

N: CIO HANDLER
EQUATES

LIST D

0000

```

; N: HANDLER FOR FUJINET
; AUTHOR: THOM CHERRYHOMES
;   <THOM.CHERRYHOMES@GMAIL.COM>

```

```

; CURRENT IOCB IN ZERO PAGE

```

```

= 0020      ZIOCB EQU      $20      ; ZP IOCB
= 0020      ZICHID EQU     ZIOCB     ; ID
= 0021      ZICDNO EQU     ZIOCB+1   ; UNIT #
= 0022      ZICCOM EQU     ZIOCB+2   ; COMMAND
= 0023      ZICSTA EQU     ZIOCB+3   ; STATUS
= 0024      ZICBAL EQU     ZIOCB+4   ; BUF ADR LOW
= 0025      ZICBAH EQU     ZIOCB+5   ; BUF ADR HIGH
= 0026      ZICPTL EQU     ZIOCB+6   ; PUT ADDR L
= 0027      ZICPTH EQU     ZIOCB+7   ; PUT ADDR H
= 0028      ZICBLL EQU     ZIOCB+8   ; BUF LEN LOW
= 0029      ZICBLH EQU     ZIOCB+9   ; BUF LEN HIGH
= 002A      ZICAX1 EQU     ZIOCB+10  ; AUX 1
= 002B      ZICAX2 EQU     ZIOCB+11  ; AUX 2
= 002C      ZICAX3 EQU     ZIOCB+12  ; AUX 3
= 002D      ZICAX4 EQU     ZIOCB+13  ; AUX 4
= 002E      ZICAX5 EQU     ZIOCB+14  ; AUX 5
= 002F      ZICAX6 EQU     ZIOCB+15  ; AUX 6

```

```

; INTERRUPT VECTORS
; AND OTHER PAGE 2 VARS

```

```

= 0202      VPRCED EQU     $0202     ; PROCEED VCTR
= 02C6      COLOR2 EQU     $02C6     ; MODEM BKG C
= 02E7      MEMLO EQU     $02E7     ; MEM LO
= 02EA      DVSTAT EQU     $02EA     ; 4 BYTE STATS

```

```

; PAGE 3
; DEVICE CONTROL BLOCK (DCB)

```

```

= 0300      DCB EQU       $0300     ; BASE
= 0300      DDEVIC EQU     DCB       ; DEVICE #
= 0301      DUNIT EQU     DCB+1     ; UNIT #
= 0302      DCOMND EQU     DCB+2     ; COMMAND
= 0303      DSTATS EQU     DCB+3     ; STATUS/DIR
= 0304      DBUFL EQU     DCB+4     ; BUF ADR L
= 0305      DBUFH EQU     DCB+5     ; BUF ADR H
= 0306      DTIMLO EQU     DCB+6     ; TIMEOUT (S)
= 0307      DRDVD EQU     DCB+7     ; NOT USED
= 0308      DBYTL EQU     DCB+8     ; BUF LEN L
= 0309      DBYTH EQU     DCB+9     ; BUF LEN H
= 030A      DAUXL EQU     DCB+10    ; AUX BYTE L
= 030B      DAUXH EQU     DCB+11    ; AUX BYTE H

= 031A      HATABS EQU     $031A     ; HANDLER TBL

