

# KT11-D

KT11-D ABORT  
MD-11-DBKTF-D

EP-DBKTF-D-DL-B  
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B01

EOF1DBKTCSEQ

00010000

770323

PDP10 411

HDR1DBKTFDSEQ

00010000

770323

CO1

DBKTF-D MEM. MAN. ABORT TESTS MACY11 27(1006) 25-OCT-76 22:21 PAGE 1  
DBKTFD.P11 25-OCT-76 22:20

.REM %

#### IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DBKTF-D-D  
PRODUCT NAME: MEMORY MANAGEMENT ABORT TESTS  
DATE RELEASED: MARCH, 1977  
MAINTAINER: DIAGNOSTIC GROUP

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## 1.0 ABSTRACT

PROGRAM DBKTF TESTS THE MEMORY MANAGEMENT ABORT LOGIC. THE PROGRAM IS WRITTEN TO CAUSE A MEMORY MANAGEMENT ABORT AT EVERY PDP11/40 MICRO STATE WHERE A MEMORY REFERENCE IS INITIATED. ABORTS ARE IN ALL CASES TRAPPED TO THE KERNEL, HOWEVER, THE INSTRUCTIONS CAUSING THE ABORT ARE EXECUTED IN BOTH MODES (KERNEL AND USER).

## 2.0 REQUIREMENTS

## 2.1 EQUIPMENT

PDP-11/40 WITH KT11-D (MEM. MGMT) INSTALLED

## 2.2 STORAGE

PROGRAM STORAGE - THE ROUTINE USES MEMORY 0-17777

## 2.3 PRELIMINARY PROGRAMS

TESTS DBKTA-DBKTD

## 3.0 LOADING AND STARTING PROCEDURE

LOAD PROGRAM INTO MEMORY USING ABS LOADER

LOAD ADDRESS 200

PRESS START.

THE PROGRAM WILL LOOP AND RING BELL AND TYPE '\*' ON  
PASS COMPLETION.

## 4.0 SWITCH SETTINGS

## 5.0 SUBROUTINE ABSTRACTS

## 5.1 HLT

THE HLT (HALT) INSTRUCTION IS EXECUTED WHEN AN ERROR IS DETECTED. NOTE THAT THE HLT (HALT) INSTRUCTION TRAPS TO LOC 4 IN USER MODE. IF A HLT (HALT) INSTRUCTION IS EXECUTED IN THESE MODES THE TRAP IS TAKEN AND THE PROGRAM HALTS AT LOCATION 176 IN KERNEL MODE. PRESSING CONTINUE RESTARTS THE TEST. NOTE: THE USER STACK POINTER IS NOT AFFECTED. TO DETERMINE WHICH TEST THE PROGRAM WAS EXECUTING WHEN THE HLT OCCURRED REFER TO R1 WHOSE CONTENTS ARE THE LAST TEST SUCCESSFULLY EXECUTED AND ALSO THE KERNEL STACK THE TOP WORD OF WHICH IS THE VIRTUAL PC OF THE HLT INSTRUCTION +2.

## 5.2 SCOPE

THE SCOPE (EMT) SERVICE ROUTINE STORES IN R1 THE PC OF THE LAST TEST SUCCESSFULLY EXECUTED AND MAY BE USED AS AN AID IN DEBUGGING IF THE PROGRAM 'BOMBS' BECAUSE OF A HARDWARE FAILURE. A BRANCH INSTRUCTION MAY BE INSERTED AT THE SCOPE LOCATION TO THE PREVIOUS SCOPE (EMT) INSTRUCTION TO CONTINUOUSLY LOOP A TEST. ADDITIONALLY THE SCOPE ROUTINE SETS ALL STACK POINTERS TO THEIR INITIAL SETTINGS (SEE SEC 8.2) AND ENTERS EACH TEST IN KERNEL MODE, PREVIOUS KERNEL MODE.

## 6.0 ERRORS

THE TEST HALTS WHEN AN ERROR IS DETECTED AND DISPLAYS THE PC+2 OF THE HLT (HALT) INSTRUCTION IN THE ADDRESS LIGHTS.

## 6.1 ERROR RECOVERY

PRESS CONTINUE OR RESTART AT 200 OR PREVIOUS SCOPE.

## 6.2 ERROR LOOPING

TO LOOP ON AN ERROR REPLACE THE HLT INSTRUCTION WITH A BRANCH BACK TO THE PREVIOUS SCOPE. NOTE: IF THE ERROR IS INTERMITTENT THE TEST WILL DROP THROUGH THE HLT AND CONTINUE TO THE NEXT TEST. TO CONTINUOUSLY LOOP THE TEST REPLACE THE BEQ .+4 PRECEDING THE HLT WITH THE BRANCH.

## 7.0 RESTRICTIONS

## 7.1 STARTING RESTRICTION

NONE

## 7.2 OPERATIONAL RESTRICTION

NONE

## 8.0 MISCELLANEOUS

IF THE PROGRAM HALTS IN THE TRAP INTERRUPT VECTOR AREA (0-1000) EXAMINE REGISTER 6 (THE KERNEL STACK PTR). REGISTER 6 CONTAINS THE ADDRESS WHERE THE PC OF THE INSTRUCTION THAT CAUSED THE TRAP IS STORED. EXAMINE ALSO R1 (R1 SPECIFIES THE LAST TEST SUCCESSFULLY COMPLETED)

## 8.2 STACK POINTER

THE STACK POINTERS ARE INITIALLY SET TO THE FOLLOWING VALUES

KERNEL = 1060

USER = 600

AND ARE RESET TO THESE VALUES AT THE START OF EACH SUBTEST (BY SCOPE).

## 8.3 PASS COUNT

1000(8) PASSES ARE REQUIRED FOR COMPLETION OF THIS PROGRAM; AT WHICH TIME THE BELL WILL RING AND AN '\*' WILL BE PRINTED.

## 8.4 DEBUGGING TIPS

WHEN THE FAILING SUBTEST HAS BEEN ISOLATED, REPLACE THE FIRST WORD OF THE INSTRUCTION PRECEDING THE INSTRUCTION THAT CAUSES THE ABORT WITH A BR SELF (000777), AND RESTART THE PROGRAM. WHEN THE PROGRAM EXECUTES THE BR SELF STOP THE PROGRAM USING SINGLE INSTRUCTION, RESTORE THE INSTRUCTION, AND USING THE MAINTENANCE CARD SINGLE STEP THE PROGRAM THROUGH EACH MICRO STATE OBSERVING THE FLOW IN THE DATA/ADDRESS LIGHTS. THIS PRACTICE HAS BEEN FOUND TO BE SUCCESSFUL IN FINDING MOST MEMORY MANAGEMENT ERRORS.

## 8.5 MEMORY MANAGEMENT MEMORY MAP

THE MAPPING OF THE MEM MGMT REGISTERS IS DONE AT THE BEGINNING OF THE PROGRAM BEFORE ANY TESTING IS STARTED. THE USER SHOULD ACQUAINT HIMSELF WITH THE MEMORY MANAGEMENT MAP BEFORE USING THIS PROGRAM.

```

184      %
185      ;COPYRIGHT 1972,1977 DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASS.
186      ;MEMORY MANAGEMENT ABORT TEST. THIS PROGRAM TESTS MEMORY MGMT ABORT ERRORS
187
188      ;GENERAL REGISTER ASSIGNMENTS
189      000000      R0=%0
190      000001      R1=%1
191      000002      R2=%2
192      000003      R3=%3
193      000004      R4=%4
194      000005      R5=%5
195      000006      SP=%6
196      000007      PC=%7
197
198      ;STACK POINTER REGISTERS
199      000006      KSP=%6      ;KERNEL STACK POINTER
200      000006      USP=%6      ;USER STACK POINTER
201
202      ;STATUS REGISTER BIT ASSIGNMENTS
203      000001      C=1
204      000002      V=2
205      000004      Z=4
206      000010      N=10
207      000020      T=20
208      000340      PRTY7=340
209      000200      PRTY4=200
210      000000      KM=000000
211      140000      UM=140000
212      000000      PKM=000000
213      030000      PUM=030000
214
215      ;VECTOR ADDRESSES
216      000010      ERRVEC=10
217      000014      TBITVEC=14
218      000020      IOTVEC=20
219      000024      PFVEC=24
220      000030      EMTVEC=30
221      000034      TRAPVEC=34
222      000064      TPVEC=64
223      000244      FPVEC=244
224      000250      MMVEC=250
225
226      ;REGISTER ADDRESSES
227      177776      PSM=177776
228      177560      TKS=177560
229      177562      TKB=177562
230      177564      TPS=177564
231      177566      TPB=177566
232      177570      SWR=177570
233
234      ;INITIAL STACK POINTER SETTINGS
235      001100      KPTR=1100
236      000600      UPTR=600
237
238      ;MISCELLANEOUS BIT ASSIGNMENTS
239      100000      BIT15=100000

```

```

; 'T' BIT
; PRIORITY LEVEL 7
; PRIORITY LEVEL 4
; KERNEL MODE
; USER MODE
; PREVIOUS KERNEL MODE
; PREVIOUS USER MODE

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```

; ADDRESS OF ERROR VECTOR
; ADDRESS OF 'T' BIT TRAP VECTOR
; ADDRESS OF IOT TRAP VECTOR
; ADDRESS OF POWER FAIL TRAP VECTOR
; ADDRESS OF EMT VECTOR
; ADDRESS OF TRAP VECTOR
; ADDRESS OF TTY PRINTER INTERRUPT VECTOR
; ADDRESS OF FLOATING POINT INT. VECTOR
; ADDRESS OF MEMORY MGMT ERROR TRAP VECTOR

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; ADDRESS OF STATUS REGISTER
; ADDRESS OF KEYBOARD CSR
; ADDRESS OF KEYBOARD BUFFER
; ADDRESS OF TELEPRINTER CSR
; ADDRESS OF TELEPRINTER BUFFER
; ADDRESS OF CONSOL SWITCH REGISTER

```

```

; BOTTOM OF KERNEL STACK
; USER STACK SETTING

```

```

239          040000          BIT14=40000
240          020000          BIT13=20000
241          00040C          BIT8=400
242          000100          BIT6=100
243
244          ;MEMORY MANAGEMENT REGISTER SRO BIT ASSIGNMENTS
245          000001          ENMM=1          ;ENABLE MEMORY MANAGEMENT
246          000000          VSO=0
247          000002          VS1=2
248          000004          VS2=4
249          000006          VS3=6
250          000010          VS4=10
251          000012          VS5=12
252          000014          VS6=14
253          000016          VS7=16
254          000000          IS=00
255          000140          UPG=140
256          000000          KPG=000
257          000400          DM=400          ;DESTINATION MODE
258          020000          AVA=20000        ;ACCESS VIOLATION ABORT
259          040000          PLA=40000        ;PAGE LENGTH ABORT
260          100000          NRA=100000       ;NON-RESIDENT ABORT
261
262          ;PAGE DESCRIPTOR REGISTER (PDR) BIT ASSSIGNMENTS
263          000010          ED=10          ;EXPANSION DIRECTION BIT IN PDR
264          000000          UP=0          ;EXPAND UP
265          000010          DWN=10        ;EXPAND DOWN
266          000100          W=100        ;'W' BIT IN PDR
267
268          ;MEMORY MANAGEMENT REGISTER ADDRESS ASSIGNMENTS
269          177572          SRO=177572        ;ADDRESS OF MEMORY MGMT REGISTER SRO
270          177574          SR1=177574        ;          "          "          "          "          SR1
271          177576          SR2=177576        ;          "          "          "          "          SR2
272
273          177600          UIPDR0=177600      ;ADDRESS OF USER 'I' PDR'S
274          177602          UIPDR1=177602
275          177604          UIPDR2=177604
276          177606          UIPDR3=177606
277          177610          UIPDR4=177610
278          177612          UIPDR5=177612
279          177614          UIPDR6=177614
280          177616          UIPDR7=177616
281
282          177640          UIPAR0=177640
283          177642          UIPAR1=177642
284          177644          UIPAR2=177644
285          177646          UIPAR3=177646
286          177650          UIPAR4=177650
287          177652          UIPAR5=177652
288          177654          UIPAR6=177654
289          177656          UIPAR7=177656
290
291          172300          KIPDR0=172300
292          172302          KIPDR1=172302
293          172304          KIPDR2=172304
294          172306          KIPDR3=172306
    
```



