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                        ;THIS SUB-PROGRAM ASSEMBLED WITH SYSTEM PARAMETER FILE - S.MAC(V414)
                                XLIST
                                LIST
                        TITLE   PTYSRF - FULL DUPLEX PSEUDO TELETYPE SERVICE ROUTINES
                        SUBTTL  M. FREDRIKSEN/RCC  TS  06 DEC 68 V006
                        XP      VPTYSF,006
                                        ;PUT VERSION NUMBER IN GLOB LISTING AND LOADER STORAGE MAP

                        ENTRY PTYSRF            ;DUMMY GLOBAL FOR FULL DUPLEX PTY
000000                  PTYSRF:


                        ;ACCUMULATOR ASSIGNMENTS

                000006          DDB=DEVDAT
                000002          LINE=TAC1

                000010          CHREC=TEM
                000013          PIOS=13
                000014          PDDB=14

                        ;FOLLOWING BITS, AND LINE AND CHREC ASSIGNMENTS
                        ; MUST AGREE WITH THOSE IN SCNSRF

                020000          BREAKB=20000
                004000          FCSBRK=4000
                400000          TOIP=400000             ;SIGN OF TTYPTR IN TTY DDB
                020000          SYNC=20000              ;BREAK CHARACTER SEEN---FROM SCNSER

                        ;PTY DEVICE DEPENDENT IO STATUS BITS (RH DEVIOS)

                004000  IOPTW=4000              ;OUTPUT WAIT (OBJ. JOB HAS DONE INPUT)
                002000  IOPTRE=2000            ;PTY RESPONSE IS READY
                001000  MONMOD=1000            ;PTY IS IN MONITOR MODE

                        INTERNAL FTTTYSER

        777777  777777  FTTTYSER=-1            ;FORCE MULT DEF GLOBAL IF WRONG APRSER
```

```
                                INTERNAL FTCHECK,FTMONP
                                IFN FTCHECK+FTMONP,<
                                EXTERNAL PTYDDB,PIOSAV,PTYSAC,PTYBND,PTYRM1,PTYDDS,PIOSAV,PDDSAV
                                EXTERNAL PTYSAV,PTYSA2,PTYRET,PACSAV
                                INTERNAL PTYSA2,PTYRE0,ACSAV2
                                >
                                IFE FTCHECK+FTMONP,<
                                ;PSEUDO CONSOLE DEVICE DATA BLOCK
                                ;REMAINING PTY DDB'S ARE GENERATED
                                ;OUT OF LINE AT BUILD TIME
                                        INTERN  PTYDDB
                                ZZ=.
000000  606471  200000  PTYDDB: SIXBIT  /PTY0/
000001  000010  010021          XWD     0,1000+STTYRF+1         ;PTY0 IS UNIT 1, PTY1 IS UNIT 2, ETC.
000002  000000  000000          Z
000003  000000  000014'        EXP     PTYDSP
000004  000003  000003          XWD     DVIN+DVOUT,3
000005  000000  000000          Z
000006  000000  000000          Z
000007  000007  000000          XWD     PROG,0
000010  000007  000000          XWD     PROG,0
000011  000000  000000          Z
                                XP      PTYDDS,.-ZZ     ;SIZE OF PTY DDB
                                >
```

```
                                INTERNAL PTYDSP
                                EXTERNAL OUT
000012  263140  000000          POPJ    PDP,    ;INITILIZATION
000013  263140  000000          POPJ    PDP,            ;PRINT ERROR, STOP JOB
000014  254000  000020' PTYDSP: JRST PTYREL
000015  254000  000000          JRST OUT
000016  254000  000033'         JRST PTYOUT
000017  254000  000120'         JRST PTYIN

                                EXTERNAL PTYTAB,TCONLN,TTYTAB,TTYKIL,PUNIT

000020  135100  000000  PTYREL: LDB LINE,PUNIT
000021  271100  000000          ADDI LINE,TCONLN
000022  336002  000000          SKIPN TTYTAB(LINE)
000023  263140  000000          POPJ PDP,
000024  261140  000006          PUSH PDP,DDB
000025  550002  000022'         HRRZ DDB,TTYTAB(LINE)
000026  260140  000000          PUSHJ PDP,TTYKIL
000027  262140  000006          POP PDP,DDB

000030  135100  000020'         LDB LINE,PUNIT
000031  402002  000000          SETZM PTYTAB(LINE)
000032  263140  000000          POPJ PDP,
```

```
                        ;PTY OUTPUT
                        ;IF NO TTYTAB ENTRY EXISTS FOR THIS PTY, ONE IS CREATED
                        ;IF A TTY DATA BLOCK IS AVAILABLE.  IF NONE IS AVAILABLE,
                        ;IODERR IS SET IN PTY STATUS AND OUTPUT IS TERMINATED.

