IDENTIFICATION

PRODUCT CODE: MAINDEC-8E-D0IB-D

PRODUCT NAME: BASIC JMP-JMS TEST

DATE CREATED: JUNE 11, 1971

MAINTAINER: DIAGNOSTICS GROUP

AUTHOR: BRUCE HANSEN

)   )   )   .

1.   ABSTRACT

      THIS IS A DIAGNOSTIC PROGRAM FOR TESTING THE JMP AND JMS
      INSTRUCTIONS OF THE PDP-8E.

2.   REQUIREMENTS

2.1   EQUIPMENT

      A PDP-8E EQUIPPED WITH TELETYPE.

2.2   STORAGE

      THIS PROGRAM USES MOST OF MEMORY. THE BINARY LOADER MUST BE
      STORED IN THE LAST MEMORY PAGE.

2.3   PRELIMINARY PROGRAMS

      MAINDEC-8E-D0A(N) AND MAINDEC-8E-D0B(N)

3.   LOADING PROCEDURE

3.1   METHOD

      THE STANDARD BINARY LOADER IS USED.

4.   STARTING PROCEDURE

4.1   CONTROL SWITCH SETTINGS   (NONE)

4.2   STARTING ADDRESS

      200

4.3   RESTART ADDRESSES

      600
      704

4.4   OPERATOR ACTION

      A. SET SR TO 200 AND PRESS LOAD ADDRESS.

      B. PUSH CLEAR AND THEN CONTINUE. THE PROGRAM WILL STORE
          PARTS OF THE RIM AND BINARY LOADERS THAT WILL BE
          DESTROYED, AND THEN JMP TO 4200 TO BEGIN TESTING.

5.   OPERATING PROCEDURES
        ---------- ----------

5.1   PROGRAM RESTARTS
        ------- --------

        SINCE THE LOADERS ARE ALREADY STORED, A PROGRAM RESTART
        SHOULD BEGIN AT 600 NOT 200.

5.2   PROGRAM END
        ------- ---

        TO RESTORE THE LOADERS AT THE CONCLUSION OF THE TEST, START
        AT 704. WHEN THE PROGRAM HALTS, RESTORATION IS COMPLETED
        (PC=736).

6.   ERRORS

6.1   ERROR HALTS AND DESCRIPTION
        ----- ----- --- -----------

        SEE SECTION 9.

6.2   ERROR RECOVERY
        ----- --------

        IN MOST CASES IT IS POSSIBLE TO INSERT A JMP INSTRUCTION IN
        THE ERROR HALT POSITION TO RETURN THE PROGRAM TO THE FAILING
        TEST. THIS FORMS A PROGRAM LOOP ON THE FAILING TEST AND
        ALLOWS THE PROBLEM TO BE INVESTIGATED WITH AN OSCILLOSCOPE.
        IN CASES WHERE A SCOPE MODE LOOP CANNOT BE MAINTAINED DUE TO
        THE INSTABILITY OF THE JMP OR JMS INSTRUCTION AND ITS FAILING
        CONDITION, IT WILL PROBABLY BE ADVANTAGEOUS TO SIMULATE
        THIS SAME PROBLEM USING THE RANDOM JMP TEST, MAINDEC-8E-D0HC,
        OR RANDOM JMP-JMS TEST, MAINDEC-8E-D0JC.

7.   RESTRICTIONS (NONE)
        ----

8.   MISCELLANEOUS

8.1   EXECUTION TIME
        --------- ----

        THREE HUNDRED AND FORTY-FIVE PROGRAM LOOPS PER SECOND. A BELL
        IS SOUNDED EVERY 10 SECONDS, WHICH EQUALS 3456 PROGRAM LOOPS.

)   )   )

9.   PROGRAM DESCRIPTION
      ------- -----------

      THE PROGRAM IS MADE UP OF 82 INDIVIDUAL TESTS FOR JMP AND
      JMS. AN OCTAL COUNTER LOCATED AT MEMORY LOCATION 0136 ALWAYS
      HOLDS THE NUMBER OF THE PRESENT TEST. FOR TEST 1 LOCATION,
      0136 CONTAINS 0000 AND FOR TEST 82, 0136 CONTAINS 0121.
      EACH TEST PERFORMS THE FOLLOWING FUNCTIONS:

      A.   CHECK LOCATION 0136 FOR PROPER TEST NUMBER.

      B.   PERFORMS ADDITIONAL CHECKING SUCH AS VERIFICATION OF THE
           STORED PC (PROGRAM COUNTER) ON A JMS.

      C.   ADVANCES TEST COUNTER.

      D.   SETS UP FOR NEXT TEST,

      E.   JMP'S OR JMS'S TO THE NEXT TEST. THESE JMP AND JMS
           INSTRUCTIONS ARE THE ONES BEING TESTED.

      IF THE PC DOES NOT ARRIVE AT THE PROPER PLACE AFTER PERFORMING
      STEPS ABOVE, IT EITHER FALLS INTO THE BACKGROUND FIELD OF HLTS
      OR INTO ANOTHER AREA OF THE PROGRAM. IF THE FIELD OF HLTS
      IS ENCOUNTERED, THE PROGRAM HALTS IMMEDIATELY. IF A PROGRAM
      FIELD IS ENTERED, IT IS MOST LIKELY THAT THE PROGRAM WILL
      HALT WHEN THE TEST COUNTER CHECK IS MADE (LOCATION 136 EQUALS
      THE TEST COUNT). IN A FEW REMOTE CASES IT IS POSSIBLE FOR THE
      TEST COUNTER TO BE ADVANCED BY ONE, FOLLOWING THE ERRONEOUS
      JMP OR JMS AND BEFORE THE HALT. IT IS ALSO POSSIBLE FOR THE
      PROGRAM, ON A ERROR CONDITION, TO ENTER THE LOADERS STORED
      IN THE LAST MEMORY PAGE. ALL OF THESE POSSIBILITIES SHOULD
      BE KEPT IN MIND WHEN ANALYZING AN ERROR.

      TEST 0 THROUGH 19 ARE TESTS FOR SAME PAGE JUMPING USING
      DIRECT ADDRESSING. TESTS 20 THROUGH 45 TEST THE JMP
      INSTRUCTION WITH INDIRECT ADDRESSING. IN THESE CASES, THE
      ADDRESS THAT THE PROGRAM JUMPS TO IS ALWAYS THE COMPLEMENT
      OF ITS PRESENT ADDRESS. JMS TESTS 1 THROUGH 12 ARE TESTS FOR
      THE SAME PAGE USING DIRECT ADDRESSING. JMS TESTS 13 THROUGH 35
      TEST JMS IN THE SAME MANNER AS JMP IS TESTED IN TEST 20 THROUGH
      45.

      THE TELETYPE BELL IS SOUNDED EVERY 10 SECONDS (3456 PROGRAM
      CYCLES).

)

)

.

)

/BASIC JMP-JMS TEST

```
        0000    *0
0000    0000            0
0001    5001            JMP 1
0002    0002            2
0003    0003            3
0004    0000            0
0005    0000            0
0006    7402            HLT
0007    7402            HLT
0010    7402            HLT
0011    7402            HLT
0012    7402            HLT
0013    7402            HLT
0014    7402            HLT
0015    7402            HLT
0016    7402            HLT
0017    7402            HLT
0020    7402            HLT
0021    7402            HLT

        0022    *22
0022    0000    K0,     0
0023    0001    K1,     1
0024    0002    K2,     2
0025    0004    K4,     4
0026    0010    K10,    10
0027    0020    K20,    20
0030    0040    K40,    40
0031    0100    K100,   100
0032    0200    K200,   200
0033    0400    K400,   400
0034    1000    K1000,  1000
0035    2000    K2000,  2000
0036    4000    K4000,  4000
0037    3777    K3777,  3777
        0042    *42
0042    5777    K5777,  5777
0043    6777    K6777,  6777
0044    7377    K7377,  7377
0045    7577    K7577,  7577
0046    7677    K7677,  7677
0047    7737    K7737,  7737
0050    7757    K7757,  7757
0051    7767    K7767,  7767
0052    7773    K7773,  7773
0053    7775    K7775,  7775
0054    7776    K7776,  7776
0055    7777    K7777,  7777
0056    4620    K4620,  4620
0057    4640    K4640,  4640
0060    4660    K4660,  4660
0061    4700    K4700,  4700
0062    4720    K4720,  4720
```

```
0063   4740        K4740,   4740
0064   4760        K4760,   4760
0065   5000        K5000,   5000
0066   5020        K5020,   5020
0067   5040        K5040,   5040


0070   5060        K5060,   5060
0071   5100        K5100,   5100
0072   5120        K5120,   5120
0073   5140        K5140,   5140
0074   5160        K5160,   5160
0075   5200        K5200,   5200
0076   5220        K5220,   5220
       0102        *102
0102   5240        K5240,   5240
0103   5260        K5260,   5260
0104   5300        K5300,   5300
0105   5320        K5320,   5320
0106   5340        K5340,   5340
0107   5360        K5360,   5360
0110   5400        K5400,   5400
0111   5420        K5420,   5420
0112   5440        K5440,   5440
0113   7777        M1,      -1
0114   7776        M2,      -2
0115   7775        M3,      -3
0116   7774        M4,      -4
0117   7773        M5,      -5
0120   7772        M6,      -6
0121   7771        M7,      -7
0122   7770        M10,     -10
0123   7767        M11,     -11
0124   7766        M12,     -12
0125   7765        M13,     -13
0126   7764        M14,     -14
0127   7763        M15,     -15
0130   7762        M16,     -16
0131   7761        M17,     -17
0132   7760        M20,     -20
0133   7757        M21,     -21
0134   7756        M22,     -22
0135   7755        M23,     -23
0136   0000        PNTCNT,  0
0137   2410        K2410,   2410
0140   2440        K2440,   2440
0141   2470        K2470,   2470
0142   2520        K2520,   2520
0143   2600        K2600,   2600
0144   2630        K2630,   2630
0145   2660        K2660,   2660
0146   2710        K2710,   2710
0147   2740        K2740,   2740
0150   3000        K3000,   3000
0151   3030        K3030,   3030
```

