

LSI-11

TRAPS TEST
MD-11-DVKAD-A

EP-DVKAD-DL-A
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FICHE 1 OF 1

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The left side of the page contains a grid of 50 small, illegible test results or data tables arranged in 10 rows and 5 columns. Each cell in the grid appears to contain a small table or set of data, but the text is too faint to read. The right side of the page is mostly blank with some faint, illegible markings.

00000007
00000006
00000003
00000000
00000001
00000002
00000000
104400
104000
00000003
00000004
00000004
0000014
0000030
0000020
0000034
177564
177560
177564
177566
000240
000240
000007
000010
004700
000100
000404
000402

.NLIST MD,CND,MC
.LIST ME

PC=%7
SP=%6
TAB=%3
RO=%0
LAST=%1
FIRST=%2
HLT=HALT
TRAP=104400
EMT=104000
TRT=3
ITRAPS=4
RTRAPS=4
RTRAP4=14
RTRAP3=30
RTRAP2=20
RTRAP1=34
TTCR=177564
TRCSR=177560
TPS=177564
TPB=177566
BELL=240
NOP=240
TRAPA=000007
RTRAP=10
ILLA=004700
ILLB=100
STSTNM=STESTN
SERROR=SFATAL

:RESERVED INST AND ILLEGAL ADDRESSES
:FOR TRACE TRAP
:FOR EMULATOR TRAP
:FOR IOT TRAP
:FOR TRAP INST

.MCALL .SAPTHDR
.MCALL .SAPTBL
.MCALL .SACT11


```

(1)
(1)
(1)
(2)
(1)      000450
(1)      000024
(1) 000024 000200
(1)      000044
(1) 000044 000450
(1)      000450
(2)
(1)
(1)
(1)
(1) 000450
(1) 000450 000000
(1) 000452 000400
(1) 000454 000011
(1) 000456 000011
(1) 000460 000000
(1) 000462 000024

.SBTTL APT PARAMETER BLOCK
:SET LOCATIONS 24 AND 44 AS REQUIRED FOR APT
:*****
.SX=.      ;;SAVE CURRENT LOCATION
.=24      ;;SET POWER FAIL TO POINT TO START OF PROGRAM
200       ;;FOR APT START UP
.=44      ;;POINT TO APT INDIRECT ADDRESS PNTR.
$APTHDR   ;;POINT TO APT HEADER BLOCK
.=.SX     ;;RESET LOCATION COUNTER
:*****
:SETUP APT PARAMETER BLOCK AS DEFINED IN THE APT-PDP11 DIAGNOSTIC
:INTERFACE SPEC.

$APTHD:
$HIBTS: .WORD 0      ;;TWO HIGH BITS OF 18 BIT MAILBOX ADDR.
$MBADR: .WORD $MAIL  ;;ADDRESS OF APT MAILBOX (BITS 0-15)
$STSM:  .WORD 11     ;;RUN TIM OF LONGEST TEST
$PASTM: .WORD 11     ;;RUN TIME IN SECS. OF 1ST PASS ON 1 UNIT (QUICK VERIFY)
$UNITM: .WORD 0      ;;ADDITIONAL RUN TIME (SECS) OF A PASS FOR EACH ADDITIONAL UNIT
SETEND-$MAIL/2 ;;LENGTH MAILBOX-ETABLE(WORDS)

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E01

.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 55-3
 DVKADA.P11 APT PARAMETER BLOCK

*** SEQ 0006

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5058
5059          000200          :=200
5060 000200 000167 000276   JMP      START
5061          000210          :=210
5062 000210 005037 000406   CLR      J#SPASS      ;CLEAR THE PASS COUNT
5063 000214 000167 000262   JMP      START
5064          000500          :=500
5065 000500 000000          000000   BUFF:
5066 000502 012767 013100 177314  START: MOV      #PWRDN,24      ;SET UP THE POWER DOWN VECTOR
5067 000510 012767 000340 177310   MOV      #340,26      ;SET UP POWER DOWN PRIORITY
5068 000516 105767 177676   TSTB    $ENV          ;ARE WE UNDER APT?
5069 000522 001023          BNE     BEGIN        ;YES
5070 000524 005067 177671   CLR     $ENVM
5071 000530 005067 177672   CLR     $CPUOP
5072 000534 132767 000040 177660   BITB    #40,$SWREG    ;DO WE PRINT END OF PASS
5073 000542 001403          BEQ     IS            ;YES
5074 000544 152767 000040 177647   BISB    #40,$ENVM
5075
5076 000552 016700 177644   IS:    MOV     $SWREG,R0      ;GET CONTENT OF $SWREG
5077 000556 032700 000100   BIT     #100,R0        ;DO WE HAVE EIS,FIS OPTION?
5078 000562 001403          BEQ     BEGIN        ;NO
5079 000564 052767 000300 177634   BIS     #300,$CPUOP    ;YES SET UP LOCATION #CPUOP
5080
5081
5082
5083 000572 012737 177777 012716  BEGIN: MOV     #-1,J#PASSPT
5084 000600 012702 000400   RESTR: MOV     #MSGTY,%2
5085 000604 005067 177570   CLR     $MSGTY
5086 000610 005067 177570   CLR     $STSTNM
5087 000614 005067 177562   CLR     $ERROR
5088 000620 000167 000026   JMP     TST1
5089 000624 000000          K1:    0
5090 000626 000000          K2:    0
5091 000630 000000          K3:    0
5092 000632 000000          K4:    0
5093 000634 000000          K5:    0
5094 000636 000000          K6:    0
5095 000640 052525          K7:    052525
5096 000642 052400          K10:   052400
5097 000644 000000          K11:   0
5098 000646 000000          K12:   0
5099 000650 000000          HERE:  0
5100 *****
5101 (2) *****
5102 (3) ;TEST 1 TEST AUTO INCREMENT AND DECREMENT OF R6 FOR WORD AND BYTES
5103 (2) *****
5104 (2) 000652 005237 000404   TST1: INC     J#STESTN      ;UPDATE TEST NUMBER
5105 (2) 000656 022737 000001 000404   CMP     #1,J#STESTN    ;SEQUENCE ERROR?
5106 (2) 000664 001124          BNE     TST2-12 ;BR TO ERROR HALT ON SEQ ERROR
5107 5101 000666 005006          R6TST: CLR     %6
5108 5102 000670 112667 177754   MOVB   (6)+,HERE      ;SIX SHOULD INCREMENT BY TWO
5109 5103 000674 020627 000002   CMP     %6,#2
5110 5104 000700 001405          BEQ     IS
5111 (3) 000702 012737 000001 000402   MOV     #1,J#SFATAL    ;MOVE TO MAILBOX # ***** 1 *****
5112 (2) 000710 005212          INC     (R2)           ;SET MSGTYP TO FATAL ERROR
5113 (2) 000712 000000          HALT                    ;R6 DID NOT AUTO INCREMENT BY TWO
5114 (4) ; TO SCOPE REPLACE HALT W/ 240
  
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F01

.MAIN. MACY11 27(732)
DVKADA.P11 T1

25-AUG-76 12:49 PAGE 55-4
TEST AUTO INCREMENT AND DECREMENT OF R6 FOR WORD AND BYTES

*** SEQ 0007

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(4)
S105 ; AND REPLACE NEXT INST W/ 764
S106 000714 012706 001000 1S: MOV #1000,%6
S107 000720 114667 177724 MOVB -(6),HERE ; SHOULD DECREMENT BY TWO
S108 000724 020627 000776 CMP %6,#776
S109 000730 001405 BEQ 2S
(3) 000732 012737 000002 000402 MOV #2,0#SFATAL ; MOVE TO MAILBOX # ***** 2 *****
(2) 000740 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(2) 000742 000000 HALT ; R6 DID NOT AUTO DECREMENT BY 2
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 750
S110
S111 000744 005006 2S: CLR %6
S112 000746 112626 MOVB (6)+,(6)+ ; DOUBLES AUTO INCREMENT OF R6
S113 000750 020627 000004 CMP %6,#4
S114 000754 001405 BEQ 3S
(3) 000756 012737 000003 000402 MOV #3,0#SFATAL ; MOVE TO MAILBOX # ***** 3 *****
(2) 000764 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(2) 000766 000000 HALT ; WRONG AUTO INCREMENT OF R6
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 736
S115
S116 000770 005006 3S: CLR %6
S117 000772 005004 CLR %4
S118 000774 122624 CMPB (6)+,(4)+ ; TEST INCREMENT OF R6
S119 000776 020627 000002 CMP %6,#2
S120 001002 001405 BEQ 4S
(3) 001004 012737 000004 000402 MOV #4,0#SFATAL ; MOVE TO MAILBOX # ***** 4 *****
(2) 001012 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(2) 001014 000000 HALT ; WRONG INCREMENT OF R6
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 723
S121
S122 001016 005006 4S: CLR %6
S123 001020 005004 CLR %4
S124 001022 122426 CMPB (4)+,(6)+ ; TEST INCREMENT OF R6
S125 001024 020627 000002 CMP %6,#2
S126 001030 001405 BEQ 5S
(3) 001032 012737 000005 000402 MOV #5,0#SFATAL ; MOVE TO MAILBOX # ***** 5 *****
(2) 001040 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(2) 001042 000000 HALT ; WRONG INCREMENT OF R6
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 710
S127
S128 001044 005006 5S: CLR %6
S129 001046 005004 CLR %4
S130 001050 122624 CMPB (6)+,(4)+ ; TEST INCREMENT OF R4
S131 001052 020427 000001 CMP %4,#1
S132 001056 001405 BEQ 6S
(3) 001060 012737 000006 000402 MOV #6,0#SFATAL ; MOVE TO MAILBOX # ***** 6 *****
(2) 001066 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(2) 001070 000000 HALT ; WRONG INCREMENT OF R4
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 675
S133
S134 001072 005006 6S: CLR %6

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G01

MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 55-5
 DVKADA.P11 T1 TEST AUTO INCREMENT AND DECREMENT OF R6 FOR WORD AND BYTES

*** SEQ 0008

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5135 001074 005004          CLR      %4
5136 001076 122426          CMPB    (4)+,(6)+      ;TEST INCREMENT OF R4
5137 001100 020427 000001    CMP      %4,#1
5138 001104 001405          BEQ     7$
      (3) 001106 012737 000007 000402    MOV     #7,@$FATAL    ;MOVE TO MAILBOX # ***** 7 *****
      (2) 001114 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
      (2) 001116 000000          HALT                    ;WRONG INCREMENT OF R4
      (4)                                     ; TO SCOPE REPLACE HALT W/ 240
      (4)                                     ; AND REPLACE NEXT INST W/ 662

5139
5140 001120 012706 001000    7$:  MOV     #1000,%6
5141 001124 124667 177520    CMPB    -(6),HERE    ;TEST DECREMENT OF R6
5142 001130 022706 000776    CMP     #776,%6
5143 001134 001405          BEQ     TST2
      (4) 001136 012737 000010 000402    MOV     #10,@$FATAL   ;MOVE TO MAILBOX # ***** 10 *****
      (3) 001144 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
      (3) 001146 000000          HALT                    ;WRONG DECREMENT OF R6,OR WRONG $TESTN
      (5)                                     ; TO SCOPE REPLACE HALT W/ 240
      (5)                                     ; AND REPLACE NEXT INST W/ 646

5144
      (2) ;*****
      (3) ;TEST 2 TEST TRANSFER OF BYTE USING R6
      (3) ;*****
      (2) 001150 005237 000404    TST2: INC     @$TESTN    ;UPDATE TEST NUMBER
      (2) 001154 022737 000002 000404    CMP     #2,@$TESTN    ;SEQUENCE ERROR?
      (2) 001162 001137          BNE    TST3-12 ;BR TO ERROR HALT ON SEQ ERROR
5145 001164 012767 123456 177442    MOV     #123456,K5
5146 001172 012767 050505 177424    MOV     #050505,K1
5147 001200 012705 000624          MOV     #K1,%5        ;%5=(050505)K1
5148 001204 012706 000634          MOV     #K5,%6        ;%6=(123456)K5
5149 001210 112625          MOVB   (6)+,(5)+    ;LOW .BYTE OF R6 TO R5
5150 001212 022767 050456 177404    CMP     #050456,K1
5151 001220 001405          BEQ     1$
      (3) 001222 012737 000011 000402    MOV     #11,@$FATAL   ;MOVE TO MAILBOX # ***** 11 *****
      (2) 001230 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
      (2) 001232 000000          HALT                    ;FALSE TRANSFER OF .BYTE
      (4)                                     ; TO SCOPE REPLACE HALT W/ 240
      (4)                                     ; AND REPLACE NEXT INST W/ 753

5152
5153 001234 012767 123456 177372    1$:  MOV     #123456,K5
5154 001242 012767 050505 177354    MOV     #050505,K1
5155 001250 012705 000624          MOV     #K1,%5        ;%5(050505)K1
5156 001254 012706 000636          MOV     #K6,%6        ;%6(123456)K5
5157 001260 114625          MOVB   -(6),(5)+    ;LOW .BYTE OF R6 TO R5 (DECREMENT)
5158 001262 026727 177336 050456    CMP     K1,#050456
5159 001270 001405          BEQ     2$
      (3) 001272 012737 000012 000402    MOV     #12,@$FATAL   ;MOVE TO MAILBOX # ***** 12 *****
      (2) 001300 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
      (2) 001302 000000          HALT                    ;FALSE R6 .BYTE TRANSFER
      (4)                                     ; TO SCOPE REPLACE HALT W/ 240
      (4)                                     ; AND REPLACE NEXT INST W/ 727

5160
5161 001304 012767 123456 177312    2$:  MOV     #123456,K1
5162 001312 012767 050505 177314    MOV     #050505,K5
5163 001320 012705 000624          MOV     #K1,%5        ;(123456)
5164 001324 012706 000634          MOV     #K5,%6        ;(050505)
5165 001330 112526          MOVB   (5)+,(6)+    ;LOW OF R5 TO LOW OF R6
  
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H01

MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 55-6
DVKADA.P11 T2 TEST TRANSFER OF BYTE USING R6

*** SEQ 0009

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5166 001332 022767 050456 177274      CMP      #050456,K5
5167 001340 001405      BEQ      3$
(3) 001342 012737 000013 000402      MOV      #13,@#SFATAL ;MOVE TO MAILBOX # ***** 13 *****
(2) 001350 005212      INC      ;SET MSGTYP TO FATAL ERROR
(2) 001352 000000      HALT    ;FALSE R6 .BYTE TRANSFER
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 703

5168
5169 001354 012767 123456 177242 3$:      MOV      #123456,K1
5170 001362 012767 050505 177244      MOV      #050505,K5
5171 001370 012705 000625      MOV      #K1+1,%5 ;123456
5172 001374 012706 000634      MOV      #K5,%6 ;050505
5173 001400 112526      MOVB    (5)+,(6)+ ;HIGH OF R5 TO LOW OF R6
5174 001402 026727 177226 050647      CMP      K5,#050647
5175 001410 001405      BEQ      4$
(3) 001412 012737 000014 000402      MOV      #14,@#SFATAL ;MOVE TO MAILBOX # ***** 14 *****
(2) 001420 005212      INC      ;SET MSGTYP TO FATAL ERROR
(2) 001422 000000      HALT    ;FALSE R6 .BYTE TRANSFER
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 657

5176
5177 001424 012767 123456 177172 4$:      MOV      #123456,K1
5178 001432 012767 050505 177174      MOV      #050505,K5
5179 001440 012705 000625      MOV      #K1+1,%5 ;R5-123456-ODD ADDRESS
5180 001444 012706 000634      MOV      #K5,%6 ;R6-050505--.EVEN ADDRESS
5181 001450 112625      MOVB    (6)+,(5)+ ;LOW OF R6 TO HIGH OF R5
5182 001452 022767 042456 177144      CMP      #042456,K1
5183 001460 001405      BEQ      TST3
(4) 001462 012737 000015 000402      MOV      #15,@#SFATAL ;MOVE TO MAILBOX # ***** 15 *****
(3) 001470 005212      INC      ;SET MSGTYP TO FATAL ERROR
(3) 001472 000000      HALT    ;FAILED LOW OF 6 TO HIGH OF 5,OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 633

5184 ;*****
(2) ;TEST 3 TEST BYTE OPERATION WITH SEQUENTIAL ODD; .EVEN ADDRESS
(3) ;*****
(2) 001474 005237 000404      TST3: INC      @#$TESTN ;UPDATE TEST NUMBER
(2) 001500 022737 000003 000404      CMP      #3,@#$TESTN ;SEQUENCE ERROR?
(2) 001506 001103      BNE     TST4-12 ;BR TO ERROR HALT ON SEQ ERROR
5185 001510 126767 177124 177123      CMPB    K7,K7+1 ;SAME .WORD LOW TO HIGH
5186 001516 001405      BEQ      1$
(3) 001520 012737 000016 000402      MOV      #16,@#SFATAL ;MOVE TO MAILBOX # ***** 16 *****
(2) 001526 005212      INC      ;SET MSGTYP TO FATAL ERROR
(2) 001530 000000      HALT    ;SHOULD COMPARE LOW TO HIGH
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 766

5187
5188 001532 126767 177103 177100 1$:      CMPB    K7+1,K7 ;COMPARE ODD TO .EVEN SAME .WORD
5189 001540 001405      BEQ      2$
(3) 001542 012737 000017 000402      MOV      #17,@#SFATAL ;MOVE TO MAILBOX # ***** 17 *****
(2) 001550 005212      INC      ;SET MSGTYP TO FATAL ERROR
(2) 001552 000000      HALT    ;ODD TO .EVEN .BYTE FAILURE
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 755

5190
5191 001554 126767 177063 177056 2$:      CMPB    K10+1,K7 ;SEQUENTIAL .BYTES

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I01

.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 55-7
DVKADA.P11 T3 TEST BYTE OPERATION WITH SEQUENTIAL ODD; .EVEN ADDRESS

*** SEQ 0010

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5192 ;DIFFERENT .WORDS
5193 001562 001462 BEQ TST4
(4) 001564 012737 000020 000402 MOV #20, @#SFATAL ;MOVE TO MAILBOX # ***** 20 *****
(3) 001572 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 001574 000000 HALT ;ODD TO .EVEN FAILED
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 744
5194
5195 001576 126767 177040 177032 CMPB K10, K6
5196 001604 001405 BEQ 3$
(3) 001606 012737 000021 000402 MOV #21, @#SFATAL ;MOVE TO MAILBOX # ***** 21 *****
(2) 001614 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 001616 000000 HALT ;.EVEN TO EVEN FAILED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 733
5197 001620 126767 177015 177015 3$: CMPB K7+1, K10+1
5198 001626 001405 BEQ 4$
(3) 001630 012737 000022 000402 MOV #22, @#SFATAL ;MOVE TO MAILBOX # ***** 22 *****
(2) 001636 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 001640 000000 HALT ;ODD TO ODD FAILED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 722
5199
5200 001642 126767 176774 176773 4$: CMPB K10, K10+1
5201 001650 001005 BNE 5$
(3) 001652 012737 000023 000402 MOV #23, @#SFATAL ;MOVE TO MAILBOX # ***** 23 *****
(2) 001660 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 001662 000000 HALT ;LOW TO HIGH IN SAME .WORD FAILED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 711
5202
5203 001664 126767 176753 176751 5$: CMPB K10+1, K10+1
5204 001672 001405 BEQ 6$
(3) 001674 012737 000024 000402 MOV #24, @#SFATAL ;MOVE TO MAILBOX # ***** 24 *****
(2) 001702 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 001704 000000 HALT ;HIGH TO LOW IN SAME .WORD FAILED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 700
5205
5206 001706 126767 176730 176725 6$: CMPB K10, K7+1
5207 001714 001005 BNE TST4
(4) 001716 012737 000025 000402 MOV #25, @#SFATAL ;MOVE TO MAILBOX # ***** 25 *****
(3) 001724 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 001726 000000 HALT ;.EVEN TO ODD FAILED, OR WRONG $TESTN, OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 667
5208
5209 ;*****
(2) ;TEST 4 TEST THE CC BITS
(3) ;*****
(2) 001730 005237 000404 TST4: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 001734 022737 000004 000404 CMP #4, @#$TESTN ;SEQUENCE ERROR?
(2) 001742 001070 BNE TST5-12 ;BR TO ERROR HALT ON SEQ ERROR
5210 001744 000277 SCC ;SET STATUS
5211 001746 005067 011124 CLR STATUS ;CLEAR STATUS
5215 001752 MTPS STATUS
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(1)	001752	106467			WORD	106400!..C		
5219	001756	103005			BCC	1\$		
(3)	001760	012737	000026	000402	MOV	#26, @#\$FATAL	;	MOVE TO MAILBOX # ***** 26 *****
(2)	001766	005212			INC	(R2)	;	SET MSGTYP TO FATAL ERROR
(2)	001770	000000			HALT		;	C NOT CLEAR
(4)							;	TO SCOPE REPLACE HALT W/ 240
(4)							;	AND REPLACE NEXT INST W/ 764
5220	001772				1\$:			
(1)	001772	102005			BVC	2\$		
(3)	001774	012737	000027	000402	MOV	#27, @#\$FATAL	;	MOVE TO MAILBOX # ***** 27 *****
(2)	002002	005212			INC	(R2)	;	SET MSGTYP TO FATAL ERROR
(2)	002004	000000			HALT		;	V NOT CLEAR
(4)							;	TO SCOPE REPLACE HALT W/ 240
(4)							;	AND REPLACE NEXT INST W/ 756
5221	002006				2\$:			
(1)	002006	001005			BNE	3\$		
(3)	002010	012737	000030	000402	MOV	#30, @#\$FATAL	;	MOVE TO MAILBOX # ***** 30 *****
(2)	002016	005212			INC	(R2)	;	SET MSGTYP TO FATAL ERROR
(2)	002020	000000			HALT		;	Z NOT CLEAR
(4)							;	TO SCOPE REPLACE HALT W/ 240
(4)							;	AND REPLACE NEXT INST W/ 750
5222	002022				3\$:			
(1)	002022	100005			BPL	4\$		
(3)	002024	012737	000031	000402	MOV	#31, @#\$FATAL	;	MOVE TO MAILBOX # ***** 31 *****
(2)	002032	005212			INC	(R2)	;	SET MSGTYP TO FATAL ERROR
(2)	002034	000000			HALT		;	N NOT CLEAR
(4)							;	TO SCOPE REPLACE HALT W/ 240
(4)							;	AND REPLACE NEXT INST W/ 742
5223	002036	000257			4\$:			
5224	002040				CCC		;	CLEAR CONDITION CODES
5228	002040	106767			MFPS	STATUS		
(1)	002040	106767			.WORD	106700!..C		
