
               Slot:  A5  A3


2E3   TEST2E   After setting byte count (IP card) and allowing
               write transfer, write complete did not occur--
               see code 2E1 for status locations.

               Card:  DP  IF
               Slot:  A5  A3


2E4   TEST2E   Data path complete was returned early; before
               the expected termination of postamble writing--
               see code 2E1 for status locations.

               Card:  DP  IF
               Slot:  A5  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

2E5  TEST2E    After issuing read command, setting short reset
                to data path front end (E010), and allowing data
                transfer, timeout occurred waiting for read com-
                plete--see code 2E1 for status locations.

                Card:  DP  IF
                Slot:  A5  A3


2E6  TEST2E    After readback of given byte count, data-path-
                complete interrupt (indicating completion of
                postamble write) did not occur--see code 2E1 for
                status locations.

                Card:  DP  RD  IF  WR
                Slot:  A5  A6  A3  A4


2E7  TEST2E    Parity was incorrect (E028) following completion
                of readback--see code 2E1 for status locations.

                Card:  DP  IF
                Slot:  A5  A3


2E9  TEST2E    Reject occurred during speed switch operation.
                See description of reject codes preceeding code E01.


2EA  TEST2E    Following completion of write and read portions
                of the loop-write-read, DPSTATA (EOC1) was not as
                expected (00h or 01h)--see code 2E1 for status
                locations.

                Card:  DP  RD  WR  IF
                Slot:  A5  A6  A4  A3


2EB  TEST2E    Following completion of write and read portions
                of the loop-write-read, DPSTATB (EOC2) was not as
                expected (00h or 08h)--see code 2E1 for status
                locations.

                Card:  DP  RD  WR  IF
                Slot:  A5  A6  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

2EC  TEST2E  Following completion of write and read portions
of the loop-write-read, DPSTATC (E0C3) was not as
expected (00h -> 07h)--see code 2E1 for status
locations.

    Card:  DP  RD  WR  IF
    Slot:  A5  A6  A4  A3


2EF  TEST2E  Following completion of write and read portions
of the loop-write-read without detectable errors,
write and read buffer data miscompared--see code
2E1 for status locations.

    Card:  DP  IF
    Slot:  A5  A3


321  TEST32  While in EPO'd state and driving both machine and
file DAC's (SV) through drive range (7Fh to 80h),
current mode feedback indicated multiple null points.

    Status A-0: first negative drive feedback (mach)
    Status A-1: first negative drive feedback (file)

    Card:  SV  IF  EPO Relay
    Slot:  A1  A3      MBD


322  TEST32  Machine/File reel current mode feedback (E0D0)
indicated null points outside range: F0h <-> 0Fh.

    Status A-0: machine reel null
    Status A-1: file reel null

    Card:  SV  IF
    Slot:  A1  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

323 TEST32  With EPO reset (current driven thru reels) and
DAC drive applied, initial current mode feedback
(-pump up/down) was incorrect. This is represented
by a FF byte in any of the following status...

```
Status B-0:  MACH reel current time, DAC = 7F
Status B-1:  MACH reel current time, DAC = 40
Status B-2:  MACH reel current time, DAC = 20
Status B-3:  MACH reel current time, DAC = 10
Status B-4:  MACH reel current time, DAC = EF
Status B-5:  MACH reel current time, DAC = DF
Status B-6:  MACH reel current time, DAC = BF
Status B-7:  MACH reel current time, DAC = 80

Status B-8:  FILE reel current time, DAC = 7F
Status B-9:  FILE reel current time, DAC = 40
Status B-A:  FILE reel current time, DAC = 20
Status B-B:  FILE reel current time, DAC = 10
Status B-C:  FILE reel current time, DAC = EF
Status B-D:  FILE reel current time, DAC = DF
Status B-E:  FILE reel current time, DAC = BF
Status B-F:  FILE reel current time, DAC = 80
```

Card:  SV  IF
Slot:  A1  A3

324 TEST32  With EPO reset (current driven thru MACHINE reel),
current feedback was not detected.  The timeout
for this feedback is indicated by a FE in any of..

```
Status B-0:  MACH reel current time, DAC = 7F
Status B-1:  MACH reel current time, DAC = 40
Status B-2:  MACH reel current time, DAC = 20
Status B-3:  MACH reel current time, DAC = 10
Status B-4:  MACH reel current time, DAC = EF
Status B-5:  MACH reel current time, DAC = DF
Status B-6:  MACH reel current time, DAC = BF
Status B-7:  MACH reel current time, DAC = 80
```

Check MACHINE reel motor cabling.

Card:  SV  IF    Machine Reel    EPO Relay
Slot:  A1  A3        Motor           MBD

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

325  TEST32  With EPO reset (current driven thru FILE reel),
                current feedback was not detected.  The timeout
                for this feedback is indicated by a FE in any of..

                Status B-8:  FILE reel current time, DAC = 7F
                Status B-9:  FILE reel current time, DAC = 40
                Status B-A:  FILE reel current time, DAC = 20
                Status B-B:  FILE reel current time, DAC = 10
                Status B-C:  FILE reel current time, DAC = EF
                Status B-D:  FILE reel current time, DAC = DF
                Status B-E:  FILE reel current time, DAC = BF
                Status B-F:  FILE reel current time, DAC = 80

                Check FILE reel motor cabling.

                Card:  SV    File Reel    EPO Relay
                Slot:  A1        Motor        MBD


326  TEST32  In current mode, the two reel DAC's were each driven
                through 8 levels: most positive to most negative.
                The resulting current feedback times did not follow
                the relative level of drive.

                Card:  SV
                Slot:  A1


327  TEST32  The feedback time of MACHINE or FILE reel current
                was not reduced by a power supply switch to the
                higher rewind voltage.  The expected ratio:

                     Normal/Rewind > 1.125

                Status B-0:  Normal-V feedback (Machine)
                Status C-0:  Rewind-V feedback (Machine)

                Status B-8:  Normal-V feedback (File)
                Status C-8:  Rewind-V feedback (File)

                Card:  SV    AK
                Slot:  A1    Pwr Supply

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
| | | |

328　TEST32　　In threading mode (voltage feedback), each reel DAC
was driven to a forward (08h) and a backward (F7h)
level. The "-Pump Up (Down)" signals were not as
expected. (In the following status, FF indicates both
Up & Down signals were active;　FE indicates Up or
Down was active longer than 1.5 ms).

Status A-8:　Machine reel accel time (Fwd)
Status A-9:　Machine reel accel time (Bkwd)
Status A-A:　File reel accel time (Fwd)
Status A-B:　File reel accel time (Bkwd)

Card:　SV
Slot:　A1


329　TEST32　　In threading mode (voltage feedback), each reel DAC
was driven to a forward (08h) and a backward (F7h)
level. Motion of the MACHINE reel was not detected
(this is indicated by a FD in the status below).

Status A-8:　Machine reel accel time (Fwd)
Status A-9:　Machine reel accel time (Bkwd)

Card:　SV　　Machine reel
Slot:　A1　　　　Motor


32A　TEST32　　In threading mode (voltage feedback), each reel DAC
was driven to a forward (08h) and a backward (F7h)
level. Motion of the FILE reel was not detected
(this is indicated by a FD in the status below).

Status A-A:　File reel accel time (Fwd)
Status A-B:　File reel accel time (Bkwd)

Card:　SV　　File reel
Slot:　A1　　　Motor


32B　TEST32　　No detectable capstan motion after 4 ms drive
pulse applied (maximum positive drive).

Card:　SV　Capstan/Tach　EPO Relay
Slot:　A1　　　　Motor　　　　　MBD

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

32C    TEST32    In processor controlled mode, the capstan DAC was
                 loaded to generate 4 ms pulses of varying magnitude.
                 The resulting capstan positions did not indicate
                 displacement relative to the drive magnitude.

                   Status B-0:  Capstan distance, DAC = 7F (max pos)
                   Status B-1:  Capstan distance, DAC = 40
                   Status B-2:  Capstan distance, DAC = 20
                   Status B-3:  Capstan distance, DAC = 10
                   Status B-4:  Capstan distance, DAC = EF
                   Status B-5:  Capstan distance, DAC = DF
                   Status B-6:  Capstan distance, DAC = BF
                   Status B-7:  Capstan distance, DAC = 80 (max neg)

                   Card:  SV  Capstan/Tach
                   Slot:  A1         Motor


32D    TEST32    Capstan position count (E0A4,A5) not indicating
                 50 ips change rate within 100 milli-seconds.

                   Card:  SV  Capstan/Tach
                   Slot:  A1         Motor


32E    TEST32    After successfully ramping capstan to 50 ips
                 (verified by position counter: E0A5) velocity
                 control mode was enabled.  Tach-A at diagnostic
                 sense register (E0D0) was inactive or period was
                 more than 50% over nominal sometime during the
                 check of 1000 tach lines (one revolution).

