

IDENTIFICATION

Product Code: MAINDEC-8I-D02B-D
Product Name: Instruction Test 2
Date Created: March 21, 1968
Maintainer: Diagnostic Group
Author: H. Horowitz

1. ABSTRACT

This program is an extensive test of autoindexing, indirect addressing, and the DCA instruction for the PDP-8I. It also offers minimal testing for interrupt and the AND, TAD, ISZ, JMP and JMS instructions.

2. REQUIREMENTS

2.1 Equipment

PDP-8I, 8S equipped with Teletype

2.2 Storage

The program occupies memory locations 0000-4021. The Binary Loader must be stored in the last memory page.

2.3 Preliminary Programs

It is assumed that Maindec 8I-D01(n) has been run successfully.

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

201

4.3 Operator Action

- a. Set the SWITCH REGISTER to 201. Press LOAD ADDRESS.
- b. PUSH START. A programmed halt occurs when an error is encountered.

5. OPERATING PROCEDURE

Same as Section 4.

6. ERRORS

6.1 Error Halts and Description

See listing.

6.2 Error Recovery

If it is desired to loop on the test causing the error, replace the operate instruction preceding the HLT with a JMP to the beginning of the test.

7. RESTRICTIONS

All peripheral devices must be functioning to a degree that the processor START button will clear their flags and no FLAGS will turn on unless authorized.

8. MISCELLANEOUS

8.1 Execution Time

Five program loops per second.

9. PROGRAM DESCRIPTION

The program is a series of many small individual tests. Each test is performed using previously checked functions to validate the test. When an error is encountered, the operator should insert a jump instruction into memory to cause the program to loop on the failing test. The problem can then be found by using the oscilloscope.

The individual program tests are grouped into the following classifications and are performed in the order shown:

1. DCA Test
2. Indirect Addressing Test
 - a. using TAD
 - b. using AND

3. Autoindex Test

- a. using AND
- b. using DCA
- c. using TAD

4. Interrupt Test

- a. following NOP
- b. following TAD
- c. following AND
- d. following DCA
- e. following ISZ
- f. following JMP
- g. following JMS
- h. following CLA
- i. following TSF

5. Check for unauthorized Autoindexing

At the completion of 40 program loops the bell rings to assure the operator that the program is functioning properly.

10. LISTING

/INSTRUCTION TEST 2

0000	0000	*0	0	/LOC 0
0001	5001		JMP 1	/LOC 1
0002	0002		2	/LOC 2
0003	0003		3	/LOC 3
0007	0007	*7	0	
0020	0020	*20		
0021	7777	K7777,	7777	
0022	3777	K3777,	3777	
0023	5777	K5777,	5777	
0024	6777	K6777,	6777	
0025	7377	K7377,	7377	
0026	7577	K7577,	7577	
0027	7677	K7677,	7677	
0030	7737	K7737,	7737	
0031	0000		0	
0032	7757	K7757,	7757	
0033	7767	K7767,	7767	
0034	7773	K7773,	7773	
0035	7775	K7775,	7775	
0036	7776	K7776,	7776	
0037	0000	K0,	0	
0040	1777	K1777,	1777	
0041	0777	K0777,	0777	
0042	0377	K0377,	0377	
0043	0177	K0177,	0177	
0044	0077	K0077,	0077	
0045	0037	K0037,	0037	
0046	0017	K0017,	0017	
0047	0007	K0007,	0007	
0050	0003	K0003,	0003	
0051	0000		0	
0052	0001	K0001,	0001	
0053	4400	K4400,	4400	
0054	4577	K4577,	4577	
0055	2525	K2525,	2525	
0056	6666	K6666,	6666	
0057	4444	K4444,	4444	
0060	7070	K7070,	7070	
0061	0707	K0707,	0707	
0062	5252	K5252,	5252	
0063	1111	K1111,	1111	
0064	5252	K5555,	5252	
0064	0004	K4,	4	

0110	*110	
0110 0000	0	
0172	*172	
0172 0176	K176, 176	/LOC 172
0173 0172	K172, 176	/173
0174 0173	K173, 173	/174
0175 0174	K174, 174	/175
0176 0175	K175, 170	/176
0177 1234	K1234, 1204	/177

0200 0200
0200 0000

*200
TP1, 0

/DCA TEST 1

0201 7200
0202 1052
0203 3377
0204 7440
0205 7402
0206 1052
0207 7410
0210 0000
0211 7041
0212 1377
0213 7440
0214 7402

CLA
TAD K4400
DCA TP177
SZA
HLT
TAD K4400
SKP
0
CI
TAD TP177
SZA
HLT

/DCA DID NOT CLEAR AC

/AC=-(4400)

/DCA FAILED
/AC SHOULD EQUAL ZERO

/DCA TEST 2

0215 7200
0216 1053
0217 3200
0220 7440
0221 7402
0222 1053
0223 7041
0224 1200
0225 7440
0226 7402

CLA
TAD K4577
DCA TP0
SZA
HLT
TAD K4577
CI
TAD TP0
SZA
HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD EQUAL ZERO

/DCA TEST 3

0227 7200
0230 1020
0231 3200
0232 7440
0233 7402
0234 1200
0235 7040
0236 7440
0237 7402

CLA
TAD K7777
DCA TP0
SZA
HLT
TAD TP0
CMA
SZA
HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 4

0240 7200
0241 1036
0242 3200
0243 7440
0244 7402
0245 1200

CLA
TAD K0
DCA TP0
SZA
HLT
TAD TP0

/DCA DID NOT CLEAR AC

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0246 7440
0247 7402

SZA
HL1

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 5

0250 7200
0251 1054
0252 3200
0253 7440
0254 7402
0255 1054
0256 7041
0257 1200
0260 7440
0261 7402

CLA
TAD K2525
DC TP0
SZA
HLT
TAU K2525
CIA
TAU TP0
SZA
HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 6

0262 7200
0263 1055
0264 3200
0265 7440
0266 7402
0267 1055
0270 7041
0271 1200
0272 7440
0273 7402

CLA
TAD K6666
DC TP0
SZA
HLT
TAD K6666
CIA
TAU TP0
SZA
HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 7

0274 7200
0275 1056
0276 3377
0277 7440
0300 7402
0301 1056
0302 7041
0303 1377
0304 7440
0305 7402

CLA
TAU K4444
DCA TP177
SZA
HLT
TA K4444
CIA
TAU TP177
SZA
HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 8

0306 7200
0307 1057
0310 3377
0311 7440
0312 7402
0313 1057
0314 7041
0315 1377
0316 7440
0317 7402

CLA
TAU K7070
DCA TP177
SZA
HLT
TAU K7070
CIA
TAU TP177
SZA
HLT

/DCA DID NOT CLEAR AC

/DCA FAILED

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/AC SHOULD BE ZERO

/DCA TEST 9

0320 7200
 0321 1060
 0322 3000
 0323 7440
 0324 7402
 0325 1060
 0326 7041
 0327 1000
 0330 7440
 0331 7402

CLA
 TAU K0707
 DCA 0
 SZ
 HLT
 TAU K0707
 CIA
 TA 0
 SZA
 HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
 /AC SHOULD BE ZERO

/DCA TEST 10

0332 7200
 0333 1061
 0334 3000
 0335 7440
 0336 7402
 0337 1061
 0340 7041
 0341 1000
 0342 7440
 0343 7402

CLA
 TAU K5252
 DCA 0
 SZA
 HLT
 TAU K5252
 CIA
 TA 0
 SZA
 HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
 /AC SHOULD BE ZERO

/DCA TEST 11

0344 7200
 0345 1062
 0346 3000
 0347 7440
 0350 7402
 0351 1062
 0352 7041
 0353 1000
 0354 7440
 0355 7402

CLA
 TAU K1111
 DCA 0
 SZA
 HLT
 TAU K1111
 CIA
 TAU 0
 SZA
 HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
 /AC SHOULD BE ZERO

/DCA TEST 12

0356 7200
 0357 1063
 0360 3000
 0361 7440
 0362 7402
 0363 1063
 0364 7041
 0365 1000
 0366 7440
 0367 7402

CLA
 TAU K5555
 DCA 0
 SZA
 HLT
 TAU K5555
 CIA
 TAU 0
 SZA
 HLT

/DCA DID NOT CLEAR AC

/DCA FAILED
 /AC SHOULD BE ZERO

0370	7000	NOP
0371	7000	NOP
0372	7000	NOP
0373	7000	NOP
0374	7000	NOP
0375	7000	NOP
0376	7410	SKM
0377	0000	TP177, 0

0400

*400

/INDIRECT ADDRESSING TEST 1

0400 7200
 0401 1442
 0402 7041
 0403 1177
 0404 7440
 0405 7402

CLA
 TAD I K0177 /OPERAND=1234
 CIA
 TAD K1234
 SZA
 HLI /TAD INDIRECT FAILED
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 2

0406 7200
 0407 7410
 0410 0000
 0411 1020
 0412 0442
 0413 7041
 0414 1177
 0415 7440
 0416 7402