)   )   )

```
0152  3060      K3060,  3060
0153  3110      K3110,  3110
0154  3140      K3140,  3140
0155  3200      K3200,  3200


0156  3230      K3230,  3230
0157  3260      K3260,  3260
0160  3310      K3310,  3310
0161  3340      K3340,  3340
0162  3400      K3400,  3400
0163  3430      K3430,  3430
0164  3460      K3460,  3460
0165  3510      K3510,  3510
0166  3540      K3540,  3540


      0170      *170
0170  0000      DO,     0
0171  1175              TAD K7402
0172  3410              DCA I 10
0173  1010              TAD 10
0174  5570              JMP I DO
0175  7402      K7402,  7402


      0200      *200
0200  5601              JMP I SAVER
0201  0600      SAVER,  SAVE


              /STORE LOADER INSTRUCTIONS
              /THAT WILL BE DESTROYED

      0600      *600

0600  7200      SAVE,   CLA
0601  1453              TAD I K7775
0602  3343              DCA STOR
0603  1452              TAD I K7773
0604  3344              DCA STOR+1
0605  1736              TAD I K74
0606  3345              DCA STOR+2
0607  1451              TAD I K7767
0610  3346              DCA STOR+3
0611  1737              TAD I K70
0612  3347              DCA STOR+4
0613  1450              TAD I K7757
0614  3350              DCA STOR+5
0615  1740              TAD I K60
0616  3351              DCA STOR+6
0617  1447              TAD I K7737
0620  3352              DCA STOR+7
0621  1741              TAD I K740
0622  3353              DCA STOR+10
```

```
0623  1446            TAD I K7677
0624  3354            DCA STOR+11
0625  1742            TAD I K00
0626  3355            DCA STOR+12
0627  1455            TAD I K7777
0630  3356            DCA STOR+13
0631  7300    HALT1,  CLA CLL
0632  1264            TAD K175
0633  3010            DCA 10
0634  4170            JMS DO
0635  1265            TAD M577
0636  7640            SZA CLA
0637  5234            JMP .-3
0640  1266    HALT2,  TAD K756
0641  3010            DCA 10
0642  4170            JMS DO
0643  1267            TAD M1777
0644  7640            SZA CLA
0645  5242            JMP .-3
0646  1270    HALT3,  TAD K3572
0647  3010            DCA 10
0650  4170            JMS DO
0651  1271            TAD M4177
0652  7640            SZA CLA
0653  5250            JMP .-3
0654  1272    HALT4,  TAD K5451
0655  3010            DCA 10
0656  4170            JMS DO
0657  1273            TAD M7600
0660  7640            SZA CLA
0661  5256            JMP .-3
0662  5300            JMP RESTAR
0663  4200            BEGIN
0664  0175    K175,   175
0665  7201    M577,   -577
0666  0756    K756,   756
0667  6001    M1777,  -1777
0670  3572    K3572,  3572
0671  3601    M4177,  -4177
0672  5451    K5451,  5451
0673  0200    M7600,  -7600


                /RESTORE LOADER INSTRUCTIONS


      0700      *700
0700  1303    RESTAR, TAD RENEW
0701  3200            DCA SAVE
0702  5303            JMP RENEW
0703  5663    RENEW,  JMP I HALT4+7
0704  7200    REFILL, CLA
0705  1343            TAD STOR
0706  3453            DCA I K7775
0707  1344            TAD STOR+1
0710  3452            DCA I K7773
```

)   )   )

```
0711 1345              TAD STOR+2
0712 3736              DCA I K74
0713 1346              TAD STOR+3
0714 3451              DCA I K7767
0715 1347              TAD STOR+4
0716 3737              DCA I K70
0717 1350              TAD STOR+5
0720 3450              DCA I K7757
0721 1351              TAD STOR+6
0722 3740              DCA I K60
0723 1352              TAD STOR+7
0724 3447              DCA I K7737
0725 1353              TAD STOR+10

0726 3741              DCA I K740
0727 1354              TAD STOR+11
0730 3446              DCA I K7677
0731 1355              TAD STOR+12
0732 3742              DCA I K00
0733 1356              TAD STOR+13
0734 3455              DCA I K7777
0735 7402              HLT


            /CONSTANTS

0736 7774     K74,     7774
0737 7770     K70,     7770
0740 7760     K60,     7760
0741 7740     K740,    7740
0742 7700     K00,     7700
0743 0000     STOR,    0            /STORE LOC 7775
0744 0000              0            /+1 STORE LOC 7773
0745 0000              0            /+2 STORE LOC 7774
0746 0000              0            /+3 STORE LOC 7767
0747 1742              -6036        /+4 STORE LOC 7770
0750 0000              0            /+5 STORE LOC 7757
0751 0000              0            /+6 STORE LOC 7760
0752 0000              0            /+7 STORE LOC 7737
0753 0000              0            /+10 STORE LOC 7740
0754 0000              0            /+11 STORE LOC 7677
0755 0000              0            /+12 STORE LOC 7700
0756 0000              0            /+13 STORE LOC 7777


     4200     *4200
4200 7200     BEGIN,   CLA
4201 3136              DCA PNTCNT

              /JUMP TEST 0 COUNTER=0
4202 5203              JMP .+1
4203 1136              TAD PNTCNT
4204 7440              SZA          /CHECK COUNTER
4205 7402              HLT          /JMP COUNTER WRONG
4206 1136              TAD PNTCNT
```

```
4207  7001              IAC                  /ADVANCE COUNTER
4210  3136              DCA PNTCNT

                        /JUMP TEST 1 COUNTER=1
4211  5213              JMP .+2
4212  7402              HLT                  /JMP FAILED
4213  1136              TAD PNTCNT
4214  1113              TAD M1
4215  7440              SZA                  /CHECK COUNTER
4216  7402              HLT                  /JMP COUNTER WRONG
4217  1136              TAD PNTCNT
4220  7001              IAC                  /ADVANCE COUNTER
4221  3136              DCA PNTCNT

                        /JUMP TEST 2 COUNTER=2
4222  5225              JMP .+3
4223  7402              HLT                  /JMP FAILED
4224  7402              HLT
4225  1136              TAD PNTCNT
4226  1114              TAD M2
4227  7440              SZA                  /CHECK COUNTER
4230  7402              HLT                  /JMP COUNTER WRONG
4231  1136              TAD PNTCNT
4232  7001              IAC
4233  3136              DCA PNTCNT


                        /JUMP TEST 3 COUNTER=3
4234  5240              JMP .+4
4235  7402              HLT                  /JMP FAILED
4236  7402              HLT                  /
4237  7402              HLT                  /
4240  1136              TAD PNTCNT
4241  1115              TAD M3
4242  7440              SZA                  /CHECK COUNTER
4243  7402              HLT                  /JMP COUNTER WRONG
4244  1136              TAD PNTCNT
4245  7001              IAC                  /ADVANCE COUNTER
4246  3136              DCA PNTCNT

                        /JUMP TEST 4 COUNTER=4
4247  5254              JMP .+5
4250  7402              HLT                  /JMP FAILED
4251  7402              HLT                  /
4252  7402              HLT                  /
4253  7402              HLT                  /
4254  1136              TAD PNTCNT
4255  1116              TAD M4
4256  7440              SZA                  /CHECK COUNTER
4257  7402              HLT                  /JMP COUNTER WRONG
4260  1136              TAD PNTCNT
4261  7001              IAC                  /ADVANCE COUNTER
4262  3136              DCA PNTCNT

                        /JUMP TEST 5 COUNTER=5
```

```
4263  5271              JMP .+6
4264  7402              HLT              /JMP FAILED
4265  7402              HLT              /
4266  7402              HLT              /
4267  7402              HLT              /
4270  7402              HLT              /
4271  1136              TAD PNTCNT
4272  1117              TAD M5
4273  7440              SZA              /CHECK COUNTER
4274  7402  •          HLT              /JMP COUNTER WRONG
4275  1136              TAD PNTCNT
4276  7001              IAC              /ADVANCE COUNTER
4277  3136              DCA PNTCNT


                       /JUMP TEST 6 COUNTER=6
4300  5307              JMP .+7
4301  7402              HLT              /JMP FAILED
4302  7402              HLT              /
4303  7402              HLT              /
4304  7402              HLT              /
4305  7402              HLT              /
4306  7402              HLT              /
4307  1136              TAD PNTCNT
4310  1120              TAD M6
4311  7440              SZA              /CHECK COUNTER
4312  7402              HLT              /JMP COUNTER WRONG
4313  1136              TAD PNTCNT
4314  7001              IAC              /ADVANCE COUNTER
4315  3136              DCA PNTCNT


                       /JUMP TEST 7 COUNTER=7
4316  5326              JMP .+10
4317  7402              HLT              /JMP FAILED
4320  7402              HLT              /
4321  7402              HLT              /
4322  7402              HLT              /
4323  7402              HLT              /
4324  7402              HLT              /
4325  7402              HLT              /
4326  1136              TAD PNTCNT
4327  1121              TAD M7
4330  7440              SZA              /CHECK COUNTER
4331  7402              HLT              /JMP COUNTER WRONG
4332  1136              TAD PNTCNT
4333  7001              IAC              /ADVANCE COUNTER
4334  3136              DCA PNTCNT


                       /JUMP TEST 8 COUNTER=10
4335  5346              JMP .+11
4336  7402              HLT              /JMP FAILED
4337  7402              HLT              /
4340  7402              HLT              /
4341  7402              HLT              /
4342  7402              HLT              /
```

```
4343  7402          HLT              /
4344  7402          HLT              /
4345  7402          HLT              /
4346  1136          TAD PNTCNT
4347  1122          TAD M10
4350  7440          SZA              /CHECK COUNTER
4351  7402          HLT              /JMP COUNTER WRONG
4352  1136          TAD PNTCNT
4353  7001          IAC              /ADVANCE COUNTER
4354  3136          DCA PNTCNT


                    /JUMP TEST 9 COUNTER=11
4355  5367          JMP .+12
4356  7402          HLT              /JMP FAILED
4357  7402          HLT              /
4360  7402          HLT              /
4361  7402          HLT              /
4362  7402          HLT              /
4363  7402          HLT              /
4364  7402          HLT              /
4365  7402          HLT              /
4366  7402          HLT              /
4367  1136          TAD PNTCNT
4370  1123          TAD M11
4371  7440          SZA              /CHECK COUNTER
4372  7402          HLT              /JMP COUNTER WRONG
4373  1136          TAD PNTCNT
4374  7001          IAC              /ADVANCE COUNTER
4375  3136          DCA PNTCNT
4376  7000          NOP
4377  7000          NOP


4400         *4400
                    /JUMP TEST 10 COUNTER=12
4400  5201          JMP .+1
4401  1136          TAD PNTCNT
4402  1124          TAD M12
4403  7440          SZA              /CHECK COUNTER
4404  7402          HLT              /JMP COUNTER WRONG
4405  1136          TAD PNTCNT
4406  7001          IAC              /ADVANCE COUNTER
4407  3136          DCA PNTCNT


                    /JUMP TEST 11 COUNTER=13
4410  5212          JMP .+2
4411  7402          HLT              /JMP FAILED
4412  1136          TAD PNTCNT
4413  1125          TAD M13
4414  7440          SZA              /CHECK COUNTER
4415  7402          HLT              /JMP COUNTER WRONG
4416  1136          TAD PNTCNT
4417  7001          IAC              /ADVANCE COUNTER
4420  3136          DCA PNTCNT
```