                   Card:  SV  Capstan/Tach
                   Slot:  A1         Motor

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

32F  TEST32  After successfully ramping capstan to 50 ips
(verified by position counter: E0A5) velocity
control mode was enabled. Velocity error (E0A7)
was monitored for a complete revolution of the
capstan. Low and high velocities did not meet
test requirements:

                                        Allowed range

        Status C-0:  Low velocity         FAh -> 0Eh
        Status C-1:  High velocity        FEh -> 12h

        Card:  SV  Capstan/Tach
        Slot:  A1          Motor


331  TEST32  Machine check occurred during the initial unload
operation.

        Status A-6: Machine check code
                    See description for code Fxx, where
                      xx= contents of this status location


332  TEST32  Following successful reel and capstan servo testing,
a load operation resulted in a machine check.

        Status A-6: Machine check code
                    See description for code Fxx, where
                      xx= contents of this status location


333  TEST32  Load task did not complete due to non-machine check
interrupt (door open, undefined NMI, etc.).

        Card:  SV  IF  WR  EOT/BOT
        Slot:  A1  A3  A4  Sensor


334  TEST32  Door open detected during test.

        Card:  SV  IF
        Slot:  A1  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

341  TEST34   STATUS A-5 = 0:   Drive not loaded

STATUS A-5 not 0: Speed switch reject code
         (see description for code Exx, where
          xx = contents of this status location)


342  TEST34   EOT status detected.


343  TEST34   Machine check occurred during wait for stable turn
             around conditions.

Status A-1: motion number (01h -> 20h: fwd)
                          (21h -> 3Fh: bkwd)
Status A-6: Machine check code
            See description for code Fxx, where
               xx= contents of this status location


344  TEST34   Reject resulted from switch to 50 ips motion.

Status A-5: Reject code
            See description for code Exx, where
               xx= contents of this status location


345  TEST34   Machine check occurred during acceleration phase
             of test.
             See status and FRU information for code 343.


346  TEST34   Machine check occurred during sustained velocity
             phase of test.
             See status and FRU information for code 343.


347  TEST34   Machine check occurred during deceleration phase
             of test.
             See status and FRU information for code 343.


348  TEST34   Machine check occurred during stop-lock phase
             of test.
             See status and FRU information for code 343.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

34A  TEST34  Acceleration characteristics were not within spec.
             Check for excessive tape path drag.

             Status A-1:  motion number    (01h -> 20h: fwd)
                                            (21h -> 3Fh: bkwd)

                              parameter:          | should be:

             Status B-0:  Cumulative ramp error  | DDh -> 23h
             Status B-1:  Feed-forward term       | 08h -> 28h

             Card:  SV  Capstan/Tach
             Slot:  A1          Motor


34B  TEST34  Arm position did not reach zero-error (+/- 5)
             within required time on long forward or bkwd motion.
             The thresholds for this test are valid only when
             using a full 10.5-inch reel.  Tape slip may be
             indicated by this failure (examine & clean capstan).

             Status A-1:  motion number    (01h= 1st fwd)
                                            (21h= 1st bkwd)

                              parameter:          | should be:

             Status B-2:  Mach arm recovery time | 00h -> C8h
             Status B-3:  File arm recovery time | 00h -> C8h

             Card:  SV  Capstan/Tach
             Slot:  A1          Motor


34C  TEST34  Sustained velocity characteristics not within spec.

             Status A-1:  motion number    (01h -> 20h: fwd)
                                            (21h -> 3Fh: bkwd)

                              parameter:          | should be:

             Status B-4:  Maximum Velocity        | EDh -> 13h
             Status B-5:  Minimum Velocity        | EDh -> 13h
             Status B-6:  Feed-forward term       | F4h -> 14h

             Card:  SV  Capstan/Tach
             Slot:  A1          Motor

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

34D   TEST34   Deceleration characteristics not within spec.

      Status A-1:  motion number    (01h -> 20h: fwd)
                                    (21h -> 3Fh: bkwd)

|                  | parameter:           | should be:  |
|------------------|----------------------|-------------|
| Status B-7:      | Cumulative ramp error | E5h -> 1Bh |
| Status B-8:      | Feed-forward term     | E8h -> F8h |

      Card:  SV  Capstan/Tach
      Slot:  A1        Motor


34E   TEST34   Stop-lock positioning outside limits.

      Status A-1:  motion number    (01h -> 20h: fwd)
                                    (21h -> 3Fh: bkwd)

|                  | parameter:      | should be:  |
|------------------|-----------------|-------------|
| Status B-9:      | Low position    | F6h -> 0Ah |
| Status B-A:      | High position   | F6h -> 0Ah |

      Card:  SV  Capstan/Tach
      Slot:  A1        Motor


351   TEST35   STATUS A-5 = 0:    Drive not loaded

      STATUS A-5 not 0: Speed switch reject code
           (see description for code Exx, where
           xx = contents of this status location)


352   TEST35   EOT status detected.


353   TEST35   Machine check occurred during wait for stable turn
      around conditions.

      Status A-1: motion number (01h -> 20h: fwd)
                              (21h -> 3Fh: bkwd)
      Status A-6: Machine check code
              See description for code Fxx, where
                 xx= contents of this status location

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

354  TEST35  Reject resulted from switch to 100 ips motion.

Status A-5: Reject code
See description for code Exx, where
xx= contents of this status location


355  TEST35  Machine check occurred during acceleration phase
of test.
See status and FRU information for code 353.


356  TEST35  Machine check occurred during sustained velocity
phase of test.
See status and FRU information for code 353.


357  TEST35  Machine check occurred during deceleration phase
of test.
See status and FRU information for code 353.


358  TEST35  Machine check occurred during stop-lock phase
of test.
See status and FRU information for code 353.


35A  TEST35  Acceleration characteristics were not within spec.
Check for excessive tape path drag.

Status A-1:  motion number   (01h -> 20h: fwd)
(21h -> 3Fh: bkwd)

|  | parameter: | should be: |
|--|-----------|-----------|
| Status B-0: | Cumulative ramp error | DDh -> 23h |
| Status B-1: | Feed-forward term | 08h -> 28h |

Card:  SV  Capstan/Tach
Slot:  A1          Motor

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

35C   TEST35   Sustained velocity characteristics not within spec.

    Status A-1:   motion number   (01h -> 20h: fwd)
                                                (21h -> 3Fh: bkwd)

| parameter: | should be: |
|------------|------------|
| Status B-4:   Maximum Velocity | EDh -> 13h |
| Status B-5:   Minimum Velocity | EDh -> 13h |
| Status B-6:   Feed-forward term | F4h -> 14h |

    Card:   SV  Capstan/Tach
    Slot:   A1        Motor


35D   TEST35   Deceleration characteristics not within spec.

    Status A-1:   motion number   (01h -> 20h: fwd)
                                                  (21h -> 3Fh: bkwd)

| parameter: | should be: |
|------------|------------|
| Status B-7:   Cumulative ramp error | E5h -> 1Bh |
| Status B-8:   Feed-forward term | E8h -> F8h |

    Card:   SV  Capstan/Tach
    Slot:   A1        Motor


35E   TEST35   Stop-lock positioning outside limits.

    Status A-1:   motion number   (01h -> 20h: fwd)
                                                  (21h -> 3Fh: bkwd)

| parameter: | should be: |
|------------|------------|
| Status B-9:   Low position | F6h -> 0Ah |
| Status B-A:   High position | F6h -> 0Ah |

    Card:   SV  Capstan/Tach
    Slot:   A1        Motor

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|---------------------------|
|      |             |                           |

361 TEST36   STATUS A-5 = 0:    Drive not loaded

STATUS A-5 not 0: Speed switch reject code
        (see description for code Exx, where
        xx = contents of this status location)


362 TEST36   Machine check occurred during fwd motion (50 ips).

Status A-6: Machine check code
            See description for code Fxx, where
                xx= contents of this status location

Check power supply voltages (AK card).


363 TEST36   Machine check occurred during velocity ramp up
             from 50 to 170 ips.
             See status and FRU information for code 362.


364 TEST36   Machine check occurred during attempted velocity
             ramp up from 170 to 220 ips.
             See status and FRU information for code 362.


365 TEST36   Following BOT detection during rewind, a machine
             check occurred during the ramp down from approx
             220 ips to 50 ips.
             See status and FRU information for code 362.


366 TEST36   Immediately after rewind ramp down at BOT, a
             machine check occurred during the settling time.
             See status and FRU information for code 362.


367 TEST36   Machine check occurred during turn around operation.
             See status and FRU information for code 362.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

368   TEST36   Maximum velocity attained during 125 foot rewind
               was less than 165 ips (0C7h).
               Status B-0: maximum velocity  (VL-VR)

               Check for early EOT sticker on tape or spurious
               EOT detections.

               Card:  SV   AK
               Slot:  A1   Pwr Supply


421   TEST42   STATUS A-5 = 0:   Drive not loaded

               STATUS A-5 not 0: Speed switch reject code
                     (see description for code Exx, where
                      xx = contents of this status location)


422   TEST42   Tape must be write enabled


423   TEST42   Reject or Machine check from initial rewind.
               See description of reject codes preceeding code E01.


424   TEST42   Current on or unstable (EOE1) afer rewind.

               Card:  WR   IF   RD
               Slot:  A4   A3   A6


425   TEST42   Immediately after setting erase, status was in
               error (EOE1).

               Card:  WR   IF   RD
               Slot:  A4   A3   A6


426   TEST42   Interrupt from erase transition was not seen.

               Card:  WR   IF
               Slot:  A4   A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             |                          |

427  TEST42    Stable erase-only status was not seen in sense
               register (EOE1).

               Card:  WR   IF   Rd/Wrt
               Slot:  A4   A3   Head


428  TEST42    Stable write mode status was not seen in sense
               register (EOE1).

               Card:  WR   IF   Rd/Wrt
               Slot:  A4   A3   Head


429  TEST42    Interrupt from write transition was not seen.

               Card:  WR   IF
               Slot:  A4   A3


42A  TEST42    Amplitude sensor active without motion (EOC5 or
               EOC3).

               Card:  WR   IF   DP
               Slot:  A4   A3   A5


42B  TEST42    Machine check occurred during forward write motion.

               Status A-6: Machine check code
                           See description for code Fxx, where
                             xx= contents of this status location


42C  TEST42    Amplitude sensor not as expected during 30 foot
               all track write.

               Check tape quality.

               Status B-0,7:  error count for tracks 0,7
               Status B-8:    error count for tracks P

               Card:  WR   RD   DP   Rd/Wrt
               Slot:  A4   A6   A5   Head

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

42D   TEST42    Amplitude sensor not as expected during 1 foot
write of one track only.