                        ;IF A TTY DEVICE DATA BLOCK IS AVAILABLE, CHARACTERS ARE
                        ;PLACED IN THE TTY INPUT BUFFER, THE PTY OUTPUT BUFFER IS
                        ;ADVANCED, IOPTW IS CLEARED IN PTY STATUS, AND CONTROL RETURNS
                        ;TO THE OUTPUT UUO AND THENCE TO THE USER.
                        ;IF NO RESPONSE IS ENCOUNTERED, OUTPUT PROCEEDS IN THE
                        ;NORMAL FASHION ADVANCING THE PTY OUTPUT BUFFERS
                        ;UNTIL THEY ARE EMPTY.

                        ;IOPTRF IS SET EVERY TIME THE JOB RUNNING ON THE PTY (OBJECT JOB)
                        ;DOES AN "OUTPUT" UUO.  IOPTW IS SET WHENEVER THE OBJECT JOB DOES
                        ;AN INPUT, THE OBJECT JOB THEN GOES INTO I/O WAIT UNTIL THE JOB WITH
                        ;THE PTY ASSIGNED (CONTROL JOB) HAS COMPLETED ITS OUTPUT UUO.
                        ;MONMOD INDICATES PTY IS IN MONITOR MODE (ITS LINKED TTYDDB HAS TPMON
                        ;SET IN IT'S DF IOS)


                        EXTERNAL TCONLN,TTYTAB,TPYTAB,PTYTAB,SETIOD
                        EXTERNAL ADVREE,PUNIT,RECIN3,PUTCHI
                        EXTERNAL TTIBUF,SPCHEK,DDBSRC,LINTAB,CNCTST,TIFCTR,INBFUL

000033  135100  000032' PTYOUT: JDR     LINE,PUNIT
000034  552302  000031'         HRRZM   DDB,PTYTAB(LINE)
000035  271100  000021'         ADDI    LINE,TCONLN
000036  500102  000000          HLL     LINE,LINTAB(LINE)

000037  332602  000025'         SKIPE   PDDB,TTYTAB(LINE)
000040  254000  000051'         JRST    PTYOU1
000041  260140  000046'         PUSHJ   PDP,PTEXCH
000042  260140  000000          PUSHJ   PDP,DDBSRC
000043  664540  200000          TROA    PIOS,IODERR
000044  254000  000053'         JRST    PTYOU2
000045  202554  000002          MOVEM   PIOS,DEVIOS(PDDB)

000046  250020  000013  PTEXCH: EXCH    IOS,PIOS
000047  250020  000014          EXCH    DDB,PDDB
000050  263140  000000          POPJ    PDP,
```

```
128  000051  200554  000002  PTYOU1: MOVE    PIOS,DEVIOS(PDDB)
129  000052  260140  000046'         PUSHJ   PDP,PTEXCH
130
131  000053  201734  000010  PTYOU2: MOVEI   AC2,@DEVOAD(PDDB)
132  000054  200716  000001          MOVE    AC2,1(AC2)
133  000055  221700  000005          IMULI   AC2,5
134  000056  550654  000010          HRRZ    AC1,DEVOAD(PDDB)
135  000057  270640  000254'         ADD     AC1,[XWD 700+PROG,1]
136  000060  201246  000000          MOVEI   DAT,TTIBUF(DDB)
137
138  000061  134400  000015  PTYOU3: ILDB    CHREC,AC1
139  000062  322400  000105'         JUMPE   CHREC,PTYOU5
140  000063  260140  000000          PUSHJ   PDP,SPCHEK
141  000064  254000  000076'         JRST    PTYOU4
142  000065  302400  000176          CAIE    CHREC,176
143  000066  306400  000033          CAIN    CHREC,33
144  000067  201400  000175          MOVEI   CHREC,175
145  000070  201000  000000          MOVEI   IOS,0
146  000071  603040  024000          TLNE    TAC,BREAKB+FRSBRK