5232	002044	052767	000017	011024	BIS	#17, STATUS	;	SET STATUS TO ONES
5236	002052				MTPS	STATUS		
(1)	002052	106467			.WORD	106400!..C		
5240	002056	103405			5\$:			
5241	002060	012737	000032	000402	BCS	5\$		
(3)	002060	012737			MOV	#32, @#\$FATAL	;	MOVE TO MAILBOX # ***** 32 *****
(2)	002066	005212			INC	(R2)	;	SET MSGTYP TO FATAL ERROR
(2)	002070	000000			HALT		;	C NOT SET
(4)							;	TO SCOPE REPLACE HALT W/ 240
(4)							;	AND REPLACE NEXT INST W/ 724
5242	002072				5\$:			
(1)	002072	102405			BVS	6\$		
(3)	002074	012737	000033	000402	MOV	#33, @#\$FATAL	;	MOVE TO MAILBOX # ***** 33 *****
(2)	002102	005212			INC	(R2)	;	SET MSGTYP TO FATAL ERROR
(2)	002104	000000			HALT		;	V NOT SET
(4)							;	TO SCOPE REPLACE HALT W/ 240
(4)							;	AND REPLACE NEXT INST W/ 716
5243	002106				6\$:			
(1)	002106	001405			BEG	7\$		
(3)	002110	012737	000034	000402	MOV	#34, @#\$FATAL	;	MOVE TO MAILBOX # ***** 34 *****
(2)	002116	005212			INC	(R2)	;	SET MSGTYP TO FATAL ERROR
(2)	002120	000000			HALT		;	Z NOT SET
(4)							;	TO SCOPE REPLACE HALT W/ 240
(4)							;	AND REPLACE NEXT INST W/ 710


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5244 002122 75:
(2) 002122 100405 BMI TST5
(4) 002124 012737 000035 000402 MOV #35, @#SFATAL ; MOVE TO MAILBOX # ***** 35 *****
(3) 002132 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(3) 002134 000000 HALT ; N NOT SET, OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 702
5245 ;*****
(2) ;TEST 5 TEST THAT A TRAP OCCURES ON A RESERVED INSTRUCTION
(3) ;*****
(2) 002136 005237 000404 TST5: INC @#$TESTN ; UPDATE TEST NUMBER
(2) 002142 022737 000005 000404 CMP #5, @#$TESTN ; SEQUENCE ERROR?
(2) 002150 001006 BNE TST6-12 ; BR TO ERROR HALT ON SEQ ERROR
5246 002152 012706 000500 MOV #BUFF, SP ; STACK POINTER SETUP
5247 002156 012767 002200 175624 MOV #RETA, RTRAP ; RETURN LOCATION
5248 002164 000007 TRAPA ; RESERVED INSTRUCTION, SHOULD TRAP
5249 002166 012737 000036 000402 MOV #36, @#SFATAL ; MOVE TO MAILBOX # ***** 36 *****
(2) 002174 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(2) 002176 000000 HALT ; DID NOT TRAP OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 764
5250 002200 RETA:
5251 ;*****
(2) ;TEST 6 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
(3) ;*****
(2) 002200 005237 000404 TST6: INC @#$TESTN ; UPDATE TEST NUMBER
(2) 002204 022737 000006 000404 CMP #6, @#$TESTN ; SEQUENCE ERROR?
(2) 002212 001011 BNE TST7-12 ; BR TO ERROR HALT ON SEQ ERROR
5252 002214 012706 000500 MOV #BUFF, SP ; STACK POINTER SETUP
5253 002220 012767 002230 175562 MOV #RETB, RTRAP ; RETURN POINTER
5254 002226 000007 TRAPA ; RESERVED INSTRUCTION
5255 002230 020627 000474 RETB: CMP SP, #BUFF-4 ; TEST DECREMENT OF SP
5256 002234 001405 BEQ TST7
(4) 002236 012737 000037 000402 MOV #37, @#SFATAL ; MOVE TO MAILBOX # ***** 37 *****
(3) 002244 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(3) 002246 000000 HALT ; NOT DECREMENTED TWO WORDS, OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 761
5257 ;*****
(2) ;TEST 7 TEST THAT PROPER P.C. IS SAVED
(3) ;*****
(2) 002250 005237 000404 TST7: INC @#$TESTN ; UPDATE TEST NUMBER
(2) 002254 022737 000007 000404 CMP #7, @#$TESTN ; SEQUENCE ERROR?
(2) 002262 001012 BNE TST10-12 ; BR TO ERROR HALT ON SEQ ERROR
5258 002264 012706 000500 MOV #BUFF, SP ; STACK POINTER SETUP
5259 002270 012767 002300 175512 MOV #RETC, RTRAP ; RETURN FROM TRAP POINTER
5260 002276 000007 TRAPA ; TRAP ON THIS INSTRUCTION
5261 002300 022767 002300 176166 RETC: CMP #, BUFF-4 ; CHECK FOR INCREMENTED P.C.
5262 002306 001405 BEQ TST10
(4) 002310 012737 000040 000402 MOV #40, @#SFATAL ; MOVE TO MAILBOX # ***** 40 *****
(3) 002316 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
(3) 002320 000000 HALT ; INCORRECT P.C. OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 760
5263 ;*****
(2) ;TEST 10 TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK

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(3)
(2) 002322 005237 000404          ;*****
(2) 002326 022737 000010 000404 †TST10: INC  @#$TESTN      ;UPDATE TEST NUMBER
(2) 002334 001044          CMP      #10,@#$TESTN ;SEQUENCE ERROR?
5264 002336 012706 000500          BNE     TST11-12      ;BR TO ERROR HALT ON SEQ ERROR
5265 002342 012767 002364 175440  MOV     #BUFF,SP      ;SET UP
5266 002350 005067 010522          MOV     #RETD,RTRAP   ;SET UP
5270 002354          CLR     STATUS        ;CLEAR STATUS AND PRIORITY
(1) 002354 106467          MTPS   STATUS
5274 002360 000257          .WORD  106400!...C
5275 002362 000007          CCC
5276 002364 026727 176106 000000 RETD:  TRAPA          ;TRAP
5277 002372 001405          CMP     BUFF-2,#0    ;TEST THAT OLD STATUS WENT TO STACK
(3) 002374 012737 000041 000402  BEQ     1$
(2) 002402 005212          MOV     #41,@#$FATAL ;MOVE TO MAILBOX # ***** 41 *****
(2) 002404 000000          INC     (R2)         ;SET MSGTYP TO FATAL ERROR
(4)          HALT          ;INCORRECT STATUS
(4)          ; TO SCOPE REPLACE HALT W/ 240
5278 002406 012706 000500          IS:   MOV     #BUFF,SP ;AND REPLACE NEXT INST W/ 753
5279 002412 012767 002436 175370  MOV     #RETE,RTRAP   ;SET UP
5280 002420 012767 000357 010450  MOV     #357,STATUS   ;SET UP
5284 002426          MTPS   STATUS        ;SET PRIORITY
(1) 002426 106467          .WORD  106400!...C
5289 002432 000277          SCC
5289 002434 000007          TRAPA          ;SET STATUS
5290 002436 026727 176034 000357 RETE:  TRAPA          ;TRAP
5291 002444 001405          CMP     BUFF-2,#357  ;COMPARES STATUS ON STACK
(4) 002446 012737 000042 000402  BEQ     TST11
(3) 002454 005212          MOV     #42,@#$FATAL ;MOVE TO MAILBOX # ***** 42 *****
(3) 002456 000000          INC     (R2)         ;SET MSGTYP TO FATAL ERROR
(5)          HALT          ;INCORRECT STATUS ON STACK,OR WRONG $TESTN
(5)          ; TO SCOPE REPLACE HALT W/ 240
5292          ;AND REPLACE NEXT INST W/ 726
(2)          ;*****
(3)          ;TEST 11 TEST THAT "NEW" STATUS IS CORRECT
(2) 002460 005237 000404          ;*****
(2) 002464 022737 000011 000404 †TST11: INC  @#$TESTN      ;UPDATE TEST NUMBER
(2) 002472 001132          CMP     #11,@#$TESTN ;SEQUENCE ERROR?
5293 002474 012706 000500          BNE     TST12-12      ;BR TO ERROR HALT ON SEQ ERROR
5294 002500 012767 002514 175302  MOV     #BUFF,SP      ;
5295 002506 005067 175300          MOV     #RETF,RTRAP   ;
5296 002512 000007          CLR     RTRAP+2      ;CLEAR FUTURE PRIORITY AND CC
5297 002514          TRAPA
5298 002514 100005          RETF:  BPL     1$
(3) 002516 012737 000043 000402  MOV     #43,@#$FATAL ;MOVE TO MAILBOX # ***** 43 *****
(2) 002524 005212          INC     (R2)         ;SET MSGTYP TO FATAL ERROR
(2) 002526 000000          HALT          ;C NOT CLEARED
(4)          ; TO SCOPE REPLACE HALT W/ 240
(4)          ; AND REPLACE NEXT INST W/ 761
5299 002530          IS:
(1) 002530 001005          BNE     2$
(3) 002532 012737 000044 000402  MOV     #44,@#$FATAL ;MOVE TO MAILBOX # ***** 44 *****
(2) 002540 005212          INC     (R2)         ;SET MSGTYP TO FATAL ERROR
(2) 002542 000000          HALT          ;Z NOT CLEARED
(4)          ; TO SCOPE REPLACE HALT W/ 240
(4)          ; AND REPLACE NEXT INST W/ 753

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5300 002544          2$:      BVC      3$
      (1) 002544 102005      MOV      #45, @#$FATAL      ; MOVE TO MAILBOX # ***** 45 *****
      (3) 002546 012737 000045 000402      INC      (R2)      ; SET MSGTYP TO FATAL ERROR
      (2) 002554 005212      HALT      ; V NOT CLEARED
      (2) 002556 000000      ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 745
      (4)
5301 002560          3$:      BCC      4$
      (1) 002560 103005      MOV      #46, @#$FATAL      ; MOVE TO MAILBOX # ***** 46 *****
      (3) 002562 012737 000046 000402      INC      (R2)      ; SET MSGTYP TO FATAL ERROR
      (2) 002570 005212      HALT      ; C NOT CLEARED
      (2) 002572 000000      ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 737
      (4)
5305 002574          4$:      MFPS     STATUS
      (1) 002574 106767      .WORD   106700!..C
5309 002600 032767 000340 010270      BIT      #340, STATUS      ; TEST PRIORITY
5310 002606 001405
      (3) 002610 012737 000047 000402      BEQ      5$
      (2) 002616 005212      MOV      #47, @#$FATAL      ; MOVE TO MAILBOX # ***** 47 *****
      (2) 002620 000000      INC      (R2)      ; SET MSGTYP TO FATAL ERROR
      (4) ; PRIORITY NOT ZERO
      (4) ; TO SCOPE REPLACE HALT W/ 240
      ; AND REPLACE NEXT INST W/ 724
5311 002622 012706 000500
5312 002626 012767 002644 175154
5313 002634 012767 000357 175150      MOV      #BUFF, SP
      MOV      #RETG, RTRAP
      MOV      #357, RTRAP+2      ; SET NEW "CC" AND PRIORITY
      TRAPA     ; TRAP HERE
5314 002642 000007
5315 002644
5316 002644 100405      RETG:    BMI      1$
      (3) 002646 012737 000050 000402      MOV      #50, @#$FATAL      ; MOVE TO MAILBOX # ***** 50 *****
      (2) 002654 005212      INC      (R2)      ; SET MSGTYP TO FATAL ERROR
      (2) 002656 000000      HALT      ; N NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 705
5317 002660          1$:      BEQ      2$
      (1) 002660 001405
      (3) 002662 012737 000051 000402      MOV      #51, @#$FATAL      ; MOVE TO MAILBOX # ***** 51 *****
      (2) 002670 005212      INC      (R2)      ; SET MSGTYP TO FATAL ERROR
      (2) 002672 000000      HALT      ; Z NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 677
5318 002674          2$:      BVS      3$
      (1) 002674 102405
      (3) 002676 012737 000052 000402      MOV      #52, @#$FATAL      ; MOVE TO MAILBOX # ***** 52 *****
      (2) 002704 005212      INC      (R2)      ; SET MSGTYP TO FATAL ERROR
      (2) 002706 000000      HALT      ; V NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 671
5319 002710          3$:      BCS      4$
      (1) 002710 103405
      (3) 002712 012737 000053 000402      MOV      #53, @#$FATAL      ; MOVE TO MAILBOX # ***** 53 *****
      (2) 002720 005212      INC      (R2)      ; SET MSGTYP TO FATAL ERROR
      (2) 002722 000000      HALT      ; C NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 663
5323 002724          4$:      MFPS     STATUS

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(1) 002724 106767 .WORD 106700!..C
5327 002730 016706 010142 MOV STATUS,SP
5328 002734 042706 000017 BIC #17,SP
5329 002740 022706 000340 CMP #340,SP
5330 002744 001405 BEQ 5$
(3) 002746 012737 000054 000402 MOV #54,@#$FATAL ;MOVE TO MAILBOX # ***** 54 *****
(2) 002754 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 002756 000000 HALT ;PRIORITY WAS CHANGED,OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 645
5331 002760 012767 000012 175022 5$: MOV #12,10
5332 002766 005067 175020 CLR 12
5333 ;*****
(2) ;TEST 12 TEST THAT A TRAP OCCURES FOR A "TRAP" INSTRUCTION
(3) ;*****
(2) 002772 005237 000404 TST12: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 002776 022737 000012 000404 CMP #12,@#$TESTN ;SEQUENCE ERROR?
(2) 003004 001006 BNE TST13-12 ;BR TO ERROR HALT ON SEQ ERROR
5334 003006 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5335 003012 012767 003034 175014 MOV #RETA1,RTRAP1 ;RETURN LOCATION
5336 003020 104400 TRAP ;RESERVED INSTRUCTION, SHOULD TRAP
5337 003022 012737 000055 000402 MOV #55,@#$FATAL ;MOVE TO MAILBOX # ***** 55 *****
(2) 003030 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 003032 000000 HALT ;DID NOT TRAP,OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 764
5338 003034 RETA1:
5339 ;*****
(2) ;TEST 13 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
(3) ;*****
(2) 003034 005237 000404 TST13: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 003040 022737 000013 000404 CMP #13,@#$TESTN ;SEQUENCE ERROR?
(2) 003046 001011 BNE TST14-12 ;BR TO ERROR HALT ON SEQ ERROR
5340 003050 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5341 003054 012767 003064 174752 MOV #RETB1,RTRAP1 ;RETURN POINTER
5342 003062 104400 TRAP ;RESERVED INSTRUCTION
5343 003064 020627 000474 RETB1: CMP SP,#BUFF-4 ;TEST DECREMENT OF SP
5344 003070 001405 BEQ TST14
(4) 003072 012737 000056 000402 MOV #56,@#$FATAL ;MOVE TO MAILBOX # ***** 56 *****
(3) 003100 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 003102 000000 HALT ;NOT DECREMENTED TWO WORDS,OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 761
5345 ;*****
(2) ;TEST 14 TEST THAT PROPER P.C. IS SAVED
(3) ;*****
(2) 003104 005237 000404 TST14: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 003110 022737 000014 000404 CMP #14,@#$TESTN ;SEQUENCE ERROR?
(2) 003116 001012 BNE TST15-12 ;BR TO ERROR HALT ON SEQ ERROR
5346 003120 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5347 003124 012767 003134 174702 MOV #RETC1,RTRAP1 ;RETURN FROM TRAP POINTER
5348 003132 104400 TRAP ;TRAP ON THIS INSTRUCTION
5349 003134 022767 003134 175332 RETC1: CMP #,BUFF-4 ;CHECK INCREMENTED P.C.
5350 003142 001405 BEQ TST15
(4) 003144 012737 000057 000402 MOV #57,@#$FATAL ;MOVE TO MAILBOX # ***** 57 *****
(3) 003152 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR

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(3) 003154 000000 HALT ;INCORRECT P.C. OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 760
5351 *****
(2) :TEST 15 TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK
(3) *****
(2) 003156 005237 000404 †ST15: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 003162 022737 000015 000404 CMP #15,@#$TESTN ;SEQUENCE ERROR?
(2) 003170 001043 BNE TST16-12 ;BR TO ERROR HALT ON SEQ ERROR
5352 003172 012706 000500 MOV #BUFF,SP ;SET UP
5353 003176 012767 003220 174630 MOV #RETD1,RTRAP1 ;SET UP
5354 003204 005067 007666 CLR STATUS ;CLEAR STATUS AND PRIORITY
5358 003210 MTPS STATUS
(1) 003210 106467 .WORD 106400!...C
5362 003214 000257 CCC
5363 003216 104400 TRAP ;TRAP
5364 003220 026727 175252 000000 RETD1: CMP BUFF-2,#0 ;TEST THAT OLD STATUS WENT TO STACK
5365 003226 001405 BEQ 1$
(2) 003230 012737 000060 000402 MOV #60,@#$FATAL ;MOVE TO MAILBOX # ***** 60 *****
(2) 003236 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 003240 000000 HALT ;INCORRECT STATUS
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 753
5366 003242 012706 000500 1$: MOV #BUFF,SP ;SET UP
5367 003246 012767 003270 174560 MOV #RETE1,RTRAP1 ;SET UP
5368 003254 012767 000357 007614 MOV #357,STATUS ;SET PRIORITY
5372 003262 MTPS STATUS
(1) 003262 106467 .WORD 106400!...C
5376 003266 104400 TRAP ;SET CC
5377 003270 026727 175202 000357 RETE1: CMP BUFF-2,#357 ;COMPARES STATUS ON STACK
5378 003276 001405 BEQ TST16
(4) 003300 012737 000061 000402 MOV #61,@#$FATAL ;MOVE TO MAILBOX # ***** 61 *****
(3) 003306 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 003310 000000 HALT ;INCORRECT STATUS ON STACK
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 727
5379 *****
(2) :TEST 16 TEST THAT "NEW" STATUS IS CORRECT
(2) *****
(2) 003312 005237 000404 †ST16: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 003316 022737 000016 000404 CMP #16,@#$TESTN ;SEQUENCE ERROR?
(2) 003324 001125 BNE TST17-12 ;BR TO ERROR HALT ON SEQ ERROR
5380 003326 012706 000500 MOV #BUFF,SP
5381 003332 012767 003346 174474 MOV #RETF1,RTRAP1
5382 003340 005067 174472 CLR RTRAP1+2 ;CLEAR FUTURE PRIORITY AND CC
5383 003344 104400 TRAP
5384 003346 RETF1:
5385 003346 100005 BPL 1$
(3) 003350 012737 000062 000402 MOV #62,@#$FATAL ;MOVE TO MAILBOX # ***** 62 *****
(2) 003356 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 003360 000000 HALT ;C NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 761
5386 003362 1$:
(1) 003362 001005 BNE 2$
(3) 003364 012737 000063 000402 MOV #63,@#$FATAL ;MOVE TO MAILBOX # ***** 63 *****

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(2) 003372 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003374 000000          HALT                                     ;Z NOT CLEARED
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 753
5397 003376          2S:          BVC      3S
(1) 003376 102005          MOV      #64, @#SFATAL          ;MOVE TO MAILBOX # ***** 64 *****
(3) 003400 012737 000064 000402  INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003406 005212          HALT                                     ;V NOT CLEARED
(2) 003410 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 745
(4)
5398 003412          3S:          BCC      4S
(1) 003412 103005          MOV      #65, @#SFATAL          ;MOVE TO MAILBOX # ***** 65 *****
(3) 003414 012737 000065 000402  INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003422 005212          HALT                                     ;C NOT CLEARED
(2) 003424 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 737
(4)
5392 003426          4S:          MFPS    STATUS
(1) 003426 106767          .WORD   106700!..C
5396 003432 032767 000340 007436  BIT      #340, STATUS          ;TEST PRIORITY
5397 003440 001405          BEQ      5S
(3) 003442 012737 000066 000402  MOV      #66, @#SFATAL          ;MOVE TO MAILBOX # ***** 66 *****
(2) 003450 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003452 000000          HALT                                     ;PRIORITY NOT ZERO
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 724
5398 003454 012706 000500          5S:          MOV      #BUFF, SP
5399 003460 012767 003476 174346  MOV      #RETG1, RTRAP1
5400 003466 012767 000357 174342  MOV      #357, RTRAP1+2
5401 003474 104400          TRAP
5402 003476          RETG1:
5403 003476 100405          BMI      1S
(3) 003500 012737 000067 000402  MOV      #67, @#SFATAL          ;MOVE TO MAILBOX # ***** 67 *****
(2) 003506 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003510 000000          HALT                                     ;N NOT SET
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 705
5404 003512          1S:          BEQ      2S
(1) 003512 001405          MOV      #70, @#SFATAL          ;MOVE TO MAILBOX # ***** 70 *****
(3) 003514 012737 000070 000402  INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003522 005212          HALT                                     ;Z NOT SET
(2) 003524 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 677
(4)
5405 003526          2S:          BVS      3S
(1) 003526 102405          MOV      #71, @#SFATAL          ;MOVE TO MAILBOX # ***** 71 *****
(3) 003530 012737 000071 000402  INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003536 005212          HALT                                     ;V NOT SET
(2) 003540 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 671
(4)
5406 003542          3S:          BCS      4S
(1) 003542 103405          MOV      #72, @#SFATAL          ;MOVE TO MAILBOX # ***** 72 *****
(3) 003544 012737 000072 000402  INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 003552 005212