Check tape quality.

Status B-0,7:  error count for tracks 0,7
Status B-8:     error count for tracks P

Card:  WR  RD  DP  Rd/Wrt
Slot:  A4  A6  A5  Head


42E   TEST42    Amplitude sensor not as expected during 1 foot
write of all but one track.

Check tape quality.

Status B-0,7:  error count for tracks 0,7
Status B-8:     error count for tracks P

Card:  WR  RD  DP  Rd/Wrt
Slot:  A4  A6  A5  Head


42F   TEST42    Amplitude sensor detected during feed-through
check (all tracks writing; no motion).

Status B-0,7:  error count for tracks 0,7
Status B-8:     error count for tracks P

Card:  WR  RD  DP  Rd/Wrt
Slot:  A4  A6  A5  Head


431   TEST43    STATUS A-5 = 0:   Drive not loaded

STATUS A-5 not 0: Speed switch reject code
     (see description for code Exx, where
     xx = contents of this status location)


432   TEST43    Tape must be write enabled


433   TEST43    Reject or Machine check from initial rewind.
See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

434  TEST43   Current on or unstable (EOE1) afer rewind.

            Card:  WR   IF   RD
            Slot:  A4   A3   A6


435  TEST43   Immediately after setting erase, status was in
            error (EOE1).

            Card:  WR   IF   RD
            Slot:  A4   A3   A6


436  TEST43   Interrupt from erase transition was not seen.

            Card:  WR   IF
            Slot:  A4   A3


437  TEST43   Stable erase-only status was not seen in sense
            register (EOE1).

            Card:  WR   IF   Rd/Wrt
            Slot:  A4   A3   Head


438  TEST43   Stable write mode status was not seen in sense
            register (EOE1).

            Card:  WR   IF   Rd/Wrt
            Slot:  A4   A3   Head


43A  TEST43   Amplitude sensor active without motion (EOC5 or
            EOC3).

            Card;  WR   IF   DP
            Slot:  A4   A3   A5


43B  TEST43   Machine check occurred during forward write motion.

            Status A-6: Machine check code
                    See description for code Fxx, where
                       xx= contents of this status location

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

43C   TEST43   Amplitude sensor not as expected during 30 foot
                all track write.

                Check tape quality.

                Status B-0,7:   error count for tracks 0,7
                Status B-8:     error count for tracks P

                Card:   WR   RD   DP   Rd/Wrt
                Slot:   A4   A6   A5   Head


43D   TEST43   Amplitude sensor not as expected during 1 foot
                write of one track only.

                Check tape quality.

                Status B-0,7:   error count for tracks 0,7
                Status B-8:     error count for tracks P

                Card:   WR   RD   DP   Rd/Wrt
                Slot:   A4   A6   A5   Head


43E   TEST43   Amplitude sensor not as expected during 1 foot
                write of all but one track.

                Check tape quality.

                Status B-0,7:   error count for tracks 0,7
                Status B-8:     error count for tracks P

                Card:   WR   RD   DP   Rd/Wrt
                Slot:   A4   A6   A5   Head


43F   TEST43   Amplitude sensor detected during feed-through
                check (all tracks writing; no motion).

                Status B-0,7:   error count for tracks 0,7
                Status B-8:     error count for tracks P

                Card:   WR   RD   DP   Rd/Wrt
                Slot:   A4   A6   A5   Head

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

481 TEST48     STATUS A-5 = 0:    Drive not loaded

                  STATUS A-5 not 0: Speed switch reject code
                           (see description for code Exx, where
                           xx = contents of this status location)

482 TEST48     Tape must be write enabled

483 TEST48     Reject or Machine check from initial rewind.
                  See description of reject codes preceeding code E01.

484 TEST48     Reject or Machine check from internal write command.

                  Status A-0,A-1:   Low, high byte of record number.
                                  Range: 000-100 hex.
                  See description of reject codes preceeding code E01.

485 TEST48     Write overrun status (EOC2) during internal
                  write (data supplied to DP from IF card only).

                  Status A-0,A-1:   Low, high byte of record number.
                                  Range: 000-100 hex.

                  Card:   IF   DP
                  Slot:   A3   A5

486 TEST48     Bus parity error status (EOC2) during internal
                  write (data supplied to DP from IF card only).

                  Status A-0,A-1:   Low, high byte of record number.
                                  (Range: 000-100 hex)

                  Card:   IF   DP
                  Slot:   A3   A5

488 TEST48     Reject or Machine check from back-space-block
                  or erase-gap command during write error recovery.
                  See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

489 TEST48   During write error recovery, all 5 retries failed.

Status A-0,A-1:  Low, high byte of record number.
                (Range: 000-100 hex)

Check tape quality.

Card:  DP  WR  RD  IF
Slot:  A5  A4  A6  A3


48A TEST48   Reject or Machine check from write-tape-mark
             command.

Status A-0,A-1:  Low, high byte of record number
                 (first WTM occurs at 10 hex)
See description of reject codes preceeding code E01.


48B TEST48   During the writing of 256 PE records, more than
             one temporary write error occurred.

Status A-2:           Total failing writes
Status A-3:           Temporary write errors
                         (1 data check in 6 attempts)
Status A-4:           Media defects
                         (>1 data check in 6 attempts)

** Read/Write Error Tallies **

Status A-8: Data checks     Status A-C: Multi-trks
Status A-9: Velocity        Status A-D: Part. recd's
Status A-A: End Data Chks    Status A-E: Un-corr.
Status A-B: Corrections     Status A-F: CRC errors

Status B-0 -> B-8:  Dead Track counters 0-7,P
Status C-0 -> C-8:  Phase error counters 0-7,P

Card:  DP  WR  RD  IF
Slot:  A5  A4  A6  A3


491 TEST49   STATUS A-5 = 0:   Drive not loaded

STATUS A-5 not 0: Speed switch reject code
         (see description for code Exx, where
         xx = contents of this status location)

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

492  TEST49   Reject or machine check from initial rewind.
              See description of reject codes preceeding code E01.


493  TEST49   Reject or Machine check from internal read forward.
              See description of reject codes preceeding code E01.


496  TEST49   Unexpected tape mark (did not follow a 16 record
              group).  Tape must have been written by TEST48.

              Status A-0,A-1:  Low, high byte of record number
                               (Range: 000-100 hex)

              Card:  DP
              Slot:  A5


497  TEST49   Unexpected tape mark (more than 256 records read
              correctly, but tape mark did not follow 16 record
              group).  Tape must have been written by TEST48.

              Status A-0,A-1:  Low, high byte of record number
                               (Range: 000-100 hex)

              Card:  DP
              Slot:  A5


499  TEST49   Data miscompare following read without data check
              (tape must have been written by TEST48). Comparison
              involved 32 bytes of write buffer (A000-A01F) and
              32 bytes of read buffer (A020-A03F).  Data should
              match record number below:

              Status A-0,A-1:  Low, high byte of record number
                               (Range: 000-100 hex)

              Card:  DP  RD  IF
              Slot:  A5  A6  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

49B TEST49  Reject or Machine check from internal read forward
over expected tape mark.

       Status A-0,A-1:  Low, high byte of record number
                          (Range: 000-100 hex)

       See description of reject codes preceeding code E01.


49C TEST49  Tape mark status not detected when expected (but
16 record group read OK).

       Status A-0,A-1:  Low, high byte of record number
                          (Range: 000-100 hex, first TMK @ 10)

       Card:  DP
       Slot:  A5


49E TEST49  Failed internal record read with 5 retries.

       Status A-0,A-1:  Low, high byte of record number
                          (Range: 000-100 hex)

       ** Read/Write Error Tallies **

       Status A-8: Data checks     Status A-C: Multi-trks
       Status A-9: Velocity        Status A-D: Part. recd's
       Status A-A: End Data Chks  Status A-E: Un-corr.
       Status A-B: Corrections    Status A-F: CRC errors

       Status B-0 -> B-8:  Dead track counters 0-7, P
       Status C-0 -> C-8:  Phase error counters 0-7, P

       Card:  DP
       Slot:  A5


49F TEST49  Reject or Machine check from internal Back-Space-
Block command during read error recovery.
See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4A1  TEST4A    STATUS A-5 = 0:   Drive not loaded

                    STATUS A-5 not 0: Speed switch reject code
                                  (see description for code Exx, where
                                  xx = contents of this status location)

4A2  TEST4A    Reject or Machine check from internal read backward
                    operation (searching for EOF tape marks).
                    See description of reject codes preceeding code E01.

4A3  TEST4A    Reject or Machine check from internal read forward
                    operations (searching for EOF tape marks) or read
                    backward operations (if positioning around TMK's).
                    See description of reject codes preceeding code E01.

4A4  TEST4A    After finding 2 tape marks reading forward, read
                    backward operation did not produce tape mark status.

                    Card:  DP
                    Slot:  A5

4A5  TEST4A    Reject or Machine check from internal read backward.
                    See description of reject codes preceeding code E01.

4A6  TEST4A    ID-burst status (EOC3) detected before reading 256
                    records. Tape must have been written by TEST48.

                    Status A-0:   record number (range: FF-00)

                    Card:  DP
                    Slot:  A5

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4A7   TEST4A   Data miscompare following read without data check
                (tape must have been written by TEST48). Comparison
                involved 32 bytes of write buffer (A000-A01F) and
                32 bytes of read buffer (A020-A03F). Data should
                match record number below:

                Status A-0:  record number expected (range: FF-00)

                Card:  DP   RD   IF
                Slot:  A5   A6   A3


4A8   TEST4A   Unexpected tape mark (did not follow a 16 record
                group). Tape must have been written by TEST48.

