

IDENTIFICATION

PRODUCT CODE: MAINDEC-8E-D0IB-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.

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).

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

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

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

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

```
4462 5270      /JUMP TEST 15 COUNTER=17
4463 7402      JMP .+6
4464 7402      HLT          /JMP FAILED
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
```

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4477 5306      /JUMP TEST 16  COUNTER =20
4500 7402      JMP .+7
4501 7402      HLT          /JMP FAILED
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

/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      SEA          /CHECK COUNTER
4530 7402      HLT          /JMP COUNTER 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      SEA          /CHECK COUNTER
4550 7402      HLT          /JMP COUNTER WRONG
4551 1136      TAD PNTCNT
4552 7001      IAC          /ADVANCE COUNTER
4553 3136      DCA PNTCNT

/JUMP TEST 19  COUNTER=23
```



```
4554 9366      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      SEA          /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 3455      DCA I K7777
4602 1206      TAD PK2
4603 3422      DCA I K0
4604 5455      JMP I K7777
4605 5422      PK1,  JMP I K0
4606 5456      PK2,  JMP I K4620

          *4620
4620 1136      TAD PNTCNT
4621 1236      TAD M24
4622 7440      SEA          /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
4628 3454      DCA I K7776
4629 1235      TAD PK4
4630 3423      DCA I K1
4631 5454      JMP I K7776
4632 5423      PK3,  JMP I K1
4633 5457      PK4,  JMP I K4640
4634 7754      M24,  -24

          *4640
4640 1136      TAD PNTCNT
4641 1256      TAD M25
4642 7440      SEA          /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		SEA	/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		SEA	/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	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	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	SEA	/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	5430	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	SEA	/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	5431	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
5000 1136 TAD PNTCNT
5001 1216 TAD M33
5002 7440 SEA /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 K7577
5011 1215 TAD PK18
5012 3432 DCA I K200
5013 5445 JMP I K7577
5014 5432 PK17, JMP I K200
5015 5466 PK18, JMP I K5020
5016 7745 M33, -33

*5020

5020 1136 TAD PNTCNT
5021 1236 TAD M34
5022 7440 SEA /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 1136 TAD PNTCNT
5041 1256 TAD M35
5042 7440 SEA /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
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
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
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

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

              5140      *5140
5140 1136      TAD PNTCNT
5141 1356      TAD M41
5142 7440      SEA              /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      SEA              /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      SEA              /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	1136	TAD PNTCNT	
5221	1236	TAD M44	
5222	7440	SEA	/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	1136	TAD PNTCNT	
5241	1256	TAD M45	
5242	7440	SEA	/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	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	JMP I K7737	PK39,
5275	5504	JMP I K5300	PK40,
5276	7732	-46	M46,

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	JMP I K7677	PK41,
5315	5505	JMP I K5320	PK42,
5316	7731	-47	M47,

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	JMP I K7577	PK43,
5335	5506	JMP I K5340	PK44,
5336	7730	-50	M50,


```
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
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      SEA          /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      SEA          /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		SEA /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		SEA /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		SEA /CHECK COUNTER
2007	7402		HLT /JMP COUNTER WRONG
2010	1224		TAD AFRM
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		SKP
2022	7722	M56,	-56

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

                /JMS TEST 2 COUNTER=57
2025 4227      JMS T01
2026 7402      FRM1,  HLT
2027 5227      T01,   JMP .
2030 1136      TAD PNTCNT
2031 1246      TAD M57
2032 7440      SEA           /CHECK COUNTER
2033 7402      HLT           /JMP COUNTER WRONG
2034 1250      TAD AFRM1
2035 7041      CIA
2036 1227      TAD T01
2037 7440      SEA   /CHECK STORED ADDRESS
2040 7402      HLT           /JMS FAILED
2041 3227      DCA T01       /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 T02
2052 7402      FRM2,  HLT
2053 7402      HLT
2054 0254      T02,   JMP .
2055 1136      TAD PNTCNT
2056 1275      TAD M60
2057 7440      SEA           /CHECK COUNTER
2060 7402      HLT           /JMP COUNTER WRONG
2061 1273      TAD AFRM2
2062 7041      CIA
2063 1254      TAD T02
2064 7440      SEA   /CHECK STORED ADDRESS
2065 7402      HLT           /JMS FAILED
2066 3254      DCA T02       /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 T03
2077 7402      FRM3,  HLT
2100 7402      HLT
2101 7402      HLT
```

