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1          ;***COPYRIGHT 1969, DIGITAL EQUIPMENT CORP., MAYNARD, MASS.***
2
3
4          ;THIS SUB-PROGRAM ASSEMBLED WITH SYSTEM PARAMETER FILE - S,MAC(V414)
5          XLIST
6          IFDEF LISTSN, < IFN LISTSN, <LIST          ;LIST S,MAC IN COMMON ONLY>>
7
8          ;          S - SYSTEM PARAMETER DEFINITIONS FOR PDP-6 AND PDP-10 TIME SHARING MONITORS
9          ;          TH/TH/TNM/RCC 24 JUN 69
10
11         ;THIS IS ASSEMBLED IN FRONT OF EACH SUBPROGRAM IN MONITOR
12
13
14         DEFINE XP(A,B)          ;SYSTEM PARAMETER
15         <A=B
16         INTERNAL A
17         >
18
19         ;ACCUMULATOR ASSIGNMENTS
20
21         ;* MEANS LOADED BY UJO HANDLER ON ALL UJOs
22
23         XP IOS,0          ;*IO DEVICE STATUS WORD(SEE BELOW FOR BITS)
24         XP TAC,1          ;TEMPORARY(SOMETIMES PRESERVED ACCROSS SUB.)
25         XP TAC1,2        ;TEMPORARY(SOMETIMES PRESERVED ACCROSS SUB.)
26         XP PDP,3         ;*PUSH DOWN POINTER(SEPARATE LIST FOR EACH PI
27         ; CHANNEL AND EACH USER JOB
28         XP ITEM,4        ;BUFFER ITEM COUNT, OR JOB NUMBER
29         XP DAT,5         ;TTY OUTPUT BUFFER POINTER FOR COMMANDS,ERROR
30         ; MESSAG          ;OR TEMPORARY
31         XP JBUF,DAT      ;ADDRESS OF 3 WORD BUFFER HEADER IN USER AREA
32         XP DEVDAT,6      ;*LH=UJOs DONE SO FAR FOR THIS DEVICE(SEE BELOW)
33         ; RH=ADDRESS OF DEVICE DATA BLOCK
34         XP PROG,7        ;*LH=HIGHEST REL. LOC. IN USER AREA
35         ; RH=ABSOLUTE ADDRESS OF USER AREA
36         XP JDAT,PROG     ;*RH=ADDRESS OF JOB DATA AREA
37         ; LH=HIGHEST REL. LOC. IN USER AREA
38         XP TEM,10       ;TEMPORARY USED ONLY SENSER IO ROUTINE
39
40         ;ONLY 0 THRU 10 SAVED FOR INTERRUPT SERVICE
41
42         XP DSER,11       ;*ADDRESS OF DEVICE SERVICE ROUT. DISPATCH TABLE
43         XP BUFPT,12      ;CONTENTS OF FIRST WORD OF 3 WORD USER BUFFER HEADER
44         XP UCHN,BUFPT    ;*USER IO CHANNEL NO.
45         XP BUFWRD,13     ;CONTENTS OF 2ND WORD OF USER BUFFER
46         XP UJO,14        ;*CURRENT UJO IN PROGRESS
47         ; PROG IN INDEX FIELD FOR RELOCATION
48         XP AC1,15        ;TEMPORARY ACS(MORE TEMPORARY THAN TAC,TAC1)
49         000016 XP AC2,16*AC2=16
50         000017 XP AC3,17*AC3=17
51         ;REDEFINE SO THAT ONLY THE ABOVE ACS WILL OCCUR IN UJO PRINTOUTS
52
53         DEFINE XP(A,B)<

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54
55
56
57

A==B
INTERNAL A
>
;DEFINE REST OF SYMBOLS SO THAT THEY WILL NOT BE PRINTED BY EXEC DOT ON OUTPUT

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58          ; DEVICE DATA BLOCK NAMES
59          XP DEVNAM,0          ;NAME IN SIXBIT ASCII
60          ; C(LH)=DEVICE MNEMONIC
61          ; C(RH)=DEVICE NUMBER, LEFT JUSTIFIED
62          XP DEVCHR,1          ;CHARACTERISTIC
63          ; BITS 0-5=JOB NUMBER(BYTE POINTER=PJOBN)
64          ; ZERO VALUE IMPLIES NOT ASSIGNED
65          XP HUNGCT,100        ;BITS 6-11=HUNG DEVICE COUNT, SET WHEN
66          ; DEVICE BECOMES ACTIVE, DECREMENTED EVERY SECOND.
67          XP HUNGST,1          ;BITS 12-17=HUNG DEVICE COUNT
68          ; SETTING, 0 MEANS DEVICE CAN NEVER RE HUNG.
69          ; BITS 18-23=DEVICE NUMBER,BINARY(BYTE POINTER=PUNIT)
70          ; BITS 24-35=BUFFER SIZE
71          XP DEVIOS,2          ;STATUS WORD, SEE BELOW
72          XP DEVSER,3          ;C(LH)=NEXT DEVICE DATA BLOCK
73          ; C(RH)=DEVICE SERVICE DISPATCH TABLE
74          ; DEVICE SERVICE DISPATCH TABLE ASSIGNMENTS
75          XP DINI,-2           ;DEVICE INITIALIZATION
76          XP DHNG,-1           ;DEVICE IS HUNG

77          XP DRL,0             ;RELEASE
78          XP DCL,1             ;CLOSE
79          XP DCLO,DCL          ;CLOSE OUTPUT
80          ;IMMEDIATE ADDRESS PART OF CLOSE UUC
81          XP CLSOUT,1          ;INHIBIT CLOSING OUTPUT
82          XP CLSIN,2           ;INHIBIT CLOSING INPUT
83          XP DOU,2             ;OUTPUT
84          XP DIN,3             ;INPUT, SHORT DISPATCH TABLE
85          XP DEN,4             ;ENTER
86          XP DLK,5             ;LOOKUP
87          XP DDO,6             ;DUMP MODE OUTPUT
88          XP DDI,7             ;DUMP MODE INPUT
89          XP DSO,10            ;SETC
90          XP DSI,11            ;SETI
91          XP DGF,12            ;GETF UUC
92          XP DRN,13            ;RENAME
93          XP DCL,14            ;CLOSE INPUT
94          XP DCLR,15           ;CALL D,[SIXBIT /UTPCLR/]
95          XP DMT,16            ;MTAPE
96          ; END OF LONG DISPATCH TABLE

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          XP DEVMOD,4          ;BITS 6-11=LEFT HALF OF IMAGE MODE BYTE POINTER
                                ; BIT 35-J=1 IF MODE J IS LEGAL FOR THIS DEVICE
                                ; BIT 18 DEVICE ASSIGNED BY CONSOLE COMMAND
                                ; BIT 19 DEVICE ASSIGNED BY PROGRAM (INIT)

;RIGHT HALF OF DEVICE CHARACTERISTICS WORD(DEVCHR U00)
          XP ASSCON,400000      ;ASSIGNED BY CONSOLE COMMAND ASSIGN
          XP ASSPRG,200000      ;ASSIGNED BY PROGRAM(INIT U00)
;LEFT HALF DEVICE CHARACTERISTICS(DEVCHR U00)
          XP DVOUT,1           ;OUTPUT DEVICE
          XP DVIN,2            ;INPUT DEVICE
          XP DVDIR,4           ;HAS A DIRECTORY
          XP DVTTY,10          ;IS A TTY
          XP DVMTA,20          ;IS A MAG TAPE(REWIND)
          XP DVAVL,40          ;1 IF DEVICE IS AVAILABLE TO THIS JOB
                                ; SET BY DEVCHR U00
          XP DVDTA,100         ;IT IS A DECTAPE
          XP DVPTR,200         ;IS A PAPER TAPE READER
          XP DVPTP,400         ;IS A PAPER TAPE PUNCH
          XP DVLNG,1000        ;DEVICE HAS LONG DISPATCH TABLE
                                ; (OTHER U00S BESIDES INPUT,OUTPUT,CLOSE,RELEASE)
          XP DVDIS,2000        ;IS A DISPLAY
          XP TTYBIU,4000       ;TTY DDB IN USE (AS IO DEV. EVEN IF
                                ; NOT AS USER CONSOLE)
          XP TTYUSE,10000      ;TTY DDB IN USE FLAG
          XP TTYATC,20000      ;TTY ATTACHED TO JOB IF 1
          XP DVLPT,40000       ;IS A LPT (CARRIAGE CONTROL IN FORTRAN)
          XP DVCDR,100000      ;IS A CARD READER(TRAILING SPACES FOR MACRO)
          XP DVDSK,200000      ;IS A DISK
          XP DVDIRN,400000     ;DECTAPE DIRECTORY IN CORE IF 1(MUST BE SIGN BIT)

          XP DEVLOG,5          ;LOGICAL NAME FOR JOB DEVICE
          XP DFRUF,6           ;C(LH)=REL. ADR. OF 3 WORD OUTPUT BUFFER HEADER
                                ; C(RH)=REL. ADR. OF 3 WORD INPUT BUFFER HEADER
          XP DEVIAD,7          ;C(LH)=PROG IN INDEX FIELD
                                ;BITS 1 AND 2 USED TO KEEP COUNT OF NO. OF USER CHANNEL

S
                                ; INITED ON THIS DEVICE(DECTAPE ONLY)
                                ; IADPTR-COMMON BYTE POINTER TO 2 BIT COUNT
          XP DEVADR,DEVIAD+    ; C(RH)=REL. INPUT BUFFER ADD. SERVICE ROUT. IS FILLING

          XP DEVOAD,10         ;C(LH)=PROG IN INDEX FIELD
          XP DVPTR,DEVOAD+    ; C(RH)=REL. OUTPUT BUFFER ADR. SERVICE ROUT. IS EMPTYIN

G
          XP DEVCTR,11+
;FOR LONG DISPATCH TABLE DEVICES ONLY:
          XP DVFIL,11          ;FILE NAME IN SIXBIT
          XP DEVEXT,12         ;LH=EXTENSION, RH=UNUSED
          XP DEVPPN,13         ;PROJECT PROGRAMMER NO. (DISK ONLY)
                                ; OTHER DEVICES NEED NOT HAVE THIS LOCATION IN THEM.

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150 ; I/O STATUS WORD ASSIGNMENTS
151 ;DATA MONES: BITS 32-35(RYTE POINTER=PIOMOD)
152     XP A,0 ;ASCII
153     XP AL,1 ;ASCII LINE
154     XP I,10 ;IMAGE
155     XP IB,13 ;IMAGE BINARY
156     XP B,14 ;BINARY
157     XP SN,15 ;SCOPE DUMP MODE
158     XP DR,16 ;DUMP BY RECORDS
159     XP D,17 ;DUMP ACROSS RECORDS
160 ; STATUS BITS
161 ;RIGHT HALF (USER)
162     XP IOWC,20 ;DON'T COMPUTE WORD COUNT
163     XP IOCON,40 ;CONTINUOUS (CONT=0)
164     XP IONRCK,100 ;READ WITH NO. REREAD CHECK
165 ;BITS 27,28 DENSITY OF MAG TAPE
166 ; ; 00=INSTALLATION STANDARD
167 ; ; 01=200 BPI
168 ; ; 10=556 BPI
169 ; ; 11=800 BPI
170     XP IOPAR,1000 ;WRITE EVEN PARITY (BCD) IF 1 ON MAG TAPE
171     XP INTEND,2000 ;END OF MAG TAPE
172     XP IOBOT,4000 ;BEGINNING OF MAG TAPE
173     XP IOACT,10000 ;DEVICE ACTIVE
174     XP IOEND,20000 ;DATA END ENCOUNTERED
175     XP IOBKT,40000 ;BLOCK TOO LARGE
176     XP IODTER,100000 ;DATA ERROR
177     XP IOERR,200000 ;DEVICE ERROR
178     XP IOIMPM,400000 ;IMPROPER MODE DETECTED BY
179 ; INPUT SERVICE ROUTINE
180 ; LEFT HALF (SYSTEM)
181     XP IOW,1 ;I/O WAIT
182     XP IOBEG,2 ;VIRGIN DEVICE
183     XP IOFST,4 ;NEXT ITEM WILL BE THE FIRST ITEM OF A BUFFER
184     XP IO,20 ;OUT=1, IN=0
185     XP IOEND,40 ;SERVICE ROUTINE HAS TRANSMITTED LAST DATA
186
187 ;REST OF BITS IN LH ARE DEVICE DEPENDENT EXCEPT BIT 14(XP 10) WHICH IS KEPT AS A SPARE
188
189
190
191 ;COMMAND DECODER USE OF AC IOS:
192
193 ;RH=DISPATCH ADDRESS - SAVJOB,GETJOB,RUNJOB
194 ;LH:
195     XP NSRRBIT,400000 ;HIGH SEG TO BE FLAGGED NON-SHARABLE(SAVE VS SSAVE COMM
196 AND)
197 ; DO NOT CONFUSE WITH SIGN BIT OF JBTSTS
198 ; WHICH SAYS SEG IS SHARABLE
199
200
201 ;HARDWARE BITS:
202

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212
213           ;LEFT HALF USRJDA (JOB DEVICE ASSIGNMENTS) UOO'S FOR THIS CHANNEL SINCE LAST INIT
214           XP INITB,400000           ;INIT-SAVEGET DEPENDS ON THIS BEING SIGN BIT
215           XP IPUFB,200000           ;INIT WITH INPUT BUFFER SPECIFIED
216           XP ORUFB,100000           ;INIT WITH OUTPUT BUFFER SPECIFIED
217           XP LOOKB,400000           ;LOOKUP
218           XP ENTRB,200000           ;ENTER
219           XP INPB,100000            ;INPUT
220           XP OUTPB,400000           ;OUTPUT
221           XP ICLOS,200000           ;INPUT CLOSE
222           XP OCLOS,100000           ;OUTPUT CLOSE
223           XP INBFB,400000           ;INBUF
224           XP OUTBFB,200000          ;OUTBUF
225           XP SYSDEV,100000          ;THIS DEVICE IS SYSTEM TAPE
226           ; PROJ,PROG, NO 1,1 ON DSK
227           XP RENMB,400000           ;RENAME UOO
228           XP DSKRLB,200000          ;TO DISTINGUISH RELEASE FROM RESET UOO IN DSKSER.
229           ; RELEASE CLEARS THEM ALL

230
231           ;MTAPE UOO BITS
232           XP SLICE,400000           ;SET SLICE LEVEL IF A 1 ACCORDING TO SLEVEL
233           XP SLEVEL,200000          ;VALUE OF SLICE LEVEL IF SLICE A 1
234
235           ;ERROR CODES RETURNED TO USERS ON LOOKUP AND ENTER AND RENAME FAILURES(DISK ONLY)
236           ;IN 2ND WORD OF 4 WROD ARGUMENT BLOCK(RH)
237           ;THE SAME ERROR CODES ARE RETURNED ON RUN AND GETSEG UOOS FOR ALL DEVICES
238
239           XP FNFERR,000000           ;FILE NOT FOUND OR 0 FILE NAME
240           XP IPPERR,100000           ;INCORRECT PROJECT,PROGRAMMER NO.
241           XP PRERR,200000           ;PROTECTION FAILURE(OR DIRECTORY FULL ON DTA)
242           XP FRMERR,300000           ;FILE BEING MODIFIED
243           XP AEFERR,400000           ;ALREADY EXISTING FILE(RENAME ONLY)
244           XP NLEERR,500000           ;NEITHER LOOKUP NOR ENTER(RENAME ONLY)
245           XP TRNERR,600000           ;TRANSMISSION ERROR(RUN,GETSEG UOO ONLY)
246           XP NSFERR,700000           ;NOT A SAVE FILE(RUN,GETSEG UOO ONLY)
247           XP NECERR,100000          ;NOT ENOUGH CORE(RUN,GETSEG UOO ONLY)
248           XP DNAERR,110000          ;DEVICE NOT AVAILABLE(RUN,GETSEG UOO ONLY)
249           XP NSDERR,120000          ;NO SUCH DEVICE(RUN,GETSEG UOO ONLY)
250           XP ILUERR,130000          ;ILLEGAL UOO (GETSEG ONLY) NOT TWO RELOC REG. CAPABILITY
251

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252          ; JOB BUFFER AREA HEADER
253          XP JBFADR,0
254
255          ; BIT 0=1 IF THIS BUFFER RING HAS NEVER BEEN
256          ; REFERENCED FROM THE USER'S PROGRAM BY
257          ; AN INPUT OR OUTPUT COMMAND.
258          ; BITS 1-17=UNUSED
259          ; BITS 18-35=CURRENT BUFFER ADDRESS
260          ; BYTE POINTER TO NEXT BYTE -1
261          ; POSITIVE ITEM COUNT
262
263          ; 1 IF BUFFER IS FULL (OR BEING EMPTIED)
264          ; 0 IF BUFFER IS EMPTY (OR BEING FILLED)
265          ; BITS 1-17=BUFFER SIZE
266          ; BITS 18-35=NEXT BUFFER ADDRESS
267
268          XP JBFPTR,1
269          XP JBFCTR,2
270
271          ; JOB BUFFER HEADER
272          XP IOUSE,400000
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264 ;JOB STATUS WORD(JBTSTS TABLE), ONE WORD FOR EACH JOB(SOME BITS ALSO APPPEAR IN HIGH SEG
265 STATUS WORD)
266
267
268 XP RUN,400000 ;USER WANTS JOB TO RUN(MUST BE SIGN BIT)
269 XP SNA,400000 ;HIGH SEG NUMBER ASSIGNED (ANALOGOUS TO JNA EXCEPT
270 ; MUST BE SIGN BIT)
271 XP CMWB,200000 ;JOB TYPED A COMMAND WHICH NEEDS CORE
272 ; WHICH IS ON DISK, SET BY COMMAND DECODER
273 ; CLEARED WHEN JOB IN CORE AGAIN,
274 XP SHRSEG,200000 ;HIGH SEG IS SHARABLE (ALTHOUGH NAME MAY BE 0
275 ; IF IT HAS BEEN SUPERSEDED)
276 ; THIS BIT ALSO APPEARS IN SAME PLACE IN LH OF
277 ; OF JBTSGN FOR EACH USER TO INDICATE USFR IS USING A S
278 HARABLE
279 ; HIGH SEG (ALSO APPEARS IN LH OF AC ITEM WHEN
280 ; RH IS SEG NUMBER FOR A PARTICULAR JOB
281 XP JACCT,100000 ;PRIVILEGED SYSTEM CUSP IS BEING RUN WHICH CANNOT
282 ; BE STOPPED (E.G., LOGIN
; OR LOGOUT), PROTECT IT FROM CURIOUS EYES,
283 ; DISABLE CONTROL C, MADE IT ACT LIKE ALT-MODE
284 XP JNA,40000 ;THIS JOB NUMBER IS ASSIGNED(JOB INITIALIZED)
285 XP JERR,20000 ;A MONITOR DETECTED ERROR HAS OCCURRED
286 ; JOB CAN NOT CONTINUE
287 XP NSWP,10000 ;JOB OR HIGH SEG IS NOT TO BE SWAPPED(REALTIME OR DISPL
288 AY)
289 ; (CAN BE SHUFFLED OR NOT ACCORDING TO NSHF)
290 XP SHF,4000 ;MONITOR IS WAITING FOR DEVICES FOR THIS
291 ; JOB TO STOP AFTER CURRENT BUFFERFULL
292 ; SO JOB CAN BE SHUFFLED IN CORE OR SWAPPED OUT
293 ; IF JOB ONLY HAS LOW SEG
294 XP SWP,2000 ; 0 IF JOB IN CORE, 1 IF SWAPPED OUT OR ON WAY
295 ; IN OR OUT
296 ; SAME FOR LOW AND HIGH SEGMENTS
297 XP NSHF,1000 ;JOB IS NOT SHUFFLABLE
298 XP CLKR,400 ;JOB HAS A CLOCK REQUEST IN,
299 ; NEEDED SO ONLY ONE REQUEST PER JOB
300 XP STOPI0,SWP+CMWB+SHF ;FORCE JOB TO STOP TO EXECUTE
301 ; SWAP, COMMAND OR
302 ; SHUFFLE
303
304 ;BITS 10-14 USED TO INDICATE JOB IN WAIT FOR A SHARABLE DEVICE
305 ;0 MEANS JOB NOT WAITING FOR SHARABLE DEVICE
306 ;SEE SCHEDULER(CLKCSS) FOR DEFINITION OF WAIT CODES
307
308 XP JWSIZ,5 ;SIZE OF WAIT CODE
309 XP JWPOS,+014 ;RIGHT MOST BIT POS. OF WAIT CODE
310 XP WTMASK,370 ;MASK FOR CLEARING WAIT CODES
311
312 ;BITS 15-17 ARE NO LONGER SET BY LOGIN, THEY ARE MONITOR STATUS BITS
313
314 XP JLOG,4 ;JOB SUCCESSFULLY LOGGED IN
315 XP JRQ,2 ;JOB HAS CHANGED STATE AND MUST BE REQUEUED AT CLOCK
316