)   )   )

```
                        /JUMP TEST 12 COUNTER=14
4421    5224            JMP .+3
4422    7402            HLT              /JMP FAILED
4423    7402            HLT              /
4424    1136            TAD PNTCNT
4425    1126            TAD M14
4426    7440            SZA              /CHECK COUNTER
4427    7402            HLT              /JMP COUNTER WRONG
4430    1136            TAD PNTCNT
4431    7001            IAC              /ADVANCE COUNTER
4432    3136            DCA PNTCNT

                        /JUMP TEST 13 COUNTER=15
4433    5237            JMP .+4
4434    7402            HLT              /JMP FAILED
4435    7402            HLT              /
4436    7402            HLT              /
4437    1136            TAD PNTCNT
4440    1127            TAD M15
4441    7440            SZA              /CHECK COUNTER
4442    7402            HLT              /JMP COUNTER WRONG
4443    1136            TAD PNTCNT
4444    7001            IAC              /ADVANCE COUNTER
4445    3136            DCA PNTCNT


                        /JUMP TEST 14 COUNTER=16
4446    5253            JMP .+5
4447    7402            HLT              /JMP FAILED
4450    7402            HLT              /
4451    7402            HLT              /
4452    7402            HLT              /
4453    1136            TAD PNTCNT
4454    1130            TAD M16
4455    7440            SZA              /CHECK COUNTER
4456    7402            HLT              /JMP COUNTER WRONG
4457    1136            TAD PNTCNT
4460    7001            IAC              /ADVANCE COUNTER
4461    3136            DCA PNTCNT

                        /JUMP TEST 15 COUNTER=17
4462    5270            JMP .+6
4463    7402            HLT              /JMP FAILED
4464    7402            HLT              /
4465    7402            HLT              /
4466    7402            HLT              /
4467    7402            HLT              /
4470    1136            TAD PNTCNT
4471    1131            TAD M17
4472    7440            SZA              /CHECK COUNTER
4473    7402            HLT              /JMP COUNTER WRONG
4474    1136            TAD PNTCNT
4475    7001            IAC              /ADVANCE COUNTER
4476    3136            DCA PNTCNT
```

```
                              /JUMP TEST 16  COUNTER =20
4477  5306              JMP .+7
4500  7402              HLT                 /JMP FAILED
4501  7402              HLT                 /
4502  7402              HLT                 /
4503  7402              HLT                 /
4504  7402              HLT                 /
4505  7402              HLT                 /
4506  1136              TAD PNTCNT
4507  1132              TAD M20
4510  7440              SZA                 /CHECK COUNTER
4511  7402              HLT                 /JMP COUNTER WRONG
4512  1136              TAD PNTCNT
4513  7001              IAC                 /ADVANCE COUNTER
4514  3136              DCA PNTCNT

                              /JUMP TEST 17 COUNTER=21
4515  5325              JMP .+10
4516  7402              HLT       /JMP FAILED
4517  7402              HLT                           /
4520  7402              HLT
4521  7402              HLT
4522  7402              HLT
4523  7402              HLT
4524  7402              HLT


4525  1136              TAD PNTCNT
4526  1133              TAD M21
4527  7440              SZA        /CHECK COUNTER
4530  7402              HLT                 /JMP COUNTEP WRONG
4531  1136              TAD PNTCNT
4532  7001              IAC                 /ADVANCE COUNTER
4533  3136              DCA PNTCNT

                              /JUMP TEST 18 COUNTER=22
4534  5345              JMP .+11
4535  7402              HLT                 /JMP FAILED
4536  7402              HLT                 /
4537  7402              HLT                 /
4540  7402              HLT                 /
4541  7402              HLT                 /
4542  7402              HLT                 /
4543  7402              HLT                 /
4544  7402              HLT                 /
4545  1136              TAD PNTCNT
4546  1134              TAD M22
4547  7440              SZA                 /CHECK COUNTER
4550  7402              HLT                 /JMP COUNTER WRONG
4551  1136              TAD PNTCNT
4552  7001              IAC                 /ADVANCE COUNTER
4553  3136              DCA PNTCNT

                              /JMP TEST 19  COUNTER=23
```

)   )   )

```
4554  5366           JMP .+12
4555  7402           HLT          /JMP FAILED
4556  7402           HLT          /
4557  7402           HLT          /
4560  7402           HLT          /
4561  7402           HLT          /
4562  7402           HLT          /
4563  7402           HLT          /
4564  7402           HLT          /
4565  7402           HLT          /
4566  1136           TAD PNTCNT
4567  1135           TAD M23
4570  7440           SZA          /CHECK COUNTER
4571  7402           HLT          /JMP COUNTER WRONG
4572  1136           TAD PNTCNT
4573  7001           IAC          /ADVANCE COUNTER
4574  3136           DCA PNTCNT
4575  7000           NOP
4576  7000           NOP
4577  7000           NOP

                     /JMP TEST 20   COUNTER=24
4600  1205           TAD PK1
4601  3405           DCA I K7777
4602  1206           TAD PK2
4603  3402           DCA I K0
4604  5405           JMP I K7777
4605  5422    PK1,   JMP I K0
4606  5406    PK2,   JMP I K4620


      4620    *4620
4620  1136           TAD PNTCNT
4621  1336           TAD M24
4622  7440           SZA          /CHECK COUNTER
4623  7402           HLT          /JMP COUNTER WRONG
4624  1136           TAD PNTCNT
4625  7001           IAC          /ADVANCE COUNTER
4626  3136           DCA PNTCNT

                     /JMP TEST 21   COUNTER=25
4627  1234           TAD PK3
4630  3454           DCA I K7776
4631  1235           TAD PK4
4632  3423           DCA I K1
4633  5454           JMP I K7776
4634  5423    PK3,   JMP I K1
4635  5437    PK4,   JMP I K4640
4636  7754    M24,   -24

      4640    *4640
4640  1136           TAD PNTCNT
4641  1256           TAD M25
4642  7440           SZA          /CHECK COUNTER
4643  7402           HLT          /JMP COUNTER WRONG
```

```
4644   1136              TAD PNTCNT
4645   7001              IAC               /ADVANCE COUNTER
4646   3136              DCA PNTCNT

                         /JMP TEST 22   COUNTER=26
4647   1254              TAD PK5
4650   3453              DCA I K7775
4651   1255              TAD PK6
4652   3424              DCA I K2
4653   5453              JMP I K7775
4654   5424      PK5,    JMP I K2
4655   5660      PK6,    JMP I 4660
4656   7753      M25,    -25

       4660      *4660
4660   1136              TAD PNTCNT
4661   1276              TAD M26
4662   7440              SZA               /CHECK COUNTER
4663   7402              HLT               /JMP COUNTER WRONG
4664   1136              TAD PNTCNT
4665   7001              IAC               /ADVANCE COUNTER
4666   3136              DCA PNTCNT


                         /JMP TEST 23 COUNTER=27
4667   1274              TAD PK7
4670   3452              DCA I K7773
4671   1275              TAD PK8
4672   3425              DCA I K4
4673   5452              JMP I K7773
4674   5425      PK7,    JMP I K4
4675   5461      PK8,    JMP I K4700
4676   7752      M26,    -26

       4700      *4700
4700   1136              TAD PNTCNT
4701   1316              TAD M27
4702   7440              SZA               /CHECK COUNTER
4703   7402              HLT               /JMP COUNTER WRONG
4704   1136              TAD PNTCNT
4705   7001              IAC               /ADVANCE COUNTER
4706   3136              DCA PNTCNT

                         /JMP TEST 24   COUNTER=30
4707   1314              TAD PK9
4710   3451              DCA I K7767
4711   1315              TAD PK10
4712   3426              DCA I K10
4713   5451              JMP I K7767
4714   5426      PK9,    JMP I K10
4715   5462      PK10,   JMP I K4720
4716   7751      M27,    -27

       4720      *4720
4720   1136              TAD PNTCNT
```

