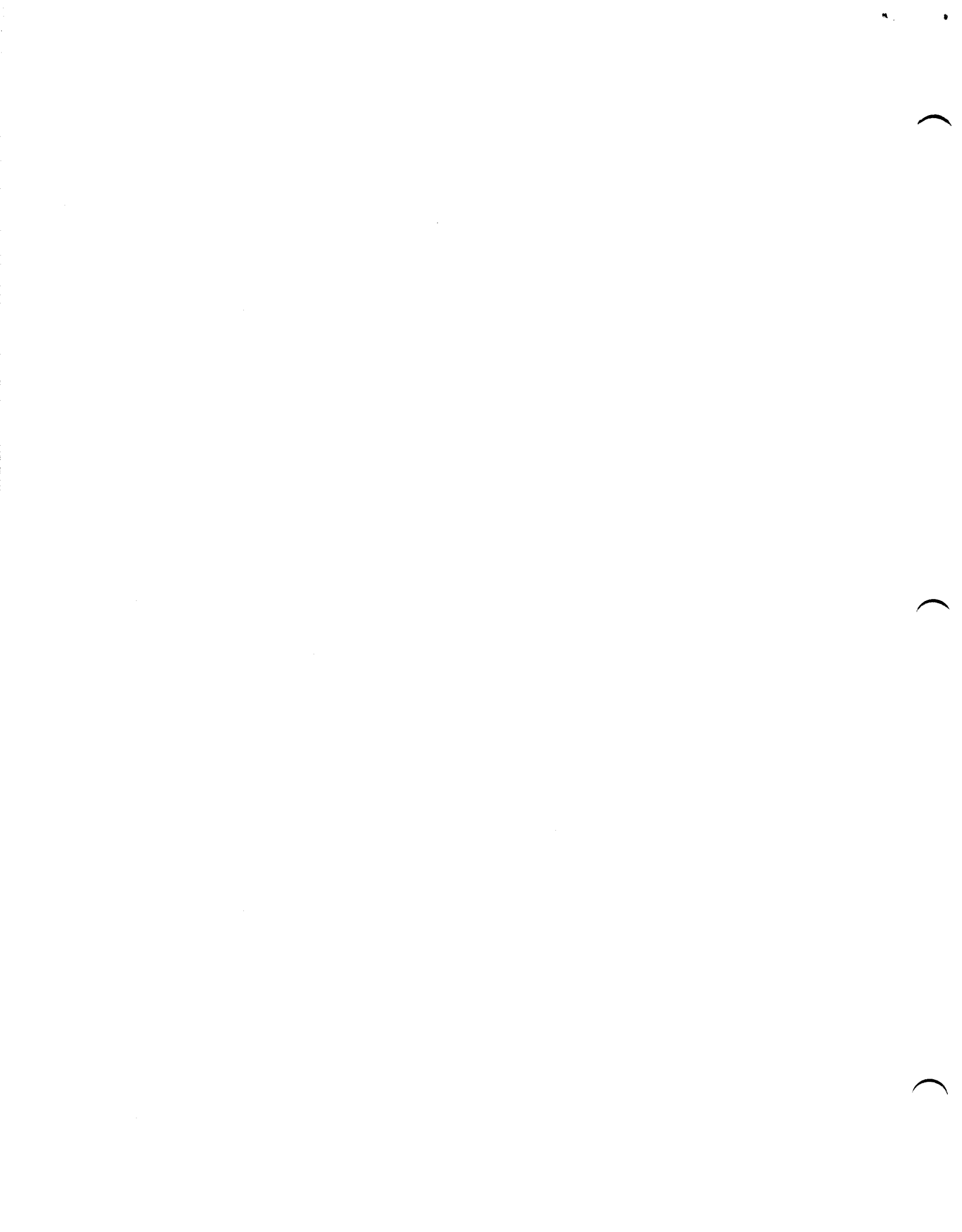


IDENTIFICATION

PRODUCT CODE: MAINDEC-8E-D01B-D
PRODUCT NAME: BASIC JMP-JMS TEST
DATE CREATED: JUNE 11, 1971
MAINTAINER: DIAGNOSTICS GROUP
AUTHOR: BRUCE HANSEN

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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 39 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
0000
0001 JMP 1
0002 2
0003 3
0004 0
0005 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

```

*0