147  000072  205000  020000          MOVSI   IOS,SYNC
148  000073  437006  000002          IORB    IOS,DEVIOS(DDB)
149  000074  306400  000003          CAIN    CHREC,3         ;CONTROL C?
150  000075  260140  000000          PUSHJ   PDP,CNCTST      ;SEE IF SECOND, STOP JOB IF SO
151
152  000076  201246  000060' PTYOU4: MOVEI   DAT,TTIBUF(DDB)         ;MAY HAVE SWITCHED TO TTOBUF
153  000077  260140  000000          PUSHJ   PDP,PUTCHI
154  000100  254000  000115'         JRST    PTYOUW
155  000101  200046  000000          MOVE    TAC,TIFCTR(DDB)         ;SEE IF BUFFER FILLING UP
156  000102  301040  000010          CAIL    TAC,10                  ;WAKE JOB IF SO
157  000103  603000  020000          TLNE    IOS,SYNC
158  000104  260140  000000          PUSHJ   PDP,RECIN3              ;CLOBBERS DAT AND TAC
159  000105  367700  000061' PTYOU5: SOJG    AC2,PTYOU3
160  000106  260140  000046' PTYOU6: PUSHJ   PDP,PTEXCH
161  000107  260140  000000          PUSHJ   PDP,ADVBFE
162  000110  255000  000000          JFCL
163  000111  620000  004000          TRZ     IOS,IOPTW
164  000112  661000  000004          TLO     IOS,IOFST
165  000113  202006  000002          MOVEM   IOS,DEVIOS(DDB)
166  000114  263140  000000          POPJ    PDP,

167
168  000115  260140  000000  PTYOUW: PUSHJ   PDP,INRFUL              ;TURN OFF SYNC, CHECK FOR
169                                                                  ; PANIC CONTROL C,
170  000116  660540  040000          TRO     PIOS,IOBKTL     ;CANT PUT BATCH IN IOW
171  000117  254000  000106'         JRST    PTYOU6          ;ABORT BUFFER AND RETURN TO BATCH
```

```
                        EXTERNAL TCONLN,TTYTAB,SETIOC,ADVBFF,ADRERR,TTYPTR
                        EXTERNAL BUFCLR,XMTINT,PTYGET,TTYCHR,TTOBUF

000120  135240  000033' PTYIN:  LDB DAT,PUNIT
000121  332675  000000          SKIPE PDDB,TPYTAB(DAT)  ;TTY DDB ADDRESS
000122  254000  000125'          JRST    PTYIN1
000123  660000  400000          TRO IOS,IOIMPM          ;YES, THAT'S ALL.
000124  254000  000162'          JRST PTYIN3

000125  200554  000002  PTYIN1: MOVE    PIOS,DEVIOS(PDDB)
000126  624000  002000          TRZA    IOS,IOPTRE
000127  660000  002000  PTYIN4: TRO     IOS,IOPTRE
000130  550046  000007          WRPE    TAC,DEVIAD(DDB)
000131  260140  000000          PUSHJ   PDP,BUFCLR
000132  254000  000000          JRST    ADRERR
000133  201125  000035'          MOVEI   LINE,TCONLN(DAT)
000134  260140  000046'          PUSHJ   PDP,PTEXCH
000135  201700  000000          MOVEI   AC2,TTYCHR
000136  201674  000007          MOVEI   AC1,@DEVIAD(PDDB)
000137  270640  000255'          ADD     AC1,[XWD 700,1]
000140  202006  000002          MOVEM   IOS,DEVIOS(DDB)
000141  205000  400000          MOVSI   IOS,TOIP        ;MARK TYPE-OUT ACTIVE
000142  436006  000000          IORM    IOS,TTYPTR(DDB)
000143  260140  000000          PUSHJ   PDP,XMTINT
000144  334000  000000          SKIPA

000145  260140  000000  PTYIN2: PUSHJ   PDP,PTYGET               ;SHOULD BE XMTIN1+1
000146  331006  000142'          SKIPL   TTYPTR(DDB)     ;STILL GOING?
000147  254000  000152'          JRST    PTYIN5          ;NO, END OF STRING FROM TTY
000150  136400  000015          IDPB    CHREC,AC1
000151  367700  000145'          SOJG    AC2,PTYIN2
000152  260140  000046' PTYIN5: PUSHJ   PDP,PTEXCH
000153  201766  000007          MOVEI   AC3,@DEVIAD(PDDB)
000154  275657  000001          SUBI    AC1,1(AC3)
000155  542657  000001          WRRM    AC1,1(AC3)      ;WORD COUNT TO BATCH
000156  260140  000000          PUSHJ   PDP,ADVBFF
000157  254000  000162'          JRST    PTYIN3
000160  335014  000146'          SKIPGE  TTYPTR(PDDB)    ;STILL MORE TO COME?
000161  254000  000164'          JRST    PTYIN6          ;YES, SEE IF ROOM