2102	5302	T03,	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 T03	
2112	7440		SZA	/CHECK STORED ADDRESS
2113	7402		HLT	/JMS FAILED
2114	3302		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	

/JMS TEST 5 COUNTER=62				
2124	4330		JMS T04	
2125	7402	FRM4,	HLT	
2126	7402		HLT	
2127	7402		HLT	
2130	5330	T04,	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 T04	
2140	7440		SZA	/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	

/JMS TEST 6 COUNTER=63				
2152	4356		JMS T05	
2153	7402	FRM5,	HLT	
2154	7402		HLT	
2155	7402		HLT	
2156	5356	T05,	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 T05	
2166	7440	SZA	/CHECK STORED ADDRESS
2167	7402	HLT	/JMS FAILED
2170	3356	DCA T05	/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 T06	
2202	5202	T06, JMP .	
2203	1136	TAD PNTCNT	
2204	1221	TAD M64	
2205	7440	SZA	/CHECK COUNTER
2206	7402	HLT	/JMP COUNTER WRONG
2207	1202	TAD T06	
2210	7041	CIA	
2211	1223	TAD AT06	
2212	7440	SZA	/CHECK STORED ADDRESS
2213	7402	HLT	/JMS FAILED
2214	3202	DCA T06	/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	AT06, T06	

/JMS TEST 8 COUNTER=65

2224	4226	JMS T07	
2225	7402	FRM7, HLT	
2226	5226	T07, 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 T07	

2236	7440		SZA	/CHECK STORED ADDRESS
2237	7402		HLT	/JMS FAILED
2240	3226		DCA T07	/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 T08	
2251	7402	FRM8,	HLT	
2252	7402		HLT	
2253	5253	T08,	JMP .	
2254	1136		TAD PNTCNT	
2255	1274		TAD M66	
2256	7440		SZA	/CHECK COUNTER
2257	7402		HLT	/JMP COUNTER WRONG
2260	1253		TAD T08	
2261	7041		CIA	
2262	1272		TAD AFRM8	
2263	7440		SZA	/CHECK STORED ADDRESS
2264	7402		HLT	/JMS FAILED
2265	3253		DCA T08	/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 T09	
2276	7402	FRM9,	HLT	
2277	7402		HLT	
2300	7402		HLT	
2301	5301	T09,	JMP .	
2302	1136		TAD PNTCNT	
2303	1322		TAD M67	
2304	7440		SZA	/CHECK COUNTER
2305	7402		HLT	/JMP COUNTER WRONG
2306	1301		TAD T09	
2307	7041		CIA	
2310	1320		TAD AFRM9	
2311	7440		SZA	/CHECK STORED ADDRESS
2312	7402		HLT	/JMS FAILED
2313	3301		DCA T09	/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           SEA           /CHECK COUNTER
2334 7402           HLT           /JMP COUNTER WRONG
2335 1330           TAD T010
2336 7041           CIA
2337 1347           TAD AFRM10
2340 7440           SEA           /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           SEA           /CHECK COUNTER
2362 7402           HLT           /JMP COUNTER WRONG
2363 1356           TAD T011
2364 7041           CIA
2365 1375           TAD AFRM11
2366 7440           SEA           /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
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```
2400      *2400
          /JMS TEST 12  COUNTER=72
2400 1205      TAD RK1
2401 3495      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 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 3494      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      RK3,  JMP I K2440
2432 4453      RK4,  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 3493      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
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2455 3664 DCA I K7774
2456 1262 TAD RK6
2457 3425 DCA I K4
2460 3425 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
2470 1136 TAD PNTCNT
2471 1313 TAD M74
2472 7440 SEA /CHECK COUNTER
2473 7402 HLT /JMP COUNTER WRONG
2474 1452 TAD I K7773
2475 1052 TAD K7773
2476 7440 SEA /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