```



```

(2) 003554 000000          HALT          ;C NOT SET
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 663
5410 003556          4S:  MFPS      STATUS
(1) 003556          .WORD    106700! C
5414 003562          MOV      STATUS,SP
5415 003566          BIC      #17,SP
5416 003572          CMP      #340,SP
5417 003576          SEQ      TST17
(4) 003600          MOV      #73, @#$FATAL ;MOVE TO MAILBOX # ***** 73 *****
(3) 003606          INC      (R2)        ;SET MSGTYP TO FATAL ERROR
(3) 003610          HALT                ;PRIORITY WAS CHANGED, OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 645

```

```

5418 *****
(2) TEST 17          TEST THAT ALL COMBINATION OF "TRAP" WILL CAUSE A TRAP
(3) *****

```

```

(2) 003612          005237 000404          †TST17: INC      @#$TESTN      ;UPDATE TEST NUMBER
(2) 003616          022737 000017 000404  CMP      #17, @#$TESTN    ;SEQUENCE ERROR?
(2) 003624          001011          BNE      RB1AA           ;BR TO ERROR HALT ON SEQ ERROR
5419 003626          012767 104400 000012  MOV      #TRAP, RB1      ;INITIALIZE BASE TRAP INSTRUCTION
5420 003634          012767 003662 174172  MOV      #RA1, 34       ;RETURN FROM TRAP TO RA1
5421 003642          012706 000500          RC1:    MOV      #BUFF, SP ;SET UP STACK POINTER
5422 003646          104400          RB1:    TRAP            ;TRAP INST WILL BE MODIFIED TO TRAP+377
5423 003650          (2) 003650          012737 000074 000402  MOV      #74, @#$FATAL    ;MOVE TO MAILBOX # ***** 74 *****
(2) 003656          005212          INC      (R2)           ;SET MSGTYP TO FATAL ERROR
(2) 003660          000000          HALT                ;PREVIOUS INST FAILED TO TRAP OR WRONG $TESTN
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 761

```

```

5424 003662          005267 177760          RA1:    INC      RB1
5425 003666          022767 104777 177752  CMP      #104777, RB1    ;TRAP+377 TO UPPER LIMIT
5426 003674          103362          BHIS    RC1             ;HAVE WE TESTED ALL
5427 003676          012767 000036 174130  MOV      #36, 34
5428 003704          005067 174126          CLR     36

```

```

5429 *****
(2) TEST 20          TEST THAT A TRAP OCCURES ON AN "IOT" INSTRUCTION
(3) *****

```

```

(2) 003710          005237 000404          †TST20: INC      @#$TESTN      ;UPDATE TEST NUMBER
(2) 003714          022737 000020 000404  CMP      #20, @#$TESTN    ;SEQUENCE ERROR?
(2) 003722          001006          BNE      TST21-12       ;BR TO ERROR HALT ON SEQ ERROR
5430 003724          012706 000500          MOV      #BUFF, SP      ;STACK POINTER SETUP
5431 003730          012767 003752 174062  MOV      #RETA2, RTRAP2  ;RETURN LOCATION
5432 003736          000004          IOT                    ;RESERVE INSTRUCTION, SHOULD TRAP
5433 003740          012737 000075 000402  MOV      #75, @#$FATAL    ;MOVE TO MAILBOX # ***** 75 *****
(2) 003746          005212          INC      (R2)           ;SET MSGTYP TO FATAL ERROR
(2) 003750          000000          HALT                ;IOT DID NOT TRAP, OR WRONG $TESTN
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 764

```

```

5434 RETA2:
5435 *****
(2) TEST 21          TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
(3) *****

```

```

(2) 003752          005237 000404          †TST21: INC      @#$TESTN      ;UPDATE TEST NUMBER
(2) 003756          022737 000021 000404  CMP      #21, @#$TESTN    ;SEQUENCE ERROR?
(2) 003764          001011          BNE      TST22-12       ;BR TO ERROR HALT ON SEQ ERROR

```

E02

.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 55-16
 DVKADA.P11 T21 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION

*** SEQ 0019

```

5436 003766 012706 000500      MOV      #BUFF,SP      ;STACK POINTER SETUP
5437 003772 012767 004002 174020  MOV      #RETB2,RTRAP2 ;RETURN POINTER
5438 004000 000004      IOT                      ;RESERVED INSTRUCTION
5439 004002 020627 000474      RETB2:  CMP      SP,#BUFF-4 ;TEST DECREMENT OF SP
5440 004006 001405      BEQ      TST22
      (4) 004010 012737 000076 000402  MOV      #76,#$FATAL ;MOVE TO MAILBOX # ***** 76 *****
      (3) 004016 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
      (3) 004020 000000      HALT                    ;NOT DECREMENTED TWO WORDS,OR WRONG $TESTN
      (5)                      ; TO SCOPE REPLACE HALT W/ 240
      (5)                      ; AND REPLACE NEXT INST W/ 761
5441 :*****
      (2) :TEST 22          TEST THAT PROPER P.C. IS SAVED
      (3) :*****
      (2) 004022 005237 000404      TST22:  INC      @#$TESTN ;UPDATE TEST NUMBER
      (2) 004026 022737 000022 000404  CMP      #22,@#$TESTN ;SEQUENCE ERROR?
      (2) 004034 001012      BNE      TST23-12      ;BR TO ERROR HALT ON SEQ ERROR
5442 004036 012706 000500      MOV      #BUFF,SP      ;STACK POINTER SETUP
5443 004042 012767 004052 173750  MOV      #RETC2,RTRAP2 ;RETURN FROM TRAP POINTER
5444 004050 000004      IOT                      ;TRAP ON THIS INSTRUCTION
5445 004052 022767 004052 174414  RETC2:  CMP      #,BUFF-4 ;CHECK FOR INCREMENTED P.C.
5446 004060 001405      BEQ      TST23
      (4) 004062 012737 000077 000402  MOV      #77,@#$FATAL ;MOVE TO MAILBOX # ***** 77 *****
      (3) 004070 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
      (3) 004072 000000      HALT                    ;INCORRECT P.C. OR WRONG $TESTN
      (5)                      ; TO SCOPE REPLACE HALT W/ 240
      (5)                      ; AND REPLACE NEXT INST W/ 760
5447 :*****
      (2) :TEST 23          TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK
      (3) :*****
      (2) 004074 005237 000404      TST23:  INC      @#$TESTN ;UPDATE TEST NUMBER
      (2) 004100 022737 000023 000404  CMP      #23,@#$TESTN ;SEQUENCE ERROR?
      (2) 004106 001044      BNE      TST24-12      ;BR TO ERROR HALT ON SEQ ERROR
5448 004110 012706 000500      MOV      #BUFF,SP      ;SET UP
5449 004114 012767 004136 173676  MOV      #RETD2,RTRAP2 ;SET UP
5450 004122 005067 006750      CLR      STATUS        ;CLEAR STATUS AND PRIORITY
5454 004126      MTPS      STATUS
      (1) 004126 106467      .WORD    106400!...C
5458 004132 000257      CCC
5459 004134 000004      IOT                      ;TRAP
5460 004136 026727 174334 000000  RETD2:  CMP      BUFF-2,#0 ;TEST THAT OLD STATUS WENT TO STACK
5461 004144 001405      BEQ      1$
      (3) 004146 012737 000100 000402  MOV      #100,@#$FATAL ;MOVE TO MAILBOX # ***** 100 *****
      (2) 004154 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
      (2) 004156 000000      HALT                    ;INCORRECT STATUS
      (4)                      ; TO SCOPE REPLACE HALT W/ 240
      (4)                      ; AND REPLACE NEXT INST W/ 753
5462 004160 012706 000500      1$:   MOV      #BUFF,SP      ;SET UP
5463 004164 012767 004210 173626  MOV      #RETE2,RTRAP2 ;SET UP
5464 004172 012767 000357 006676  MOV      #357,STATUS ;SET PRIORITY
5468 004200      MTPS      STATUS
      (1) 004200 106467      .WORD    106400!...C
5472 004204 000277      SCC                      ;SET CC
5473 004206 000004      IOT                      ;TRAP
5474 004210 026727 174262 000357  RETE2:  CMP      BUFF-2,#357 ;COMPARES STATUS ON STACK
5475 004216 001405      BEQ      TST24
      (4) 004220 012737 000101 000402  MOV      #101,@#$FATAL ;MOVE TO MAILBOX # ***** 101 *****
  
```


F02

.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 55-17
DVKADA.P11 T23 TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK

*** SEQ 0020

```

(3) 004226 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(3) 004230 000000          HALT          ;INCORRECT STATUS ON STACK, OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 726
5476 *****
(2) ;TEST 24          TEST THAT "NEW" STATUS IS CORRECT
(3) *****
(2) 004232 005237 000404          ;ST24: INC      2#$TESTN          ;UPDATE TEST NUMBER
(2) 004236 022737 000024 000404  CMP      #24,2#$TESTN          ;SEQUENCE ERROR?
(2) 004244 001125          BNE      STP              ;BR TO ERROR HALT ON SEQ ERROR
5477 004246 012706 000500          MOV      #BUFF, SP
5478 004252 012767 004266 173540  MOV      #RETF2, RTRAP2
5479 004260 005067 173536          CLR      RTRAP2+2          ;CLEAR FUTURE PRIORITY AND CC
5480 004264 000004          IOT
5481 004266          RETF2:
5482 004266 100005          BPL      1$
(3) 004270 012737 000102 000402  MOV      #102,2#$FATAL          ;MOVE TO MAILBOX # ***** 102 *****
(2) 004276 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 004300 000000          HALT          ;C NOT CLEARED
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 761
5483 004302          1$:
(1) 004302 001005          BNE      2$
(3) 004304 012737 000103 000402  MOV      #103,2#$FATAL          ;MOVE TO MAILBOX # ***** 103 *****
(2) 004312 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 004314 000000          HALT          ;Z NOT CLEARED
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 753
5484 004316          2$:
(1) 004316 102005          BVC      3$
(3) 004320 012737 000104 000402  MOV      #104,2#$FATAL          ;MOVE TO MAILBOX # ***** 104 *****
(2) 004326 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 004330 000000          HALT          ;V NOT CLEARED
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 745
5485 004332          3$:
(1) 004332 103005          BCC      4$
(3) 004334 012737 000105 000402  MOV      #105,2#$FATAL          ;MOVE TO MAILBOX # ***** 105 *****
(2) 004342 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 004344 000000          HALT          ;C NOT CLEARED
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 737
5489 004346          4$: MFPS      STATUS
(1) 004346 106767          .WORD   106700!..C
5493 004352 032767 000340 006516  BIT      #340, STATUS          ;TEST PRIORITY
5494 004360 001405          BEQ      5$
(3) 004362 012737 000106 000402  MOV      #106,2#$FATAL          ;MOVE TO MAILBOX # ***** 106 *****
(2) 004370 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 004372 000000          HALT          ;PRIORITY NOT ZERO
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 724
5495 004374 012706 000500          5$: MOV      #BUFF, SP
5496 004400 012767 004416 173412  MOV      #RETF2, RTRAP2
5497 004406 012767 000357 173406  MOV      #357, RTRAP2+2          ;SET NEW "CC" AND PRIORITY
5498 004414 000004          IOT          ;TRAP HERE
5499 004416          RETG2:

```

```

5500 004416 100405      BMI      1$
      (3) 004420 012737 000107 000402      MOV      #107,2#$FATAL ;MOVE TO MAILBOX # ***** 107 *****
      (2) 004426 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
      (2) 004430 000000      HALT     ;N NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 705

```

```

5501 004432      1$:
      (1) 004432 001405      BEQ      2$
      (3) 004434 012737 000110 000402      MOV      #110,2#$FATAL ;MOVE TO MAILBOX # ***** 110 *****
      (2) 004442 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
      (2) 004444 000000      HALT     ;Z NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 677

```

```

5502 004446      2$:
      (1) 004446 102405      BVS      3$
      (3) 004450 012737 000111 000402      MOV      #111,2#$FATAL ;MOVE TO MAILBOX # ***** 111 *****
      (2) 004456 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
      (2) 004460 000000      HALT     ;V NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 671

```

```

5503 004462      3$:
      (1) 004462 103405      BCS      4$
      (3) 004464 012737 000112 000402      MOV      #112,2#$FATAL ;MOVE TO MAILBOX # ***** 112 *****
      (2) 004472 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
      (2) 004474 000000      HALT     ;C NOT SET
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 663

```

```

5507 004476      4$: MFPS      STATUS
      (1) 004476 106767      .WORD   106700!...C
5511 004502      MOV      STATUS,SP
5512 004506      BIC      #17,SP
5513 004512      CMP      #340,SP
5514 004516      BEQ      STPA

```

```

      (1) 004520      STP:
      (3) 004520 012737 000113 000402      MOV      #113,2#$FATAL ;MOVE TO MAILBOX # ***** 113 *****
      (2) 004526 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
      (2) 004530 000000      HALT     ;PRIORITY WAS CHANGED, OR WRONG $TESTN
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 645

```

```

5515 004532 012767 000022 173260 STPA: MOV      #22,20
5516 004540 005067 173256      CLR      22

```

```

5517 (2) ;*****
      (2) ;TEST 25 TEST THAT A TRAP OCCURS ON AN EMT RESTRICTED INSTRUCTION
      (3) ;*****

```

```

      (2) 004544 005237 000404      TST25: INC      2#$TESTN ;UPDATE TEST NUMBER
      (2) 004550 022737 000025 000404      CMP      #25,2#$TESTN ;SEQUENCE ERROR?
      (2) 004556 001006      BNE     TST26-12 ;BR TO ERROR HALT ON SEQ ERROR
5518 004560 012706 000500      MOV      #BUFF,SP ;STACK POINTER SETUP
5519 004564 012767 004606 173236      MOV      #RETA3,RTRAP3 ;RETURN LOCATION
5520 004572 104000      EMT     ;RESERVE INSTRUCTION, SHOULD TRAP