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317
318
319          XP JXPN,1          ; LEVEL BEFORE RESCHEDULING CAN TAKE PLACE
320                                     ; JOB MUST BE SWAPPED OUT BECAUSE IT IS EXPANDING SIZE
321                                     ; OF CORE AND THERE WASN'T ROOM IN CORE
322
323          ;BITS 9-17 ARE USED FOR ACCESS PRIVILEGERS BITS FOR SHARABLE HIGH SEGMENTS
324          ; SAME FORMAT AS ACCESS BITS FOR DISK
325
326          XP HSASIZ,*D9      ;SIZE OF HIGH SEG ACCESS BITS
327          XP HSAPOS,*D17    ;RIGHT MOST POSITION OF HIGH SEG ACCESS BITS
328          XP HSAMSK,*777    ;MASK TO CLEAR ACCESS PRIVILEGES
329          ;MASKS USED TO TEST STATUS CONDITIONS:
330
331          XP RUNABLE,RUN+JNA ;STATUS BIT PATTERN FOR JOB TO BE RUNABLE
332          XP RUNMSK,JLOG+CLKR+NSHF+JACCT+NSWP ;BITS WHICH DO NOT MATTER FOR RUNABILIT
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333           ;BITS IN JBTSWP TABLE
334           XP FRGSEG,400000           ;LH - 1 IF LOW OR HIGH SFG IS FRAGMENTED ON SWP DEV
335           XP SWPCLR,400000         ;RH - 1 IF JOB DATA AREA SHOULD BE CLEARD AFTER SWAP
336                                           ; IN. SET ON 140 RESTART SO NO DEVICES ASSIGNED
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337 ;VIRTUAL ADDRESSING SPACE DESCRIPTOR WORD (JBTSGN) ONE WORD FOR EACH JOB
338 ;THIS WORD APPEARS IN AC ITEM
339 ;LH BITS
340     XP SPYSEG,400000 ;THE HIGH SEG IS PHYSICAL CORE (SEE SPYUO)
341     ; MUST BE SIGN BIT SO TEST FOR JOB HAVING A
342     ; REAL HIGH SEG IS SKIPPJBTSGN(ITEM)
343     XP SHRSEG,SHRSEG ;THE HIGH SEG THIS JOB IS USING IS SHARABLE
344     ; THIS BIT ALSO APPEARS IN JBTSTS FOR HIGH SEGS
345     XP UWPOFF,100000 ;IF 1, USER-MODE WRITE PROTECT IS OFF FOR THIS JOB
346     XP MEDDLE,400000 ;IF 1, USER HAS MEDDLED WITH SHARABLE PROGRAM SUCH
347     ; THAT PROGRAM CANNOT TRUST ITSELF
348     ; TO TURN UWP OFF OR CHANGE HIGH SEG CORE ASSIGNMENT
349     ; MEDDLING MEANS:
350     ; 1, START N, OR D COMMAND
351     ; 2, RUN UO WITH GREATER THAN 1 STARTING
352     ; INCREMENT
353     ; 3, GETSEG UO
354     ; 4, HIGH SEG IS PHYSICAL CORE (SPY UO)
355     XP CORCNT,200000 ;#1, THE HIGH SEG IN CORE COUNT FOR THIS JOB
356     ; HAS BEEN INCREMENTED, IF 0 IT HAS NOT
357     ; SET AND CLEARED BY INCCNT AND DECCNT ROUTINES
358 ;RH IS HIGH SEG NUMBER (NUMBER GREATER THAN JOB MAX AND LESS THAN OR EQUAL TO JBTMAX)
359 ; OR IF SPYSEG IS SET, RH IS HIGHEST PHYSICAL ADR USER MAY SPY INTO
360
361 ;JOB PRIVILEGE BITS - JBTPRV TABLE
362 ;SET BY LOGIN FROM ACCT,SYS FILE AS MODIFIED BY CUSTOMER
363 ;RH RESERVED FOR SPECIAL CUSTOMER DEFINED PRIVILEGES(PLEASE START AT BIT 35)
364 ;LH RESERVED FOR DIGITAL STANDARD PRIVILEGES
365
366 ;BITS IN LEFT HALF
367     XP PVSPYM,1 ;JOB ALLOWED TO SPY AT MONITOR USING PEEK/SPY UOOS
368     XP PVSPYA,2 ;JOB ALLOWED TO SPY AT ALL OF CORE USING PEEK/SPY UOOS
369     XP PVTRPS,4 ;JOB ALLOWED TO USE TRPSET UO
370
371

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424
425

>

CONO PI,PION

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426
427
428 ;LIST OF INDEPENDENT MONITOR COMMAND FEATURES
429 ;THESE FEATURES CAN BE ELIMINATED FROM A SYSTEM BY
430 ;SETTING THE APPROPRIATE FTXXXX SYMBOL BELOW TO 0
431 ;AND REASSEMBLING THOSE ROUTINES IN WHICH CODE FOR THE
432 ;FEATURE APPEARS, THE ROUTINES AFFECTED BY EACH FEATURE
433 ;ARE LISTED BELOW, TO GUARANTEE THAT NO ROUTINES ARE
434 ;MISSED, FTXXXX IS DEFINED TO BE AN INTERNAL IN THOSE ROUTINES
435 ;IN WHICH IT IS USED IN CONDITIONAL ASSEMBLY, THUS THE
436 ;RELOCATING LOADER WILL DETECT MULTIPLY DEFINED GLOBALS
437 ;IF NOT ALL ROUTINES AFFECTED HAVE BEEN REASSEMBLED.
438 777777 777777 FTTIME=-1 ;TIME ACC
439 ; APPEARS IN APRSER,STUFF
440
441 777777 777777 FTATTACH=-1 ;ATTACH AND DETACH TTY TO JOB COMMANDS
442 ; APPEARS IN APRSER,SCNSER
443
444 777777 777777 FTTALK=-1 ;TALK TO TTYS COM.
445 ; APPEARS IN APRSER,SCNSER
446
447 777777 777777 FTEXAMINE=-1 ;EXAMINE AND DEPOSIT COMMANDS
448 ; APPEARS IN APRSER
449
450 777777 777777 FIREASSIGN=-1 ;REASSIGN COMMAND
451 ; APPEARS IN APRSER
452
453 777777 777777 FTTRPSET=-1 ;USER IO - TRPSET,TRPJEN UUOS AND OPCODE 100(PDP-10S ONLY)
454 ; APPEARS IN APRSER,STUFF,CLKCSS
455 ; THESE UUOS ARE SOON TO BE REPLACED BY SOME KNAVE-PROOF REAL TIME UUOS
456
457
458 777777 777777 FTSLEEP=-1 ;SLEEP UUO
459 ; APPEARS IN APRSER,STUFF
460
461 777777 777777 FTFINISH=-1 ;FINISH COMMAND
462 ; APPEARS IN APRSER
463
464 000000 FTCHECK=0 ;MONITOR CHECKSUMMING
465 ; APPEARS IN ALL FILES EXCEPT CHAN, NULL
466
467 000000 FTMONP=0 ;MONITOR WRITE PROTECTED BETWEEN 1000 AND 20000
468 ; APPEARS IN ALL FILES EXCEPT CHAN, NULL

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512           ;DEFINE THE QUEUES, QUANTUM RUNNING TIME IN JIFFIES, AND PRIORITY
513           ;PRIORITY GOES BACKWARD FROM LOW TO HIGH
514
515           DEFINE QUEUES
516           <
517             X RN,7 ;STRAIGHT RUN (LOWEST PRIORITY)(0=0)
518             X WS,6 ;IO WAIT SATISFIED
519             X TS,6 ;TTY IO WAIT SATISFIED
520             X ST,6 ;SYSTEM TAPE WAIT
521             IFN FTDISK,<
522               X AU,4 ;ALTER DISK UFD QUEUE
523               X MQ,4 ;MONITOR DISK QUEUE
524               X DA,4 ;DISK STORAGE ALLOCATION WAIT
525             >
526             X DT,4 ;DECTAPE CONTROL WAIT (UP TO 8 DRIVES)
527             X DC,4 ;DATA CONTROL (DC) WAIT - MAGTAPE AND DECTAPE
528             X MT,4 ;MAGTAPE CONTROL WAIT (UP TO 8 UNITS)
529           >
530
531           ;JOB STATUS CODES WHICH HAVE NO CORRESPONDING QUEUES
532           ;JOBS ARE UNRUNABLE WHEN IN THESE STATES
533
534           DEFINE CODES
535           <
536             X IOW, ;IO WAIT
537             X TIOW, ;TTY IO WAIT
538             X SLP, ;JOB SLEEPING
539             X NUL, ;JOB NUMBER NOT ASSIGNED
540             X STOP, ;STOP (CONTROL C)
541           >
542           XP STTYBF,20 ;SIZE OF TTY BUFFER
543           XP STTYB1,STTYBF+1 ;LENGTH+1
544
545           ASUPPRESS ;ELIMINATE ALL SYMBOLS NOT REFERENCED LATER
546           ; FROM THE SYMBOL TABLE LISTING
547           LIST
548           SUBTTL CONFIG - CONFIGURATION DEFINITION FILE OUTPUT BY MONGEN DIALOG
549
550           ;ANSWER THE FOLLOWING QUESTIONS WITH Y OR N OR A DECIMAL NUMBER
551
552           ;SHORT DIALOG?[N = LONGER QUESTIONS]
553           ;Y
554
555           ;10/30 SYSTEM TO BE BUILT?[N = 10/40 OR 10/50 SYSTEM]
556           ;N
557
558           ;10/40 SYSTEM TO BE BUILT?[N = ASSUME 10/50 SYSTEM]
559           ;N
560
561           XP SYS40N,0+
562
563
564

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565          XP SYS50N,1+
566          XP DSKN,1+
567          XP LOGINN,1+
568
569          ;RD10 (BURROUGHS) DISK?[ONE DISK TYPE FOR FILES,
570          ;SAME TYPE FOR SWAPPING OR ONE OTHER TYPE FOR SWAPPING]
571          ;Y
572
573          XP RD10N,1+
574
575          ;RD10 FOR SWAPPING?[N = CAN SWAP ON SOME OTHER TYPE]
576          ;Y
577
578          XP RDSWPN,1+
579
580          ;RP10 (MEMORFX) DISK PACKS?
581          ;N
582
583          XP RP10N,0+
584          XP RPSWPN,0+
585
586          ;RA10 (BRYANT) DISK?
587          ;N
588
589          XP RA10N,0+
590          XP RASWPN,0+
591
592          ;DPD (DATA PRODUCTS) DISK?
593          ;N
594
595          XP DPDN,0+
596          XP DPSWPN,0+
597
598          ;HOW MANY JOBS?[ATTACHED AND DETACHED, COUNTING NULL JOBS]
599          ;28
600          XP JOBN,34+
601
602          ;MAX SIZE OF CORE (IN K) FOR ANY SINGLE USER?
603          ;0 MEANS ALL OF CORE
604          ;0
605          XP COREN,0+
606
607          ;PDP-10 PROCESSOR?[N = PDP-6]
608          ;Y
609
610          XP PDP10N,1+
611
612          ;2 RELOCATION REG. SOFTWARE?[Y = MUST HAVE KT10A,
613          ;N = JUST 1 RELOC. REG.]
614          ;Y
615
616          XP KT10AN,1+
617
```

```
618 ;HOW MANY MORE SEGMENTS THAN JOBS?[0 UNLESS YOU
619 ;ANTICIPATE A LOT OF DORMANT SEGMENTS]
620 ;0
621 XP SEGN,0+
622
623 ;LOAD EXEC DDT?[N = ONLY IF LOADER HAS RUN OUT OF CORE BEFORE]
624 ;Y
625
626 XP DDTN,1+
627
628 ;LOAD LOCAL SYMBOLS?[N = ONLY IF LOADER HAS RUN OUT OF ROOM BEFORE]
629 ;Y
630
631
632 ;LOAD USER DDT?[BOTH CAN BE LOADED TOGETHER,
633 ;USE USER DDT FOR PATCHING UNDER TIME SHARING]
634 ;Y
635
636 XP UDDTN,1+
637
638 ;NAME OF THIS SYSTEM (24 CHARS OR LESS)?
639 DEFINE SYSNAM
640 < ASCIIZ \4S47 DEC PDP-10 #2\>
641
642 ;WHAT IS THE SERIAL NUMBER OF YOUR ARITHMETIC PROCESSOR?
643 ;2
644 XP APRSN,2+
645
646 ;NAME OF SYSTEM DEVICE?[DTA0 USUAL FOR 10/40 SYSTEM,
647 ;DSK USUAL FOR 10/50 SYSTEM]
648 DEFINE SYSDEV
649 < SIXBIT "DSK">
650 DEFINE SYSDAT
651 < ASCIIZ /6-3-69/>
652
653 ;DATA LINE SCANNER(DC10)?[N = WILL ASK FOR 680 OR 630]
654 ;Y
655
656 XP DLSN,1+
657 XP CCIN,0+
658 XP DCSN,0+
659
660 ;HIGHEST (OCTAL) LINE NUMBER?[USUALLY 7,17,27, ETC. FOR DC-10 OR 630
661 ;10, 20, 30 ETC. FOR 680 (TO ALLOW FOR PDP-8 CTY)]
662 ;27
663 XP HGHLIN,27+
664
665 ;FULL DUPLEX TTY SOFTWARE?[N = OLD HALF DUPLEX SOFTWARE]
666 ;Y
667
668 XP FULLN,1+
669 XP TABSN,0+
670
```

```
671 ;COMMON,MAC ALREADY EDITED FOR YOUR TTY CONFIGURATION?  
672 ;[N = WILL ALLOW YOU TO DEFINE NOW]  
673 ;Y  
674  
675 XP EDITN,1+  
676  
677 ;PT READER?  
678 ;Y  
679  
680 000001 PTRN=1 ;NOT GLOBAL BECAUSE OF DSKSER USE  
681  
682 ;PT PUNCH?  
683 ;Y  
684  
685 XP PTPN,1+  
686  
687 ;PLOTTER?  
688 ;Y  
689  
690 XP PLTN,1+  
691  
692 ;HOW MANY LINE PRINTERS?  
693 ;1  
694 XP LPTN,1+  
695  
696 ;CARD READER?  
697 ;Y  
698  
699  
700 ;CR10?[Y = CR10A TOO, N IF PDP-6 CARD READER]  
701 ;Y  
702  
703 XP CDRN,1+  
704 XP CR10N,1+  
705  
706 ;CARD PUNCH?  
707 ;N  
708  
709 XP CDPN,0+  
710  
711 ;DISPLAY?  
712 ;N  
713  
714 XP DISN,0+  
715 XP PENN,0+  
716 XP T340N,0+  
717  
718 ;HOW MANY DECTAPES?  
719 ;8  
720  
721 ;TD10 DECTAPE CONTROL?[N = PDP-6 DECTAPE]  
722 ;Y  
723
```

```

724          XP DTAN,10*
725          XP DTCN,0*
726
727          ;HOW MANY MAGTAPES?
728          ;3
729
730          ;TM-10A CONTROL?[N = WILL ASK TM-10B, THEN PDP-6 MAGTAPES]
731          ;Y
732
733          XP MTAN,3*
734          XP MTBN,0*
735          XP MTCN,0*
736
737          ;HOW MANY PSEUDO-TTY'S?[EACH CONCURRENT BATCH NEEDS ONE]
738          ;2
739          XP PTYN,2*
740          ;TYPE "SYMBOL,VALUE" (VALUE IN DECIMAL)[FOR ANY SYMBOLS
741          ;TO BE DEFINED. TYPE EXTRA CARRIAGE RETURN WHEN THROUGH.]
742          RADIX 10

743          RADIX 8
744          ;TYPE "DEVICE-MNEMONIC,CHANNEL"FOR SPECIAL DEVICES
745          ;[WITH NEITHER CHANNEL SAVE ROUTINE NOR DEVICE DATA BLOCK,
746          ;"DEVICE" MUST BE 5 CHARACTERS OR LESS,
747          ;TYPE EXTRA CARRIAGE RETURN WHEN THROUGH.]
748          DEFINE SPCINT
749          <
750          >;TYPE "DEVICE-MNEMONIC,CHANNEL,NO.-OF-DEVICES"
751          ;[FOR SPECIAL DEVICE WITH CHANNEL SAVE ROUTINES AND DEVICE DATA BLOCKS
752          ;"DEVICE" MUST BE 5 CHARS, OR LESS,
753          ;TYPE EXTRA CARRIAGE RETURN WHEN THROUGH.]
754          DEFINE SPCSAV
755          <
756          >;MONGEN FINISHED
757          ;NEXT YOU MUST ASSEMBLE COMMON WITH MACRO
758          ;THEN LOAD IT AND REST OF MONITOR WITH LOADER
759          ;AND FINALLY SAVE IT WITH MONITOR COMMAND SAVE
760
761          ;[TO ASSEMBLE COMMON, TYPE
762          ;R MACRO
763          ;DSK:COMMON,LPT:DSK:SYS,CONFIG,COMMON
764          ;TO LOAD NEW MONITOR, TYPE
765          ;R LOADER
766          ;/S
767          ;DSK:COMMON,DSK:SYS50/L
768          ;LPT:~/W/D/A/M/P/G
769          ;TO SAVE MONITOR, TYPE
770          ;SAVE DSK MONITOR
771          ;]
772          ;          ;END OF CONFIGURATION DEFINITION
  
```

773 TITLE COMMON - MONITOR COMMON DATA AREA AND CONFIGURATION DEFINITION - V437
774 SUBTTL PART 3 COMMON,MAC - T, HASTINGS/RCC TS 03 JUN 69
775 XP VCOMMN,437+
776 ;PUT VERSION NUMBER IN GLOB AND LOADER STORAGE MAP
777
778 REPEAT 0,<
779
780 ;THE COMMON SUBPROGRAM CONSISTS OF 3 FILES ASSEMBLED TOGETHER AS ONE SUBPROGRAM:
781 1. S.MAC - THE USUAL SYSTEM SYMBOL DEFINITIONS ASSEMBLED WITH EVERY MONITOR SUBPROGRAM
782
783 2. CONFIG.MAC - THE CONFIGURATION DEFINITION FILE GENERATED BY THE
784 CONFIGURATION CONFIG PROGRAM OR BY AND EDITOR(SEE ABOVE)
785 3. COMMON.MAC - THE REST OF THIS PROGRAM WHICH IS THE SAME
786 SOURCE FOR ALL CONFIGURATIONS,
787 HOWEVER, THE ASSEMBLIES ARE CONDITIONED BY MACROS DEFINED IN 2,
788 THE FOLLOWING SYMBOLS AND TABLES ARE GENERATED:
789
790 A. MONITOR STARTUP LOCATIONS(140-147), HENCE LOAD THIS FIRST.
791 B. JOB TABLES - LENGTH DEPENDENT ON MAX, NO. OF JOBS ALLOWED
792 C. ALL VARIABLE STORAGE NOT ASSOCIATED WITH A PARTICULAR DEVICE
793 D. COMMON SUBROUTINE RETURNS
794 E. COMMON BYTE POINTERS
795 F. TABLE OF SERVICE ROUTINE INTERRUPT LOCS TO BE LINKED BY ONCE ONLY CODE
796 G. TABLE OF DEVICE DATA BLOCK ADDRESSES AND NUMBER TO BE USED BY ONCE TO LINK
797 THEM TOGETHER AND GENERATE MULTIPLE COPIES,
798 H. ASSIGNMENT OF PI CHANNELS
799 I. PI CHANNEL SAVE AND RESTORE ROUTINES
800 J. UUD TRAP LOCATIONS 40/41, 60/61
801 K. SYSTEM CRASH STOP CONI'S.
802 >

```

803 ;THE FOLLOWING STANDARD SYMBOLS CAN BE SUPERCEDED BY A CUSTOMER
804 ;HAVING PREVIOUSLY DEFINED THEM ON THE CONFIG,MAC FILE USING
805 ;MONGEN PROGRAM
806
807 IFNDEF LISTSN, <LISTSN==1> ;FORCE S,MAC TO BE LISTED WITH COMMON FILE ONLY
808 ;UNLESS 'LISTSN' DEFINED TO BE 0 WITH MONGEN
809 IFNDEF APRSN,<APRSN==0> ;SERIAL NUMBER OF APR
810
811 ;STANDARD MAG TAPE DENSITY(556 BPI),PARITY(ODD-BINARY)
812 INTERN STDENS ;STANDARD MAG TAPE DENSITY(556 BPI),PARITY(ODD-BINARY)
813
814 IFNDEF STDENS,<STDENS==2> ;STAND,== BINARY AT 556 BPI
815 ;STDENS=D*P WHERE D AND P ARE:
816 ;D==1(200 BPI);D==2(556 BPI);D==3(800 BPI)
817 ;P==0(ODD-BINARY PARITY);P==4(EVEN-BCD PARITY)
818 INTERN JIFSEC ;NO. OF CLOCK TICKS(JIFFIES) PER SECOND
819 IFNDEF JIFSEC,<JIFSEC==060> ;STAND,==60 JIFFIES PER SEC.
820 XP HNGSEC,2*JIFSEC*
821
822 INTERN DTRY ;NO. OF TIMES TO TRY ON DECTAPE ERRORS
823 IFNDEF DTRY,<DTRY==4> ;STAND,==4 TRIES
824
825 ) INTERN MTSIZ ;SIZE OF MAGTAE RECORDS(DATA WORDS IN BUFFER+1
826 IFNDEF MTSIZ,<MTSIZ==0128> ;STAND,==128 WORDS PER BUFFER
827
828 INTERN LPTSIZ ;SIZE OF LPT BUFFER(NO. OF DATA WORDS+2)
829 IFNDEF LPTSIZ,<LPTSIZ==024+2> ;STAND,==24 WORDS PER LPT BUFFER
830
831 INTERN BLKQNT ;MAX. NO OF CONSECUTIVE DECTAPE BLOCK SEARCHED
832 BEFORE
833 ; RESCHEDULING IF ANOTHER JOB IS WAITING TO USE CONTROL
834 IFNDEF BLKQNT,<BLKQNT==050> ;STAND,==50 DT BLOCKS SEARCHED(3 SECS,)
835
836 INTERN NSPMEM ;NO. OF NANO-SECONDS PER MEMORY CYCLE
837 IFNDEF NSPMEM,<NSPMEM==01760> ;STAND,==1760 NANO-SECONDS PER MEMORY CYCLE
838
839 INTERN JIFSC2,JIFMIN,WDPJIF
840 ;HALF NO. OF JIFFIES IN A SEC (FOR ROUNDING)
841 ;NO. OF JIFFIES PER MINUTE
842 ;NO. OF WORDS MOVED
843 ;DISK DDB AND ACCESS ENTRY
844 ; ALLOCATION REQUIREMENTS IN FREE CORE
845 ;USED TO EXPAND SIZE OF MONITOR AT ONCE ONLY TIME
846 ;32 WORDS/DDB AND 4 WORDS/ACCESS ENTRY = 36 WORDS
847 ;ASSUME 1,5 OPEN FILES/JOB
848
849
850
851
852 INTERN LOGSIZ
853 IFNDEF LOGSIZ, <LOGSIZ==2> ;MINSIZ OF VIRTUAL CORE LEFT
854 ;AND STILL ALLOW LOGIN, MUST BE
855 ;AT LEAST AS BIG AS LOGIN CUSP IN K.