295	172310	KIPDR4=172310
296	172312	KIPDR5=172312
297	172314	KIPDR6=172314
298	172316	KIPDR7=172316
299		
300	172340	KIPAR0=172340
301	172342	KIPAR1=172342
302	172344	KIPAR2=172344
303	172346	KIPAR3=172346
304	172350	KIPAR4=172350
305	172352	KIPAR5=172352
306	172354	KIPAR6=172354
307	172356	KIPAR7=172356
308		
309		;ACCESS CONTROL FIELD DEFINITIONS (IN PDR)
310	000000	NRO=0 ;NON-RESIDENT ABORT ALL REFS.
311	000002	RDO=2 ;READ,ABORT ON WRITE
312	000004	RWT=4 ;TRAP ON READ & WRITE
313	000006	RW=6 ;READ & WRITE
314		
315		;INSTRUCTION EQUATES
316	000000	HLT=HALT
317	104000	SCOPE=EMT ;SCOPE IS AN EMT TRAP
318		
319		
320		;VIRTUAL ADDRESSES
321	016700	KI0=16700
322	140000	KI6=140000
323	120000	UI5=120000
324	100000	UI4=100000
325	040000	UI2=40000
326	020000	UI1=20000
327	060000	UI3=60000
328		;CORRESPONDING PHYSICAL ADDRESSES
329	016600	PKI0=16600
330	016700	PKI6=16700
331	017200	PUI5=17200
332	017300	PUI4=17300
333	017400	PUI3=17400
334	017000	PUI2=17000
335	017100	PUI1=17100
336		;FILL TRAP AND INTERRUPT VECTOR AREA WITH
337		;. +2
338		;.HALT
339		;UNEXPECTED TRAPS/INTERRUPTS WILL HALT AT VECTOR ADDRESS +2
340		;AND DISPLAY VECTOR ADDRESS+4 NOTE: LISTING DOES NOT SHOW LOADING THE
341		;VECTOR AREA.
342		
343	000010	.=ERRVEC
344	000010 000400	.WORD SHLT
345	000030	.=EMTVEC
346	000030 000442	.WORD SCOPEA
347		
348		
349	000046	.=46
350	000046 007204	\$ENDAD

```

351
352
353 000052 000052          . =52
354
355
356 000176 000176          . =176
357
358          HALT          ;ERROR! TO IDENTIFY WHICH TEST FAILED
359          ;EXAMINE R1, THE CONTENTS OF WHICH IS THE PC OF THE PRESENT TEST
360          ;THE TOP WORD ON THE KERNEL STACK CONTAINS THE VIRTUAL
361          ;ADDRESS OF THE HLT INSTRUCTION IN THE TEST THAT FAILED.
362 000200 000167 001012    . =200
363          JMP          START          ;GO START TEST
364
365          . =400
366 000400 042737 000001 177572 ;USER HLT (HALT) TRAP SERVICE ROUTINE
367 000406 042737 140000 177776 SHLT: BIC          #1, @#SR0          ;TURN MEM MGMT OFF
368 000414 162716 000002          BIC          #140000, @#PSW          ;RETURN TO KERNEL
369 000420 005776 000000          SUB          #2, (KSP)          ;POINT PC TO TRAPPING INST.
370 000424 001404          TST          @ (KSP)          ;WAS IT A HLT (HALT)
371 000426 062716 000002          BEQ          SHLTA
372 000432 000137 000012          ADD          #2, (KSP)          ;RESTORE PC TO TRAPPING INST.
373 000436 000137 000176          JMP          @#ERRVEC+2          ;GO HALT AT 6
374          SHLTA: JMP          @#176          ;GO HALT AT ADDRESS 176
375
376          ;SCOPE (EMT) SERVICE ROUTINE
377 000442 005037 177572 SCOPEA: CLR          @#SR0          ;DISABLE MEMORY MGMT
378 000446 011601          MOV          (KSP), R1          ;SAVE PC IN R1
379 000450 012706 001100          MOV          #KPTR, KSP          ;SET KERNEL STACK PTR
380 000454 005046          CLR          -(KSP)          ;SET UP FOR KERNEL MODE ON RETURN
381 000456 010146          MOV          R1, -(KSP)          ;RETURN IN LINE
382 000460 012746 000600          MOV          #UPTR, -(KSP)          ;USER STACK PTR ON KERNEL STACK
383 000464 012737 030000 177776          MOV          #PUM, @#PSW          ;PREVIOUS USER MODE
384 000472 106606          MTPD          USP          ;SET USER STACK PTR
385 000474 001400          BEQ          SCOPEX
386 000476 000006          SCOPEX: RTT          ;RETURN TO NEXT TEST IN KERNEL MODE
387          ;WITH ALL STACK PTRS SET UP
388
389          . =1200
390 001200 000000          ;TAGS
391 001202 000000          ICNT: 0          ;CONTAINS PASS COUNT
392          001204          SROT: 0          ;CONTAINS SR0 CONTENTS ON ERROR
393          001212          TEMP=.
394 001212 000000          FTITLE: 0          ;TITLE FLAG
395 001214 000000          PASCNT: 0
    
```

```

396
397
398
399 001216 000240
400 001220 005067 177754
401 001224 005767 177762
402 001230 001047
403 001232 023737 000042 000046
404 001240 001443
405 001242 012700 001274
406 001246 012767 000001 177736
407 001254 105767 176304
408 001260 100375
409 001262 105710
410 001264 001431
411 001266 112067 176274
412 001272 000770
413 001274 005015 046577 046505
414 001302 051117 020131 040515
415 001310 040516 042507 042515
416 001316 052116 040440 047502
417 001324 052122 052040 051505
418 001332 051524 020054 041104
419 001340 052113 026506 006504
420 001346 000012
421
422 001350 012706 001100
423 001354 104000
424 001356 005037 000252
425
426
427 001362 000240
428 001364 005067 176202
429 001370 012702 177600
430 001374 012703 000010
431 001400 005022
432 001402 077302
433 001404 012702 177640
434 001410 012703 000010
435 001414 005022
436 001416 077302
437 001420 012702 172300
438 001424 012703 000010
439 001430 005022
440 001432 077302
441 001434 012702 172340
442 001440 012703 000010
443 001444 005022
444 001446 077302
445
446 001450 012737 073006 172300
447 001456 012737 000006 172314
448 001464 012737 077406 172316
449 001472 012737 073006 177600
450 001500 012737 000006 177604
451 001506 012737 000006 177602

```

```

:START MEMORY MANAGEMENT TEST.
START: NOP
      CLR      ICNT      ;CLEAR PASS COUNT
      TST      FTITLE    ;HAS TITLE BEEN PRINTED YET?
      BNE      BEGIN     ;YES, SKIP TITLE
      CMP      @#42,@#46  ;ARE WE IN ACT11 AUTOMATIC MODE?
      BEQ      BEGIN     ;YES, SKIP TITLE
      MOV      @TITLE,R0  ;GET MESSAGE ADDRESS
      MOV      @1,FTITLE  ;SET FLAG
IS:   TSTB     TPS
      BPL      IS
      TSTB     (0)       ;END OF MESSAGE?
      BEQ      BEGIN     ;YES, GET OVER THE ASCII
      MOVB     (0)+,TPB  ;PRINT CHARACTER
      BR       IS       ;GO DO THE NEXT ONE
TITLE: .ASCIZ <15><12><177>/MEMORY MANAGEMENT ABORT TESTS, DBKTF-D/<15><12>

```

```

      .EVEN
BEGIN: MOV      #KPTR,KSP ;SET KERNEL STACK PTR
      SCOPE   ;SCOPE SETS ALL STACK PTRS
      CLR     @#MMVEC+2 ;KERNEL MODE ON ABORT

```

```

:ROUTINE TO CLEAR MEMORY MANAGEMENT REGISTERS.
MMO:  NOP
      CLR      SR0
      MOV      @UIPDR0,R2
      MOV      @#R3
      CLR      (R2)+
      SOB      R3,-2
      MOV      @UIPAR0,R2
      MOV      @#R3
      CLR      (R2)+
      SOB      R3,-2
      MOV      @KIPDR0,R2
      MOV      @#R3
      CLR      (R2)+
      SOB      R3,-2
      MOV      @KIPAR0,R2
      MOV      @#R3
      CLR      (R2)+
      SOB      R3,-2
MMK:  MOV      @73006,@KIPDR0 ;RW, UP 167 BLOCKS
      MOV      @6,@KIPDR6 ;RW, UP 1 BLOCK
      MOV      @77406,@KIPDR7 ;RW, UP 200 BLOCKS
      MOV      @73006,@UIPDR0 ;RW, UP 167 BLOCKS
      MOV      @6,@UIPDR2 ;RW, UP 1 BLOCK
      MOV      @6,@UIPDR1 ;RW, UP 1 BLOCK

```

452	001514	012737	000006	177610	MOV	#6,2#UIPDR4	;RW, UP 1 BLOCK
453	001522	012737	000006	177612	MOV	#6,2#UIPDR5	;RW, UP 1 BLOCK
454							
455	001530	005067	170604		CLR	KIPAR0	;VA=PA=0000-16677
456	001534	012767	000167	170612	MOV	#167,KIPAR6	;VA=140000-140077;PA=16700-16777
457	001542	012767	007600	170606	MOV	#7600,KIPAR7	;VA=160000-177776,PA=760000-777776
458	001550	005067	176064		CLR	UIPAR0	;VA=PA=0-16677
459	001554	012767	000170	176062	MOV	#170,UIPAR2	;VA=40000-40077/PA=17000-17077
460	001562	012767	000171	176052	MOV	#171,UIPAR1	;VA=20000-20077/PA=17100-17177
461	001570	012767	000172	176054	MOV	#172,UIPAR5	;VA=120000-120077/PA=17200-17277
462	001576	012767	000173	176044	MOV	#173,UIPAR4	;VA=100000-100077/PA=17300-17377
463							
464							
465							

```

466
467
468 ;CHECK ABORT AT SRC00
469 ;ABORTS WHEN SOURCE OPERAND IS FETCHED
470 ;SOURCE MODE=1
471 TO:
472 001604 012737 001640 000250 MOV #TDC, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
473 001612 005067 176434 CLR MMVEC+2
474 001616 012703 016700 MOV #KIO, R3
475 001622 010302 MOV R3, R2
476 001624 005013 CLR (R3)
477 001626 005237 177572 INC @SR0 ;ENABLE MEMORY MGMT
478 001632 000277 SCC
479 001634 011302 TOA: MOV (R3), R2 ;MEM MGMT LENGTH ABORT AT SRC00
480 001636 000000 TOB: HLT ;ERROR! DID NOT ABORT
481 001640 022706 001074 TOC: CMP #KPTR-4, KSP ;CHECK STACK PTR
482 001644 001401 BEQ .+4
483 001646 000000 HLT
484 001650 022766 000017 000002 CMP #17, 2(KSP) ;CHECK THAT CORRECT STATUS
485 001656 001401 BEQ .+4 ;WAS SAVED ON THE STACK
486 001660 000000 HLT ;ERROR! INCORRECT STATUS
487 001662 022767 040001 175702 CMP #PLA+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
488 001670 001401 BEQ .+4 ; & FAILING PAGE #)
489 001672 000000 HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
490 001674 022767 001634 175674 CMP #TOA, SR2 ;CHECK CONTENTS OF SR2
491 001702 001401 BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
492 001704 000000 HLT ;ERROR! INCORRECT PC IN SR2
493 001706 020203 CMP R2, R3 ;CHECK THAT INSTRUCTIONS AS ABORTED
494 001710 001401 BEQ .+4
495 001712 000000 HLT ;ERROR!
496 001714 104000 SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
497
498 ;CHECK ABORT AT SRC01
499 ;ABORTS WHEN SOURCE OPERAND IS FETCHED
500 ;SOURCE MODE=2, BYTE INSTRUCTION
501 001716 012737 001744 000250 MOV #T1C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
502 001724 012702 016700 MOV #KIO, R2
503 001730 010204 MOV R2, R4
504 001732 005012 CLR (R2)
505 001734 005237 177572 INC @SR0 ;ENABLE MEMORY MGMT
506 001740 122202 T1A: CMPB (R2)+, R2 ;SEG LENGTH ABORT AT SRC01
507 001742 000000 T1B: HLT ;ERROR! DID NOT ABORT
508 001744 022706 001074 T1C: CMP #KPTR-4, KSP ;CHECK STACK PTR
509 001750 001401 BEQ .+4
510 001752 000000 HLT
511 001754 022767 040001 175610 CMP #PLA+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
512 001762 001401 BEQ .+4 ; & FAILING PAGE #)
513 001764 000000 HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
514 001766 022767 001740 175602 CMP #T1A, SR2 ;CHECK CONTENTS OF SR2
515 001774 001401 BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
516 001776 000000 HLT ;ERROR! INCORRECT PC IN SR2
517 ;CHECK THAT REGISTER INCREMENTED PROPERLY
518 002000 022702 016701 CMP #KIO+1, R2
519 002004 001401 BEQ .+4
520 002006 000000 HLT ;ERROR!
521 002010 104000 SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