000162  202006  000002  PTYIN3: MOVEM   IOS,DEVIOS(DDB)
000163  263140  000000          POPJ    PDP,

000164  205040  400000  PTYIN6: MOVSI   TAC,TOIP        ;CLEAR ACTIVE BIT IN CASE STOPPED
000165  412054  000160'          ANDCAM  TAC,TTYPTR(PDDB)
000166  367700  000127'          SOJG    AC2,PTYIN4      ;COUNT, GO ON IF ROOM
000167  254000  000162'          JRST    PTYIN3          ;NO ROOM, STOP
```

```
                        ;INTERCEPT TTY OUTPUT AT UUO LEVEL AND SYNCHRONIZE
                        ;TTY OUTPUT WITH PTY INPUT


                        INTERNAL PTYPE
                        EXTERNAL TCONLN,PTYTAB,CLOCK,CIPWTM1,WAKE

000170  261140  000014  PTYPE:  PUSH    P,PDDB
000171  200600  000002          MOVE    PDDB,LINE
000172  275600  000133'          SUBI    PDDB,TCONLN
000173  550614  000034'          HRRZ    PDDB,PTYTAB(PDDB)
000174  261140  000013          PUSH    P,PIOS
000175  202006  000002          MOVEM   IOS,DEVIOS(DDB)
000176  201540  002000          MOVEI   PIOS,IOPTRE
000177  437554  000002          IORB    PIOS,DEVIOS(PDDB)
000200  260140  000204'          PUSHJ   P,PTWAKE
000201  262140  000013          POP     P,PIOS
000202  262140  000014          POP     P,PDDB
000203  263140  000000          POPJ    P,0

000204  261140  000002  PTWAKE: PUSH    P,TAC1          ;SAVE LINE
000205  261140  000010          PUSH    P,TEM
000206  135040  000256'          LDB     TAC,[POINT 6,DEVCHR(PDDB),5]    ;PTY JOB NR
000207  550100  000000          HRRZ    TAC1,CLOCK              ;LAST JOB IN CLOCK QUEUE
000210  306100  000000  PTWAK2: CAIN    TAC1,CIPWTM1            ;LOOKED AT ALL JOBS
000211  254000  000224'          JRST PTWAK1                     ;YES, WAS NOT SLEEPING
000212  554402  000000          HLRZ    TEM,(TAC1)              ;SLEEPING JOB?
000213  302400  000000          CAIE    TEM,WAKE
000214  364100  000210'          SOJA    TAC1,PTWAK2             ;NO, IN QUEUE FOR SOME OTHER REASON
000215  135400  000257'          LDB     TEM,[POINT 6,(TAC1),23] ;JOB NR IN QUEUE
000216  312400  000001          CAME    TEM,TAC                 ;IS IT THIS ONE?
000217  364100  000210'          SOJA    TAC1,PTWAK2             ;NO, LOOP TILL DONE
000220  200402  000000          MOVE    TEM,(TAC1)              ;YES, ZERO TIME LEFT TO SLEEP
000221  620400  007777          TRZ     TEM,7777
000222  350000  000010          AOS     TEM                     ;ADD ONE SO NEXT TICK WILL MAKE >
000223  202402  000000          MOVEM   TEM,(TAC1)
000224  262140  000010  PTWAK1: POP     P,TEM
000225  262140  000002          POP     P,TAC1          ;RESTORE LINE
000226  263140  000000          POPJ P,
```

```
                        ;ROUTINES TO SET VARIOUS BITS
                        ;CALLED FROM SCNSER WITH TTY LINE NUMBER IN LINE

                        INTERNAL PTYOW,PTMNMD,PTMNMZ

000227  261140  000013  PTMNMD: PUSH    P,P1
000230  201540  001000          MOVEI   P1,MONMOD       ;PTY INTO MONITOR MODE
000231  254000  000237'        JRST    PTYSET

000232  261140  000013  PTMNMZ: PUSH    P,P1
000233  561540  001000          TRZ     P1,MONMOD       ;PTY OUT OF MONITOR MODE
000234  254000  000237'        JRST    PTYSET