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COMMON - MONITOR COMMON DATA AREA AND CONFIGURATION DEFINITION - V437 MACRO,V36 19:02 4-JUN-69 PAGE 15-1
PART 3 COMMON,MAC - T, HASTINGS/RCC TS 03 JUN 69

856

:(STANDARD = 2K)

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857 ;SYSTEM INITIALIZATION DISPATCH TABLE, STARTING AT LOCATION 140
858 ;THIS SUBROUTINE MUST BE LOADED FIRST
859 ;ROUTINE "ONCE" IS ONCE ONLY CODE, IT CONVERTS THE DATE
860 ;AND SETS UP IO SERVICE CHAIN,
861
862 EXTERN SYSINI,SYSMAX,NULJOB,ONCE,JSR2
863 INTERN SYSDSP,SYSDDT
864
865 ;ORIGIN OF COMMON IS 140
866 000140 COMORG=140 ;MAKE LISTING BE SAME AS LOADING SO IT WILL BE EASY
867 ;TO EXAMINE SYSTEM LOCATIONS WITH CONSOLF SWITCHES
868 ;WITHOUT NEEDING A STORAGE MAP
869
870 000140 254000 000000 SYSDSP: JRST SYSINI ;INITIALIZE SYSTEM VARIABLES ONCE ONLY
871 000141 SYSDDT: ;EXEC DDT TO BE LOADED?
872 IFG DDTN,<
873 EXTERN PATSYM
874 000141 254000 000000 JRST PATSYM ;YES, EXEC DDT(PATCH SYMBOL TABLE POINTER FIRST)
875
876 >
877 IFE DDTN,<
878 HALT , ;NO, EXEC DDT
879 >
880 000142 254000 000000 JRST SYSMAX ;MAKE NEW SYSTEM
881 000143 254000 000140 JRST SYSINI ;INITIALIZE SYSTEM VARIABLES ALWAYS
882 000144 254570 001547 JEN NULJB1 ;ERROR RECOVERY
883 000145 264000 000000 JSR ONCE ;DO ONCE ONLY CODE OVER AGAIN
884 000146 254000 000000 JRST JSR2 ;BYPASS ONCE ONLY OPERATOR DIALOGUE
885 ;(IN CASE CONSOLE TTY DOWN)
886 000147 254000 001521 SYSCRS: JRST SYSTOP ;STOP MONITOR IN CASE OF DISASTER
    
```



```

372          ; SYSTEM MACROS
373
374          ;MACRO TO PREVENT SCHEDULING, USED AT U00 LEVEL WHEN A
375          ;REENTRANT ROUTINE IS CHANGING COMMON DATA NOT YET
376          ;ASSIGNED TO A PARTICULAR JOB
377          DEFINE NOSCHED
378          <>
379
380          ;MACRO TO ALLOW SCHEDULING ONCE MORE
381
382          DEFINE SCHEDULE
383          <>
384
385          ;MACRO TO PREVENT CORE SHUFFLING, USED AT U00 LEVEL WHEN
386          ;A ROUTINE SETS UP AN ABSOLUTE USER ADDRESS IN AN AC
387          ;OTHER THAN PDP,PROG, OR JDAT, THE MAIN EXAMPLE IS A BLT
388          ;FROM EXEC TO USER OR USER TO EXEC.
389
390          DEFINE NOSHUFF
391          <>
392
393          ;MACRO TO ALLOW SHUFFLING ONCE MORE
394
395          DEFINE SHUFFLE
396          <>
397
398          ;MACRO TO TURN OFF ALL PI CHANNELS EXCEPT DATA CONTROL ONCE
399
400          DEFINE DISABLE(A)
401          <EXTERNAL CHNOFF
402          CONI PI,A
403          CONO PI,CHNOFF>
404
405          ;MACRO TO TURN THEN BACK ON
406
407          DEFINE ENABLE(A)
408          <EXTERNAL CHNON
409          ANDGMI A,CHNOFF ;DO NOT TOUCH DC CHANNELS
410          TRO A,2000      ;SET TO TRUN SELECTED CHANNEL ON
411          CONO PI,(A)
412          >
413
414
415
416          ;MACRO TO START A DEVICE FROM U00 LEVEL
417          ;TAC:=XWD DEVINT FLAGS,CONO ARGUMENTS
418
419          DEFINE STARTDV(A)
420          <EXTERNAL PIOFF,PION
421          CONO PI,PIOFF
422          CONO A,(TAC)
423          HLRM TAC,A'CON

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```

887           ;SYSTEM DATA STORAGE
888
889           ;SPECIAL ABSOLUTE LOCATIONS IN LOWER MEMORY
890
891           INTERN SYSSNP,FCRTY,NULDAT,SIXTY,NULPDL,ERRPDL,KT10A,RCXIOC,RCXCOW,DDTSYM
892           INTERN T30SYM,RAXIOC,RAXCCW,CRSHWD
893
894           000026      RAXIOC=26           ;XWD 0, ADDRESS FOR RA10 DATA CHANNEL
895           000027      RAXCCW=RAXIOC+1     ; MUST BE EVEN AND ,LT, 777
896           000030      CRSHWD=30         ;XWD CONTROL WORD ADDRESS, DATA ADDRESS
897           ; STORED ON CHANNEL TERMINATION
898           ; NORMALLY THIS WORD WILL BE 0. IF IT IS
899           ; ACCIDENTALLY OR PURPOSEFULLY OVERWRITTEN
900           ; THE MONITOR WILL ATTEMPT TO SAVE THE
901           ; FAC'S AND THE STATE OF ALL DEVICES,
902           ; [CA LA 147 RESTART]
903           000033      KT10A=33          ; COPY OF CONTENTS OF RELOCATION AND PROTECTION
904           ; DONE BY DTATO APR
905           ; NEEDED BECAUSE KT10A MOD DOES NOT COME WITH
906           ; LIGHTS FOR 2ND REG.
907           000034      RCXIOC=34         ; INITIAL CONTROL WORD FOR DATA CHANNEL
908           ; (TRANSFERS CHANNE TO SEQUENCE OF 10WD'S IN DSKINT)
909           ; MUST BE IN EVEN LOC IN FIRST 1K OF MEMORY
910           000035      RCXCOW=RCXIOC+1    ; CHANNEL STORES FINAL CONTROL WORD
911           ; HERE ON TERMINATION
912           000037      SYSSNP=37         ; WHEN DEPOSITED NON-ZERO, PRINTS SNAP SHOT OF SYSTEM
913           ; ON LPT SEE LPSNAP SUBPROGRAM
914           000036      DDTSYM=36         ; CONTAINS ADR, OF POINTER TO EXEC DDT SYMBOL TABLE
915           000040      FORTY=40          ; PLACE WHERE UUOS ARE STORED ON TRAP
916           000042      NULDAT=42        ; JOB DATA AREA FOR NULL JOB (USES EXEC
917           ; 62 THRU 101 20-36 FOR DUMP ACS)
918           ; AND ABOVE FOR PUSHDOWN LIST
919           000060      SIXTY=60          ; PLACE WHERE UNIMPLEMENTED INSTR. ARE STORED ON
920           ; TRAP (POP-10 ONLY)
921           000101      NULPDL=101        ; PUSH DOWN LIST FOR NULL JOB
922           ; USES EXEC LOCS 102 THRU 137
923           ; USED FOR RESCHEDULING WHEN CURRENT JOB
924           ; GOES INTO IO WAIT
925           000120      ERRPDL=120        ; PUSH DOWN LIST FOR ERROR IN NULL JOB
926           000131      T30SYM=131       ; PLACE IN 10/30 JOB DATA AREA WHERE SYMBOL TABLE
927           ; POINTER IS STORED BY REGULAR 10/30 LOADER
928           ; (MOVED TO DDTSYM BY ONCE)
    
```

```

929                ;PROTECTED JOB DATA STORAGE AND OTHER LOCATIONS SET EACH TIME
930                ;A NEW JOB IS RUN(SEE APRSER-CLKINT)
931                INTERN SYSBEG,SYSBG1,SYSEND
932
933 000150          SYSBEG:                ;FIRST LOCATION CLEARED ON 143 RESTART(SFE SYSINI)
934                XP SYSBG1,SYSBEG+1*
935
936                INTERN JOB,JOBADR,JOPDAT,USRREL,USRSAV
937
938 000150 000000 000000 JOB: 0          ;CURRENT JOB RUNNING AT UO LEVEL
939 000151          JOBDAT:                ;LOC OF CURRENT JOBS JOB DATA AREA
940                ; SAME AS JBTDAT AND AC JDAT
941 000151 000000 000000 JOBADR: 0      ;XWD PROTECTION,RELOCATION FOR CURRENT JOB
942                ;SAME AS JBTADR(JOB) AND AC PROG
943 000152 000000 000000 USRREL: 0      ;LH=0, RH CONTAINS CONTENTS OF PROTECTION REGISTER
944                ;LOW ORDER BITS=1777, IE THIS IS HIGHEST REL. LOC
945                ;IN CURRENT USER AREA(USED FOR ADDRESS CHECKING)
946 000153 000000 000000 USRSAV: 0     ;TEMPORARY FOR UO HANDLER(IMPURE ROUTINE!)
947
948                ;LOCATIONS COPIED FROM JOB DATA AREA INTO MONITOR WHEN A JOB RUNS
949                ;THIS PREVENTS THE USER FROM CLOBBERING THEM AND MAKES IT
950                ;EASIER FOR THE MONITOR TO LOCATE THESE QUANTITIES WHEN IT
951                ;NEEDS TO FOR THE CURRENT JOB
952                ;CONTENTS ARE COPIED BACK WHEN JOB BECOMES INACTIVE (SEE CLOCK)
953                ;COMPARE WITH JOB DATA AREA (SEE JOBDAT)
954                ;THE FOLLOWING LOCATION MUST BE IN SAME ORDER AS JOBDAT
955
956                INTERN USRPRT,USRPR1,USRPC,USRDDT,USRHCU,USRSAV,USRJDA,USRLO,USRLO1,USRHI
957
958 000154          USRPRT:                ;FIRST LOC. OF PROTECTED JOB DATA
959                000155 USRPR1==USRPR1+1 ;FIRST LOC.+1
960
961 000154 000000 000000 USRHCU: 0      ;HIGHEST USER IO CHANNEL IN USE
962                ;0 MEANS EITHER NONE OR CHAN. 0 IN USE
963                ;LH=-1 DURING GET OF LOW OR HIGH SEG OR SAVE OF HIGH SE
964                G
965                ;SETREL ROUTINE DOESN'T STORE IN JOBHRL(115) WHEN NEG.
966
967                ;LH=-2 DURING SAVE OF LOW SEG AS FLAG THAT CORE
968                ; IS COMPRESSED
969                ;ONLY CHAN. ASSIGNMENTS IN USE ARE COPIED INTO
970                ;MONITOR WHEN JOB RUNS
971 000155 000000 000000 USRPC: 0       ;JOB PC WHEN SCHEDULER IS CALLED
972 000156 000000 000000 USRDDT: 0     ;RH==STARTING ADR. OF USER DDT,LH UNUSED
973 000157          USRJDA: BLOCK 20    ;RH==JOB DEVICE ASSIGNMENTS (DEVICE DATA
974                ; BLOCK ADDRESSES)
975                ; LH==UOOS DONE SO FAR FOR THIS CHANNEL(SEE SYSPAR)
976                ; 0 MEANS NO DEVICE INITIALIZED ON THIS CHANNEL
977                000157 USRLO==USRJDA ;FIRST LOC CLEARED BY SETUSR ROUTINE
978                ;ON A CALL [SIXBIT /RESET/]
979                ;ALSO CLEARS USRHCU
980                000160 USRLO1==USRLO+1 ;FIRST LOC+1
981                000176 USRHI==,-1    ;LAST LOC CLEARED BY SETUSR ROUT.
    
```

```

982
983          ;OTHER SYSTEM DATA STORAGE
984
985          INTERN COMCNT,CLKFLG,TIMEF,APRERR,APRPC,SCHEDF
986          INTERN CORLST,CORTAL,HOLEF,SHFWAT
987          INTERN FTTRPSET,FTSLEEP,FTTIME,FTSWAP,FT2REL,FTDISK
988          INTERN HNGTIM,CIPWT,CIPWTM,NULERR,POTLST
989
990 000177 000000 000000 COMCNT: 0          ;NUMBER OF COMMANDS TYPED-IN BUT NOT DECODED
991                                          ;SET BY SCNSER, DECREMENTED BY COMCON
992 000200 000000 000000 HNGTIM: 0          ;HUNG DEVICE TIME COUNT CHECK FOR HUNG I/O
993                                          ;DEVICES WHEN THIS GOES TO ZERO (ONCE A SECOND)
994 000201 000000 000000 CLKFLG: 0          ;NON-ZERO WHEN CLK INTERRUPT FORCED FOR ANY REASON
995 000202 000000 000000 TIMEF: 0          ;NON-ZERO FOR CLOCK INTERRUPT ON APR
996                                          ;SET BY APRSER, TESTED AND CLEARED BY CLK ROUTINE
997 000203 000000 000000 APRERR: 0          ;APR ERROR BITS ON NON-EX MEM, ETC.
998                                          ;SET BY APRSER, CLEARED BY CLK ROUTINE(CLOCK)
999 000204 000000 000000 APRPC: 0          ;IPC WHEN APR ERROR DETECTED
1000 000205 000000 000000 SCHEMF: 0          ;FORCED RESCHEDULING FLAG FOR CLK ROUTINE
1001                                          ;USED TO FORCE RESCHEDULING WHEN JOB IS IN EXEC MODE
1002 000206 000000 000000 NULERR: 0          ;SET NON-ZERO IF MONITOR DETECTS ERROR WHILE
1003                                          ;A NULL JOB IS RUNNING
1004 000207 000000 000000 POTLST: 0          ;-1 WHEN SCHEDULER SEES THAT THERE ARE
1005                                          ;JOBS WHICH ARE POTENTIALLY RUNABLE BUT
1006                                          ;HAS TO RUN NULL JOB.
1007                                          ;0 WHEN IT FINDS A REAL JOB TO
1008                                          ;RUN OR NULL JOB IS ONLY JOB WHICH WANTS
1009                                          ;TO RUN, 'LSTWRD' IS INCREMENTED EVERY JIFFY
1010                                          ;IF THIS FLAG IS -1 AND PREVIOUS JOB WAS NULL JOB
1011
1012          IFN FTTRPSET,<
1013          INTERN STOPTS
1013 000210 000000 000000 STOPTS: 0          ;STOP TIME SHARING OTHER USERS BECAUSE JOB 1 DID
1014                                          ;A TRPSET UUU WITH NON-ZERO AC(IE SET LOWER CORE
1015                                          ;PI TRAP LOCATION, ALSO STOP CORE SHUFFLING
1016          >
1017          SLJOBN=2
1018          IFN FTSLEEP,<SLJOBN=JOBN>
1019 000211 000034 CIPWT: 0          ;NO. OF JOBS IF NO SLEEP FEATURE
1020                                          ;LEAVE ONE ENTRY PER JOB
1021          BLOCK SLJOBN+3
1022                                          ;CLOCK REQUEST QUEUE
1023                                          ;LH-MONITOR ADDRESS TO PUSHJ TO AT CLOCK LEVEL
1024                                          ;WHEN BITS 24-35 COUNT DOWN TO ZERO
1025                                          ;BITS 18-23 ARE DATA SET IN AC TAC WHEN PUSHJ DONE
1026                                          ;BITS 24-35 ARE NO. OF CLK TICKS LEFT TO GO
1027                                          ;FIRST LOC-1 OF CLOCK QUEUE
1028
1029          CIPWTM=CIPWT-1
    
```



```

1075          ;DATA LOCATIONS PRESENT ONLY IN SWAPPING SYSTEMS
1076
1077          IFG SYS50N,<          ;SWAPPING SYSTEM?
1078          INTERN SWPTBL,SWPML,BIGHOL,FINISH,FORCE,FIT,SWPERC,VIRTUAL
1079          INTERN FULCNT,MAXSIZ,MAXJBN,SUMCOR
1080 000273      SWPTBL:          ;FIRST LOCATION OF MONITOR DATA STORAGE
1081          ; RETURNED BY GETTAB UOO(THESE LOCATIONS
1082          ; PRESENT ONLY IN SWAP SYSTEMS)
1083          ; OCTAL NOS. IN ( ) CORRESPOND TO GETTAB ARG
1084 000273 000000 000000 BIGHOL: ? ;(0)CURRENT BIGGEST HOLE IN CORE (1K BLOCKS)
1085 000274 000000 000000 FINISH: ? ;(1)+JOBNO OF JOB BEING SWAPPED IN,
1086          ;-JOBNO OF JOB BEING SWAPPED OUT
1087 000275 000000 000000 FORCE: 0 ;(2)JOBNO BEING FORCED TO SWAP OUT
1088 000276 000000 000000 FIT: 0 ;(3)JOBNO WAITING TO BE FITTED INTO CORE
1089 000277 000000 000000 VIRTUAL: ? ;(4)NO. OF FREE 1K BLOCKS OF SWAPPING SPACE LEFT
1090          ; (COUNTING DORMANT SEGMENTS AS IF FREE).
1091          ; PRINTED WITH CORE COMMAND(NO ARG) OR ERROR
1092          ; USUALLY THE SAME AS THE AMOUNT OF VIRTUAL CORE
1093          ; LEFT IN SYSTEM, EXCEPT WHILE R,RUN,KJOB,GET
1094          ; COMMAND ARE WAITING TO BE SWAPPED IN, BECAUSE
1095          ; THE OLD DISK SPACE HAS NOT BEEN RETURNED YET,
1096          ; BUT VIRTUAL CORE IS ONLY 140 WORDS FOR SWAPIN
1097 000300 000000 000000 SWPERC: 2 ;(5)LH= NO. OF SWAPPER READ OR WRITE FAILURES
1098          ; RH= ERROR BITS (BITS 18-21) + NO. OF K OF
1099          ; DISCARDED SWAPPING SPACE
1100
1101
1102
1103          ;INSERT NEW LOCATIONS HERE WHICH ARE OF INTEREST
1104          ; TO USER PROGS IN SWAPPING SYSTEMS
1105 005000 SWPML=<,-SWPTBL-1>B26 ;MAX. ENTRY FOR GETTAB SHIFTED LEFT 9
    
```

```

1106                ;MORE SWAPPING SYSTEM LOCATIONS (NOT RETURNED BY GETTAB)
1107
1108 000301 000000 000000 FULCNT: 0                ;PRINT DISK IS FULL EVERY 30 SECONDS
1109 000302 000000 000000 MAXSIZ: 0                ;SIZE OF LARGEST JOB WHICH MIGHT BE SWAPPED OUT
1110 000303 000000 000000 MAXJBN: 0                ;NUMBER OF THAT JOB
1111                SUMCOR: 0                ;TEMP USED BY SWAPPER FOR SUM OF CORE NEEDED FOR SWAP I
1112 000304 000000 000000 N
1113                IFN FT2REL,<
1114                INTERN SWPIN,SWPOUT
1115 000305 000000 000000 SWPIN: 0                ;JOB NO. BEING SWAPPED IN IF IT HAS A HIGH SEG
1116                ; USED TO REMEMBER THE JOB NUMRER DURING HIGH SEG SWAP
1117
1118 000306 000000 000000 SWPOUT: 0                ;JOB NO. BEING SWAPPED OUT IF IT HAS A HIGH SEG
1119                ; USED TO REMEMBER THE JOB NUMRER DURING HIGH SEG SWAP
1120
1121                >
1122                INTERN FTTRACK
1123                IFN FTTRACK,<
1124                INTERN LASOUT,LASIN

1125
1126                LASOUT: 0                ;LAST JOB OR HIGH SEG SWAPPED OUT
1127                LASIN: 0                ;LAST JOB OR HIGH SEG SWAPPED IN
1128                ; ABOVE TWO FOR DEBUGGING ONLY
1129                >
1130                >
1131
1132                ;DEFINE BLOCK FOR BIT TABLE DENOTING 4, WORD BLOCKS AVAILABLE (=0), IN USE(=1)
1133                ; USE MULTIPLES OF 4*36, WORDS SO THE TABLE WILL HAVE A MULTIPLE OF 36, BITS
1134                ; ADD 7 WORDS TO ACCOMODATE A POSSIBLE 1K BEYOND MINCOR AMOUNT
1135
1136                IFG DSKN, <
1137                INTERNAL DDBTAB,MINCOR
1138
1139 000307                DDBTAB: BLOCK <MINCOR/+D144>+1+7
1140                >
    
```

```

1141 ;MONITOR TABLES WITH ONE ENTRY PER JOB
1142
1143 INTERN JBTS,JBTD,JBTDAT,JBTDAT,JBTDAT,JBTDAT
1144 INTERN JOBN,JOBN,JOBN,MJOBN,JOBN,JOBN,JOBN,JOBN,JOBN,JOBN
1145 INTERN FTIME,FTIME,FTIME,FTIME,FTIME,FTIME,FTIME,FTIME,FTIME,FTIME
1146
1147 000033 JOBN=JOBN-1 ;MAX, LEGAL JOB NUMBER
1148 033000 JOBN=<JOBN>B26 ;HIGHEST JOB NO,SHIFTED LEFT 9(FOR GETTAB UO)
1149 777777 MJOBN=-JOBN ;NEG, NOS, OF JOBS(COUNTING NULL JOB)
1150 000034 IFG KT10AN,<SEGN=JOBN+SEGN> ;IF ANY HIGH SEGMENTS,
1151 ; MUST HAVE AT LEAST AS MANY AS JOBS
1152 000067 JBTDAT=JOBN+SEGN-1 ;HIGHEST INDEX IN JBTDAT
1153 067000 JBTDAT=<JBTDAT>B26 ;HIGHEST JBTDAT ENTRY SHIFTED LEFT 9(FOR GETTAB UO)
1154 000331 JBTS: BLOCK JOBN+SEGN ;JOB AND HIGH SEG STATUS WORD
1155 ; LH=STATUS BITS(SEE S,MAC FOR DESC,)
1156 ; RH=QUANTUM RUN TIME LEFT(SEE CLKCSS) FOR LOW SEGS
1157 ; RH=IN CORE COUNT FOR HIGH SEGS
1158 000421 JBTD: BLOCK JOBN+SEGN ;JOB AND HIGH SEG CORE ASSIGNMENT
1159 ; LH=PROTECTION,(LENGTH-1)RH=RELOCATION
1160 ; (ABS, LOC, IN CORE)
1161 000422 JBTD1=JBTD+1 ;ADR, OF JOB 1(USED BY SYSMAC)
1162 000421 JBTDAT=JBTD ;RH=ADDRESS OF JOB DATA AREA
1163 ;SAME AS JBTD(JDAT=PROG)
1164
1165 INTERN JBTSN
1166 000511 JBTSN: IFG SEGN, <
1167 000511 BLOCK JOBN
1168 ;SEGMENT NUMBER OF HIGH SEGMENT THIS JOB
1169 ; IS USING IN CORE OR DISK
1170 ; 0 MEANS JOB DOES NOT HAVE HIGH SEG
1171 ; LH=USER DEPENDENT HIGH SEG STATUS BITS
1172 ; (SEE S,MAC)
1173 ; LH SYMBOL FOR GETTAB UO
1174 >
1175 IF SEGN, <
1176 0
1177 XP ITMSGN,JOBN
1178 ;LH SYMBOL FOR GETTAB UO
1179 ;SO THAT JBTSN IS UNDEFINED
1180 ;I.E. MAKE INDEXING BY ITEM BE 0
1181 ; BUT ALLOW REFERENCES UP TO JOBN
1182 >
1183 IFG DSKN,<
1184 000545 JBTDIR: INTERN PRJPRG,JBTDIR ;DISK SYSTEM?
1185 ;HIGH SEGMENT DIRECTORY NAME(DSK) OR PHYSICAL
1186 ; DEVICE NAME(DTA,MTA)
1187 000545 PRJPRG: BLOCK JOBN+SEGN ;XWD PROJECT NO.,PROGRAMMER NO.
1188 >
1189 IF DSKN,<IFG SEGN,<
1190 INTERN JBTDIR ;REENTRANT MONITOR WITHOUT DISK?
1191 JBTDIR=-JOBN ;INDEX BY HIGH SEG NUMBER
1192 >> BLOCK SEGN ;HIGH SEGMENT PHYSICAL DEVICE NAME(DTA,MTA)
1193 000635 RTIME: IFN FTIME,<
INTERN RTIME,TIME
BLOCK JOBN ;TOT, RUN TIME SINCE LAST IJOB OR RUNTIME
    