```

```

522
523
524
525
526 002012 012737 002040 000250
527 002020 012705 016700
528 002024 010504
529 002026 005237 177572
530 002032 000277
531 002034 153504
532 002036 000000
533 002040
534 002040 022766 000017 000002
535 002046 001401
536 002050 000000
537 002052 022767 040001 175512
538 002060 001401
539 002062 000000
540 002064 022767 002034 175504
541 002072 001401
542 002074 000000
543 002076 022705 016702
544 002102 001401
545 002104 000000
546 002106 104000
547
548
549
550
551 002110 012737 002144 000250
552 002116 012767 170000 175652
553 002124 012702 100000
554 002130 010203
555 002132 005237 177572
556 002136 000277
557 002140 064203
558 002142 000000
559 002144 022706 001074
560 002150 001401
561 002152 000000
562 002154 022766 170017 000002
563 002162 001401
564 002164 000000
565 002166 022767 140147 175376
566 002174 001401
567 002176 000000
568 002200 022767 002140 175370
569 002206 001401
570 002210 000000
571
572 002212 032767 000100 175364
573 002220 001401
574 002222 000000
575 002224 042767 000100 175352
576 002232 022702 077776
577 002236 001401

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;CHECK ABORT AT SRC13
;ABORTS WHEN ADDRESS OF SOURCE OPERAND IS FETCHED
;SOURCE MODE=3
MOV #T2C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
MOV #K10, R5
MOV R5, R4
INC @SR0 ;ENABLE MEMORY MGMT
SCC ;PRESET CC'S
T2A: BISB @R5+, R4 ;NON-RES ABORT AT 513.10
T2B: HLT ;ERROR! FAILED TO ABORT
T2C:
CMP #17, 2(KSP) ;CHECK THAT CORRECT STATUS
BEQ .+4 ;WAS SAVED ON THE STACK
HLT ;ERROR! INCORRECT STATUS
CMP #PLA+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
BEQ .+4 ;& FAILING PAGE #)
HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
CMP #T2A, SR2 ;CHECK CONTENTS OF SR2
BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
HLT ;ERROR! INCORRECT PC IN SR2
CMP #K10+2, R5
BEQ .+4
HLT ;ERROR! R5 DID NOT AUTO-INCREMENT
SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT SRC02
;ABORTS WHEN SOURCE OPERAND IS FETCHED
;SOURCE MODE=4, USER MODE
MOV #T3C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
MOV #UM+PUM, PSW ;USER MODE!!!, PREV USER MODE
MOV #UI4, R2
MOV R2, R3
INC @SR0 ;ENABLE MEMORY MGMT
SCC ;PRESET CC'S
T3A: ADD -(R2), R3 ;NON-RESIDENT ABORT AT SRC02
T3B: HLT ;ERROR! FAILED TO ABORT
T3C: CMP #KPTR-4, KSP ;CHECK STACK PTR
BEQ .+4
HLT
CMP #UM+PUM+17, 2(KSP) ;CHECK THAT CORRECT STATUS
BEQ .+4 ;WAS SAVED ON THE STACK
HLT ;ERROR! INCORRECT STATUS
CMP #NRA+PLA+UPG+VS3+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
BEQ .+4 ;& FAILING PAGE #)
HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
CMP #T3A, SR2 ;CHECK CONTENTS OF SR2
BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
HLT ;ERROR! INCORRECT PC IN SR2

;CHECK CONTENTS OF REFERENCED PAGE DESCRIPTOR REGISTER (UIPDR2)
BIT @UIPDR2 ;CHECK CONTENTS OF REFERENCED PDR
BEQ .+4
HLT ;ERROR!
BIC @UIPDR2
CMP #UI4-2, R2 ;CHECK THAT AUTO- DECREMENT TOOK PLACE
BEQ .+4

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578 002240 000000          HLT                ;ERROR! R2 FAILED TO AUTO-DECREMENT
579 002242 022703 100000  CMP                #UI4,R3          ;CHECK THAT R3 WAS NOT CHANGED
580 002246 001401          BEQ                .+4
581 002250 000000          HLT
582 002252 104000          SCOPE              ;ERROR!
                                           ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
583
584 ;CHECK ABORT AT SRC13
585 ;ABORTS WHEN ADDRESS OF SOURCE OPERAND IS FETCHED
586 ;SOURCE MODE=5, USER MODE
587 002254 012737 002314 000250  MOV                #T4C, @#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
588 002262 012767 170000 175506  MOV                #UM+PLM, PSM        ;USER MODE!!!, PREV USER MODE!!
589 002270 012704 120002          MOV                #UI5+2, R4
590 002274 010405          MOV                R4, R5
591 002276 012737 177777 017200  MOV                #-1, @#PUI5
592 002304 005237 177572          INC                @#SR0              ;ENABLE MEMORY MGMT
593 002310 145405          T4A: BICB          @-(R4), R5          ;NON-RESIDENT ABORT AT SRC13
594 002312 000000          T4B: HLT
595 002314 022706 001074          T4C: CMP                #KPTR-4, KSP    ;ERROR! FAILED TO ABORT
                                           ;CHECK STACK PTR
596 002320 001401          BEQ                .+4
597 002322 000000          HLT
598 002324 022767 140157 175240  CMP                #NRA+PLA+UPG+VS7+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
                                           ;& FAILING PAGE #)
599 002332 001401          BEQ                .+4              ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
600 002334 000000          HLT
601 002336 022767 002310 175232  CMP                #T4A, SR2          ;CHECK CONTENTS OF SR2
602 002344 001401          BEQ                .+4              ;(PC OF ABORTED INSTRUCTION)
603 002346 000000          HLT                                ;ERROR! INCORRECT PC IN SR2
604 ;CHECK CONTENTS OF REFERENCED PAGE DESCRIPTOR REGISTER (UIPDR5)
605 002350 032767 000100 175234  BIT                #W, UIPDR5        ;CHECK CONTENTS OF REFERENCED PDR
606 002356 001401          BEQ                .+4
607 002360 000000          HLT                                ;ERROR!
608 002362 042767 000100 175222  BIC                #W, UIPDR5
609 002370 022704 120000          CMP                #UI5, R4 ;CHECK AUTO-DECREMENT
610 002374 001401          BEQ                .+4
611 002376 000000          HLT                                ;ERROR! FAILED TO AUTO-DECREMENT R4
612 002400 022705 120002          CMP                #UI5+2, R5        ;CHECK THAT R5 WAS UNCHANGED
613 002404 001401          BEQ                .+4
614 002406 000000          HLT                                ;ERROR!
615 002410 104000          SCOPE              ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
616
617 ;CHECK ABORT AT SRC08
618 ;ABORTS WHEN SOURCE OPERAND IS FETCHED
619 ;SOURCE MODE = 6
620 002412 012737 002436 000250  MOV                #T6C, @#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
621 002420 012702 177777          MOV                #-1, R2
622 002424 005237 177572          INC                @#SR0              ;ENABLE MEMORY MGMT
623 002430 016702 014244          T6A: MOV                KIO, R2        ;SEG LENGTH ABORT AT SRC08
624 002434 000000          T6B: HLT                                ;ERROR! FAILED TO ABORT
625 002436          T6C:
626 002436 022767 040001 175126  CMP                #PLA+1, SR0        ;CHECK SR0 (ABORT CONDITIONS
627 002444 001401          BEQ                .+4              ;& FAILING PAGE #)
628 002446 000000          HLT                                ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
629 002450 022767 002430 175120  CMP                #T6A, SR2          ;CHECK CONTENTS OF SR2
630 002456 001401          BEQ                .+4              ;(PC OF ABORTED INSTRUCTION)
631 002460 000000          HLT                                ;ERROR! INCORRECT PC IN SR2
632 002462 005202          INC                R2                ;CHECK THAT R2 WAS NOT CHANGED
633 002464 001401          BEQ                .+4
    
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634 002466 000000          HLT          ;ERROR!
635 002470 104000          SCOPE       ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
636
637
638
639
640 002472 012737 002514 000250  ;CHECK ABORT AT SRC13
        ;ABORTS WHEN ADDRESS OF SOURCE OPERAND IS FETCHED
        ;SOURCE MODE = 7, PC
        MOV     #T7C, @#MMVEC    ;LOAD MEM MGMT ERROR VECTOR
641 002500 005004          CLR     R4
642 002502 005237 177572          INC     @#SR0                ;ENABLE MEMORY MGMT
643 002506 067404 016700          T7A:   ADD     @#KIO(R4), R4    ;SEG LEN ABORT AT SRC13
644 002512 000000          T7B:   HLT
        ;ERROR! FAILED TO ABORT
645 002514
646 002514 022767 040001 175050          T7C:   CMP     #PLA+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
        BEQ     .+4              ;& FAILING PAGE #)
647 002522 001401          HLT
        ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
648 002524 000000
649 002526 022767 002506 175042          CMP     #T7A, SR2           ;CHECK CONTENTS OF SR2
650 002534 001401          BEQ     .+4                 ;(PC OF ABORTED INSTRUCTION)
651 002536 000000          HLT
        ;ERROR! INCORRECT PC IN SR2
652 002540 005704          TST     R4
653 002542 001401          BEQ     .+4
654 002544 000000          HLT
655 002546 104000          SCOPE       ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
656
657
658
659
660 002550 012737 002572 000250  ;CHECK ABORT AT SRC15
        ;ABORTS WHEN SOURCE OPERAND IS FETCHED
        ;SOURCE MODE = 3, PC
        MOV     #T10C, @#MMVEC   ;LOAD MEM MGMT ERROR VECTOR
661 002556 005003          CLR     R3
662 002560 005237 177572          INC     @#SR0                ;ENABLE MEMORY MGMT
663 002564 013703 016700          T10A:  MOV     @#KIO, R3       ;SEG LEN ABORT AT SRC15
664 002570 000000          T10B:  HLT
        ;ERROR! FAILED TO ABORT
665 002572
666 002572 022767 040001 174772          T10C:  CMP     #PLA+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
        BEQ     .+4              ;& FAILING PAGE #)
667 002600 001401          HLT
        ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
668 002602 000000
669 002604 022767 002564 174764          CMP     #T10A, SR2         ;CHECK CONTENTS OF SR2
670 002612 001401          BEQ     .+4                 ;(PC OF ABORTED INSTRUCTION)
671 002614 000000          HLT
        ;ERROR! INCORRECT PC IN SR2
672 002616 005703          TST     R3
673 002620 001401          BEQ     .+4
674 002622 000000          HLT
675 002624 104000          SCOPE       ;ERROR!
        ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
676
677
678
679
680 002626 012737 002674 000250  ;CHECK ABORT AT RTI.00
        ;ABORTS WHEN TOP WORD OFF STACK (PC) IS FETCHED
        MOV     #T13C, @#MMVEC   ;LOAD MEM MGMT ERROR VECTOR
681 002634 012767 170000 175134          MOV     #UM+PUM, PSW        ;USER MODE!!! PREV USER MODE!!
682 002642 012706 040100          MOV     #UI2+100, USP       ;USER STACK PTR IS NON-RES
683 002646 012737 002672 017100          MOV     #T13D, @#PUI2+100   ;LOAD 'NEW' PC
684 002654 005037 017102          CLR     @#PUI2+102
685 002660 005237 177572          INC     @#SR0                ;ENABLE MEMORY MGMT
686 002664 000277          SCC
687 002666 000002          T13A:  RTI
        ;NON-RES ABORT AT RTI.00
688 002670 000000          T13B:  HLT
        ;ERROR! FAILED TO ABORT
689 002672 000000          T13D:  HLT
        ;ERROR! RTI FAILED & DID NOT ABORT

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690 002674 022706 001074 T13C:  CMP      #KPTR-4,KSP      ;CHECK STACK PTR
691 002700 001401      BEQ      .+4
692 002702 000000      HLT
693 002704 022766 170017 000002  CMP      #UM+PUM+17,2(KSP)  ;CHECK THAT CORRECT STATUS
694 002712 001401      BEQ      .+4      ;WAS SAVED ON THE STACK
695 002714 000000      HLT      ;ERROR! INCORRECT STATUS
696 002716 022767 040145 174646  CMP      #PLA+UPG+VS2+1,SR0  ;CHECK SR0 (ABORT CONDITIONS
697 002724 001401      BEQ      .+4      ;& FAILING PAGE #)
698 002726 000000      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
699 002730 022767 002666 174640  CMP      #T13A,SR2      ;CHECK CONTENTS OF SR2
700 002736 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
701 002740 000000      HLT      ;ERROR! INCORRECT PC IN SR2
702 002742 106506      MFPD     USP      ;PUSH USER STACK PTR ONTO KERNEL STACK
703 002744 022716 040102  CMP      #UI2+102,(KSP)  ;CHECK THAT USER STACK PTR WAS POPPED
704 002750 001401      BEQ      .+4
705 002752 000000      HLT      ;ERROR!
706 002754 104000      SCOPE     ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
707
708
709      ;CHECK ABORT AT RTI.01
710 002756 012737 003022 000250  ;ABORTS WHEN SECOND WORD ON STACK (STATUS) IS FETCHED
711 002764 012757 170000 175004  MOV      #T14C,#MMVEC  ;LOAD MEM MGMT ERROR VECTOR
712 002772 012706 100076      MOV      #UI4+76,USP  ;USER MODE!!!,PREV USER MODE!!
713 002776 012737 003020 017376  MOV      #T14D,#PUI4+76 ;LOAD USER STACK (PHYS ADRS.)
714 003004 005037 017400      CLR      #PUI4+100    ;AND 'NEW' STATUS
715 003010 005237 177572      INC      #SR0        ;ENABLE MEMORY MGMT
716 003014 000006      T14A:   RTT          ;SEG LEN ABORT AFTER FIRST POP RTI.01
717 003016 000000      T14B:   HLT          ;ERROR! FAILED TO ABORT
718 003020 000000      T14D:   HLT          ;ERROR!
719 003022
720 003022 022767 040151 174542  T14C:   CMP      #PLA+UPG+VS4+1,SR0  ;CHECK SR0 (ABORT CONDITIONS
721 003030 001401      BEQ      .+4      ;& FAILING PAGE #)
722 003032 000000      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
723 003034 022767 003014 174534  CMP      #T14A,SR2      ;CHECK CONTENTS OF SR2
724 003042 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
725 003044 000000      HLT      ;ERROR! INCORRECT PC IN SR2
726 003046 106506      MFPD     USP      ;PUSH USER STACK PTR ONTO KERNEL STACK
727 003050 022716 100102  CMP      #UI4+102,(KSP)  ;CHECK THAT USER STACK PTR POPPED TWICE
728 003054 001401      BEQ      .+4
729 003056 000000      HLT
730 003060 104000      SCOPE     ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
731
732      ;CHECK ABORT AT RTS.02
733      ;ABORTS WHEN TOP WORD ON USER STACK (RETURN PC) IS FETCHED
734 003062 012767 170000 174706  MOV      #UM+PUM,PSW  ;USER MODE!!! PREV USER MODE!!
735 003070 012706 020100      MOV      #UI1+100,USP
736 003074 012737 003120 000250  MOV      #T16C,#MMVEC  ;LOAD MEM MGMT ERROR VECTOR
737 003102 012705 003116      MOV      #T16D,R5
738 003106 005237 177572      INC      #SR0        ;ENABLE MEMORY MGMT
739 003112 000205      T16A:   RTS          ;ABORTS AT RTS.02 (STACK IS NON-RES)
740 003114 000000      T16B:   HLT          ;ERROR! RTS& ABORT FAILED
741 003116 000000      T16D:   HLT          ;ERROR! ABORT FAILED
742 003120 022706 001074  T16C:   CMP      #KPTR-4,KSP      ;CHECK STACK PTR
743 003124 001401      BEQ      .+4
744 003126 000000      HLT
745 003130 022767 040143 174434  CMP      #PLA+UPG+VS1+1,SR0  ;CHECK SR0 (ABORT CONDITIONS
    
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746 003136 001401 BEQ .+4 ; & FAILING PAGE #)
747 003140 000000 HLT ; ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
748 003142 022767 003112 174426 CMP #T16A,SR2 ; CHECK CONTENTS OF SR2
749 003150 001401 BEQ .+4 ; (PC OF ABORTED INSTRUCTION)
750 003152 000000 HLT ; ERROR! INCORRECT PC IN SR2
751 003154 022705 003116 CMP #T16D,R5 ; CHECK THAT R5 DID NOT CHANGE
752 003160 001401 BEQ .+4
753 003162 000000 HLT ; ERROR!
754 003164 106506 MFDP USP ; PUSH USER STACK PTR ONTO KERNEL STACK
755 003166 022716 020102 CMP #UI1+102,(KSP) ; CHECK THAT USER STACK WAS POPPED
756 003172 001401 BEQ .+4
757 003174 000000 HLT ; ERROR! INCORRECT USER STACK PTR
758 003176 104000 SCOPE ; SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
759 ; CHECK ABORT AT SRC07
760 ; ABORTS WHEN SOURCE INDEX IS FETCHED
761 ; SOURCE MODE = 6, PC
762 003200 012737 003242 000250 MOV #T20C,#MMVEC ; LOAD MEM MGMT ERROR VECTOR
763 003206 012702 177777 MOV #-1,R2 ; PRESET DEST REG
764 003212 012737 016702 016676 MOV #16702,#KIO-2 ; 16702,000000 IS A MOV .+4,R2
765 003220 005037 016700 CLR #KIO ; INSTRUCTION
766 003224 005037 016702 CLR #KIO+2
767 003230 005237 177572 INC #SR0 ; ENABLE MEMORY MGMT
768 003234 000277 SCC ; PRESET CC'S
769 003236 000137 016676 JMP #KIO-2 ; GO TO MOV INST.
770 RETURN=
771 ; ***** NOTE PC CHANGE *****
772 ; =KIO-2
773 016676 016702 000000 T20A: MOV .+4,R2 ; SEG LEN ABORT WHEN INDEX VALUE IS FETCHED
774 016702 000000 T20B: HLT ; ERROR! FAILED TO ABORT
775 ; ***** RETURN PC *****
776 ; =RETURN
777 003242 022706 001074 T20C: CMP #KPTR-4,KSP ; CHECK STACK PTR
778 003246 001401 BEQ .+4
779 003250 000000 HLT
780 003252 022766 000017 000002 CMP #17,2(KSP) ; CHECK THAT CORRECT STATUS
781 003260 001401 BEQ .+4 ; WAS SAVED ON THE STACK
782 003262 000000 HLT ; ERROR! INCORRECT STATUS
783 003264 022767 040001 174300 CMP #PLA+IS+VSO+1,SR0 ; CHECK SR0 (ABORT CONDITIONS)
784 003272 001401 BEQ .+4 ; & FAILING PAGE #)
785 003274 000000 HLT ; ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
786 003276 022767 016676 174272 CMP #T20A,SR2 ; CHECK CONTENTS OF SR2
787 003304 001401 BEQ .+4 ; (PC OF ABORTED INSTRUCTION)
788 003306 000000 HLT ; ERROR! INCORRECT PC IN SR2
789 003310 005202 INC R2
790 003312 001401 BEQ .+4
791 003314 000000 HLT
792 003316 104000 SCOPE ; SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
793
794 ; CHECK ABORT AT SRC10
795 ; ABORTS WHEN SOURCE INDEX IS FETCHED
796 ; SOURCE MODE = 7
797 003320 012737 003362 000250 MOV #T21C,#MMVEC ; LOAD MEM MGMT ERROR VECTOR
798 003326 012737 177777 016700 MOV #-1,#PKI6
799 003334 012702 140000 MOV #KI6,R2 ; LOAD INDEX REGISTER
800 003340 012737 017202 016676 MOV #017202,#KIO-2 ; 017202,000000 IS A MOV #0(R2),R2
801 003346 005037 016700 CLR #KIO ; INSTRUCTION

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802	003352	005237	177572		INC	@#SR0		;ENABLE MEMORY MGMT
803	003356	000137	016676		JMP	@#KIO-2		
804		003362			RETURN=.			
805					;***** NOTE PC CHANGE *****			
806		016676				.=KIO-2		
807	016676	017202	000000		T21A:	MOV	@0(R2),R2	;SEG LEN ABORT AT SRC10
808	016702	000000			T21B:	HLT		;ERROR! FAILED TO ABORT
809		003362				.=RETURN		
810					;***** RETURN PC *****			
811					T21C:			
812	003362							
813	003362	022767	040001	174202	CMP	#PLA+IS+VSO+1,SR0		;CHECK SR0 (ABORT CONDITIONS
814	003370	001401			BEQ	.+4		; & FAILING PAGE #)
815	003372	000000			HLT			;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
816	003374	022767	016676	174174	CMP	#T21A,SR2		;CHECK CONTENTS OF SR2
817	003402	001401			BEQ	.+4		; (PC OF ABORTED INSTRUCTION)
818	003404	000000			HLT			;ERROR! INCORRECT PC IN SR2
819	003406	022702	140000		CMP	#K16,R2		;CHECK THAT R2 IS UNCHANGED
820	003412	001401			BEQ	.+4		
821	003414	000000			HLT			;ERROR!
822	003416	104000			SCOPE			;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
823								
824					;CHECK ABORT AT FET03			
825					;ABORTS WHEN INST FOLLOWING SOB IS FETCHED			
826	003420	012703	000001		MOV	#1,%3		
827	003424	012737	077302	016676	MOV	#077302,@#KIO-2		;077302=SOB R3.-2
828	003432	005037	016674		CLR	@#KIO-4		;CLEAR INST. PRECEDING SOB (.-2)
829	003436	005037	016700		CLR	@#KIO		;PUT HLT FOLLOWING SOB
830	003442	012737	003462	000250	MOV	#T22C,@#MMVEC		;LOAD MEM MGMT ERROR VECTOR
831	003450	005237	177572		INC	@#SR0		;ENABLE MEMORY MGMT
832	003454	000277			SCC			;PRESET CC'S
833	003456	000137	016676		JMP	@#KIO-2		;GO TO SOB INST.
834								
835		003462			RETURN=.			
836		016674			.=KIO-4			
837	016674	000000			T22:	HLT		;ERROR! SOB BRANCHED & FAILED TO ABORT
838	016676	077302			T22A:	SOB	R3,-2	;ABORTS WHEN NEXT INST. IS FETCHED
839	016700	000000			T22AA:	HLT		;ERROR! FAILED TO ABORT
840	016702	000000			T22B:	0		
841		003462				.=RETURN		
842								
843	003462	022706	001074		T22C:	CMP	#KPTR-4,KSP	;CHECK STACK PTR
844	003466	001401			BEQ	.+4		
845	003470	000000			HLT			
846	003472	022766	000017	000002	CMP	#17,2(KSP)		;CHECK THAT CORRECT STATUS
847	003500	001401			BEQ	.+4		; WAS SAVED ON THE STACK
848	003502	000000			HLT			;ERROR! INCORRECT STATUS
849	003504	022767	040001	174060	CMP	#PLA+VSO+1,SR0		;CHECK SR0 (ABORT CONDITIONS
850	003512	001401			BEQ	.+4		; & FAILING PAGE #)
851	003514	000000			HLT			;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
852	003516	022767	016676	174052	CMP	#T22A,SR2		;CHECK CONTENTS OF SR2
853	003524	001401			BEQ	.+4		; (PC OF ABORTED INSTRUCTION)
854	003526	000000			HLT			;ERROR! INCORRECT PC IN SR2
855	003530	005703			TST	R3		;CHECK THAT R3 DECREMENTD
856	003532	001401			BEQ	.+4		
857	003534	000000			HLT			;ERROR! R3 WAS NOT DECREMENTED BY SOB

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858 003536 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
859
860          ;CHECK ABORT AT MOV16
861          ;ABORTS WHEN DEST OPERAND IS FETCHED
862 003540 012767 030000 174230      MOV      #KM+PUM,PSW
863 003546 012737 003570 000250      MOV      #T24C, @#MMVEC ;LOAD MEM MGMT ERROR VECTOR
864 003554 012702 040000          MOV      #UI2,R2
865 003560 005237 177572          INC      @#SR0          ;ENABLE MEMORY MGMT
866 003564 106542          T24A: MFPD      -(R2)      ;NON-RESIDENT ABORT AT MOV16
867 003566 000000          T24B: HLT
868 003570 022706 001074          T24C: CMP      #KPTR-4,KSP ;CHECK STACK PTR
869 003574 001401          BEQ      .+4
870 003576 000000          HLT
871 003600 022767 040143 173764      CMP      #UPG+PLA+VS1+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
872 003606 001401          BEQ      .+4          ;& FAILING PAGE #)
873 003610 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
874 003612 022767 003564 173756      CMP      #T24A,SR2      ;CHECK CONTENTS OF SR2
875 003620 001401          BEQ      .+4          ;(PC OF ABORTED INSTRUCTION)
876 003622 000000          HLT          ;ERROR! INCORRECT PC IN SR2
877 003624 022702 037776      CMP      #UI2-2,R2      ;CHECK THAT R2 AUTO-DECREMENTED
878 003630 001401          BEQ      .+4
879 003632 000000          HLT          ;ERROR! R2 DID NOT AUTO-DECREMENT
880 003634 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
881
882          ;CHECK ABORT AT DST00
883          ;ABORTS WHEN DEST OPERAND IS FETCHED
884 003636 012737 003666 000250      MOV      #T25C, @#MMVEC ;LOAD MEM MGMT ERROR VECTOR
885 003644 012702 177572          MOV      #SR0,R2
886 003650 012767 170000 174120      MOV      #UM+PUM,PSW
887 003656 005237 177572          INC      @#SR0          ;ENABLE MEMORY MGMT
888 003662 005012          T25A: CLR      (R2)      ;ABORT AT DST00
889 003664 000000          T25B: HLT          ;ERROR! FAILED TO ABORT
890 003666 022706 001074          T25C: CMP      #KPTR-4,KSP ;CHECK STACK PTR
891 003672 001401          BEQ      .+4
892 003674 000000          HLT
893 003676 022767 140157 173666      CMP      #NRA+PLA+UPG+VS7+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
894 003704 001401          BEQ      .+4          ;& FAILING PAGE #)
895 003706 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
896 003710 022767 003662 173660      CMP      #T25A,SR2      ;CHECK CONTENTS OF SR2
897 003716 001401          BEQ      .+4          ;(PC OF ABORTED INSTRUCTION)
898 003720 000000          HLT          ;ERROR! INCORRECT PC IN SR2
899 003722 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
900
901          ;CHECK ABORT AT DST01
902          ;ABORTS WHEN DEST OPERAND IS FETCHED
903 003724 012737 003754 000250      MOV      #T30C, @#MMVEC ;LOAD MEM MGMT ERROR VECTOR
904 003732 012703 016677          MOV      #KIO-1,R3
905 003736 012737 177777 016700      MOV      #-1, @#KIO
906 003744 005237 177572          INC      @#SR0          ;ENABLE MEMORY MGMT
907 003750 142323          T30A: BICB      (R3)+, (R3)+ ;SEG LENGTH ABORT AT DST01
908 003752 000000          HLT          ;ERROR! FAILED TO ABORT
909
910          T30C:
911 003754 022767 040001 173610      CMP      #PLA+1,SR0      ;CHECK SR0 (ABORT CONDITIONS
912 003762 001401          BEQ      .+4          ;& FAILING PAGE #)
913 003764 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT

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914 003766 022767 003750 173602      CMP      #T30A,SR2      ;CHECK CONTENTS OF SR2
915 003774 001401                    BEQ      .+4          ;(PC OF ABORTED INSTRUCTION)
916 003776 000000                    HLT                        ;ERROR! INCORRECT PC IN SR2
917 004000 005037 177572      CLR      @#SRO        ;DISABLE MEMORY MGMT
918 004004 022703 016701      CMP      #KIO+1,R3    ;CHECK AUTO-INC TWICE
919 004010 001401                    BEQ      .+4
920 004012 000000                    HLT                        ;ERROR!
921 004014 005237 016700      INC      @#KIO
922 004020 001401                    BEQ      .+4
923 004022 000000                    HLT                        ;ERROR!
924 004024 104000                    SCOPE                    ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
925
926
927
928 004026 012737 004076 000250      ;CHECK ABORT AT DST04
929 004034 012702 040000      ;ABORTS WHEN ADDRESS OF DEST OPERAND IS FETCHED
930 004040 012703 017100      MOV      #T31C,@#MMVEC ;LOAD MEM MGMT ERROR VECTOR
931 004044 012713 177777      MOV      #UI2,R2
932 004050 011337 017000      MOV      #PUI1,R3
933 004054 012703 020002      MOV      #-1,(R3)
934 004060 012767 170000 173710      MOV      (R3),@#PUI2
935 004066 005237 177572      MOV      #UI1+2,R3    ;R3= USER VIRTUAL ADDRESS
936 004072 114332                    MOV      #UM+PUM,PSW
937 004074 000000                    INC      @#SRO        ;ENABLE MEMORY MGMT
938
939
940 004076 022767 140157 173466      T31A:  MOV    -(R3),@#(R2)+ ;NON-RESIDENT ABORT AT DST04
941 004104 001401                    T31B:  HLT                ;ERROR! FAILED TO ABORT
942 004106 000000                    T31C:
943 004110 022767 004072 173460      CMP      #NRA+PLA+UPG+VS7+1,SRO ;CHECK SRO (ABORT CONDITIONS
944 004116 001401                    BEQ      .+4          ;& FAILING PAGE #)
945 004120 000000                    HLT                        ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
946 004122 022702 040002      CMP      #T31A,SR2    ;CHECK CONTENTS OF SR2
947 004126 001401                    BEQ      .+4          ;(PC OF ABORTED INSTRUCTION)
948 004130 000000                    HLT                        ;ERROR! INCORRECT PC IN SR2
949 004132 022703 020001      CMP      #UI2+2,R2    ;CHECK AUTO-INC
950 004136 001401                    BEQ      .+4
951 004140 000000                    HLT                        ;ERROR!
952 004142 104000                    SCOPE                    ;CHECK AUTO DECREMENT OF R3
953
954
955 004144 012737 004210 000250      ;CHECK ABORT AT MOV03
956 004152 012767 170000 173616      MOV      #T32C,@#MMVEC ;LOAD MEM MGMT ERROR VECTOR
957 004160 012706 000600      MOV      #UM+PUM,PSW
958 004164 005016                    MOV      #UPTR,USP
959 004166 012702 060000      CLR      (USP)
960 004172 012737 177777 017400      MOV      #UI3,R2
961 004200 005237 177572      MOV      #-1,@#PUI3
962 004204 006632                    INC      @#SRO        ;ENABLE MEMORY MGMT
963 004206 000000                    MTPI    @#(R2)+      ;NON-RESIDENT ABORT AT MOV03
964 004210                    T32B:  HLT                ;ERROR! FAILED TO ABORT
965 004210 022767 100147 173354      T32C:
966 004216 001401                    CMP      #NRA+UPG+VS3+1,SRO ;CHECK SRO (ABORT CONDITIONS
967 004220 000000                    BEQ      .+4          ;& FAILING PAGE #)
968 004222 022767 004204 173346      HLT                        ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
969 004230 001401                    CMP      #T32A,SR2    ;CHECK CONTENTS OF SR2
                                BEQ      .+4          ;(PC OF ABORTED INSTRUCTION)

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970 004232 000000          HLT          ;ERROR! INCORRECT PC IN SR2
971 004234 106506          MFPD         ;PUSH USER STACK PTR ONTO KERNEL STACK
972 004236 022716 000602    CMP          #UPTR+2, (KSP) ;CHECK THAT USER STACK PTR POPPED
973 004242 001401          BEQ          .+4
974 004244 000000          HLT
975 004246 022702 060002    CMP          #UI3+2, R2 ;ERROR!
976 004252 001401          BEQ          .+4 ;CHECK AUTO-INC
977 004254 000000          HLT
978 004256 104000          SCOPE       ;ERROR!
979                                     ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
980                                     ;CHECK ABORT AT MOV11
981                                     ;ABORTS WHEN ADDRESS OF DEST OPERAND IS FETCHED
982 004260 012737 004314 000250    MOV          #T33C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
983 004266 012767 030000 173502    MOV          #KM+PUM, PSW
984 004274 012716 117776          MOV          #UI5-2, (KSP) ;NON-RES ADDRESS
985 004300 012746 140000          MOV          #KI6, -(KSP) ;ADDRESS POINTER
986 004304 005237 177572          INC          @SR0 ;ENABLE MEMORY MGMT
987 004310 106636          T33A: MTPD   @ (KSP)+ ;NON-RESIDENT ABORT AT MOV11 WHEN MTPD
988                                     ;ADDRESSES FINAL ADDRESS
989 004312 000000          T33B: HLT    ;ERROR! FAILED TO ABORT
990 004314
991 004314 022767 040151 173250    CMP          #PLA+UPG+VS4+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
992 004322 001401          BEQ          .+4 ;& FAILING PAGE #)
993 004324 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
994 004326 022767 004310 173242    CMP          #T33A, SR2 ;CHECK CONTENTS OF SR2
995 004334 001401          BEQ          .+4 ;(PC OF ABORTED INSTRUCTION)
996 004336 000000          HLT          ;ERROR! INCORRECT PC IN SR2
997 004340 106506          MFPD         ;GET KERNEL STACK PTR
998 004342 022716 001076    CMP          #KPTR-2, (KSP) ;CHECK THAT KERNEL STACK PTR POPPED TWICE
999 004346 001401          BEQ          .+4
1000 004350 000000          HLT
1001 004352 104000          SCOPE       ;ERROR!
1002                                     ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1003                                     ;CHECK ABORT AT MOV15
1004                                     ;ABORTS WHEN ADDRESS OF DEST OPERAND IS FETCHED
1005                                     ;DM=5
1006 004354 012737 004410 000250    MOV          #T35C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
1007 004362 012704 016702          MOV          #KIO+2, R4
1008 004366 012727 020000 016676    MOV          #20000, #KIO-2
1009 004374 005237 177572          INC          @SR0 ;ENABLE MEMORY MGMT
1010 004400 000277          SCC
1011 004402 112754 177777          T35A: MOVB   #-1, @-(R4) ;SEG LENGTH ABORT AT MOV15
1012 004406 000000          T35B: HLT    ;ERROR! FAILED TO ABORT
1013 004410          T35C:
1014 004410 022766 000017 000002    CMP          #17, 2(KSP) ;CHECK THAT CORRECT STATUS
1015 004416 001401          BEQ          .+4 ;WAS SAVED ON THE STACK
1016 004420 000000          HLT          ;ERROR! INCORRECT STATUS
1017 004422 022767 040001 173142    CMP          #PLA+VSO+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
1018 004430 001401          BEQ          .+4 ;& FAILING PAGE #)
1019 004432 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1020 004434 022767 004402 173134    CMP          #T35A, SR2 ;CHECK CONTENTS OF SR2
1021 004442 001401          BEQ          .+4 ;(PC OF ABORTED INSTRUCTION)
1022 004444 000000          HLT          ;ERROR! INCORRECT PC IN SR2
1023 004446 022704 016700          CMP          #KIO, R4
1024 004452 001401          BEQ          .+4
1025 004454 000000          HLT          ;ERROR!
    
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1026 004456 104000                SCOPE                ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1027
1028
1029 ;CHECK ABORT AT DST15
1030 ;ABORTS WHEN DEST OPERAND IS FETCHED
1031 ;DM=4
1031 004460 012737 004512 000250    MOV      #T36C, @MMVEC    ;LOAD MEM MGMT ERROR VECTOR
1032 004466 012704 140002            MOV      #KI6+2, R4
1033 004472 012703 016702            MOV      #KIO+2, R3
1034 004476 012713 177777            MOV      #-1, (R3)
1035 004502 005237 177572            INC      @SR0             ;ENABLE MEMORY MGMT
1036 004506 154443                    T36A:   BISB             ;SEG LENGTH ABORT AT DST15
1037 004510 000000                    T36B:   HLT              ;ERROR! FAILED TO ABORT
1038
1039 004512
1040 004512 022767 040001 173052    T36C:   CMP      #PLA+1, SR0    ;CHECK SR0 (ABORT CONDITIONS
1041 004520 001401                    BEQ      .+4              ;& FAILING PAGE #)
1042 004522 000000                    HLT
1043 004524 022767 004506 173044    CMP      #T36A, SR2      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1044 004532 001401                    BEQ      .+4              ;CHECK CONTENTS OF SR2
1045 004534 000000                    HLT                       ;(PC OF ABORTED INSTRUCTION)
1046 004536 022703 016701            CMP      #KIO+1, R3      ;ERROR! INCORRECT PC IN SR2
1047 004542 001401                    BEQ      .+4              ;CHECK AUTO-DEC
1048 004544 000000                    HLT                       ;ERROR!
1049 004546 022704 140001            CMP      #KI6+1, R4      ;CHECK AUTO-DEC
1050 004552 001401                    BEQ      .+4
1051 004554 000000                    HLT                       ;ERROR! AUTO-DEC FAILED
1052 004556 104000                SCOPE                ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1053
1054
1055 ;CHECK ABORT AT MOV08
1056 ;WHEN INSTRUCTION FETCHES DESTINATION INDEX VALUE
1057 004560 012737 004626 000250    MOV      #T40C, @MMVEC    ;LOAD MEM MGMT ERROR VECTOR
1058 004566 012767 170000 173202    MOV      #UM+PUN, PSW
1059 004574 012737 113767 017074    MOV      #113767, @PUI2+74 ;113767, 020001, 177776
1060 004602 012737 020001 017076    MOV      #20001, @PUI2+76 ;IS A MOVB @20001, .+4
1061 004610 012737 177776 017100    MOV      #177776, @PUI2+100 ;INSTRUCTION
1062 004616 005237 177572            INC      @SR0             ;ENABLE MEMORY MGMT
1063 004622 000137 040074            JMP      @PUI2+74
1064
1065 RETURN=
1066 017074 113767 020001 177776    T40A:   MOV      @20001, .+4 ;SEG LENGTH ABORT WHEN INST. FETCHES
1067 ;DEST INDEX WORD AT MOV08
1068 017102 000000                    T40B:   HLT              ;ERROR! FAILED TO ABORT
1069 004626
1070
1071 ;RETURN
1072 004626 022767 040145 172736    T40C:   CMP      #PLA+UPG+VS2+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
1073 004634 001401                    BEQ      .+4              ;& FAILING PAGE #)
1074 004636 000000                    HLT                       ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1075 004640 022767 040074 172730    CMP      #UI2+74, SR2    ;CHECK CONTENTS OF SR2
1076 004646 001401                    BEQ      .+4              ;(PC OF ABORTED INSTRUCTION)
1077 004650 000000                    HLT                       ;ERROR! INCORRECT PC IN SR2
1078 004652 104000                SCOPE                ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1079
1080 ;CHECK ABORT AT MOV17
1081 ;WHEN INSTRUCTION FETCHES DESTINATION OPERAND
    
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1082 004654 012737 004722 000250 MOV #T41C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
1083 004662 012767 170000 173106 MOV #UM+PUM, PSW ;USER MODE!!!, PREV USER MODE!!
1084 004670 012703 100000 MOV #UI4, R3
1085 004674 012704 100102 MOV #UI4+102, R4
1086 004700 012737 010344 017200 MOV #010344, @#PUI5 ;012344 = MOV R3, -(R4)
1087 004706 005037 017202 CLR @#PUI5+2
1088 004712 005237 177572 INC @#SR0 ;ENABLE MEMORY MGMT
1089 004716 000137 120000 JMP @#UIS
1090 004722 RETURN=.
1091 017200 .=#PUI5
1092 017200 T41A: MOV R3, -(R4) ;ABORT AT MOV17
1093 017202 T41B: HLT ;ERROR! FAILED TO ABORT
1094 004722 .=#RETURN
1095
1096 004722 T41C:
1097 004722 022767 040151 172642 CMP #PLA+UPG+VS4+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
1098 004730 001401 BEQ .+4 ;& FAILING PAGE #)
1099 004732 000000 HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1100 004734 022767 120000 172634 CMP #UI5, SR2 ;CHECK CONTENTS OF SR2
1101 004742 001401 BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
1102 004744 000000 HLT ;ERROR! INCORRECT PC IN SR2
1103 004746 022704 100100 CMP #UI4+100, R4
1104 004752 001401 BEQ .+4
1105 004754 000000 HLT
1106 004756 104000 SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1107
1108 ;CHECK ABORT AT MOV16
1109 ;(WHEN INSTRUCTION FETCHES ADDRESS OF DESTINATION OPERAND)
1110 004760 012737 005016 000250 MOV #T42C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
1111 004766 012767 030000 173002 MOV #KM+PUM, PSW
1112 004774 012703 140102 MOV #KI6+102, R3
1113 005000 012737 177777 017000 MOV #-1, @#PKI6+100
1114 005006 005237 177572 INC @#SR0 ;ENABLE MEMORY MGMT
1115 005012 106653 T42A: MTPD @-(R3) ;SEG LENGTH ABORT AT MOV16
1116 005014 000000 T42B: HLT ;ERROR! FAILED TO ABORT
1117
1118 005016 022706 001076 T42C: CMP #KPTR-2, KSP ;CHECK STACK PTR ( 1 POP, 2 PUSHES)
1119 005022 001401 BEQ .+4
1120 005024 000000 HLT ;ERROR! INCORRECT STACK PTR
1121 005026 022767 040015 172536 CMP #PLA+VS6+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
1122 005034 001401 BEQ .+4 ;& FAILING PAGE #)
1123 005036 000000 HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1124 005040 022767 005012 172530 CMP #T42A, SR2 ;CHECK CONTENTS OF SR2
1125 005046 001401 BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
1126 005050 000000 HLT ;ERROR! INCORRECT PC IN SR2
1127 005052 022703 140100 CMP #KI6+100, R3 ;CHECK AUTO-DECREMENT
1128 005056 001401 BEQ .+4
1129 005060 000000 HLT ;ERROR! DID NOT AUTO-DEC
1130 005062 104000 SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1131
1132 ;CHECK ABORT AT DST04
1133 ;ABORTS WHEN ADDRESS TO JUMP TO IS FETCHED
1134 005064 012737 005132 000250 MOV #T43C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
1135 005072 012737 000137 017076 MOV #137, @#PUI2+76 ;000137, T43D =JMP @#T43D
1136 005100 012737 005130 017100 MOV #T43D, @#PUI2+100
1137 005106 005037 017102 CLR @#PUI2+102

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1138 005112 012767 170000 172656      MOV      #UM+PUM,PSW
1139 005120 005237 177572                INC      @#SRO                ;ENABLE MEMORY MGMT
1140 005124 000137 040076                JMP      @#UI2+76            ;GO DO INSTRUCTION
1141                005130      RETURN=.
1142                017076      .=PUI2+76
1143 017076 000137 005130      T43A:   JMP      @#T43D
1144 017102 000000      T43B:   HLT                    ;ERROR! JMP FAILED
1145                005130      .=RETURN
1146 005130 000000      T43D:   HLT                    ;ERROR! FAILED TO ABORT
1147 005132
1148 005132 022767 040145 172432      T43C:   CMP      #PLA+UPG+VS2+1,SRO ;CHECK SRO (ABORT CONDITIONS
1149 005140 001401                BEQ      .+4                ;& FAILING PAGE #)
1150 005142 000000                HLT                    ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1151 005144 022767 040076 172424      CMP      #UI2+76,SR2        ;CHECK CONTENTS OF SR2
1152 005152 001401                BEQ      .+4                ;(PC OF ABORTED INSTRUCTION)
1153 005154 000000                HLT                    ;ERROR! INCORRECT PC IN SR2
1154 005156 104000                SCOPE                    ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1155
1156                ;CHECK ABORT AT DST12
1157                ;WHEN INSTRUCTION FETCHES ADDRESS OF DEST. OPERAND. (UI5+4)
1158 005160 012737 005230 000250      MOV      #T44C,@#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
1159 005166 012767 170000 172602      MOV      #UM+PUM,PSW        ;USER MODE!!! PREV USER MODE!!
1160 005174 012706 000600                MOV      #UPTR,USP          ;SET USER STACK PTR
1161 005200 012703 120006                MOV      #UI5+6,R3
1162 005204 012737 177776 017204      MOV      #-2,@#PUI5+4
1163 005212 012737 004753 017200      MOV      #4753,@#PUI5      ;004753 = JSR 7,@-(R3)
1164 005220 005237 177572                INC      @#SRO                ;ENABLE MEMORY MGMT
1165 005224 000137 120000                JMP      @#UI5                ;GO DO INST.
1166                005230      RETURN=.
1167                017200      .=PUI5
1168 017200 004753      T44A:   JSR      7,@-(R3)
1169 017202 000000      T44B:   HLT                    ;ERROR!
1170                005230      .=RETURN
1171 005230 022706 001074      T44C:   CMP      #KPTR-4,KSP    ;CHECK STACK PTR
1172 005234 001401                BEQ      .+4
1173 005236 000000                HLT                    ;INCORRECT STACK PTR
1174 005240 022767 140157 172324      CMP      #NRA+PLA+UPG+VS7+1,SRO ;CHECK SRO (ABORT CONDITIONS
1175 005246 001401                BEQ      .+4                ;& FAILING PAGE #)
1176 005250 000000                HLT                    ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1177 005252 022767 120000 172316      CMP      #UI5,SR2          ;CHECK CONTENTS OF SR2
1178 005260 001401                BEQ      .+4                ;(PC OF ABORTED INSTRUCTION)
1179 005262 000000                HLT                    ;ERROR! INCORRECT PC IN SR2
1180 005264 106506                MFPD     USP                ;GET USER STACK PTR (ON KERNEL STACK)
1181 005266 022716 000576      CMP      #UPTR-2,(KSP)      ;CHECK THAT USER STACK DID NOT
1182 005272 001401                BEQ      .+4                ;GET PUSHED
1183 005274 000000                HLT                    ;ERROR!
1184 005276 022703 120004      CMP      #UI5+4,R3          ;CHECK AUTO-DEC
1185 005302 001401                BEQ      .+4
1186 005304 000000                HLT                    ;ERROR!
1187 005306 104000                SCOPE                    ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1188
1189                ;CHECK ABORT AT DST10
1190                ;WHEN INSTRUCTION FETCHES DESTINATION OPERAND (UIPDR5)
1191 005310 012737 005362 000250      MOV      #T45C,@#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
1192 005316 012767 170000 172452      MOV      #UM+PUM,PSW        ;USER MODE!!! PREV USER MODE!!
1193 005324 012706 000600                MOV      #UPTR,USP          ;SET USER STACK PTR

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1194 005330 005016          CLR      (USP)
1195 005332 012737 012667 017200  MOV     #012667, @#PUI5 ;012667,057606 = MOV (USP)+,UIPDR5
1196 005340 012737 057606 017202  MOV     #57606, @#PUI5+2 ;INSTRUCTION
1197 005346 005037 017204          CLR     @#PUI5+4
1198 005352 005237 177572          INC     @#SR0 ;ENABLE MEMORY MGMT
1199 005356 000137 120000          JMP     @#UIS
1200          005362          RETURN=.
1201          017200          .=PUI5
1202 017200 012667 057606          T45A:  MOV     (USP)+,UIPDR5-UIS+PUI5
1203 017204 000000          T45B:  HLT
1204          005362          .=RETURN
1205
1206 005362          T45C:
1207 005362 022767 140157 172202  CMP     #NRA+UPG+PLA+VS7+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
1208 005370 001401          BEQ     .+4 ;& FAILING PAGE #)
1209 005372 000000          HLT     ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1210 005374 022767 120000 172174  CMP     #UIS,SR2 ;CHECK CONTENTS OF SR2
1211 005402 001401          BEQ     .+4 ;(PC OF ABORTED INSTRUCTION)
1212 005404 000000          HLT     ;ERROR! INCORRECT PC IN SR2
1213 005406 005037 177572          CLR     @#SR0 ;DISABLE MEMORY MGMT
1214 005412 005737 177612          TST     @#UIPDR5
1215 005416 001001          BNE     .+4
1216 005420 000000          HLT
1217 005422 104000          SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1218
1219
1220
1221          ;CHECK ABORT AT JSR01
1222          ;ABORTS WHEN REGISTER (R5) IS PUSHED ON USER STACK
1223 005424 012737 005474 000250  MOV     #T50C, @#MMVEC ;LOAD MEM MGMT ERROR VECTOR
1224 005432 012767 170000 172336  MOV     #UM+PUM,PSW ;USER MODE!!! PREV USER MODE!!
1225 005440 012706 100000          MOV     #UI4,USP ;SET USER STACK PTR
1226 005444 005037 017276          CLR     @#PUI4-2
1227 005450 005005          CLR     R5
1228 005452 012767 005472 173524  MOV     #T50D,TEMP
1229 005460 005237 177572          INC     @#SR0 ;ENABLE MEMORY MGMT
1230 005464 004577 173514          T50A:  JSR     5,@TEMP ;NON-RES ABORT AT JSR01
1231 005470 000000          T50B:  HLT ;JSR FAILED & DID NOT ABORT
1232 005472 000000          T50D:  HLT ;ERROR! FAILED TO ABORT
1233 005474          T50C:
1234 005474 022767 140147 172070  CMP     #NRA+PLA+UPG+VS3+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
1235 005502 001401          BEQ     .+4 ;& FAILING PAGE #)
1236 005504 000000          HLT     ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1237 005506 022767 005464 172062  CMP     #T50A,SR2 ;CHECK CONTENTS OF SR2
1238 005514 001401          BEQ     .+4 ;(PC OF ABORTED INSTRUCTION)
1239 005516 000000          HLT     ;ERROR! INCORRECT PC IN SR2
1240 005520 106506          MFPD   USP ;PUSH USER STACK PTR ONTO KERNEL STACK
1241 005522 022716 077776  CMP     #UI4-2,(KSP) ;CHECK THAT USER STACK PTR DEC-
1242 005526 001401          BEQ     .+4 ;REMENTED
1243 005530 000000          HLT     ;ERROR!
1244 005532 005705          TST     R5
1245 005534 001401          BEQ     .+4
1246 005536 000000          HLT
1247 005540 104000          SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1248
1249          ;CHECK ABORT AT TRP11
    
```