```

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

```

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	0170	*170	
0000	0000	00,	
0171	1175		0
0172	3410		TAD K7402
0173	1010		DCA I 10
0174	5570		TAD 10
0175	7402		JMP I DO
		K7402,	7402

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

/STORE LOADER INSTRUCTIONS
/THAT WILL BE DESTROYED

0600	0600	*600	
7200	7200	SAVE,	
0601	1493		CLA I K7775
0602	3353		DCA STOR
0603	1492		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	CLA CLL
0632	1264	TAD K175
0633	3010	DCA 10
0634	4170	JMS DO
0635	1265	TAD M577
0636	7640	SEA CLA
0637	5234	JMP --3
0640	1266	TAD K756
0641	3010	DCA 10
0642	4170	JMS DO
0643	1267	TAD M1777
0644	7640	SEA CLA
0645	5242	JMP --3
0646	1270	TAD K3572
0647	3010	DCA 10
0650	4170	JMS DO
0651	1271	TAD M4177
0652	7640	SEA CLA
0653	5250	JMP --3
0654	1272	TAD K5451
0655	3010	DCA 10
0656	4170	JMS DO
0657	1273	TAD M7600
0660	7640	SEA CLA
0661	5256	JMP --3
0662	5300	JMP RESTAR
0663	4200	BEGIN
0664	0175	K175,
0665	7201	M577, -977
0666	0756	K756,
0667	6001	M1777, -1777
0670	3572	K3572, 3572
0671	3601	M4177, -4177
0672	5451	K5451, 5451
0673	0200	M7600, -7600

HALT1,

HALT2,

HALT3,

HALT4,

/RESTORE LOADER INSTRUCTIONS

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

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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 3490 DCA I K7757
0721 1351 TAD STOR+6
0722 3740 DCA I K60
0723 1392 TAD STOR+7
0724 3447 DCA I K7737
0725 1393 TAD STOR+10

0726 3741 DCA I K740
0727 1354 TAD STOR+11
0730 3446 DCA I K7677
0731 1395 TAD STOR+12
0732 3742 DCA I K00
0733 1396 TAD STOR+13
0734 3495 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
0744 0000 0
0745 0000 0
0746 0000 0
0747 1742 -6036
0750 0000 0
0751 0000 0
0752 0000 0
0753 0000 0
0754 0000 0
0755 0000 0
0756 0000 0

STORE LOC 7775
/+1 STORE LOC 7773
/+2 STORE LOC 7774
/+3 STORE LOC 7767
/+4 STORE LOC 7770
/+5 STORE LOC 7757
/+6 STORE LOC 7760
/+7 STORE LOC 7737
/+10 STORE LOC 7740
/+11 STORE LOC 7677
/+12 STORE LOC 7700
/+13 STORE LOC 7777

```

```

4200 4200 *4200
4201 3136 BEGIN, DCA PNTCNT

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

```

4207 7001 IAC PNTCNT /JUMP TEST 1 COUNTER=1
 4210 3136 DCA PNTCNT /ADVANCE COUNTER

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

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

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

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

/JUMP TEST 5 COUNTER=5

4263 5271 JMP .+6 /JMP FAILED
 4264 7402 HLT /
 4265 7402 HLT /
 4266 7402 HLT /
 4267 7402 HLT /
 4270 7402 HLT PNTCNT
 4271 1136 TAD M5
 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 /JMP FAILED
 4301 7402 HLT /
 4302 7402 HLT /
 4303 7402 HLT /
 4304 7402 HLT /
 4305 7402 HLT /
 4306 7402 HLT PNTCNT
 4307 1136 TAD M6
 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 /JMP FAILED
 4317 7402 HLT /
 4320 7402 HLT /
 4321 7402 HLT /
 4322 7402 HLT /
 4323 7402 HLT /
 4324 7402 HLT /
 4325 7402 HLT PNTCNT
 4326 1136 TAD M7
 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 /JMP FAILED
 4336 7402 HLT /
 4337 7402 HLT /
 4340 7402 HLT /
 4341 7402 HLT /
 4342 7402 HLT /

```

4343 7402 /
4344 7402 /
4345 7402 /
4346 1136 /CHECK COUNTER
4347 1122 /JMP COUNTER WRONG
4350 7440 /ADVANCE COUNTER
4351 7402
4352 1136
4353 7001
4354 3136

```

```

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

```

```

*4400 /JUMP TEST 10 COUNTER=12
4400 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 /ADVANCE COUNTER
4406 7001 IAC
4407 3136 DCA PNTCNT

```

```

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

```

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

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

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

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

4477 5306 /JUMP TEST 16 COUNTER=20
 4500 7402 JMP .+7 /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 SEA /CHECK COUNTER
 4511 7402 HLT /JMP COUNTER WRONG
 4512 1136 TAD PNTCNT
 4513 7001 IAC /ADVANCE COUNTER
 4514 3136 DCA PNTCNT

4515 5325 /JUMP TEST 17 COUNTER=21
 4516 7402 JMP .+10 /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 SEA /CHECK COUNTER
 4530 7402 HLT /JMP COUNTER WRONG
 4531 1136 TAD PNTCNT
 4532 7001 IAC /ADVANCE COUNTER
 4533 3136 DCA PNTCNT

4534 5345 /JUMP TEST 18 COUNTER=22
 4535 7402 JMP .+11 /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 SEA /CHECK COUNTER
 4550 7402 HLT /JMP COUNTER WRONG
 4551 1136 TAD PNTCNT
 4552 7001 IAC /ADVANCE COUNTER
 4553 3136 DCA PNTCNT