```


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1194 000671
1195

TTIME: BLOCK JOBN
>

!TOT. RUN TIME SINCE LAST IJOB

1196
1197
1198 000725
1199
1200
1201
1202

IFG SYS50N,<
INTERN JBTSWP,JBTKHK
JBTSWP: BLOCK JORN+SEGV

JSWAPPING SYSTEM?
;LH:==PROTECT TIME WHILE JOB IS IN CORE,
; DISK ADDRESS WHILE SWAPPED OUT
; BITS18-26:==OUTCORE IMAGE SIZE
; BITS27-35:==INCORE IMAGE SIZE
; FOR HIGH SEG, LH ALWAYS DISK ADDRESS

```

1203 001015          JBTCHK: BLOCK JOBN+SEGN          ;CHECK SUM FOR SWAPPED OUT JOB DATA AREA OR
1204                                     ; SAME AREA FOR HIGH SEG
1205
1206 >
1207 001105          JBTNAM:                               ;NAME OF HIGH SEGMENT(FILE IT WAS INITIALIZED FROM
1208 001105          JBTPRG: BLOCK JOBN+SEGN          ;NAME OF FILE USED IN LAST R,RUN,GET, ETC
1209                                     ; USED BY SYSTAT PROGRAM
1210
1211                IFN FTKCT,<
1212 001175          JBTKCT: BLOCK JOBN                ;PRODUCT OF CORE LENGTH(IN K) TIMES NO. OF JIFFIES
1213                                     ; PROGRAM USED CPU, USED FOR TIME ACCOUNTING.
1214 >
1215                IFN FTPRV,<
1216                IFN FTKCT,<
1217 001231          JBTPRV: BLOCK JOBN                ;PRIVELEGE BITS FOR JOB SET BY LOGIN
1218 >
1219                IFG DSKN,<
1220                IFN FTKCT,<
1221                INTERN MQUEUE,MQTOP
1222 001265          MQUEUE: BLOCK JOBN                ;DISK MONITOR IO QUEUE
1223 001321          MQTOP=,                               ;LAST LOC+1 OF MONITOR QUEUE
1224 >
1225                IFG SYS50N,<
1226                ;THE FOLLOWING ARE USED TO CREATE MXQUE
1227                ;THE MAXIMUM QUEUE SIZE, USED BY SWAPPING SCHEDULER(SCHED)
1228 777777 777777    FTDISK==DSKN                ;DEFINE FEATURE SWITCH FTDISK,SINCE IT APPEARS
1229                                     ; IN MACRO QUEUES
1230                                     ; WHICH IS DEFINED IN S,MAC
1231
1232                XP          MXQUE,0+
1233
1234                LALL                                ;LIST QUEUE DEFINITIONS FOR ALL TO SEE
1235
1236                DEFINE X          <MXQUE==MXQUE+2;>
1237 000002          QUEUES+ X *MXQUE==MXQUE+2;*RN,7 ;STRAIGHT RUN (LOWEST PRIORITY)(Q=0)
1238 000004          X *MXQUE==MXQUE+2;*WS,6 ;IO WAIT SATISFIED
1239 000006          X *MXQUE==MXQUE+2;*TS,6 ;TTY IO WAIT SATISFIED
1240 000010          X *MXQUE==MXQUE+2;*ST,6 ;SYSTEM TAPE WAIT
1241                IFN FTDISK,<
1242 000012          X *MXQUE==MXQUE+2;*AU,4 ;ALTER DISK UFD QUEUE
1243 000014          X *MXQUE==MXQUE+2;*MQ,4 ;MONITOR DISK QUEUE
1244 000016          X *MXQUE==MXQUE+2;*DA,4 ;DISK STORAGE ALLOCATION WAIT
1245 >
1246 000020          X *MXQUE==MXQUE+2;*DT,4 ;DECTAPE CONTROL WAIT (UP TO 8 DRIVES)
1247 000022          X *MXQUE==MXQUE+2;*DC,4 ;DATA CONTROL (DC) WAIT - MAGTAPE AND DECTAPE
1248 000024          X *MXQUE==MXQUE+2;*MT,4 ;MAGTAPE CONTROL WAIT (UP TO 8 UNITS)
1249
1250                DEFINE X          (A)
1251
1252                <A'Z==MXQUE
1253                INTERN A'Z
1254 000024          MXQUE==MXQUE+1>
1255                CODES+ X IOW,+IOWZ==MXQUE
1256                INTERN IOWZ
    
```

```

1256          000025          MXQUE==MXQUE+1* ;IO WAIT
1257          000025          X TIOW,*TIOWZ==MXQUE
1258          INTERN TIOWZ
1259          000026          MXQUE==MXQUE+1* ;TTY IO WAIT
1260          000026          X SLP,*SLPZ==MXQUE
1261          INTERN SLPZ
1262          000027          MXQUE==MXQUE+1* ;JOB SLEEPING
1263          000027          X NUL,*NULZ==MXQUE
1264          INTERN NULZ
1265          000030          MXQUE==MXQUE+1* ;JOB NUMBER NOT ASSIGNED
1266          000030          X STOP,*STOPZ==MXQUE
1267          INTERN STOPZ
1268          000031          MXQUE==MXQUE+1* ;STOP (CONTROL C)
1269          *
1270          000034          MXQUE==MXQUE+3
1271
1272          XALL                      ;BACK TO NORMAL MACRO EXPANSION
1273
1274          INTERN JBTO,JBTO*1,JBTO*1,JBTO*1
1275          BLOCK MXQUE              ;NO. OF QUEUES FOR SWAPPING SCHEDULER
1276          JBTO: BLOCK JOBN        ;ONE ENTRY PER JOB,
1277          ; LH=PREVIOUS JOB, RH=NEXT JOB IN QUEUE
1278          ; NEGATIVE MENAS THIS IS FIRST (LH) OR LAST (RH)
1279          ; JOB IN QUEUE
1280          001354          JBTO*1==JBTO-1          ;JBTO-1
1281          001356          JBTO*1==JBTO+1          ;JBTO+1
1282          001326          JBTO*1==JBTO-NULZ        ;J1
1283          >
    
```

```

1284 ;TTY TRANSLATOR TABLE
1285 ;INDEXED BY TTY LINE NUMBER, CONTAINS TTY DDR ADDRESS IN RH
1286 ;(ASSIGNED WHEN FIRST CHARACTER TYPED ON TTY BY SCNSER
1287 ;BIT 0==1 IF COMMAND TYPED BUT NOT PROCESSED
1288 ;BITS 6-11==JOB NUMBER TTY IS ATTACHED TO
1289 ;BITS 12-17==NEXT LINE NUMBER IN TALK RING OR ITS SELF IF NOT TALKING
1290
1291 INTERN TTYTAB,PTYTAB,TPYTAB,TCOVLN,MLTTYL,MTTYLN,TTPLEN,TTMODL,TPMXL
1292
1293 001411 TTYTAB: BLOCK HGHLIN+1+1 ;NO OF TTYS PLUS CTY
1294 001441 TPYTAB==,-1 ;ADDRESS OF LAST ENTRY
1295 000030 TCOVLN==,-1-TTYTAB ;LINE NUMBER OF CTY
1296 001442 BLOCK PTYN ;PSEUDO TTY TRANSLATOR TABLE
1297 ; THIS IS FOR THE LINKED TTY LINES,
1298 ; NOT THE DEVICE "PTYN"'S DDR
1299 000033 TTPLEN==,-TTYTAB ;LENGTH OF ENTIRE TABLE
1300 TTPMXL==<TTPLEN-1>B26 ;HIGHEST ENTRY IN TTYTAB SHIFTED LEFT 9(FOR GETTAB UUO)
1301
1302
1303 777777 777744 MLTTYL==JOBN ;NEG, NO OF TTY DOBS (ONE FOR EACH JOB, PLUS 1 EXTRA
1304 ; SO JOB CAPACITY EXCEEDED MESSAGE CAN BE TYPED
1305 777777 777745 MTTYLN==TTPLEN ;NEG, LENGTH OF ENTIRE TRANSLATOR TABLE
1306
1307 001444 PTYTAB: BLOCK PTYN+1 ;ADDRESSES OF THE DOBS FOR DEVICE PTYN
1308 ; NOT THE LINKED TTY LINES. SEE TPYTAB.
1309 ;LAST LOCATION CLEARED BY SYSINI ON 143 RESTART
1310 001446 SYSEND==,-1
    
```

```

1311
1312          ;ONCE ONLY CODE TO CREATE DEVICE DATA BLOCKS
1313 000150          LOC SYSBEG          ;PUT IN SYSTEM DATA AREA SO NOT TO TAKE
1314          ; VALUABLE SPACE. THIS AREA IS CLEARED
1315          ; BY SYSINI AFTER IT HAS BEEN EXECUTED
1316
1317          ;CNTDB- ROUTINE TO INCREASE SIZE OF MONITOR FOR MULTIPLE DEVICE DATA BLOCKS
1318          ; BOTH DISK AND OTHER DEVICES (DTA,MTA,SCN,PTY)
1319          ; CALL: JSP TAC,CNTDB (FROM LONG ONCE DIALOG)
1320          ;
1321          ;LINKDB- ROUTINE TO CREATE MULTIPLE DEVICE DATA BLOCKS (EXCEPT DISK)
1322          ; AND LINK THEM. THESE ARE STORED ON TOP OF ONCE ONLY CODE
1323          ;CALL: JRST LINKDB (FROM LINKSR)
1324          ;BOTH ROUTINES UPDATE SYSSIZ AS MORE DDB SPACE IS CONSUMED
1325
1326          INTERN LINKDB,CNTDB
1327          EXTERN LINKSR
1328
1329 000150 476000 000246 LINKDB: SETOM DESONC          ;PERMIT DESTRUCTION OF ONCE ONLY CODE
1330 000151 334040 000000          ;GET JSRPC OF CALLER OF LINKSR IN ONCE
1331 000152 402000 000246 CNTDB: SETZM DESONC          ;PREVENT DESTRUCTION OF ONCE ONLY CODE
1332          ;SO THAT E.G. SAT TABLES MAY BE SCANNED
1333 000153 542040 000245          HRRM TAC, LINKED          ;STORE EXIT FROM THIS ROUTINE (ONCE ONLY CODE WILL
1334          ; BE OVERLAYED BY MULTIPLE DEVICE DATA
1335          ; BLOCK GENERATION)
1336 000154 205040 777746          MOVSI TAC,INTNUM          ;NEG NO. OF ENTRIES IN TABLE
1337 000155 201300 001460          MOVEI DEVDAT,DEVLST-DEVSR          ;MAKE DEVLST LOOK LIKE DEVSR IN A DOB
1338 000156 200101 000252 LOOP: MOVE TAC1,INTTB1(TAC)          ;GET NEXT DEVICE DATA BLOCK ADDRESS
1339 000157 322100 000226          JUMPE TAC1,NEXT          ;0 MEANS NO DOB FOR DEVICE
1340 000160 332000 000246          SKIPE DESONC          ;OK TO DESTROY ONCE ONLY CODE?
1341 000161 506106 000003          HRLM TAC1,DEVSR(DEVDAT)          ;YES, STORE IN PREVIOUS DEVICE DATA BLOCK
1342 000162 550300 000002          HRRZ DEVDAT,TAC1          ;MAKE DEVDAT POINT TO CURRENT DOB
1343 000163 135600 000247          LDR UUO,DOBNUM          ;GET NO. OF DOB'S
1344 000164 363600 000226          SOJLE UUO,NEXT          ;ONE OR LESS?
1345 000165 550240 000006          HRRZ JBUF,DEVDAT          ;NO, CREATE MULTIPLE COPIES OF DOB
1346          ; SAVE ORIGINAL IN JBUF
1347 000166 201740 000001          MOVEI AC3,1          ;STARTING WITH DEV1,DEV2,DEV77
1348 000167 135640 001566          LDB AC1,PUNIT          ;START UNIT NUMBER FROM
1349          ; ASSEMBLE DEVICE DATA BLOCK
1350          ; PTY STARTS UNIT NO. AT 1 INSTEAD OF 0
1351          ; ALTHOUGH DEVICE NAMES ARE PTY0,PTY1,ETC.
    
```

```

1352 000170 550100 001461 MULDDB: HRRZ TAC1,SYSSIZ      ;ADR, OF NEXT DDB IS AT END OF MONITOR
1353 000171 332000 000246      SKIPE DESONC      ;OK TO DESTROY ONCE ONLY CODE?
1354                                HRLM TAC1,DEVSER(DEVDAT) ;YES,MAKE PREVIOUS DDB POINT TO ONE ABOUT TO BE CREATE
1355 000172 506106 000003 D
1356 000173 504300 000005      HRL DEVDAT,JBUF      ;SOURCE ADDRESS TO LH
1357 000174 540300 000002      HRR DEVDAT,TAC1     ;DESTINATION ADDRESS TO RH
1358 000175 554701 000252      HLRZ AC2,INTTB1(TAC) ;LENGTH OF DEVICE DATA BLOCK
1359 000176 273700 001461      ADDB AC2,SYSSIZ     ;LAST LOCATION+1 AFTER MOVE
1360 000177 336000 000246      SKIPM DESONC      ;OK TO DESTROY ONCE?
1361 000200 254000 000224      JRST JUSTCT      ;NO, JUST COUNT DDB SPACE
1362 000201 251316 777777      BLT DEVDAT,-1(AC2) ;MOVE ORIGINAL TO FREE STORAGE
1363 000202 331001 000251      SKIPL INTTAB(TAC)  ;IS THIS DECTAPE(ANY OF 3 SERVICES)?
1364 000203 254000 000207      JRST NOTDTA      ;NO
1365 000204 550700 000006      HRRZ AC2,DEVDAT    ;YES,DESTINATION
1366 000205 275705 000000      SUBI AC2,(JBUF)    ;-SOURCE=DISTANCE MOVED
1367 000206 272706 000014      ADDM AC2,14(DEVDAT);INCREMENT POINTER TO DIRECTORY BLOCK
1368                                ; (SORRY ABOUT NO SYMBOL)
1369 000207 200340 000250 NOTDTA: MOVE PROG,PHYNAM ;BYTE POINTER TO NEWLY CREATED
1370                                ; DDB PHYSICAL NAME

1371 000210 200200 000017      MOVE ITEM,AC3      ;MAKE COPY OF UNIT NO,
1372 000211 606200 000070      TRNN ITEM,0        ;IS IT 10 OR MORE?
1373 000212 254000 000220      JRST SMALL      ;NO
1374 000213 241200 777775      ROT ITEM,-3        ;YES, CONVERT HIGH ORDER OCTAL DIGIT TO
1375 000214 271200 000020      ADDI ITEM,20      ;SIXBIT
1376 000215 136200 000007      IDPB ITEM,PROG    ;AND STORE
1377 000216 620200 777777      TRZ ITEM,-1      ;CLEAR OUT HIGH ORDER DIGIT
1378 000217 241200 000003      ROT ITEM,3        ;MOVE LOW ORDER DIGIT BACK
1379 000220 271200 000020 SMALL: ADDI ITEM,20 ;CONVERT LOW ORDER DIGIT IN SIXBIT
1380 000221 136200 000007      IDPB ITEM,PROG    ;AND STORE IN PHYSICAL NAME
1381 000222 271640 000001      ADDI AC1,1        ;INCREMENT BINARY UNIT NUMBRER
1382 000223 137640 001566      DPB AC1,PUNIT     ;STORE UNIT NUMBER
1383 000224 305754 000000 JUSTCT: CAIGE AC3,(UUD) ;COMPARE WITH HIGHEST DEVICE NUMBER
1384 000225 344740 000170      AOJA AC3,MULDDB   ;DO ANOTHER COPY
1385 000226 253040 000227 NEXT: AOBJN TAC,,+1    ;MOVE BY TWOS
1386 000227 253040 000156      AOBJM TAC,LOOP    ;ANY MORE DEVICES
1387 000230 201040 000000      MOVEI TAC,0       ;NO, FLAG END OF DEVICE DATA BLOCK CHAIN WITH 0 LINK
1388 000231 332000 000246      SKIPE DESONC      ;OK TO DESTROY ONCE?
1389 000232 506046 000003      HRLM TAC,DEVSER(DEVDAT) ;YES, STORE 0 IN CASE LAST DDB IS MULTIPLE
1390                                ; OF 10
1391                                IFG DSKN,<
1392                                EXTERN LOCORE,CRINIT
1392 000233 200040 001461      MOVE TAC,SYSSIZ   ;SIZE OF MONITOR SO FAR(SYSSMAK,EXEC ODT OR NOT)
1393 000234 202040 000000      MOVEM TAC,LOCORE  ;SAVE POINTER TO FIRST 4 WORD BLOCK
1394 000235 271040 002750      ADDI TAC,MINCOR   ;MINIMUM REQUIRED FOR DISK DDBS
1395 000236 435040 001777      IORI TAC,1777     ;FORCE TO 1K BOUNDARY
1396 000237 271040 000001      ADDI TAC,1
1397 000240 202040 001461      MOVEM TAC,SYSSIZ ;STORE SIZE OF MONITOR (FIRST FREE LOC)
1398 000241 274040 000234      SUB TAC,LOCORE    ;FORM LENGTH OF EXCESS CORE
1399 000242 231040 000220      IDIVI TAC,*0144   ;MUST BE MULTIPLE OF 144, WORDS (SEE DDBTAB)
1400 000243 210040 000001      MOVN TAC,TAC      ; -N
1401 000244 506040 000000      HRLM TAC,CRINIT  ;STORE USEABLE LENGTH OF DDBTAB
1402                                >
1403 000245 254000 000245 LINKED: JRST ,      ;RETURN TO SYSINI
1404

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```
1405 000246 000000 000000 DESONC: 0 ;FLAG =0 IF CALLED BY JSP TAC,CNTDB
1406 ; (DO NOT DESTROY ONCE)
1407 ; FLAG NON-ZERO IF CALLED BY JRST LINKDB
1408 ; (OK TO DESTROY ONCE CODE)
1409 000247 331071 000251 DORNUM: POINT 8,INTTAB(TAC),8 ;POINTER TO DDR NUMBER
1410 000250 220676 000000 PHYNAM: POINT 6,DEVNAM(DEV DAT),17 ;BYTE POINTER TO DR PHYSICAL NAME
1411
```



```

1412             ;MACRO TO DEFINE PI CHANNEL NUMBER AND GENERATE INTERRUPT CHAINNING
1413             ;INFORMATION FOR ONCE
1414             ;SO IT CAN LINK THE DEVICE INTERRUPT SERVICE ROUTINES AND THE DEVICE DATA BLOCKS
1415             ;TABLE INTTAB IS GENERATED WITH PAIRS OF ENTRIES FOR EACH DEVICE
1416             ;WHICH HAS A DEVICE DATA BLOC(0-7)
1417             ;FIRST WORD: BIT 0==1 IF DECTAPE,BITS 1-9==NO, OF DDDBS,BITS 9-17==PI CHANNEL(0-7)
1418             ;0 MEANS NO PI CHANNEL (EG PTY)
1419             ;SECOND WORD:LH==0 IF SINGLE DEVICE,==LENGTH OF DDB IF MULTIPLE,RH==DDB ADDRESS
1420
1421             ;MACRO FOR DEVICES WHICH ARE ALWAYS PRESENT(AND WHICH DO NOT USE A CHANNEL SAVE ROUTINE)
1422
1423             ;AND HAVE NO DDB (EX-APR,CTY,PEN,CLK)
1424
1425
1426             DEFINE SPASGINT (DEV,PI) <
1427                 DEV'N==1
1428                 ASGINT DEV,PI
1429             >
1430
1431
1432             DEFINE ASGINT (DEV,PI)<
1433                 IFG DEV'N,<IFG PI,<
1434                 IFE <PI-.CH>,<.CHAS==1 ;CHANNEL PI IN USE>
1435                 INTERN DEV'CHN
1436                     DEV'CHN==PI
1437                 EXTERN DEV'INT ;INTERRUPT SERVICE CONSO INSTRUCTION
1438                     XWD PI,DEV'INT ;GENERATE INTERRUPT ENTRY POINT FOR ONCE
1439                     XWD 0,0 ;NO DDB TO CHAIN TOGETHER
1440                 ASGIN1 (DEV,\PI)
1441             >
1442             >>
1443
1444             DEFINE ASGIN1 (DEV,PI)<
1445                 IFDEF CH'PI,< ;WAIT TILL PASS 2 TO DEFINE
1446                     DEV'CHL==CH'PI
1447                 INTERN DEV'CHL
1448             >>
1449             ;MACRO FOR OPTIONAL DEVICES (ALWAYS USE CHANNEL SAVE ROUTINE)
1450             ; (EXAMPLE: CR, DSK, PTR, ETC, ALSO PTY WITH 0 PI)
1451
1452             DEFINE SPASGSV (DEV,PI,NUM) <
1453                 DEV'N==NUM
1454                 ASGSV DEV,PI
1455             >
1456
1457
1458             DEFINE ASGSV (DEV,PI) <
1459                 IFG DEV'N,<IFG PI,<
1460                     EXTERN DEV'INT ;INTERRUPT SERVICE CONSO INSTRUCTION
1461                 >
1462                 EXTERN DEV'DDB
1463                 ASGSV1 (DEV,\PI)
1464             >>

```