1306	006030	001401			BEQ	+.4		;(PC OF ABORTED INSTRUCTION)
1307	006032	000000			HLT			;ERROR! INCORRECT PC IN SR2
1308	006034	012767	030000	171734	MOV	#KM+PUM,PSW		
1309	006042	106506			MFPD	USP		;PUSH USER STACK PTR ONTO KERNEL STACK
1310	006044	022716	037776		CMP	#UI2-2,(KSP)		;CHECK THAT USER STACK PTR WAS
1311	006050	001401			BEQ	+.4		;DECREMENTED BY 4
1312	006052	000000			HLT			;ERROR!
1313	006054	005067	171742		CLR	IOTVEC+2		
1314	006060	012767	000022	171732	MOV	#IOTVEC+2,IOTVEC		
1315	006066	104000			SCOPE			;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1316								
1317								
1318	006070	012737	006132	000250	MOV	#T56C,#MMVEC		;LOAD MEM MGMT ERROR VECTOR
1319	006076	012767	170000	171672	MOV	#UM+PUM,PSW		
1320	006104	012706	000600		MOV	#UPTR,USP		
1321	006110	012746	140000		MOV	#UM,-(USP)		
1322	006114	012746	040100		MOV	#UI2+100,-(USP)		
1323	006120	005037	017100		CLR	#PUI2+100		
1324	006124	005237	177572		INC	#SRO		;ENABLE MEMORY MGMT
1325	006130	000002			T56B: RTI			
1326		006132				RETURN=.		
1327		017100				.=PUI2+100		
1328	017100	000000			T56A: HLT			;ERROR! FAILED TO ABORT AT FET03
1329		006132				.=RETURN		
1330	006132	022706	001074		T56C: CMP	#KPTR-4,KSP		;CHECK STACK PTR
1331	006136	001401				+.4		
1332	006140	000000			HLT			
1333	006142	022767	040145	171422	CMP	#PLA+UPG+VS2+1,SRO		;CHECK SRO (ABORT CONDITIONS
1334	006150	001401			BEQ	+.4		; & FAILING PAGE #)
1335	006152	000000			HLT			;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1336	006154	022767	006130	171414	CMP	#T56B,SR2		;CHECK CONTENTS OF SR2
1337	006162	001401			BEQ	+.4		; (PC OF ABORTED INSTRUCTION)
1338	006164	000000			HLT			;ERROR! INCORRECT PC IN SR2
1339	006166	104000			SCOPE			;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1340								
1341								
1342	006170	012767	170000	171600	;CHECK ABORT AT FET02	MOV	#UM+PUM,PSW	
1343	006176	012737	006230	000250		MOV	#T60C,#MMVEC	;LOAD MEM MGMT ERROR VECTOR
1344	006204	012737	000005	017076		MOV	#5,#PUI2+76	;5 IS A RESET INSTRUCTION
1345	006212	005037	017100			CLR	#PUI2+100	
1346	006216	005005				CLR	R5	
1347	006220	005237	177572			INC	#SRO	;ENABLE MEMORY MGMT
1348	006224	000137	040076			JMP	#UI2+76	;GO EXECUTE RESET
1349		006230				RETURN=.		
1350		017076				.=PUI2+76		
1351	017076	000005			T60A: RESET			;ABORTS WHEN NEXT INST. FETCHED
1352	017100	000000				HLT		;ERROR! FAILED TO ABORT
1353		006230				.=RETURN		
1354								
1355	006230				T60C:			
1356	006230	022767	040145	171334		CMP	#PLA+UPG+VS2+1,SRO	;CHECK SRO (ABORT CONDITIONS
1357	006236	001401				BEQ	+.4	; & FAILING PAGE #)
1358	006240	000000				HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1359	006242	022767	040076	171326		CMP	#UI2+76,SR2	;CHECK CONTENTS OF SR2
1360	006250	001401				BEQ	+.4	; (PC OF ABORTED INSTRUCTION)
1361	006252	000000				HLT		;ERROR! INCORRECT PC IN SR2