)   )   )

```
4721  1336          TAD M30
4722  7440          SZA              /CHECK COUNTER
4723  7402          HLT              /JMP COUNTER WRONG
4724  1136          TAD PNTCNT
4725  7001          IAC              /ADVANCE COUNTER
4726  3136          DCA PNTCNT

                    /JMP TEST 25   COUNTER=31
4727  1334          TAD PK11
4730  3450          DCA I K7757
4731  1335          TAD PK12
4732  3427          DCA I K20
4733  5450          JMP I K7757
4734  5427   PK11,  JMP I K20
4735  5463   PK12,  JMP I K4740
4736  7750   M30,   -30


4740  *4740
4740  1136          TAD PNTCNT
4741  1356          TAD M31
4742  7440          SZA              /CHECK COUNTER
4743  7402          HLT              /JMP COUNTER WRONG
4744  1136          TAD PNTCNT
4745  7001          IAC              /ADVANCE COUNTER
4746  3136          DCA PNTCNT

                    /JMP TEST 26 COUNTER=32
4747  1354          TAD PK13
4750  3447          DCA I K7737
4751  1355          TAD PK14
4752  3430          DCA I K40
4753  5447          JMP I K7737
4754  5430   PK13,  JMP I K40
4755  5464   PK14,  JMP I K4760
4756  7747   M31,   -31

4760  *4760
4760  1136          TAD PNTCNT
4761  1376          TAD M32
4762  7440          SZA              /CHECK COUNTER
4763  7402          HLT              /JMP COUNTER WRONG
4764  1136          TAD PNTCNT
4765  7001          IAC              /ADVANCE COUNTER
4766  3136          DCA PNTCNT

                    /JMP TEST 27   COUNTER=33
4767  1374          TAD PK15
4770  3446          DCA I K7677
4771  1375          TAD PK16
4772  3431          DCA I K100
4773  5446          JMP I K7677
4774  5431   PK15,  JMP I K100
4775  5465   PK16,  JMP I K5000
4776  7746   M32,   -32
```

```
        5000        *5000
5000    1136            TAD PNTCNT
5001    1216            TAD M33
5002    7440            SZA             /CHECK COUNTER
5003    7402            HLT             /JMP COUNTER WRONG
5004    1136            TAD PNTCNT
5005    7001            IAC             /ADVANCE COUNTER
5006    3136            DCA PNTCNT


                       /JMP TEST 28 COUNTER=34
5007    1214            TAD PK17
5010    3445            DCA I K7377
5011    1215            TAD PK18
5012    3432            DCA I K200
5013    5445            JMP I K7377
5014    5432    PK17,   JMP I K200
5015    5466    PK18,   JMP I K5020
5016    7745    M33,    -33

        5020        *5020
5020    1136            TAD PNTCNT
5021    1236            TAD M34
5022    7440            SZA             /CHECK COUNTER
5023    7402            HLT             /JMP COUNTER WRONG
5024    1136            TAD PNTCNT
5025    7001            IAC             /ADVANCE COUNTER
5026    3136            DCA PNTCNT

                       /JMP TEST 29  COUNTER=35
5027    1234            TAD PK19
5030    3444            DCA I K7377
5031    1235            TAD PK20
5032    3433            DCA I K400
5033    5444            JMP I K7377
5034    5433    PK19,   JMP I K400
5035    5467    PK20,   JMP I K5040
5036    7744    M34,    -34

        5040        *5040
5040    1136            TAD PNTCNT
5041    1256            TAD M35
5042    7440            SZA             /CHECK COUNTER
5043    7402            HLT             /JMP COUNTER WRONG
5044    1136            TAD PNTCNT
5045    7001            IAC             /ADVANCE COUNTER
5046    3136            DCA PNTCNT

                       /JMP TEST 30  COUNTER=36
5047    1254            TAD PK21
5050    3443            DCA I K6777
5051    1255            TAD PK22
5052    3434            DCA I K1000
```

)   )   )

```
5053  5443              JMP I K6777
5054  5434      PK21,   JMP I K1000
5055  5470      PK22,   JMP I K5060
5056  7743      M35,    -35


      5060      *5060
5060  1136              TAD PNTCNT
5061  1276              TAD M36
5062  7440              SZA             /CHECK COUNTER
5063  7402              HLT             /JMP COUNTER WRONG
5064  1136              TAD PNTCNT
5065  7001              IAC             /ADVANCE COUNTER
5066  3136              DCA PNTCNT

                        /JMP TEST 31  COUNTER=37
5067  1274              TAD PK23
5070  3442              DCA I K5777
5071  1275              TAD PK24
5072  3435              DCA I K2000
5073  5442              JMP I K5777
5074  5435      PK23,   JMP I K2000
5075  5471      PK24,   JMP I K5100
5076  7742      M36,    -36

      5100      *5100
5100  1136              TAD PNTCNT
5101  1316              TAD M37
5102  7440              SZA             /CHECK COUNTER
5103  7402              HLT             /JMP COUNTER WRONG
5104  1136              TAD PNTCNT
5105  7001              IAC             /ADVANCE COUNTER
5106  3136              DCA PNTCNT

                        /JMP TEST 32  COUNTER=40
5107  1314              TAD PK25
5110  3437              DCA I K3777
5111  1315              TAD PK26
5112  3436              DCA I K4000
5113  5437              JMP I K3777
5114  5436      PK25,   JMP I K4000
5115  5472      PK26,   JMP I K5120
5116  7741      M37,    -37

      5120      *5120
5120  1136              TAD PNTCNT
5121  1336              TAD M40
5122  7440              SZA             /CHECK COUNTER
5123  7402              HLT             /JMP COUNTER WRONG
5124  1136              TAD PNTCNT
5125  7001              IAC             /ADVANCE COUNTER
5126  3136              DCA PNTCNT
```

```
                            /JMP TEST 33   COUNTER=41
5127  1334                  TAD PK27
5130  3422                  DCA I K0
5131  1335                  TAD PK28
5132  3455                  DCA I K7777
5133  5422                  JMP I K0
5134  5455      PK27,       JMP I K7777
5135  5473      PK28,       JMP I K5140
5136  7740      M40,        -40

      5140      *5140
5140  1136                  TAD PNTCNT
5141  1356                  TAD M41
5142  7440                  SZA              /CHECK COUNTER
5143  7402                  HLT              /JMP COUNTER WRONG
5144  1136                  TAD PNTCNT
5145  7001                  IAC              /ADVANCE COUNTER
5146  3136                  DCA PNTCNT

                            /JMP TEST 34   COUNTER=42
5147  1354                  TAD PK29
5150  3423                  DCA I K1
5151  1355                  TAD PK30
5152  3454                  DCA I K7776
5153  5423                  JMP I K1
5154  5454      PK29,       JMP I K7776
5155  5474      PK30,       JMP I K5160
5156  7737      M41,        -41

      5160      *5160
5160  1136                  TAD PNTCNT
5161  1376                  TAD M42
5162  7440                  SZA              /CHECK COUNTER
5163  7402                  HLT              /JMP COUNTER WRONG
5164  1136                  TAD PNTCNT
5165  7001                  IAC              /ADVANCE COUNTER
5166  3136                  DCA PNTCNT

                            /JMP TEST 35   COUNTER=43
5167  1374                  TAD PK31
5170  3424                  DCA I K2
5171  1375                  TAD PK32
5172  3453                  DCA I K7775
5173  5424                  JMP I K2
5174  5453      PK31,       JMP I K7775
5175  5475      PK32,       JMP I K5200
5176  7736      M42,        -42

      5200      *5200
5200  1136                  TAD PNTCNT
5201  1216                  TAD M43
5202  7440                  SZA              /CHECK COUNTER
5203  7402                  HLT              /JMP COUNTER WRONG
5204  1136                  TAD PNTCNT
```

)   )   )

```
5205  7001                    IAC                /ADVANCE COUNTER
5206  3136                    DCA PNTCNT


                             /JMP TEST 36  COUNTER=44
5207  1214                    TAD PK33
5210  3425                    DCA I K4
5211  1215                    TAD PK34
5212  3452                    DCA I K7773
5213  5425                    JMP I K4
5214  5452        PK33,       JMP I K7773
5215  5476        PK34,       JMP I K5220
5216  7735        M43,        -43

      5220        *5220
5220  1136                    TAD PNTCNT
5221  1236                    TAD M44
5222  7440                    SZA                /CHECK COUNTER
5223  7402                    HLT                /JMP COUNTER WRONG
5224  1136                    TAD PNTCNT
5225  7001                    IAC                /ADVANCE COUNTER
5226  3136                    DCA PNTCNT


                             /JMP TEST 37 COUNTER=45
5227  1234                    TAD PK35
5230  3426                    DCA I K10
5231  1235                    TAD PK36
5232  3451                    DCA I K7767
5233  5426                    JMP I K10
5234  5451        PK35,       JMP I K7767
5235  5502        PK36,       JMP I K5240
5236  7734        M44,        -44

      5240        *5240
5240  1136                    TAD PNTCNT
5241  1256                    TAD M45
5242  7440                    SZA                /CHECK COUNTER
5243  7402                    HLT                /JMP COUNTER WRONG
5244  1136                    TAD PNTCNT
5245  7001                    IAC                /ADVANCE COUNTER
5246  3136                    DCA PNTCNT


                             /JMP TEST 3  COUNTER=46
5247  1254                    TAD PK37
5250  3427                    DCA I K20
5251  1255                    TAD PK38
5252  3450                    DCA I K7757
5253  5427                    JMP I K20
5254  5450        PK37,       JMP I K7757
5255  5503        PK38,       JMP I K5260
5256  7733        M45,        -45


      5260        *5260
5260  1136                    TAD PNTCNT
5261  1276                    TAD M46
```

```
5262  7440              SZA              /CHECK COUNTER
5263  7402              HLT              /JMP COUNTER WRONG
5264  1136              TAD PNTCNT
5265  7001              IAC              /ADVANCE COUNTER
5266  3136              DCA PNTCNT

                        /JMP TEST 39   COUNTER=47
5267  1274              TAD PK39
5270  3430              DCA I K40
5271  1275              TAD PK40
5272  3447              DCA I K7737
5273  5430              JMP I K40
5274  5447       PK39,  JMP I K7737
5275  5504       PK40,  JMP I K5300
5276  7732       M46,   -46

      5300       *5300
5300  1136              TAD PNTCNT
5301  1316              TAD M47
5302  7440              SZA              /CHECK COUNTER
5303  7402              HLT              /JMP COUNTER WRONG
5304  1136              TAD PNTCNT
5305  7001              IAC              /ADVANCE COUNTER
5306  3136              DCA PNTCNT

                        /JMP TEST 40  COUNTER=50
5307  1314              TAD PK41
5310  3431              DCA I K100
5311  1315              TAD PK42
5312  3446              DCA I K7677
5313  5431              JMP I K100
5314  5446       PK41,  JMP I K7677
5315  5505       PK42,  JMP I K5320
5316  7731       M47,   -47

      5320       *5320
5320  1136              TAD PNTCNT
5321  1336              TAD M50
5322  7440              SZA              /CHECK COUNTER
5323  7402              HLT              /JMP COUNTER WRONG
5324  1136              TAD PNTCNT
5325  7001              IAC              /ADVANCE COUNTER
5326  3136              DCA PNTCNT

                        /JMP TEST 41   COUNTER=51
5327  1334              TAD PK43
5330  3432              DCA I K200
5331  1335              TAD PK44
5332  3445              DCA I K7577
5333  5432              JMP I K200
5334  5445       PK43,  JMP I K7577
5335  5506       PK44,  JMP I K5340
5336  7730       M50,   -50
```