```

1465 ;MACRO FOR: 1. COMPLETION OF THE DEFINITION REQUIRED FOR THOSE
1466 ; DEVICES INVOKING THE ASGSV MACRO
1467 ;
1468 ; 2. COMPLETE DEFINITION FOR THOSE DEVICES WITH THEIR
1469 ; INTERRUPT ENTRY POINT AND ODB'S IN COMMON
1470 ; (EXAMPLE: LPT'S)
1471
1472 DEFINE ASGSV1 (DEV,PI) <
1473 IFG PI, <
1474 IFE <PI=,CH>,<.CHAS==1 ;CHANNEL PI IN USE>
1475 DEV'CHN==PI ;DEFINE DEVICE CHANNEL NUMBER
1476 INTERN DEV'CHN ;DECLARE INTERNAL - ONLY IF DEVICE WANTED
1477 USED'PI==1 ;SET FLAG SO THAT A CHANNEL SAVE
1478 ; ROUTINE WILL BE GENERATED FOR
1479 ; THIS PI CHANNEL
1480
1481 IFDEF SAV'PI, < ;WAIT TILL CHANNEL SAVE ROUTINES
1482 ; ARE DEFINED BELOW (IN PASS 2)
1483
1484 DEV'SAV==SAV'PI ;CHANNEL AC SAVE ROUTINE LOCATION
1485 DEV'RET==RET'PI ;CHANNEL AC RESTORE ROUTINE LOCATION
1486 ; (USUALLY POPJ USED)
1487 DEV'CHL==CH'PI ;LOCATION WHERE INTERRUPT PC IS STORED
1488 DEV'SAC==SAVAC'PI ;STARTING CHANNEL SAVE LOCATION FOR AC'S
1489
1490 INTERN DEV'SAV, DEV'RET, DEV'CHL, DEV'SAC
1491 >>
1492
1493 DTBIT==0 ;ASSUME THIS IS NOT A DECTAPE
1494
1495 IFIDN <DEV>,<DTA>,<DTBIT==1> ;IS IT PDP-10 DECTAPES?
1496 IFIDN <DEV>,<DTC>,<DTBIT==1> ; OF PDP-6 DECTAPES?
1497
1498 IFE PI, <
1499 XWD DEV'N*1000+0,0 ;NO PI CHANNEL FOR THIS DEVICE
1500 >
1501
1502 IFG PI, <
1503 XWD DTBIT*400000+DEV'N*1000+PI,DEV'INT ;FIRST WORD
1504 >
1505
1506 IFG DEV'N-1, <
1507 XWD DEV'ODS,DEV'ODR ;MULTIPLE DEVICE SECOND WORD
1508 EXTERN DEV'ODS
1509 >
1510
1511 IFE DEV'N-1, <
1512 XWD 0,DEV'DDR ;SINGLE DEVICE SECOND WORD
1513 >>
    
```

```
1514 ;MACRO'S TO ALLOW GENERATION OF MULTIPLE INTTAB ENTRIES FOR MULTIPLE
1515 ; DEVICES SUCH AS LINE PRINTERS
1516
1517 DEFINE MULASG (DEV,DE,PI) <
1518
1519     IFG DEV'N, <
1520         ZZ==0
1521         REPEAT DEV'N, <
1522             DEVASG DE,\ZZ,PI
1523             ZZ==ZZ+1
1524         >
1525     >
1526 >
1527
1528 DEFINE DEVASG (DE,X,PI) <
1529
1530     DE'X'N==1
1531     ASGSV1 DE'X,\PI
1532 >
1533
1534 ;MACROS TO CONTROL ASSIGNMENT OF PI CHANNELS TO DEVICES
1535
1536 DEFINE NEXTCH< ,CH==,CH+1
1537     ,CHAS==0
1538     NEXTCU (\,CH)
1539 >
1540 DEFINE NEXTC0< IFN ,CHAS,<NEXTCH>>
1541 DEFINE NEXTCU (N) <IFDEF UNIQ'N,<IFN UNIQ'N,<NEXTCH>>>
```

```

1542                ;ASSUME NO PI CHANNEL SAVE ROUTINES NEEDED
1543
1544                000000          USED1==0
1545                000000          USED2==0
1546                000000          USED3==0
1547                000000          USED4==0
1548                000000          USED5==0
1549                000000          USED6==0
1550                000000          USED7==0
1551
1552                ;NOW GENERATE THE TABLE FOR ONCE AND DEFINE PI CHANNEL ASSIGNMENTS
1553
1554                INTERN INTTAB,INTTB1,INTNUM,SCNN,CTYN
1555                000001          CTYN==1          ;ALWAYS ONE CTY
1556                000034          SCNN==JORN        ;NUMBER OF SCN DDB
1557                ;ALWAYS AN APR
1558                000001          APRN==1          ;ONE FOR EACH JOB + NULL JOB(EXTRA ONE)
1559                000001          CLKN==1          ;ALWAYS LOWEST PRIORITY CLOCK
1560
1561
1562                000251          INTTAB:          ;TABLE OF DATA FOR DEFINING PI CHAN AND NO. OF DDB
1563                000252          INTTB1==INTTAB+1
1564                ASGSAV PTY,0+
1565                000251 002000 000000          XWD PTY'N*1000+0,0          ;NO 0 CHANNEL FOR THIS DEVICE
1566                000252 000000 000000          XWD PTY'DDS,PTY'DDB          ;MULTIPLE DEVICE SECOND WORD
1567
1568                000000          .CHAS==0
1569                000000          .CH==0
1570                000001          NEXTCH+ .CH==.CH+1
1571
1572                ;THE FOLLOWING DEVICES MUST HAVE A UNIQUE, HIGH PRIORITY
1573                ; CHANNEL FOR BLOCK I/O TRANSFERS.
1574
1575                ;NOTE THAT THE PDP-6 DECTAPE AND MAGTAPE SHARE A
1576                ; 136 DATA CONTROL IF BOTH ARE PRESENT.
1577
1578                ;DATA PRODUCTS DISK BLKO/BLKI PI CHANNEL
1579                IFNDEF DCBCHN,<IFG DPUN,<XP DCBCHN,.CH
1580                NEXTCH>>
1581                ;PDP-6 OR PDP-10 MAGTAPE BLKI/BLKO PI CHANNEL:
1582                IFNDEF MTDCHN,<IFG MTAN,<XP MTDCHN,.CH
1583                NEXTCH>>
1584                IFNDEF DCTCHN,<IFG MTCN,<XP DCTCHN,.CH
1585                NEXTCH>>
1586                ;PDP6 OR PDP10 DECTAPE BLKI/BLKO PI CHANNEL:
1587                IFNDEF DTDCHN,<IFG DTAN,<XP DTDCHN,.CH
1588                NEXTCH>>
1589                IFNDEF DCTCHN,<IFG DTCN,<XP DCTCHN,.CH
1590                NEXTCH>>
1591
1592                000003          IFNDEF BLKMXC,<BLKMXC=.CH>          ;REMEMBER THIS CHANNEL ON PASS 1
1593                .CH==BLKMXC          ;ON PASS 2, SKIP OVER BLKI CHANNELS
1594
    
```

```
1595 ;THE FOLLOWING ARE GROUPED ON A CHANNEL FOR HIGH-PRIORITY DEVICES
1596 ASGSAV CDR,.CH*
1597 000253 001003 000000 XWD DTBIT*400000+CDR'N*1000+3,CDR'INT ;FIRST WORD
1598 000254 000000 000000 XWD 0,CDR'DDR ;SINGLE DEVICE SECOND WORD
1599 ASGINT APR,.CH*
1600 000255 000003 000000 XWD ,CH,APR'INT ;GENERATE INTERRUPT ENTRY POINT FOR ONCE
1601 000256 000000 000000 XWD 0,0 ;NO DDB TO CHAIN TOGETHER
1602
1603 000004 NEXTCQ* IFN ,CHAS,<NEXTCH>*+ .CH=,CH+1
1604
```

```

;THE FOLLOWING ARE MEDIUM-PRIORITY DEVICES, AS A GROUP
1605
ASGSV SCN,.CH*
1606 000257 034004 000000 XWD DTRIT*400000+SCN'N*1000+4,SCN'INT ;FIRST WORD
1607 000260 000000 000000 XWD SCM'DDS,SCN'DDR ;MULTIPLE DEVICE SECOND WORD
1608
ASGSV PTR,.CH*
1609 000261 001004 000000 XWD DTRIT*400000+PTR'N*1000+4,PTR'INT ;FIRST WORD
1610 000262 000000 000000 XWD P,PTR'DDR ;SINGLE DEVICE SECOND WORD
1611
MULASG LPT,LP,.CH*
1612 000263 001004 002074 XWD DTRIT*400000+LP0'N*1000+4,LP0'INT ;FIRST WORD
1613 000264 000000 002100 XWD P,LP0'DDR ;SINGLE DEVICE SECOND WORD
1614
ASGSV DTA,.CH*
1615 000265 410004 000000 XWD DTRIT*400000+DTA'N*1000+4,DTA'INT ;FIRST WORD
1616 000266 000000 000000 XWD DTA'DDS,DTA'DDR ;MULTIPLE DEVICE SECOND WORD
1617
ASGSV DTC,.CH*
1618
ASGSV MTA,.CH*
1619 000267 003004 000000 XWD DTRIT*400000+MTA'N*1000+4,MTA'INT ;FIRST WORD
1620 000270 000000 000000 XWD MTA'DDS,MTA'DDR ;MULTIPLE DEVICE SECOND WORD
1621
ASGSV MTC,.CH*
1622
ASGINT CTY,.CH*
1623 000271 000004 000000 XWD ,CH,CTY'INT ;GENERATE INTERRUPT ENTRY POINT FOR ONCE
1624 000272 000000 000000 XWD P,3 ;NO DDB TO CHAIN TOGETHER
1625
1626 000005 NEXTCQ* IFN ,CHAS,<NEXTCH>*+ ,CH==,CH+1
1627
;THE FOLLOWING ARE LOWER-PRIORITY DEVICES,AS A GROUP
1628
ASGSV DSK,.CH*
1629
1630 000273 001005 000000 XWD DTRIT*400000+DSK'N*1000+5,DSK'INT ;FIRST WORD
1631 000274 000000 000000 XWD P,DSK'DDR ;SINGLE DEVICE SECOND WORD
1632
ASGSV PFN,.CH*
1633
ASGSV PTP,.CH*
1634 000275 001005 000000 XWD DTRIT*400000+PTP'N*1000+5,PTP'INT ;FIRST WORD
1635 000276 000000 000000 XWD P,PTP'DDR ;SINGLE DEVICE SECOND WORD
1636
ASGSV COP,.CH*
1637
ASGSV PLT,.CH*
1638 000277 001005 000000 XWD DTRIT*400000+PLT'N*1000+5,PLT'INT ;FIRST WORD
1639 000300 000000 000000 XWD P,PLT'DDR ;SINGLE DEVICE SECOND WORD
1640
1641 000006 NEXTCQ* IFN ,CHAS,<NEXTCH>*+ ,CH==,CH+1
1642
;THE DISPLAY GETS ITS OWN LOW-PRIORITY CHANNEL
1643
ASGSV DIS,.CH*
1644
NEXTCQ* IFN ,CHAS,<NEXTCH>*
1645
;LAST IS THE SCHEDULER, ON CHANNEL 7 BY ITSELF
1646
IFG <,CH-7>,<PRINTX ;NOT ENOUGH PI'S TO SERVICE THIS CONFIGURATION
1647
PRINTX ;SUGGFST EDITING COMMON TO PUT MORE DEVICES ON
1648
PRINTX ; A SINGLE CHANNEL>
1649
1650
1651
1652
1653
1654 000007 ,CH=7
1655
ASGINT CLK,.CH*
1656 000301 000007 000000 XWD ,CH,CLK'INT ;GENERATE INTERRUPT ENTRY POINT FOR ONCE
    
```

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1657 000302 000000 000000 XWD 3,0 INO DDB TO CHAIN TOGETHER
1658


```

1674                ;SYSTEM CONSTANS AND PARAMETERS
1675
1676                INTERN CNFTBL,CNFMXL,CONFIG,SYSTAP,SYSDAT
1677
1678
1679 001447          CNFTBL:                ;FIRST LOCATION OF MONITOR DATA STORAGE
1680                                           ; RETURNED BY GETTAB UOO(THESE LOCATIONS
1681                                           ; NOT CLEARED BY SYSINI)
1682                                           ; CNFTBL IS GETTAB TABLE 11(RH OF AC)
1683                                           ; OCTAL NOS, IN ( ) CORRESPOND TO GETTAB UOO
1684
1685 001447 322466 433500  CONFIG: SYSNAM +   ASCII? \4S47 DEC PDP-10 #2\*      ;(0-4)NAME OF S
1686 001450 202110 541500  YSTEM, IN ASCII
1687 001451 502112 026542
1688 001452 301004 331000
1689
1690                LOC CONFIG+5                ;ALWAYS LEAVE 5 WORDS(24 CHARS)
1691                                           ; SO GETTAB UOO WILL BE CONSTANT
1692 001454 331326 326554  SYSDAT: SYSDAT +   ASCII? /6-3-69/*      ;(5,6)GENERATE SYSTEM DATE
1693 001455 344000 000000
1694
1695                LOC SYSDAT+2                ;ALWAYS LEAVE 2 WORDS SO GETTAB CONSTANT
1696 001456 446353 000000  SYSTAP: SYSDEV +   SIXBIT "DSK"*      ;(7)NAME OF SYSTEM DEVICE, IN S
1697 IXBIT
1698
1699
1700
1701
1702
    
```

```

1693          ;LOCATIONS SETUP BY ONCE ONLY OPERATOR DIALOGUE AND NEVER RESET ON RESTARTS
1694
1695          INTERN TIME,THSDAT,SYSSIZ,DEVOPR,DEVLST,SEGPTR,TWOREG,STATES
1696          INTERN SERIAL
1697          EXTERN PATCH
1698
1699 001457 000000 000000 TIME: 0          ;(10)TIME OF DAY IN JIFFIES (60TH OR 50THS OF A SEC.)
1700 001460 000000 000000 THSDAT: 0       ;(11)TODAY'S DATE((Y-1964)*12+(M-1))*31+(D-1)
1701 001461 000000 000000 SYSSIZ: EXP PATCH ;(12)SIZE OF MONITOR(FIRST LOC NOT USED)
1702 001462 436471 000000 DEVOPR: SIXBIT /CTY/ ;(13)SIXBIT PHYSICAL NAME OF OPERATORS CONSOLE
1703          ; (IF THIS LOCATION CONTAINS 0, NONE HAS
1704          ; BEEN DESIGNATED)
1705          ;PUBLIC LOGICAL NAME "OPR" WILL BE THIS DEVICE
1706          ;ALSO UNEXPLAINED MONITOR ERROR MESSAGE WILL BE TYPED
1707          ;ON TTY OPR
1708 001463 000000 000000 DEVLST: XWD 0,0  ;(14)LH CONTAINS ADDRESS OF FIRST DEVICE DATA BLOCK
1709          ;ONCE ONLY CODE LINKS DEVICE DATA BLOCKS
    
```

```

1710 001464 777744 000034 SEGPTR: XWD -SEGN,JOBN ;(15)AOBJN POINTER TO FIRST HIGH SEG IN JBTXXX TABLES
1711 ; LH=-NO. OF HIGH SEGS, RH=FIRST HIGH SEG NO.
1712 ;(16)FLAG TO INDICATE WHETHER BOTH HARDWARE AND SOFTWARE
1713 001465 000000 000000 E ;
1714 ; HAVE 2 RELOC REG CAPACITY
1715 ; NON-ZERO IF BOTH DO, 0 IF EITHER OR BOTH DO NOT
1716 ; SET BY ONCE ONLY CODE
1717 ;
1718 400000 000000 ZZ=0
1719 IFG DSKN,<ZZ==ZZ!1B0> ;1 IF DISK SYSTEM(ANALOGOUS TO FTDISK)
1720 IFG SYS50N,<ZZ==ZZ!1B1> ;1 IF SWAPPING SYSTEM(ANALOGOUS TO FTSWAP)
1721 IFG LOGINN,<ZZ==ZZ!1B2> ;1 IF LOGIN(ANALOGOUS TO FTLOGIN)
1722 IFN FTTTYSER,<ZZ==ZZ!1B3> ;1 IF FULL DUPLEX SOFTWARE
1723 IFN FT2REL,<ZZ==ZZ!1B4> ;1 IF PRIVILEGE FEATURE INCLUDED
1724 IFN FT2REL,<ZZ==ZZ!1B5> ;1 IF REENRANT SOFTWARE
1725 001466 770000 000000 STATES: EXP ZZ ;(17)BITS WHICH DEFINE TYPE OF SYSTEM IN LH
1726 ; RH PATCHED BY MONITOR COMMAND TO
1727 ; INDICATE OPERATIONAL STATE OF SYSTEM
1728 ;INSERT NEW LOCATIONS OF INTEREST SETUP
1729 ; BY ONCE ONLY CODE HERE
1730 001467 000000 000002 SERIAL: EXP APRSN ;(20) SERIAL NUMBER OF APR
1731 020000 CNFMXL==<,-CNFTBL-1>B26 ;MAX, ENTRY IN CNFTBL FOR GETTAB UO
    
```

```

1732          IFG DSKN,<
1733              INTERN ODPTBL,ODPMLX,SWPHGH,K4SWAP,PROT,PROT0
1734
1735          IFG SYS50N,<      EXTERN ICPROT,ICPRT1      ;THESE ARE DFFINED ONLY IN
1736                          ; A SWAPPING SYSTEM>
1737          IFLE SYS50N,<    XP ICPROT,0                ;IF NON-SWAPPING, DECLARE
1738                          XP ICPRT1,0                ; INTERNAL IN COMMON>
1739
1740 001470          ODPTBL:                                ;FIRST LOC IN MONITOR DATA AREA FOR DISK
1741                  ; LOCATION WHICH ARE NOT SET TO 0 WHEN SYSTEM
1742                  ; STARTED, ODPTBL IS GETTAB UUD TABLE 15
1743
1744 001470 000000 000000 SWPHGH: 0                        ;(0) HIGHEST LOGICAL BLOCK # IN THE SWAPPING
1745                  ; SPACE ON THE DISK (SET BY SWPINI)
1746 001471 000000 000000 K4SWAP: 0                       ;(1)K OF DISK WORDS SET ASIDE FOR SWAPPING
1747                  ; ASSIGNED AT ONCE ONLY REFRESH TIME
1748 001472 000000 000000 PROT:  EXP ICPROT                ;(2) IN-CORE PROTECT TIME PARAMETER USED TO
1749                  ; MULTIPLY TIMES (K-1) OF CORE
1750 001473 000000 000000 PROT0: EXP ICPRT1              ;(3) IN-CORE PROTECT TIME PARAMETER ADDED TO
1751                  ; ABOVE REULT TO COMPLETE COMPUTATION
1752
1753
1754
1755
1756
1757 003000 ODPMLX==<.-ODPTBL-1>B26 ;MAX. ENTRY IN ODPTBL FOR GETTAB UUD
1758 >

```

```

1759                ;MORE DATA LOCATIONS SETUP AT ASSEMBLY TIME OR ONCE ONLY TIME
1760                ; BUT NOT OF INTEREST TO USER PROGRAMS
1761
1762                INTERN XJBPF1,PMONTB,MONTAB,MIDNIT
1763
1764 001474 001474 000000 XJBPF1: XWD ,,0                ;LH FILLED IN WITH EXTERNAL JOBPFI (SEE JOB DAT)
1765                ; JOBPFI==HIGHEST LOC, IN USER JOB DATA AREA
1766                ; PROTECTED FROM IO
1767                ;MONTH TABLE FOR DAYTIME COMMAND PRINTING
1768
1769 001475 360601 001476 PMONTB: POINT 6,MONTAB(TAC),5 ;POINTER TO NUMBER OF DAYS INMONTH
1770 001476 360004 520316 MONTAB: EXP +D30R5+"JAN
1771 001477 330004 321302     EXP +D27R5+"FEB
1772 001500 360004 660322     EXP +D30R5+"MAR
1773 001501 350004 064122     EXP +D29R5+"APR
1774 001502 360004 660331     EXP +D30R5+"MAY
1775 001503 350004 525316     EXP +D29R5+"JUN
1776 001504 360004 525314     EXP +D30R5+"JUL
1777 001505 360004 065307     EXP +D30R5+"AUG
1778 001506 350005 161320     EXP +D29R5+"SEP
1779 001507 360004 760724     EXP +D30R5+"OCT
1780 001510 350004 723726     EXP +D29R5+"NOV
1781 001511 360004 221303     EXP +D30R5+"DEC
1782 001512 000023 615000 MIDNIT: EXP +D60*+D60*+D24*JIFSEC ;NO OF JIFFIES TILL MIDNIGHT
    
```

```

1783 ;STOP PROCEDURE WHEN SHUTTING DOWN SYSTEM
1784 ;BECAUSE OF CATOSTROPHIC FAILURE OR ANY OTHER REASON
1785 ;WRITE OUT DIRECTORIES STILL IN CORE (DISK)
1786 ;TRANSFER HERE FROM LOC 147
1787
1788 ;PROCEDURE TO SAVE CRASHED MONITOR ON DECTAPE FOR LATER DEBUGGING UNDER TIME SHARING
1789 ;OPERATOR SHOULD:
1790 ; 1. PUSH STOP AND HOLD IT DOWN
1791 ; 2. PUSH CONTINUE(APR PI IN PROGRESS SHOULD COME ON)
1792 ; THIS PUTS MACHINE INTO EXEC MODE AND STORES PC OC CRASH
1793 ; 3. LETUP ON STOP
1794 ; 4. SET ADDRESS SWITCHES TO 147
1795 ; 5. PUSH START(DO NOT PUSH IO RESET AS IT WILL CLEAR DEVICES)
1796
1797
1798 INTERN APRSTS,PISTS,SYSTOP,CRASHX,SWTSTS,TTYSTS,PTRSTS,TMCSTS
1799 INTERN PTPSTS,DLSSSTS,DTSSTS,CRSTS,LPTSTS,PLTSTS,TMSSTS,DSKSTS,DSKDTI
1800 EXTERN SYSPDL
1801
1802 EXTERN CRSHAC ;DEFINED IN SYSINI TO BE 143 RESTART CODE
1803 ;SO MONITOR CANNOT BE RESTARTED AT 143 AFTER
1804 ;BEING STARTED AT 147.
1805 001513 202740 000017 CRASHX: MOVEM 17,CRSHAC+17 ;SAVE AC17
1806 001514 200740 001520 MOVE 17,TSTLOC
1807 001515 312740 000147 GATE 17,SYSCRS ;IS LOC 147 WIPED OUT?
1808 001516 254200 001522 HALT SYSTOP+1 ;YES - LET OPERATOR DECIDE WHAT TO DO
1809 001517 254000 001522 JRST SYSTOP+1 ;NO - GO SAVE AC'S & DEVICE STATES
1810 001520 254000 001521 TSTLOC: JRST SYSTOP
1811
1812 001521 202740 000017 SYSTOP: MOVEM 17,CRSHAC+17 ;SAVE ALL ACS
1813 001522 201740 000000 MOVEI 17,CRSHAC ;SOURCE==0, DESTINATION==CRSHAC
1814 001523 251740 000016 PLT 17,CRSHAC-16 ;SO DDT CAN LOOK AT SAVED CRASH LATER
1815
1816
1817 001524 700240 001524 APRSTS: CONI APR,, ;STORE APR STATUS HERE
1818 001525 700640 001525 PISTS: CONI PI,, ;STORE PI STATUS HERE
1819 001526 700040 001526 SWTSTS: DATAI APR,,
1820 001527 712240 201527 TTYSTS: CONI TTY,,
1821 001530 710640 001530 PTRSTS: CONI PTR,,
1822 001531 710240 001531 PTPSTS: CONI PTP,,
1823 001532 724240 001532 DLSSSTS: CONI DLS,,
1824 001533 721640 001533 DTSSTS: CONI DTS,,
1825 001534 715240 001534 CRSTS: CONI CR,,
1826 001535 712640 001535 LPTSTS: CONI LPT,,
1827 001536 714240 001536 PLTSTS: CONI PLT,,
1828 001537 734640 001537 TMSSTS: CONI TMS,,
1829 001540 734240 001540 TMCSTS: CONI TMC,,
1830 001541 717240 001541 DSKSTS: CONI DSK,,
1831 001542 717040 001542 DSKDTI: DATAI DSK,,
1832 001543 700200 633553 CONO APR,APRST ;RESET SYSTEM
1833 001544 201140 000000 MOVEI POP,SYSPDL ;SETUP POP TO SPARE AREA
1834 IFG DSKN,<
1835 EXTERN DSKSTP
    