4554 5345 /JUMP TEST 19 COUNTER=23
 4555 7402 JMP .+11 /JMP FAILED
 4556 7402 HLT /
 4557 7402 HLT /
 4560 7402 HLT /
 4561 7402 HLT /
 4562 7402 HLT /
 4563 1136 TAD PNTCNT
 4564 1134 TAD M22
 4565 7440 SEA /CHECK COUNTER
 4568 7402 HLT /JMP COUNTER WRONG
 4569 1136 TAD PNTCNT
 4570 7001 IAC /ADVANCE COUNTER
 4571 3136 DCA PNTCNT


```

/BASIC JMP-JNS TEST
4584 9366 JMP .+12
4585 7402 HLT /JMP FAILED
4586 7402 HLT /
4587 7402 HLT /
4588 7402 HLT /
4589 7402 HLT /
4590 7402 HLT /
4591 7402 HLT /
4592 7402 HLT /
4593 7402 HLT /
4594 7402 HLT /
4595 7402 HLT /
4596 1136 TAD PNTCNT
4597 1135 TAD M23
4570 7440 SZA /CHECK COUNTER
4571 7402 HLT /JMP COUNTER WRONG
4572 1136 TAD PNTCNT /ADVANCE COUNTER
4573 7001 IAC
4574 3136 DCA PNTCNT
4575 7000 NOP
4576 7000 NOP
4577 7000 NOP

/JMP TEST 20 COUNTER=24
4600 1205 TAD PK1
4601 3495 DCA I K7777
4602 1206 TAD PK2
4603 3422 DCA I K0
4604 5495 JMP I K7777
4605 5422 JMP I K0
4606 5496 JMP I K4620

*4620
4620 1136 TAD PNTCNT
4621 1236 TAD M24
4622 7440 SZA /CHECK COUNTER
4623 7402 HLT /JMP COUNTER WRONG
4624 1136 TAD PNTCNT /ADVANCE COUNTER
4625 7001 IAC
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 5494 JMP I K7776
4634 5423 JMP I K1
4635 5497 JMP I K4640
4636 7754 M24, -24

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

```

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

/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 JMP I K2
 4655 5660 JMP I 4660
 4656 7753 -25
 PK5,
 PK6,
 M25,

*4660
 4660 1136 TAD PNTCNT
 4661 1276 TAD M26
 4662 7440 SEA /CHECK COUNTER
 4663 7402 HLT /JMP COUNTER WRONG
 4664 1136 TAD PNTCNT /ADVANCE COUNTER
 4665 7001 IAC PNTCNT
 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 JMP I K4
 4675 5461 JMP I K4700
 4676 7752 -26
 PK7,
 PK8,
 M26,

*4700
 4700 1136 TAD PNTCNT
 4701 1316 TAD M27
 4702 7440 SEA /CHECK COUNTER
 4703 7402 HLT /JMP COUNTER WRONG
 4704 1136 TAD PNTCNT /ADVANCE COUNTER
 4705 7001 IAC PNTCNT
 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 JMP I K10
 4715 5462 JMP I K4720
 4716 7751 -27
 PK9,
 PK10,
 M27,

*4720
 4720 1136 TAD PNTCNT

4721 1336 TAD M30
 4722 7440 SEA /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 TAO PK11
 4730 3450 DCA I K7757
 4731 1335 TAD PK12
 4732 3427 DCA I K20
 4733 5450 JMP I K7757
 4734 5427 JMP I K20
 4735 5463 JMP I K4740
 4736 7750 M30, -30

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

/JMP TEST 26 COUNTER=32

4747 1354 TAD PK13
 4750 3447 DCA I K7737
 4751 1355 TAD PK14
 4752 5430 DCA I K40
 4753 5447 JMP I K7737
 4754 5430 JMP I K40
 4755 5404 JMP I K4760
 4756 7747 M31, -31

4760 4760 TAD PNTCNT
 4761 1136 TAD M32
 4762 7440 SEA /CHECK COUNTER
 4763 7402 HLT /JMP COUNTER WRONG
 4764 1136 TAD PNTCNT /ADVANCE COUNTER
 4765 7001 IAC
 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 JMP I K100
 4775 5405 JMP I K5000
 4776 7746 M32, -32

5000 *5000
 5001 TAD PNTCNT
 5002 TAD M33
 5003 SEA /CHECK COUNTER
 5004 HLT /JMP COUNTER WRONG
 5005 TAD PNTCNT /ADVANCE COUNTER
 5006 IAC
 DCA PNTCNT

/JMP TEST 28 COUNTER=34
 5007 TAD PK17
 5010 DCA I K7577
 5011 TAD PK18
 5012 DCA I K200
 5013 JMP I K7577
 5014 JMP I K200
 5015 JMP I K5020
 5016 M33, -33

*5020
 5020 TAD PNTCNT
 5021 TAD M34
 5022 SEA /CHECK COUNTER
 5023 HLT /JMP COUNTER WRONG
 5024 TAD PNTCNT /ADVANCE COUNTER
 5025 IAC
 5026 DCA PNTCNT

/JMP TEST 29 COUNTER=35
 5027 TAD PK19
 5030 DCA I K7377
 5031 TAD PK20
 5032 DCA I K400
 5033 JMP I K7377
 5034 JMP I K400
 5035 JMP I K5040
 5036 M34, -34

*5040
 5040 TAD PNTCNT
 5041 TAD M35
 5042 SEA /CHECK COUNTER
 5043 HLT /JMP COUNTER WRONG
 5044 TAD PNTCNT /ADVANCE COUNTER
 5045 IAC
 5046 DCA PNTCNT