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1362 006254 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1363
1364
1365          ;CHECK ABORT AT
1366          ;ABORTS WHEN INST FOLLOWING MARK IS FETCHED
1367 006256 012767 170000 171512      MOV      #UM+PUM,PSW
1368 006264 012737 006314 000250      MOV      #T63C,@#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
1369 006272 012746          (PC)+,-(USP)      ;PUSH MARK INST ON USER STACK
1370 006274 006401          MARK      1      ;PUSH THIS INST ON USER STACK
1371 006276 012705 040100          MOV      #UI2+100,R5      ;AFTER MARK EXECUTE INST AT T63A
1372 006302 005037 017100          CLR      @#T63A          ;WHICH IS A HALT
1373 006306 005237 177572          INC      @#SR0          ;ENABLE MEMORY MGMT
1374 006312 000116          JMP      (USP)          ;GO EXECUTE MARK AT SPTR-2
1375          RETURN=.
1376          .=PUI2+100
1377 017100 000000          T63A:  HLT              ;SEG ABORT WHEN THIS INST. FETCHED AT
1378          .=RETURN
1379 006314 022706 001074          T63C:  CMP      #KPTR-4,KSP      ;CHECK STACK PTR
1380 006320 001401          BEQ      .+4
1381 006322 000000          HLT
1382 006324 022767 040145 171240      CMP      #PLA+UPG+VS2+1,SR0      ;CHECK SR0 (ABORT CONDITIONS
1383 006332 001401          BEQ      .+4      ;& FAILING PAGE #)
1384 006334 000000          HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1385 006336 022767 000576 171232      CMP      #UPTR-2,SR2      ;CHECK CONTENTS OF SR2
1386 006344 001401          BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
1387 006346 000000          HLT      ;ERROR! INCORRECT PC IN SR2
1388 006350 106506          MFPD     USP          ;PUSH USER STACK PTR ONTO KERNEL STACK
1389 006352 022716 000604          CMP      #UPTR+4,(KSP)      ;CHECK USER STACK PTR
1390 006356 001401          BEQ      .+4
1391 006360 000000          HLT      ;ERROR! INCORRECT USER STACK PTR
1392 006362 023705 ,000602      CMP      @#UPTR+2,R5      ;CHECK CONTENTS OF R5
1393 006366 001401          BEQ      .+4
1394 006370 000000          HLT      ;ERROR!
1395 006372 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1396
1397          ;CHECK ABORT AT TST.10
1398          ;ABORTS WHEN INST FOLLOWING TST IS FETCHED
1399 006374 012737 006430 000250      MOV      #T64C,@#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
1400 006402 012702 177777          MOV      #-1,R2          ;R2=STATUS WORD ADDRESS (ODD BYTE)
1401 006406 012737 105722 016676      MOV      #105722,@#KIO-2      ;105722=TSTB (R2)+
1402 006414 005037 016700          CLR      @#KIO
1403 006420 005237 177572          INC      @#SR0          ;ENABLE MEMORY MGMT
1404 006424 000137 016676          JMP      @#KIO-2          ;GO EXECUTE INSTRUCTION
1405          RETURN=.
1406          .=KIO-2
1407 016676 105722          T64A:  TSTB     (R2)+      ;ABORTS WHEN NEXT INST. IS FETCHED
1408 016700 000000          T64B:  HLT              ;ERROR! FAILED TO ABORT
1409          .=RETURN
1410 006430
1411 006430 022767 040001 171134          T64C:  CMP      #PLA+VSO+1,SR0      ;CHECK SR0 (ABORT CONDITIONS
1412 006436 001401          BEQ      .+4      ;& FAILING PAGE #)
1413 006440 000000          HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1414 006442 022767 016676 171126      CMP      #T64A,SR2      ;CHECK CONTENTS OF SR2
1415 006450 001401          BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
1416 006452 000000          HLT      ;ERROR! INCORRECT PC IN SR2
1417 006454 005702          TST     R2          ;CHECK AUTO-INC
    