```

```

; IOCB'S * 8

```

N: CIO HANDLER
EQUATES

D2:NDEV.ASM

```

= 0340      IOCB  EQU      $0340      ; IOCB BASE
= 0340      ICHID EQU      IOCB       ; ID
= 0341      ICDNO EQU      IOCB+1    ; UNIT #
= 0342      ICCOM EQU      IOCB+2    ; COMMAND
= 0343      ICSTA EQU      IOCB+3    ; STATUS
= 0344      ICBAL EQU      IOCB+4    ; BUF ADR LOW
= 0345      ICBAH EQU      IOCB+5    ; BUF ADR HIGH
= 0346      ICPTL EQU      IOCB+6    ; PUT ADDR L
= 0347      ICPH  EQU      IOCB+7    ; PUT ADDR H
= 0348      ICBLL EQU      IOCB+8    ; BUF LEN LOW
= 0349      ICBLH EQU      IOCB+9    ; BUF LEN HIGH
= 034A      ICAX1 EQU      IOCB+10   ; AUX 1
= 034B      ICAX2 EQU      IOCB+11   ; AUX 2
= 034C      ICAX3 EQU      IOCB+12   ; AUX 3
= 034D      ICAX4 EQU      IOCB+13   ; AUX 4
= 034E      ICAX5 EQU      IOCB+14   ; AUX 5
= 034F      ICAX6 EQU      IOCB+15   ; AUX 6

```

; HARDWARE REGISTERS

```

= D302      PACTL EQU      $D302     ; PIA CTRL A

```

; OS ROM VECTORS

```

= E456      CIOV  EQU      $E456     ; CIO ENTRY
= E459      SIOV  EQU      $E459     ; SIO ENTRY

```

; CONSTANTS

```

= 0009      PUTREC EQU      $09      ; CIO PUTREC
= 0071      DEVIDN EQU      $71      ; SIO DEVID
= 0040      DSREAD EQU      $40      ; FUJI->ATARI
= 0080      DSWRIT EQU      $80      ; ATARI->FUJI
= 0004      MAXDEV EQU      4        ; # OF N: DEVS
= 0088      EOF   EQU      $88      ; ERROR 136

```

N: CIO HANDLER
HANDLER START

```

0000
0000 = 2300          ORG      $2300

2300 207925          START   JSR      INIT      ; DO INIT
                                ; INSERT INTO HATABS

2303          IHTBS   PROC

                                ; FIND FIRST EMPTY ENTRY, OR
                                ; ALREADY EXTANT N: ENTRY.

```

```

2303 A000           LDY      #$00
2305 B91A03        :1      LDA      HATABS,Y
2308 F00B ^2315    BEQ      HFND
230A C94E          CMP      #'N'
230C F007 ^2315    BEQ      HFND
230E C8           INY
230F C8           INY
2310 C8           INY
2311 C021          CPY      #11*3
2313 90F0 ^2305    BCC      :1

                                ; EITHER FOUND EMPTY SPOT,
                                ; OR FOUND EXTANT N: ENTRY.

```

```

2315 A94E          HFND   LDA      #'N'
2317 991A03        STA      HATABS,Y
231A A985          LDA      #LOW CIOHND
231C 991B03        STA      HATABS+1,Y
231F A925          LDA      #HIGH CIOHND
2321 991C03        STA      HATABS+2,Y
                                EPROC

                                ; MOVE MEMLO

```

```

2324          PROC
2324 A900          LDA      #LOW END
2326 8DE702        STA      MEMLO
2329 A92E          LDA      #HIGH END
232B 8DE802        STA      MEMLO+1
                                EPROC

```

N: CIO HANDLER
SHOW FUJINET BANNER

D2:NDEV.ASM

```

232E                                ; QUERY FUJINET
                                ;
                                ; JSR      STPOLL
                                ;
                                ; OUTPUT READY OR ERROR

232E      OBANR  PROC
232E      A200      LDX      #0 ; IOCB #0 E:
2330      A909      LDA      #PUTREC
2332      9D4203    STA      ICCOM,X
2335      A928      LDA      #28 ; 40 CHRS MAX
2337      9D4803    STA      ICBLL,X
233A      A900      LDA      #0
233C      9D4903    STA      ICBLH,X
233F      AD0303    LDA      DSTATS ; DSTATS < 128?
2342      100D ^2351 BPL      OBRDY

2344      A9A0      OBERR   LDA      #LOW BERROR
2346      9D4403    STA      ICBAL,X
2349      A925      LDA      #HIGH BERROR
234B      9D4503    STA      ICBAH,X
234E      4C5B23    JMP      OBCIO

2351      A991      OBRDY   LDA      #LOW BREADY
2353      9D4403    STA      ICBAL,X
2356      A925      LDA      #HIGH BREADY
2358      9D4503    STA      ICBAH,X
235B      2056E4    OBCIO   JSR      CIOV
                                EPROC

                                ; VECTOR IN PROCEED INTERRUPT

235E      SPRCED  PROC
235E      A97E      LDA      #LOW PRCVEC
2360      8D0202    STA      VPRCED
2363      A925      LDA      #HIGH PRCVEC
2365      8D0302    STA      VPRCED+1
                                EPROC

                                ; RTS BACK TO DOSVEC, DONE.

2368      60       RTS