CLA
 SKP
 0
 TAD K7777
 AND I K0177 /OPERAND=1234
 CIA
 TAD K1234
 SZ'
 HLI /AND INDIRECT FAILED
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 3

0417 7200
 0420 1020
 0421 3000
 0422 2436
 0423 7402
 0424 1000
 0425 7440
 0426 7402

CLA
 TAD K7777
 DCA 0
 ISZ I K0
 HLI /ISZ FAILED. NO SKIP
 TAD 0
 SZA
 HLI /ISZ INDIRECT FAILED
 /AC SHOULD BE 0

/INDIRECT ADDRESSING TEST 4

0427 7200
 0430 1572
 0431 7041
 0432 1176
 0433 7440
 0434 7402

CLA
 TAD I K176 /OPERAND=175
 CIA
 TAD K175
 SZA
 HLT /TAD INDIRECT FAILED
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 5

0435	7200	CLA	
0436	1020	TAD K7777	
0437	0572	AND I K176	/OPERAND=175
0440	7041	CIA	
0441	1176	TAD K175	
0442	7440	SZA	/AND INDIRECT FAILED
0443	7402	HLI	/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 6

0444	7200	CLA	
0445	1172	TAD K176	
0446	3000	DCA 0	
0447	2436	ISZ I K0	
0450	7410	SKP	
0451	7402	HLI	/ISZ SKIPPED ILLEGALLY
0452	1000	TAD 0	
0453	7041	CIA	
0454	1172	TAD K176	
0455	7040	CMA	
0456	7440	SZ#	
0457	7402	HLT	/DCA INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 7

0460	7200	CLA	
0461	1573	TAD I K172	/OPERAND=176
0462	7041	CIA	
0463	1172	TAD K176	
0464	7440	SZ#	
0465	7402	HLI	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 8

0466	7200	CLA	
0467	1020	TAD K7777	
0470	0573	AND I K172	/OPERAND=176
0471	7041	CIA	
0472	1172	TAD K176	
0473	7440	SZA	/AND INDIRECT FAILED
0474	7402	HLI	/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 9

0475	7200	CLA	
0476	1173	TAD K172	
0477	3000	DCA 0	
0500	2436	ISZ I K0	
0501	7410	SKP	
0502	7402	HLT	/ISZ SKIPPED ILLEGALLY
0503	1000	TAD 0	173 175
0504	7041	CIA	-173
0505	1173	TAD K172	-1
0506	7040	CMA	0
0507	7440	SEA	
0510	7402	HLT	/DCA INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 10

0511	7200	CLA	
0512	1574	TAD I K173	/OPERAND=172
0513	7041	CIA	
0514	1173	TAD K172	
0515	7440	SEA	
0516	7402	HLT	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 11

0517	7200	CLA	
0520	1020	TAD K7777	
0521	0574	AND I K173	/OPERAND=172
0522	7041	CIA	
0523	1173	TAD K172	
0524	7440	SEA	/AND INDIRECT FAILED
0525	7402	HLT	/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 12

0526	7200	CLA	
0527	1174	TAD K173	
0530	3000	DCA 0	
0531	2436	ISZ I K0	
0532	7410	SKP	
0533	7402	HLT	/ISZ SKIPPED ILLEGALLY
0534	1000	TAD 0	
0535	7041	CIA	
0536	1174	TAD K173	
0537	7040	CMA	
0540	7440	SEA	
0541	7402	HLT	/DCA INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 13

0542	7200	CLA	
0543	1575	TAU I K174	/OPERAND=173
0544	7041	CIA	
0545	1174	TAU K173	
0546	7440	SZA	
0547	7402	HLT	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 14

0550	7200	CLA	
0551	1020	TAU K7777	
0552	0575	AND I K174	/OPERAND=173
0553	7041	CIA	
0554	1174	TAU K173	
0555	7440	SZA	/AND INDIRECT FAILED
0556	7402	HLT	/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 15

0557	7200	CLA	
0560	1175	TA K174	
0561	3000	DCA 0	
0562	2436	ISZ I K0	
0563	7410	SKN	
0564	7402	HLI	/ISZ SKIPPED ILLEGALLY
0565	1000	TAL 0	
0566	7041	CIA	
0567	1175	TAU K174	
0570	7040	CM	
0571	7440	SZA	
0572	7402	HLT	/DCA INDIRECT FAILED /AC SHOULD BE ZERO
0573	5377	JMP ,+4	
0574	7000	NOP	
0575	7000	NOP	
0576	7000	NO	
0577	7000	NOP	

0600

*620

/INDIRECT ADDRESSING TEST 16

0600 7200
 0601 1576
 0602 7041
 0603 1175
 0604 7440
 0605 7402

CLA
 TAU I K175
 CIA
 TAU K174
 SZ
 HLT

/OPERAND=174

/TAD INDIRECT FAILED
 /AC SHOULD BE ZERO

/AUTO INDEX TEST 1

0606 7200
 0607 1036
 0610 3010
 0611 0410
 0612 1010
 0613 1035
 0614 7040
 0615 7440
 0616 7402

CL
 TAU K0
 DCA 10
 ANU I 10
 TAU 10
 TAD K7776
 CMA
 SZ
 HLT

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
 /AUTO INDEX ERROR

/AUTO INDEX TEST 2

0617 7200
 0620 1035
 0621 3010
 0622 0410
 0623 1010
 0624 1036
 0625 7040
 0626 7440
 0627 7402

CLA
 TAU K7776
 DCA 10
 AN- I 10
 TAU 10
 TAD K0
 CMA
 SZ
 HLT

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
 /AUTO INDEX ERROR

/AUTO INDEX TEST 3

0630 7200
 0631 1034
 0632 3010
 0633 3410
 0634 1010
 0635 1051
 0636 7040
 0637 7440
 0640 7402

CLA
 TAU K7775
 DCA 10
 DCA I 10
 TAU 10
 TAU K0001
 CMA
 SZ
 HLT

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
 /AUTO INDEX ERROR

/AUTO INDEX TEST 4

0641 7200
 0642 1033
 0643 3010
 0644 1410
 0645 7200
 0646 1010

CLA
 TAU K7773
 DC 10
 TAU I 10
 CLA
 TAU 10

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

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0647 1047
0650 7040
0651 7440
0652 7402

TAV K0003
CMA
SEA
HLT

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 5

0653	7200	CLA	
0654	1032	TAD	K7767
0655	3010	DCA	10
0656	0410	AND	I 10
0657	1010	TA	10
0660	1046	TAD	K0007
0661	7040	CMA	
0662	7440	SZA	
0663	7402	HLT	

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 6

0664	7200	CLA	
0665	1031	TAD	K7757
0666	3010	DCA	10
0667	0410	AND	I 10
0670	1010	TAJ	10
0671	1045	TAD	K0017
0672	7040	CMA	
0673	7440	SZ	
0674	7402	HLT	

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 7

0675	7200	CLA	
0676	1027	TAD	K7737
0677	3010	DCA	10
0700	0410	AND	I 10
0701	1010	TAD	10
0702	1044	TAD	K0037
0703	7040	CMA	
0704	7440	SZ	
0705	7402	HLT	

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 8

0706	7200	CLA	
0707	1026	TA	K7677
0710	3010	DCA	10
0711	0410	AND	I 10
0712	1010	TAD	10
0713	1043	TAD	K0077
0714	7040	CMA	
0715	7440	SZA	
0716	7402	HLT	

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 9

0717	7200	CLA	
0720	1025	TAD K7577	/CONSTANT TO BE INDEXED
0721	3010	DCA 10	
0722	0410	AND I 10	/DO AUTO INDEX
0723	1010	TAD 10	
0724	1042	TAD K0177	/AC SHOULD EQUAL 7777
0725	7040	CMA	
0726	7440	SZA	/AC SHOULD BE ZERO
0727	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 10

0730	7200	CLA	
0731	1024	TAD K7377	/CONSTANT TO BE INDEXED
0732	3010	DCA 10	
0733	0410	AND I 10	/DO AUTO INDEX
0734	1010	TAD 10	
0735	1041	TAD K0377	/AC SHOULD EQUAL 7777
0736	7040	CMA	
0737	7440	SZA	/AC SHOULD BE ZERO
0740	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 11

0741	7200	CLA	
0742	1023	TAD K6777	/CONSTANT TO BE INDEXED
0743	3010	DCA 10	
0744	0410	AND I 10	/DO AUTO INDEX
0745	1010	TAD 10	
0746	1040	TAD K0777	/AC SHOULD EQUAL 7777
0747	7040	CMA	
0750	7440	SZA	/AC SHOULD BE ZERO
0751	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 12

0752	7200	CLA	
0753	1022	TAD K5777	/CONSTANT TO BE INDEXED
0754	3010	DCA 10	
0755	2410	ISZ I 10	/DO AUTO INDEX
0756	7000	NOV	
0757	1010	TAD 10	
0760	1037	TAD K1777	/AC SHOULD EQUAL 7777
0761	7040	CMA	
0762	7440	SZA	/AC SHOULD BE ZERO
0763	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 13