)   )   )

```
          5340        *5340
 5340     1136              TAD PNTCNT
 5341     1356              TAD M51
 5342     7440              SZA              /CHECK COUNTER
 5343     7402              HLT              /JMP COUNTER WRONG
 5344     1136              TAD PNTCNT
 5345     7001              IAC              /ADVANCE COUNTER
 5346     3136              DCA PNTCNT


                           /JMP TEST 42 COUNTER=52
 5347     1354              TAD PK45
 5350     3433              DCA I K400
 5351     1355              TAD PK46
 5352     3444              DCA I K7377
 5353     5433              JMP I K400
 5354     5444      PK45,   JMP I K7377
 5355     5507      PK46,   JMP I K5360
 5356     7727      M51,    -51

          5360        *5360
 5360     1136              TAD PNTCNT
 5361     1376              TAD M52
 5362     7440              SZA              /CHECK COUNTER
 5363     7402              HLT              /JMP COUNTER WRONG
 5364     1136              TAD PNTCNT
 5365     7001              IAC              /ADVANCE COUNTER
 5366     3136              DCA PNTCNT


                           /JMP TEST 43  COUNTER=53
 5367     1374              TAD PK47
 5370     3434              DCA I K1000
 5371     1375              TAD PK48
 5372     3443              DCA I K6777
 5373     5434              JMP I K1000
 5374     5443      PK47,   JMP I K6777
 5375     5510      PK48,   JMP I K5400
 5376     7726      M52,    -52

          5400        *5400
 5400     1136              TAD PNTCNT
 5401     1216              TAD M53
 5402     7440              SZA              /CHECK COUNTER
 5403     7402              HLT              /JMP COUNTER WRONG
 5404     1136              TAD PNTCNT
 5405     7001              IAC              /ADVANCE COUNTER
 5406     3136              DCA PNTCNT


                           /JMP TEST 44 COUNTER=54
 5407     1214              TAD PK49
 5410     3435              DCA I K2000
 5411     1215              TAD PK50
 5412     3442              DCA I K5777
 5413     5435              JMP I K2000
 5414     5442      PK49,   JMP I K5777
```

```
5415  5511     PK50,   JMP I K5420
5416  7725     M53,    -53

      5420     *5420
5420  1136             TAD PNTCNT
5421  1236             TAD M54
5422  7440             SZA       /CHECK COUNTER
5423  7402             HLT               /JMP COUNTER WRONG
5424  1136             TAD PNTCNT
5425  7001             IAC               /ADVANCE COUNTER
5426  3136             DCA PNTCNT

                       /JMP TEST 45   COUNTER=55
5427  1234             TAD PK51
5430  3436             DCA I K4000
5431  1235             TAD PK52
5432  3437             DCA I K3777
5433  5436             JMP I K4000
5434  5437     PK51,   JMP I K3777
5435  5512     PK52,   JMP I K5440
5436  7724     M54,    -54


      5440     *5440
5440  1136             TAD PNTCNT
5441  1250             TAD M55
5442  7440             SZA               /CHECK COUNTER
5443  7402             HLT               /JMP COUNTER WRONG
5444  1136             TAD PNTCNT
5445  7001             IAC               /ADVANCE COUNTER
5446  3136             DCA PNTCNT

                       /JMS TEST 1 COUNTER=56
5447  5651             JMP I AFRM
5450  7723     M55,    -55
5451  2002     AFRM,   FRM

      2002     *2002
2002  4203     FRM,    JMS TO
2003  5203     TO,     JMP .
2004  1136             TAD PNTCNT
2005  1222             TAD M56
2006  7440             SZA               /CHECK COUNTER
2007  7402             HLT               /JMP COUNTER WRONG
2010  1224             TAD AFM
2011  7041             CIA
2012  1203             TAD TO
2013  7440             SZA               /CHECK STORED ADDRESS
2014  7402             HLT               /JMS FAILED
2015  3203             DCA TO            /CLEAR STORED PC
2016  1136             TAD PNTCNT
2017  7001             IAC
2020  3136             DCA PNTCNT
2021  7410             SKP
2022  7722     M56,    -56
```

)   )   )

```
2023  7410          SKP
2024  2003    AFM,   FRM+1

                     /JMS TEST 2 COUNTER=57
2025  4227          JMS TO1
2026  7402   FRM1,  HLT
2027  5227   TO1,   JMP .
2030  1136          TAD PNTCNT
2031  1246          TAD M57
2032  7440          SZA           /CHECK COUNTER
2033  7402          HLT           /JMP COUNTER WRONG
2034  1250          TAD AFRM1
2035  7041          CIA
2036  1227          TAD TO1
2037  7440          SZA      /CHECK STORED ADDRESS
2040  7402          HLT           /JMS FAILED
2041  3227          DCA TO1       /CLEAR STORED PC
2042  1136          TAD PNTCNT
2043  7001          IAC
2044  3136          DCA PNTCNT
2045  7410          SKP


2046  7721   M57,   -57
2047  7410          SKP
2050  2026   AFRM1, FRM1

                     /JMS TEST 3 COUNTER=60
2051  4254          JMS TO2
2052  7402   FRM2,  HLT
2053  7402          HLT
2054  5254   TO2,   JMP .
2055  1136          TAD PNTCNT
2056  1275          TAD M60
2057  7440          SZA           /CHECK COUNTER
2060  7402          HLT           /JMP COUNTER WRONG
2061  1273          TAD AFRM2
2062  7041          CIA
2063  1254          TAD TO2
2064  7440          SZA           /CHECK STORED ADDRESS
2065  7402          HLT           /JMS FAILED
2066  3254          DCA TO2       /CLEAR STORED PC
2067  1136          TAD PNTCNT
2070  7001          IAC
2071  3136          DCA PNTCNT
2072  7410          SKP
2073  2052   AFRM2, FRM2
2074  7410          SKP
2075  7720   M60,   -60

                     /JMS TEST 4  COUNTER=61
2076  4302          JMS TO3
2077  7402   FRM3,  HLT
2100  7402          HLT
2101  7402          HLT
```

```
2102  5302      TO3,    JMP .
2103  1136              TAD PNTCNT
2104  1323              TAD M61
2105  7440              SZA             /CHECK COUNTER
2106  7402              HLT             /JMP COUNTER WRONG
2107  1321              TAD AFRM3
2110  7041              CIA
2111  1302              TAD TO3
2112  7440              SZA             /CHECK STORED ADDRESS
2113  7402              HLT             /JMS FAILED
2114  3302              DCA TO3         /CLEAR STORED PC
2115  1136              TAD PNTCNT
2116  7001              IAC
2117  3136              DCA PNTCNT
2120  7410              SKP
2121  2077      AFRM3,  FRM3
2122  7410              SKP
2123  7717      M61,    -61


                        /JMS TEST 5 COUNTER=62

2124  4330              JMS TO4
2125  7402      FRM4,   HLT
2126  7402              HLT
2127  7402              HLT
2130  5330      TO4,    JMP .
2131  1136              TAD PNTCNT
2132  1351              TAD M62
2133  7440              SZA             /CHECK COUNTER
2134  7402              HLT             /JMP COUNTER WRONG
2135  1347              TAD AFRM4
2136  7041              CIA
2137  1330              TAD TO4
2140  7440              SZA             /CHECK STORED ADDRESS
2141  7402              HLT             /JMS FAILED
2142  3330              DCA TO4         /CLEAR STORED PC
2143  1136              TAD PNTCNT
2144  7001              IAC
2145  3136              DCA PNTCNT
2146  7410              SKP
2147  2125      AFRM4,  FRM4
2150  7410              SKP
2151  7716      M62,    -62

                        /JMS TEST 6 COUNTER=63

2152  4356              JMS TO5
2153  7402      FRM5,   HLT
2154  7402              HLT
2155  7402              HLT
2156  5356      TO5,    JMP .
2157  1136              TAD PNTCNT
2160  1377              TAD M63
2161  7440              SZA             /CHECK COUNTER
```