```

N: CIO HANDLER
 CIO OPEN

```

2369
2369          OPEN      PROC

                ; PERFORM THE OPEN

2369 203725      JSR      ENPRCD  ; ENABLE PRCED
236C 204925      JSR      GDIDX   ; X=ZICDNO-1
236F A971        LDA      #DEVIDN ; $70
2371 8D0003      STA      DDEVIC
2374 A521        LDA      ZICDNO
2376 8D0103      STA      DUNIT
2379 A94F        LDA      #'O'   ; 'O'PEN
237B 8D0203      STA      DCOMND
237E A980        LDA      #DSWRIT ; -> PERIP
2380 8D0303      STA      DSTATS
2383 A524        LDA      ZICBAL  ; POINT DBUF
2385 8D0403      STA      DBUFL   ; TO FILENAME
2388 A525        LDA      ZICBAH  ; ...
238A 8D0503      STA      DBUFH   ; ...
238D A90F        LDA      #SOF
238F 8D0603      STA      DTIMLO
2392 A900        LDA      #S00    ; OPEN WANTS
2394 8D0803      STA      DBYTL   ; 256 BYTE
2397 A901        LDA      #S01    ; PAYLOAD
2399 8D0903      STA      DBYTH   ; ...
239C A52A        LDA      ZICAX1  ; IOCB AUX1...
239E 9DB025      STA      AX1SV,X ; ...SAVE IT
23A1 8D0A03      STA      DAUXL   ; ...USE IT
23A4 A52B        LDA      ZICAX2  ; IOCB AUX2...
23A6 9DB425      STA      AX2SV,X ; ...SAVE IT
23A9 8D0B03      STA      DAUXH   ; ...USE IT
23AC 2059E4      JSR      SIOV    ; SEND TO #FN

                ; RETURN DSTATS UNLESS = 144
                ; IN WHICH CASE, DO A STATUS
                ; AND RETURN THE EXTENDED ERR
                ; FROM IT...

23AF AC0303      OPCERR LDY      DSTATS ; GET SIO STATUS
23B2 C090        CPY      #S90    ; ERR 144?
23B4 D006 ^23BC  BNE      OPDONE  ; NOPE. RETURN DSTATS

                ; 144, GET EXTENDED ERROR

23B6 20E724      JSR      STPOLL  ; POLL FOR STATUS
23B9 ACED02      LDY      DVSTAT+3

                ; RESET BUFFER LENGTH + OFFSET

23BC A901        OPDONE LDA      #S01
23BE 8DAF25      STA      TRIP
23C1 204925      JSR      GDIDX
23C4 A900        LDA      #S00
23C6 9DC825      STA      RLEN,X
23C9 9DCC25      STA      ROFF,X
23CC 98          TYA
23CD 60          RTS                ; AY = ERROR
    
```