                Status A-0:  record number (range: FF-00)

                Card:  DP
                Slot:  A5


4AE   TEST4A   Failed internal record read with 5 retries.

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex)

                ** Read/Write Error Tallies **

                Status A-8: Data checks     Status A-C: Multi-trks
                Status A-9: Velocity        Status A-D: Part. recd's
                Status A-A: End Data Chks    Status A-E: Un-corr.
                Status A-B: Corrections     Status A-F: CRC errors

                Status B-0 -> B-8:  Dead track counters 0-7, P
                Status C-0 -> C-8:  Phase error counters 0-7, P

                Card:  DP   IF
                Slot:  A5   A3


4AF   TEST4A   Reject or Machine check from internal Forward-Space-
                Block command during read error recovery.
                See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4B1  TEST4B   STATUS A-5 = 0:   Drive not loaded

             STATUS A-5 not 0: Speed switch reject code
                     (see description for code Exx, where
                     xx = contents of this status location)


4B2  TEST4B   Reject or Machine check from initial rewind.
             See description of reject codes preceeding code E01.


4B3  TEST4B   Reject or Machine check from read backward.
             See description of reject codes preceeding code E01.


4B4  TEST4B   Data checks occurred on 5 retries of read backward
             operation.  Check tape quality.

             ** Read/Write Error Tallies **

             Status A-8: Data checks      Status A-C: Multi-trks
             Status A-9: Velocity         Status A-D: Part. recd's
             Status A-A: End Data Chks     Status A-E: Un-corr.
             Status A-B: Corrections      Status A-F: CRC errors

             Status B-0 -> B-8:  Dead track counters 0-7, P
             Status C-0 -> C-8:  Phase error counters 0-7, P

             Card:  DP  RD
             Slot:  A5  A6


4B5  TEST4B   Reject or Machine check from forward-space-block
             command during read backward error recovery.
             See description of reject codes preceeding code E01.


4B6  TEST4B   Reject or Machine check from read forward.
             See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4B7   TEST4B     Data checks occurred on 5 retries of read forward
operation.  Check tape quality.

** Read/Write Error Tallies **

```
Status A-8: Data checks      Status A-C: Multi-trks
Status A-9: Velocity         Status A-D: Part. recd's
Status A-A: End Data Chks     Status A-E: Un-corr.
Status A-B: Corrections       Status A-F: CRC errors

Status B-0 -> B-8:  Dead track counters 0-7, P
Status C-0 -> C-8:  Phase error counters 0-7, P

Card:  DP  RD
Slot:  A5  A6
```

4B8   TEST4B     Reject or Machine check from backward-space-block
command during read forward error recovery.
See description of reject codes preceeding code E01.

4B9   TEST4B     Reject or Machine check from forward-space-file.
See description of reject codes preceeding code E01.

4BA   TEST4B     Reject or Machine check from backward-space-file.
See description of reject codes preceeding code E01.

4BB   TEST4B     Reject or Machine check from forward-space-block.
See description of reject codes preceeding code E01.

4BC   TEST4B     Reject or Machine check from backward-space-block.
See description of reject codes preceeding code E01.

4BD   TEST4B     Tape Mark status set when not expected indicating
possible positioning problem.
(Tape must have been written by TEST48)

```
Card:  DP
Slot:  A5
```

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4BE  TEST4B   Data miscompare indicating possible positioning
                problem. (Tape must have been written by TEST48).

                Card:  DP
                Slot:  A5


4BF  TEST4B   Tape Mark status not set when not expected
                indicating possible positioning problem.
                (Tape must have been written by TEST48)

                Card:  DP
                Slot:  A5


4C1  TEST4C   STATUS A-5 = 0:   Drive not loaded

                STATUS A-5 not 0: Speed switch reject code
                        (see description for code Exx, where
                         xx = contents of this status location)


4C2  TEST4C   Tape must be write enabled


4C3  TEST4C   Reject or Machine check from initial rewind.
                See description of reject codes preceeding code E01.


4C4  TEST4C   Reject or Machine check from internal write command.

                Status A-0,A-1:  Low, high byte of record number.
                                    (Range: 000-100 hex)
                See description of reject codes preceeding code E01.


4C5  TEST4C   Write overrun status (E0C2) during internal
                write (data supplied to DP from IF card only).

                Status A-0,A-1:  Low, high byte of record number.
                                    Range: 000-100 hex.

                Card:  IF  DP
                Slot:  A3  A5

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4C6   TEST4C   Bus parity error status (EOC2) during internal
               write (data supplied to DP from IF card only).

               Status A-0,A-1:  Low, high byte of record number.
                                (Range: 000-100 hex)

               Card:  IF  DP
               Slot:  A3  A5


4C8   TEST4C   Reject or Machine check from back-space-block
               or erase-gap command during write error recovery.
               See description of reject codes preceeding code E01.


4C9   TEST4C   During write error recovery, all 5 retries failed.

               Status A-0,A-1:  Low, high byte of record number.
                                (Range: 000-100 hex)

               Check tape quality.

               Card:  DP  WR  RD  IF
               Slot:  A5  A4  A6  A3


4CA   TEST4C   Reject or Machine check from write-tape-mark
               command.

               Status A-0,A-1:  Low, high byte of record number
                                (first WTM occurs at 10 hex)
               See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

**4CB    TEST4C**    During the writing of 256 GCR records, more than
one temporary write error occurred.

Status A-2:          Total failing writes
Status A-3:          Temporary write errors
                         (1 data check in 6 attempts)
Status A-4:          Media defects
                         (>1 data check in 6 attempts)

** Read/Write Error Tallies **

Status A-8: Data checks      Status A-C: Multi-trks
Status A-9: Velocity         Status A-D: Part. recd's
Status A-A: End Data Chks     Status A-E: Un-corr.
Status A-B: Corrections      Status A-F: CRC errors

Status B-0 -> B-8:   Dead Track counters 0-7,P
Status C-0 -> C-8:   Phase error counters 0-7,P

Card:   DP  WR  RD  IF
Slot:   A5  A4  A6  A3

**4D1    TEST4D**    STATUS A-5 = 0:    Drive not loaded

STATUS A-5 not 0: Speed switch reject code
        (see description for code Exx, where
         xx = contents of this status location)

**4D2    TEST4D**    Reject or Machine check from initial rewind.
See description of reject codes preceeding code E01.

**4D3    TEST4D**    Reject or Machine check from internal read forward.

Status A-0,A-1:   Low, high byte of record number
                        (Range: 000-100 hex)
See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|-------------------------|

4D6  TEST4D  Unexpected tape mark (did not follow a 16 record
group).  Tape must have been written by TEST4C.

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)

Card:  DP
Slot:  A5


4D7  TEST4D  Unexpected tape mark (more than 256 records read
correctly, but tape mark did not follow 16 record
group).  Tape must have been written by TEST4C.

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)

Card:  DP
Slot:  A5


4D9  TEST4D  Data miscompare following read without data check
(tape must have been written by TEST4C). Comparison
involved 32 bytes of write buffer (A000-A01F) and
32 bytes of read buffer (A020-A03F).  Data should
match record number below:

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)

Card:  DP  RD  IF
Slot:  A5  A6  A3


4DB  TEST4D  Reject or Machine check from internal read forward
over expected tape mark.

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)
See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             |                          |

4DC  TEST4D    Tape mark status not detected when expected (but
                16 record group read OK).

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex, first TMK @ 10)

                Card:  DP
                Slot:  A5


4DE  TEST4D    Failed internal record read with 5 retries.

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex)

                ** Read/Write Error Tallies **

                Status A-8: Data checks     Status A-C: Multi-trks
                Status A-9: Velocity        Status A-D: Part. recd's
                Status A-A: End Data Chks    Status A-E: Un-corr.
                Status A-B: Corrections     Status A-F: CRC errors

                Status B-0 -> B-8:  Dead track counters 0-7, P
                Status C-0 -> C-8:  Phase error counters 0-7, P

                Card:  DP
                Slot:  A5


4DF  TEST4D    Reject or Machine check from internal Back-Space
                Block command during read error recovery.
                See description of reject codes preceeding code E01.


4E1  TEST4E    STATUS A-5 = 0:   Drive not loaded

                STATUS A-5 not 0: Speed switch reject code
                        (see description for code Exx, where
                         xx = contents of this status location)


4E2  TEST4E    Reject or Machine check from internal read backward
                operation (searching for EOF tape marks).
                See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4E3   TEST4E    Reject or Machine check from internal read forward
operations (searching for EOF tape marks) or read
backward operations (if positioning around TMK's).
See description of reject codes preceeding code E01.

4E4   TEST4E    After finding 2 tape marks reading forward, read
backward operation did not produce tape mark status.

                    Card:  DP
                    Slot:  A5

4E5   TEST4E    Reject or Machine check from internal read backward.
See description of reject codes preceeding code E01.

4E6   TEST4E    ID-burst status (EOC3) detected before reading 256
records. Tape must have been written by TEST4C.

                    Status A-0:  record number (range: FF-00)

                    Card:  DP
                    Slot:  A5

4E7   TEST4E    Data miscompare following read without data check
(tape must have been written by TEST4C). Comparison
involved 32 bytes of write buffer (A000-A01F) and
32 bytes of read buffer (A020-A03F).  Data should
match record number below:

                    Status A-0:  record number expected (range: FF-00)

                    Card:  DP  RD  IF
                    Slot:  A5  A6  A3

4E8   TEST4E    Unexpected tape mark (did not follow a 16 record
group).  Tape must have been written by TEST4C.

                    Status A-0:  record number (range: FF-00)

                    Card:  DP
                    Slot:  A5

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4EE   TEST4E   Failed internal record read with 5 retries.