```

```

5521 004574 012737 000114 000402      MOV      #114,2#$FATAL ;MOVE TO MAILBOX # ***** 114 *****
      (2) 004602 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
      (2) 004604 000000      HALT     ;EMT DID NOT TRAP, OR WRONG $TESTN
      (4) ; TO SCOPE REPLACE HALT W/ 240
      (4) ; AND REPLACE NEXT INST W/ 764

```

```

5522 004606      RETA3:

```


H02

MAIN MACY11 27(732)
DVKADA.P11 T25

25-AUG-76 12:49 PAGE 55-19
TEST THAT A TRAP OCCURS ON AN EMT RESTRICTED INSTRUCTION

*** SEQ 0022

```
5523 :*****
(2) :TEST 26 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
(3) :*****
(2) 004606 005237 000404 †TST26: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 004612 022737 000026 000404 CMP #26,@#$TESTN ;SEQUENCE ERROR?
(2) 004620 001011 BNE TST27-12 ;BR TO ERROR HALT ON SEQ ERROR
5524 004622 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5525 004626 012767 004636 173174 MOV #RETB3,RTRAP3 ;RETURN POINTER
5526 004634 104000 EMT ;RESERVED INSTRUCTION
5527 004636 020627 000474 RETB3: CMP SP,#BUFF-4 ;TEST DECREMENT OF SP
5528 004642 001405 BEQ TST27
(4) 004644 012737 000115 000402 MOV #115,@#$FATAL ;MOVE TO MAILBOX # ***** 115 *****
(3) 004652 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 004654 000000 HALT ;NOT DECREMENTED TWO WORDS,OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 761
5529 :*****
(2) :TEST 27 TEST THAT PROPER P.C. IS SAVED
(3) :*****
(2) 004656 005237 000404 †TST27: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 004662 022737 000027 000404 CMP #27,@#$TESTN ;SEQUENCE ERROR?
(2) 004670 001012 BNE TST30-12 ;BR TO ERROR HALT ON SEQ ERROR
5530 004672 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5531 004676 012767 004706 173124 MOV #RETC3,RTRAP3 ;RETURN FROM TRAP POINTER
5532 004704 104000 EMT ;TRAP ON THIS INSTRUCTION
5533 004706 022767 004706 173560 RETC3: CMP #,BUFF-4 ;CHECK FOR INCREMENTED P.C.
5534 004714 001405 BEQ TST30
(4) 004716 012737 000116 000402 MOV #116,@#$FATAL ;MOVE TO MAILBOX # ***** 116 *****
(3) 004724 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 004726 000000 HALT ;INCORRECT P.C. OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 760
5535 :*****
(2) :TEST 30 TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK
(3) :*****
(2) 004730 005237 000404 †TST30: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 004734 022737 000030 000404 CMP #30,@#$TESTN ;SEQUENCE ERROR?
(2) 004742 001044 BNE TST31-12 ;BR TO ERROR HALT ON SEQ ERROR
5536 004744 012706 000500 MOV #BUFF,SP ;SET UP
5537 004750 012767 004772 173052 MOV #RETD3,RTRAP3 ;SET UP
5538 004756 005067 006114 CLR STATUS ;CLEAR STATUS AND PRIORITY
5542 004762 MTPS STATUS
(1) 004762 106467 .WORD 106400!..C
5546 004766 000257 CCC
5547 004770 104000 EMT ;TRAP
5548 004772 026727 173500 000000 RETD3: CMP BUFF-2,#0 ;TEST THAT OLD STATUS WENT TO STACK
5549 005000 001405 BEQ 1$
(3) 005002 012737 000117 000402 MOV #117,@#$FATAL ;MOVE TO MAILBOX # ***** 117 *****
(2) 005010 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 005012 000000 HALT ;INCORRECT STATUS
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 753
5550 005014 012706 000500 1$: MOV #BUFF,SP ;SET UP
5551 005020 012767 005044 173002 MOV #RETE3,RTRAP3 ;SET UP
5552 005026 012767 000357 006042 MOV #357,STATUS ;SET PRIORITY
5556 005034 MTPS STATUS
```

```

(1) 005034 106467 .WORD 106400!..C
5560 005040 000277 SCC ;SET CC
5561 005042 104000 EMT ;TRAP
5562 005044 026727 173426 000357 RETE3: CMP BUFF-2,#357 ;COMPARES STATUS ON STACK
5563 005052 001405 BEQ TST31
(4) 005054 012737 000120 000402 MOV #120,#$FATAL ;MOVE TO MAILBOX # ***** 120 *****
(3) 005062 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 005064 000000 HALT ;INCORRECT STATUS ON STACK,OR WRONG STESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 726

```

```

5564 ;*****
(2) ;TEST 31 TEST THAT "NEW" STATUS IS CORRECT
(3) ;*****

```

```

(2) 005066 005237 000404 TST31: INC J$STESTN ;UPDATE TEST NUMBER
(2) 005072 022737 000031 000404 CMP #31,J$STESTN ;SEQUENCE ERROR?
(2) 005100 001125 BNE TST32-12 ;BR TO ERROR HALT ON SEQ ERROR
5565 005102 012706 000500 MOV #BUFF,SP
5566 005106 012767 005122 172714 MOV #RET3,RTRAP3
5567 005114 005067 172712 CLR RTRAP3+2 ;CLEAR FUTURE PRIORITY AND CC
5568 005120 104000 EMT ;TEST FOR "C" CLEARED
5569 005122 RETF3:
5570 005122 100005 BPL 1$
(3) 005124 012737 000121 000402 MOV #121,#$FATAL ;MOVE TO MAILBOX # ***** 121 *****
(2) 005132 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 005134 000000 HALT ;C NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 761

```

```

5571 005136 1$:
(1) 005136 001005 BNE 2$
(3) 005140 012737 000122 000402 MOV #122,#$FATAL ;MOVE TO MAILBOX # ***** 122 *****
(2) 005146 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 005150 000000 HALT ;Z NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 753

```

```

5572 005152 2$:
(1) 005152 102005 BVC 3$
(3) 005154 012737 000123 000402 MOV #123,#$FATAL ;MOVE TO MAILBOX # ***** 123 *****
(2) 005162 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 005164 000000 HALT ;V NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 745

```

```

5573 005166 3$:
(1) 005166 103005 BCC 4$
(3) 005170 012737 000124 000402 MOV #124,#$FATAL ;MOVE TO MAILBOX # ***** 124 *****
(2) 005176 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 005200 000000 HALT ;C NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 737

```

```

5577 005202 4$: MFPS STATUS
(1) 005202 106767 .WORD 106700!..C
5581 005206 032767 000340 005662 BIT #340,STATUS ;TEST PRIORITY
5582 005214 001405 BEQ 5$
(3) 005216 012737 000125 000402 MOV #125,#$FATAL ;MOVE TO MAILBOX # ***** 125 *****
(2) 005224 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 005226 000000 HALT ;PRIORITY NOT ZERO
(4) ; TO SCOPE REPLACE HALT W/ 240

```



```

(4)
5583 005230 012706 000500          5$:  MOV      #BUFF,SP          ; AND REPLACE NEXT INST W/ 724
5584 005234 012767 005252 172566  MOV      #RETG3,RTRAP3
5585 005242 012767 000357 172562  MOV      #357,RTRAP3+2      ; SET NEW "CC" AND PRIORITY
5586 005250 104000                EMT                      ; TRAP HERE
5587 005252                RETG3:
5588 005252 100405                BMI      1$
(3) 005254 012737 000126 000402  MOV      #126,@#$FATAL      ; MOVE TO MAILBOX # ***** 126 *****
(2) 005262 005212                INC      (R2)              ; SET MSGTYP TO FATAL ERROR
(2) 005264 000000                HALT                      ; N NOT SET
(4)                                ; TO SCOPE REPLACE HALT W/ 240
(4)                                ; AND REPLACE NEXT INST W/ 705
5589 005266                1$:
(1) 005266 001405                BEQ     2$
(3) 005270 012737 000127 000402  MOV      #127,@#$FATAL      ; MOVE TO MAILBOX # ***** 127 *****
(2) 005276 005212                INC      (R2)              ; SET MSGTYP TO FATAL ERROR
(2) 005300 000000                HALT                      ; Z NOT SET
(4)                                ; TO SCOPE REPLACE HALT W/ 240
(4)                                ; AND REPLACE NEXT INST W/ 677
5590 005302                2$:
(1) 005302 102405                BVS    3$
(3) 005304 012737 000130 000402  MOV      #130,@#$FATAL      ; MOVE TO MAILBOX # ***** 130 *****
(2) 005312 005212                INC      (R2)              ; SET MSGTYP TO FATAL ERROR
(2) 005314 000000                HALT                      ; V NOT SET
(4)                                ; TO SCOPE REPLACE HALT W/ 240
(4)                                ; AND REPLACE NEXT INST W/ 671
5591 005316                3$:
(1) 005316 103405                BCS    4$
(3) 005320 012737 000131 000402  MOV      #131,@#$FATAL      ; MOVE TO MAILBOX # ***** 131 *****
(2) 005326 005212                INC      (R2)              ; SET MSGTYP TO FATAL ERROR
(2) 005330 000000                HALT                      ; C NOT SET
(4)                                ; TO SCOPE REPLACE HALT W/ 240
(4)                                ; AND REPLACE NEXT INST W/ 663
5595 005332                4$:  MFPS    STATUS
(1) 005332 106767                .WORD  106700!...C
5599 005336 016706 005534                MOV     STATUS,SP
5600 005342 042706 000017                BIC    #17,SP
5601 005346 022706 000340                CMP    #340,SP
5602 005352 001405                BEQ    TST32
(4) 005354 012737 000132 000402  MOV      #132,@#$FATAL      ; MOVE TO MAILBOX # ***** 132 *****
(3) 005362 005212                INC      (R2)              ; SET MSGTYP TO FATAL ERROR
(3) 005364 000000                HALT                      ; PRIORITY WAS CHANGED, OR WRONG $TESTN
(5)                                ; TO SCOPE REPLACE HALT W/ 240
(5)                                ; AND REPLACE NEXT INST W/ 645
5603 (2) :*****
(3) :TEST 32          TEST THAT ALL COMBINATION OF EMT WILL CAUSE A TRAP
(2) :*****
(2) 005366 005237 000404                TST32: INC    @#$TESTN      ; UPDATE TEST NUMBER
(2) 005372 022737 000032 000404  CMP     #32,@#$TESTN      ; SEQUENCE ERROR?
(2) 005400 001011                BNE    RBBB              ; BR TO ERROR HALT ON SEQ ERROR
5604 005402 012767 104000 000012  MOV     #EMT,RB          ; INITIALIZE BASE EMT INSTRUCTION
5605 005410 012767 005436 172412  MOV     #RA,30           ; RETURN FROM TRAP TO RA
5606 005416 012706 000500                RC:    MOV     #BUFF,SP    ; SET UP STACK POINTER
5607 005422 104000                RB:    EMT              ; TRAP INST. WILL BE MODIFIED TO EMT+377
5608 (3) 005424 012737 000133 000402  RBBB:  MOV     #133,@#$FATAL  ; MOVE TO MAILBOX # ***** 133 *****

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K02

.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 55-22
DVKADA.P11 T32 TEST THAT ALL COMBINATION OF EMT WILL CAUSE A TRAP

*** SEQ 0025

(2)	005432	005212				INC	(R2)		;SET MSGTYP TO FATAL ERROR
(2)	005434	000000				HALT			;PREVIOUS INST FAILED TO TRAP, OR WRONG \$TESTN
(4)									; TO SCOPE REPLACE HALT W/ 240
(4)									; AND REPLACE NEXT INST W/ 761
5609	005436	005267	177760		RA:	INC	RB		
5610	005442	022767	104377	177752		CMP	#104377, RB		;EMT+377 TO EMT?
5611	005450	103362				BHIS	RC		;HAVE WE TESTED ALL
5612	005452	012767	000032	172350		MOV	#32, 30		
5613	005460	005067	172346			CLR	32		;HALT


```

5615 ;*****
(2) ;TEST 33 TEST THAT A TRAP OCCURES ON AN "BPT" INSTRUCTION
(3) ;*****
(2) 005464 005237 000404 TST33: INC @#STESTN ;UPDATE TEST NUMBER
(2) 005470 022737 000033 000404 CMP #33,@#STESTN ;SEQUENCE ERROR?
(2) 005476 001006 BNE TST34-12 ;BR TO ERROR HALT ON SEQ ERROR
5616 005500 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5617 005504 012767 005526 172302 TRT #RETA4,RTRAP4 ;RETURN LOCATION
5618 005512 000003 TRT ;RESERVED INSTRUCTION, SHOULD TRAP
5619 005514 012737 000134 000402 MOV #134,@#SFATAL ;MOVE TO MAILBOX # ***** 134 *****
(2) 005522 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 005524 000000 HALT ;DID NOT TRAP,OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 764
5620 005526 RETA4:
5621 ;*****
(2) ;TEST 34 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
(3) ;*****
(2) 005526 005237 000404 TST34: INC @#STESTN ;UPDATE TEST NUMBER
(2) 005532 022737 000034 000404 CMP #34,@#STESTN ;SEQUENCE ERROR?
(2) 005540 001011 BNE TST35-12 ;BR TO ERROR HALT ON SEQ ERROR
5622 005542 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5623 005546 012767 005556 172240 MOV #RETB4,RTRAP4 ;RETURN POINTER
5624 005554 000003 TRT ;RESERVED INSTRUCTION
5625 005556 020627 000474 RETB4: CMP SP,#BUFF-4 ;TEST DECREMENT OF SP
5626 005562 001405 BEQ TST35
(4) 005564 012737 000135 000402 MOV #135,@#SFATAL ;MOVE TO MAILBOX # ***** 135 *****
(3) 005572 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 005574 000000 HALT ;NOT DECREMENTED TWO WORDS,OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 761
5627 ;*****
(2) ;TEST 35 TEST THAT PROPER P.C. IS SAVED
(3) ;*****
(2) 005576 005237 000404 TST35: INC @#STESTN ;UPDATE TEST NUMBER
(2) 005602 022737 000035 000404 CMP #35,@#STESTN ;SEQUENCE ERROR?
(2) 005610 001012 BNE TST36-12 ;BR TO ERROR HALT ON SEQ ERROR
5628 005612 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5629 005616 012767 005626 172170 MOV #RETC4,RTRAP4 ;RETURN FROM TRAP POINTER
5630 005624 000003 TRT ;TRAP ON THIS INSTRUCTION
5631 005626 022767 005626 172640 RETC4: CMP #,BUFF-4 ;CHECK FOR INCREMENTED P.C.
5632 005634 001405 BEQ TST36
(4) 005636 012737 000136 000402 MOV #136,@#SFATAL ;MOVE TO MAILBOX # ***** 136 *****
(3) 005644 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 005646 000000 HALT ;INCORRECT P.C. OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 760
5633 ;*****
(2) ;TEST 36 TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK
(3) ;*****
(2) 005650 005237 000404 TST36: INC @#STESTN ;UPDATE TEST NUMBER
(2) 005654 022737 000036 000404 CMP #36,@#STESTN ;SEQUENCE ERROR?
(2) 005662 001044 BNE TST37-12 ;BR TO ERROR HALT ON SEQ ERROR
5634 005664 012706 000500 MOV #BUFF,SP ;SET UP
5635 005670 012767 005712 172116 MOV #RETD4,RTRAP4 ;SET UP
5636 005676 005067 005174 CLR STATUS ;CLEAR STATUS AND PRIORITY

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M02

.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 56-1
DVKADA.P11 T36 TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK

*** SEQ 0027

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5640 005702          MTPS  STATUS
(1) 005702 106467   .WORD 106400!...C
5644 005706 000257   CCC
5645 005710 000003   TRT
5646 005712 026727 172560 000000 RETD4: CMP  BUFF-2,#0      ;TRAP
5647 005720 001405   BEQ  1$          ;TEST THAT OLD STATUS WENT TO STACK
(3) 005722 012737 000137 000402  MOV  #137,0#$FATAL ;MOVE TO MAILBOX # ***** 137 *****
(2) 005730 005212   INC  (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 005732 000000   HALT           ;INCORRECT STATUS
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 753
5648 005734 012706 000500 1$:  MOV  #BUFF,SP      ;SET UP
5649 005740 012767 005764 172046  MOV  #RETE4,RTRAP4 ;SET UP
5650 005746 012767 000357 005122  MOV  #357,STATUS   ;SET PRIORITY
5654 005754          MTPS  STATUS
(1) 005754 106467   .WORD 106400!...C
5658 005760 000277   SCC
5659 005762 000003   TRT
5660 005764 026727 172506 000357 RETE4: CMP  BUFF-2,#357 ;SET-SET CC
5661 005772 001405   BEQ  TST37       ;TRAP
(4) 005774 012737 000140 000402  MOV  #140,0#$FATAL ;COMPARES STATUS ON STACK
(3) 006002 005212   INC  (R2)        ;MOVE TO MAILBOX # ***** 140 *****
(3) 006004 000000   HALT           ;SET MSGTYP TO FATAL ERROR
(5)                                     ;INCORRECT STATUS ON STACK,OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 726
5662                                     ;*****
(2)                                     ;TEST 37 TEST THAT "NEW" STATUS IS CORRECT
(3)                                     ;*****
(2) 006006 005237 000404  ST37: INC  0#$TESTN ;UPDATE TEST NUMBER
(2) 006012 022737 000037 000404  CMP  #37,0#$TESTN ;SEQUENCE ERROR?
(2) 006020 001132   BNE  TST40-12    ;BR TO ERROR HALT ON SEQ ERROR
5663 006022 012706 000500   MOV  #BUFF,SP
5664 006026 012767 006042 171760  MOV  #RETF4,RTRAP4
5665 006034 005067 171756   CLR  RTRAP4+2    ;CLEAR FUTURE PRIORITY AND CC

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5690 006222 2$:      BVS      3$
(1) 006222 102405      MOV      #150,2#$FATAL ;MOVE TO MAILBOX # ***** 150 *****
(2) 006224 012737 000150 000402      INC      (R2) ;SET MSGTYP TO FATAL ERROR
(2) 006232 005212      HALT ;V NOT SET
(4) 006234 000000 ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 671

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5691 006236 3$:      BCS      4$
(1) 006236 103405      MOV      #151,2#$FATAL ;MOVE TO MAILBOX # ***** 151 *****
(2) 006240 012737 000151 000402      INC      (R2) ;SET MSGTYP TO FATAL ERROR
(2) 006246 005212      HALT ;C NOT SET
(4) 006250 000000 ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 663

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```

5695 006252 4$:      MFPS     STATUS
(1) 006252 106767      .WORD   106700!..C
5699 006256 016706 004614      MOV     STATUS,SP
5700 006262 042706 000017      BIC     #17,SP
5701 006266 022706 000340      CMP     #340,SP
5702 006272 001405      BEQ     5$
(2) 006274 012737 000152 000402      MOV     #152,2#$FATAL ;MOVE TO MAILBOX # ***** 152 *****
(2) 006302 005212      INC     (R2) ;SET MSGTYP TO FATAL ERROR
(2) 006304 000000      HALT ;PRIORITY WAS CHANGED, OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 645