)   )   )

```
2162   7402              HLT              /JMP COUNTER WRONG
2163   1375              TAD AFRM5
2164   7041              CIA
2165   1356              TAD TO5
2166   7440              SZA              /CHECK STORED ADDRESS
2167   7402              HLT              /JMS FAILED
2170   3356              DCA TO5          /CLEAR STORED PC
2171   1136              TAD PNTCNT
2172   7001              IAC
2173   3136              DCA PNTCNT
2174   7410              SKP
2175   2153       AFRM5, FRM5
2176   7410              SKP
2177   7715       M63,   -63


                  PAUSE


                  /TAPE # 2
       2200       *2200

                         /JMS TEST 7 COUNTER=64
2200   7000              NOP
2201   4202              JMS TO6
2202   5202       TO6,   JMP .
2203   1136              TAD PNTCNT
2204   1221              TAD M64
2205   7440              SZA              /CHECK COUNTER
2206   7402              HLT              /JMP COUNTER WRONG
2207   1202              TAD TO6
2210   7041              CIA
2211   1223              TAD ATO6
2212   7440              SZA              /CHECK STORED ADDRESS
2213   7402              HLT              /JMS FAILED
2214   3202              DCA TO6          /CLEAR STORED PC
2215   1136              TAD PNTCNT
2216   7001              IAC
2217   3136              DCA PNTCNT
2220   7410              SKP
2221   7714       M64,   -64
2222   7410              SKP
2223   2202       ATO6,  TO6


                         /JMS TEST 8   COUNTER=65
2224   4226              JMS TO7
2225   7402       FRM7,  HLT
2226   5226       TO7,   JMP .
2227   1136              TAD PNTCNT
2230   1245              TAD M65
2231   7440              SZA              /CHECK COUNTER
2232   7402              HLT              /JMP COUNTER WRONG
2233   1247              TAD AFRM7
2234   7041              CIA
2235   1226              TAD TO7
```

```
2236  7440            SZA          /CHECK STORED ADDRESS
2237  7402            HLT          /JMS FAILED
2240  3226            DCA TO7      /CLEAR STORED PC
2241  1136            TAD PNTCNT
2242  7001            IAC
2243  3136            DCA PNTCNT
2244  7410            SKP
2245  7713    M65,    -65
2246  7410            SKP
2247  2225    AFRM7,  FRM7


                     /JMS TEST 9 COUNTER=66
2250  4253            JMS TO8
2251  7402    FRM8,   HLT
2252  7402            HLT
2253  5253    TO8,    JMP .
2254  1136            TAD PNTCNT
2255  1274            TAD M66
2256  7440            SZA          /CHECK COUNTER
2257  7402            HLT          /JMP COUNTER WRONG
2260  1253            TAD TO8
2261  7041            CIA
2262  1272            TAD AFRM8
2263  7440            SZA          /CHECK STORED ADDRESS
2264  7402            HLT          /JMS FAILED
2265  3253            DCA TO8      /CLEAR STORED PC
2266  1136            TAD PNTCNT
2267  7001            IAC
2270  3136            DCA PNTCNT
2271  7410            SKP
2272  2251    AFRM8,  FRM8
2273  7410            SKP
2274  7712    M66,    -66

                     /JMS TEST 10 COUNTER=67
2275  4301            JMS TO9
2276  7402    FRM9,   HLT
2277  7402            HLT
2300  7402            HLT
2301  5301    TO9,    JMP .
2302  1136            TAD PNTCNT
2303  1322            TAD M67
2304  7440            SZA          /CHECK COUNTER
2305  7402            HLT          /JMP COUNTER WRONG
2306  1301            TAD TO9
2307  7041            CIA
2310  1320            TAD AFRM9
2311  7440            SZA          /CHECK STORED ADDRESS
2312  7402            HLT          /JMS FAILED
2313  3301            DCA TO9      /CLEAR STORED PC
2314  1136            TAD PNTCNT
2315  7001            IAC
2316  3136            DCA PNTCNT
2317  7410            SKP
```

)   )   )

```
2320    2276    AFRM9,   FRM9
2321    7410             SKP
2322    7711    M67,     -67

                         /JMS TEST 11 COUNTER =70
2323    4330             JMS T010
2324    7402    FRM10,   HLT
2325    7402             HLT
2326    7402             HLT
2327    7402             HLT


2330    5330    T010,    JMP .
2331    1136             TAD PNTCNT
2332    1351             TAD M70
2333    7440             SZA                /CHECK COUNTER
2334    7402             HLT                /JMP COUNTER WRONG
2335    1330             TAD T010
2336    7041             CIA
2337    1347             TAD AFRM10
2340    7440             SZA                /CHECK STORED ADDRESS
2341    7402             HLT                /JMS FAILED
2342    3330             DCA T010                /CLEAR STORED PC
2343    1136             TAD PNTCNT
2344    7001             IAC
2345    3136             DCA PNTCNT
2346    7410             SKP
2347    2324    AFRM10,  FRM10
2350    7410             SKP

2351    7710    M70,     -70

                         /JMS TEST 11 COUNTER=71
2352    4356             JMS T011
2353    7402    FRM11,   HLT
2354    7402             HLT
2355    7402             HLT
2356    5356    T011,    JMP .
2357    1136             TAD PNTCNT
2360    1377             TAD M71
2361    7440             SZA                /CHECK COUNTER
2362    7402             HLT                /JMP COUNTER WRONG
2363    1356             TAD T011
2364    7041             CIA
2365    1375             TAD AFRM11
2366    7440             SZA                /CHECK STORED ADDRESS
2367    7402             HLT                /JMS FAILED
2370    3356             DCA T011                /CLEAR STORED PC
2371    1136             TAD PNTCNT
2372    7001             IAC
2373    3136             DCA PNTCNT
2374    7410             SKP
2375    2353    AFRM11,  FRM11
2376    7410             SKP
2377    7707    M71,     -71
```

```
        2400      *2400

                  /JMS TEST 12   COUNTER=72
2400  1205                TAD RK1
2401  3455                DCA I K7777
2402  1206                TAD RK2
2403  3423                DCA I K1
2404  5423                JMP I K1
2405  5537      RK1,      JMP I K2410
2406  4454      RK2,      JMS I K7776

        2410      *2410
2410  1136                TAD PNTCNT
2411  1233                TAD M72
2412  7440                SZA          /CHECK COUNTER
2413  7402                HLT          /JMP COUNTER WRONG
2414  1454                TAD I K7776
2415  1054                TAD K7776
2416  7440                SZA          /CHECK STORED ADDRESS
2417  7402                HLT          /JMS FAILED
2420  3454                DCA I K7776  /CLEAR STORED ADDRESS
2421  1136                TAD PNTCNT
2422  7001                IAC          /ADVANCE COUNTER
2423  3136                DCA PNTCNT

                  /JMS TEST 13   COUNTER=73
2424  1231                TAD RK3
2425  3454                DCA I K7776
2426  1232                TAD RK4
2427  3424                DCA I K2
2430  5424                JMP I K2
2431  5540      RK3,      JMP I K2440
2432  4453      RK4,      JMS I K7775
2433  7706      M72,      -72

        2440      *2440
2440  1136                TAD PNTCNT
2441  1263                TAD M73
2442  7440                SZA          /CHECK COUNTER
2443  7402                HLT          /JMP COUNTER WRONG
2444  1453                TAD I K7775
2445  1053                TAD K7775
2446  7440                SZA          /CHECK STORED ADDRESS
2447  7402                HLT          /JMS FAILED
2450  3453                DCA I K7775  /CLEAR STORED ADDRESS
2451  1136                TAD PNTCNT
2452  7001                IAC          /ADVANCE COUNTER
2453  3136                DCA PNTCNT

                  /JMS TEST 14   COUNTER=74
2454  1261                TAD RK5
```

```
2455   3664              DCA I K7774
2456   1262              TAD RK6
2457   3425              DCA I K4
2460   5425              JMP I K4
2461   5541     RK5,     JMP I K2470
2462   4452     RK6,     JMS I K7773
2463   7705     M73,     -73
2464   7774     K7774,   7774


       2470     *2470
2470   1136              TAD PNTCNT
2471   1313              TAD M74
2472   7440              SZA              /CHECK COUNTER
2473   7402              HLT              /JMP COUNTER WRONG
2474   1452              TAD I K7773
2475   1052              TAD K7773
2476   7440              SZA              /CHECK STORED ADDRESS
2477   7402              HLT              /JMS FAILED
2500   3452              DCA I K7773      /CLEAR STORED ADDRESS
2501   1136              TAD PNTCNT
2502   7001              IAC              /ADVANCE COUNTER
2503   3136              DCA PNTCNT


                         /JMS TEST 15 COUNTER=75
2504   1311              TAD RK7
2505   3714              DCA I K7770
2506   1312              TAD RK8
2507   3426              DCA I K10
2510   5426              JMP I K10
2511   5542     RK7,     JMP I K2520
2512   4451     RK8,     JMS I K7767
2513   7704     M74,     -74
2514   7770     K7770,   7770


       2520     *2520
2520   1136              TAD PNTCNT
2521   1343              TAD M75
2522   7440              SZA              /CHECK COUNTER
2523   7402              HLT              /JMP COUNTER WRONG
2524   1451              TAD I K7767
2525   1051              TAD K7767
2526   7440              SZA              /CHECK STORED ADDRESS
2527   7402              HLT              /JMS FAILED
2530   3451              DCA I K7767      /CLEAR STORED ADDRESS
2531   1136              TAD PNTCNT
2532   7001              IAC              /ADVANCE COUNTER
2533   3136              DCA PNTCNT


                         /JMS TEST 16  COUNTER=76
2534   1341              TAD RK9
2535   3744              DCA I K7760
2536   1342              TAD RK10
2537   3427              DCA I K20
2540   5427              JMP I K20
```

```
2541  5543    RK9,    JMP I K2600
2542  4450    RK10,   JMS I K7757
2543  7703    M75,    -75
2544  7760    K7760,  7760


      2600          *2600
2600  1136          TAD PNTCNT
2601  1223          TAD M76
2602  7440          SZA             /CHECK COUNTER
2603  7402          HLT             /JMP COUNTER WRONG
2604  1450          TAD I K7757
2605  1050          TAD K7757
2606  7440          SZA             /CHECK STORED ADDRESS
2607  7402          HLT             /JMS FAILED
2610  3450          DCA I K7757     /CLEAR STORED ADDRESS
2611  1136          TAD PNTCNT
2612  7001          IAC             /ADVANCE COUNTER
2613  3136          DCA PNTCNT

                    /JMS TEST 17  COUNTER=77
2614  1221          TAD RK11
2615  3624          DCA I K7740
2616  1222          TAD RK12
2617  3430          DCA I K40
2620  5430          JMP I K40
2621  5544    RK11,   JMP I K2630
2622  4447    RK12,   JMS I K7737
2623  7702    M76,    -76
2624  7740    K7740,  7740

      2630          *2630
2630  1136          TAD PNTCNT
2631  1253          TAD M77
2632  7440          SZA             /CHECK COUNTER
2633  7402          HLT             /JMP COUNTER WRONG
2634  1447          TAD I K7737
2635  1047          TAD K7737
2636  7440          SZA             /CHECK STORED ADDRESS
2637  7402          HLT             /JMS FAILED
2640  3447          DCA I K7737     /CLEAR STORED ADDRESS
2641  1136          TAD PNTCNT
2642  7001          IAC             /ADVANCE COUNTER
2643  3136          DCA PNTCNT

                    /JMS TEST 18  COUNTER=100
2644  1251          TAD RK13
2645  3654          DCA I K7700
2646  1252          TAD RK14
2647  3431          DCA I K100
2650  5431          JMP I K100
2651  5545    RK13,   JMP I K2660
2652  4446    RK14,   JMS I K7677
2653  7701    M77,    -77
2654  7700    K7700,  7700
```