        Status A-0,A-1:   Low, high byte of record number
                        (Range: 000-100 hex)

        ** Read/Write Error Tallies **

        Status A-8: Data checks     Status A-C: Multi-trks
        Status A-9: Velocity       Status A-D: Part. recd's
        Status A-A: End Data Chks  Status A-E: Un-corr.
        Status A-B: Corrections   Status A-F: CRC errors

        Status B-0 -> B-8:   Dead track counters 0-7, P
        Status C-0 -> C-8:   Phase error counters 0-7, P

        Card:   DP   IF
        Slot:   A5   A3


4EF   TEST4E   Reject or Machine check from internal Forward-Space
        Block command during read error recovery.
        See description of reject codes preceeding code E01.


4F1   TEST4F   STATUS A-5 = 0:   Drive not loaded

        STATUS A-5 not 0: Speed switch reject code
              (see description for code Exx, where
               xx = contents of this status location)


4F2   TEST4F   Reject or Machine check from initial rewind.
        See description of reject codes preceeding code E01.


4F3   TEST4F   Reject or Machine check from read backward.
        See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

4F4  TEST4F    Data checks occurred on 5 retries of read backward
               operation.  Check tape quality.

               ** Read/Write Error Tallies **

               Status A-8: Data checks      Status A-C: Multi-trks
               Status A-9: Velocity         Status A-D: Part. recd's
               Status A-A: End Data Chks     Status A-E: Un-corr.
               Status A-B: Corrections       Status A-F: CRC errors

               Status B-0 -> B-8:  Dead track counters 0-7, P
               Status C-0 -> C-8:  Phase error counters 0-7, P

               Card:  DP  RD
               Slot:  A5  A6


4F5  TEST4F    Reject or Machine check from forward-space-block
               command during read backward error recovery.
               See description of reject codes preceeding code E01.


4F6  TEST4F    Reject or Machine check from read forward.
               See description of reject codes preceeding code E01.


4F7  TEST4F    Data checks occurred on 5 retries of read forward
               operation.  Check tape quality.

               ** Read/Write Error Tallies **

               Status A-8: Data checks      Status A-C: Multi-trks
               Status A-9: Velocity         Status A-D: Part. recd's
               Status A-A: End Data Chks     Status A-E: Un-corr.
               Status A-B: Corrections       Status A-F: CRC errors

               Status B-0 -> B-8:  Dead track counters 0-7, P
               Status C-0 -> C-8:  Phase error counters 0-7, P

               Card:  DP  RD
               Slot:  A5  A6


4F8  TEST4F    Reject or Machine check from backward-space-block
               command during read forward error recovery.
               See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
| | | |

4F9  TEST4F   Reject or Machine check from forward-space-file.
               See description of reject codes preceeding code E01.

4FA  TEST4F   Reject or Machine check from backward-space-file.
               See description of reject codes preceeding code E01.

4FB  TEST4F   Reject or Machine check from forward-space-block.
               See description of reject codes preceeding code E01.

4FC  TEST4F   Reject or Machine check from backward-space-block.
               See description of reject codes preceeding code E01.

4FD  TEST4F   Tape Mark status set when not expected indicating
               possible positioning problem.
               (Tape must have been written by TEST4C)

               Card:  DP
               Slot:  A5

4FE  TEST4F   Data miscompare indicating possible positioning
               problem. (Tape must have been written by TEST4C).

               Card:  DP
               Slot:  A5

4FF  TEST4F   Tape Mark status not set when not expected
               indicating possible positioning problem.
               (Tape must have been written by TEST4C)

               Card:  DP
               Slot:  A5

521  TEST52   STATUS A-5 = 0:   Drive not loaded

               STATUS A-5 not 0: Speed switch reject code
                       (see description for code Exx, where
                        xx = contents of this status location)

522  TEST52   Tape must be write enabled

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

523 TEST52    Reject or Machine check from initial rewind.
               See description of reject codes preceeding code E01.


524 TEST52    Current on or unstable (EOE1) afer rewind.

               Card:  WR  IF  RD
               Slot:  A4  A3  A6


525 TEST52    Immediately after setting erase, status was in
               error (EOE1).

               Card:  WR  IF  RD
               Slot:  A4  A3  A6


526 TEST52    Interrupt from erase transition was not seen.

               Card:  WR  IF
               Slot:  A4  A3


527 TEST52    Stable erase-only status was not seen in sense
               register (EOE1).

               Card:  WR  IF  Write/Erase head
               Slot:  A4  A3


528 TEST52    Stable write mode status was not seen in sense
               register (EOE1).

               Card:  WR  IF  Write/Erase head
               Slot:  A4  A3


529 TEST52    Interrupt from write transition was not seen.

               Card:  WR  IF
               Slot:  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

52A  TEST52  Amplitude sensor active without motion (EOC5 or
                EOC3).

                Card:  WR   IF   DP
                Slot:  A4   A3   A5


52B  TEST52  Machine check occurred during forward write motion.

                Status A-6: Machine check code
                            See description for code Fxx, where
                              xx= contents of this status location


52C  TEST52  Amplitude sensor not as expected during 30 foot
                all track write.

                Check tape quality.

                Status B-0,7:  error count for tracks 0,7
                Status B-8:    error count for tracks P

                Card:  WR   RD   DP   Rd/Wrt
                Slot:  A4   A6   A5   Head


52D  TEST52  Amplitude sensor not as expected during 1 foot
                write of one track only.

                Check tape quality.

                Status B-0,7:  error count for tracks 0,7
                Status B-8:    error count for tracks P

                Card:  WR   RD   DP   Rd/Wrt
                Slot:  A4   A6   A5   Head

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

52E  TEST52   Amplitude sensor not as expected during 1 foot
              write of all but one track.

              Check tape quality.

              Status B-0,7:   error count for tracks 0,7
              Status B-8:     error count for tracks P

              Card:  WR  RD  DP  Rd/Wrt
              Slot:  A4  A6  A5  Head


52F  TEST52   Amplitude sensor detected during feed-through
              check (all tracks writing; no motion).

              Status B-0,7:   error count for tracks 0,7
              Status B-8:     error count for tracks P

              Card:  WR  RD  DP  Rd/Wrt
              Slot:  A4  A6  A5  Head


531  TEST53   STATUS A-5 = 0:    Drive not loaded

              STATUS A-5 not 0: Speed switch reject code
                     (see description for code Exx, where
                     xx = contents of this status location)


532  TEST53   Tape must be write enabled


533  TEST53   Reject or Machine check from initial rewind.
              See description of reject codes preceeding code E01.


534  TEST53   Current on or unstable (EOE1) afer rewind.

              Card:  WR  IF  RD
              Slot:  A4  A3  A6


535  TEST53   Immediately after setting erase, status was in
              error (EOE1).

              Card:  WR  IF  RD
              Slot:  A4  A3  A6

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

536  TEST53    Interrupt from erase transition was not seen.

          Card:  WR  IF
          Slot:  A4  A3


537  TEST53    Stable erase-only status was not seen in sense
                register (EOE1).

          Card:  WR  IF  Rd/Wrt
          Slot:  A4  A3  Head


538  TEST53    Stable write mode status was not seen in sense
                register (EOE1).

          Card:  WR  IF  Rd/Wrt
          Slot:  A4  A3  Head


53A  TEST53    Amplitude sensor active without motion (EOC5 or
                EOC3).

          Card:  WR  IF  DP
          Slot:  A4  A3  A5


53B  TEST53    Machine check occurred during forward write motion.

          Status A-6: Machine check code
                      See description for code Fxx, where
                         xx= contents of this status location


53C  TEST53    Amplitude sensor not as expected during 30 foot
                all track write.

          Check tape quality.

          Status B-0,7:  error count for tracks 0,7
          Status B-8:    error count for tracks P

          Card:  WR  RD  DP  Rd/Wrt
          Slot:  A4  A6  A5  Head

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|---------------------------|

53D  TEST53  Amplitude sensor not as expected during 1 foot
              write of one track only.

              Check tape quality.

              Status B-0,7:  error count for tracks 0,7
              Status B-8:    error count for tracks P

              Card:  WR   RD   DP   Rd/Wrt
              Slot:  A4   A6   A5   Head


53E  TEST53  Amplitude sensor not as expected during 1 foot
              write of all but one track.

              Check tape quality.

              Status B-0,7:  error count for tracks 0,7
              Status B-8:    error count for tracks P

              Card:  WR   RD   DP   Rd/Wrt
              Slot:  A4   A6   A5   Head


53F  TEST53  Amplitude sensor detected during feed-through
              check (all tracks writing; no motion).

              Status B-0,7:  error count for tracks 0,7
              Status B-8:    error count for tracks P

              Card:  WR   RD   DP   Rd/Wrt
              Slot:  A4   A6   A5   Head


581  TEST58  STATUS A-5 = 0:   Drive not loaded

              STATUS A-5 not 0: Speed switch reject code
                    (see description for code Exx, where
                     xx = contents of this status location)


582  TEST58  Tape must be write enabled


583  TEST58  Reject or Machine check from initial rewind.
              See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

584  TEST58    Reject or Machine check from internal write command.

Status A-0,A-1:  Low, high byte of record number.
                 Range: 000-100 hex.
See description of reject codes preceeding code E01.


585  TEST58    Write overrun status (EOC2) during internal
               write (data supplied to DP from IF card only).

Status A-0,A-1:  Low, high byte of record number.
                 Range: 000-100 hex.

Card:  IF  DP
Slot:  A3  A5


586  TEST58    Bus parity error status (EOC2) during internal
               write (data supplied to DP from IF card only).

Status A-0,A-1:  Low, high byte of record number.
                 (Range: 000-100 hex)

Card:  IF  DP
Slot:  A3  A5


588  TEST58    Reject or Machine check from back-space-block
               or erase-gap command during write error recovery.
               See description of reject codes preceeding code E01.