/JMP TEST 30 COUNTER=36
 5047 TAD PK21
 5050 DCA I K6777
 5051 TAD PK22
 5052 DCA I K1000

5053	5443	JMP I K6777	
5054	5434	JMP I K1000	
5055	5470	JMP I K5060	
5056	7743	-35	
5060	*5060		
5061	1136	TAD PNTCNT	
5062	1276	TAD M36	/CHECK COUNTER
5063	7440	SEA	/JMP COUNTER WRONG
5064	1136	HLT	
5065	7001	TAD PNTCNT	
5066	3136	IAC	/ADVANCE COUNTER
		DCA PNTCNT	
5067	1274	/JMP TEST 31	COUNTER=37
5070	3442	TAD PK23	
5071	1275	DCA I K5777	
5072	3435	TAD PK24	
5073	5442	DCA I K2000	
5074	5435	JMP I K5777	
5075	5471	JMP I K2000	
5076	7742	JMP I K5100	
		-36	
5100	*5100		
5101	1136	TAD PNTCNT	
5102	1316	TAD M37	
5103	7440	SEA	/CHECK COUNTER
5104	7402	HLT	/JMP COUNTER WRONG
5105	1136	TAD PNTCNT	
5106	7001	IAC	/ADVANCE COUNTER
		DCA PNTCNT	
5107	1314	/JMP TEST 32	COUNTER=40
5110	3437	TAD PK25	
5111	1315	DCA I K3777	
5112	3436	TAD PK26	
5113	5437	DCA I K4000	
5114	5436	JMP I K3777	
5115	5472	JMP I K4000	
5116	7741	JMP I K5120	
		-37	
5120	*5120		
5121	1136	TAD PNTCNT	
5122	1336	TAD M40	
5123	7440	SEA	/CHECK COUNTER
5124	1136	HLT	/JMP COUNTER WRONG
5125	7001	TAD PNTCNT	
5126	3136	IAC	/ADVANCE COUNTER
		DCA PNTCNT	

/JMP TEST 33 COUNTER=41

TAD PK27
DCA I K0
TAD PK28
DCA I K7777
JMP I K0
JMP I K7777
JMP I K5140
-40

PK27,
PK28,
M40,

*5140

TAD PNTCNT
TAD M41
SEA
HLT
TAD PNTCNT
IAC
DCA PNTCNT

/CHECK COUNTER
/JMP COUNTER WRONG
/ADVANCE COUNTER

/JMP TEST 34 COUNTER=42

TAD PK29
DCA I K1
TAD PK30
DCA I K7776
JMP I K1
JMP I K7776
JMP I K5160
-41

PK29,
PK30,
M41,

*5160

TAD PNTCNT
TAD M42
SEA
HLT
TAD PNTCNT
IAC
DCA PNTCNT

/CHECK COUNTER
/JMP COUNTER WRONG
/ADVANCE COUNTER

/JMP TEST 35 COUNTER=43

TAD PK31
DCA I K2
TAD PK32
DCA I K7775
JMP I K2
JMP I K7775
JMP I K5200
-42

PK31,
PK32,
M42,

*5200

TAD PNTCNT
TAD M43
SEA
HLT
TAD PNTCNT

/CHECK COUNTER
/JMP COUNTER WRONG

5127 1334
5130 3422
5131 1335
5132 3455
5133 5422
5134 5455
5135 5473
5136 7740

5140
5140 1136
5141 1356
5142 7440
5143 7402
5144 1136
5145 7001
5146 3136

5147 1354
5150 3423
5151 1355
5152 3454
5153 5423
5154 5454
5155 5474
5156 7737

5160
5160 1136
5161 1376
5162 7440
5163 7402
5164 1136
5165 7001
5166 3136

5167 1374
5170 3424
5171 1375
5172 3493
5173 5424
5174 5453
5175 5475
5176 7736

5200
5200 1136
5201 1216
5202 7440
5203 7402
5204 1136

5205 7001 IAC PNTCNT /JMP TEST 36 COUNTER=44

5206 3136 DCA PNTCNT

5207 1214 TAD PK33

5210 3425 DCA I K4

5211 1215 TAD PK34

5212 3422 DCA I K7773

5213 5425 JMP I K4

5214 5452 JMP I K7773

5215 5476 JMP I K5220

5216 7735 M43, -43

5220 *5220

5220 1136 TAD PNTCNT

5221 1236 TAD M44

5222 7440 SEA

5223 7402 HLT

5224 1136 TAD PNTCNT

5225 7001 IAC

5226 3136 DCA PNTCNT

5227 1234 /JMP TEST 37 COUNTER=45

5230 3426 TAD PK35

5231 1235 DCA I K10

5232 3431 TAD PK36

5233 5426 DCA I K7767

5234 5451 JMP I K10

5235 5502 JMP I K7767

5236 7734 M44, -44

5240 *5240

5240 1136 TAD PNTCNT

5241 1256 TAD M45

5242 7440 SEA

5243 7402 HLT

5244 1136 TAD PNTCNT

5245 7001 IAC

5246 3136 DCA PNTCNT

5247 1254 /JMP TEST 3 COUNTER=46

5250 3427 TAD PK37

5251 1255 DCA I K20

5252 3450 TAD PK38

5253 5427 DCA I K7757

5254 5450 JMP I K20

5255 5503 JMP I K7757

5256 7733 M45, -45

5260 *5260

5260 1136 TAD PNTCNT

5261 1276 TAD M46

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 5262 7440 SEA /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 JMP I K7737
 5275 5504 JMP I K5300
 5276 7732 M46, -46

*5300
 5300 1136 TAD PNTCNT
 5301 1316 TAD M47
 5302 7440 SEA /CHECK COUNTER
 5303 7402 HLT /JMP COUNTER WRONG
 5304 1136 TAD PNTCNT /ADVANCE COUNTER
 5305 7001 IAC
 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 JMP I K7677
 5315 5505 JMP I K5320
 5316 7731 M47, -47