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1418	006456	001401			BEG	.+4	
1419	006460	000000			HLT		;ERROR! AUTO-INC FAILED
1420	006462	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1421							
1422							
1423							;CHECK ABORT AT D00.90
1424	006464	012737	006522	000250	;ABORTS	WHEN INSTRUCTION FOLLOWING MOVB IS FETCHED	
1425	006472	012703	016700		MOV	#T66C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
1426	006476	005013			MOV	#K10, R3	
1427	006500	012743			CLR	(3)	;SET UP CODE (HALT)
1428	006502	114203			MOV	(7)+, -(R3)	
1429	006504	012702	001204		MOVB	-(R2), R3	;THIS INSTRUCTION IS NOT EXECUTED
1430	006510	012722	100000		MOV	#TEMP, R2	
1431	006514	005237	177572		MOV	#100000, (R2)+	
1432	006520	000113			INC	@SR0	;ENABLE MEMORY MGMT
1433		006522			JMP	(R3)	;GO EXECUTE MOVB INSTRUCTION
1434		016676			RETURN=.		
1435	016676	114203			.=K10-2		
1436	016700	000000			T66A: MOVB	-(R2), R3	;ABORTS WHEN THE NEXT INST IS FETCHED
1437		006522			T66B: HLT		;ERROR! FAILED TO ABORT HERE
1438	006522				.=RETURN		
1439	006522	022767	040001	171042	T66C: CMP	#PLA+VS0+1, SR0	;CHECK SR0 (ABORT CONDITIONS
1440	006530	001401			BEG	.+4	& FAILING PAGE #)
1441	006532	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1442	006534	022767	016676	171034	CMP	#T66A, SR2	;CHECK CONTENTS OF SR2
1443	006542	001401			BEG	.+4	; (PC OF ABORTED INSTRUCTION)
1444	006544	000000			HLT		;ERROR! INCORRECT PC IN SR2
1445	006546	022703	177600		CMP	#177600, R3	;MOVB TO A REGISTER EXTENDS
1446	006552	001401			BEG	.+4	;THE SIGN
1447	006554	000000			HLT		;ERROR! INCORRECT RESULT IN R3
1448	006556	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1449							
1450							
1451							;CHECK ACCESS VIOLATION ABORT
1452	006560	012737	006612	000250	;ABORTS	WHEN SOURCE DATA IS FETCHED USING DATIP WITH DEST ADDRESS READ ONLY	
1453	006566	112737	000002	172314	MOV	#T72C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
1454					MOVB	#RD0, @KIPDR6	;SET KERNEL ADDRESS 140000-140077
1455	006574	005037	016700				;READ ABORT ON WRITE
1456	006600	005237	177572		CLR	@PKI6	;CLEAR CORRESPONDING PHYSICAL ADDRESS
1457	006604	000261			INC	@SR0	;ENABLE MEMORY MGMT
1458	006606	005537	140000		SEC		;SET 'C'
1459					T72A: ADC	@KI6	;ABORTS WHEN DATA IS FETCHED USING DATIP
1460	006612						
1461	006612	022767	020015	170752	T72C: CMP	#AVA+VS6+1, SR0	;CHECK SR0 (ABORT CONDITIONS
1462	006620	001401			BEG	.+4	& FAILING PAGE #)
1463	006622	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1464	006624	022767	006606	170744	CMP	#T72A, SR2	;CHECK CONTENTS OF SR2
1465	006632	001401			BEG	.+4	; (PC OF ABORTED INSTRUCTION)
1466	006634	000000			HLT		;ERROR! INCORRECT PC IN SR2
1467	006636	022766	000001	000002	CMP	#C, 2(KSP)	;CHECK THAT CORRECT STATUS
1468	006644	001401			BEG	.+4	; WAS SAVED ON THE STACK
1469	006646	000000			HLT		;ERROR! INCORRECT STATUS
1470	006650	005037	177572		CLR	@SR0	;DISABLE MEMORY MGMT
1471	006654	005737	016700		TST	@PKI6	;CHECK THAT ADDRESS WAS NOT WRITTEN
1472	006660	001401			BEG	.+4	
1473	006662	000000			HLT		;ERROR! DATA WRITTEN INTO READ ONLY ADDRESS