589  TEST58    During write error recovery, all 5 retries failed.

Status A-0,A-1:  Low, high byte of record number.
                 (Range: 000-100 hex)

Check tape quality.

Card:  DP  WR  RD  IF
Slot:  A5  A4  A6  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

58A  TEST58   Reject or Machine check from write-tape-mark
              command.

              Status A-0,A-1:  Low, high byte of record number
                                     (first WTM occurs at 10 hex)
              See description of reject codes preceeding code E01.


58B  TEST58   During the writing of 256 PE records, more than
              one temporary write error occurred.

              Status A-2:           Total failing writes
              Status A-3:           Temporary write errors
                                        (1 data check in 6 attempts)
              Status A-4:           Media defects
                                        (>1 data check in 6 attempts)

              ** Read/Write Error Tallies **

              Status A-8: Data checks    Status A-C: Multi-trks
              Status A-9: Velocity       Status A-D: Part. recd's
              Status A-A: End Data Chks   Status A-E: Un-corr.
              Status A-B: Corrections     Status A-F: CRC errors

              Status B-0 -> B-8:  Dead Track counters 0-7,P
              Status C-0 -> C-8:  Phase error counters 0-7,P

              Card:  DP   WR   RD   IF
              Slot:  A5   A4   A6   A3


591  TEST59   STATUS A-5 = 0:   Drive not loaded

              STATUS A-5 not 0: Speed switch reject code
                    (see description for code Exx, where
                     xx = contents of this status location)


592  TEST59   Reject or machine check from initial rewind.
              See description of reject codes preceeding code E01.


593  TEST59   Reject or Machine check from internal read forward.
              See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

596  TEST59  Unexpected tape mark (did not follow a 16 record group). Tape must have been written by TEST58.

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)

Card:  DP
Slot:  A5


597  TEST59  Unexpected tape mark (more than 256 records read correctly, but tape mark did not follow 16 record group). Tape must have been written by TEST58.

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)

Card:  DP
Slot:  A5


599  TEST59  Data miscompare following read without data check (tape must have been written by TEST58). Comparison involved 32 bytes of write buffer (A000-A01F) and 32 bytes of read buffer (A020-A03F). Data should match record number below:

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)

Card:  DP  RD  IF
Slot:  A5  A6  A3


59B  TEST59  Reject or Machine check from internal read forward over expected tape mark.

Status A-0,A-1:  Low, high byte of record number
(Range: 000-100 hex)

See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

59C  TEST59  Tape mark status not detected when expected (but
                16 record group read OK).

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex, first TMK @ 10)

                Card:  DP
                Slot:  A5


59E  TEST59  Failed internal record read with 5 retries.

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex)

                ** Read/Write Error Tallies **

                Status A-8: Data checks      Status A-C: Multi-trks
                Status A-9: Velocity         Status A-D: Part. recd's
                Status A-A: End Data Chks     Status A-E: Un-corr.
                Status A-B: Corrections       Status A-F: CRC errors

                Status B-0 -> B-8:  Dead track counters 0-7, P
                Status C-0 -> C-8:  Phase error counters 0-7, P

                Card:  DP
                Slot:  A5


59F  TEST59  Reject or Machine check from internal Back-Space-
                Block command during read error recovery.
                See description of reject codes preceeding code E01.


5A1  TEST5A  STATUS A-5 = 0:   Drive not loaded

                STATUS A-5 not 0: Speed switch reject code
                       (see description for code Exx, where
                        xx = contents of this status location)


5A2  TEST5A  Reject or Machine check from internal read backward
                operation (searching for EOF tape marks).
                See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
| | | |

5A3  TEST5A    Reject or Machine check from internal read forward
operations (searching for EOF tape marks) or read
backward operations (if positioning around TMK's).
See description of reject codes preceeding code E01.


5A4  TEST5A    After finding 2 tape marks reading forward, read
backward operation did not produce tape mark status.

Card:  DP
Slot:  A5


5A5  TEST5A    Reject or Machine check from internal read backward.
See description of reject codes preceeding code E01.


5A6  TEST5A    ID-burst status (E053) detected before reading 256
records. Tape must have been written by TEST58.

Status A-O:  record number (range: FF-00)

Card:  DP
Slot:  A5


5A7  TEST5A    Data miscompare following read without data check
(tape must have been written by TEST58). Comparison
involved 32 bytes of write buffer (A000-A01F) and
32 bytes of read buffer (A020-A03F). Data should
match record number below:

Status A-O:  record number expected (range: FF-00)

Card:  DP  RD  IF
Slot:  A5  A6  A3


5A8  TEST5A    Unexpected tape mark (did not follow a 16 record
group). Tape must have been written by TEST58.

Status A-O:  record number (range: FF-00)

Card:  DP
Slot:  A5

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

5AE  TEST5A  Failed internal record read with 5 retries.

        Status A-0,A-1:  Low, high byte of record number
                         (Range: 000-100 hex)

        ** Read/Write Error Tallies **

        Status A-8: Data checks     Status A-C: Multi-trks
        Status A-9: Velocity        Status A-D: Part. recd's
        Status A-A: End Data Chks    Status A-E: Un-corr.
        Status A-B: Corrections      Status A-F: CRC errors

        Status B-0 -> B-8:  Dead track counters 0-7, P
        Status C-0 -> C-8:  Phase error counters 0-7, P

        Card:  DP   IF
        Slot:  A5   A3


5AF  TEST5A  Reject or Machine check from internal Forward-Space-
             Block command during read error recovery.
             See description of reject codes preceeding code E01.


5B1  TEST5B  STATUS A-5 = 0:    Drive not loaded

             STATUS A-5 not 0: Speed switch reject code
                     (see description for code Exx, where
                     xx = contents of this status location)


5B2  TEST5B  Reject or Machine check from initial rewind.
             See description of reject codes preceeding code E01.


5B3  TEST5B  Reject or Machine check from read backward.
             See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             |                          |

5B4  TEST5B   Data checks occurred on 5 retries of read backward
              operation.   Check tape quality.

              ** Read/Write Error Tallies **

              Status A-8: Data checks      Status A-C: Multi-trks
              Status A-9: Velocity         Status A-D: Part. recd's
              Status A-A: End Data Chks     Status A-E: Un-corr.
              Status A-B: Corrections       Status A-F: CRC errors

              Status B-0 -> B-8:  Dead track counters 0-7, P
              Status C-0 -> C-8:  Phase error counters 0-7, P

              Card:  DP  RD
              Slot:  A5  A6


5B5  TEST5B   Reject or Machine check from forward-space-block
              command during read backward error recovery.
              See description of reject codes preceeding code E01.


5B6  TEST5B   Reject or Machine check from read forward.
              See description of reject codes preceeding code E01.


5B7  TEST5B   Data checks occurred on 5 retries of read forward
              operation.   Check tape quality.

              ** Read/Write Error Tallies **

              Status A-8: Data checks      Status A-C: Multi-trks
              Status A-9: Velocity         Status A-D: Part. recd's
              Status A-A: End Data Chks     Status A-E: Un-corr.
              Status A-B: Corrections       Status A-F: CRC errors

              Status B-0 -> B-8:  Dead track counters 0-7, P
              Status C-0 -> C-8:  Phase error counters 0-7, P

              Card:  DP  RD
              Slot:  A5  A6


5B8  TEST5B   Reject or Machine check from backward-space-block
              command during read forward error recovery.
              See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
| 5B9 | TEST5B | Reject or Machine check from forward-space-file. See description of reject codes preceeding code E01. |
| 5BA | TEST5B | Reject or Machine check from backward-space-file. See description of reject codes preceeding code E01. |
| 5BB | TEST5B | Reject or Machine check from forward-space-block. See description of reject codes preceeding code E01. |
| 5BC | TEST5B | Reject or Machine check from backward-space-block. See description of reject codes preceeding code E01. |
| 5BD | TEST5B | Tape Mark status set when not expected indicating possible positioning problem. (Tape must have been written by TEST58)  Card: DP  Slot: A5 |
| 5BE | TEST5B | Data miscompare indicating possible positioning problem. (Tape must have been written by TEST58).  Card: DP  Slot: A5 |
| 5BF | TEST5B | Tape Mark status not set when not expected indicating possible positioning problem. (Tape must have been written by TEST58)  Card: DP  Slot: A5 |
| 5C1 | TEST5C | STATUS A-5 = 0:   Drive not loaded  STATUS A-5 not 0: Speed switch reject code (see description for code Exx, where xx = contents of this status location) |
| 5C2 | TEST5C | Tape must be write enabled |

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|---------------------------|
|      |             |                           |

5C3　TEST5C　Reject or Machine check from initial rewind.
　　　　　　　　　See description of reject codes preceeding code E01.

5C4　TEST5C　Reject or Machine check from internal write command.

　　　　　　　　　Status A-0,A-1:　Low, high byte of record number.
　　　　　　　　　　　　　　　　　　　(Range: 000-100 hex)
　　　　　　　　　See description of reject codes preceeding code E01.

5C5　TEST5C　Write overrun status (EOC2) during internal
　　　　　　　　　write (data supplied to DP from IF card only).

　　　　　　　　　Status A-0,A-1:　Low, high byte of record number.
　　　　　　　　　　　　　　　　　　　Range: 000-100 hex.

　　　　　　　　　Card:　IF　DP
　　　　　　　　　Slot:　A3　A5

5C6　TEST5C　Bus parity error status (EOC2) during internal
　　　　　　　　　write (data supplied to DP from IF card only).