*5320
 5320 1136 TAD PNTCNT
 5321 1336 TAD M50
 5322 7440 SEA /CHECK COUNTER
 5323 7402 HLT /JMP COUNTER WRONG
 5324 1136 TAD PNTCNT /ADVANCE COUNTER
 5325 7001 IAC
 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 JMP I K7577
 5335 5506 JMP I K5340
 5336 7730 M50, -50

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

5347 1354 /JMP TEST 42 COUNTER=52
 5350 3233 TAD PK45
 5351 1355 DCA I K400
 5352 3444 TAD PK46
 5353 5433 DCA I K7377
 5354 5444 JMP I K400
 5355 5507 JMP I K7377
 5356 7727 JMP I K5360
 M51, -51

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

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

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

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

5415	5511	PK50,	JMP I K5420	
5416	7725	M53,	-53	
5420	5420	*5420		
5420	1136		TAD PNTCNT	
5421	1236		TAD M54	
5422	7440		SEA /CHECK COUNTER	
5423	7402		HLT /JMP COUNTER WRONG	
5424	1136		TAD PNTCNT	
5425	7001		IAC /ADVANCE COUNTER	
5426	5136		DCA PNTCNT	
5427	1234		/JMP TEST 45 COUNTER=55	
5430	3436		TAD PK51	
5431	1235		DCA I K4000	
5432	3437		TAD PK52	
5433	5436		DCA I K3777	
5434	5437	PK51,	JMP I K4000	
5435	5512	PK52,	JMP I K3777	
5436	7724	M54,	JMP I K5440	
			-94	
5440	5440	*5440		
5440	1136		TAD PNTCNT	
5441	1250		TAD M55	
5442	7440		SEA /CHECK COUNTER	
5443	7402		HLT /JMP COUNTER WRONG	
5444	1136		TAD PNTCNT	
5445	7001		IAC /ADVANCE COUNTER	
5446	3136		DCA PNTCNT	
5447	5651		/JMS TEST 1 COUNTER=56	
5450	7723	M55,	JMP I AFRM	
5491	2002	AFRM,	-55	
			FRM	
2002	2002	*2002		
2002	4203	FRM,	JMS TO	
2003	5203	TO,	JMP	
2004	1136		TAD PNTCNT	
2005	1222		TAD M56	
2006	7440		SEA /CHECK COUNTER	
2007	7402		HLT /JMP COUNTER WRONG	
2010	1224		TAD AFM	
2011	7041		CIA	
2012	1203		TAD TO	
2013	7440		SEA /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	M56,	SKP	
2022	7722		-56	

2023	7410	SKP			
2024	2003	FRM#1			
2025	4227	/JMS TEST 2 COUNTER#57			
2026	7402	JMS T01			
2027	5227	HLT			
2030	1136	JMP			
2031	1246	TAD PNTCNT			
2032	7440	TAD M57			
2033	7402	SEA			/CHECK COUNTER WRONG
2034	1250	HLT			/JMP COUNTER WRONG
2035	7041	TAD AFRM1			
2036	1227	CIA			
2037	7440	TAD T01			
2040	7402	SEA			/CHECK STORED ADDRESS
2041	3227	HLT			/JMS FAILED
2042	1136	OCA T01			/CLEAR STORED PC
2043	7001	TAD PNTCNT			
2044	3136	IAC			
2045	7410	DCA PNTCNT			
2046	7721	SKP			
2047	7410	-57			
2050	2026	FRM1			
2051	4254	/JMS TEST 3 COUNTER#60			
2052	7402	JMS T02			
2053	7402	HLT			
2054	0254	HLT			
2055	1136	JMP			
2056	1275	TAD PNTCNT			
2057	7440	TAD M60			
2060	7402	SEA			/CHECK COUNTER WRONG
2061	1273	HLT			/JMP COUNTER WRONG
2062	7041	TAD AFRM2			
2063	1254	CIA			
2064	7440	TAD T02			
2065	7402	SEA			/CHECK STORED ADDRESS
2066	3254	HLT			/JMS FAILED
2067	1136	DCA T02			/CLEAR STORED PC
2070	7001	TAD PNTCNT			
2071	3136	IAC			
2072	7410	DCA PNTCNT			
2073	2032	SKP			
2074	7410	FRM2			
2075	7720	SKP			
2076	4302	-60			
2077	7402	/JMS TEST 4 COUNTER#61			
2100	7402	JMS T03			
2101	7402	HLT			
		HLT			
		HLT			
		FRM3			

2102	5302	JMP	.	
2103	1136	TAD	PNTCNT	
2104	1323	TAD	M61	
2105	7440	SEA		/CHECK COUNTER
2106	7402	HLT		/JMP COUNTER WRONG
2107	1321	TAD	AFRM3	
2110	7041	CIA		
2111	1302	TAD	T03	
2112	7440	SEA		/CHECK STORED ADDRESS
2113	7402	HLT		/JMS FAILED
2114	5302	DCA	T03	/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	