N: CIO HANDLER
CIO OPEN

EPROC

N: CIO HANDLER
CIO CLOSE

```

23CE
23CE          CLOSE PROC
23CE  204025   JSR      DIPRCD ; DIS INTRPS
23D1  A971     LDA      #DEVIDN ; $70
23D3  8D0003   STA      DDEVIC
23D6  A521     LDA      ZICDNO ; UNIT #
23D8  8D0103   STA      DUNIT
23DB  A943     LDA      #'C' ; C = CLOSE
23DD  8D0203   STA      DCOMND
23E0  A900     LDA      #$00 ; NO PAYLOAD
23E2  8D0303   STA      DSTATS
23E5  8D0403   STA      DBUFL
23E8  8D0503   STA      DBUFH
23EB  8D0803   STA      DBYTL
23EE  8D0903   STA      DBYTH
23F1  8D0A03   STA      DAUXL
23F4  8D0B03   STA      DAUXH
23F7  A90F     LDA      #$0F
23F9  8D0603   STA      DTIMLO
23FC  2059E4   JSR      SIOV

```

; TODO: CLEAR BUFFERS

```

23FF  AC0303   LDY      DSTATS
2402  98       TYA
2403  60       RTS
                EPROC

```

N: CIO HANDLER
 CIO GET

```

2404
2404          GET      PROC

2404  204925          JSR      GDIDX
2407  BDC825          LDA      RLEN,X
240A  D051 ^245D      BNE      :CDISC  ; LEN > 0?

                          ; LEN=0, DO A STATUS POLL
                          ; AND UPDATE LEN

240C  20E724          JSR      STPOLL
240F  204925          JSR      GDIDX
2412  ADEA02          LDA      DVSTAT
2415  9DC825          STA      RLEN,X

                          ; IF LEN=0, THEN RET EOF
                          ; OTHERWISE, GET DATA FROM
                          ; SIO.

2418  D005 ^241F      BNE      :SIGET
241A  A088            LDY      #EOF
241C  A988            LDA      #EOF
241E  60              RTS

241F  A971            :SIGET LDA      #DEVIDN ; $71
2421  8D0003          STA      DDEVIC
2424  A521            LDA      ZICDNO
2426  8D0103          STA      DUNIT
2429  A952            LDA      #'R'
242B  8D0203          STA      DCOMND
242E  A940            LDA      #DSREAD
2430  8D0303          STA      DSTATS
2433  204D25          JSR      ICD2B
2436  8D0503          STA      DBUFH
2439  A900            LDA      #$00
243B  8D0403          STA      DBUFL
243E  8D0903          STA      DBYTH
2441  8D0B03          STA      DAUXH
2444  A90F            LDA      #$0F
2446  8D0603          STA      DTIMLO
2449  ADEA02          LDA      DVSTAT
244C  8D0803          STA      DBYTL
244F  8D0A03          STA      DAUXL
2452  2059E4          JSR      SIOV
2455  204925          JSR      GDIDX
2458  A900            LDA      #$00
245A  9DCG25          STA      ROFF,X

245D  ADEC02          :CDISC LDA      DVSTAT+2 ; CHECK DISC
2460  D005 ^2467      BNE      :EOF2  ; NOPE.
2462  A988            LDA      #EOF
2464  A088            LDY      #EOF
2466  60              RTS

2467  BDC825          :EOF2  LDA      RLEN,X
246A  D000 ^246C      BNE      :UPDP
    
```


N: CIO HANDLER
CIO GET

D2:NDEV.ASM

```

246C DEC825      :UPDP  DEC      RLEN,X
246F BCCG25      LDY      ROFF,X
2472 E003        CPX      #\$03
2474 F01A ^2490  BEQ      :G3
2476 E002        CPX      #\$02
2478 F010 ^248A  BEQ      :G2
247A E001        CPX      #\$01
247C F006 ^2484  BEQ      :G1

                ; RETURN NEXT CHAR IN APROPOS
                ; BUFFER INTO A

247E B90026      :G0     LDA      RBUF,Y
2481 4C9624      JMP      :GX
2484 B90027      :G1     LDA      RBUF+\$100,Y
2487 4C9624      JMP      :GX
248A B90028      :G2     LDA      RBUF+\$200,Y
248D 4C9624      JMP      :GX
2490 B90029      :G3     LDA      RBUF+\$300,Y
2493 4C9624      JMP      :GX
2496 FECC25      :GX     INC      ROFF,X
2499 A8           TAY

                ; RESET TRIP IF LEN=0

249A BDC825      LDA      RLEN,X
249D D005 ^24A4  BNE      :DONE
249F A900        LDA      #\$00
24A1 8DAF25      STA      TRIP

24A4 98          :DONE   TYA
24A5 A001        LDY      #\$01      ; SUCCESS

24A7 60          RTS          ; DONE...
                EPROC