)   )   )

```
          2660      *2660
   2660   1136              TAD PNTCNT
   2661   1303              TAD M100
   2662   7440              SZA           /CHECK COUNTER
   2663   7402              HLT           /JMS COUNTER WRONG
   2664   1446              TAD I K7677
   2665   1046              TAD K7677
   2666   7440              SZA           /CHECK STORED ADDRESS
   2667   7402              HLT           /JMS FAILED
   2670   3446              DCA I K7677   /CLEAR STORED ADDRESS
   2671   1136              TAD PNTCNT
   2672   7001              IAC           /ADVANCE COUNTER
   2673   3136              DCA PNTCNT

                           /JMS TEST 19  COUNTER=101
   2674   1301              TAD RK15
   2675   3704              DCA I K7600
   2676   1302              TAD RK16
   2677   3432              DCA I K200
   2700   5432              JMP I K200
   2701   5546      RK15,   JMP I K2710
   2702   4445      RK16,   JMS I K7577
   2703   7700      M100,   -100
   2704   7600      K7600,  7600

          2710      *2710
   2710   1136              TAD PNTCNT
   2711   1333              TAD M101
   2712   7440              SZA           /CHECK COUNTER
   2713   7402              HLT           /JMP COUNTER WRONG
   2714   1445              TAD I K7577
   2715   1045              TAD K7577
   2716   7440              SZA           /CHECK STORED ADDRESS
   2717   7402              HLT           /JMS FAILED
   2720   3445              DCA I K7577   /CLEAR STORED ADDRESS
   2721   1136              TAD PNTCNT
   2722   7001              IAC           /ADVANCE COUNTER
   2723   3136              DCA PNTCNT

                           /JMS TEST 20  COUNTER=102
   2724   1331              TAD RK17
   2725   3734              DCA I K7400
   2726   1332              TAD RK18
   2727   3433              DCA I K400
   2730   5433              JMP I K400
   2731   5547      RK17,   JMP I K2740
   2732   4444      RK18,   JMS I K7377
   2733   7677      M101,   -101
   2734   7400      K7400,  7400

          2740      *2740
   2740   1136              TAD PNTCNT
```

```
2741  1363              TAD M102
2742  7440              SZA              /CHECK COUNTER
2743  7402              HLT              /JMP COUNTER WRONG
2744  1444              TAD I K7377
2745  1044              TAD K7377
2746  7440              SZA              /CHECK STORED ADDRESS
2747  7402              HLT              /JMS FAILED
2750  3444              DCA I K7377      /CLEAR STORED ADDRESS
2751  1136              TAD PNTCNT
2752  7001              IAC              /ADVANCE COUNTER
2753  3136              DCA PNTCNT

                        /JMS TEST 21   COUNTER=103
2754  1361              TAD RK19
2755  3764              DCA I K7000
2756  1362              TAD RK20
2757  3434              DCA I K1000
2760  5434              JMP I K1000
2761  5550     RK19,    JMP I K3000
2762  4443     RK20,    JMS I K6777
2763  7676     M102,    -102
2764  7000     K7000,   7000

      3000              *3000
3000  1136              TAD PNTCNT
3001  1223              TAD M103
3002  7440              SZA              /CHECK COUNTER
3003  7402              HLT              /JMP COUNTER WRONG
3004  1443              TAD I K6777
3005  1043              TAD K6777
3006  7440              SZA              /CHECK STORED ADDRESS
3007  7402              HLT              /JMS FAILED
3010  3443              DCA I K6777      /CLEAR STORED ADDRESS
3011  1136              TAD PNTCNT
3012  7001              IAC              /ADVANCE COUNTER
3013  3136              DCA PNTCNT

                        /JMS TEST 22   COUNTER=104
3014  1221              TAD RK21
3015  3624              DCA I K6000
3016  1222              TAD RK22
3017  3435              DCA I K2000
3020  5435              JMP I K2000
3021  5551     RK21,    JMP I K3030
3022  4442     RK22,    JMS I K5777
3023  7675     M103,    -103
3024  6000     K6000,   6000

      3030              *3030
3030  1136              TAD PNTCNT
3031  1253              TAD M104
3032  7440              SZA              /CHECK COUNTER
3033  7402              HLT              /JMP COUNTER WRONG
3034  1442              TAD I K5777
```

)   )   )

```
3035  1042            TAD K5777
3036  7440            SZA              /CHECK STORED ADDRESS
3037  7402            HLT              /JMS FAILED
3040  3442            DCA I K5777      /CLEAR STORED ADDRESS
3041  1136            TAD PNTCNT
3042  7001            IAC              /ADVANCE COUNTER
3043  3136            DCA PNTCNT

                      /JMS TEST 23 COUNTER=105
3044  1251            TAD RK23
3045  3654            DCA I K4001
3046  1252            TAD RK24
3047  3437            DCA I K3777
3050  5437            JMP I K3777
3051  5552    RK23,   JMP I K3060
3052  4436    RK24,   JMS I K4000
3053  7674    M104,   -104
3054  4001    K4001,  4001

      3060    *3060
3060  1136            TAD PNTCNT
3061  1303            TAD M105
3062  7440            SZA              /CHECK COUNTER
3063  7402            HLT              /JMP COUNTER WRONG
3064  1436            TAD I K4000
3065  1036            TAD K4000
3066  7440            SZA              /CHECK STORED ADDRESS
3067  7402            HLT              /JMS FAILED
3070  3436            DCA I K4000      /CLEAR STORED ADDRESS
3071  1136            TAD PNTCNT
3072  7001            IAC              /ADVANCE COUNTER
3073  3136            DCA PNTCNT

                      /JMS TEST 24  COUNTER=106
3074  1301            TAD RK25
3075  3704            DCA I K2001
3076  1302            TAD RK26
3077  3442            DCA I K5777
3100  5442            JMP I K5777
3101  5553    RK25,   JMP I K3110
3102  4435    RK26,   JMS I K2000
3103  7673    M105,   -105
3104  2001    K2001,  2001


      3110    *3110
3110  1136            TAD PNTCNT
3111  1333            TAD M106
3112  7440            SZA              /CHECK COUNTER
3113  7402            HLT              /JMP COUNTER WRONG
3114  1435            TAD I K2000
3115  1035            TAD K2000
3116  7440            SZA              /CHECK STORED ADDRESS
3117  7402            HLT              /JMS FAILED
3120  3435            DCA I K2000      /CLEAR STORED ADDRESS
```

```
3121  1136              TAD PNTCNT
3122  7001              IAC                /ADVANCE COUNTER
3123  3136              DCA PNTCNT

                        /JMS TEST  25   COUNTER=107
3124  1331              TAD RK27
3125  3734              DCA I K1001
3126  1332              TAD RK28
3127  3443              DCA I K6777
3130  5443              JMP I K6777
3131  5554      RK27,   JMP I K3140
3132  4434      RK28,   JMS I K1000
3133  7672      M106,   -106
3134  1001      K1001,  1001

      3140      *3140
3140  1136              TAD PNTCNT
3141  1363              TAD M107
3142  7440              SZA                /CHECK COUNTER
3143  7402              HLT                /JMP COUNTER WRONG
3144  1434              TAD I K1000
3145  1034              TAD K1000
3146  7440              SZA                /CHECK STORED ADDRESS
3147  7402              HLT                /JMS FAILED
3150  3434              DCA I K1000        /CLEAR STORED ADDRESS
3151  1136              TAD PNTCNT
3152  7001              IAC                /ADVANCE COUNTER
3153  3136              DCA PNTCNT

                        /JMS TEST 26   COUNTER=110
3154  1361              TAD RK29
3155  3764              DCA I K401
3156  1362              TAD RK30
3157  3444              DCA I K7377
3160  5444              JMP I K7377
3161  5555      RK29,   JMP I K3200
3162  4433      RK30,   JMS I K400
3163  7671      M107,   -107
3164  0401      K401,   401


      3200      *3200
3200  1136              TAD PNTCNT
3201  1223              TAD M110
3202  7440              SZA                /CHECK COUNTER
3203  7402              HLT                /JMP COUNTER WRONG
3204  1433              TAD I K400
3205  1033              TAD K400
3206  7440              SZA                /CHECK STORED ADDRESS
3207  7402              HLT                /JMS FAILED
3210  3433              DCA I K400         /CLEAR STORED ADDRESS
3211  1136              TAD PNTCNT
3212  7001              IAC                /ADVANCE COUNTER
3213  3136              DCA PNTCNT
```