```

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```
1836 001545 260140 000000      PUSHJ  PDP,DSKSTP>
1837 001546 254200 137400      HALT   137400      ;STOP AT TENDMP(READY TO READ IN ANYTHING)
1838
1839                                ;ERROR RECOVERY - TRY TO START NULL JOB
1840
1841 001547 201200 000000      NULJ01: MOVEI ITEM,0      ;SET JOB NUMBER TO 0
1842 001550 254000 000000      JRST NULJOB      ;GO RESTORE NULL JOB
```

```

1843 ;COMMON SUBROUTINE RETURNS
1844
1845 INTERN CPOPJ,CPOPJ1,QPOPJ,TPOPJ,TPOPJ1,CPOPJ2,IPOPJ1,IPOPJ
1846 INTERN CUXIT1,CUXIT,EXIT
1847 INTERN FTTIME,FTSWAP,FTSLEEP,FTKCT,FT2REL,FTPRV
1848 001551 350003 000000 CPOPJ2: AOS (PDP) ;DOUBLE SKIP SUBROUTINE RETURN
1849 001552 CUXIT1: ;OLD SKIP RETURN FOR UUOS
1850 001552 354003 000000 CPOPJ1: AOSA (PDP) ;SKIP SUBROUTINE RETURN
1851 001553 202006 000002 QPOPJ: MOVEM IOS,DEVIOS(DEV DAT) ;DEPOSIT IO STATUS WORD IN DDR
1852 001554 UXIT:
1853 001554 CUXIT: ;OLD RETURN FOR UUOS
1854 001554 263140 000000 CPOPJ: POPJ PDP,
1855
1856 001555 350003 777777 TPOPJ1: AOS -1(PDP) ;RESTORE TAC THEN SKIP RETURN
1857 001556 262140 000001 TPOPJ: POP PDP,TAC ;RESTORE TAC
1858 001557 263140 000000 POPJ: POPJ PDP, ;AND RETURN
1859 001560 350003 777777 IPOPJ1: AOS -1(PDP) ;SET FOR SKIP RETURN
1860 001561 262140 000004 IPOPJ: POP PDP,ITEM ;RESTORE ITEM (USUALLY JOB OR HIGH SEG NUMBER)
1861 001562 263140 000000 POPJ PDP,
1862
1863 ; SYSTEM BYTE POINTERS
1864
1865 INTERN PUUCAC,PIOMOD,PJOBN,PUNIT,PJBSTS,PDVTIM,PDVCNT,PCORSZ,COREP
1866 INTERN IADPTR
1867
1868 001563 270400 000014 PUUCAC: POINT 4,UUC,12 ;UUC AC FIELD
1869 001564 000400 000000 PIOMOD: POINT 4,IOS,35 ;MODE BITS
1870 001565 360600 000001 PJOBN: POINT 6,DEVCHR(DEV DAT),5 ;DEVICE JOB ASSIGNMENT
1871 001566 140600 000001 PUNIT: POINT 6,DEVCHR(DEV DAT),23 ;DEVICE UNIT NO.
1872 001567 250504 000331 PJBSTS: POINT JWSIZ,JBTSTS(ITEM),JWPOS ;JOB WAIT STATE(QUEUE) CODE
1873 ;IN JOB STATUS WORD
1874 001570 220606 000001 PDVTIM: POINT 6,DEVCHR(DEV DAT),17 ;TIME IN SECONDS BEFORE DEVICE
1875 ;IS SAID TO BE HUNG
1876 001571 300606 000001 PDVCNT: POINT 6,DEVCHR(DEV DAT),11 ;COUNTER DOWN EACH SECOND,
1877 ;11 TO 0 TRANSITION MEANS HUNG DEVICE
1878 001572 410206 000007 IADPTR: POINT 2,DEVIAD(DEV DAT),2 ;COUNT OF NO. OF USER CHANNELS INITED
1879 ;ON THIS DEVICE(DECTAPE ONLY)
1880 001573 341004 000421 PCORSZ: POINT 8,JBTADR(ITEM),7 ;BYTE POINTER TO LOW OR HIGH SEG CORE SIZE-1
1881
1882 001574 440100 000250 COREP: POINT 1,CORTAB ;1 BIT POINTER TO CORE ALLOCATION TABLE
1883
1884 IFG SYS50N,< ;SWAPPING SYSTEM?
1885 INTERN IMGIN,IMGOUT,IMGINT,OUTMSK,INMSK,INLEFT
1886 000377 INMSK=000377 ;RH MASK TO IMGIN
1887 000012 INLEFT=12 ;NO. OF BITS TO SHIFT TO LEFT JUSTIFY IN RH
1888
1889 001575 001004 000725 IMGIN: POINT 8,JBTSWP(ITEM),35 ;BYTE POINTER FOR # 1K BLOCKS OF CORE
1890 ;WHEN JOB OR HIGH SEG NEXT SWAPPED IN
1891 ;NON-ZERO ONLY WHEN SWAPPED OUT
1892 001576 111004 000725 IMGOUT: POINT 8,JBTSWP(ITEM),26 ;BYTE POINTER FOR # 1K BLOCK OF DISK
1893 ;WHEN JOB OR HIGH SEG HAS IMAGE ON DISK
1894 ;ZERO MEANS NO DISK SPACE ALLOCATED
1895 377000 OUTMSK=377000 ;RH MASK TO IMGOUT, USED TO TEST FOR 0
    
```


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1896 J (IE NO DISK SPACE)
1897 001577 001006 000725 IMGINT: POINT 8,JBTSWP(DEVDAT),35 ;POINTER TO INCORE IMAGE
1898 >

```
1899
1900          ;SPECIAL PROJECT-PROGRAMMER NOS.
1901          IFC DSKN,<          ;DISK SYSTEM?
1902          INTERN CUSPPP,SYSPP,DUMPPP,HELPPP
1903
1904          001600          CUSPPP:          ;CUSP FILE DIRECTORY, MAKE SEPARATE TAG FROM
1905          1904          ; MFD(SYSPP)
1906          001600 000001 000001 SYSPP: XWD 1,1 ;THE MASTER FILE DIRECTORY PROJECT PROGRAMMER NO.
1907          001601 000001 000002 DUMPPP: XWD 1,2 ;THE FAILSAFE PROJ,PROG NO.(CAN READ OR WRITE ANYTHING)
1908          001602 000002 000004 HELPPP: XWD 2,4 ;SYSTAT AND HELP PROJECT,PROGRAMMER NOS IF JOB NOT LOGGED INALH
1909          EADY
1909          >
```



```

1947 ;GENERATE THE CHANNEL SAVE ROUTINE ONLY FOR PI WHICH NEED THEM(ASGS AV MACRO USED)
1948
1949     IFN USED1,<CHAN 1>
1950     IFN USED2,<CHAN 2>
1951     IFN USED3,<CHAN 3>+
1952     IFN USED4,<CHAN 4>+
1953     IFN USED5,<CHAN 5>+
1954     IFN USED6,<CHAN 6>
1955     IFN USED7,<CHAN 7>
1956 ;GENERATE NULL CHANNEL SAVE ROUTINES FOR THOSE CHANNEL NOT USED
1957
1958 DEFINE NULL (PI)<
1959     XLIST
1960     INTERN CH'PI,
1961 CH'PI: @
1962     JEN @CH'PI
1963     LIST
1964 >
1965
1966     IFE USED1,<NULL 1>+
1967     IFE USED2,<NULL 2>+
1968     IFE USED3,<NULL 3>+
1969     IFE USED4,<NULL 4>
1970     IFE USED5,<NULL 5>
1971     IFE USED6,<NULL 6>+
1972     IFE USED7,<NULL 7>+
1973
    
```

IFE RTRPN, <
~~INTERN SAVAC'PI, CH'PI'PDI~~
 SAVAC'PI: Block 20
 CH'PI'PDI: Block PDL >

```

1974      ;HERE ON TRAPS TO LOC 60/61 - UNIMPLEMENTED INSTRUCTIONS(POP-10 ONLY)
1975      ;OPCODE AND EFFECTIVE ADDRESS STORED IN SIXTY AND 61 EXECUTED(JSR UUO2)
1976      ;OP CODE 100(UJEN) IS USED TO DISMISS USER MODE INTERRUPTS FOR REAL TIME OPERATION
1977      ;USED IN CONJUNCTION WITH TRPSET UUOWHICH IS SOON TO BE REPLACED
1978      ;WITH SOME KNAVE-PROOF REAL TIME UUOS, THIS CODE IS HERE ONLY
1979      ;BECAUSE MANUAL DESCRIBES TRPSET AND TRPJEN UUOS.
1980      ;TRPJEN HAS BEEN REPLACED WITH OPCODE 100(UJEN).
1981      ;CALL: UGEN U          ;WHERE U CONTAINS PC STORED BY INTERRUPT JSR
1982
1983      INTERN UUO2
1984      002011 000000 000000 UUO2: 0          ;USER PC STORE HERE BY JSR
1985      002012 250040 002011      EXCH TAC,UUO2      ;GET USER PC, SAVE TAC
1986      ;IFN FTTRPSET,<
1987      002013 607040 004000      TLNN TAC,UIOMOD    ;USER IO MODE ON?
1988      002014 254000 002026      JRST UUOER2       ;NO, TREAT AS AN ILLEGAL INSTRUCTION AND PRINT MESS.
1989      002015 500040 000060      HLL TAC,SIXTY    ;YES, GET UNIMPLEMENTED OPCODE WHICH TRAPPED
1990      002016 603040 677777      TLNE TAC,677777  ;IS IT OPCODE 100(UJEN)?
1991      002017 254000 002025      JRST UUOER1       ;NO, TREAT AS ILLEGAL INSTRUCTION

1992      002020 200040 000060      MOVE TAC,SIXTY   ;YES, GET EFFECTIVE ADDRESS
1993      002021 270040 000151      ADD TAC,JOBA0R   ;ADD RELOCATION FOR CURRENT JOB
1994      002022 200041 000000      MOVE TAC,(TAC)  ;GET PC STORED BY INTERRUPT JSR
1995      002023 250040 002011      EXCH TAC,UUO2   ;RESTORE TAC, AND STORE PC
1996      002024 254520 002011      JEN @UUO2       ;DISMISS INTERRUPT
1997
1998      002025 505040 014000      UUOER1: HRLI TAC,USRMOD;UIOMOD ;SET USER MODE AND USER IO MODE BACK ON
1999      >
2000      002026 202040 002031      UUOER2: MOVEM TAC,UUO0 ;STORE PC AS IF AN ILLEGAL INSTR, HAD OCCURRED
2001      002027 476000 000040      SETOM FORTY     ;MAKE IT LOOK LIKE AN ILLEGAL INSTRUCTION
2002      ; TRAPPED TO 40
2003      002030 334040 002011      SKIPA TAC,UUO2  ;RETORE TAC AND FALL INTO REGULAR UOO HANDLER
    
```

```

2004          ;HERE ON TRAPS TO EXEC LOC 40741 - OPCODES 0,40-77(0-77 ON PDP-6)
2005
2006          INTERN UUO?
2007          EXTERN UUOUSR, UUOSY1, ERROR
2008
2009 002031 000020 000000 UUO?: ?          ;JSR HERE FROM LOC 41
2010 002032 202740 000153          MOVE 17,USRSV          ;SAVE 17
2011 002033 200740 002031          MOVE 17,UUO          ;GET PROCESSOR FLAGS
2012 002034 607740 010000          TLNN 17,USRMD          ;IS UUO FROM MONITOR?
2013 002035 254000 000000          JRST UUOSY1          ;YES, DO NOT SAVE ACS
2014 002036 336740 000151          SKIPN 17,JOBADR          ;IS THERE A JOB DATA AREA?
2015 002037 265240 000000          JSP DAT,ERROR          ;NO, MUST BE UUO DURING NULL JOB
2016
2017          IFE PDP10N,<
2018          EXCH TAC,FORTY          ;PRINT ERROR IN MONITOR
2019          TLNN TAC,74000          ;FOR PDP-6 OPCODES 1-37
2020          TLNN TAC,07700          ;SAVE TAC, PICK UP UUO
2021          JRST UUOSYS          ;IS THIS SYSTEM UUO?
2022          MOVEM TAC,40(17)          ;NO, IS IT 2 UUO?
2023          HRRZ TAC,41(17)          ;YES
2024          JUMPE TAC,UUOSYS          ;STORE UUO IN USER'S 40
2025          HLL TAC,UUO?          ;PICK UP ADR OF USER'S JSR
2026          MOVE! 17,(TAC)          ;IF ADDRESS=0,ILLEGAL USER UUO
2027          CAML 17,USRRFL          ;USER PD FLAGS(RESTORED ON RETURN)
2028          JRST UUOSY?          ;17 NOW HAS REL.ADR+1 OF USER JSR
2029          HRRI TAC,1(TAC)          ;IS EFFECTIVE ADDRESS IN BOUNDS?
2030          EXCH TAC,UUO?          ;ERROR, JSR EFF. ADDR. OUTSIDE USER AREA
2031          ADD 17,JOBADR          ;YES, INCREMENT PC.
2032          MOVEM TAC,(17)          ;SET UP RETURN TO USER IN UUO?
2033          MOVE 17,USRSV          ;PICKUP USERS FLAGS,PC
2034          MOVE TAC,FORTY          ;MAKE REL. ADR, INTO ARS. ADR.
2035          MOVE 17,USRSV          ;STORE FLAGS AND PC LIKE JSR
2036          JRST 2,UUO?          ;RESTORE TAC
2037          UUOSY?: MOVE 17,JOBADR          ;RESTORE 17
2038          UUOSYS: EXCH TAC,FORTY          ;RETURN TO USER(RESTORING FLAGS)
2039          >
2040          ;
2041 002040 254000 000000          ;SETUP 17 FOR LOW SEGMENT RELOCATION
2042          JRST UUOUSR          ;RESTORE USERS AC(TAC) AND USER'S UUO(FORTY)
          ;GO SAVE USER'S ACS IN REL. LOC. 0-17
          ; AND DISPATCH ON UUO
    
```

```

2043 ;GENERATE EXTERNAL GLOBALS TO CAUSE LOADING OF PROPER ROUT, FROM MONITOR LIBRARY TAPE
2044 ;IF THERE IS ONE
2045
2046
2047 ;ALWAYS LOAD CLOCK1,COMCON,CORE1,ERRCON,JOB DAT,ONCE,PATCH,SYSMAX,UUOCON
2048 EXTERNAL CLOCK1,COMCON,CORE1,ERRCON,DATJOB,ONCE,PATCH,SYSMAX,UUOCON
2049 ;LOAD DDT
2050 IFG DDTN,<EXTERN DDTX>
2051 IFE DDTN,<XP DDTEND,0 ;ONCE REFERENCES END OF DDT>
2052 ;LOAD APPROPRIATE SCHEDULER FOR NON-SWAP OR SWAPPING SYSTEMS
2053 IFG SYS40N,<EXTERN XCKCSS> ;CLKCSS
2054 IFG SYS50N,<EXTERN XCKCSW> ;SCHFD
2055
2056 ;LOAD EITHER SEGCON(2REG SOFTWARE) OR NULSEG(1 REG SOFTWARE)
2057 ; UNLESS USER HAS EDITTED S WITH FT2REL=0 SO ALL PUSHJ'S
2058 ; TO SEGCON(NULSEG) ARE REMOVED
2059
2060 IFN FT2REL,<
2061 IFG KT10AN, <EXTERN SEGCON>
2062
2063 >
2064 IFE KT10AN, <EXTERN NULSEG>
2065
2066 ;APR AND PI BITS
2067 INTERN PION,PIOFF,REQCLK,PICLK,APRCLR,APRCLC,APRNUL,APRST,NXM,APRFOV
2068
2069 000001 CLKBIT==1
2070 REPEAT 7-CLKCHN,<CLKBIT==CLKBIT+2>
2071 PION==200 ;CONO PI,PION TURNS PI SYSTEM ON
2072 PIOFF==400 ;TURN IT OFF
2073 REQCLK==1824+CLKBIT ;REQUEST INTERRUPT ON LOW PRIORITY CLK CHANNEL
2074 PICLK=PION+REQCLK ;TURN ON PI,REQUEST INTERRUPT ON CLK CHANNEL
2075 APRCLR==1000+APRCHN ;TURN APR CLOCK FLAG OFF
2076 APRCLC==431550+APRCHN ;CLEAR ALL APR ERROR BITS
2077 APRNUL==433550+APRCHN ; AND DISABLE FOV AND AR OVF
2078 ; CLEAR EVERYTHING BUT DONT IO RESET
2079 APRST==APRNUL+200000 ;RESET APR FOR NULL JOB
2080 NXM==10000 ;NON-EX MEM I (APR STATUS WORD)
2081 IFG PDP10N,<APRFOV==100 ;LOADING OVERFLOW CAN BE ENABLED ON PDP10
2082 ; FOR USER TRAPPING>
2083 IFE PDP10N,<APRFOV==000 ;PC CHANGE CANNOT BE ENABLED ON PDP-6, BEACUSE
2084 ; IT MAKES MONITOR TRAP ALSO>
2085
2086 ;MAKE SURE THAT PROPER VERSION OF FEATURE SWITCH FILES WERE USED TO ASSEMBLE
2087 ;THE REST OF THE MONITOR
2088 ;THE LOADER WILL PRINT MUL, DEF, GLOBAL IF A MISTAKE HAS BEEN MADE
2089 XP FTDISK,-DSKN+
2090 XP FTSWAP,-SYS50N+
2091 XP FTREL,-RD10N+
2092
2093 IFG KT10AN,<XP FT2REL,-1> ;IF Z RELOC SOFTWARE, THEN FT2REL MUST BE -1
2094 IFE COREN,<COREN==0256 ;NO RESTRICTION IF 0 TYPED>
2095 XP USRLIM,COREN ;DEFINE GLOBAL RESTRICTING SIZE OF CORE FOR ANY
    
```

COMMON - MONITOR COMMON DATA AREA AND CONFIGURATION DEFINITION - V437 MACRO.V36 19:02 4-JUN-69 PAGE 47-1
PART 3 COMMON,MAC - T. HASTINGS/RCC TS 03 JUN 69