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5703 006306 012767 000016 171500 5$:      MOV     #16,14
5704 006314 005067 171476      CLR     16
5705
5706 ;PDP-11 ILLEGAL AND ADDRESS INSTRUCTION TEST
5707 ;ALL INSTRUCTIONS THAT ARE RESERVED
5708 ;SHOULD TRAP TO LOCATION 4, AND THE
5709 ;PC THAT POINTS TO THE TRAPPING INSTRUCTION
5710 ;SHOULD BE PLACED ON THE STACK

```

```

5711 *****
5712 (2) ;TEST 40 TEST THAT A TRAP OCCURS ON AN ILLEGAL INSTRUCTION
5713 (3) *****
5714 (2) 006320 005237 000404      TST40: INC     2#$TESTN ;UPDATE TEST NUMBER
5715 (2) 006324 022737 000040 000404      CMP     #40,2#$TESTN ;SEQUENCE ERROR?
5716 (2) 006332 001006      BNE     TST41-12 ;BR TO ERROR HALT ON SEQ ERROR
5717 006334 012706 000500      MOV     #BUFF,SP ;STACK POINTER SETUP
5718 006340 012767 006362 171436      MOV     #RETAS,RTRAPS ;RETURN LOCATION
5719 006346 000100      JMP     %0 ;ILLEGAL INSTRUCTION, SHOULD TRAP
(2) 006350 012737 000153 000402      MOV     #153,2#$FATAL ;MOVE TO MAILBOX # ***** 153 *****
(2) 006356 005212      INC     (R2) ;SET MSGTYP TO FATAL ERROR
(2) 006360 000000      HALT ;DID NOT TRAP, OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 764

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5717 006362 RETAS:
5718 *****
5719 (2) ;TEST 41 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
5720 (3) *****
(2) 006362 005237 000404      TST41: INC     2#$TESTN ;UPDATE TEST NUMBER
(2) 006366 022737 000041 000404      CMP     #41,2#$TESTN ;SEQUENCE ERROR?
(2) 006374 001011      BNE     TST42-12 ;BR TO ERROR HALT ON SEQ ERROR
5719 006376 012706 000500      MOV     #BUFF,SP ;STACK POINTER SETUP

```



```

5720 006402 012767 006412 171374      MOV      #RETB5,RTRAPS      ;RETURN POINTER
5721 006410 000100                      JMP      %0                 ;RESERVED INSTRUCTION
5722 006412 020627 000474      RETB5:  CMP      SP,#BUFF-4 ;TEST DECREMENT OF SP
5723 006416 001405                      BEQ      TST42
(4) 006420 012737 000154 000402      MOV      #154,#SFATAL      ;MOVE TO MAILBOX # ***** 154 *****
(3) 006426 005212                      INC      (R2)               ;SET MSGTYP TO FATAL ERROR
(3) 006430 000000                      HALT                       ;NOT DECREMENTED TWO WORDS,OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 761
5724                                     ;*****
(2) ;TEST 42      TEST THAT PROPER P.C. IS SAVED
(3) ;*****
(2) 006432 005237 000404      TST42: INC      @#$TESTN      ;UPDATE TEST NUMBER
(2) 006436 022737 000042 000404      CMP      #42,@#$TESTN      ;SEQUENCE ERROR?
(2) 006444 001012                      BNE     TST43-12           ;BR TO ERROR HALT ON SEQ ERROR
5725 006446 012706 000500      MOV      #BUFF,SP          ;STACK POINTER SETUP
5726 006452 012767 006462 171324      MOV      #RETC5,RTRAPS     ;RETURN FROM TRAP POINTER
5727 006460 000100                      JMP      %0                 ;TRAP ON THIS INSTRUCTION
5728 006462 022767 006462 172004      RETC5:  CMP      #.BUFF-4   ;CHECK FOR INCREMENTED P.C.
5729 006470 001405                      BEQ      TST43
(4) 006472 012737 000155 000402      MOV      #155,@#$FATAL     ;MOVE TO MAILBOX # ***** 155 *****
(3) 006500 005212                      INC      (R2)               ;SET MSGTYP TO FATAL ERROR
(3) 006502 000000                      HALT                       ;INCORRECT P.C. OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 760
5730                                     ;*****
(2) ;TEST 43      TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK
(3) ;*****
(2) 006504 005237 000404      TST43: INC      @#$TESTN      ;UPDATE TEST NUMBER
(2) 006510 022737 000043 000404      CMP      #43,@#$TESTN      ;SEQUENCE ERROR?
(2) 006516 001044                      BNE     TST44-12           ;BR TO ERROR HALT ON SEQ ERROR
5731 006520 012706 000500      MOV      #BUFF,SP          ;SET UP
5732 006524 012767 006546 171252      MOV      #RETD5,RTRAPS     ;SET UP
5733 006532 005067 004340      CLR      STATUS            ;CLEAR STATUS AND PRIORITY
5737 006536                      MTPS     STATUS
(1) 006536 106467                      .WORD   106400!...C
5741 006542 000257                      CCC
5742 006544 000100                      JMP      %0                 ;TRAP
5743 006546 026727 171724 000000      RETD5:  CMP      BUFF-2,#0   ;TEST THAT OLD STATUS WENT TO STACK
5744 006554 001405                      BEQ      IS
(3) 006556 012737 000156 000402      MOV      #156,@#$FATAL     ;MOVE TO MAILBOX # ***** 156 *****
(2) 006564 005212                      INC      (R2)               ;SET MSGTYP TO FATAL ERROR
(2) 006566 000000                      HALT                       ;INCORRECT STATUS
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 753
5745 006570 012706 000500      IS:    MOV      #BUFF,SP      ;SET UP
5746 006574 012767 006620 171202      MOV      #RETE5,RTRAPS     ;SET UP
5747 006602 012767 000357 004266      MOV      #357,STATUS       ;SET PRIORITY
5751 006610                      MTPS     STATUS
(1) 006610 106467                      .WORD   106400!...C
5755 006614 000277                      SCC
5756 006616 000100                      JMP      %0                 ;SET CC
5757 006620 026727 171652 000357      RETE5:  CMP      BUFF-2,#357 ;TRAP
5758 006626 001405                      BEQ      TST44              ;COMPARES STATUS ON STACK
(4) 006630 012737 000157 000402      MOV      #157,@#$FATAL     ;MOVE TO MAILBOX # ***** 157 *****
(3) 006636 005212                      INC      (R2)               ;SET MSGTYP TO FATAL ERROR

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E03

.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 58-4
DVKADA.P11 T44 TEST THAT "NEW" STATUS IS CORRECT

*** SEQ 0032

(3) 007030 012737 000165 000402 MOV #165,2#SFATAL ;MOVE TO MAILBOX # ***** 165 *****
(2) 007036 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007040 000000 HALT ;N NOT SET
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 705

5784 007042 15: SEQ 25
(1) 007042 001405 MOV #166,2#SFATAL ;MOVE TO MAILBOX # ***** 166 *****
(3) 007044 012737 000166 000402 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007052 005212 HALT ;Z NOT SET
(2) 007054 000000 ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 677
(4)

5785 007056 25: BVS 35
(1) 007056 102405 MOV #167,2#SFATAL ;MOVE TO MAILBOX # ***** 167 *****
(3) 007060 012737 000167 000402 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007066 005212 HALT ;V NOT SET
(2) 007070 000000 ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 671
(4)

5786 007072 35: BCS 45
(1) 007072 103405 MOV #170,2#SFATAL ;MOVE TO MAILBOX # ***** 170 *****
(3) 007074 012737 000170 000402 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007102 005212 HALT ;C NOT SET
(2) 007104 000000 ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 663
(4)

5790 007106 45: MFPS STATUS
(1) 007106 106767 .WORD 106700!..C
5794 007112 016706 003760 MOV STATUS,SP
5795 007116 022706 000357 CMP #357,SP
5796 007122 001405 BEQ TST45
(4) 007124 012737 000171 000402 MOV #171,2#SFATAL ;MOVE TO MAILBOX # ***** 171 *****
(3) 007132 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 007134 000000 HALT ;PRIORITY WAS CHANGED,OR WRONG \$TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 647

5797 ;*****
(2) ;TEST 45 TEST THAT A TRAP OCCURES ON ALL ILLEGAL INSTRUCTION
(3) ;*****

(2) 007136 005237 000404 TST45: INC 2#\$TESTN ;UPDATE TEST NUMBER
(2) 007142 022737 000045 000404 CMP #45,2#\$TESTN ;SEQUENCE ERROR?
(2) 007150 001006 BNE TST46-12 ;BR TO ERROR HALT ON SEQ ERROR
5798 007152 012706 000500 MOV #BUFF,SP ;STACK POINTER SETUP
5799 007156 012767 007200 170620 MOV #RETH5,RTRAPS ;RETURN LOCATION
5800 007164 004000 JSR %0,%0 ;RESERVED INSTRUCTION, SHOULD TRAP
5801 007166 012737 000172 000402 MOV #172,2#SFATAL ;MOVE TO MAILBOX # ***** 172 *****
(2) 007174 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007176 000000 HALT ;DID NOT TRAP,OR WRONG \$TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 764

5802 007200 RETH5:
5803 ;*****

(2) ;TEST 46 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
(3) ;*****
(2) 007200 005237 000404 TST46: INC 2#\$TESTN ;UPDATE TEST NUMBER
(2) 007204 022737 000046 000404 CMP #46,2#\$TESTN ;SEQUENCE ERROR?

G03

MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 58-6
 DVKADA.P11 T50 TEST THAT "OLD" STATUS AND PRIORITY ARE PLACED ON STACK

*** SEQ 0034

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5844 007444 001405      BEQ      TST51
(4) 007446 012737      MOV      #176,2#SFATAL ;MOVE TO MAILBOX # ***** 176 *****
(3) 007454 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(3) 007456 000000      HALT                    ;INCORRECT STATUS ON STACK, OR WRONG STESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 726
5845                                     ;*****
(2) ;TEST 51 TEST THAT "NEW" STATUS IS CORRECT
(2) ;*****
(2) 007460 005237 000404 TST51: INC 2#STESTN ;UPDATE TEST NUMBER
(2) 007464 022737 000051 000404 CMP #51,2#STESTN ;SEQUENCE ERROR?
(2) 007472 001122 BNE STP1 ;BR TO ERROR HALT ON SEQ ERROR
5846 007474 012706 000500 MOV #BUFF,SP
5847 007500 012767 007514 170276 MOV #RETN,RTRAPS
5848 007506 005067 170274 CLR RTRAPS+2 ;CLEAR FUTURE PRIORITY AND CC
5849 007512 004000 JSR %0,%0 ;TEST FOR "C" CLEARED
5850 007514 RETN:
5851 007514 100005 BPL 1$
(3) 007516 012737 000177 000402 MOV #177,2#SFATAL ;MOVE TO MAILBOX # ***** 177 *****
(2) 007524 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007526 000000 HALT ;C NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 761
5852 007530 1$:
(1) 007530 001005 BNE 2$
(3) 007532 012737 000200 000402 MOV #200,2#SFATAL ;MOVE TO MAILBOX # ***** 200 *****
(2) 007540 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007542 000000 HALT ;Z NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 753
5853 007544 2$:
(1) 007544 102005 BVC 3$
(3) 007546 012737 000201 000402 MOV #201,2#SFATAL ;MOVE TO MAILBOX # ***** 201 *****
(2) 007554 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007556 000000 HALT ;V NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 745
5854 007560 3$:
(1) 007560 103005 BCC 4$
(3) 007562 012737 000202 000402 MOV #202,2#SFATAL ;MOVE TO MAILBOX # ***** 202 *****
(2) 007570 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007572 000000 HALT ;C NOT CLEARED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 737
5858 007574 4$: MFPS STATUS
(1) 007574 106767 .WORD 106700!..C
5862 007600 016700 003272 MOV STATUS,%0 ;TEMP STORAGE
5863 007604 001405 BEQ 5$
(3) 007606 012737 000203 000402 MOV #203,2#SFATAL ;MOVE TO MAILBOX # ***** 203 *****
(2) 007614 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 007616 000000 HALT ;PRIORITY NOT ZERO
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 725
5864 007620 012706 000500 5$: MOV #BUFF,SP
5865 007624 012767 007642 170152 MOV #RETO,RTRAPS
5866 007632 012767 000357 170146 MOV #357,RTRAPS+2 ;SET NEW "CC" AND PRIORITY
  
```

H03

MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 58-7
DVKADA.P11 T51 TEST THAT "NEW" STATUS IS CORRECT

*** SEQ 0035

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5867 007640 004000          JSR      %0,%0          ;TRAP HERE
5868 007642          RETO:    BMI      1$
5869 007642 100405          MOV      #204,%R2    ;MOVE TO MAILBOX # ***** 204 *****
(3) 007644 012737 000204 000402  INC      (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 007652 005212          HALT                     ;N NOT SET
(2) 007654 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 706
(4)
5870 007656          1$:      BEQ      2$
(1) 007656 001405          MOV      #205,%R2    ;MOVE TO MAILBOX # ***** 205 *****
(3) 007660 012737 000205 000402  INC      (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 007666 005212          HALT                     ;Z NOT SET
(2) 007670 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 700
(4)
5871 007672          2$:      BVS      3$
(1) 007672 102405          MOV      #206,%R2    ;MOVE TO MAILBOX # ***** 206 *****
(3) 007674 012737 000206 000402  INC      (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 007702 005212          HALT                     ;V NOT SET
(2) 007704 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 672
(4)
5872 007706          3$:      BCS      4$
(1) 007706 103405          MOV      #207,%R2    ;MOVE TO MAILBOX # ***** 207 *****
(3) 007710 012737 000207 000402  INC      (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 007716 005212          HALT                     ;C NOT SET
(2) 007720 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 664
(4)
5876 007722          4$:      MFPS     STATUS
(1) 007722 106767          .WORD   106700!..C
5880 007726 016700 003144      MOV      STATUS,%0
5881 007732 022700 000357      CMP      #357,%0
5882 007736 001405          BEQ      STPBB
(1) 007740          STP1:   MOV      #210,%R2    ;MOVE TO MAILBOX # ***** 210 *****
(3) 007740 012737 000210 000402  INC      (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 007746 005212          HALT                     ;PRIORITY WAS CHANGED,OR WRONG $TESTN
(2) 007750 000000          ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 650
(4)
5883 007752 012767 000006 170024  STPBB:  MOV      #6,4
5884 007760 005067 170022          CLR      6
5885 (2)                                     ;*****
(3) ;TEST 52          TEST THAT THE TRACE TRAP; (BIT4 20(8)) WILL CAUSE A TRAP TO 14
(2) 007764 005237 000404          TST52: INC      @%TESTN    ;UPDATE TEST NUMBER
(2) 007770 022737 000052 000404  CMP      #52,@%TESTN  ;SEQUENCE ERROR?
(2) 007776 001013          BNE     TST53-12      ;BR TO ERROR HALT ON SEQ ERROR
5886 010000 012706 000500          MOV      #BUFF,SP
5887 010004 012767 010040 170002  MOV      #RETAT,RTRAP4 ;SET UP TO TRAP TO 14
5888 010012 012746 000020          MOV      #20,-(SP)    ;PUSH T BIT
5889 010016 012746 010024          MOV      #.+6,-(SP)   ;PUSH PC
5890 010022 000002          RTI                     ;SET T BIT
5891 010024 000240          NOP                     ;TRAP HERE
5892 010026 012737 000211 000402  MOV      #211,%R2    ;MOVE TO MAILBOX # ***** 211 *****
(2) 010034 005212          INC      (R2)        ;SET MSGTYP TO FATAL ERROR

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(2) 010036 000000          HALT          ;TRACE BIT DID NOT TRAP!,OR WRONG $TESTN
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 757
5893 010040          RETAT:
5894                                     ;*****
(2)                                     ;TEST 53          TEST STACK POINTER DECREMENTS
(3)                                     ;*****
(2) 010040 005237 000404          †TST53:  INC      2#$TESTN      ;UPDATE TEST NUMBER
(2) 010044 022737 000053 000404          CMP      #53,2#$TESTN    ;SEQUENCE ERROR?
(2) 010052 001023                                     BNE     TST54-12        ;BR TO ERROR HALT ON SEQ ERROR
5895 010054 012706 000500          MOV     #BUFF,SP
5896 010060 012767 010114 167726          MOV     #RETBT,RTRAP4
5897 010066 012746 000020          MOV     #20,-(SP)      ;PUSH T BIT
5898 010072 012746 010100          MOV     #.+6,-(SP)    ;PUSH PC
5899 010076 000002          RTI
5900 010100 000240          NOP
5901 010102 012737 000212 000402          MOV     #212,2#$FATAL ;MOVE TO MAILBOX # ***** 212 *****
(2) 010110 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 010112 000000          HALT          ;TRACE BIT DID NOT TRAP!
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 757
5902 010114 020627 000474          RETBT:  CMP     SP,#BUFF-4
5903 010120 001405          BEQ     TST54
(4) 010122 012737 000213 000402          MOV     #213,2#$FATAL ;MOVE TO MAILBOX # ***** 213 *****
(3) 010130 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
(3) 010132 000000          HALT          ;STACK POINTER WAS NOT PUSHED BY TRAP,OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 747
5904                                     ;*****
(2)                                     ;TEST 54          TEST FOR PROPER PC ON STACK
(3)                                     ;*****
(2) 010134 005237 000404          †TST54:  INC      2#$TESTN      ;UPDATE TEST NUMBER
(2) 010140 022737 000054 000404          CMP     #54,2#$TESTN    ;SEQUENCE ERROR?
(2) 010146 001016                                     BNE     TST55-12        ;BR TO ERROR HALT ON SEQ ERROR
5905 010150 012706 000500          MOV     #BUFF,SP
5906 010154 012767 010174 167632          MOV     #RETCT,RTRAP4
5907 010162 012746 000020          MOV     #20,-(SP)      ;PUSH T BIT
5908 010166 012746 010174          MOV     #.+6,-(SP)    ;PUSH PC
5909 010172 000002          RTI          ;SET T BIT
5910                                     ;TRAP HERE
5911 010174 022767 010174 170272          RETCT:  CMP     #.BUFF-4
5912 010202 001405          BEQ     TST55
(4) 010204 012737 000214 000402          MOV     #214,2#$FATAL ;MOVE TO MAILBOX # ***** 214 *****
(3) 010212 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
(3) 010214 000000          HALT          ;CORRECT PC WAS NOT SAVED ON STACK,OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 754
5913                                     ;*****
5914                                     ;*****
5915                                     ;*****
(2)                                     ;TEST 55          TEST THAT RTT POPS T- BIT
(3)                                     ;*****
(2) 010216 005237 000404          †TST55:  INC      2#$TESTN      ;UPDATE TEST NUMBER
(2) 010222 022737 000055 000404          CMP     #55,2#$TESTN    ;SEQUENCE ERROR?
(2) 010230 001015                                     BNE     TST56-12        ;BR TO ERROR HALT ON SEQ ERROR
5916

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5917 010232 012706 000500      MOV      #BUFF,SP
5918 010236 005001      CLR      R1                ;CLEAR R1
5919 010240 012746 000020      MOV      #20,-(SP)
5920 010244 012746 010260      MOV      #RTT1,-(SP)
5921 010250 012767 010276 167536  MOV      #RTT2,14
5922 010256 000006      RTT
5923 010260 000240      RTT1:  NOP
5924 010262 001405      BEQ      TST56
(4) 010264 012737 000215 000402  MOV      #215,#SFATAL ;MOVE TO MAILBOX # ***** 215 *****
(3) 010272 005212      INC      (R2)             ;SET MSGTYP TO FATAL ERROR
(3) 010274 000000      HALT                    ;T-BIT DID NOT TRAP,OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 755

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```

5925
5926 010276      RTT2:
5927 (2) ;*****
(3) ;TEST 56 TEST THAT RTT ALLOWS ONE INST. BEFORE TRAP
(2) ;*****
(2) 010276 005237 000404 000404  †TST56: INC      @#$TESTN ;UPDATE TEST NUMBER
(2) 010302 022737 000056 000404  CMP      #56,@#$TESTN ;SEQUENCE ERROR?
(2) 010310 001031      BNE     TST57-12 ;BR TO ERROR HALT ON SEQ ERROR

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5928 010312 012705 177777      MOV      #177777,%5
5929 010316 012706 000500      RTT5:  MOV      #BUFF,SP
5930 010322 012746 000020      MOV      #20,-(SP)
5931 010326 012746 010344      MOV      #RTT3,-(SP)
5932 010332 012767 010364 167454  MOV      #RTT4,14
5933 010340 005001      CLR      R1                ;CLEAR R0
5934 010342 000006      RTT                    ;SET T-BIT
5935 010344 005201      RTT3:  INC      R1
5936 010346 005205      INC      %5
5937 010350 001762      BEQ     RTT5
5938 010352 012737 000216 000402  MOV      #216,@#$FATAL ;DO THIS TEST NO MORE THAN 2 TIMES
(2) 010360 005212      INC      (R2)             ;MOVE TO MAILBOX # ***** 216 *****
(2) 010362 000000      HALT                    ;SET MSGTYP TO FATAL ERROR
(4)                                     ;DID NOT TRAP
(4)                                     ; TO SCOPE REPLACE HALT W/ 240

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5939 010364 005301      RTT4:  DEC      R1
5940 010366 001407      BEQ     RTT6
5941 010370 005205      INC      %5                ;DO THIS TEST NO MORE THAN TWO TIMES
5942 010372 001751      BEQ     RTT5
(3) 010374 012737 000217 000402  MOV      #217,@#$FATAL ;MOVE TO MAILBOX # ***** 217 *****
(2) 010402 005212      INC      (R2)             ;SET MSGTYP TO FATAL ERROR
(2) 010404 000000      HALT                    ;RTT DID NOT ALLOW 1 INST.,OR WRONG $TESTN
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 741

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```

5943 010406      RTT6:
5944 (2) ;*****
(3) ;TEST 57 TEST THAT RTI DOES NOT ALLOW 1 INST.
(2) ;*****
(2) 010406 005237 000404 000404  †TST57: INC      @#$TESTN ;UPDATE TEST NUMBER
(2) 010412 022737 000057 000404  CMP      #57,@#$TESTN ;SEQUENCE ERROR?
(2) 010420 001023      BNE     TST60-12 ;BR TO ERROR HALT ON SEQ ERROR