0764	7200	CL*	
0765	1021	TAD	K3777
0766	3010	DC*	10
0767	0410	AND	I 10
0770	1010	TAD	10
0771	1021	TAD	K3777
0772	7040	CMA	
0773	7440	SZA	
0774	7402	HLI	
0775	7000	NO*	
0776	7000	NO*	
0777	7000	NO*	

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

1000

*1000

/AUTO INDEX TEST 14

1000	7200	CLA	
1001	1020	TAD K7777	/CONSTANT TO BE INDEXED
1002	3010	DC 10	
1003	0410	AND I 10	/DO AUTO INDEX
1004	1010	TAD 10	
1005	1020	TAD K7777	/AC SHOULD EQUAL 7777
1006	7040	CMA	
1007	7410	SKP	
1010	0000	0	
1011	7440	SZA	/AC SHOULD BE ZERO
1012	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 15

1013	7200	CLA	
1014	1036	TAD K0	/CONSTANT TO BE INDEXED
1015	3011	DCA 11	
1016	0411	AND I 11	/DO AUTO INDEX
1017	1011	TAD 11	
1020	1035	TAD K7776	/AC SHOULD EQUAL 7777
1021	7040	CMA	
1022	7440	SZA	/AC SHOULD BE ZERO
1023	7422	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 16

1024	7200	CLA	
1025	1035	TAD K7776	/CONSTANT TO BE INDEXED
1026	3011	DCA 11	
1027	0411	AND I 11	/DO AUTO INDEX
1030	1011	TAD 11	
1031	1036	TAD K0	/AC SHOULD EQUAL 7777
1032	7040	CMA	
1033	7440	SZA	/AC SHOULD BE ZERO
1034	7402	HLT	/AUTO INDEX ERROR

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/AUTO INDEX TEST 17
1035 7200      CLA
1036 1034      TA K7775      /CONSTANT TO BE INDEXED
1037 3011      DCA 11
1040 3411      DCA I 11      /DO AUTO INDEX
1041 1011      TAD 11
1042 1051      TAD K0001      /AC SHOULD EQUAL 7777
1043 7040      CMA
1044 7440      SZA      /AC SHOULD BE ZERO
1045 7402      HLT      /AUTO INDEX ERROR

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/AUTO INDEX TEST 18
1046 7200      CLA
1047 1033      TAD K7773      /CONSTANT TO BE INDEXED
1050 3011      DCA 11
1051 1411      TAD I 11      /DO AUTO INDEX
1052 7200      CLA
1053 1011      TAD 11
1054 1047      TAD K0003      /AC SHOULD EQUAL 7777
1055 7040      CMA
1056 7440      SZA      /AC SHOULD BE ZERO
1057 7402      HLT      /AUTO INDEX ERROR

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/AUTO INDEX TEST 19
1060 7200      CLA
1061 1032      TAD K7767      /CONSTANT TO BE INDEXED
1062 3011      DCA 11
1063 0411      AND I 11      /DO AUTO INDEX
1064 1011      TA 11
1065 1046      TAD K0007
1066 7040      CMA
1067 7440      SZ      /AC SHOULD BE ZERO
1070 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 20
1071 7200      CLA
1072 1031      TAD K7757      /CONSTANT TO BE INDEXED
1073 3011      DCA 11
1074 0411      AND I 11      /DO AUTO INDEX
1075 1011      TAD 11
1076 1045      TAD K0017      /AC SHOULD EQUAL 7777
1077 7040      CMA
1080 7440      SZA      /AC SHOULD BE ZERO
1081 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 21
1102 7200      CLA
1103 1027      TAD K7737      /CONSTANT TO BE INDEXED
1104 3011      DCA 11
1105 0411      AND I 11      /DO AUTO INDEX
1106 1011      TAD 11
1107 1044      T/ K0037      /AC SHOULD EQUAL 7777
1110 7040      CMA
1111 7440      SZA      /AC SHOULD BE ZERO
1112 7402      HLT      /AUTO INDEX ERROR

/AUTO INDEX TEST 22
1113 7200      CLA
1114 1026      TAD K7677      /CONSTANT TO BE INDEXED
1115 3011      DCA 11
1116 0411      AND I 11      /DO AUTO INDEX
1117 1011      TAD 11
1120 1043      TAD K0077      /AC SHOULD EQUAL 7777
1121 7040      CMA
1122 7440      SZA      /AC SHOULD BE ZERO
1123 7402      HLT      /AUTO INDEX ERROR

/AUTO INDEX TEST 23
1124 7200      CLA
1125 1025      TAD K7577      /CONSTANT TO BE INDEXED
1126 3011      DCA 11
1127 0411      AND I 11      /DO AUTO INDEX
1130 1011      TAD 11
1131 1042      TAD K0177      /AC SHOULD EQUAL 7777
1132 7040      CMA
1133 7440      SZA      /AC SHOULD BE ZERO
1134 7402      HLT      /AUTO INDEX ERROR

/AUTO INDEX TEST 24
1135 7200      CLA
1136 1024      TAD K7377      /CONSTANT TO BE INDEXED
1137 3011      DCA 11
1140 0411      AN I 11      /DO AUTO INDEX
1141 1011      TAD 11
1142 1041      TAD K0377      /AC SHOULD EQUAL 7777
1143 7040      CMA
1144 7440      SZA      /AC SHOULD BE ZERO
1145 7402      HLT      /AUTO INDEX ERROR

```

/AUTO INDEX TEST 25

1146	7222	CLA	
1147	1023	TAD K0777	/CONSTANT TO BE INDEXED
1150	3011	LOI 11	
1151	0411	AND I 11	/DO AUTO INDEX
1152	1011	TAD 11	
1153	1040	TAU K0777	/AC SHOULD EQUAL 7777
1154	7040	CM:	
1155	7440	SZA	/AC SHOULD BE ZERO
1156	7402	HLI	/AUTO INDEX ERROR

/AUTO INDEX TEST 26

1157	7200	CLA	
1160	1022	TAD K0777	/CONSTANT TO BE INDEXED
1161	3011	DCA 11	
1162	2411	ISZ I 11	/DO AUTO INDEX
1163	7000	NOP	
1164	1011	TA 11	
1165	1037	TAD K1777	/AC SHOULD EQUAL 7777
1166	7040	CMA	
1167	7440	SZA	/AC SHOULD BE ZERO
1170	7402	HLI	/AUTO INDEX ERROR
1171	7000	NOP	
1172	5376	JMP ,+4	
1173	7000	NOP	
1174	7000	NOP	
1175	7000	NOP	
1176	7000	NOP	
1177	7000	NOP	

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PAUSE

/TEST 2 - TAPE 2

1200

*1200

/AUTO INDEX TEST 27

1200	7200	CL		
1201	1021	TAL	K3777	/CONSTANT TO BE INDEXED
1202	3011	DCA	11	
1203	0411	AND	I 11	/DO AUTO INDEX
1204	1011	TAW	11	
1205	1021	TAD	K3777	/AC SHOULD EQUAL 7777
1206	7040	CMA		
1207	7440	SZA		/AC SHOULD BE ZERO
1210	7402	HLT		/AUTO INDEX ERROR

/AUTO INDEX TEST 28

1211	7200	CLA		
1212	1020	TAU	K7777	/CONSTANT TO BE INDEXED
1213	3011	DCA	11	
1214	0411	AND	I 11	/DO AUTO INDEX
1215	1011	TAW	11	
1216	1020	TAD	K7777	/AC SHOULD EQUAL 7777
1217	7040	CMA		
1220	7440	SZA		/AC SHOULD BE ZERO
1221	7402	HLT		/AUTO INDEX ERROR

/AUTO INDEX TEST 29

1222	7200	CLA		
1223	1036	TAL	K0	/CONSTANT TO BE INDEXED
1224	3012	DCA	12	
1225	0412	AND	I 12	/DO AUTO INDEX
1226	1012	TAD	12	
1227	1035	TAU	K7776	/AC SHOULD EQUAL 7777
1230	7040	CMA		
1231	7440	SZA		/AC SHOULD BE ZERO
1232	7402	HLT		/AUTO INDEX ERROR

/AUTO INDEX TEST 30

1233	7200	CLA		
1234	1035	TAU	K7776	/CONSTANT TO BE INDEXED
1235	3012	DCA	12	
1236	0412	AND	I 12	/DO AUTO INDEX
1237	1012	TAD	12	
1240	1036	TAU	K0	/AC SHOULD EQUAL 7777
1241	7040	CMA		
1242	7440	SZA		/AC SHOULD BE ZERO
1243	7402	HLT		/AUTO INDEX ERROR

```
1244 7200      /AUTO INDEX TEST 31
1245 1034      CLA
1246 3012      TAD K7775      /CONSTANT TO BE INDEXED
1247 3412      DCA 12
1250 1012      DCA I 12      /DO AUTO INDEX
1251 1051      TAD 12
1252 7040      TAD K0001      /AC SHOULD EQUAL 7777
1253 7440      CMA
1254 7402      SZA      /AC SHOULD BE ZERO
                  HLT      /AUTO INDEX ERROR
```