2096
2097
2098

SINGLE USER

: ONCE ONLY CODE CAN ALTER THIS VALUE
; (PATCH RH COPLIM IN SYSLM)


```

2099
2100           ;SCANNER ENTRY POINTS AND BIT DEFINITIONS
2101
2102           IFG DLSN,<EXTERN DLSINT>           ;DATA LINE SCANNER
2103           IFG CCIN,<EXTERN CCIINT>          ;DA-10 PDP-8 680
2104           IFG DCSN,<EXTERN DCSINT>          ;630 DATA COMMUNICATIONS SYS
2105
2106           IFG FULLN,<EXTERN SCNSRF>         ;FULL DUPLEX SOFTWARE ENTRY POINT
2107           IFE FULLN,<EXTERN SCNSRH>        ;HALF DUPLEX SOFTWARE ENTRY POINT
2108           IFG FULLN,<
2109           INTERN LINTAB
2110
2111 002041     LINTAB:           ;LINE CHARACTERISTIC BITS (NOT CLEARED ON SYSTEM STARTUP)
2112
2113           ;TELETYPE LINE CHARACTERISTICS(LH OF LINTAB)
2114           ;USED IN SCNSRF ALSO
2115
2116           XP PTYLN,400000           ;PSEUDO TTY LINE
2117           XP CTYLN,200000           ;CONSOLE TTY
2118
2119           XP DISLN,100000           ;KEYBOARD DISPLAY
2120           XP DSOTLN, 40000         ;DATASET DATA LINE
2121           XP DSCTLN, 20000         ;DATASET CONTROL LINE(DC10E)
2122           XP HLFDPX, 10000         ;HALF DUPLEX LINE
2123           XP TTYRMT, 4000         ;REMOTE TTY
2124           XP T35, 10               ;TTY HAS HARDWARE TABS
2125           XP FULTWX, 4              ;SELF-ECHOING LINE
2126           ;USED IN CCIINT,DCSINT,DLSINT & SCNSRF
2127
2128           IFG EDITN,<               ;HAS COMMON,MAC BEEN EDITED TO DEFINE TTY LINE CHAR,
2129           ; SO MONGEN TYPE-IN REDUCED?
2130           ; IF NO APR NUMBER, AND THIS IS NOT EDITED FOR THE CUSTOMER,
2131           ; MAKE ALL LINES JUST BE MODEL 33 TELETYPES
2132
2133           IFE APRSN,<REPEAT TTPLEN,<0>>
    
```

```

2133 IFF APRSN=2,<
2134 ;FOLLOWING LINE DEFINITIONS FOR DEC PDP12 #2
2135
2136 002041 000010 000000 XWD T35,0 ;TTY*
2137 002042 000010 000000 XWD T35,0 ;TTY1
2138 002043 000010 000000 XWD T35,0 ;TTY2
2139 002044 000000 000000 XWD 0,0 ;TTY3
2140 REPEAT 3,< XWD T35,0>
2141 002045 000010 000000 XWD T35,0
2142 002046 000010 000000 XWD T35,0
2143 002047 000010 000000 XWD T35,0 ;TTY4-6
2144 002050 004010 000000 XWD T35+TTYRMT,0 ;TTY7 - REMOTE 35
2145 002051 004000 000000 XWD DSOTLN,0 ;TTY10
2146 002052 004000 000000 XWD DSOTLN+H_FDPX,0 ;TTY11
2147 002053 004000 000000 XWD DSOTLN,0 ;TTY12
2148 REPEAT 4,< XWD T35,0>
2149 002054 000010 000000 XWD T35,0
2150 002055 000010 000000 XWD T35,0
2151 002056 000010 000000 XWD T35,0
2152 002057 000010 000000 XWD T35,0 ;TTY13-16
2153 002060 004000 000000 XWD TTYRMT,0 ;TTY17 - REMOTE
2154 REPEAT 8,<XWD TTYRMT,0>
2155 002061 004000 000000 XWD TTYRMT,0
2156 002062 004000 000000 XWD TTYRMT,0
2157 002063 004000 000000 XWD TTYRMT,0
2158 002064 004000 000000 XWD TTYRMT,0
2159 002065 004000 000000 XWD TTYRMT,0
2160 002066 004000 000000 XWD TTYRMT,0
2161 002067 004000 000000 XWD TTYRMT,0
2162 002070 004000 000000 XWD TTYRMT,0
2163 >
2164 IFF APRSN=1040,<
2165 ;THIS CONFIGURATION FOR DEC SYSTEM NUMBER 40
2166
2167 REPEAT *08,< ;MODFL 33'S LOCALLY>
2168
2169 REPEAT *08,< XWD DSOTLN,0 ;DATASET>
2170 >
2171
2172 ; CTY AND PTY SET BY SCMSRF
2173 > ;END PRE-EDITED LINE CHARACTERISTICS
    
```

```

2174             IFE EDITN,<                ;MONGEN DIALOG DEFINE TTY CONFIG?
2175
2176             DEFINE GENLIN (LIN)<
2177                 IFNDEF DSD'LIN,<DSD'LIN=0>           ;DATA SET?
2178                 IFNDEF TAB'LIN,<TAB'LIN=0>          ;HARDWARE TABS?
2179                 IFNDEF RMT'LIN,<RMT'LIN=0>          ;REMOTE?
2180                 IFNDEF HLF'LIN,<HLF'LIN=0>          ;HALF DUPLEX SCANNER?
2181                 XWD DSD'LIN*DSOTLN+TAB'LIN*T35+RMT'LIN*TTYRMT+HLF'LIN*HLFDPX,0
2182             >
2183
2184             REPEAT HGHLIN*1,<LINE=,~LINTAB          ;DEFINE LINE NUMBER
2185                 GENLIN \LINE>
2186
2187
2188
2189             >
2190             LOC LINTAB+TTPLEN                    ;MAKE SURE ENOUGH SPACE FOR CTY+PTY'S
2191
2192             >
2193
2194
2195             INTERN FSNCHN,SCNON,SCNOFF
2196
2197             000404             FSNCHN==SCNCHN*101           ;CHANNEL ASSIGN. FOR FULL DUPLEX SCN.
2198             000001             SCNBIT==1
2199             REPEAT 7-SCNCHN,<SCNRIT==SCNBIT*2>
2200             000002             SCNBIT==SCNBIT*2
2201             000004             SCNBIT==SCNBIT*2
2202             000010             SCNBIT==SCNBIT*2
2203             002010             SCNON==2000+SCNBIT         ;CONO PI, TURNS SCANNER PI CHANNEL ON
2204             001010             SCNOFF==1000+SCNBIT       ;CONO PI, TURNS SCANNER PI CHANNEL OFF
2205             IFG TABSN,<TTMODL=-1>                       ;HARDWARE TABS
2206             000000             IFE TABSN,<TTMODL=0>
2207             XP SCNNUM,HGHLIN+1                          ;NO. OF SCANNER LINES (USED BY ONCE FOR PRINTING CONFIG
    )
    
```

002074

```

2278                ;MAGTAPE ENTRY POINT AND BIT DEFINITIONS
2279
2210                IFG MTAN,<EXTERN MTASRX>                ;TM17 ENTRY POINT
2211                IFG MTCN,<EXTERN MTC6SR6>                ;POP-6 MAGTAPES ENTRY POINT
2212
2213                IFG MTAN,<
2214                INTERN MTALOC,MTLOC1,MTBOTH,MTFLAG,MMSIZ
2215                777777 777600                MMSIZ==MMSIZ
2216                000042                MTALOC==40+2*MTDCHN                ;BLKI/BLKO LOCATION
2217                000043                MTLOC1==MTALOC+1                ;NEXT LOCATION
2218                000041                MTBOTH==MTACHN*10+MTDCHN                ;BOTH PI CHANNELS
2219                000440                MTF_AG==400+MTACHN*10
2220                >
2221                IFG MTCN,<
2222                INTERN DCLOC,DCLOC1,DCON,DCOFF,DCIN,DCOUT
2223                DCLOC==40+2*DCDCHN                ;EVEN DC PI CHANNEL LOC
2224                DCLOC1==DCLOC+1                ;NEXT LOCATION
2225                DCBIT==1
2226                REPEAT 7-DCDCHN,<DCBIT==DCBIT*2>
2227                DCON==2000+DCBIT                ;TURN DC PI CHANNEL ON
2228                DCOFF==1000+DCBIT                ;TURN DC PI CHANNEL OFF
2229                DCIN==4010+DCDCHN                ;SET DC FOR INPUT
2230                DCOUT==3410+DCDCHN                ;SET DC FOR OUTPUT
2231                >

```

```

2232                ;DECTAPE ENTRY POINT ADN BIT DEFINITIONS
2233
2234                000001          SAVN==1                ;WE ONLY SUPPORT NEW FORMAT NOW
2235                                                ;MONGEN NO LONGER ASKS QUESTION,
2236
2237                IFG DTAN,<EXTERN DTASRN>                ;TD10 WITH NEW FORMAT
2238                IFG DTCN,<                ;
2239                IFG SAVN,<EXTERN DTCSRN>                ;556 WITH NEW FORMAT
2240                IFE SAVN,<EXTERN DTCSR0>                ;556 WITH OLD FORMAT
2241                >
2242                IFG DTAN,<                ;DEFINE SYMBOLS IF PDP-10 DECTAPES(TD10)
2243                INTERN DTALOC,DTALC2,DTBOTH,DTTURN
2244                DTALOC==40+2*DTDCHN                ;BLKI/BLKO LOCATION
2245                DTALC2==DTALOC+1                ;NEXT LOCATION
2246                DTBOTH==DTDCHN*10+DTACHN
2247                DTTURN==300200+DTBOTH
2248                >
2249                IFG DTCN,<                ;DEFINE SYMBOLS IF PDP-6 DECTAPES(556)
2250                INTERN DCLOC,DCLOC1,DCON,DCOFF,DCIN,DCOUT
2251                DCLOC==40+2*DCDCHN                ;EVEN DC PI CHANNEL LOC
2252                DCLOC1==DCLOC+1                ;NEXT LOCATION
2253                DCBIT==1
2254                REPEAT 7-DCDCHN,<DCBIT==DCBIT*2>
2255                DCON==2000+DCBIT                ;TURN DC PI CHANNEL ON
2256                DCOFF==1000+DCBIT                ;TURN DC PI CHANNEL OFF
2257                DCIN==4010+DCDCHN                ;SET DC FOR INPUT
2258                DCOUT==3410+DCDCHN                ;SET DC FOR OUTPUT
2259                >
2260                ;DEFINE SAVE MODE AND EXTENSION FOR OLD OR NEW FORMAT
2261
2262                INTERN SAVDMP
2263                IFE SAVN,<
2264                SAVDMP==<SIXRIT / DMP/>                ;EXTENSION FOR SAVED FILFS == "DMP"
2265                >
2266                IFN SAVN,<
2267                SAVDMP==<SIXRIT / SAV/>                ;EXTENSION FOR SAVED FILFS == "SAV"
2268                >
2269                634166                >
    
```

```
2269          ;DISPLAY AND LIFE PEN
2270
2271          IFG DISN,<
2272          IFG T340N,<EXTERN DIS340>          ;TYPE 340 ENTRY POINT
2273          IFE T340N,<EXTERN DIS30>          ;TYPE 30 ENTRY POINT
2274          INTERN DISBLK,DISJSR,ONDIS,NONDIS,OFFDIS,DISPCN,DISPCF
2275          DISBLK==40+2*DISCHN          ;BLKI/PLKO LOCATION
2276          DISJSR==DISBLK+1
2277          ONDIS==100+10*PENCHN+DISCHN
2278          NONDIS==10*PENCHN+DISCHN
2279          OFFDIS==0
2280          DISBIT==1
2281          REPEAT 7-DISCHN,<DISBIT==DISBIT+2>
2282          DISPCN==2000+DISBIT          ;CONO PI, TURNS DIS PI CHANNEL ON
2283          DISPCF==1000+DISBIT          ;CONO PI, TURNS DIS PI CHANNEL OFF
2284
2285
2286
```

```

2287 ;LINE PRINTER ENTRY POINT AND DDR DEFINITIONS
2288
2289         IFG LPTN, <
2290
2291 ;PROTOTYPE DEFINITION FOR LINE PRINTER DEVICE DATA BLOCKS
2292
2293 DEFINE LPTDDB (N) <
2294
2295         XLIST ;TURN OFF LISTING DURING EXPANSION
2296
2297 LP'N'SV1=LP'N'SAC+DEV DAT ;DEFINE DEV DAT SAVE LOCATION
2298
2299 LP'N'INT: CONSO LP'N,0 ;(-4) SKIP IF INTERRUPT FOR THIS LPT
2300         JRST .-1 ;(-3) GO TO NEXT SKIP CHAIN ELEMENT
2301         MOVEM DEV DAT,LP'N'SV1 ;(-2) SAVE DEV DAT IN CHANNEL SAVE AREA
2302         JSP DEV DAT,LPTINT ;(-1) SET UP DDB ADDRESS AND BRANCH
2303
2304 LP'N'DDB:
2305 LP'N'NAM:
2306
2307         IF LPTN=1, < SIXBIT /LPT/ ;( 0) PHYSICAL DEVICE NAME >
2308         IFN LPTN=1, < SIXBIT /LPT'N/ ;( 0) PHYSICAL DEVICE NAME >
2309         XWD *D60*HUNGST,<N>B23+LPTS;Z ;( 1) DEVICE CHARACTERISTICS
2310         0 ;( 2) DEVICE I/O STATUS
2311         XWD 0,LPTDSP ;( 3) LH=DDB LINK, RH=DSP TABLE ADDR.
2312 LPTMOD==1+A+1-AL+1+I ;LPT LEGAL MODES
2313         XWD DVOUT+DVLPT,LPTMOD ;( 4) DEVICE CHARACTERISTICS
2314         0 ;( 5) LOGICAL DEVICE NAME
2315 LP'N'PTR: 0 ;( 6) BUFFER HEADER ADDRESSES
2316         XWD PROG,0 ;( 7) BLOCK OUTPUT POINTER
2317         EXP 11*LP'N'CHN ;(10) CURRENT OUTPUT BUFFER ADDRESS
2318 ;(11) INTERRUPT CHANNEL ASSIGNMENTS
2319
2320         MOVE DEV DAT,LP'N'SV1 ;(12) RESTORE DEV DAT, SAVE AC'S
2321         JSR LP'N'SAV ;(13) AND ESTABLISH PDP
2322         MOVEI DEV DAT,LP'N'NAM ;(14) SET UP DDB ADDRESS AND RETURN
2323         JRST LPTNXT ;(15) TO COMMON INTERRUPT HANDLER
2324
2325         MOVE DEV DAT,LP'N'SV1 ;(16) RESTORE DEV DAT AND
2326         JEN @LP'N'CHL ;(17) DISMISS INTERRUPT
2327
2328         0 ;(20) SAVE LOCATION FOR TAC
2329
2330         CONSZ LP'N,LPTECM ;(21) THE REST OF THE DDB CONTAINS
2331         CONSO LP'N,LPTDON ;(22) THE ACTUAL I/O INSTRUCTIONS
2332 ;(23) ROUTINE TO CONTROL A LINE
2333         CONSO LP'N,(TAC) ;(24) PRINTER, THEY ARE EXECUTED
2334         CONI LP'N,TAC ;(25) BY MEANS OF AN XCT INSTRUCTION
2335         CONO LP'N,(TAC) ;(26) INDEXED TO THE PROPER DDB
2336         DATA LP'N,(TAC) ;(27)
2337         RLKO LP'N,LP'N'PTR ;(30)
2338
2339 LIST ;TURN LISTING BACK ON DURING EXPANSION
    
```

```

2340
2341
2342 >
2343
2344 EXTERN LPTSER, LPTNXT, LPTECM, LPTDON, LPTINT, LPTDSP
2345 000524 LPT2=524 ;DEVICE SELECT CODE FOR SECOND LPT
2346
2347 ;DEFINE STANDARD MNEMONIC DEFINITIONS
2348 ;FNDEF LP0, <LP0=LPT> ; BUT ALLOW FOR OVERRIDE
2349 ;FNDEF LP1, <LP1=LPT2>
2350 000000 $LPNUM=0 ;TEMPORARY SYMBOL USED TO FACILITATE
2351 ; MACRO GENERATION
2352
2353
2354 REPEAT LPTN, <
2355
2356 LPTDNB (\$LPNUM),
2357 000001 $LPNUM=$LPNUM+1
2358 >
2359
2360
2361 >
2362
2363
    
```



```
2364                    ;CARD READER ENTRY POINT AND BITS
2365
2366                    IFG CDRN,<
2367                    IFG CR10N,<EXTERN CDRSRX>            ;CR10 ENTRY POINT
2368                    IFE CR10N,<EXTERN CDRSR6>           ;POP-6 CARD READER
2369                    INTERN CDRBTS
2370                    001673                    CDRBTS==1670+CDRCHN
2371                    >
2372
2373                    ;CARD PUNCH ENTRY POINT
2374
2375                    IFG CDPN, <
2376                                       EXTERN CDPSE            ;ENTRY POINT
2377                    >
2378
```

```
2379  
2380           ;PLOTTER ENTRY POINT  
2381  
2382           IFG PLTN,<EXTERN PLTSE>  
2383  
2384  
2385           ;PAPER TAPE READER ENTRY POINT AND MASK  
2386  
2387           IFG PTRN,<EXTERN PTRSER ;SAME ROUTINE FOR PDP-6 AND PDP-10 READER  
2388           INTERN PTRMSK  
2389           000000 IFG PDP10N,<PTRMSK==0> ;MASK==0 IF PDP-10 READER  
2390           > IFE PDP10N,<PTRMSK==777777> ;MASK==777777 FOR PDP-6 READER  
2391  
2392  
2393  
2394           ;PAPER TAPE PUNCH ENTRY POINT  
2395  
2396           IFG PTPN,<EXTERN PTPSER>  
2397
```

```

2398 ;DISK ENTRY POINTS AND BITS
2399
2400 IFG DSKN,<
2401 INTERN DSKBIT,DCRBIT,DSKCN,DSKOFF
2402 000000 DCRBIT==0 ;0 UNLESS DATA PRODUCTS DISK(SEE BELOW)
2403 000001 DSKBIT==1 ;LOW PRIORITY DISK PI CHANNEL
2404 REPEAT 7-DSKCHN,<DSKBIT==DSKBIT*2>
2405 000002 DSKBIT==DSKBIT*2
2406 000004 DSKBIT==DSKBIT*2
2407 002004 DSKCN==2000+DSKBIT ;CONO PI, TURN DISK CHANNEL ON
2408 001004 DSKOFF==1000+DSKBIT ;CONO PI, TURN DISKCHANNEL OFF
2409 IFG RD10N,< ;BURROUGHS DISK
2410 EXTERN RCXINT,DSKSRB,RCXWNZ ;LOAD EARLIER VERSIONS OF
2411 ; DSKINT,DSKSRB,ONCEB
2412 IFG SYS50N,<EXTERN RCXSKD> ;LOAD EARLIER VERSION OF SCHEDB
2413 >
2414 IFG DPN,< ;IF DATA PRODUCTS DISK
2415 EXTERNAL LDDINT ;LOAD DDPINT
2416 EXTERNAL DSKSRD ;LOAD ONCE+DSKSR FOR DATA PROD DISK
2417
2418 INTERN DCRBIT,DSKX8,DSKX9
2419 DCRBIT==1
2420 REPEAT 7-DCRCHN,<DCRBIT==DCRBIT*2>
2421 DSKX8==40+2*DCRCHN ;DATA-CONTROL BLKI/BLKO I/OCS
2422 DSKX9==DSKX8+1
2423 >
2424 IFG RA10N,< ;IF BRYANT DISK
2425 EXTERN MDPINT,DSKSER,MPFWNZ
2426 IFG SYS50N,<EXTERN RCXSKD>
2427 >
2428 ;PSEUDO TTY ENTRY POINT
2429
2430 IFG PTYN,<INTERN PTYPE,PTMNMZ,PTYOW,PTMND
2431 PTYPE:PTMNMZ:PTYOW:PTMND: HALT CPOPJ ;HALT IF SCNSER CALL PTY ROUTINES
2432 ; BECAUSE NONE LOADED
2433 >
2434 IFG PTYN,<
2435 IFG FULLN,<EXTERN PTYSRH> ;HALF DUPLEX SCANNER SOFTWARE
2436 IFG FULLN,<EXTERN PTYSRF> ;FULL DUPLEX SCANNER SOFTWARE
2437 >
2438 LIT
2439 RELOC , -COMORG ;NOW MAKE RELOCATABLE SO NEXT PROGRAM WILL BE LOADED
2440 ; IMMEDIATELY AFTER THIS ONE
2441 002131
2442 001771
2443
2444 001771 COMEND: END
    
```

NO ERRORS DETECTED

PROGRAM BREAK IS 001775

A	000000	INT	AC1	000015	INT	AC2	000016	INT
AC3	000017	INT	AL	000021	INT	APRCHL	001623	INT
APRCHN	000003	INT	APRCLC	431553	INT	APRCLR	001003	INT
APRRER	000203	INT	APRF0V	000120	INT	APRINT	000255	FXT
APRN	000001	DL0	APRNUL	433553	INT	APRPC	000224	INT
APRRST	633553	INT	APRSN	000002	INT	APRSTS	001524	INT
BIGH0L	000273	INT	BLKMXC	000003	INT	BLKQNT	000062	INT
CCIN	000000	INT	CDPN	000000	INT	CDRBT5	001673	INT
CDRCHL	001603	INT	CDRCHN	000003	INT	CDRDDB	000254	FXT
CDRINT	000253	EXT	CDRN	000001	INT	CDRRET	001613	INT
CDRSAC	001616	INT	CDRSAV	001625	INT	CDRSRX	000000	FXT
CH1	002001	INT	CH2	002003	INT	CH3	001603	INT
CH3PD1	001630	INT	CH4	001655	INT	CH4PD1	001702	INT
CH5	001727	INT	CH5PD1	001754	INT	CH6	002005	INT
CH7	002007	INT	CIPWT	000211	INT	CIPWTM	000210	INT
CLKBIT	000001	DL0	CLKCHL	002007	INT	CLKCHN	000007	INT
CLKFLG	000201	INT	CLKINT	000301	EXT	CLKN	000001	DL0
CLOCK1	000000	EXT	CLRWRD	000271	INT	CNFMXL	020000	INT
CNFTRL	001447	INT	CNTDR	000152	INT	COMCNT	000177	INT
COMCON	000000	EXT	COMEND	001771	INT	COMORG	000140	INT
CONFIG	001447	INT	CORBLK	000400	INT	CORE1	000000	FXT
COREN	000400	INT	COREP	001574	INT	CORLST	000261	INT
CORMAX	000260	INT	CORTAB	000250	INT	CORTAL	000262	INT
CPOPJ	001554	INT	CPOPJ1	001552	INT	CPOPJ2	001551	INT
CR10N	000001	INT	CRASHX	001513	INT	CRINIT	000244	FXT
CRSHAC	001522	EXT	CRSHWD	000030	INT	CRSTS	001534	INT
CTYCHL	001655	INT	CTYCHN	000004	INT	CTYINT	000271	FXT
CTYLIN	000000	INT	CTYN	000001	INT	CUSPPP	001600	INT
CUXIT	001554	INT	CUXIT1	001552	INT	DAT	000005	INT
DATJOB	000000	EXT	DCBBIT	000000	INT	DCSN	000000	INT
DBNUM	000247	INT	DDRTAB	000307	INT	DDTN	000001	INT
DDTSYM	000036	INT	DDTX	000000	EXT	DESONC	000246	INT
DEVCHR	000001	INT	DEVDAT	000006	INT	DEVIAD	000007	INT
DEVIOS	000002	INT	DEVST	001463	INT	DEVNAM	000000	INT
DEVOPR	001462	INT	DEVSER	000003	INT	DISLIN	120002	INT
DISN	000000	INT	DL5INT	000000	EXT	DL5N	000001	INT
DL5STS	001532	INT	DPDN	000000	INT	DPOPJ	001553	INT
DPSWPN	000000	INT	DSCTLN	020000	INT	DSOTLN	040000	INT
DSKBIT	000004	INT	DSKCHL	001727	INT	DSKCHN	000005	INT
DSKJOB	000274	EXT	DSKDI	001542	INT	DSKINT	000273	FXT
DSKN	000001	INT	DSKOFF	001004	INT	DSKON	002004	INT
DSKRFT	001737	INT	DSKSAC	001742	INT	DSKSAV	001731	INT
DSKSRB	000000	EXT	DSKSTP	001545	EXT	DSKSTS	001541	INT
DTACHL	001655	INT	DTACHN	000004	INT	DTADDB	000266	FXT
DTADDS	000000	EXT	DTAINT	000245	EXT	DTALC2	000045	INT
DTALOC	000044	INT	DTAN	000010	INT	DTARET	001665	INT
DTASAC	001670	INT	DTASAV	001657	INT	DTASRN	000000	FXT
DTBIT	000000	DL0	DTBOTH	000024	INT	DTCN	000000	INT
DTDCHN	000002	INT	DTSSTS	001533	INT	DTTRY	000004	INT
DTTURN	000224	INT	DUMPPP	001601	INT	DVLPT	040000	INT
DVOUT	000001	INT	EDITN	000001	INT	ERRCON	000000	FXT
ERROR	002037	EXT	ERRPOL	000120	INT	FINISH	000274	INT
FIT	000276	INT	FORCE	000275	INT	FORTY	000040	INT