```

```

5945 010422 012706 000500      MOV      #BUFF,SP
5946 010426 012746 000020      MOV      #20,-(SP)
5947 010432 012746 010450      MOV      #RTI1,-(SP)
5948 010436 012767 010464 167350  MOV      #RTI2,14

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5949 010444 005001 CLR R1
5950 010446 000002 RTI
5951 010450 005201 RTI1: INC R1 ;SET T-BIT
5952 010452 012737 000220 000402 MOV #220, @#$FATAL ;RTI SHOULD NOT ALLOW THIS
(2) 010460 005212 INC (R2) ;MOVE TO MAILBOX # ***** 220 *****
(2) 010462 000000 HALT ;SET MSGTYP TO FATAL ERROR
(4) ;T- BIT DID NOT CAUSE TRAP
(4) ; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 756
5953 010464 005701 RTI2: TST R1
5954 ;RTI SHOULD NOT ALLOW 1 INST. BEFORE TRAP
5955 010466 001405 BEQ TST60
(4) 010470 012737 000221 000402 MOV #221, @#$FATAL ;MOVE TO MAILBOX # ***** 221 *****
(3) 010476 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 010500 000000 HALT ;RTI DID ALLOW 1 INST. BEFORE TRAP, OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 747
5956
5957 ;*****
(2) ;TEST 60 TEST TRAP ON TRAP
(3) ;*****
(2) 010502 005237 000404 TST60: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 010506 022737 000060 000404 CMP #60, @#$TESTN ;SEQUENCE ERROR?
(2) 010514 001033 BNE TRACE ;BR TO ERROR HALT ON SEQ ERROR
5958 ;TEST THAT TRACE BIT TRAPS ARE INHIBITED ON TRAP INST
5959
5960 010516 012705 177777 TRPTRP: MOV #177777, %5
5961 010522 012706 000500 MOV #BUFF, %6
5962 010526 012767 010600 167260 MOV #TRACE1, 14 ;TRACE TRAP
5963 010534 005027 000016 CLR #16
5964 010540 005027 000022 CLR #22
5965 010544 012767 010616 167246 MOV #TONT1, 20 ;IOT TRAP
5966 010552 012746 000020 MOV #20, -(SP) ;PUSH T BIT
5967 010556 012746 010564 MOV #.+6, -(SP) ;PUSH PC
5968 010562 000006 RTT ;SET T BIT
5969 010564 000004 IOT ;TRAP, NEW STATUS HAVE TRACE RESET
5970 010566 012737 000222 000402 MOV #222, @#$FATAL ;MOVE TO MAILBOX # ***** 222 *****
(2) 010574 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 010576 000000 HALT ;NO TRAP OCCURRED
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 746
5971 010600 005205 TRACE1: INC %5 ;IF FAILED TRY THIS TEST TWICE BUT NO MORE
5972 010602 001747 BEQ TRPTRP
(1) 010604 TRACE:
(3) 010604 012737 000223 000402 MOV #223, @#$FATAL ;MOVE TO MAILBOX # ***** 223 *****
(2) 010612 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 010614 000000 HALT ;IOT SHOULD HAVE CLEARED THE T BIT, OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 737
5973 010616 012767 000016 167170 TONT1: MOV #16, 14
5974 010624 012767 000022 167166 MOV #22, 20
5975 ;*****
(2) ;TEST 61 TEST THAT THE TRACE BIT WILL CAUSE A TRAP
(3) ;*****
(2) 010632 005237 000404 TST61: INC @#$TESTN ;UPDATE TEST NUMBER
(2) 010636 022737 000061 000404 CMP #61, @#$TESTN ;SEQUENCE ERROR?
(2) 010644 001026 BNE TST62-12 ;BR TO ERROR HALT ON SEQ ERROR

```

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5976 010646 012706 000500      MOV      #BUFF,%6      ;SET UP STACK POINTER
5977 010652 012767 010712 167134  MOV      #TRC1,14      ;TRACE TRAP RETURN
5978 010660 005067 167132      CLR      16
5979 010664 012746 000020      MOV      #20,-(SP)     ;PUSH T BIT
5980 010670 012746 010676      MOV      #.+6,-(SP)   ;PUSH PC
5981 010674 000002      RTI
5982 010676 000240      NOP
5983 010700 012737 000224 000402  MOV      #224,@#SFATAL ;MOVE TO MAILBOX # ***** 224 *****
(2) 010706 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 010710 000000      HALT                ;DO NOT TRAP
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 755
5984 010712 036727 167560 000020  TRC1:  BIT      BUFF-2,#20 ;CHECK FOR T BIT ON STACK
5985 010720 001005      BNE     TST62
(4) 010722 012737 000225 000402  MOV      #225,@#SFATAL ;MOVE TO MAILBOX # ***** 225 *****
(3) 010730 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(3) 010732 000000      HALT                ;T BIT NOT SAVED ON STACKED,OR WRONG $TESTN
(5)                                     ; TO SCOPE REPLACE HALT W/ 240
(5)                                     ; AND REPLACE NEXT INST W/ 744
5986                                     ;*****
(2) ;TEST 62 TEST THAT AN RTI POPS THE T BIT
(3) ;*****
(2) 010734 005237 000404      TST62: INC      @#$TESTN ;UPDATE TEST NUMBER
(2) 010740 022737 000062 000404  CMP      #62,@#$TESTN ;SEQUENCE ERROR?
(2) 010746 001020      BNE     TST63-12     ;BR TO ERROR HALT ON SEQ ERROR
5987 010750 012706 000500      MOV      #BUFF,%6      ;SET UP THE STACK
5988 010754 012746 000020      MOV      #20-(6)      ;FUTURE T BIT ON STACK
5989 010760 012746 010774      MOV      #TRC2,-(6)   ;RTI RETURN
5990 010764 012767 011010 167022  MOV      #TRC3,14     ;TRACE TRAP INTERRUPT POINTER
5991 010772 000002      RTI
5992
5993 010774 000240      TRC2:  NOP
5994 010776 012737 000226 000402  MOV      #226,@#SFATAL ;TRACE IS SET SHOULD TRAP TO 14
(2) 011004 005212      INC      (R2)          ;MOVE TO MAILBOX # ***** 226 *****
(2) 011006 000000      HALT                ;SET MSGTYP TO FATAL ERROR
(4)                                     ;DID NOT TRACE TRAP,OR WRONG $TESTN
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 757
5995
5996 011010 012767 000016 166776  TRC3:  MOV      #16,14
5997 011016 005067 166774      CLR      16
5998                                     ;*****
(2) ;TEST 63 TEST THAT A PENDING INTERRUPT OCCURS BEFORE TRAP
(3) ;*****
(2) 011022 005237 000404      TST63: INC      @#$TESTN ;UPDATE TEST NUMBER
(2) 011026 022737 000063 000404  CMP      #63,@#$TESTN ;SEQUENCE ERROR?
(2) 011034 001045      BNE     TST64-12     ;BR TO ERROR HALT ON SEQ ERROR
5999 011036 105737 177564      TSTB    @#TPS
6000 011042 100375      BPL     -4
6001 011044 012706 000500      MOV      #BUFF,%6
6002 011050 012767 000340 002020  MOV      #340,$STATUS ;HIGHEST PRIORITY LEVEL
6006 011056      MTPS    STATUS
(1) 011056 106467      .WORD   106400!...C
6010 011062 012767 011132 166774  MOV      #TR0,64
6011 011070 012767 000100 166466  MOV      #100,TTCSR   ;INTERRUPT FOR TTY PUNCH/PRINTER
6012 011076 012767 011144 166730  MOV      #TR1,34     ;TRAP VECTOR
6013 011104 012767 011156 166752  MOV      #TR2,64     ;TTY VECTOR

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M03

MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 58-12
DVKADA.P11 T63 TEST THAT A PENDING INTERRUPT OCCURS BEFORE TRAP

*** SEQ 0040

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6014 011112 012767 000340 166716      MOV    #340,36      ;IF TRAP TRAPS, MOVE 340 TO PRIORITY
6015 011120 005067 001752                CLR    STATUS      ;SHOULD TRAP AT END OF CLR INST
6019 011124                MTPS   STATUS
(1) 011124 106467                .WORD 106400!...C
6023 011130 104400                TRAP
6024 011132                TR0:
(3) 011132 012737 000227 000402      MOV    #227,2#FATAL ;MOVE TO MAILBOX # ***** 227 *****
(2) 011140 005212                INC    (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 011142 000000                HALT               ;TTY SHOULDN'T HAVE INTERRUPTED
(4)                                ; TO SCOPE REPLACE HALT W/ 240
(4)                                ; AND REPLACE NEXT INST W/ 734
6025 011144                TR1:
(3) 011144 012737 000230 000402      MOV    #230,2#FATAL ;MOVE TO MAILBOX # ***** 230 *****
(2) 011152 005212                INC    (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 011154 000000                HALT               ;INTERRUPT DID NOT OCCUR FIRST,OR WRONG $TESTN
(4)                                ; TO SCOPE REPLACE HALT W/ 240
(4)                                ; AND REPLACE NEXT INST W/ 727
6026 011156 005067 166654                TR2:  CLR    36
6027                ;*****
(2)                ;TEST 64          TEST THAT A PENDING INTERRUPT;INTERRUPTS BETWEEN TRAPS
(3)                ;*****
(2) 011162 005237 000404                TST64: INC    2#$TESTN ;UPDATE TEST NUMBER
(2) 011166 022737 000064 000404      CMP    #64,2#$TESTN ;SEQUENCE ERROR?
(2) 011174 001050                BNE   TST65-12    ;BR TO ERROR HALT ON SEQ ERROR
6028 011176 042767 000100 166360      BIC   #100,TTCSR
6029 011204 012706 000500                MOV   #BUFF,%6
6030 011210 012767 000340 001660      MOV   #340,$STATUS
6034 011216                MTPS   STATUS
(1) 011216 106467                .WORD 106400!...C
6038 011222 012767 000100 166334      MOV   #100,TTCSR
6039 011230 012767 011262 166576      MOV   #TR3,34      ;TRAP
6040 011236 012767 011276 166620      MOV   #TR4,64      ;TTY OUTPUT
6041 011244 012767 011264 166546      MOV   #TR5,20      ;IOT
6042 011252 012767 000340 166542      MOV   #340,22      ;IOT PRIORITY
6043 011260 104400                TRAP ;THE ACT OF TRAPPING LOWER PRIORITY
6044 011262 000004                IOT  ;INTERRUPT SHOULD OCCUR IN PLACE OF IOT TRAP
6045 011264                TR3:
(3) 011264 012737 000231 000402      TR5:  MOV    #231,2#FATAL ;MOVE TO MAILBOX # ***** 231 *****
(2) 011272 005212                INC    (R2)        ;SET MSGTYP TO FATAL ERROR
(2) 011274 000000                HALT               ;NO INTERRUPT BETWEEN TRAPS,OR WRONG $TESTN
(4)                                ; TO SCOPE REPLACE HALT W/ 240
(4)                                ; AND REPLACE NEXT INST W/ 737
6046 011276 005067 166520                TR4:  CLR    22
6047 011302 005067 166560                CLR    66
6048 011306 012767 000066 166550      MOV   #66,64
6049 011314 012767 000036 166512      MOV   #36,34
6050 011322 012767 000022 166470      MOV   #22,20
6051
6052                ;*****
(2)                ;TEST 65          TEST THAT "RESET" GOES TO OUTSIDE WORLD
(3)                ;*****
(2) 011330 005237 000404                TST65: INC    2#$TESTN ;UPDATE TEST NUMBER
(2) 011334 022737 000065 000404      CMP    #65,2#$TESTN ;SEQUENCE ERROR?
(2) 011342 001026                BNE   TST66-12    ;BR TO ERROR HALT ON SEQ ERROR
6056 011344                MTPS   #340
(1) 011344 106427                .WORD 106400!...C

```

```

6060 011350 012767 000100 166206 MOV #100,TTCSR ;SET INTERRUPT ENABLE
6061 011356 012767 000100 166174 MOV #100,TRCSR ;SET INTERRUPT ENABLE
6062 011364 000005 RESET ;SHOULD CLEAR INTERRUPT ENABLE
6063 011366 032767 000100 166170 BIT #100,TTCSR ;TEST FOR CLEAR
6064 011374 001405 BEQ 1$
(3) 011376 012737 000232 000402 MOV #232,@$FATAL ;MOVE TO MAILBOX # ***** 232 *****
(2) 011404 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 011406 000000 HALT ;RESET FAILED TO CLEAR TTCSR
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 755

```

```

6065 011410 032767 000100 166142 1$: BIT #100,TRCSR ;TEST FOR CLEAR
6066 011416 001405 BEQ TST66
(4) 011420 012737 000233 000402 MOV #233,@$FATAL ;MOVE TO MAILBOX # ***** 233 *****
(3) 011426 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(3) 011430 000000 HALT ;RESET FAILED TO CLEAR TRCSR,OR WRONG $TESTN
(5) ; TO SCOPE REPLACE HALT W/ 240
(5) ; AND REPLACE NEXT INST W/ 744

```

```

6067 (2) ;*****
(3) ;TEST 66 TEST THAT RESET HAS NO EFFECT ON THE TRACE TRAP

```

```

(2) 011432 005237 000404 TST66: INC @$$TESTN ;UPDATE TEST NUMBER
(2) 011436 022737 000066 000404 CMP #66,@$$TESTN ;SEQUENCE ERROR?
(2) 011444 001025 BNE TST67-12 ;BR TO ERROR HALT ON SEQ ERROR
6068 011446 012706 000500 MOV #BUFF,%6 ;SET STACK
6069 011452 012767 011510 166334 MOV #RESET2,14 ;SET UP TRACE VECTOR
6070 011460 012746 000020 MOV #20,-(SP) ;PUSH T BIT
6071 011464 012746 011472 MOV #.+6,-(SP) ;PUSH PC
6072 011470 000006 RTT ;SET T BIT
6073 011472 000005 RESET ;SHOULD HAVE NO EFFECT
6074 011474 000005 RESET ;NO EFFECT
6075 011476 012737 000234 000402 MOV #234,@$FATAL ;MOVE TO MAILBOX # ***** 234 *****
(2) 011504 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 011506 000000 HALT ;TRACE TRAP FAILED,OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 756

```

```

6076 011510 005067 001362 RESET2: CLR STATUS
6080 011514 MTPS STATUS
(1) 011514 106467 .WORD 106400!...C
6084 011520 012767 000016 166266 MOV #16,14
6085 011526 005067 166264 CLR 16 ;TRACE STATUS
6086
6087

```

```

(2) ;*****
(3) ;TEST 67 TEST THAT WHEN TTY INTERRUPTS IT POPS NEW STATUS

```

```

(2) 011532 005237 000404 TST67: INC @$$TESTN ;UPDATE TEST NUMBER
(2) 011536 022737 000067 000404 CMP #67,@$$TESTN ;SEQUENCE ERROR?
(2) 011544 001066 BNE TST70-12 ;BR TO ERROR HALT ON SEQ ERROR
6088 011546 000005 RESET
6089 011550 012706 000500 MOV #BUFF,%6 ;SET UP STACK
6090 011554 012767 011616 166302 MOV #TTY3,64 ;INTERRUPT VECTOR
6094 011562 MTPS #0
(1) 011562 106427 .WORD 106400!...C

```

```

6098 011566 012767 000357 166272 MOV #357,66 ;HIGH PRIORITY ON INTERRUPT
6099 011574 052767 000100 165762 BIS #100,TTCSR ;SHOULD SET INTERRUPT ENABLE & INTERRUPT
6100 011602 000240 NOP
6101 011604 012737 000235 000402 MOV #235,@$FATAL ;MOVE TO MAILBOX # ***** 235 *****

```