```

N: CIO HANDLER
CIO PUT

```
24A8  
24A8          PUT      PROC  
24A8  A001      LDY     # $01  
24AA  A900      LDA     # $00  
24AC  60        RTS  
                EPROC
```

N: CIO HANDLER
CIO STATUS

D2:NDEV.ASM

```

24AD                                ; IF TRIP, DO STATUS POLL
                                    ; OTHERWISE, RETURN SAVED
                                    ; STATUS...

24AD                                STATUS PROC
24AD 203725                          JSR      ENPRCD  ; ENABLE PRCD
24B0 204925                          JSR      GDIDX   ; GET DEVICE#
24B3 BDC825                          LDA      RLEN,X  ; GET RLEN
24B6 D005 ^24BD                      BNE     STSLEN  ; RLEN > 0?
24B8 ADAF25                          LDA      TRIP
24BB D00E ^24CB                      BNE     STTRI1  ; TRIP = 1?

                                    ; NO TRIP, RETURN SAVED LEN

24BD BDC825                          STSLEN LDA  RLEN,X  ; GET RLEN
24C0 8DEA02                          STA      DVSTAT  ; RET IN DVSTAT
24C3 A900                            LDA      #$00
24C5 8DEB02                          STA      DVSTAT+1
24C8 4CE324                          JMP      STDONE  ; DONE.

                                    ; DO POLL AND UPDATE RCV LEN

24CB 20E724                          STTRI1 JSR      STPOLL ; POLL FOR ST
                                    ; IS <= 256?

24CE ADEB02                          LDA      DVSTAT+1
24D1 D006 ^24D9                      BNE     STTRI2  ; > 256
24D3 9DC825                          STA      RLEN,X
24D6 4CDE24                          JMP      STTRIU  ; UPDATE TRIP

                                    ; > 256, SET TO 256

24D9 A9FF                            STTRI2 LDA      #$FF
24DB 9DC825                          STA      RLEN,X

                                    ; UPDATE TRIP FLAG

24DE D003 ^24E3                      STTRIU BNE     STDONE
24E0 8DAF25                          STA      TRIP   ; RLEN = 0

                                    ; RETURN CONNECTED? FLAG.

24E3 ADEC02                          STDONE LDA      DVSTAT+2
24E6 60                               RTS
                                    EPROC

                                    ; ASK FUJINET FOR STATUS

24E7                                STPOLL PROC
24E7 A971                            LDA      #DEVIDN ; #FN DEVID
24E9 8D0003                          STA      DDEVIC
24EC A521                            LDA      ZICDNO  ; IOCB #
24EE 8D0103                          STA      DUNIT
24F1 A953                            LDA      #'S'   ; S = STATUS
24F3 8D0203                          STA      DCOMND