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1474 006664 104000          SCOPE
1475
1476          ;CHECK ACCESS VIOLATION ABORT
1477          ;ABORTS WHEN SOURCE DATA IS FETCHED FROM READ ONLY SPACE USING A DATIP.
1478 006666 012737 006712 000250  MOV    #T73C, @#MMVEC    ;LOAD MEM MGMT ERROR VECTOR
1479 006674 005037 016700          CLR    @#PK76          ;PRESET ADDRESS
1480 006700 005237 177572          INC    @#SRO          ;ENABLE MEMORY MGMT
1481 006704 000261          SEC          ;SET 'C'
1482 006706 106037 140001  T73A:  RORB   @#KI6+1    ;ABORTS WHEN RESULT IS WRITTEN
1483 006712
1484 006712 022767 020015 170652  T73C:  CMP    #AVA+VS6+1, SRO ;CHECK SRO (ABORT CONDITIONS
1485 006720 001401          BEQ    .+4            ;& FAILING PAGE #)
1486 006722 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1487 006724 022767 006706 170644  CMP    #T73A, SR2     ;CHECK CONTENTS OF SR2
1488 006732 001401          BEQ    .+4            ;(PC OF ABORTED INSTRUCTION)
1489 006734 000000          HLT          ;ERROR! INCORRECT PC IN SR2
1490 006736 022766 000001 000002  CMP    #C, 2(KSP)     ;CHECK THAT CORRECT STATUS
1491 006744 001401          BEQ    .+4            ;WAS SAVED ON THE STACK
1492 006746 000000          HLT          ;ERROR! INCORRECT STATUS
1493 006750 005037 177572          CLR    @#SRO          ;DISABLE MEMORY MGMT
1494 006754 005737 016700          TST    @#PKI6
1495 006760 001401          BEQ    .+4
1496 006762 000000          HLT          ;ERROR! ADDRESS WAS WRITTEN
1497 006764 012737 000006 172314  MOV    #6, @#KIPDR6  ;SET KOPDR R/W
1498 006772 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
1499
1500
1501          ;CHECK ABORT AT SVC.80 USING 'T' BIT TRAP
1502          ;CHECK ABORT WHEN PSW IS NON-RESIDENT
1503 006774 012737 007030 000250  MOV    #T102C, @#MMVEC ;LOAD MEM MGMT ERROR VECTOR
1504 007002 005002          CLR    R2            ;PRESET DESTINATION
1505 007004 005237 177572          INC    @#SRO          ;ENABLE MEMORY MGMT
1506 007010 012746 140017          MOV    #UM+17, -(KSP) ;'NEW' STATUS ON STACK
1507 007014 012746 007022          MOV    #.+6, -(KSP)  ;RETURN PC
1508 007020 000002          RTI          ;SET STATUS AND EXECUTE NEXT INST.
1509 007022 013702 177776  T102A: MOV    @#PSW, R2     ;PSW IS NON-RESIDENT IN USER MODE
1510 007026 000000          HLT          ;ERROR! FAILED TO ABORT
1511 007030
1512 007030 022767 140157 170534  T102C: CMP    #NRA+PLA+UPG+VS7+1, SRO ;CHECK SRO (ABORT CONDITIONS
1513 007036 001401          BEQ    .+4            ;& FAILING PAGE #)
1514 007040 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
1515 007042 022767 007022 170526  CMP    #T102A, SR2     ;CHECK CONTENTS OF SR2
1516 007050 001401          BEQ    .+4            ;(PC OF ABORTED INSTRUCTION)
1517 007052 000000          HLT          ;ERROR! INCORRECT PC IN SR2
1518 007054 022766 140017 000002  CMP    #UM+17, 2(KSP) ;CHECK THAT CORRECT STATUS
1519 007062 001401          BEQ    .+4            ;WAS SAVED ON THE STACK
1520 007064 000000          HLT          ;ERROR! INCORRECT STATUS
1521 007066 005702          TST    R2            ;CHECK THAT R2 WAS NOT LOADED
1522 007070 001401          BEQ    .+4
1523 007072 000000          HLT          ;ERROR! DEST (R2) WAS CHANGED
1524 007074 104000          SCOPE
1525
1526 007076 005767 172112          END:   TST    PASCNT   ;FIRST PASS?
1527 007102 001410          BEQ    DONE          ;YES, SKIP ITERATIONS THIS TIME
1528 007104 005267 172070          INC    ICNT
1529 007110 022767 005000 172062  CMP    #5000, ICNT