```
1255 7200      /AUTO INDEX TEST 32
1256 1033      CLA
1257 3012      TAD K7773      /CONSTANT TO BE INDEXED
1260 1412      DCA 12
1261 7200      DCA I 12      /DO AUTO INDEX
1262 1012      CLA
1263 1047      TAD 12
1264 7040      TAD K0003      /AC SHOULD EQUAL 7777
1265 7440      CMA
1266 7402      SZA      /AC SHOULD BE ZERO
                  HLT      /AUTO INDEX ERROR
```

```
1267 7200      /AUTO INDEX TEST 33
1270 1032      CLA
1271 3012      TAD K7767      /CONSTANT TO BE INDEXED
1272 0412      DCA 12
1273 1012      ANU I 12      /DO AUTO INDEX
1274 1046      TAD 12
1275 7040      TAD K0007      /AC SHOULD EQUAL 7777
1276 7440      CMA
1277 7402      SZA      /AC SHOULD BE ZERO
                  HLT      /AUTO INDEX ERROR
```

```

1300 7200      /AUTO INDEX TEST 34
1301 1031      CLA
1302 3012      TAD K7757      /CONSTANT TO BE INDEXED
1303 0412      DCA 12
1304 1012      AND I 12      /DO AUTO INDEX
1305 1045      TAD 12
1306 7040      TAW K0017      /AC SHOULD EQUAL 7777
1307 7440      CMA
1310 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HLT

1311 7200      /AUTO INDEX TEST 35
1312 1027      CLA
1313 3012      TAD K7737      /CONSTANT TO BE INDEXED
1314 0412      DCA 12
1315 1012      AND I 12      /DO AUTO INDEX
1316 1044      TAD 12
1317 7040      TAW K0037      /AC SHOULD EQUAL 7777
1320 7440      CMA
1321 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HLT

1322 7200      /AUTO INDEX TEST 36
1323 1026      CLA
1324 3012      TAD K7677      /CONSTANT TO BE INDEXED
1325 0412      DCA 12
1326 1012      AND I 12      /DO AUTO INDEX
1327 1043      TAD 12
1330 7040      TAW K0077      /AC SHOULD EQUAL 7777
1331 7440      CMA
1332 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HLT

1333 7200      /AUTO INDEX TEST 37
1334 1025      CLA
1335 3012      TAD K7577      /CONSTANT TO BE INDEXED
1336 0412      DCA 12
1337 1012      AND I 12      /DO AUTO INDEX
1340 1042      TAD 12
1341 7040      TAW K0177      /AC SHOULD EQUAL 7777
1342 7440      CMA
1343 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HLT

```

```

1344 7200
1345 1024
1346 3012
1347 2412
1350 1012
1351 1041
1352 7040
1353 7440
1354 7402

/AUTO INDEX TEST 38
CLA
LAD K7377 /CONSTANT TO BE INDEXED
DC* 12
AND I 12 /DO AUTO INDEX
TAP 12
TAP K0377 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

```

1355 7200
1356 1023
1357 3012
1360 0412
1361 1012
1362 1040
1363 7040
1364 7440
1365 7402

/AUTO INDEX TEST 39
CLA
TAP K6777 /CONSTANT TO BE INDEXED
DC* 12
AND I 12 /DO AUTO INDEX
TA 12
TAP K0777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

```

1366 7200
1367 1022
1370 3012
1371 2412
1372 7000
1373 1012
1374 1037
1375 7040
1376 7440
1377 7402

/AUTO INDEX TEST 40
CL
TAD K0777 /CONSTANT TO BE INDEXED
DCA 12
ISZ I 12 /DO AUTO INDEX
NGP
TAD 12
TAD K1777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

```

1400
1400 7200
1401 1021
1402 3012
1403 0412
1404 1012
1405 1021
1406 7040
1407 7440
1410 7402

*1400
/AUTO INDEX TEST 41
CLA
TAD K3777 /CONSTANT TO BE INDEXED
DCA 12
AND I 12 /DO AUTO INDEX
TAD 12
TAD K3777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 42
1411 7200
1412 1020
1413 3012
1414 0412
1415 1012
1416 1020
1417 7040
1420 7440
1421 7402
CLA
TAD K7777 /CONSTANT TO BE INDEXED
DCA 12
AND I 12 /DO AUTO INDEX
TAD 12
TAD K7777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 43
1422 7200
1423 1036
1424 3013
1425 0413
1426 1013
1427 1035
1430 7040
1431 7440
1432 7402
CLA
TAD K0 /CONSTANT TO BE INDEXED
DCA 13
AND I 13 /DO AUTO INDEX
TAD 13
TAD K7776 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 44
1433 7200
1434 1035
1435 3013
1436 0413
1437 1013
1440 1036
1441 7040
1442 7440
1443 7402
CLA
TAD K7776 /CONSTANT TO BE INDEXED
DCA 13
AND I 13 /DO AUTO INDEX
TAD 13
TAD K0 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 45
1444 7200
1445 1034
1446 3013
1447 3413
1450 1013
1451 1051
1452 7040
1453 7440
CLA
TAD K7775 /CONSTANT TO BE INDEXED
DCA 13
DCA I 13 /DO AUTO INDEX
TAD 13
TAD K0001 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO

```

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1454 7402

HLT

/AUTO INDEX ERROR

/AUTO INDEX TEST 46

1455	7200	CLP	
1456	1033	TAU	K7773 /CONSTANT TO BE INDEXED
1457	3013	DCA	13
1460	1413	TAD	I 13 /DO AUTO INDEX
1461	7200	CLA	
1462	1013	TAU	13
1463	1047	TAD	K0003 /AC SHOULD EQUAL 7777
1464	7040	CMA	
1465	7440	SZA	/AC SHOULD BE ZERO
1466	7402	HLI	/AUTO INDEX ERROR

/AUTO INDEX TEST 47

1467	7200	CLA	
1470	1032	TAU	K7767 /CONSTANT TO BE INDEXED
1471	3013	DCA	13
1472	0413	AND	I 13 /DO AUTO INDEX
1473	1013	TAD	13
1474	1046	TAD	K0007 /AC SHOULD EQUAL 7777
1475	7040	CMA	
1476	7440	SZA	/AC SHOULD BE ZERO
1477	7402	HLI	/AUTO INDEX ERROR

/AUTO INDEX TEST 48

1500	7200	CLP	
1501	1031	TAU	K7757 /CONSTANT TO BE INDEXED
1502	3013	DCA	13
1503	0413	AND	I 13 /DO AUTO INDEX
1504	1013	TA	13
1505	1045	TAD	K0017 /AC SHOULD EQUAL 7777
1506	7040	CMA	
1507	7440	SZA	/AC SHOULD BE ZERO
1510	7402	HLI	/AUTO INDEX ERROR

/AUTO INDEX TEST 49

1511	7200	CLA	
1512	1027	TAD	K7737 /CONSTANT TO BE INDEXED
1513	3013	DCA	13
1514	0413	AND	I 13 /DO AUTO INDEX
1515	1013	TAU	13
1516	1044	TAD	K0037 /AC SHOULD EQUAL 7777
1517	7040	CMA	
1520	7440	SZA	/AC SHOULD BE ZERO
1521	7402	HLI	/AUTO INDEX ERROR

```

1522 7200
1523 1026
1524 3013
1525 0413
1526 1013
1527 1043
1530 7040
1531 7440
1532 7402

/AUTO INDEX TEST 50
CLA
TAD K7677 /CONSTANT TO BE INDEXED
DC 13
AND I 13 /DO AUTO INDEX
TAD 13
TAD K0077 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

```

1533 7200
1534 1025
1535 3013
1536 0413
1537 1013
1540 1042
1541 7040
1542 7440
1543 7402

/AUTO INDEX TEST 51
CLA
TAD K7577 /CONSTANT TO BE INDEXED
DCA 13
AND I 13 /DO AUTO INDEX
TAD 13
TAD K0177 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

```

1544 7200
1545 1024
1546 3013
1547 0413
1550 1013
1551 1041
1552 7040
1553 7440
1554 7402

/AUTO INDEX TEST 52
CLA
TAD K7377 /CONSTANT TO BE INDEXED
DCA 13
AND I 13 /DO AUTO INDEX
TAD 13
TAD K0377 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

```

1555 7200
1556 1023
1557 3013
1560 0413
1561 1013
1562 1040
1563 7040
1564 7440
1565 7402

/AUTO INDEX TEST 53
CLA
TAD K6777 /CONSTANT TO BE INDEXED
DCA 13
AND I 13 /DO AUTO INDEX
TAD 13
TAD K0777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