```

(3) 011612 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(4) 011614 000000 HALT ;NO INTERRUPT
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 753
6105 011616 TTY3: MFPS STATUS
(1) 011616 106767 .WORD 106700!..C
6109 011622 022767 000357 001246 CMP #357,STATUS
6110 011630 001405 BEQ IS
(3) 011632 012737 000236 000402 MOV #236,2#SFATAL ;MOVE TO MAILBOX # ***** 236 *****
(2) 011640 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 011642 000000 HALT ;INTERRUPT DID NOT POP CORRECT STATUS
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 740
6111 011644 000005 IS: RESET ;CLR INTERRUPT ENABLE
6112 011646 012706 000500 MOV #BUFF,%6 ;STACK SET UP
6113 011652 012767 011676 166204 MOV #TTY4,64 ;INTERRUPT VECTOR
6114 011660 005067 166202 CLR 66 ;CLR NEW STATUS
6116 011664 MTPS #0
(1) 011664 106427 .WORD 106400!..C
6122 011670 052767 000100 165666 TTY4: BIS #100,TTCSR ;SET INTERRUPT ENABLE
6126 011676 TTY4: MFPS STATUS
(1) 011676 106767 .WORD 106700!..C
6130 011702 005767 001170 TST STATUS
6131 011706 001405 BEQ IS
(3) 011710 012737 000237 000402 MOV #237,2#SFATAL ;MOVE TO MAILBOX # ***** 237 *****
(2) 011716 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
(2) 011720 000000 HALT ;INTERRUPT DID NOT POP CORRECT STATUS,OR WRONG $TESTN
(4) ; TO SCOPE REPLACE HALT W/ 240
(4) ; AND REPLACE NEXT INST W/ 711
6132 011722 005067 165636 IS: CLR TTCSR
6133 011726 012767 000066 166130 MOV #66,64
6134
6135
6136 ;THIS ROUTINE TEST THAT NO LEGAL ADDRESS TRAPS.
6137 ;AND THAT AN ILLEGAL ADDRESS TRAPS TO LOCATION 4
6138 ;*****
(2) ;TEST 70 TEST NON-EXISTENT ADDRESS TRAPS
(2) ;*****
(2) 011734 005237 000404 TST70: INC 2#STESTN ;UPDATE TEST NUMBER
(2) 011740 022737 000070 000404 CMP #70,2#STESTN ;SEQUENCE ERROR?
(2) 011746 001066 BNE AUTO1 ;BR TO ERROR HALT ON SEQ ERROR
6139
6140 ;THIS ROUTINE TESTS MEMORY UNTIL IT DOES A NXM STOP
6141 011750 000402 BR ADALL
6142 011752 000000 TSL: 0
6143 011754 000000 CORH: 0
6144 011756 005000 ADALL: CLR %0
6145 011760 005067 166022 CLR 6
6146 011764 012767 012020 166012 MOV #ATRAP,4 ;SET UP ADDRESS TRAP ENTRANCE
6147 011772 012706 000500 NOR: MOV #BUFF,5P
6148 011776 105720 TSTB (0)+ ;IF OUTSIDE OF CORE, TRAP TO 4
6149 012000 020027 160000 CMP %0,#160000 ;IS POINTER IN SIDE CORE
6150 012004 101772 BLOS NOR ;TEST THE REST OF CORE
6151 012006
(3) 012006 012737 000240 000402 AUTO: MOV #240,2#SFATAL ;MOVE TO MAILBOX # ***** 240 *****
(2) 012014 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR

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(2) 012016 000000          HALT          ; SHOULD HAVE TRAPED
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 753
6152          ; RETURN HERE ON AN ADDRESS TRAP
6153 012020 005300          ATRAP: DEC      RO
6154 012022 010067 177726  ; THIS ROUTINE DOES'NXM TRAPS UNTIL IT FINDS AN EXISTANT MEMORY LOCATION
6155          ; MOVE THE FIRST NXM LOCATION IN CORH
6156 012026 012700 160001  ; SET UP THE HIGHEST MEM LOCATION
6157 012032 012767 012070 165744 CTRAP: MOV      #160001,RO
6158 012040 012706 000500  ; SET UP THE VECTOR
6159 012044 105740          ; DOES IT EXIST?
6160 012046 005200          DTRAP: INC      RO
6161 012050 020067 177700  ; IF YES INCREMENT IT
6162 012054 001430          ; IS IT THE SAME LOCATION?
(3) 012056 012737 000241 000402  ; MOVE TO MAILBOX # ***** 241 *****
(2) 012064 005212          ; SET MSGTYP TO FATAL ERROR
(2) 012066 000000          ; CONTENTS OF RO AND CORH SHOULD HAVE BEEN EQUAL
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 727
6163          ; IF THIS COMPARISON FAILS IT MEANS
6164          ; THAT SOME LEGAL ADDRESS TRAPPEDOR
6165          ; THAT AN ILLEGAL ADDRESS DID NOT TRAP
6169 012070          BTRAP: MFPS      STATUS
(1) 012070 106767          .WORD      106700!..C
6173 012074 005767 000776  ; STATUS
6174 012100 001405          BEQ       IS
(3) 012102 012737 000242 000402  ; MOVE TO MAILBOX # ***** 242 *****
(2) 012110 005212          ; SET MSGTYP TO FATAL ERROR
(2) 012112 000000          ; NEW PSW SHOULD HAVE BEEN ZERO
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 715
6175 012114 026727 166354 012046 1S:  CMP      BUFF-4, #DTRAP
6176 012122 001743          BEQ       CTRAP
(1) 012124          AUTO1:
(3) 012124 012737 000243 000402  ; MOVE TO MAILBOX # ***** 243 *****
(2) 012132 005212          ; SET MSGTYP TO FATAL ERROR
(2) 012134 000000          ; OLD PC WAS NOT SAVED OR WRONG $TESTN
(4)                                     ; TO SCOPE REPLACE HALT W/ 240
(4)                                     ; AND REPLACE NEXT INST W/ 704
6177 012136 012767 000006 165640 TRAPB: MOV      #6,4
6178 012144 005067 165636          CLR      6
6179
6180          ; *****
(2)          ; TEST 71          TEST THE 'WAIT' INSTRUCTION
(3)          ; *****
(2) 012150 005237 000404          TST71: INC      #1,$TESTN
(2) 012154 022737 000071 000404  ; UPDATE TEST NUMBER
(2) 012162 001064          ; SEQUENCE ERROR?
6181 012164 105767 166230          BNE      REES1
6182 012170 001066          ; BR TO ERROR HALT ON SEQ ERROR
6183 012172 042767 000100 165364  ; ARE WE UNDER APT?
6184 012200 012706 000500          TSTB     $ENV
6185 012204 012767 012300 165652  ; YES
6186 012212 005067 165650          BNE      REES
6187 012216 105767 165342          BIC      #100,TPS
6188 012222 100375          ; CLEAR INTERRUPT ENABLE
          ; SET UP THE STACK
          ; SET UP THE INTERRUPT VECTOR
          ; WAIT FOR READY
          ; TO BE UP

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6189 012224 012767 000015 165334      MOV      #15,TPB      ;DO A CARRIAGE RETURN
6190 012232 105767 165326      WATE2:  TSTB      TPS      ;WAIT FOR READY TO COME UP
6191 012236 100375      BPL      WATE2
6192 012240 012767 000015 165320      MOV      #15,TPB      ;DO ANOTHER CARRIAGE RETURN
6193 012246 052767 000100 165310      BIS      #100,TPS     ;SET THE INTERRUPT ENABLE
6194 012254 005067 000616      CLR      STATUS      ;CLEAR THE PSW
6198 012260      MTPS     STATUS
(1) 012260 106467      .WORD    106400!...C
6202 012264 000001      WATE3:  WAIT
6203 012266 012737 000244 000402      MOV      #244,2#SFATAL ;WAIT FOR THE INTERRUPT
(2) 012274 005212      INC      (R2)          ;MOVE TO MAILBOX # ***** 244 *****
(2) 012276 000000      HALT
(4)
(4)
6207 012300      WATE:   MFPS     STATUS
(1) 012300 106767      .WORD    106700!...C
6211 012304 005767 000566      TST     STATUS      ;IS THE PSW CORRECT?
6212 012310 001405      BEQ     IS
(3) 012312 012737 000245 000402      MOV      #245,2#SFATAL ;MOVE TO MAILBOX # ***** 245 *****
(2) 012320 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 012322 000000      HALT
(4)
(4)
6213 012324 026727 166144 012266  IS:     CMP      BUFF-4,#WATE3+2 ;IS THE OLD PC SAVED
6214 012332 001405      BEQ     REES
(1) 012334      REES1:  MOV      #246,2#SFATAL ;MOVE TO MAILBOX # ***** 246 *****
(3) 012334 012737 000246 000402      MOV      #246,2#SFATAL ;SET MSGTYP TO FATAL ERROR
(2) 012342 005212      INC      (R2)          ;OLD PC WAS NOT SAVED OR WRONG $TESTN
(2) 012344 000000      HALT
(4)
(4)
6215 012346 042767 000100 165210 REES:   BIC      #100,TPS   ;CLEAR THE INTERRUPT ENABLE
6216 012354 012767 000066 165502      MOV      #66,64
6217 (2)
(3)
(2) 012362 005237 000404      TST72:  INC      2#$TESTN ;UPDATE TEST NUMBER
(2) 012366 022737 000072 000404      CMP      #72,2#$TESTN ;SEQUENCE ERROR?
(2) 012374 001003      BNE     TST73-12      ;BR TO ERROR HALT ON SEQ ERROR
6218 012376 000167 000013      JMP     ODD+1
6219 012402 012737 000247 000402      MOV      #247,2#SFATAL ;MOVE TO MAILBOX # ***** 247 *****
(2) 012410 005212      INC      (R2)          ;SET MSGTYP TO FATAL ERROR
(2) 012412 000000      HALT
(4)
(4)
6220 012414 005307      ODD:    DEC      PC
6221 (2)
(3)
(2) 012416 005237 000404      TST73:  INC      2#$TESTN ;UPDATE TEST NUMBER
(2) 012422 022737 000073 000404      CMP      #73,2#$TESTN ;SEQUENCE ERROR?
(2) 012430 001166      BNE     RET4          ;BR TO ERROR HALT ON SEQ ERROR
6222 012432 010700      MOV     PC,%0        ;SET THESE
6223 012434 010704      MOV     PC,%4        ;REGISTERS
6224 012436 010705      MOV     PC,%5        ;TO EXISTENT MEMORY LOCATIONS
6225 012440 012703 013032      MOV     #TABLE,TAB  ;TABLE POINTER

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.MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 58-17
 DVKADA.P11 T73 TEST THAT ALL RESERVED INSTRUCTIONS TRAP

*** SEQ 0045

6226	012444	012302		GIN1:	MOV	(TAB)+,FIRST	;FIRST OR CURRENT INSTRUCTION
6227	012446	012301			MOV	(TAB)+,LAST	;LAST INSTRUCTION OR GROUP
6228	012450	020267	000366		CMP	FIRST,EISFIS	;IS IT THE 'EISFIS' GROUP?
6229	012454	001007			BNE	1\$;NO
6230	012456	032767	000300	165742	BIT	#300,\$CPUOP	;DO WE HAVE EISFIS OPTION?
6231	012464	001403			BEQ	1\$;NO
6232	012466	062703	000004		ADD	#4,TAB	;IF YES DO NO DO THE
6233	012472	000764			BR	GIN1	;EIS FIS OP CODES
6234	012474	020267	000352	1\$:	CMP	FIRST,STOP	;IS IT THE STOP GROUP
6235	012500	001005			BNE	2\$;NO
6236	012502	032767	000020	165712	BIT	#20,\$SWREG	;DO WE WANT TO DO IT?
6237	012510	001401			BEQ	2\$;YES
6238	012512	000754			BR	GIN1	;NO
6239	012514	020267	000336	2\$:	CMP	FIRST,STOP1	;IS IT THE STOP1 GROUP?
6240	012520	001005			BNE	3\$;NO
6241	012522	032767	000010	165672	BIT	#10,\$SWREG	;DO WE WANT TO DO IT?
6242	012530	001401			BEQ	3\$;YES
6243	012532	000744			BR	GIN1	;NO
6244	012534	020267	000322	3\$:	CMP	FIRST,FINISH	;TESTED ALL
6245	012540	001417			BEQ	GIN3	;YES BRANCH
6246	012542	010267	000316		MOV	FIRST,INST	;SET UP INST
6247	012546	005267	000312		INC	INST	
6248	012552	012767	012736	165230	MOV	#RET,10	;SET UP RETURN FROM TRAP
6249	012560	012706	000500		MOV	#BUFF,SP	;SET UP STACK POINTER
6250	012564	005067	000306		CLR	STATUS	;CLEAR PRIORITY
6254	012570				MTPS	STATUS	
(1)	012570	106467			.WORD	106400!...C	
6258	012574	000167	000264		JMP	INST	;EXECUTE RESERVED INSTRUCTION
6259							
6260	012600	005237	000406	GIN3:	INC	2*\$PASS	
6261	012604	105267	000106		INCB	PASSPT	;SHOULD PRINT THIS PASS?
6262	012610	001023			BNE	ACT	;NO
6263	012612	132767	000040	165601	BITB	#40,\$ENVM	;WILL APT ALLOW PRINTING?
6264	012620	001017			BNE	ACT	;NO
6265	012622	012700	012720		MOV	#MSG,RO	;GET MSG ADDR.
6266	012626	105737	177564	WAIT:	TSTB	2*TPS	;TTY READY
6267	012632	100375			BPL	WAIT	;NO WAIT
6268	012634	112037	177566		MOVB	(RO)+,2*TPB	;PRINT CHARACTER
6269	012640	001372			BNE	WAIT	;NEXT IF NOT DONE.
6270	012642	105737	177564	WAIT1:	TSTB	2*TPS	
6271	012646	100375			BPL	WAIT1	
6272	012650	000005			RESET		
6273	012652	012767	177761	000036	MOV	#177761,PASSPT	;DO IT 15 DECIMAL TIMES
6274	012660	013700	000042	ACT:	MOV	2*42,RO	;CHECK ACT
6275	012664	001405			BEQ	GOAGIN	;KEEP GOING
6276	012666	000005			RESET		
6277	012670	004710		SENDAD:	JSR	PC,(RO)	;ACT HOOKS
6278	012672	000240			NOP		
6279	012674	000240			NOP		
6280	012676	000240			NOP		
6281	012700	012767	000012	165102	GOAGIN:	MOV	#12,10
6282	012706	005067	165100		CLR	12	
6283	012712	000167	165662		JMP	RESTRT	;DO NEXT PASS
6284	012716	177777		PASSPT:	-1		
6285	012720	005015	047105	020104	MSG:	.ASCIZ	<15><12>.END OF PASS.
	012726	043117	050040	051501			


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012734 000123
6286
6287
6288 012736 020627 000474
6289 012742 001405
(3) 012744 012737 000250 000402
(2) 012752 005212
(2) 012754 000000
(4)
(4)
6290 012756 026727 165512 013066 RET1: CMP BUFF-4, #INST+2
6291 012764 001405 BEQ RET2
(3) 012756 012737 000251 000402 MOV #251, @#SFATAL
(2) 012774 005212 INC (R2)
(2) 012776 000000 HALT
(4)
(4)
6292 013000 005767 165472 RET2: TST BUFF-2
6293 013004 001405 BEQ RET3
(1) 013006
(3) 013006 012737 000252 000402 RET4: MOV #252, @#SFATAL
(2) 013014 005212 INC (R2)
(2) 013016 000000 HALT
(4)
(4)
6294 013020 026701 000040 RET3: CMP INST, LAST
6295 013024 001607 BEQ GINI
6296 013026 000167 177514 JMP GIN2
6297
6298 013032 006777 TABLE: 6777
6299 013034 007777 7777
6300 013036 106777 106777
6301 013040 107777 107777
6302 013042 067777 EISFIS: 67777 ; IF WE HAVE THE EIS FIS OPTION
6303 013044 073777 73777 ; THEN THE EISFIS GROUP
6304 013046 074777 74777 ; WILL BE SKIPE
6305 013050 075037 75037
6306 013052 075377 STOP: 75377
6307 013054 076777 76777
6308 013056 167777 STOP1: 167777
6309 013060 177777 177777
6310 013062 013062 FINISH:
6311 013064 000000 INST: HALT ; END FLAG
6312 013066 000000 HALT ; WILL CONTINUE RESERVED INST
6313 013070 000000 HALT ; SHOULD TRAP TO LOC 10
6314 013072 000000 HALT ; LOC 10 SHOULD SEND YOU TO
6315 013074 000000 HALT ; RET
6316 013076 000000 STATUS: 0
6317
6318
6319
6320
6321
6322
6323 013100 012767 013110 164716 PWRDWN: MOV #PWRUP, 24
6324 013106 000000 HALT

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MAIN. MACY11 27(732) 25-AUG-76 12:49 PAGE 58-19
 DVKADA.P11 T73 TEST THAT ALL RESERVED INSTRUCTIONS TRAP