　　　　　　　　　Status A-0,A-1:　Low, high byte of record number.
　　　　　　　　　　　　　　　　　　　(Range: 000-100 hex)

　　　　　　　　　Card:　IF　DP
　　　　　　　　　Slot:　A3　A5

5C8　TEST5C　Reject or Machine check from back-space-block
　　　　　　　　　or erase-gap command during write error recovery.
　　　　　　　　　See description of reject codes preceeding code E01.

5C9　TEST5C　During write error recovery, all 5 retries failed.

　　　　　　　　　Status A-0,A-1:　Low, high byte of record number.
　　　　　　　　　　　　　　　　　　　(Range: 000-100 hex)

　　　　　　　　　Check tape quality.

　　　　　　　　　Card:　DP　WR　RD　IF
　　　　　　　　　Slot:　A5　A4　A6　A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

**5CA**  TEST5C    Reject or Machine check from write-tape-mark command.

Status A-0,A-1:  Low, high byte of record number
                  (first WTM occurs at 10 hex)
See description of reject codes preceeding code E01.


**5CB**  TEST5C    During the writing of 256 GCR records, more than one temporary write error occurred.

Status A-2:          Total failing writes
Status A-3:          Temporary write errors
                        (1 data check in 6 attempts)
Status A-4:          Media defects
                        (>1 data check in 6 attempts)

** Read/Write Error Tallies **

Status A-8: Data checks     Status A-C: Multi-trks
Status A-9: Velocity        Status A-D: Part. recd's
Status A-A: End Data Chks   Status A-E: Un-corr.
Status A-B: Corrections     Status A-F: CRC errors

Status B-0 -> B-8:  Dead Track counters 0-7,P
Status C-0 -> C-8:  Phase error counters 0-7,P

Card:  DP  WR  RD  IF
Slot:  A5  A4  A6  A3


**5D1**  TEST5D    STATUS A-5 = 0:   Drive not loaded

STATUS A-5 not 0: Speed switch reject code
        (see description for code Exx, where
        xx = contents of this status location)


**5D2**  TEST5D    Reject or Machine check from initial rewind.
See description of reject codes preceeding code E01.


**5D3**  TEST5D    Reject or Machine check from internal read forward.

Status A-0,A-1:  Low, high byte of record number
                  (Range: 000-100 hex)
See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

5D6  TEST5D    Unexpected tape mark (did not follow a 16 record
                group). Tape must have been written by TEST5C.

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex)

                Card:  DP
                Slot:  A5


5D7  TEST5D    Unexpected tape mark (more than 256 records read
                correctly, but tape mark did not follow 16 record
                group). Tape must have been written by TEST5C.

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex)

                Card:  DP
                Slot:  A5


5D9  TEST5D    Data miscompare following read without data check
                (tape must have been written by TEST5C). Comparison
                involved 32 bytes of write buffer (A000-A01F) and
                32 bytes of read buffer (A020-A03F). Data should
                match record number below:

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex)

                Card:  DP  RD  IF
                Slot:  A5  A6  A3


5DB  TEST5D    Reject or Machine check from internal read forward
                over expected tape mark.

                Status A-0,A-1:  Low, high byte of record number
                                 (Range: 000-100 hex)
                See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             |                          |

5DC   TEST5D   Tape mark status not detected when expected (but
               16 record group read OK).

               Status A-0,A-1:   Low, high byte of record number
                                 (Range: 000-100 hex, first TMK @ 10)

               Card:  DP
               Slot:  A5


5DE   TEST5D   Failed internal record read with 5 retries.

               Status A-0,A-1:   Low, high byte of record number
                                 (Range: 000-100 hex)

               ** Read/Write Error Tallies **

               Status A-8: Data checks      Status A-C: Multi-trks
               Status A-9: Velocity         Status A-D: Part. recd's
               Status A-A: End Data Chks     Status A-E: Un-corr.
               Status A-B: Corrections      Status A-F: CRC errors

               Status B-0 -> B-8:  Dead track counters 0-7, P
               Status C-0 -> C-8:  Phase error counters 0-7, P

               Card:  DP
               Slot:  A5


5DF   TEST5D   Reject or Machine check from internal Back-Space
               Block command during read error recovery.
               See description of reject codes preceeding code E01.


5E1   TEST5E   STATUS A-5 = 0:    Drive not loaded

               STATUS A-5 not 0: Speed switch reject code
                     (see description for code Exx, where
                      xx = contents of this status location)


5E2   TEST5E   Reject or Machine check from internal read backward
               operation (searching for EOF tape marks).
               See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

5E3   TEST5E    Reject or Machine check from internal read forward
                operations (searching for EOF tape marks) or read
                backward operations (if positioning around TMK's).
                See description of reject codes preceeding code E01.


5E4   TEST5E    After finding 2 tape marks reading forward, read
                backward operation did not produce tape mark status.

                Card:  DP
                Slot:  A5


5E5   TEST5E    Reject or Machine check from internal read backward.
                See description of reject codes preceeding code E01.


5E6   TEST5E    ID-burst status (E053) detected before reading 256
                records. Tape must have been written by TEST5C.

                Status A-0:  record number (range: FF-00)

                Card:  DP
                Slot:  A5


5E7   TEST5E    Data miscompare following read without data check
                (tape must have been written by TEST5C). Comparison
                involved 32 bytes of write buffer (A000-A01F) and
                32 bytes of read buffer (A020-A03F).  Data should
                match record number below:

                Status A-0:  record number expected (range: FF-00)

                Card:  DP  RD  IF
                Slot:  A5  A6  A3


5E8   TEST5E    Unexpected tape mark (did not follow a 16 record
                group).  Tape must have been written by TEST5C.

                Status A-0:  record number (range: FF-00)

                Card:  DP
                Slot:  A5

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|-------------------------|

5EE  TEST5E   Failed internal record read with 5 retries.

Status A-0,A-1:   Low, high byte of record number
(Range: 000-100 hex)

** Read/Write Error Tallies **

Status A-8: Data checks      Status A-C: Multi-trks
Status A-9: Velocity         Status A-D: Part. recd's
Status A-A: End Data Chks     Status A-E: Un-corr.
Status A-B: Corrections       Status A-F: CRC errors

Status B-0 -> B-8:  Dead track counters 0-7, P
Status C-0 -> C-8:  Phase error counters 0-7, P

Card:  DP   IF
Slot:  A5   A3


5EF  TEST5E   Reject or Machine check from internal Forward-Space
Block command during read error recovery.
See description of reject codes preceeding code E01.


5F1  TEST5F   STATUS A-5 = 0:   Drive not loaded

STATUS A-5 not 0: Speed switch reject code
(see description for code Exx, where
xx = contents of this status location)


5F2  TEST5F   Reject or Machine check from initial rewind.
See description of reject codes preceeding code E01.


5F3  TEST5F   Reject or Machine check from read backward.
See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

5F4  TEST5F    Data checks occurred on 5 retries of read backward
                operation.  Check tape quality.

                ** Read/Write Error Tallies **

                Status A-8: Data checks      Status A-C: Multi-trks
                Status A-9: Velocity         Status A-D: Part. recd's
                Status A-A: End Data Chks     Status A-E: Un-corr.
                Status A-B: Corrections       Status A-F: CRC errors

                Status B-0 -> B-8:  Dead track counters 0-7, P
                Status C-0 -> C-8:  Phase error counters 0-7, P

                Card:  DP  RD
                Slot:  A5  A6


5F5  TEST5F    Reject or Machine check from forward-space-block
                command during read backward error recovery.
                See description of reject codes preceeding code E01.


5F6  TEST5F    Reject or Machine check from read forward.
                See description of reject codes preceeding code E01.


5F7  TEST5F    Data checks occurred on 5 retries of read forward
                operation.  Check tape quality.

                ** Read/Write Error Tallies **

                Status A-8: Data checks      Status A-C: Multi-trks
                Status A-9: Velocity         Status A-D: Part. recd's
                Status A-A: End Data Chks     Status A-E: Un-corr.
                Status A-B: Corrections       Status A-F: CRC errors

                Status B-0 -> B-8:  Dead track counters 0-7, P
                Status C-0 -> C-8:  Phase error counters 0-7, P

                Card:  DP  RD
                Slot:  A5  A6


5F8  TEST5F    Reject or Machine check from backward-space-block
                command during read forward error recovery.
                See description of reject codes preceeding code E01.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
| 5F9 | TEST5F | Reject or Machine check from forward-space-file. See description of reject codes preceeding code E01. |
| 5FA | TEST5F | Reject or Machine check from backward-space-file. See description of reject codes preceeding code E01. |
| 5FB | TEST5F | Reject or Machine check from forward-space-block. See description of reject codes preceeding code E01. |
| 5FC | TEST5F | Reject or Machine check from backward-space-block. See description of reject codes preceeding code E01. |
| 5FD | TEST5F | Tape Mark status set when not expected indicating possible positioning problem. (Tape must have been written by TEST5C)  Card: DP  Slot: A5 |
| 5FE | TEST5F | Data miscompare indicating possible positioning problem. (Tape must have been written by TEST5C).  Card: DP  Slot: A5 |
| 5FF | TEST5F | Tape Mark status not set when not expected indicating possible positioning problem. (Tape must have been written by TEST5C)  Card: DP  Slot: A5 |
| C01 | FEIDLE | Test requested for execution does not exist in internal routine library. |

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
|      |             | .                        |

The following codes are not displayed on the panel as such, but referred to by other code descriptions in this dictionary. The Exx codes indicate rejects, where xx is the hex equivalent of reject codes normally returned to the host system. In this case they were actually returned to the internal diagnostics which has left them in a fixed status location:

Status A-5 = xx, see code Exx

E01          The subsystem is not in ready status.

E03          During a write operation, TRAK was not returned within 75 milliseconds of TREQ.

                Card:  IF  DP
                Slot:  A3  A5

E05          File protect status was detected on a write request.

E06          Erase status was not detected.