COMMON - MONITOR COMMON DATA AREA AND CONFIGURATION DEFINITION - V437
 SYMBOL TABLE

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FSNCHN		000404	INT	FT2REL	777777	777777	INT	FTDISK	777777	777777	INT
FTKCT	777777	777777	INT	FTPRV	777777	777777	INT	FTRC10	777777	777777	INT
FTSLEE	777777	777777	INT	FTSWAP	777777	777777	INT	FETIME	777777	777777	INT
FTTRAC		000000	INT	FTTRPS	777777	777777	INT	FTTYYS	777777	777777	INT
FULCNT		000301	INT	FULLN		000001	INT	FULTWX		000004	INT
HELPPP		001602	INT	HGHLIN		000027	INT	HIGHAC		000010	OLD
HIGHJB		000270	INT	HLPDPX		010000	INT	HNGSEC		000170	INT
HNGTIM		000200	INT	HOLEF		000264	INT	HUNGST		000001	INT
I		000010	INT	IADPTR		001572	INT	ICPROT		001472	FXT
ICPRT1		001473	EXT	IMGIN		001575	INT	IMGINT		001577	INT
IMGOUT		001576	INT	INLEFT		000012	INT	INMSK		000377	INT
INTNUM	777777	777746	INT	INTTAB		000251	INT	INTT91		000252	INT
IOS		000000	INT	IOWF		000024	INT	IPOPJ		001561	INT
IPOPJ1		001560	INT	ITEM		000004	INT	ITMSGN		033004	INT
JBTA01		000422	INT	JBTA0R		000421	INT	JBTCHK		001015	INT
JBTDAT		000421	INT	JBTDIR		000545	INT	JBTCKT		001175	INT
JBTMAX		000067	INT	JBTMXL		067000	INT	JBTNAM		001105	INT
JBTPRG		001105	INT	JBTPRV		001231	INT	JBTQ		001355	INT
JBTQM1		001354	INT	JBTQMN		001326	INT	JBTQP1		001356	INT
JBTSGN		000511	INT	JBTSTS		000331	INT	JBTSWP		000725	INT
JBUF		000005	INT	JIFMIN		007020	INT	JIFSC2		000036	INT
JIFSEC		000074	INT	JOB		000150	INT	JOBADR		000151	INT
JOB DAT		000151	INT	JOBMAX		000033	INT	JOBMXL		033000	INT
JORN		000034	INT	JSR2		000146	EXT	JUSTCT		000224	INT
JWPOS		000016	INT	JWSIZ		000005	INT	K4SWAP		001471	INT
KT10A		000033	INT	KT10AN		000001	INT	LINK0B		000150	INT
LINKED		000245		LINKSR		000151	EXT	LINTAB		002041	INT
LISTSN		000001	OLD	LOCORE		000241	EXT	LOGINN		000001	INT
LOGSIZ		000002	INT	LOOP		000156		LP0		000124	
LP0CHL		001655	INT	LP0CHN		000004	INT	LP0DDB		002100	
LP0INT		002074		LP0N		000001	OLD	LP0NAM		002100	
LP0PTR		002107		LP0RET		001665	INT	LP0SAC		001670	INT
LP0SAV		001657	INT	LP0SV1		001676		LP1		000524	
LPT2		000524		LPTD0N		002122	EXT	LPTDSP		002103	FXT
LPT0CM		002121	EXT	LPTINT		002077	EXT	LPTMOD		000403	OLD
LPTN		000001	INT	LPTNXT		002115	EXT	LPTSER		000000	FXT
LPTSIZ		000032	INT	LPTSTS		001535	INT	LSTWRD		000272	INT
MAXJPN		000303	INT	MAXSIZ		000302	INT	MIDNIT		001512	INT
MINCOR		002750	INT	MJOBM	777777	777744	INT	MLTTYL	777777	777744	INT
MMSISZ	777777	777600	INT	MONTAB		001476	INT	MQTOP		001321	INT
MQUEUE		001265	INT	MTACHL		001655	INT	MTACHN		001004	INT
MTADDB		000270	EXT	MTADDS		000000	EXT	MTAINT		000267	FXT
MTALOC		000042	INT	MTAN		000003	INT	MTARET		001665	INT
MTASAC		001670	INT	MTASAV		001657	INT	MTASRX		000000	FXT
MTBN		000000	INT	MTBOTH		000041	INT	MTCN		000000	INT
MT0CHN		000001	INT	MTFLAG		000440	INT	MTLOC1		000043	INT
MTSIZ		000200	INT	MTTYLN	777777	777745	INT	MULDDB		000170	
MXQUE		000034	INT	NEXT		000226		NOTDTA		000207	
NSPMEM		003340	INT	NSWMLX		022000	INT	NSWT9L		000250	INT
NULDAT		000042	INT	NULERR		000206	INT	NULJB1		001547	
NULJOB		001550	EXT	NULPDL		000101	INT	NULZ		000027	INT
NXM		010000	INT	ODPMXL		003000	INT	ODPTBL		001470	INT
ONCE		000145	EXT	OUTMSK		377000	INT	PATCH		001461	FXT

PATSYM	000141	EXT	PCORSE	001573	INT	PDL	000025	NLD
PDP	000003	INT	PDP10N	000001	INT	PDVCNT	001571	INT
PDVTIM	001570	INT	PENN	000000	INT	PHYNAM	000250	
PICLK	004201	INT	PIOFF	000400	INT	PIOMOD	001564	INT
PION	000200	INT	PISTS	001525	INT	PJBSTS	001567	INT
PJOBV	001565	INT	PLTCHL	001727	INT	PLTCHN	000005	INT
PLTDOB	000300	EXT	PLTINT	000277	FXT	PLTN	000001	INT
PLTRFT	001737	INT	PLTSAC	001742	INT	PLTSAV	001731	INT
PLTSER	000000	EXT	PLTSTS	001536	INT	PHONTB	001475	INT
POTLST	000207	INT	PRJPRG	000545	INT	PROG	000007	INT
PROT	001472	INT	PROT3	001473	INT	PTPCHL	001727	INT
PTPCHN	000005	INT	PTPDOB	000276	EXT	PTPINT	000275	FXT
PTPN	000001	INT	PTPRET	001737	INT	PTPSAC	001742	INT
PTPSAV	001731	INT	PTRSER	000000	EXT	PTPSTS	001531	INT
PTRCHL	001655	INT	PTRCHN	000004	INT	PTRDOB	000262	FXT
PRINT	000261	EXT	PTRMSK	000000	INT	PTRN	000001	
PTRRET	001665	INT	PTRSAC	001670	INT	PTRSAV	001657	INT
PTRSER	000000	EXT	PTPSTS	001530	INT	PTYDOB	000252	FXT
PTYDOS	000000	EXT	PTYLIN	400000	INT	PTYN	000002	INT
PTYSRF	000000	EXT	PTYTAB	001444	INT	PUNIT	001566	INT
PUDOAC	001563	INT	RA10N	000000	INT	RASWPN	000000	INT
RAXCCW	000027	INT	RAXIOC	000000	INT	RCXCCW	000035	INT
RCXINT	000000	EXT	RCXIOC	000004	INT	RCXSKD	000000	FXT
RCXWNZ	000000	EXT	RD10N	000001	INT	RDSWPN	000001	INT
REQCLK	004001	INT	RET3	001613	INT	RET4	001665	INT
RETS	001737	INT	RP10N	000000	INT	RPSWPN	000000	INT
RTIME	000635	INT	SAV3	001605	INT	SAV4	001657	INT
SAV5	001731	INT	SAVAC3	001616		SAVAC4	001670	
SAVAC5	001742		SAVDMP	634166	INT	SAVN	000001	NLD
SCHEDF	000205	INT	SCNBIT	000000	NLD	SCNCHL	001655	INT
SCNCHN	000004	INT	SCNDOB	000240	EXT	SCNDDS	000000	FXT
SCNINT	000257	EXT	SCNN	000004	INT	SCNNUM	000030	INT
SCNOFF	001010	INT	SCNOV	002010	INT	SCNRET	001665	INT
SCNSAC	001670	INT	SCNSAV	001657	INT	SCNSRF	000000	FXT
SECCON	000000	EXT	SEGN	000034	INT	SEGPTR	001464	INT
SERIAL	001467	INT	SEWAT	000263	INT	SHFWRD	000266	INT
SIXTY	000060	INT	SLJORN	000004		SLPZ	000026	INT
SMALL	000220		STATFS	001446	INT	STDEMS	000002	INT
STOPTS	000210	INT	STOPZ	000000	INT	STUSER	000267	INT
SUMCOR	000304	INT	SWPERC	000300	INT	SWPHCH	001470	INT
SWPIN	000305	INT	SWPMXL	005000	INT	SWPQUT	000306	INT
SWPTPL	000273	INT	SWTSTS	001526	INT	SYS40N	000000	INT
SYS50N	000001	INT	SYSBEG	000150	INT	SYSBG1	000151	INT
SYSQRS	000147		SYSOAT	001454	INT	SYSOBT	000141	INT
SYSDEV	000100	INT	SYSDSP	000140	INT	SYSEND	001446	INT
SYSINI	000143	EXT	SYSMAK	000142	EXT	SYSPDL	001544	FXT
SYSPP	001600	INT	SYSISZ	001461	INT	SYSSNP	000037	INT
SYSTAP	001456	INT	SYSTOP	001521	INT	T30SYM	000131	INT
T340N	000000	INT	T35	000010	INT	TABSN	000000	INT
TAC	000001	INT	TAC1	000002	INT	TCONLN	000030	INT
THSDAT	001460	INT	TIME	001457	INT	TIMEF	000202	INT
TLOWZ	000025	INT	TMCSTS	001540	INT	TMSSTS	001537	INT
TPOPJ	001556	INT	TPOPJ1	001555	INT	TPYTAB	001441	INT

TSTLOC	001520		TTIME	000671	INT	TTMODL	000000	INT
TTPLEN	000033	INT	TTPMXL	032000	INT	TTYRMT	004000	INT
TTYSTS	001527	INT	TTYTAB	001411	INT	TWOREG	001465	INT
UDDTN	000001	INT	UIQM00	004000	INT	UPTIME	000265	INT
USED1	000000	DLD	USED2	000000	DLD	USED3	000001	DLD
USED4	000001	DLD	USED5	000001	DLD	USED6	000000	DLD
USED7	000000	DLD	USRDDT	000156	INT	USRHCU	000154	INT
USRHI	000176	INT	USRJDA	000157	INT	USRLIM	000400	INT
USRL0	000157	INT	USRL01	000160	INT	USRM00	010000	INT
USRPC	000155	INT	USRPR1	000155	INT	USRPR2	000154	INT
USRREL	000152	INT	USRSV	000153	INT	UUO	000014	INT
UU00	002031	INT	UU02	002011	INT	UUOCON	000000	FXT
UU0ER1	002025		UU0ER2	002026		UUOSY1	002035	FXT
UU0USR	002040	EXT	UXIT	001554	INT	VCOMMN	000437	INT
VIRTAL	000277	INT	WDPJIF	011072	INT	XCKCSW	000000	FXT
XJBPI	001474	INT	ZZ	770000	DLD	SLPNUM	000001	
.CH	000007	DLD	.CHAS	000001	DLD			

A	153#	153	2357					
AC1	49#	49	1348	1381	1392			
AC2	49#	50	1358	1359	1362	1365	1366	1367
AC3	50#	51	1347	1371	1383	1384		
AEFERR	244#	244						
AL	154#	154	2357					
APR	1817	1819	1832					
APRCHL	1602#	1602						
APRCHN	1600	1600#	2074	2075	2077			
APRCLE	2066	2075#						
APRCLR	2066	2074#						
APRERR	985	997#						
APRF0V	2066	2081#						
APRINT	1600							
APRN	1558#	1600						
APRNUL	2066	2077#	2079					
APRPC	985	999#						
APRRST	1832	2066	2079#					
APRSN	645#	645	809	1730	2132	2133	2164	
APRSTS	1797	1817#						
ASSCON	105#	105						
ASSPRG	106#	106						
B	157#	157						
RIGHOL	1078	1084#						
BLKMXC	1592	1593						
BLKQNT	832	835						
BUFPNT	44#	44	45					
BUFWRD	46#	46						
CCIN	658#	658	2103					
CDPN	710#	710	1637	2376				
CDPBTS	2369	2370#						
CDRCHL	1597#	1597						
CDRCHN	1597#	1597	2370					
CDRDDB	1597	1598						
CDRINT	1597							
CDRN	704#	704	1597	1598	2366			
CDRRET	1597#	1597						
CDRSAC	1597#	1597						
CDRSAV	1597#	1597						
CDRSRX	2367							
CH1	1967	1967#						
CH2	1968	1968#						
CH3	1597	1602	1952	1952#				
CH3PD1	1952#							
CH4	1606	1609	1612	1610	1619	1625	1953	1953#
CH4PD1	1953#							
CH5	1630	1634	1638	1954	1954#			
CH5PD1	1954#							
CH6	1972	1972#						
CH7	1658	1973	1973#					
CIPWT	988	1019#	1024					
CIPWTM	988	1024#						
CLKBIT	2068#	2072						

CLKCHL	1658#	1658			
CLKCHN	1656	1656#	2069		
CLKFLG	985	994#			
CLKINT	1656				
CLKN	1559#	1656			
CLKR	300#	300	332		
CLOCK1	2048				
CLRWRD	1028	1057#			
CLSIN	83#	83			
CLSOUT	82#	82			
CMWB	272#	272	302		
CNFMXL	1676	1731#			
CNFTRL	1676	1679#	1731		
CNTDR	1326	1331#			
COMCNT	985	990#			
COMCON	2048				
COMEND	2444#				
COMORG	865#	866	2441		
CONFIG	1676	1684#	1686		
CORBLK	1038#	1038			
CORCNT	356#	356			
CORE1	2048				
COREN	606#	606	2094	2094#	2097
COREP	1865	1882#			
CORLST	986	1027	1042#		
CORMAX	1027	1039#			
CORTAB	1027	1035#	1882		
CORTAL	986	1027	1044#		
CP0PJ	1845	1854#			
CP0PJ1	1845	1850#			
CP0PJ2	1845	1848#			
CR	1825				
CR10N	705#	705	2367	2368	
CRASHX	1797	1805#			
CRINIT	1391	1401			
CRSHAC	1801	1805	1812	1813	1814
CRSHWD	892	898#			
CRSTS	1798	1825#			
CTYCHL	1625#	1625			
CTYCHN	1623	1623#			
CTYINT	1623				
CTYLIN	2118#	2118			
CTYN	1554	1555#	1623		
CUSPPP	1901	1903#			
CUXIT	1846	1853#			
CUXIT1	1846	1849#			
D	160#	160			
DAT	30#	30	32	2015	
DATJOB	2048				
DCRBIT	2401	2402#			
DCRCHN	1579				
DCL	79#	79	80		
DCLI	94#	94			

DVLPT	125#	125	2357						
DVMTA	112#	112							
DVQJT	108#	108	2357						
DVPTP	117#	117							
DVPTR	116#	116							
DVTTY	111#	111							
FDITM	676#	676	2127	2174					
ENTRR	218#	218							
ERRCON	2048								
ERROR	2007	2015							
ERRPOL	891	925#							
FBMERR	243#	243							
FINISH	1078	1085#							
FIT	1078	1088#							
FNFEPR	240#	240							
FORCE	1078	1087#							
FORTY	891	925#	2001						
FRGSEF	335#	335							
FSGCHN	2194	2196#							
FT2REL	490#	987	1113	1723	1847	2060	2094#	2094	
FTATTA	441#								
FTCHEC	464#								
FTDISK	987	1228#	1240	2090#	2090				
FTEXAM	447#								
FTFINI	461#								
FTGETT	506#								
FTHALT	476#								
FTKCT	502#	1145	1210	1847					
FTMONP	467#								
FTPRV	504#	1145	1215	1722	1847				
FTRA10	510#								
FTRC10	2092#	2092							
FTRCWK	469#								
FTRFAS	450#								
FTSLEE	458#	987	1018	1847					
FTSWAP	987	1847	2091#	2091					
FTTALK	444#								
FTTIME	438#	987	1145	1191	1847				
FTTRAC	483#	1028	1072	1122	1123				
FTTRPS	453#	987	1011	1986					
FTTYS	487#	1721							
FULGHT	1079	1108#							
FULLN	669#	669	2106	2107	2108	2437	2438		
FULTWX	2125#	2125							
HELPPP	1901	1907#							
HGHLIN	664#	664	1293	2208					
HIGHAC	1912#	1952	1953	1954					
HIGHJB	1028	1055#							
HLFDPX	2122#	2122	2146						
HNGSEC	821#	821							
HNGTIM	988	992#							
HOLEF	986	1048#							
HSAMSK	327#	327							

LPØ	2347	2357					
LPØCHL	1612#	1612	2357				
LPØCHN	1612#	1612	2357				
LPØDDB	1613	2357#					
LPØINT	1612	2357#					
LPØN	1612#	1612	1613				
LPØNAM	2357#	2357					
LPØPTR	2357#	2357					
LPØRET	1612#	1612					
LPØSAC	1612#	1612	2357				
LPØSAV	1612#	1612	2357				
LPØSV1	2357#	2357					
LP1	2348						
LPT	1826						
LPT2	2345#						
LPTDON	2343	2357					
LPTDSP	2343	2357					
LPTECM	2343	2357					
LPTINT	2343	2357					
LPTMOD	2357#	2357					
LPTN	695#	695	1612	2289	2354	2357	
LPTNXT	2343	2357					
LPTSER	2343						
LPTSIZ	829	830	2357				
LPTSTS	1798	1826#					
LSTWRD	1028	1058#					
MAXJØN	1079	1110#					
MAXSIZ	1079	1109#					
MEDDLE	347#	347					
MIDNIT	1762	1782#					
MINCØR	844	1137	1139	1394			
MJOBØN	1144	1149#					
MLTTYL	1291	1303#					
MMTSIZ	2214	2215#					
MONTAB	1762	1769	1770#				
MØTOP	1220	1223#					
MØQUEUE	1220	1222#					
MTACHL	1619#	1619					
MTACHN	1619#	1619	2218	2219			
MTADDB	1619	1620					
MTADDS	1620	1621					
MTAINT	1619						
MTALOC	2214	2216#	2217				
MTAN	734#	734	1619	1620	1621	2210	2213
MTARET	1619#	1619					
MTASAC	1619#	1619					
MTASAV	1619#	1619					
MTASRX	2210						
MTRØN	735#	735					
MTRØTH	2214	2218#					
MTCN	736#	736	1584	1622	2211	2221	
MTOCHN	1582	2216	2218				
MTOFLAG	2214	2219#					

PLT	1827								
PLTCHL	1638#	1638							
PLTCHN	1638#	1638							
PLTDDB	1638	1639							
PLTINT	1638								
PLTN	691#	691	1638	1639	2381				
PLTRET	1638#	1638							
PLTSAC	1638#	1638							
PLTSAV	1638#	1638							
PLTSER	2381								
PLTSTS	1798	1827#							
PMONTB	1762	1769#							
POTLST	988	1004#							
POV	208#								
PRJPRG	1181	1184#							
PROG	35#	35	37	1369	1376	1380	2357		
PROT	1733	1748#							
PROT0	1733	1750#							
PRTERR	242#	242							
PTP	1822								
PTPCHL	1634#	1634							
PTPCHN	1634#	1634							
PTPDDB	1634	1635							
PTPINT	1634								
PTPN	686#	686	1634	1635	2395				
PTPRET	1634#	1634							
PTPSAC	1634#	1634							
PTPSAV	1634#	1634							
PTPSER	2395								
PTPSTS	1798	1822#							
PTR	1821								
PTRCHL	1609#	1609							
PTRCHN	1609#	1609							
PTRDDB	1609	1610							
PTRINT	1609								
PTRMSK	2387	2388#							
PTRN	680#	1609	1610	2386					
PTRRET	1609#	1609							
PTRSAC	1609#	1609							
PTRSAV	1609#	1609							
PTRSER	2386								
PTRSTS	1797	1821#							
PTYDDB	1565	1566							
PTYDDS	1566	1567							
PTYLIN	2117#	2117							
PTYN	740#	740	1296	1307	1565	1566	1567	2432	2436
PTYSRF	2438								
PTYTAB	1291	1307#							
PUNIT	1348	1382	1865	1871#					
PUUOAC	1865	1868#							
PVSPYA	370#	370							
PVSPYM	369#	369							
PVTRPS	371#	371							

ASGIN1	1443#	1602	1625	1658											
ASGIAT	1431#	1599	1622	1655											
ASGSAV	1457#	1564	1596	1605	1608	1614	1617	1618	1621	1629	1632	1633	1636	1637	
	1644														
ASGSV1	1472#	1565	1597	1606	1609	1612	1615	1619	1630	1634	1638				
CHAN	1915#	1951	1952	1953											
CODES	535#	1254													
DEVASG	1528#	1612													
DISAPL	401#														
ENABLE	408#														
LPTODB	2293#	2356													
MULASG	1517#	1611													
NEXTCH	1536#	1570	1603	1626	1641										
NEXTCO	1540#	1603	1626	1641	1646										
NEXTCU	1541#	1571	1604	1627	1642										
NOSCHE	378#														
NOSHUF	391#														
NULL	1958#	1966	1967	1971	1972										
QUEUES	516#	1236													
SCHEDU	383#														
SHUFFL	396#														
SPASGI	1426#														
SPASRS	1451#														
SPCINT	749#	1658													
SPCSAV	755#	1662													
STARTD	420#														
SYSDAT	651#	1688													
SYSDEV	649#	1690													
SYSNAM	640#	1684													
X	1235#	1236	1237	1238	1239	1241	1242	1243	1245	1246	1247	1251#	1254	1257	
	1260	1263	1266												
XP	15#	23	24	25	26	28	29	31	32	34	36	38	42	43	
	44	45	46	48	49	50	53#	59	62	65	67	71	72	75	
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	91	92	93	94	95	98	104	105	107	108	109	110	111	112	
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	132	137	140	141	144	146	147	148	152	153	154	155	156	157	
	158	159	162	163	164	170	171	172	173	174	175	176	177	178	
	181	182	183	184	185	195	203	205	206	213	214	215	216	217	
	218	219	220	221	222	223	224	226	227	231	232	239	240	241	
	242	243	244	245	246	247	248	249	250	252	257	258	260	268	
	269	271	274	281	285	286	288	291	295	298	299	301	309	310	
	311	315	316	318	324	325	326	329	330	334	335	340	343	345	
	346	355	368	369	370	541	542	564	565	566	567	573	578	583	
	584	589	590	595	596	600	605	610	616	621	626	636	644	656	
	657	658	663	668	669	675	685	690	694	703	704	709	714	715	
	716	724	725	733	734	735	739	775	820	934	1037	1171	1231	2009	
	2090	2091	2093	2095	2116	2117	2118	2119	2120	2121	2122	2123	2124	2206	