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

2520 2520 *2520
2520 1136 TAD PNTCNT
2521 1343 TAD M75
2522 7440 SEA /CHECK COUNTER
2523 7402 HLT /JMP COUNTER WRONG
2524 1451 TAD I K7767
2525 1051 TAD K7767
2526 7440 SEA /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

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

2541	5243	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	3400		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

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2660      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

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                /JMS TEST 19  COUNTER=101
2674      1301      TAD RK15
2675      3704      DCA I K7600
2676      1302      TAD RK16
2677      3432      DCA I K200
2700      3432      JMP I K200
2701      3546      RK15,  JMP I K2710
2702      4445      RK16,  JMS I K7577
2703      7700      M100,  -100
2704      7600      K7600,  7600

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2710      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

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                /JMS TEST 20  COUNTER=102
2724      1331      TAD RK17
2725      3734      DCA I K7400
2726      1332      TAD RK18
2727      3433      DCA I K400
2730      3433      JMP I K400
2731      3547      RK17,  JMP I K2740
2732      4444      RK18,  JMS I K7377
2733      7677      M101,  -101
2734      7400      K7400,  7400

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2740      2740      *2740
2740      1136      TAD PNTCNT

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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	0550	JMP I K3000	
2762	4443	JMS I K6777	
2763	7676	M102,	-102
2764	7000	K7000,	7000

*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	JMP I K3030	
3022	4442	JMS I K5777	
3023	7675	M103,	-103
3024	6000	K6000,	6000

*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	3054	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	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	0442	JMP I K5777	
3101	0553	RK25, JMP I K3110	
3102	4435	RK26, JMS I K2000	
3103	7673	M105, -105	
3104	2001	K2001, 2001	

*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	JMP I K3140	
3132	4434	JMS I K1000	
3133	7672	-106	
3134	1001	K1001.	

RK27,

RK28,

M106,

K1001.

*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	JMP I K3200	
3162	4433	JMS I K400	
3163	7671	-107	
3164	0401	K401.	

RK29,

RK30,

M107,

K401.

*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	

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      /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      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

      /JMS TEST 28  COUNTER =112
3244 1251      TAD RK33
3245 3634      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      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

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

			/JMS TEST 30 COUNTER=114
3324	1331		TAD RK37
3325	3734		DCA I K21
3326	1332		TAD RK30
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		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

			/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
3403 7402 HLT
3404 1426 TAD I K10
3405 1026 TAD K10
3406 7440 SZA
3407 7402 HLT
3410 3426 DCA I K10
3411 1136 TAD PNTCNT
3412 7001 IAC
3413 3136 DCA PNTCNT

/CHECK COUNTER
/JMP COUNTER WRONG

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

3414 1221 /JMS TEST 32 COUNTER=116
3415 3624 TAD RK41
3416 1222 DCA I K5
3417 3492 TAD RK42
3420 5452 DCA I K7773
3421 5563 JMP I K7773
3422 4425 RK41, JMP I K3430
3423 7663 RK42, JMS I K4
3424 0005 M115, -115
K5, 5

3430 *3430

3430 1136 TAD PNTCNT
3431 1293 TAD M116
3432 7440 SZA
3433 7402 HLT
3434 1425 TAD I K4
3435 1025 TAD K4
3436 7440 SZA
3437 7402 HLT
3440 3425 DCA I K4
3441 1136 TAD PNTCNT
3442 7001 IAC
3443 3136 DCA PNTCNT

/CHECK COUNTER
/JMP COUNTER WRONG

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

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

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3460      3460      *3460
3460 1136      TAD PNTCNT
3461 1303      TAD M117
3462 7440      SEA          /CHECK COUNTER
3463 7402      HLT          /JMP COUNTER WRONG
3464 1424      TAD I K2
3465 1024      TAD K2
3466 7440      SEA          /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

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/JMS TEST 34 COUNTER=120
3474 1301      TAD RK45
3475 3424      DCA I K2
3476 1302      TAD RK46
3477 3494      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
3510 1136      TAD PNTCNT
3511 1333      TAD M120
3512 7440      SEA          /CHECK COUNTER
3513 7402      HLT          /JMP COUNTER WRONG
3514 1423      TAD I K1
3515 1023      TAD K1
3516 7440      SEA          /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

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

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

```

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	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

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