		/AUTO INDEX TEST 54	
1566	7200	CLA	
1567	1022	TAU K5777	/CONSTANT TO BE INDEXED
1570	3013	DCA 13	
1571	2413	ISA I 13	/DO AUTO INDEX
1572	7000	NOF	
1573	1013	TAU 13	
1574	1037	TAU K1777	/AC SHOULD EQUAL 7777
1575	7040	CMA	
1576	7440	SZA	/AC SHOULD BE ZERO
1577	7402	HLI	/AUTO INDEX ERROR

```

1600      1600
1600      7200
1601      1021
1602      3013
1603      0413
1604      1013
1605      1021
1606      7040
1607      7440
1610      7402

*1600
/AUTO INDEX TEST 55
      CLA
      TAU K3777          /CONSTANT TO BE INDEXED
      DCA 13
      AND I 13          /DO AUTO INDEX
      TA 13
      TAD K3777          /AC SHOULD EQUAL 7777
      CMA
      SZA                /AC SHOULD BE ZERO
      HLI                /AUTO INDEX ERROR

/AUTO INDEX TEST 56
      CLA
      TAU K7777          /CONSTANT TO BE INDEXED
      DCA 13
      AND I 13          /DO AUTO INDEX
      TAD 13
      TAD K7777          /AC SHOULD EQUAL 7777
      CMA
      SZA                /AC SHOULD BE ZERO
      HLT                /AUTO INDEX ERROR

/AUTO INDEX TEST 57
      CLA
      TAU K0             /CONSTANT TO BE INDEXED
      DCA 14
      AND I 14          /DO AUTO INDEX
      TA 14
      TAD K7776          /AC SHOULD EQUAL 7777
      CMA
      SZA                /AC SHOULD BE ZERO
      HLI                /AUTO INDEX ERROR
1622      7200
1623      1036
1624      3014
1625      0414
1626      1014
1627      1035
1630      7040
1631      7440
1632      7402

```

```

1633 7200      /AUTO INDEX TEST 58
1634 1035      CLA
1635 3014      TAU K7776      /CONSTANT TO BE INDEXED
1636 0414      DCA 14
1637 1014      ANU I 14      /DO AUTO INDEX
1640 1036      TAU 14
1641 7040      TAD K0      /AC SHOULD EQUAL 7777
1642 7440      CM
1643 7402      SZA      /AC SHOULD BE ZERO
                      /AUTO INDEX ERROR
                      HLT

```

```

1644 7200      /AUTO INDEX TEST 59
1645 1034      CLA
1646 3014      TAU K7775      /CONSTANT TO BE INDEXED
1647 3414      DCA 14
1650 1014      DCA I 14      /DO AUTO INDEX
1651 1051      TAU 14
1652 7040      TAU K0001      /AC SHOULD EQUAL 7777
1653 7440      CMA
1654 7402      SZA      /AC SHOULD BE ZERO
                      /AUTO INDEX ERROR
                      HLT

```

```

1655 7200      /AUTO INDEX TEST 60
1656 1033      CLA
1657 3014      TAU K7773      /CONSTANT TO BE INDEXED
1660 1414      DCA 14
1661 7200      TAU I 14      /DO AUTO INDEX
1662 1014      CLA
1663 1047      TAU 14
1664 7040      TAD K0003      /AC SHOULD EQUAL 7777
1665 7440      CMA
1666 7402      SZA      /AC SHOULD BE ZERO
                      /AUTO INDEX ERROR
                      HLT

```

```

1667 7200      /AUTO INDEX TEST 61
1670 1032      CLA
1671 3014      TAD K7767      /CONSTANT TO BE INDEXED
1672 0414      DCA 14
1673 1014      ANU I 14      /DO AUTO INDEX
1674 1046      TAU 14
1675 7040      TAD K0007      /AC SHOULD EQUAL 7777
1676 7440      CMA
1677 7402      SZA      /AC SHOULD BE ZERO
                      /AUTO INDEX ERROR
                      HLT

```

```

/AUTO INDEX TEST 62
1700 7200      CLA
1701 1031     TAD K7757      /CONSTANT TO BE INDEXED
1702 3014     DCA 14
1703 0414     AND I 14      /DO AUTO INDEX
1704 1014     TAP 14
1705 1045     TAV K0017     /AC SHOULD EQUAL 7777
1706 7040     CM-
1707 7440     SZA          /AC SHOULD BE ZERO
1710 7402     HLI          /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 63
1711 7200      CLA
1712 1027     TAV K7737     /CONSTANT TO BE INDEXED
1713 3014     DCA 14
1714 0414     AND I 14     /DO AUTO INDEX
1715 1014     TAD 14
1716 1044     TAP K0037    /AC SHOULD EQUAL 7777
1717 7040     CMA
1720 7440     SZA          /AC SHOULD BE ZERO
1721 7402     HLI          /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 64
1722 7200      CLA
1723 1026     TAV K7677     /CONSTANT TO BE INDEXED
1724 3014     DCA 14
1725 0414     AND I 14     /DO AUTO INDEX
1726 1014     TA 14
1727 1043     TAD K0077    /AC SHOULD EQUAL 7777
1730 7040     CMA
1731 7440     SZA          /AC SHOULD BE ZERO
1732 7402     HLI          /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 65
1733 7200      CLA
1734 1025     TAV K7577     /CONSTANT TO BE INDEXED
1735 3014     DCA 14
1736 0414     AND I 14     /DO AUTO INDEX
1737 1014     TAP 14
1740 1042     TAV K0177    /AC SHOULD EQUAL 7777
1741 7040     CM-
1742 7440     SZA          /AC SHOULD BE ZERO
1743 7402     HLI          /AUTO INDEX ERROR

```

```
1744 7200
1745 1024
1746 3014
1747 0414
1750 1014
1751 1041
1752 7040
1753 7440
1754 7402

/AUTO INDEX TEST 66
CLA
TAD K7377 /CONSTANT TO BE INDEXED
DCA 14
ANW I 14 /DO AUTO INDEX
TAV 14
TAD K0377 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 67
1755 7200
1756 1023
1757 3014
1760 0414
1761 1014
1762 1040
1763 7040
1764 7440
1765 7402

CLA
TAD K6777 /CONSTANT TO BE INDEXED
DCA 14
ANW I 14 /DO AUTO INDEX
TAV 14
TAD K0777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 68
1766 7200
1767 1022
1770 3014
1771 2414
1772 7000
1773 1014
1774 1037
1775 7040
1776 7440
1777 7402

CLA
TAD K5777 /CONSTANT TO BE INDEXED
DCA 14
ISZ I 14 /DO AUTO INDEX
NO
TAV 14
TAD K1777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR
```

```

2000      *2000
          /AUTO INDEX TEST 69
2000 7200      CLA
2001 1021      TAU K3777      /CONSTANT TO BE INDEXED
2002 3014      DCA 14
2003 0414      AND I 14      /DO AUTO INDEX
2004 1014      TAD 14
2005 1021      TAU K3777      /AC SHOULD EQUAL 7777
2006 7040      CMA
2007 7410      SK
2010 0000      0
2011 7440      SZA      /AC SHOULD BE ZERO
2012 7402      HLT      /AUTO INDEX ERROR

          /AUTO INDEX TEST 70
2013 7200      CLA
2014 1020      TAU K7777      /CONSTANT TO BE INDEXED
2015 3014      DCA 14
2016 0414      AND I 14      /DO AUTO INDEX
2017 1014      TAD 14
2020 1020      TAU K7777      /AC SHOULD EQUAL 7777
2021 7040      CMA
2022 7440      SZA      /AC SHOULD BE ZERO
2023 7402      HLT      /AUTO INDEX ERROR

          /AUTO INDEX TEST 71
2024 7200      CLA
2025 1036      TAU K0      /CONSTANT TO BE INDEXED
2026 3015      DCA 15
2027 0415      AND I 15      /DO AUTO INDEX
2030 1015      TAD 15
2031 1035      TA K7776      /AC SHOULD EQUAL 7777
2032 7040      CMA
2033 7440      SZA      /AC SHOULD BE ZERO
2034 7402      HLT      /AUTO INDEX ERROR

          /AUTO INDEX TEST 72
2035 7200      CLA
2036 1035      TAU K7776      /CONSTANT TO BE INDEXED
2037 3015      DCA 15
2040 0415      AND I 15      /DO AUTO INDEX
2041 1015      TAD 15
2042 1036      TAU K0      /AC SHOULD EQUAL 7777
2043 7040      CMA
2044 7440      SZA      /AC SHOULD BE ZERO
2045 7402      HLT      /AUTO INDEX ERROR

          /AUTO INDEX TEST 73
2046 7200      CLA
2047 1034      TAU K7775      /CONSTANT TO BE INDEXED
2050 3015      DC 15
2051 3415      DCA I 15      /DO AUTO INDEX
2052 1015      TA 15
2053 1051      TAD K0001      /AC SHOULD EQUAL 7777

```

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2054 7040
2055 7440
2056 7402

CMA
SZ
HLT

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

/AUTO INDEX TEST 74
2057 7200      CLA
2060 1033      TAU K7773      /CONSTANT TO BE INDEXED
2061 3015      DCA 15
2062 1415      TAD I 15      /DO AUTO INDEX
2063 7200      CLA
2064 1015      TAU 15
2065 1047      TA- K0003      /AC SHOULD EQUAL 7777
2066 7040      CMA
2067 7440      SZA      /AC SHOULD BE ZERO
2070 7402      HLT      /AUTO INDEX ERROR