2124	4330	/JMS TEST 5 COUNTER=62		
2125	7402	JMS	T04	
2126	7402	HLT		
2127	7402	HLT		
2130	5330	HLT		
2131	1136	JMP	PNTCNT	
2132	1351	TAD	M62	
2133	7440	SEA		/CHECK COUNTER
2134	7402	HLT		/JMP COUNTER WRONG
2135	1347	TAD	AFRM4	
2136	7041	CIA		
2137	1330	TAD	T04	
2140	7440	SEA		/CHECK STORED ADDRESS
2141	7402	HLT		/JMS FAILED
2142	3330	DCA	T04	/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	

2152	4356	/JMS TEST 6 COUNTER=63		
2153	7402	JMS	T05	
2154	7402	HLT		
2155	7402	HLT		
2156	5356	HLT		
2157	1136	JMP	PNTCNT	
2160	1377	TAD	M63	
2161	7440	SEA		/CHECK COUNTER

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2162 7402 HLT
2163 1375 TAD AFRM5
2164 7041 CIA
2165 1356 TAD T05
2166 7440 SZA
2167 7402 HLT
2170 3356 DCA T05
2171 1136 TAD PNTCNT
2172 7001 IAC
2173 3136 DCA PNTCNT
2174 7410 SKP
2175 2153 AFRM5,
2176 7410 SKP
2177 7715 M63,

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/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED PC

PAUSE

/TAPE # 2
*2200

2200

/JMS TEST 7 COUNTER=64

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2200 7000 NOP
2201 4202 JMS T06
2202 5202 JMP
2203 1136 TAD PNTCNT
2204 1221 TAD M64
2205 7440 SZA
2206 7402 HLT
2207 1202 TAD T06
2210 7041 CIA
2211 1223 TAD AT06
2212 7440 SZA
2213 7402 HLT
2214 3202 DCA T06
2215 1136 TAD PNTCNT
2216 7001 IAC
2217 3136 DCA PNTCNT
2220 7410 SKP
2221 7714 M64,
2222 7410 SKP
2223 2202 AT06,

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/CHECK COUNTER WRONG
/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED PC

/JMS TEST 8 COUNTER=65

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2224 4226 JMS T07
2225 7402 HLT
2226 5226 JMP
2227 1136 TAD PNTCNT
2230 1245 TAD M65
2231 7440 SZA
2232 7402 HLT
2233 1247 TAD AFRM7
2234 7041 CIA
2235 1226 TAD T07

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/CHECK COUNTER WRONG
/JMP COUNTER WRONG

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

/JMS TEST 9 COUNTER=66
 JMS T08
 2250 4253 FRM8,
 2251 7402 HLT
 2252 7402 HLT
 2253 5253 T08,
 2254 1136 JMP .
 2255 1274 TAD PNTCNT
 2256 7440 TAD M66
 2257 7402 SEA
 2260 1253 HLT
 2261 7041 TAD T08
 2262 1272 CIA
 2263 7440 TAD AFRM8
 2264 7402 SEA
 2265 3253 HLT
 2266 1136 DCA T08
 2267 7001 TAD PNTCNT
 2270 3136 IAC PNTCNT
 2271 7410 SKP
 2272 2251 AFRM8,
 2273 7410 FRM8
 2274 7712 SKP -66

/JMS TEST 10 COUNTER=67
 JMS T09
 2275 4301 FRM9,
 2276 7402 HLT
 2277 7402 HLT
 2300 7402 HLT
 2301 9301 T09,
 2302 1136 JMP .
 2303 1322 TAD PNTCNT
 2304 7440 TAD M67
 2305 7402 SEA
 2306 1301 HLT
 2307 7041 TAD T09
 2310 1320 CIA
 2311 7440 TAD AFRM9
 2312 7402 SEA
 2313 3301 HLT
 2314 1136 DCA T09
 2315 7001 TAD PNTCNT
 2316 3136 IAC PNTCNT
 2317 7410 DCA PNTCNT SKP

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

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

2330 5330 JMP
2331 1136 TAD PNTCNT
2332 1351 TAD M70
2333 7440 SEA
2334 7402 HLT
2335 1330 TAD T010
2336 7041 CIA
2337 1347 TAD AFRM10
2340 7440 SEA
2341 7402 HLT
2342 3330 DCA T010
2343 1136 TAD PNTCNT
2344 7001 IAC
2345 1136 DCA PNTCNT
2346 7410 SKP
2347 2324 AFRM10, FRM10
2350 7410 SKP

/CHECK COUNTER
/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED PC

2351 7710 M70, -70

/JMS TEST 11 COUNTER=71

2352 4356 JMS T011
2353 7402 HLT
2354 7402 HLT
2355 7402 HLT
2356 5356 JMP
2357 1136 TAD PNTCNT
2360 1377 TAD M71
2361 7440 SEA
2362 7402 HLT
2363 1356 TAD T011
2364 7041 CIA
2365 1375 TAD AFRM11
2366 7440 SEA
2367 7402 HLT
2370 3356 DCA T011
2371 1136 TAD PNTCNT
2372 7001 IAC
2373 1136 DCA PNTCNT
2374 7410 SKP
2375 2353 AFRM11, FRM11
2376 7410 SKP
2377 7707 M71, -71

/CHECK COUNTER
/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED PC

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 JMP I K2410
 2406 4434 JMS I K7776

*2410

2410 1136 TAD PNTCNT
 2411 1233 TAD M72
 2412 7440 SEA /CHECK COUNTER
 2413 7402 HLT /JMP COUNTER WRONG
 2414 1454 TAD I K7776
 2415 1054 TAD K7776
 2416 7440 SEA /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 3424 JMP I K2
 2431 5540 JMP I K2440
 2432 4453 JMS I K7775
 2433 7706 M72, -72