*** SEQ 0047

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6325
6326 013110 012767 013100 164706 PWRUP: MOV #PWRDWN,24
6327 013116 012706 000500 MOV #BUFF,SP
6328 013122 132767 000040 165271 BITB #40,SENVM ;WILL APT ALLOW PRINTING?
6329 013130 001013 BNE PFRES ;NO
6330 013132 012700 013164 MOV #MSGPWF,RO ;GET MSG ADDR.
6331 013136 105737 177564 PWAIT: TSTB @#TPS ;TTY READY
6332 013142 100375 BPL PWAIT ;NO WAIT
6333 013144 112037 177566 MOVB (RO)+,@#TPB ;PRINT CHARACTER
6334 013150 001372 BNE PWAIT ;NEXT IF NOT DONE.
6335 013152 105737 177564 PWAIT1: TSTB @#TPS
6336 013156 100375 BPL PWAIT1
6337 013160 000167 165316 PFRES: JMP START
6338 013164 005015 047520 042527 MSGPWF: .ASCIZ <15><12>.POWER FAILED!.
        013172 020122 040506 046111
        013200 042105 000041
6339 000001 .END

```


RC1	003642	5421#	5426	
REES	012346	6182	6214	6215#
REES1	012334	6180	6214#	
RESET2	011510	6069	6076#	
RESTR1	000600	5084#	6283	
RET	012736	6248	6288#	
RETA	002200	5247	5250#	
RETAT	010040	5887	5893#	
RETA1	003034	5335	5338#	
RETA2	003752	5431	5434#	
RETA3	004606	5519	5522#	
RETA4	005526	5617	5620#	
RETA5	006362	5714	5717#	
RETB	002230	5253	5255#	
RETB1	010114	5896	5902#	
RETB2	003064	5341	5343#	
RETB3	004002	5437	5439#	
RETB4	004636	5525	5527#	
RETB5	005556	5623	5625#	
RETB6	006412	5720	5722#	
RETC	002300	5259	5261#	
RETC1	010174	5906	5911#	
RETC2	003134	5347	5349#	
RETC3	004052	5443	5445#	
RETC4	004706	5531	5533#	
RETC5	005626	5629	5631#	
RETC6	006462	5726	5728#	
RETD	002364	5265	5276#	
RETD1	003220	5353	5364#	
RETD2	004136	5449	5460#	
RETD3	004772	5537	5548#	
RETD4	005712	5635	5646#	
RETD5	006546	5732	5743#	
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		5241#	5242#	5243#	5244#	5249#	5256#	5262#	5277#	5291#	5298#	5299#	5300#	5301#							
		5310#	5316#	5317#	5318#	5319#	5330#	5337#	5344#	5350#	5365#	5378#	5385#	5386#							
		5387#	5388#	5397#	5403#	5404#	5405#	5406#	5417#	5423#	5433#	5440#	5446#	5461#							
		5475#	5482#	5483#	5484#	5485#	5494#	5500#	5501#	5502#	5503#	5514#	5521#	5528#							
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5175#	5333#	5337#	5339#	5404#	5485#	5494#	5500#	5501#	5502#	5503#	5514#	5521#	5528#	5534#	5609#
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5501#	5549#	5563#	5570#	5571#	5572#	5573#	5582#	5588#	5589#	5590#	5591#	5602#	5609#	5690#	5783#
5564#	5619#	5626#	5632#	5647#	5661#	5670#	5671#	5672#	5673#	5682#	5688#	5689#	5690#	5783#	5783#
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5673#	5784#	5785#	5786#	5796#	5801#	5808#	5814#	5830#	5844#	5851#	5852#	5853#	5854#	5942#	5942#
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5388	5392#	5397	5403	5404	5405	5406	5410#	5417	5418	5423	5429	5433
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SKIP	1125#														
SLASH	926#														
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BEQ	5073	5078	5104	5109	5114	5120	5126	5132	5138	5143	5151	5159	5167	5175	5183		
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	5549	5563	5582	5589	5602	5626	5632	5647	5661	5682	5689	5702	5723	5729	5744		
	5758	5777	5784	5796	5808	5814	5830	5844	5863	5870	5882	5903	5912	5924	5937		
	5940	5942	5955	5972	6064	6066	6110	6131	6162	6174	6176	6212	6214	6231	6237		
	6242	6245	6275	6289	6291	6293	6295										
BHIS	5426	5611															
BIC	5328	5415	5512	5600	5700	6028	6183	6215									
BIS	5079	5232	6099	6122	6193												
BISB	5074																
BIT	5077	5309	5396	5493	5581	5681	5776	5984	6063	6065	6230	6236	6241				
BITB	5072	6263	6328														
BLOS	6150																
BMI	5244	5316	5403	5500	5588	5688	5783	5869									
BNE	5069	5100	5144	5184	5201	5207	5209	5221	5245	5251	5257	5263	5292	5299	5333		
	5339	5345	5351	5379	5386	5418	5429	5435	5441	5447	5476	5483	5517	5523	5529		
	5535	5564	5571	5603	5615	5621	5627	5633	5662	5671	5712	5718	5724	5730	5759		
	5766	5797	5803	5809	5816	5845	5852	5885	5894	5904	5915	5927	5944	5957	5975		
	5985	5986	5998	6027	6052	6067	6087	6138	6180	6182	6217	6221	6229	6235	6240		
	6262	6264	6269	6329	6334												
BPL	5222	5298	5385	5482	5570	5670	5765	5851	6000	6188	6191	6267	6271	6332	6336		
BR	6141	6233	6238	6243													
BVC	5220	5300	5387	5484	5572	5672	5767	5853									
BVS	5242	5318	5405	5502	5590	5690	5785	5871									
CCC	5224	5274	5362	5458	5546	5644	5741	5827									
CLR	5062	5070	5071	5085	5086	5087	5101	5111	5116	5117	5122	5123	5128	5129	5134		
	5135	5211	5215	5228	5236	5266	5270	5284	5295	5305	5323	5332	5354	5358	5372		
	5382	5392	5410	5428	5450	5454	5468	5479	5489	5507	5516	5538	5542	5556	5567		
	5577	5595	5613	5636	5640	5654	5665	5677	5695	5704	5733	5737	5751	5762	5772		
	5790	5819	5823	5837	5848	5858	5876	5884	5918	5933	5949	5963	5964	5978	5997		
	6006	6015	6019	6026	6034	6046	6047	6056	6076	6080	6085	6094	6105	6114	6118		
	6126	6132	6144	6145	6169	6178	6186	6194	6198	6207	6250	6254	6282				
CMP	5100	5103	5108	5113	5119	5125	5131	5137	5142	5144	5150	5158	5166	5174	5182		
	5184	5209	5245	5251	5255	5257	5261	5263	5276	5290	5292	5329	5333	5339	5343		
	5345	5349	5351	5364	5377	5379	5416	5418	5425	5429	5435	5439	5441	5445	5447		
	5460	5474	5476	5513	5517	5523	5527	5529	5533	5535	5548	5562	5564	5601	5603		
	5610	5615	5621	5625	5627	5631	5633	5646	5660	5662	5701	5712	5718	5722	5724		
	5728	5730	5743	5757	5759	5795	5797	5803	5807	5809	5813	5816	5829	5843	5845		
	5881	5885	5894	5902	5904	5911	5915	5927	5944	5957	5975	5986	5998	6027	6052		
	6067	6087	6109	6138	6149	6161	6175	6180	6213	6217	6221	6228	6234	6239	6244		
	6288	6290	6294														
CMPB	5118	5124	5130	5136	5141	5185	5188	5191	5195	5197	5200	5203	5206				
DEC	5939	6153	6220														
EMT	5520	5526	5532	5547	5561	5568	5586	5607									
HALT	4954	4982	4984	4986	4988	4990	4992	4994	4996	4998	5000	5002	5004	5006	5008		
	5010	5012	5014	5016	5018	5020	5022	5024	5026	5028	5030	5032	5034	5036	5038		
	5040	5042	5044	5046	5104	5109	5114	5120	5126	5132	5138	5143	5151	5159	5167		
	5175	5183	5186	5189	5193	5196	5198	5201	5204	5207	5219	5220	5221	5222	5241		
	5242	5243	5244	5249	5256	5262	5277	5291	5298	5299	5300	5301	5310	5316	5317		
	5318	5319	5330	5337	5344	5350	5365	5378	5385	5386	5387	5388	5397	5403	5404		
	5405	5406	5417	5423	5433	5440	5446	5461	5475	5482	5483	5484	5485	5494	5500		
	5501	5502	5503	5514	5521	5528	5534	5549	5563	5570	5571	5572	5573	5582	5588		

INC

INCB
IOT
JMP
JSR
MOV

MOVB

5589	5590	5591	5602	5608	5619	5626	5632	5647	5661	5670	5671	5672	5673	5682
5688	5689	5690	5691	5702	5716	5723	5729	5744	5758	5765	5766	5767	5768	5777
5783	5784	5785	5786	5796	5801	5808	5814	5830	5844	5851	5852	5853	5854	5863
5869	5870	5871	5872	5882	5892	5901	5903	5912	5924	5938	5942	5952	5955	5970
5972	5983	5985	5994	6024	6025	6045	6064	6066	6075	6101	6110	6131	6151	6162
6174	6176	6203	6212	6214	6219	6289	6291	6293	6311	6312	6313	6314	6315	6324
5100	5104	5109	5114	5120	5126	5132	5138	5143	5144	5151	5159	5167	5175	5183
5184	5186	5189	5193	5196	5198	5201	5204	5207	5209	5219	5220	5221	5222	5241
5242	5243	5244	5245	5249	5251	5256	5257	5262	5263	5277	5291	5292	5298	5299
5300	5301	5310	5316	5317	5318	5319	5330	5333	5337	5339	5344	5345	5350	5351
5365	5378	5379	5385	5386	5387	5388	5397	5403	5404	5405	5406	5417	5418	5423
5424	5429	5433	5435	5440	5441	5446	5447	5461	5475	5476	5482	5483	5484	5485
5494	5500	5501	5502	5503	5514	5517	5521	5523	5528	5529	5534	5535	5549	5563
5564	5570	5571	5572	5573	5582	5588	5589	5590	5591	5602	5603	5608	5609	5615
5619	5621	5626	5627	5632	5633	5647	5661	5662	5670	5671	5672	5673	5682	5688
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5766	5767	5768	5777	5783	5784	5785	5786	5796	5797	5801	5803	5808	5809	5814
5816	5830	5844	5845	5851	5852	5853	5854	5863	5869	5870	5871	5872	5882	5885
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6174	6176	6180	6203	6212	6214	6217	6219	6221	6247	6260	6289	6291	6293	
6261														
5432	5438	5444	5459	5473	5480	5498	5969	6044						
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5800	5806	5812	5828	5842	5849	5867	6277							
5066	5067	5076	5083	5084	5104	5106	5109	5114	5120	5126	5132	5138	5140	5143
5145	5146	5147	5148	5151	5153	5154	5155	5156	5159	5161	5162	5163	5164	5167
5169	5170	5171	5172	5175	5177	5178	5179	5180	5183	5186	5189	5193	5196	5198
5201	5204	5207	5219	5220	5221	5222	5241	5242	5243	5244	5246	5247	5249	5252
5253	5256	5258	5259	5262	5264	5265	5277	5278	5279	5280	5291	5293	5294	5298
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5417	5419	5420	5421	5423	5427	5430	5431	5433	5436	5437	5440	5442	5443	5446
5448	5449	5461	5462	5463	5464	5475	5477	5478	5482	5483	5484	5485	5494	5495
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5530	5531	5534	5536	5537	5549	5550	5551	5552	5563	5565	5566	5570	5571	5572
5573	5582	5583	5584	5585	5588	5589	5590	5591	5599	5602	5604	5605	5606	5608
5612	5616	5617	5619	5622	5623	5626	5628	5629	5632	5634	5635	5647	5648	5649
5650	5661	5663	5664	5670	5671	5672	5673	5682	5683	5684	5685	5688	5689	5690
5691	5699	5702	5703	5713	5714	5716	5719	5720	5723	5725	5726	5729	5731	5732
5744	5745	5746	5747	5758	5760	5761	5765	5766	5767	5768	5777	5778	5779	5780
5783	5784	5785	5786	5794	5796	5798	5799	5801	5804	5805	5808	5810	5811	5814
5817	5818	5830	5831	5832	5833	5844	5846	5847	5851	5852	5853	5854	5862	5863
5864	5865	5866	5869	5870	5871	5872	5880	5882	5883	5886	5887	5888	5889	5892
5895	5896	5897	5898	5901	5903	5905	5906	5907	5908	5912	5917	5919	5920	5921
5924	5928	5929	5930	5931	5932	5938	5942	5945	5946	5947	5948	5952	5955	5960
5961	5962	5965	5966	5967	5970	5972	5973	5974	5976	5977	5979	5980	5983	5985
5987	5988	5989	5990	5994	5996	6001	6002	6010	6011	6012	6013	6014	6024	6025
6029	6030	6038	6039	6040	6041	6042	6045	6048	6049	6050	6060	6061	6064	6066
6068	6069	6070	6071	6075	6084	6089	6090	6098	6101	6110	6112	6113	6131	6133
6146	6147	6151	6154	6156	6157	6158	6162	6174	6176	6177	6184	6185	6189	6192
6203	6212	6214	6216	6219	6222	6223	6224	6225	6226	6227	6246	6248	6249	6265
6273	6274	6281	6289	6291	6293	6323	6326	6327	6330					
5102	5107	5112	5149	5157	5165	5173	5181	6268	6333					

NOP	5891	5900	5923	5982	5993	6100	6278	6279	6280									
RESET	6062	6073	6074	6088	6111	6272	6276											
RTI	5890	5899	5909	5950	5981	5991												
RTT	5922	5934	5968	6072														
SCC	5210	5288	5472	5560	5658	5755	5841											
TRAP	5336	5342	5348	5363	5376	5383	5401	5422	6023	6043								
TST	5953	6130	6173	6211	6292													
TSTB	5068	5999	6148	6159	6181	6187	6190	6266	6270	6331	6335							
WAIT	6202																	
.ABS	4976																	
.ASCIZ	6285	6338																
.BYTE	5055																	
.ENABL	4																	
.END	6339																	
.ENDC	5054	5055	5104	5109	5114	5120	5126	5132	5138	5143	5151	5159	5167	5175	5183			
	5186	5189	5193	5196	5198	5201	5204	5207	5219	5220	5221	5222	5241	5242	5243			
	5244	5249	5256	5262	5277	5291	5298	5299	5300	5301	5310	5316	5317	5318	5319			
	5330	5337	5344	5350	5365	5378	5385	5386	5387	5388	5397	5403	5404	5405	5406			
	5417	5423	5433	5440	5446	5461	5475	5482	5483	5484	5485	5494	5500	5501	5502			
	5503	5514	5521	5528	5534	5549	5563	5570	5571	5572	5573	5582	5588	5589	5590			
	5591	5602	5608	5619	5626	5632	5647	5661	5670	5671	5672	5673	5682	5688	5689			
	5690	5691	5702	5716	5723	5729	5744	5758	5765	5766	5767	5768	5777	5783	5784			
	5785	5786	5796	5801	5808	5814	5830	5844	5851	5852	5853	5854	5863	5869	5870			
	5871	5872	5882	5892	5901	5903	5912	5924	5938	5942	5952	5955	5970	5972	5983			
	5985	5994	6024	6025	6045	6064	6066	6075	6101	6110	6131	6151	6162	6174	6176			
	6203	6212	6214	6219	6289	6291	6293											
.EVEN	5055																	
.IF	5054	5055	5104	5109	5114	5120	5126	5132	5138	5143	5151	5159	5167	5175	5183			
	5186	5189	5193	5196	5198	5201	5204	5207	5219	5220	5221	5222	5241	5242	5243			
	5244	5249	5256	5262	5277	5291	5298	5299	5300	5301	5310	5316	5317	5318	5319			
	5330	5337	5344	5350	5365	5378	5385	5386	5387	5388	5397	5403	5404	5405	5406			
	5417	5423	5433	5440	5446	5461	5475	5482	5483	5484	5485	5494	5500	5501	5502			
	5503	5514	5521	5528	5534	5549	5563	5570	5571	5572	5573	5582	5588	5589	5590			
	5591	5602	5608	5619	5626	5632	5647	5661	5670	5671	5672	5673	5682	5688	5689			
	5690	5691	5702	5716	5723	5729	5744	5758	5765	5766	5767	5768	5777	5783	5784			
	5785	5786	5796	5801	5808	5814	5830	5844	5851	5852	5853	5854	5863	5869	5870			
	5871	5872	5882	5892	5901	5903	5912	5924	5938	5942	5952	5955	5970	5972	5983			
	5985	5994	6024	6025	6045	6064	6066	6075	6101	6110	6131	6151	6162	6174	6176			
	6203	6212	6214	6219	6289	6291	6293											
.IFF	5054	5104	5109	5114	5120	5126	5132	5138	5143	5151	5159	5167	5175	5183	5186			
	5189	5193	5196	5198	5201	5204	5207	5219	5220	5221	5222	5241	5242	5243	5244			
	5249	5256	5262	5277	5291	5298	5299	5300	5301	5310	5316	5317	5318	5319	5330			
	5337	5344	5350	5365	5378	5385	5386	5387	5388	5397	5403	5404	5405	5406	5417			
	5423	5433	5440	5446	5461	5475	5482	5483	5484	5485	5494	5500	5501	5502	5503			
	5514	5521	5528	5534	5549	5563	5570	5571	5572	5573	5582	5588	5589	5590	5591			
	5602	5608	5619	5626	5632	5647	5661	5670	5671	5672	5673	5682	5688	5689	5690			
	5691	5702	5716	5723	5729	5744	5758	5765	5766	5767	5768	5777	5783	5784	5785			
	5786	5796	5801	5808	5814	5830	5844	5851	5852	5853	5854	5863	5869	5870	5871			
	5872	5882	5892	5901	5903	5912	5924	5938	5942	5952	5955	5970	5972	5983	5985			
	5994	6024	6025	6045	6064	6066	6075	6101	6110	6131	6151	6162	6174	6176	6203			
	6212	6214	6219	6289	6291	6293												
.IFT	5104	5109	5114	5120	5126	5132	5138	5143	5151	5159	5167	5175	5183	5186	5189			
	5193	5196	5198	5201	5204	5207	5219	5220	5221	5222	5241	5242	5243	5244	5249			
	5256	5262	5277	5291	5298	5299	5300	5301	5310	5316	5317	5318	5319	5330	5337			
	5344	5350	5365	5378	5385	5386	5387	5388	5397	5403	5404	5405	5406	5417	5423			
	5433	5440	5446	5461	5475	5482	5483	5484	5485	5494	5500	5501	5502	5503	5514			

.IIF

.LIST

.MACRO

5521	5528	5534	5549	5563	5570	5571	5572	5573	5582	5588	5589	5590	5591	5602
5608	5619	5626	5632	5647	5661	5670	5671	5672	5673	5682	5688	5689	5690	5691
5702	5716	5723	5729	5744	5758	5765	5766	5767	5768	5777	5783	5784	5785	5786
5796	5801	5808	5814	5830	5844	5851	5852	5853	5854	5863	5869	5870	5871	5872
5882	5892	5901	5903	5912	5924	5938	5942	5952	5955	5970	5972	5983	5985	5994
6024	6025	6045	6064	6066	6075	6101	6110	6131	6151	6162	6174	6176	6203	6212
6214	6219	6289	6291	6293										
5055	5100	5104	5109	5114	5120	5126	5132	5138	5143	5144	5151	5159	5167	5175
5183	5184	5186	5189	5193	5196	5198	5201	5204	5207	5209	5219	5220	5221	5222
5241	5242	5243	5244	5245	5249	5251	5256	5257	5262	5263	5277	5291	5292	5298
5299	5300	5301	5310	5316	5317	5318	5319	5330	5333	5337	5339	5344	5345	5350
5351	5365	5378	5379	5385	5386	5387	5388	5397	5403	5404	5405	5406	5417	5418
5423	5429	5433	5435	5440	5441	5446	5447	5461	5475	5476	5482	5483	5484	5485
5494	5500	5501	5502	5503	5514	5517	5521	5523	5528	5529	5534	5535	5549	5563
5564	5570	5571	5572	5573	5582	5588	5589	5590	5591	5602	5603	5608	5615	5619
5621	5626	5627	5632	5633	5647	5661	5662	5670	5671	5672	5673	5682	5688	5689
5690	5691	5702	5712	5716	5718	5723	5724	5729	5730	5744	5758	5759	5765	5766
5767	5768	5777	5783	5784	5785	5786	5796	5797	5801	5803	5808	5809	5814	5816
5830	5844	5845	5851	5852	5853	5854	5863	5869	5870	5871	5872	5882	5885	5892
5894	5901	5903	5904	5912	5915	5924	5927	5938	5942	5944	5952	5955	5957	5970
5972	5975	5983	5985	5986	5994	5998	6024	6025	6027	6045	6052	6064	6066	6067
6075	6087	6101	6110	6131	6138	6151	6162	6174	6176	6180	6203	6212	6214	6217
6219	6221	6289	6291	6293										
2	4631	4669	4713	4918	5047	5055	5100	5104	5109	5114	5120	5126	5132	5138
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5207	5209	5213	5214	5215	5218	5219	5220	5221	5222	5226	5227	5228	5231	5234
5235	5236	5239	5241	5242	5243	5244	5245	5249	5251	5256	5257	5262	5263	5268
5269	5270	5273	5277	5282	5283	5284	5287	5291	5292	5298	5299	5300	5301	5303
5304	5305	5308	5310	5316	5317	5318	5319	5321	5322	5323	5326	5330	5333	5337
5339	5344	5345	5350	5351	5356	5357	5358	5361	5365	5370	5371	5372	5375	5378
5379	5385	5386	5387	5388	5390	5391	5392	5395	5397	5403	5404	5405	5406	5408
5409	5410	5413	5417	5418	5423	5429	5433	5435	5440	5441	5446	5447	5452	5453
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	6207	6254													

ERRORS DETECTED: 0
 DEFAULT GLOBALS GENERATED: 0

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 RUN-TIME RATIO: 2054/114=17.9
 CORE USED: 30K (59 PAGES)