/AUTO INDEX TEST 75
2071 7200      CL-
2072 1032      TAU K7767      /CONSTANT TO BE INDEXED
2073 3015      DCA 15
2074 0415      AND I 15      /DO AUTO INDEX
2075 1015      TA- 15
2076 1046      TAD K0007      /AC SHOULD EQUAL 7777
2077 7040      CM-
2100 7440      SZA      /AC SHOULD BE ZERO
2101 7402      HLT      /AUTO INDEX ERROR

/AUTO INDEX TEST 76
2102 7200      CLA
2103 1031      TAU K7757      /CONSTANT TO BE INDEXED
2104 3015      DCA 15
2105 0415      AND I 15      /DO AUTO INDEX
2106 1015      TAD 15
2107 1045      TAU K0017      /AC SHOULD EQUAL 7777
2110 7040      CM-
2111 7440      SZA      /AC SHOULD BE ZERO
2112 7402      HLT      /AUTO INDEX ERROR

/AUTO INDEX TEST 77
2113 7200      CL-
2114 1027      TAU K7737      /CONSTANT TO BE INDEXED
2115 3015      DCA 15
2116 0415      AND I 15      /DO AUTO INDEX
2117 1015      TAU 15
2120 1044      TA- K0037      /AC SHOULD EQUAL 7777
2121 7040      CMA
2122 7440      SZA      /AC SHOULD BE ZERO
2123 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 78
2124 7202      CLA
2125 1026      TAD K7677      /CONSTANT TO BE INDEXED
2126 3015      DCA 15
2127 0415      AND I 15      /DO AUTO INDEX
2130 1015      TAD 15
2131 1043      TAD K0077      /AC SHOULD EQUAL 7777
2132 7040      CMA
2133 7440      SZ
2134 7402      HLT      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 79
2135 7200      CLA
2136 1025      TAD K7577      /CONSTANT TO BE INDEXED
2137 3015      DCA 15
2140 0415      AND I 15      /DO AUTO INDEX
2141 1015      TA- 15
2142 1042      TAD K0177      /AC SHOULD EQUAL 7777
2143 7040      CMA
2144 7440      SZ*
2145 7402      HLT      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 80
2146 7200      CLA
2147 1024      TAD K7377      /CONSTANT TO BE INDEXED
2150 3015      DCA 15
2151 0415      AND I 15      /DO AUTO INDEX
2152 1015      TAD 15
2153 1041      TAD K0377      /AC SHOULD EQUAL 7777
2154 7040      CMA
2155 7440      SZA
2156 7402      HLT      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 81
2157 7200      CLA
2160 1023      TAD K6777      /CONSTANT TO BE INDEXED
2161 3015      DCA 15
2162 0415      AND I 15      /DO AUTO INDEX
2163 1015      TAD 15
2164 1040      TAD K0777      /AC SHOULD EQUAL 7777
2165 7040      CMA
2166 7440      SZA
2167 7402      HLT      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
2170 7000      NOP
2171 7000      NO
2172 5376      JMP ,+4
2173 7000      NOP
2174 7000      NOP
2175 7000      NOP
2176 7000      NOP
2177 7000      NOP

```

```

2200
2200 7200
2201 1022
2202 3015
2203 2415
2204 7000
2205 1015
2206 1037
2207 7040
2210 7440
2211 7402

*2200
/AUTO INDEX TEST 82
CLA
TAP K5777 /CONSTANT TO BE INDEXED
DC# 15
ISE I 15 /DO AUTO INDEX
NOP
TAP 15
TAL K1777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLI /AUTO INDEX ERROR

/AUTO INDEX TEST 83
2212 7200
2213 1021
2214 3015
2215 0415
2216 1015
2217 1021
2220 7040
2221 7440
2222 7402
CLA
TAD K3777 /CONSTANT TO BE INDEXED
DCA 15
AND I 15 /DO AUTO INDEX
TAD 15
TAD K3777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLI /AUTO INDEX ERROR

/AUTO INDEX TEST 84
2223 7200
2224 1020
2225 3015
2226 0415
2227 1015
2230 1020
2231 7040
2232 7440
2233 7402
CLA
TAD K7777 /CONSTANT TO BE INDEXED
DC# 15
AND I 15 /DO AUTO INDEX
TAD 15
TAD K7777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLI /AUTO INDEX ERROR

/AUTO INDEX TEST 85
2234 7200
2235 1036
2236 3016
2237 0416
2240 1016
2241 1035
2242 7040
2243 7440
2244 7402
CLA
TAD K0 /CONSTANT TO BE INDEXED
DC# 16
AND I 16 /DO AUTO INDEX
TAD 16
TAD K7776 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLI /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 86
2245 7200      CL#
2246 1035      TAU K7776      /CONSTANT TO BE INDEXED
2247 3016      DCA 16
2250 0416      AND I 16      /DO AUTO INDEX
2251 1016      TAU 16
2252 1036      TAD K0      /AC SHOULD EQUAL 7777
2253 7040      CMA
2254 7440      SZA      /AC SHOULD BE ZERO
2255 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 87
2256 7200      CL#
2257 1034      TA K7775      /CONSTANT TO BE INDEXED
2260 3016      DCA 16
2261 3416      DCA I 16      /DO AUTO INDEX
2262 1016      TAU 16
2263 1051      TAD K0001      /AC SHOULD EQUAL 7777
2264 7040      CMA
2265 7440      SZA      /AC SHOULD BE ZERO
2266 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 88
2267 7200      CL#
2270 1033      TAU K7773      /CONSTANT TO BE INDEXED
2271 3016      DCA 16
2272 1416      TAD I 16      /DO AUTO INDEX
2273 7200      CL#
2274 1016      TAU 16
2275 1047      TAD K0003      /AC SHOULD EQUAL 7777
2276 7040      CMA
2277 7440      SZA      /AC SHOULD BE ZERO
2300 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 89
2301 7200      CL#
2302 1032      TA K7767      /CONSTANT TO BE INDEXED
2303 3016      DCA 16
2304 0416      AND I 16      /DO AUTO INDEX
2305 1016      TAD 16
2306 1046      TAD K0007      /AC SHOULD EQUAL 7777
2307 7040      CMA      /AC SHOULD BE ZERO
2310 7440      SZA      /AUTO INDEX ERROR
2311 7402      HLT

```

```

/AUTO INDEX TEST 90
2312 7200      CL#
2313 1031      TAU K7757      /CONSTANT TO BE INDEXED
2314 3016      DCA 16
2315 0416      AND I 16      /DO AUTO INDEX
2316 1016      TA 16
2317 1045      TAD K0017      /AC SHOULD EQUAL 7777
2320 7040      CMA

```

2321 7440
2322 7402

SZA
HLT

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 91

2323 7200
2324 1027
2325 3016
2326 0416
2327 1016
2330 1044
2331 7040
2332 7440
2333 7402

CLA
TAD K7737
DCA 16
AND I 16
TAU 16
TAV K0037
CMA
SZA
HLI

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 92

2334 7200
2335 1026
2336 3016
2337 0416
2340 1016
2341 1043
2342 7040
2343 7440
2344 7402

CLA
TAD K7677
DCA 16
AND I 16
TAU 16
TAV K0077
CMA
SZA
HLI

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 93

2345 7200
2346 1025
2347 3016
2350 0416
2351 1016
2352 1042
2353 7040
2354 7440
2355 7402

CLA
TAD K7577
DC 16
AND I 16
TAD 16
TAD K0177
CMA
SZA
HL

/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```
2356 7200 /AUTO INDEX TEST 94
2357 1024 CLA
2360 3016 TAD K7377 /CONSTANT TO BE INDEXED
2361 0416 DCA 16
2362 1016 AND I 16 /DO AUTO INDEX
2363 1041 TAD 16
2364 7040 TAV K0377 /AC SHOULD EQUAL 7777
2365 7440 CMA
2366 7402 SZ /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR
```

```
2367 7200 /AUTO INDEX TEST 95
2370 1023 CLA
2371 3016 TAV K6777 /CONSTANT TO BE INDEXED
2372 0416 DCA 16
2373 1016 AND I 16 /DO AUTO INDEX
2374 1040 TAD 16
2375 7040 TAV K0777 /AC SHOULD EQUAL 7777
2376 7440 CMA
2377 7402 SZ /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR
```

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/TEST 2 - TAPE 3

2400

*2400

/AUTO INDEX TEST 96

2400	7200	CLA	
2401	1022	TAD K5777	/CONSTANT TO BE INDEXED
2402	3016	DCM 16	
2403	2416	ISZ I 16	/DO AUTO INDEX
2404	7000	NOP	
2405	1016	TAP 16	
2406	1037	TAD K1777	/AC SHOULD EQUAL 7777
2407	7040	CMA	
2410	7440	SZA	/AC SHOULD BE ZERO
2411	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 97