*2440

2440 1136 TAD PNTCNT
 2441 1263 TAD M73
 2442 7440 SEA /CHECK COUNTER
 2443 7402 HLT /JMP COUNTER WRONG
 2444 1453 TAD I K7775
 2445 1053 TAD K7775
 2446 7440 SEA /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 JMP I K2470
2462 4452 JMS I K7773
2463 7705 -73
2464 7774 K7774, 7774

2470 *2470
2470 1136 TAD PNTCNT
2471 1313 TAD M74
2472 7440 SEA
2473 7402 HLT
2474 1452 TAD I K7773
2475 1052 TAD K7773
2476 7440 SEA
2477 7402 HLT
2500 3492 DCA I K7773
2501 1136 TAD PNTCNT
2502 7001 IAC
2503 3136 DCA PNTCNT

/CHECK COUNTER
/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED ADDRESS

/ADVANCE COUNTER

2504 1311 /JMS TEST 15 COUNTER=75
2505 3714 TAD RK7
2506 1312 DCA I K7770
2507 3426 TAD RK6
2510 5426 DCA I K10
2511 5542 JMP I K10
2512 4451 JMP I K2520
2513 7704 JMS I K7767
2514 7770 -74
K7770, 7770

/CHECK COUNTER
/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED ADDRESS

/ADVANCE COUNTER

2520 *2520
2520 1136 TAD PNTCNT
2521 1343 TAD M75
2522 7440 SEA
2523 7402 HLT
2524 1451 TAD I K7767
2525 1051 TAD K7767
2526 7440 SEA
2527 7402 HLT
2530 3491 DCA I K7767
2531 1136 TAD PNTCNT
2532 7001 IAC
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 5243 JMP I K2600
2542 4450 JMS I K7757
2543 7703 M75, -75
2544 7760 K7760, 7760

*2600
2600 TAD PNTCNT
2601 1136 TAD M76
2602 7440 SEA
2603 7402 HLT
2604 1450 TAD I K7757
2605 1050 TAD K7757
2606 7440 SEA
2607 7402 HLT
2610 3450 DCA I K7757
2611 1136 TAD PNTCNT
2612 7001 IAC
2613 3136 DCA PNTCNT

/CHECK COUNTER
/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED ADDRESS
/ADVANCE COUNTER

/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 5444 JMP I K2630
2622 4447 JMS I K7737
2623 7702 M76, -76
2624 7740 K7740, 7740

/CHECK COUNTER
/JMP COUNTER WRONG

/CHECK STORED ADDRESS
/JMS FAILED
/CLEAR STORED ADDRESS
/ADVANCE COUNTER

*2630
2630 TAD PNTCNT
2631 1136 TAD M77
2632 7440 SEA
2633 7402 HLT
2634 1447 TAD I K7737
2635 1047 TAD K7737
2636 7440 SEA
2637 7402 HLT
2640 3447 DCA I K7737
2641 1136 TAD PNTCNT
2642 7001 IAC
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 3431 JMP I K100
2651 5545 JMP I K2660
2652 4446 JMS I K7677
2653 7701 M77, -77
2654 7700 K7700, 7700

RK13,
RK14,
M77,
K7700,

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2660 #2660
1136 TAD PNTCNT
1303 TAD M100
2661 SZA /CHECK COUNTER WRONG
2662 7440 /JMS COUNTER WRONG
2663 7402 HLT
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