                Card:  WR  IF
                Slot:  A4  A3

E07          Illegal command or command sequence.

                Card:  WR  IF
                Slot:  A4  A3

E08          Read status was not detected.

                Card:  WR  IF
                Slot:  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

E09                If read operation:
                    No density status (DP card) within 5 inches.
                If write operation:
                    DP interrupt during writing of ID track, or
                    DP reject status during writing of ID track.

Check tape quality.

Card:  DP  WR
Slot:  A5  A4

EOC                Write status was not detected.

Card:  WR  IF
Slot:  A4  A3

EOF                Noise detected during an erase gap or during a
read/write command sequence.

Check tape quality.

Card:  DP  RD  IF
Slot:  A5  A6  A3

E11                Machine Check condition detected.

Status A-6 = Code of machine check: xx
                    See description of code Fxx.

E13                Backward operation requested at BOT.

E14                During the writing of ARA burst portion of tape
ID, data path (DP) returned reject status.

Check tape quality.

Card:  DP  RD  IF
Slot:  A5  A6  A3

E15                Blank tape: PE--25 foot limit; GCR--15 foot limit.

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

E16        Multiple speed change requests (Write Extended Cmd)
           without intervening motion command.


E18        Following write of ID track at BOT, proper density
           status was not returned from data path (DP).

           Card: WR  DP  SV  IF
           Slot: A4  A5  A1  A3


E19        LWR attemped with tape loaded and away from bot.


E1A        Subsystem failed to initiate tape motion.


E1B        During a read back check of a write operation, data
           was detected in the ibg area either before or after
           the record written.

           Check tape quality.

           Card:  RD  Read/Write head (feedthru)
           Slot:  A6


E1D        Record not found during a backspace operation over
           an incorrectly written record.

           Check tape quality.

           Card:  DP  RD  IF
           Slot:  A5  A6  A3


E1E        During a write from BOT, data path (DP) rejected
           ARA ID after successfully writing ID track and
           ARA burst.

           Check tape quality.

           Card:  DP  RD  IF
           Slot:  A5  A6  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

E1F    No data detected during the read back check of a
       write or write tape mark command.

       Check tape quality.

       Card:  DP  RD  IF
       Slot:  A5  A6  A3


FO1    'TAPE PRESENT' not seen during thread operation.

       If blower inactive during load procedure, check:
           1) Power supply high voltage (AK card).
           2) J18/P18 connector
           3) Solid state relay (motherboard).
           4) Blower Motor

       If not detecting tape in path (FILE reel never
       accelerated):
           Card:  WR      EOT/BOT  IF
           Slot:  A4      Sensor   A3


FO2    Failed to load tape in three retries.
       Check that leader is free.

       If blower inactive during load procedure, check:
           1) Power supply high voltage (AK card).
           2) J18/P18 connector
           3) Solid state relay (motherboard).
           4) Blower Motor

       If no FILE reel rotation:
           Card:  SV   AK
           Slot:  A1   Pwr Supply

       If leader not detected (forward FILE reel motion):
           Card:  WR   Leader  IF
           Slot:  A4   Sensor  A3


FO3    Failed to sense leader during load.
       Check that leader is free.

       If leader not detected (forward FILE reel motion):
           Card:  WR   Leader  IF
           Slot:  A4   Sensor  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

FO4        Leader status always asserted during load attempt.

           Card:  WR    Leader  IF
           Slot:  A4   Sensor  A3


FO5        BOT not found during forward search.
           Check for reflective sticker on tape.
           Check EOT/BOT SENSOR connections.

           Card:  WR  IF
           Slot:  A4  A3


FO6        BOT failed to drop in expected time.
           Check EOT/BOT SENSOR connections.

           Card:  WR  IF
           Slot:  A4  A3


FO8        File protect status check was inconclusive.
           Check FILE PROTECT SENSOR connections.

           Card:  WR  IF
           Slot:  A4  A3


FO9        SENSOR ERROR (EOEO) status indicated.
           Check all sensor connections.

           Card:  WR  IF
           Slot:  A4  A3


F10        Swing arms not both retracted on load initiation.
           Check swing arm retraction tolerances.


F11        Swing arms still retracted after extend command.

           Check swing arm motor and mechanism for jams.
           Check motor drive cable connections.

           Card:  SV  WR  IF
           Slot:  A1  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

F12        'INDEX' not detected during servoing of swing arms.

       Card:  WR  IF  SV
       Slot:  A4  A3  A1

F13   LOAD   Swing arms failed to reach 'EXTENDED' status in
       2 seconds.

       If arms not in 'EXTENDED' position and no motion:
          Check retractor motor and mechanism for jams.
          Check retractor motor fuse (inline).
          Check power supply (+/- 24/36 volts).
          Card:  SV  IF
          Slot:  A1  A3

       If arms at 'EXTENDED' position:
          Check 'EXTENDED' switch and connections.
          Card:  WR  IF
          Slot:  A4  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|---------------------------|
|      |             |                           |

F14   LOAD    From 'EXTENDED', failed to sense both swing arms
              in 'INDEX' area in 900 ms.

              Check 'EXTENDED' switch function (probe EOE1).
              If display (04 bit) does not change when EXTENDED
              switch is manually toggled:

                  Card:   Extended   WR    IF
                  Slot:     Switch    A4    A3

              Check 'INDEX' from both sensors (probe EOE1) by
              manually moving arms from 'EXTENDED' position.
              01 bit represents MACH arm (upper) 'INDEX'.
              02 bit represents FILE arm (lower) 'INDEX'.

                  If neither bit toggles:
                      Card:  WR   IF
                      Slot:  A4   A3

                  If only 01 bit toggles:
                      Card:  WR    FILE ARM/TACH
                      Slot:  A4          SENSOR

                  If only 02 bit toggles:
                      Card:  WR    MACH ARM/TACH
                      Slot:  A4          SENSOR

              If NO swing arm motion in retract direction:
              Check power supply (+/- 24/36 volts).
                  Card:  SV   IF
                  Slot:  A1   A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|
| | | |

F16　LOAD　　After sensing 'EXTENDED' (switch) and 'INDEX' active
　　　　　　　(rotary sensors) for both arms, failed to detect arms
　　　　　　　retracted (INDEX's reset then set again).

　　　　　　　Check 'EXTENDED' switch function (probe EOE1).
　　　　　　　If display (04 bit) does not change when EXTENDED
　　　　　　　switch is manually toggled:

　　　　　　　　　Card:　Extended　WR　IF
　　　　　　　　　Slot:　　Switch　A4　A3

　　　　　　　Otherwise (display does change):

　　　　　　　　　Card:　SV　WR　IF　File/Mach
　　　　　　　　　Slot:　A1　A4　A3　Tach Asmbly


F19　LOAD　　After initiating a manually controlled load
　　　　　　　(horizontally configured machine or double depression
　　　　　　　of "LOAD" push-button), 30 seconds expired without
　　　　　　　an operator indication to continue (moving tape
　　　　　　　leader into thread channel or an additional "LOAD"
　　　　　　　depression).

　　　　　　　If blower inactive during load procedure, check:
　　　　　　　　1) Power supply high voltage (AK card).
　　　　　　　　2) J18/P18 connector
　　　　　　　　3) Solid state relay (motherboard).
　　　　　　　　4) Blower Motor

　　　　　　　If not detecting tape in path:
　　　　　　　　Card:　WR　EOT/BOT　IF
　　　　　　　　Slot:　A4　Sensor　　A3


F20　　　　　Data path issued reject for unknown reasons.

　　　　　　　Card:　DP　IF
　　　　　　　Slot:　A5　A3


F30　　　　　Following the servoing of the swing arms,
　　　　　　　an unstable capstan was detected.　Check for
　　　　　　　proper tape threading.

　　　　　　　Card:　SV　IF　AK
　　　　　　　Slot:　A1　A3　(Power Sply)

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

F40            Drive unable to return to BOT; EPO forced.
Operator RESET or turn-around failure.

                Card:  SV  IF
                Slot:  A1  A3


F50            Door interlock switch is indicating open door.

                Card:  SV  IF
                Slot:  A1  A3


F70            Data path interrupt failed to occur in expected time.

                Card:  DP  IF
                Slot:  A5  A3


F71            Position count interrupt failed to occur in
expected time.

                Card:  SV  IF
                Slot:  A1  A3


F80            Drive did not reach velocity in 10 ms.

                Card:  SV  IF
                Slot:  A1  A3


F81            Turn around conditions not met within 1 second.

                Card:  SV  IF
                Slot:  A1  A3


F82            Failed to reach 'stop' condition in 10 ms.

                Card:  SV  IF
                Slot:  A1  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

F85           Acceleration or deceleration ramp out of spec.

                Card:  SV  IF
                Slot:  A1  A3

F90           Write or erase current on after read mode request.

                Card:  WR  IF
                Slot:  A4  A3

F91           Write or erase current failed during write.

                Card:  WR  IF
                Slot:  A4  A3

F92           Write current on while in erase-only mode.

                Card:  WR  IF
                Slot:  A4  A3

F93           Erase current failure while in erase-only mode

                Card:  WR  IF
                Slot:  A4  A3

F96           Nonmaskable interrupt (NMI):  Unknown or multiple.

                Card:  SV  IF
                Slot:  A1  A3

F97           Nonmaskable interrupt (NMI):  Power failure.

                Card:  SV  IF
                Slot:  A1  A3

F98           Nonmaskable interrupt (NMI):  Swing arms looped out.

                Card:  SV  IF
                Slot:  A1  A3

| Code | Detected by | Fault Description--FRU'S |
|------|-------------|--------------------------|

F99              Nonmaskable interrupt (NMI): Watch-dog timer expired

Card:    SV  IF
Slot:    A1  A3