2412	7200	CLA	
2413	1021	TAD K3777	/CONSTANT TO BE INDEXED
2414	3016	DCM 16	
2415	0416	AND I 16	/DO AUTO INDEX
2416	1016	TAP 16	
2417	1021	TAD K3777	/AC SHOULD EQUAL 7777
2420	7040	CMA	
2421	7440	SZA	/AC SHOULD BE ZERO
2422	7402	HLT	/AUTO INDEX ERROR

```

2423 7200      /AUTO INDEX TEST 98
2424 1020      CL#
2425 3016      TAU K7777      /CONSTANT TO BE INDEXED
2426 0416      DCA 16
2427 1016      ANU I 16      /DO AUTO INDEX
2430 1020      TA 16
2431 7040      TAU K7777      /AC SHOULD EQUAL 7777
2432 7440      CMA
2433 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HLI

2434 7200      /AUTO INDEX TEST 99
2435 1036      CL#
2436 3017      TAD K0      /CONSTANT TO BE INDEXED
2437 0417      DC# 17
2440 1017      ANU I 17      /DO AUTO INDEX
2441 1035      TAU 17
2442 7040      TAD K7776      /AC SHOULD EQUAL 7777
2443 7440      CM#
2444 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HLT

2445 7200      /AUTO INDEX TEST 100
2446 1035      CL#
2447 3017      TA K7776      /CONSTANT TO BE INDEXED
2450 0417      DC# 17
2451 1017      ANU I 17      /DO AUTO INDEX
2452 1036      TA 17
2453 7040      TAD K0      /AC SHOULD EQUAL 7777
2454 7440      CMA
2455 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HLI

2456 7200      /AUTO INDEX TEST 101
2457 1034      CL#
2460 3017      TAU K7775      /CONSTANT TO BE INDEXED
2461 3417      DC# 17
2462 1017      DCA I 17      /DO AUTO INDEX
2463 1051      TA 17
2464 7040      TAD K0001      /AC SHOULD EQUAL 7777
2465 7440      CMA
2466 7402      SZA      /AC SHOULD BE ZERO
                        /AUTO INDEX ERROR
                        HL

```

(17)=0

2467	7200	/AUTO INDEX TEST 102	
2470	1033	CLA	
2471	3017	TA K7773	/CONSTANT TO BE INDEXED
2472	1417	DCA 17	
2473	7200	TAU I 17	/DO AUTO INDEX
2474	1017	CLA	
2475	1047	TAU 17	
2476	7040	TAP K0003	/AC SHOULD EQUAL 7777
2477	7440	CMA	
2500	7402	SZA	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR
2501	7200	/AUTO INDEX TEST 103	
2502	1032	CLA	
2503	3017	TAU K7767	/CONSTANT TO BE INDEXED
2504	0417	DC 17	
2505	1017	AND I 17	/DO AUTO INDEX
2506	1046	TAU 17	
2507	7040	TAU K0007	/AC SHOULD EQUAL 7777
2510	7440	CMA	
2511	7402	SZA	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR
2512	7200	/AUTO INDEX TEST 104	
2513	1031	CLA	
2514	3017	TAD K7757	/CONSTANT TO BE INDEXED
2515	0417	DCA 17	
2516	1017	AND I 17	/DO AUTO INDEX
2517	1045	TAU 17	
2520	7040	TAD K0017	/AC SHOULD EQUAL 7777
2521	7440	CM*	
2522	7402	SZ*	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR

```

/AUTO INDEX TEST 105
2523 7200      CLA
2524 1027      TA- K7737      /CONSTANT TO BE INDEXED
2525 3017      DCA 17
2526 0417      AND I 17      /DO AUTO INDEX
2527 1017      TAD 17
2530 1044      TAD K0037      /AC SHOULD EQUAL 7777
2531 7040      CMA
2532 7440      SZA      /AC SHOULD BE ZERO
2533 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 106
2534 7200      CLA
2535 1026      TAP K7677      /CONSTANT TO BE INDEXED
2536 3017      DCA 17
2537 0417      AND I 17      /DO AUTO INDEX
2540 1017      TAP 17
2541 1043      TAP K0077      /AC SHOULD EQUAL 7777
2542 7040      CMA
2543 7440      SZA      /AC SHOULD BE ZERO
2544 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 107
2545 7200      CLA
2546 1025      TAD K7577      /CONSTANT TO BE INDEXED
2547 3017      DCA 17
2550 0417      AND I 17      /DO AUTO INDEX
2551 1017      TAP 17
2552 1042      TAP K0177      /AC SHOULD EQUAL 7777
2553 7040      CMA
2554 7440      SZA      /AC SHOULD BE ZERO
2555 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 108
2556 7200      CLA
2557 1024      TAD K7377      /CONSTANT TO BE INDEXED
2560 3017      DCA 17
2561 0417      AND I 17      /DO AUTO INDEX
2562 1017      TAP 17
2563 1041      TAP K0377      /AC SHOULD EQUAL 7777
2564 7040      CMA
2565 7440      SZA      /AC SHOULD BE ZERO
2566 7402      HLT      /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 109
2567 7200      CLA
2570 1023      TA- K6777      /CONSTANT TO BE INDEXED
2571 3017      DCA 17
2572 0417      AND I 17      /DO AUTO INDEX
2573 1017      TAD 17
2574 1040      TAP K0777      /AC SHOULD EQUAL 7777
2575 7040      CMA
2576 7440      SZA      /AC SHOULD BE ZERO
2577 7402      HLT      /AUTO INDEX ERROR

```

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2600

*2600

/AUTO INDEX TEST 110

2600	7200	CLA	
2601	1022	TAU K5777	/CONSTANT TO BE INDEXED
2602	3017	DCA 17	
2603	2417	ISZ I 17	/DO AUTO INDEX
2604	7400	NOP	
2605	1017	TAU 17	
2606	1037	TAU K1777	/AC SHOULD EQUAL 7777
2607	7040	CMA	
2610	7440	SZA	/AC SHOULD BE ZERO
2611	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 111

2612	7200	CLA	
2613	1021	TAU K3777	/CONSTANT TO BE INDEXED
2614	3017	DCA 17	
2615	0417	AND I 17	/DO AUTO INDEX
2616	1017	TAU 17	
2617	1021	TAU K3777	/AC SHOULD EQUAL 7777
2620	7040	CMA	
2621	7440	SZA	/AC SHOULD BE ZERO
2622	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 112

2623	7200	CLA	
2624	1020	TAU K7777	/CONSTANT TO BE INDEXED
2625	3017	DCA 17	
2626	0417	AND I 17	/DO AUTO INDEX
2627	1017	TAU 17	
2630	1020	TAU K7777	/AC SHOULD EQUAL 7777
2631	7040	CMA	
2632	7440	SZA	/AC SHOULD BE ZERO
2633	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 113

2634	5236	JMP .+2	
2635	7402	HLT	/JMP FAILED
2636	7410	SKP	/JMP WORKED (A LITTLE)
2637	2644	2644	
2640	1237	TAU .-1	
2641	3010	DCA 10	
2642	5410	JMP I 10	/TEST INSTRUCTION
2643	7402	HLT	/JMP INDIRECT FAILED
2644	7402	HLT	/LOCATION 2610, NO INDEX
			/IN WTI STATE,


```

/INTERRUPT TEST 2
2722 1041      TAD K0377      /RUBOUT CHARACTER
2723 6041      TSP
2724 6046      TLS
2725 6041      TSP
2726 5325      JMP , -1
2727 7200      CLA      /FLAG IS ON
2730 1336      TAD BACK3
2731 3002      DCA 2
2732 6001      ION
2733 1020      TAD K7777
2734 7402      HLT      /NO INTERRUPT
2735 2734      OUT3, , -1
2736 2737      BACK3, , +1
2737 7040      CMA      /RETURN FROM LOC1
2740 7440      SZA
2741 7402      HLT      /CONFIDENCE CHECK
                        /AC SHOULD BE 0
2742 1000      TAD 0
2743 7041      CIA
2744 1335      TAD OUT3
2745 7640      SZA CLA      /INTERRUPT ERROR
2746 7402      HLT      /WRONG ADDRESS STORED

/INTERRUPT TEST 3
2747 1041      TAD K0377      /RUBOUT CHARACTER
2750 6041      TSP
2751 6046      TLS
2752 6041      TSP
2753 5352      JMP , -1
2754 7200      CLA      /FLAG IS ON
2755 1364      TAD BACK2
2756 3002      DCA 2
2757 1020      TAD K7777
2760 6001      ION
2761 0020      AND K7777
2762 7402      HLT      /NO INTERRUPT
2763 2762      OUT2, , -1
2764 2765      BACK2, , +1
2765 7040      CMA      /RETURN FROM LOC1
2766 7440      SZA
2767 7402      HLT      /CONFIDENCE CHECK
                        /AC SHOULD BE 0
2770 1000      TAD 0
2771 7041      CIA
2772 1363      TAD OUT2
2773 7640      SZA CLA      /INTERRUPT ERROR
2774 7402      HLT      /WRONG ADDRESS STORED

2775 7000      NOP
2776 7000      NOP
2777 7000      NOP