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1530	007116	001402			BEQ	DONE	
1531	007120	000167	172224		JMP	BEGIN	
1532	007124	005267	172064		INC	PASCNT	; TO ENABLE ITERATIONS ON LATER PASSES
1533	007130	012767	000007	170430	MOV	#7, TPB	; RING THE BELL
1534	007136	105767	170422		TSTB	TPS	
1535	007142	100375			BPL	.-4	
1536	007144	012767	000052	170414	MOV	#52, TPB	; PRINT '*' FOR PASS INDICATION
1537	007152	105767	170406		TSTB	TPS	
1538	007156	100375			BPL	.-4	
1539	007160	012767	000000	170400	MOV	#0, TPB	
1540	007166	105767	170372		TSTB	TPS	
1541	007172	100375			BPL	.-4	
1542	007174	013702	000042		MOV	#42, %2	; GET MONITOR RETURN ADDRESS
1543	007200	001405			BEQ	DONE1	; DO NOT RETURN TO MON IF (42)=0
1544	007202	000005			RESET		
1545	007204	004712			SENDAD: JSR	7, (2)	; RETURN TO MONITOR
1546	007206	000240			NOP		; ACT11
1547	007210	000240			NOP		; OVERLAY
1548	007212	000240			NOP		; AREA
1549	007214	000167	171776		DONE1: JMP	START	
1550							
1551		000001				.END	



AVA = 020000	PASCNT = 001214	T102C = 007030	T36B = 004510	T66C = 006522
BEGIN = 001350	PFVEC = 000024	T13A = 002666	T36C = 004512	T7A = 002506
BIT13 = 020000	PKI0 = 016600	T13B = 002670	T4A = 002310	T7B = 002512
BIT14 = 040000	PKI6 = 016700	T13C = 002674	T4B = 002312	T7C = 002514
BIT15 = 100000	PKM = 000000	T13D = 002672	T4C = 002314	T72A = 006606
BIT6 = 000100	PLA = 040000	T14A = 003014	T40A = 017074	T72C = 006612
BIT8 = 000400	PRTY4 = 000200	T14B = 003016	T40B = 017102	T73A = 006706
C = 000001	PRTY7 = 000340	T14C = 003022	T40C = 004626	T73C = 006712
DM = 000400	PSW = 177776	T14D = 003020	T41A = 017200	UIPAR0 = 177640
DONE = 007124	PUI1 = 017100	T16A = 003112	T41B = 017202	UIPAR1 = 177642
DONE1 = 007214	PUI2 = 017000	T16B = 003114	T41C = 004722	UIPAR2 = 177644
DMN = 000010	PUI3 = 017400	T16C = 003120	T42A = 005012	UIPAR3 = 177646
ED = 000010	PUI4 = 017300	T16D = 003116	T42B = 005014	UIPAR4 = 177650
EMTVEC = 000030	PUI5 = 017200	T2A = 002034	T42C = 005016	UIPAR5 = 177652
END = 007076	PUM = 030000	T2B = 002036	T43A = 017076	UIPAR6 = 177654
ENMM = 000001	RDO = 000002	T2C = 002040	T43B = 017102	UIPAR7 = 177656
ERRVEC = 000010	RETURN = 006522	T20A = 016676	T43C = 005132	UIPDR0 = 177600
FPVEC = 000244	RW = 000006	T20B = 016702	T43D = 005130	UIPDR1 = 177602
FTITLE = 001212	RWT = 000004	T20C = 003242	T44A = 017200	UIPDR2 = 177604
HLT = 000000	SCOPE = 104000	T21A = 016676	T44B = 017202	UIPDR3 = 177606
ICNT = 001200	SCOPEA = 000442	T21B = 016702	T44C = 005230	UIPDR4 = 177610
IOTVEC = 000020	SCOPEX = 000476	T21C = 003362	T45A = 017200	UIPDR5 = 177612
IS = 000000	SHLT = 000400	T22 = 016674	T45B = 017204	UIPDR6 = 177614
KIPAR0 = 172340	SHLTA = 000436	T22A = 016676	T45C = 005362	UIPDR7 = 177616
KIPAR1 = 172342	SRO = 177572	T22AA = 016700	T50A = 005464	UI1 = 020000
KIPAR2 = 172344	SROT = 001202	T22B = 016702	T50B = 005470	UI2 = 040000
KIPAR3 = 172346	SR1 = 177574	T22C = 003462	T50C = 005474	UI3 = 060000
KIPAR4 = 172350	SR2 = 177576	T24A = 003564	T50D = 005472	UI4 = 100000
KIPAR5 = 172352	START = 001216	T24B = 003566	T52A = 005600	UI5 = 120000
KIPAR6 = 172354	SWR = 177570	T24C = 003570	T52B = 005602	UM = 140000
KIPAR7 = 172356	T = 000020	T25A = 003662	T52C = 005606	UP = 000000
KIPDR0 = 172300	TBITVE = 000014	T25B = 003664	T52D = 005604	UPG = 000140
KIPDR1 = 172302	TEMP = 001204	T25C = 003666	T53A = 005750	UPTR = 000600
KIPDR2 = 172304	TITLE = 001274	T3A = 002140	T53B = 005752	USP = %000006
KIPDR3 = 172306	TKB = 177562	T3B = 002142	T53C = 005756	V = 000002
KIPDR4 = 172310	TKS = 177560	T3C = 002144	T53D = 005754	V50 = 000000
KIPDR5 = 172312	TPB = 177566	T30A = 003750	T56A = 017100	V51 = 000002
KIPDR6 = 172314	TPS = 177564	T30C = 003754	T56B = 006130	V52 = 000004
KIPDR7 = 172316	TPVEC = 000064	T31A = 004072	T56C = 006132	V53 = 000006
KIO = 016700	TRAPVE = 000034	T31B = 004074	T6A = 002430	V54 = 000010
KI6 = 140000	TO = 001604	T31C = 004076	T6B = 002434	V55 = 000012
KM = 000000	TOA = 001634	T32A = 004204	T6C = 002436	V56 = 000014
KPG = 000000	TOB = 001636	T32B = 004206	T60A = 017076	V57 = 000016
KPTR = 001100	TOC = 001640	T32C = 004210	T60C = 006230	W = 000100
KSP = %000006	T1A = 001740	T33A = 004310	T63A = 017100	Z = 000004
MMK = 001450	T1B = 001742	T33B = 004312	T63C = 006314	SENDAD = 007204
MMVEC = 000250	T1C = 001744	T33C = 004314	T64A = 016676	. = 007220
MMO = 001362	T10A = 002564	T35A = 004402	T64B = 016700	
N = 000010	T10B = 002570	T35B = 004406	T64C = 006430	
NRA = 100000	T10C = 002572	T35C = 004410	T66A = 016676	
NRO = 000000	T102A = 007022	T36A = 004506	T66B = 016700	

. ABS. 017206 000

ERRORS DETECTED: 0

H03

DBKTF-D MEM. MAN. ABORT TESTS MACY11 27(1006) 25-OCT-76 22:21 PAGE 33  
DBKTFD.P11 25-OCT-76 22:20 SYMBOL TABLE

DEFAULT GLOBALS GENERATED: 0

DSKZ:DBKTFD, DSKZ:DBKTFD/SOL=DSKZ:DBKTFD.P11  
RUN-TIME: 5 10 .8 SECONDS  
RUN-TIME RATIO: 43/17=2.5  
CORE USED: 5K (9 PAGES)