000235  261140  000013  PTYOW:  PUSH    P,P1
000236  201540  004000          MOVEI   P1,IOPTW        ;PTY IN OUTPUT WAIT

000237  261140  000014  PTYSET: PUSH    P,P2B
000240  200600  000002          MOVE    P2B,LINE
000241  275600  000172'        SUBI    P2B,TTCONLN     ;FIND PTY THAT TTY IS LINKED TO
000242  550614  000173'        HRRZ    P2B,PTYTAB(P2B)
000243  322600  000251'        JUMPE   P2B,PTYST1              ;PREVENT CATASTROPHE
000244  623540  777777          TLZE    P1,-1           ;BIT TO BE SET OR ZEROED
000245  413554  000022          ANDCAB  P1,DEVIOS(P2B)          ;ZEROED
000246  437554  000002          IORB    P1,DEVIOS(P2B)
000247  602540  004000          TRNE    P1,IOPTW        ;IS LINKED TTY JOB IN INPUT WAIT?
000250  260140  000224'        PUSHJ   P,PTWAKE        ;YES, WAKE UP CONTROL JOB
000251  262140  000014  PTYST1: POP     P,P2B
000252  262140  000013          POP     P,P1

000253  263140  000000          POPJ    P,0
```

```
   288  000254                    PTYEND: END
   289  000254  000707  000001
   290  000255  000700  000001
   291  000256  360614  000001
   292  000257  140002  000000