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

```

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2710 #2710
1136 TAD PNTCNT
1333 TAD M101
2712 7440 SZA /CHECK COUNTER WRONG
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

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

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2740 #2740
1136 TAD PNTCNT

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2741 1363 TAD M102
 2742 7440 SEA /CHECK COUNTER
 2743 7402 HLT /JMP COUNTER WRONG
 2744 1444 TAD I K7377
 2745 1044 TAD K7377
 2746 7440 SEA /CHECK STORED ADDRESS
 2747 7402 HLT /JMS FAILED
 2750 3444 DCA I K7377 /CLEAR STORED ADDRESS
 2751 1136 TAD PNTCNT /ADVANCE COUNTER
 2752 7001 IAC
 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 JMP I K3000
 2762 4443 JMS I K6777
 2763 7676 M102, -102
 2764 7000 K7000,

3000 *3000
 3000 1136 TAD PNTCNT
 3001 1223 TAD M103
 3002 7440 SEA /CHECK COUNTER
 3003 7402 HLT /JMP COUNTER WRONG
 3004 1443 TAD I K6777
 3005 1043 TAD K6777
 3006 7440 SEA /CHECK STORED ADDRESS
 3007 7402 HLT /JMS FAILED
 3010 3443 DCA I K6777 /CLEAR STORED ADDRESS
 3011 1136 TAD PNTCNT /ADVANCE COUNTER
 3012 7001 IAC
 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 JMP I K3030
 3022 4442 JMS I K5777
 3023 7675 M103, -103
 3024 6000 K6000,

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

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

/JMS TEST 23 COUNTER=105

3044 1251 TAD RK23
 3045 3054 DCA I K4001
 3046 1252 TAD RK24
 3047 3437 DCA I K3777
 3050 5437 JMP I K3777
 3051 5552 JMP I K3060
 3052 4436 JMS I K4000
 3053 7674 -104
 3054 4001 K4001, 4001

*3060

3060 TAD PNTCNT /CHECK COUNTER WRONG
 3061 1136 TAD M105 /JMP COUNTER WRONG
 3062 7402 SEA
 3063 7402 HLT
 3064 1436 TAD I K4000
 3065 1036 TAD K4000
 3066 7440 SEA
 3067 7402 HLT
 3070 3036 DCA I K4000
 3071 1136 TAD PNTCNT
 3072 7001 IAC
 3073 3136 DCA PNTCNT

/CHECK STORED ADDRESS
 /JMS FAILED
 /CLEAR STORED ADDRESS
 /ADVANCE COUNTER

/JMS TEST 24 COUNTER=106

3074 1301 TAD RK25
 3075 3704 DCA I K2001
 3076 1302 TAD RK26
 3077 3442 DCA I K5777
 3100 8442 JMP I K5777
 3101 8553 JMP I K3110
 3102 4435 JMS I K2000
 3103 7073 M105, -105
 3104 2001 K2001, 2001

*3110

3110 TAD PNTCNT /CHECK COUNTER WRONG
 3111 1333 TAD M106 /JMP COUNTER WRONG
 3112 7440 SEA
 3113 7402 HLT
 3114 1435 TAD I K2000
 3115 1035 TAD K2000
 3116 7440 SEA
 3117 7402 HLT
 3120 3435 DCA I K2000

/CHECK STORED ADDRESS
 /JMS FAILED
 /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 JMP I K3140
3132 4434 JMS I K1000
3133 7672 -106
3134 1001 K1001,

*3140

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

/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 JMP I K3200
3162 4433 JMS I K400
3163 7671 -107
3164 0401 K401,

*3200

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

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3214 1221 /JMS TEST 27 COUNTER=111
3215 3624 TAD RK31
3216 1222 DCA I K201
3217 3445 TAD RK32
3220 5445 DCA I K7577
3221 5556 JMP I K7577
3222 4432 JMP I K3230
3223 7670 JMS I K200
3224 0201 -110
      K201, 201
      *3230
3230 3230 TAD PNTCNT
3231 1136 TAD M111
3232 7440 SEA /CHECK COUNTER
3233 7402 HLT /JMP COUNTER WRONG
3234 1432 TAD I K200
3235 1032 TAD K200
3236 7440 SEA /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

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3244 1231 /JMS TEST 28 COUNTER =112
3245 3654 TAD RK33
3246 1252 DCA I K101
3247 3446 TAD RK34
3250 5446 DCA I K7677
3251 5557 JMP I K7677
3252 4431 JMP I K3260
3253 7667 JMS I K100
3254 0101 -111
      K101, 101
      *3260
3260 3260 TAD PNTCNT
3261 1303 TAD M112
3262 7440 SEA /CHECK COUNTER
3263 7402 HLT /JMP COUNTER WRONG
3264 1431 TAD I K100
3265 1031 TAD K100
3266 7440 SEA /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

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

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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		
3310	1136		TAD PNTCNT	
3311	1333		TAD M113	
3312	7440		SEA	/CHECK COUNTER
3313	7402		HLT	/JMP COUNTER WRONG
3314	1430		TAD I K40	
3315	1030		TAD K40	
3316	7440		SEA	/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	

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

3340	3340	*3340		
3340	1136		TAD PNTCNT	
3341	1363		TAD M114	
3342	7440		SEA	/CHECK COUNTER
3343	7402		HLT	/JMP COUNTER WRONG
3344	1427		TAD I K20	
3345	1027		TAD K20	
3346	7440		SEA	/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	

3354	1361		/JMS TEST 31 COUNTER=115	
3355	3764		TAD RK39	
3356	1362		DCA I K11	
3357	3451		TAD RK40	
3360	5451		DCA I K7767	
3361	5562		JMP I K7767	
		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 5503 JMP I K3430
 3422 4425 JMS I K4
 3423 7603 M115, -115
 3424 0005 K5, 5

*3430
 3430 1136 TAD PNTCNT
 3431 1293 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 1292 TAD RK44
 3447 3453 DCA I K7775
 3450 5453 JMP I K7775
 3451 5564 JMP I K3460
 3452 4424 RK43,
 3453 7662 RK44,
 3454 0003 M116,
 K3, 3

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

/JMS TEST 34 COUNTER=120
 TAD RK45
 DCA I K2
 TAD RK46
 DCA I K7776
 JMP I K7776
 JMP I K3510
 JMS I K1
 -117
 RK45,
 RK46,
 M117,

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

/JMS TEST 35 COUNTER=121
 TAD RK47
 DCA I K1
 TAD RK48
 DCA I K7777
 JMP I K7777
 JMP I K3540
 JMS I K0
 -120
 RK47,
 RK48,
 M120,

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

3544	1422	TAD I K0	
3545	1022	TAD K0	
3546	7440	SZA	/CHECK STORED ADDRESS
3547	7402	HLT	/JMS FAILED
3550	3422	DCA I K0	/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	T8F	
3564	9363	JMP :-1	
3565	5766	JMP I :-1	
3566	4200	4200	
3567	0207	207	BEL,
3570	7657	-121	M121,
3571	0000	0	BLCNT,
3572	1200	-6600	LIMIT,

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