```

N: CIO HANDLER
CIO STATUS

D2:NDEV.ASM

```
24F6 A940          LDA    #DSREAD ; #FN->ATARI
24F8 8D0303       STA    DSTATS
24FB A9EA          LDA    #LOW DVSTAT
24FD 8D0403       STA    DBUFL   ; PUT IN DVSTAT
2500 A902          LDA    #HIGH DVSTAT
2502 8D0503       STA    DBUFH   ; ...
2505 A904          LDA    #$04    ; 4 BYTES
2507 8D0803       STA    DBYTL
250A A900          LDA    #$00
250C 8D0903       STA    DBYTH
250F A90F          LDA    #$0F
2511 8D0603       STA    DTIMLO
2514 A900          LDA    #$00
2516 8D0A03       STA    DAUXL
2519 8D0B03       STA    DAUXH
251C 2059E4       JSR    SIOV    ; DO IT...
```

```
; MAX 256 BYTES WAITING.
```

```
251F ADEB02       LDA    DVSTAT+1
2522 F00A ^252E  BEQ    STP2
2524 A9FF          LDA    #$FF
2526 8DEA02       STA    DVSTAT
2529 A900          LDA    #$00
252B 8DEB02       STA    DVSTAT+1
```

```
; A = CONNECTION STATUS
```

```
252E ADEC02       STP2   LDA    DVSTAT+2
2531 60           RTS
EPROC
```

N: CIO HANDLER
CIO SPECIAL

```
2532  
2532          SPEC      PROC  
2532  A001          LDY      #01  
2534  A900          LDA      #00  
2536  60           RTS  
                EPROC
```

N: CIO HANDLER
UTILITY FUNCTIONS

D2:NDEV.ASM

```

2537                                ; ENABLE PROCEED INTERRUPT

2537 AD02D3      ENPRCD LDA      PACTL
253A 0901              ORA      #\$01      ; ENABLE BIT 0
253C 8D02D3      STA      PACTL
253F 60              RTS

                                ; DISABLE PROCEED INTERRUPT

2540 AD02D3      DIPRCD LDA      PACTL
2543 29FE              AND      #\$FE      ; DISABLE BIT0
2545 8D02D3      STA      PACTL
2548 60              RTS

                                ; GET ZIOCB DEVNO - 1 INTO X

2549                                GDIDX PROC
2549 A621              LDX      ZICDNO    ; IOCB UNIT #
254B CA              DEX              ; - 1
254C 60              RTS
                                EPROC

                                ; CONVERT ZICDNO TO BUFFER
                                ; PAGE, RETURN IN A

254D                                ICD2B PROC
254D A621              LDX      ZICDNO
254F CA              DEX
2550 E003              CPX      #\$03
2552 F014 ^2568      BEQ      :3
2554 E002              CPX      #\$02
2556 F00C ^2564      BEQ      :2
2558 E001              CPX      #\$01
255A F004 ^2560      BEQ      :1

255C A926              :0      LDA      #HIGH RBUF
255E 500C ^256C      BVC      :DONE

2560 A927              :1      LDA      #HIGH RBUF + 1
2562 5008 ^256C      BVC      :DONE

2564 A928              :2      LDA      #HIGH RBUF + 2
2566 5004 ^256C      BVC      :DONE

2568 A929              :3      LDA      #HIGH RBUF + 3
256A 5000 ^256C      BVC      :DONE

256C 60              :DONE    RTS
                                EPROC

                                ; DEBUGGING AID, BKG RED

256D A934              RED      LDA      #\$34
256F 8DC602          STA      COLOR2
2572 60              RTS

```

N: CIO HANDLER
UTILITY FUNCTIONS

D2:NDEV.ASM

; DEBUGGING AID, BKG GREEN

2573	A9B4	GREEN	LDA	#\$B4
2575	8DC602		STA	COLOR2
2578	60		RTS	

N: CIO HANDLER
INITIALIZATION

```

2579
2579          INIT   PROC
2579  A2FF          LDX   #$$FF
257B  A900          LDA   #$$00
257D  60           RTS
                EPROC

```

; PROCEED VECTOR

```

257E          PRCVEC PROC
257E  A901          LDA   #$$01
2580  8DAF25       STA   TRIP
2583  68           PLA
2584  40           RTI
                EPROC

```

; ----- END OF CODE -----

; DEVHDL TABLE FOR N:

```

2585  6823       CIOHND DW   OPEN-1
2587  CD23       DW   CLOSE-1
2589  0324       DW   GET-1
258B  A724       DW   PUT-1
258D  AC24       DW   STATUS-1
258F  3125       DW   SPEC-1