)   )   )

```
                              /JMS TEST 27   COUNTER=111
3214   1221                   TAD RK31
3215   3624                   DCA I K201
3216   1222                   TAD RK32
3217   3445                   DCA I K7577
3220   5445                   JMP I K7577
3221   5556       RK31,       JMP I K3230
3222   4432       RK32,       JMS I K200
3223   7670       M110,       -110
3224   0201       K201,       201


       3230       *3230
3230   1136                   TAD PNTCNT
3231   1253                   TAD M111
3232   7440                   SZA             /CHECK COUNTER
3233   7402                   HLT             /JMP COUNTER WRONG
3234   1432                   TAD I K200
3235   1032                   TAD K200
3236   7440                   SZA             /CHECK STORED ADDRESS
3237   7402                   HLT             /JMS FAILED
3240   3432                   DCA I K200      /CLEAR STORED ADDRESS
3241   1136                   TAD PNTCNT
3242   7001                   IAC             /ADVANCE COUNTER
3243   3136                   DCA PNTCNT


                              /JMS TEST 28 COUNTER =112
3244   1251                   TAD RK33
3245   3654                   DCA I K101
3246   1252                   TAD RK34
3247   3446                   DCA I K7677
3250   5446                   JMP I K7677
3251   5557       RK33,       JMP I K3260
3252   4431       RK34,       JMS I K100
3253   7667       M111,       -111
3254   0101       K101,       101


       3260       *3260
3260   1136                   TAD PNTCNT
3261   1303                   TAD M112
3262   7440                   SZA             /CHECK COUNTER
3263   7402                   HLT             /JMP COUNTER WRONG
3264   1431                   TAD I K100
3265   1031                   TAD K100
3266   7440                   SZA             /CHECK STORED ADDRESS
3267   7402                   HLT             /JMS FAILED
3270   3431                   DCA I K100      /CLEAR STORED ADDRESS
3271   1136                   TAD PNTCNT
3272   7001                   IAC             /ADVANCE COUNTER
3273   3136                   DCA PNTCNT

                              /JMS TEST 29   COUNTER=113
3274   1301                   TAD RK35
3275   3704                   DCA I K41
3276   1302                   TAD RK36
```

```
3277  3447              DCA I K7737
3300  5447              JMP I K7737
3301  5560     RK35,    JMP I K3310
3302  4430     RK36,    JMS I K40
3303  7666     M112,    -112
3304  0041     K41,     41

      3310     *3310
3310  1136              TAD PNTCNT
3311  1333              TAD M113
3312  7440              SZA          /CHECK COUNTER
3313  7402              HLT          /JMP COUNTER WRONG
3314  1430              TAD I K40
3315  1030              TAD K40
3316  7440              SZA          /CHECK STORED ADDRESS
3317  7402              HLT          /JMS FAILED
3320  3430              DCA I K40         /CLEAR STORED ADDRESS
3321  1136              TAD PNTCNT
3322  7001              IAC          /ADVANCE COUNTER
3323  3136              DCA PNTCNT


                        /JMS TEST 30 COUNTER=114
3324  1331              TAD RK37
3325  3734              DCA I K21
3326  1332              TAD RK38
3327  3450              DCA I K7757
3330  5450              JMP I K7757
3331  5561     RK37,    JMP I K3340
3332  4427     RK38,    JMS I K20
3333  7665     M113,    -113
3334  0021     K21,     21


      3340     *3340
3340  1136              TAD PNTCNT
3341  1363              TAD M114
3342  7440              SZA          /CHECK COUNTER
3343  7402              HLT          /JMP COUNTER WRONG
3344  1427              TAD I K20
3345  1027              TAD K20
3346  7440              SZA          /CHECK STORED ADDRESS
3347  7402              HLT          /JMS FAILED
3350  3427              DCA I K20         /CLEAR STORED ADDRESS
3351  1136              TAD PNTCNT
3352  7001              IAC          /ADVANCE COUNTER
3353  3136              DCA PNTCNT

                        /JMS TEST 31  COUNTER=115
3354  1361              TAD RK39
3355  3764              DCA I K11
3356  1362              TAD RK40
3357  3451              DCA I K7767
3360  5451              JMP I K7767
3361  5562     RK39,    JMP I K3400
```

```
3362  4426      RK40,    JMS I K10
3363  7664      M114,    -114
3364  0011      K11,     11

      3400      *3400
3400  1136               TAD PNTCNT
3401  1223               TAD M115
3402  7440               SZA            /CHECK COUNTER
3403  7402               HLT            /JMP COUNTER WRONG
3404  1426               TAD I K10
3405  1026               TAD K10
3406  7440               SZA            /CHECK STORED ADDRESS
3407  7402               HLT            /JMS FAILED
3410  3426               DCA I K10              /CLEAR STORED ADDRESS
3411  1136               TAD PNTCNT
3412  7001               IAC            /ADVANCE COUNTER
3413  3136               DCA PNTCNT

                        /JMS TEST 32  COUNTER=116
3414  1221               TAD RK41
3415  3624               DCA I K5
3416  1222               TAD RK42
3417  3452               DCA I K7773
3420  5452               JMP I K7773
3421  5563      RK41,    JMP I K3430
3422  4425      RK42,    JMS I K4
3423  7663      M115,    -115
3424  0005      K5,      5


      3430      *3430
3430  1136               TAD PNTCNT
3431  1253               TAD M116
3432  7440               SZA            /CHECK COUNTER
3433  7402               HLT            /JMP COUNTER WRONG
3434  1425               TAD I K4
3435  1025               TAD K4
3436  7440               SZA            /CHECK STORED ADDRESS
3437  7402               HLT            /JMS FAILED
3440  3425               DCA I K4              /CLEAR STORED ADDRESS
3441  1136               TAD PNTCNT
3442  7001               IAC            /ADVANCE COUNTER
3443  3136               DCA PNTCNT

                        /JMS TEST 33  COUNTER=117
3444  1251               TAD RK43
3445  3654               DCA I K3
3446  1252               TAD RK44
3447  3453               DCA I K7775
3450  5453               JMP I K7775
3451  5564      RK43,    JMP I K3460
3452  4424      RK44,    JMS I K2
3453  7662      M116,    -116
3454  0003      K3,      3
```

```
        3460    *3460
3460    1136            TAD PNTCNT
3461    1303            TAD M117
3462    7440            SZA             /CHECK COUNTER
3463    7402            HLT             /JMP COUNTER WRONG
3464    1424            TAD I K2
3465    1024            TAD K2
3466    7440            SZA             /CHECK STORED ADDRESS
3467    7402            HLT             /JMS FAILED
3470    3424            DCA I K2                /CLEAR STORED ADDRESS
3471    1136            TAD PNTCNT
3472    7001            IAC             /ADVANCE COUNTER
3473    3136            DCA PNTCNT

                        /JMS TEST 34  COUNTER=120
3474    1301            TAD RK45
3475    3424            DCA I K2
3476    1302            TAD RK46
3477    3454            DCA I K7776
3500    5454            JMP I K7776
3501    5565    RK45,   JMP I K3510
3502    4423    RK46,   JMS I K1
3503    7661    M117,   -117


        3510    *3510
3510    1136            TAD PNTCNT
3511    1333            TAD M120
3512    7440            SZA             /CHECK COUNTER
3513    7402            HLT             /JMP COUNTER WRONG
3514    1423            TAD I K1
3515    1023            TAD K1
3516    7440            SZA             /CHECK STORED ADDRESS
3517    7402            HLT             /JMS FAILED
3520    3423            DCA I K1                /CLEAR STORED ADDRESS
3521    1136            TAD PNTCNT
3522    7001            IAC             /ADVANCE COUNTER
3523    3136            DCA PNTCNT

                        /JMS TEST 35  COUNTER=121
3524    1331            TAD RK47
3525    3423            DCA I K1
3526    1332            TAD RK48

3527    3455            DCA I K7777
3530    5455            JMP I K7777
3531    5566    RK47,   JMP I K3540
3532    4422    RK48,   JMS I K0
3533    7660    M120,   -120

        3540    *3540
3540    1136            TAD PNTCNT
3541    1370            TAD M121
3542    7440            SZA             /CHECK COUNTER
3543    7402            HLT             /JMP COUNTER WRONG
```

)   )   )

```
3544  1422              TAD I KØ
3545  1022              TAD KØ
3546  7440              SZA              /CHECK STORED ADDRESS
3547  7402              HLT              /JMS FAILED
3550  3422              DCA I KØ                  /CLEAR STORED ADDRESS

3551  1371              TAD BLCNT
3552  7001              IAC
3553  3371              DCA BLCNT
3554  1371              TAD BLCNT
3555  1372              TAD LIMIT
3556  7640              SZA CLA
3557  5766              JMP I BEL-1
3560  3371              DCA BLCNT
3561  1367              TAD BEL
3562  6046              TLS
3563  6041              TSF
3564  5363              JMP .-1
3565  5766              JMP I .+1
3566  4200              4200
3567  0207      BEL,    207
3570  7657      M121,   -121
3571  0000      BLCNT,  0
3572  1200      LIMIT,  -6600

              $
```

)
)
)