NO ERRORS DETECTED

PROGRAM BREAK IS 000260
```

SYMBOL TABLE

AC1	000015	INT	AC2	000016	INT	AC3	000017	INT
ADRERR	000132'	EXT	ADVBFE	000107'	EXT	ADVBFF	000156'	EXT
BREAKB	020000		BUFCLR	000131'	EXT	CHREC	000010	
CIPWTM	000210'	EXT	CLOCK	000207'	EXT	CNCTST	000075'	EXT
DAT	000005	INT	DDB	000006		DDBSRC	000042'	EXT
DEVCHR	000001	INT	DEVDAT	000006	INT	DEVIAD	000007	INT
DEVIOS	000002	INT	DEVOAD	000010	INT	DVIN	000002	INT
DVOUT	000001	INT	FCSBRK	004000		FTCHEC	000000	INT
FTMONP	000000	INT	FTTTYS	777777	777777	INBFUL	000115'	EXT
IORKTL	040000	INT	IODERR	200000	INT	IOFST	000004	INT
IOIMPM	400000	INT	IOPTRE	002000		IOPTW	004000	
IOS	000000	INT	LINE	000002		LINTAB	000036'	EXT
MONMOD	001000		OUT	000015'	EXT	PDDB	000014	
PDP	000003	INT	PIOS	000013		PROG	000007	INT
PTEXCH	000046'		PTMNMD	000227'	INT	PTMNMZ	000232'	INT
PTWAK1	000224'		PTWAK2	000210'		PTWAKE	000204'	
PTYDDB	000000'	INT	PTYDDS	000012	INT	PTYDSP	000014'	INT
PTYEND	000254'		PTYGET	000145'	EXT	PTYIN	000120'	
PTYIN1	000125'		PTYIN2	000145'		PTYIN3	000162'	
PTYIN4	000127'		PTYIN5	000152'		PTYIN6	000164'	
PTYOU1	000051'		PTYOU2	000053'		PTYOU3	000061'	
PTYOU4	000076'		PTYOU5	000125'		PTYOU6	000106'	
PTYOUT	000033'		PTYOUW	000115'		PTYOW	000235'	INT
PTYPE	000170'	INT	PTYRFL	000020'		PTYSET	000237'	
PTYSRF	000000'	INT	PTYST1	000251'		PTYTAB	000242'	EXT
PUNIT	000120'	EXT	PUTCHI	000077'	EXT	RECIN3	000104'	EXT
SETIOD	000000	EXT	SPCHEK	000063'	EXT	STTYBF	000020	INT
SYNC	020000		TAC	000001	INT	TAC1	000002	INT
TCONLN	000241'	EXT	TEM	000010	INT	TIFCTR	000101'	EXT
TOIP	400000		TPYTAB	000121'	EXT	TTIBUF	000076'	EXT
TTOBUF	000000	EXT	TTYCHR	000135'	EXT	TTYKIL	000026'	EXT
TTYPTR	000165'	EXT	TTYTAB	000037'	EXT	VPTYSF	000006	INT
WAKE	000213'	EXT	XMTINT	000143'	EXT	ZZ	000000'	

A 6# 6
AC1 6# 6 134 135 138 190 191 271 275 276
AC2 6# 6 131 132 133 159 199 202 217
AC3 6# 274 205 226
ADRERR 172 186
ADVBFE 139 161
ADVBFF 172 227
AEFERR 6# 6
AL 6# 6
ASSCON 6# 6
ASSPRG 6# 6
B 6# 6
BREAKB 27# 146
BUFCLR 173 185
BUFPNT 6# 6
BUFWRD 6# 6
CHREQ 20# 138 139 142 143 144 149 271
CIPWTM 224 243
CLKR 6# 6
CLOCK 224 242
CLSIN 6# 6
CLSOUT 6# 6

CMKB 6# 6
CNCTST 110 150
CORCNT 6# 6
D 6# 6
DAT 6# 6 136 152 175 176 197
DCL 6# 6
DCLI 6# 6
DCLO 6# 6
DCLR 6# 6
DDB 18# 80 81 83 113 126 136 148 152 155 165 184 192 194
199 204 212 231
DDBSRC 110 120
DDI 6# 6
DDO 6# 6
DEN 6# 6
DEVADR 6# 6
DEVBUF 6# 6
DEVCHR 6# 6 241
DEVCTR 6# 6
DEVDAT 6# 6 18
DEVEXT 6# 6
DEVFIL 6# 6
DEVIAD 6# 6 184 190 224
DEVIOS 6# 6 123 128 148 165 191 192 212 231 233 280 281
DEVLOG 6# 6
DEVMOD 6# 6
DEVNAM 6# 6
DEVOAD 6# 6 131 134
DEVPPN 6# 6
DEVPTR 6# 6
DEVSER 6# 6

DGF	6#	6		
DHNG	6#	6		
DIN	6#	6		
DINI	6#	6		
DL4	6#	6		
DMT	6#	6		
DNAERR	6#	6		
DOU	6#	6		
DR	6#	6		
DRL	6#	6		
DRN	6#	6		
DSER	6#	6		
DST	6#	6		
DSKRLB	6#	6		
DSO	6#	6		
DVAVAL	6#	6		
DVCOR	6#	6		
DVDIR	6#	6		
DVDIRI	6#	6		
DVDIS	6#	6		
DVDSK	6#	6		
DVGTA	6#	6		
DVIN	6#	6	57	
DVLNG	6#	6		
DVLPT	6#	6		
DVMTA	6#	6		
DVOUT	6#	6	57	
DVPTP	6#	6		
DVPTR	6#	6		
DVTTY	6#	6		
ENTRE	6#	6		
FBMERR	6#	6		
FCSBRK	28#	146		
FNFERR	6#	6		
FRGSFG	6#	6		
FT2REL	6#			
FTATTA	6#			
FTCHEC	6#	41	42	47
FTEXAM	6#			
FTFINI	6#			
FTGETT	6#			
FTHALT	6#			
FTKCT	6#			
FTMOMP	6#	41	42	47
FTPRV	6#			
FTRA1Ø	6#			
FTRCHK	6#			
FTREAS	6#			
FTSLEE	6#			
FTTALK	6#			
FTTIME	6#			
FTTRAC	6#			
FTTRPS	6#			

FTTTYS	6#	38	40#											
HSAMSK	6#	6												
HSAPOS	6#	6												
HSASIZ	6#	6												
HUNGCT	6#	6												
HUNGST	6#	6												
I	6#	6												
IB	6#	6												
IBUFR	6#	6												
ICLOSB	6#	6												
ILM	6#													
ILUERR	6#	6												
INBFR	6#	6												
INBFUL	110	168												
INITR	6#	6												
INPB	6#	6												
IO	6#	6												
IOACT	6#	6												
IOBEG	6#	6												
IORKTL	6#	6	170											
IOROT	6#	6												
IOCON	6#	6												
IODEND	6#	6												
IODERR	6#	6	121											
IOOTER	6#	6												
IOEND	6#	6												
IOFST	6#	6	164											
IOIMPM	6#	6	178											
IONRCK	6#	6												
IOPAR	6#	6												
IOPTRE	35#	182	183	232										
IOPTW	34#	163	272	282										
IOS	6#	6	125	145	147	148	157	163	164	165	178	182	183	192
	193	194	212	231										
IOTEND	6#	6												
IOUSE	6#	6												
IOW	6#	6												
IOWC	6#	6												
IPPERR	6#	6												
ITEM	6#	6												
JACCT	6#	6												
JBFADR	6#	6												
JBFCTR	6#	6												
JBFPTR	6#	6												
JBUF	6#	6												
JDAT	6#	6												
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