```

; BANNERS

```

2591  2346554A49 BREADY DB   '#FUJINET READY', $9B
      4E45542052
      454144599B
25A0  2346554A49 BERROR DB  '#FUJINET ERROR', $9B
      4E45542045
      52524F529B

```

; VARIABLES

```

25AF  = 0001     TRIP  DS    1      ; INTR FLAG
25B0  = 0004     AX1SV DS    MAXDEV ; AUX1 SAVE
25B4  = 0004     AX2SV DS    MAXDEV ; AUX2 SAVE
25B8  = 0010     STSV  DS    4*MAXDEV ; STATUS SAVE
25C8  = 0004     RLEN  DS    MAXDEV ; RCV LEN
25CC  = 0004     ROFF  DS    MAXDEV ; RCV OFFSET

```

; BUFFERS (PAGE ALIGNED)

```

25D0  = 2600     ORG    * + $$FF & $$FF00

2600  = 0400     RBUF  DS    256*MAXDEV ; RX
2A00  = 0400     TBUF  DS    256*MAXDEV ; TX

      = 2E00     END    =      *

2E00  = 02E0     ORG    $02E0
02E0  0023       DW    START

```


N: CIO HANDLER
INITIALIZATION

no ERRORS, 120 Labels, \$1FFA free.

AX1SV	25B0	5/31	16#44						
AX2SV	25B4	5/34	16#45						
BERROR	25A0	4/23	4/25	16#37					
BREADY	2591	4/29	4/31	16#34					
CIOHND	2585	3/33	3/35	16#25					
CIOV	E456	2#29	4/33						
CLOSE	23CE	7# 6	16/26						
COLOR2	02C6	1#37	14/59	15/ 8					
DAUXH	030B	1#56	5/35	7/21	8/42	12/19			
DAUXL	030A	1#55	5/32	7/20	8/47	12/18			
DBUFH	0305	1#50	5/23	7/17	8/38	12/10			
DBUFL	0304	1#49	5/21	7/16	8/40	12/ 8			
DBYTH	0309	1#54	5/29	7/19	8/41	12/14			
DBYTL	0308	1#53	5/27	7/18	8/46	12/12			
DCB	0300	1#44	1/45	1/46	1/47	1/48	1/49	1/50	
		1/51	1/52	1/53	1/54	1/55	1/56		
DCOMND	0302	1#47	5/17	7/13	8/34	11/61			
DDEVIC	0300	1#45	5/13	7/ 9	8/30	11/57			
DEVIDN	0071	2#35	5/12	7/ 8	8/29	11/56			
DIPRCD	2540	7/ 7	14#15						
n DRSDV	0307	1#52							
DSREAD	0040	2#36	8/35	11/62					
DSTATS	0303	1#48	4/20	5/19	5/43	7/15	7/28	8/36	
		12/ 6							
DSWRIT	0080	2#37	5/18						
DTIMLO	0306	1#51	5/25	7/23	8/44	12/16			
DUNIT	0301	1#46	5/15	7/11	8/32	11/59			
DVSTAT	02EA	1#39	5/50	8/17	8/45	8/53	11/21	11/23	
		11/32	11/49	12/ 7	12/ 9	12/24	12/27	12/29	
		12/33							
END	2E00	3/42	3/44	16#57					
ENPRCD	2537	5/10	11/11	14# 8					
EOF	0088	2#39	8/25	8/26	8/55	8/56			
GDIDX	2549	5/11	5/56	8/ 8	8/16	8/49	11/12	14#22	
GET	2404	8# 6	16/27						
n GREEN	2573	15# 7							
HATABS	031A	1#58	3/18	3/32	3/34	3/36			
HFND	2315	3/19	3/21	3#31					
n ICAX1	034A	2#16							
n ICAX2	034B	2#17							
n ICAX3	034C	2#18							
n ICAX4	034D	2#19							
n ICAX5	034E	2#20							
n ICAX6	034F	2#21							
ICBAH	0345	2#11	4/26	4/32					
ICBAL	0344	2#10	4/24	4/30					
ICBLH	0349	2#15	4/19						
ICBLL	0348	2#14	4/17						
ICCOM	0342	2# 8	4/15						
ICD2B	254D	8/37	14#31						

n	ICDNO	0341	2# 7						
n	ICHID	0340	2# 6						
n	ICPTH	0347	2#13						
n	ICPTL	0346	2#12						
n	ICSTA	0343	2# 9						
n	IHTBS	2303	3#12						
	INIT	2579	3/ 8	16# 6					
	IOCB	0340	1#62	2/ 6	2/ 7	2/ 8	2/ 9	2/10	2/11
				2/12	2/13	2/14	2/15	2/16	2/17
				2/19	2/20	2/21			2/18
	MAXDEV	0004	2#38	16/44	16/45	16/46	16/47	16/48	16/54
			16/55						
	MEMLO	02E7	1#38	3/43	3/45				
n	OBANR	232E	4#12						
	OBCIO	235B	4/27	4#33					
n	OBERR	2344	4#23						
	OBRDY	2351	4/21	4#29					
n	OPCERR	23AF	5#43						
	OPDONE	23BC	5/45	5#54					
	OPEN	2369	5# 6	16/25					
	PACTL	D302	2#25	14/ 8	14/10	14/15	14/17		
	PRCVEC	257E	4/39	4/41	16#14				
	PUT	24A8	10# 6	16/28					
	PUTREC	0009	2#34	4/14					
	RBUF	2600	9/17	9/19	9/21	9/23	14/41	14/44	14/47
			14/50	16#54					
n	RED	256D	14#58						
	RLEN	25C8	5/58	8/ 9	8/18	8/59	8/62	9/30	11/13
			11/20	11/34	11/40	16#47			
	ROFF	25CC	5/59	8/51	9/ 6	9/25	16#48		
	SIOV	E459	2#30	5/36	7/24	8/48	12/20		
	SPEC	2532	13# 6	16/30					
n	SPRCED	235E	4#38						
	START	2300	3# 8	16/60					
	STATUS	24AD	11#10	16/29					
	STDONE	24E3	11/24	11/44	11#49				
	STP2	252E	12/25	12#33					
	STPOLL	24E7	5/49	8/15	11/28	11#55			
	STSVLEN	24BD	11/14	11#20					
n	STSV	25B8	16#46						
	STTRI1	24CB	11/16	11#28					
	STTRI2	24D9	11/33	11#39					
	STTRIU	24DE	11/35	11#44					
n	TBUF	2A00	16#55						
	TRIP	25AF	5/55	9/33	11/15	11/45	16/16	16#43	
	VPRCED	0202	1#36	4/40	4/42				
	ZICAX1	002A	1#26	5/30					
	ZICAX2	002B	1#27	5/33					
n	ZICAX3	002C	1#28						
n	ZICAX4	002D	1#29						
n	ZICAX5	002E	1#30						
n	ZICAX6	002F	1#31						
	ZICBAH	0025	1#21	5/22					
	ZICBAL	0024	1#20	5/20					
n	ZICBLH	0029	1#25						
n	ZICBLL	0028	1#24						
n	ZICCOM	0022	1#18						

	ZICDNO	0021	1#17	5/14	7/10	8/31	11/58	14/23	14/32
n	ZICHID	0020	1#16						
n	ZICPTH	0027	1#23						
n	ZICPTL	0026	1#22						
n	ZICSTA	0023	1#19						
	ZIOCB	0020	1#15	1/16	1/17	1/18	1/19	1/20	1/21
			1/22	1/23	1/24	1/25	1/26	1/27	1/28
			1/29	1/30	1/31				