```

```

3000
3000 1041      *3000
3001 6041      /INTERRUPT TEST 4
3002 6046      TAD K0377      /RUBOUT CHARACTER
3003 6041      TSF
3004 5203      TLS
3005 7200      JMP , -1
3006 1215      CLA      /FLAG IS ON
3007 3002      TAD BACK4
3008 1020      DCA 2
3009 6001      TAD K7777
3010 3003      ION
3011 7402      DCA 3
3012 7402      HLT      /NO INTERRUPT
3013 3013      OUT4, , -1
3014 3016      BACK4, , +1
3015 7440      SZA      /RETURN FROM LOC1
3016 7402      HLT      /CONFIDENCE CHECK
3017 1203      TAD 3      /AC SHOULD BE ZERO
3018 7040      CMA
3019 7440      SZA
3020 7402      HLT      /DCA PRIOR TO INTERRUPT
3021 3003      DCA 3      /FAILED
3022 1030      TAD 0
3023 7041      CIA
3024 1214      TAD OUT4
3025 7540      SZA CLA
3026 7402      HLT
3027 1041      /INTERRUPT ERROR
3028 6041      /WRONG ADDRESS STORED
3029 6046      TAD K0377      /RUBOUT CHARACTER
3030 6041      TSF
3031 5203      TLS
3032 7200      JMP , -1
3033 1215      CLA      /FLAG IS ON
3034 1230      TAD BACK5
3035 3002      DCA 2
3036 1035      TAD K7776
3037 1041      /INTERRUPT TEST 5
3038 6041      TAD K0377
3039 6046      TSF
3040 6041      TLS
3041 5203      JMP , -1
3042 7200      CLA
3043 1230      TAD BACK5
3044 3002      DCA 2
3045 1035      TAD K7776

```

3043	3003	DCA 3	
3044	6001	ION	
3045	2003	ISZ 3	
3046	7402	HLT	/NO INTERRUPT
3047	3046	OUT5, -1	
3050	3051	BACK5, +1	
3051	7440	SZA	/RETURN FROM LOC1
3052	7402	HLT	/CONFIDENCE CHECK
			/AC SHOULD BE ZERO
3053	1003	TAD 3	
3054	7040	CMA	
3055	7440	SZA	
3056	7402	HLT	/ISZ PRIOR TO
			/INTERRUPT FAILED
3057	3003	DCA 3	
3060	1000	TAD 0	
3061	7041	CIA	
3062	1247	TAD OUT5	
3063	7640	SZA CLA	
3064	7402	HLT	/INTERRUPT ERROR
			/WRONG ADDRESS STORED
/INTERRUPT TEST 6			
3065	1041	TAD K03/7	/RUBOUT CHARACTER
3066	6041	TSF	
3067	6046	TLS	
3070	6041	TSF	
3071	5270	JMP -1	
3072	7200	CLA	/FLAG IS ON
3073	1304	TAD BACK6	
3074	3002	DCA 2	
3075	1020	TAD K7777	
3076	3003	DCA 3	
3077	6001	ION	
3100	2003	ISZ 3	
3101	7402	HLT	/NO INTERRUPT
3102	7402	HLT	
3103	3102	OUT6, -1	
3104	3105	BACK6, +1	
3105	7440	SZA	/RETURN FROM LOC 1
3106	7402	HLT	/CONFIDENCE CHECK
			/AC SHOULD BE ZERO
3107	1003	TAD 3	
3110	7440	SZA	
3111	7402	HLT	/ISZ PRIOR TO
			/INTERRUPT FAILED
3112	3003	DCA 3	
3113	1000	TAD 0	
3114	7041	CIA	
3115	1303	TAD OUT6	
3116	7640	SZA CLA	
3117	7402	HLT	/INTERRUPT ERROR
			/WRONG ADDRESS STORED

```

/INTERRUPT TEST 7
3120 1741      TAD K0377      /RUBOUT CHARACTER
3121 6041      TSF
3122 6046      TLS
3123 6041      TSF
3124 5323      JMP , -1
3125 7200      CLA      /FLAG IS ON
3126 1334      TAD BACK7
3127 3002      DCA 2
3130 6001      ION
3131 5331      JMP ,
3132 7402      HLT      /NO INTERRUPT
3133 3131      OUT7,      -2
3134 3135      BACK7,    +1
3135 7440      SZA      /RETURN FROM LOC 1
3136 7402      HLT      /CONFIDENCE CHECK
                          /AC SHOULD BE 0
3137 1000      TAD 0
3140 7041      CIA
3141 1333      TAD OUT7
3142 7540      SZA CLA
3143 7402      HLT      /INTERRUPT ERROR
                          /WRONG ADDRESS STORED

```

```

/INTERRUPT TEST 8
3144 1741      TAD K0377      /RUBOUT CHARACTER
3145 6041      TSF
3146 6046      TLS
3147 6041      TSF
3150 5347      JMP , -1
3151 7200      CLA      /FLAG IS ON
3152 1360      TAD BACK8
3153 3002      DCA 2
3154 6001      ION
3155 4003      JMS 3
3156 7402      HLT      /NO INTERRUPT
3157 3150      OUT8,      -1
3158 3161      BACK8,    +1
3159 7440      SZA      /RETURN FROM LOC 1
3160 7402      HLT      /CONFIDENCE CHECK
                          /AC SHOULD BE ZERO
3163 1743      TAD 3
3164 7041      CIA
3165 1357      TAD OUT8
3166 7440      SZA
3167 7402      HLT      /JMS ERROR PRIOR
                          /TO INTERRUPT WRONG
                          /ADDRESS STORED

```

3170 1000
3171 7041
3172 1064
3173 7540
3174 7402

3175 7400
3176 7000
3177 7400

TAU 0
CIA
TAU K4
SZA CLA
HLT

NOP
NOP
NOP

/INTERRUPT ERROR
/WRONG ADDRESS STORED

```

3200
3201 1041      *3200
3202 0041      /INTERRUPT TEST 9
3203 0046      TAD K0377      /RUBOUT CHARACTER
3204 0041      ISF
3205 5233      ILS
3206 7200      ISF
3207 1215      JMP , -1
3208 3002      CLA      /FLAG IS ON
3209 1020      TAD BACK9
3210 0001      DCA 2
3211 7200      TAD K7777
3212 7402      ION
3213 3213      CLA
3214 3213      HLT      /NO INTERRUPT
3215 3216      OUT9, , -1
3216 7440      BACK9, , +1
3217 7402      SZA
3218 1000      HLT      /RETURN FROM LOC 1
3219 7441      /CLA PRIOR TO INTERRUPT
3220 1214      /FAILED
3221 7441      TAD 0
3222 1214      CIA
3223 7440      TAD OUT9
3224 7402      SZA CLA
3225 1041      HLT      /INTERRUPT FAILED
3226 0041      /WRONG ADDRESS STORED
3227 0046
3228 0041
3229 5233
3230 7200
3231 1242
3232 3002
3233 0001
3234 0041
3235 7402
3236 7402
3237 7402
3240 7402

3225 1041      /INTERRUPT TEST 10
3226 0041      TAD K0377      /RUBOUT CHARACTER
3227 0046      ISF
3228 0041      ILS
3229 5233      ISF
3230 7200      JMP , -1
3231 1242      CLA      /FLAG IS ON
3232 3002      TAD BACK10
3233 0001      DCA 2
3234 0041      ION
3235 7402      ISF
3236 7402      HLT      /NO INTERRUPT
3237 7402      HLT
3240 7402

```

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```

/RETURN FROM LOC 1
/CONFIDENCE CHECK
/AC SHOULD BE ZERO

```

/ INTERRUPT ERROR
/ WRONG ADDRESS STORED

TAU K0377

/ RUBOUT CHARACTER

/FLAG IS ON

3314 6041
3315 7402
3316 7410
3317 3321
3320 7410
3321 7402

TSF
HLT
SKP
BACK11, .+2
SKP
HLT

/WHAT HAPPENED TO MY FLAG

/INTERRUPT OCCURRED DURING
/ION-IOF SEQUENCE
/SEE LOCATION 0000

Teleprinter
flag

3322 6042
3323 7200
3324 1334
3325 3002
3326 6001
3327 7000
3330 7000
3331 7000
3332 7000
3333 7410
3334 3336
3335 7410
3336 7402

/INTERRUPT TEST 12

TSF
CLA
TAD BACK12
DCA 2
ION
NOP
NOP
NOP
NOP
NOP
SKP
BACK12, .+2
SKP
HLT

/CLEAR FLAG

/INTERRUPT WITH NO
/FLAG,

IOF

/ILLEGAL AUTO INDEX TEST1

3340 7200
3341 5742
3342 4000
3343 4010

CLA
JMP I ,+1
AND1
K4010, 4010

4000 4000
4000 0610
4001 5602
4002 3350

*4000
AND1, AND I 4010
JMP I ,+1
RET1

/TEST INSTRUCTION

3350 3350
3350 1743
3351 7440
3352 7402

*3350
RET1, TAD I K4010
SEA
HLT
CLA
DCA I K4010

/ERROR, AC SHOULD BE ZERO
/AND I 4010 ALTERED (4010)

3353 7200
3354 3743

CLA
DCA I K4010

JMP 122

/ILLEGAL AUTO INDEX TEST 2

3355	7200	CLA	
3356	5757	JMP I ,+1	
3357	2173	AND2	
3360	2010	K2010, 2010	
	2173	*2173	
2173	0610	AND2, AND I 2010	/TEST INSTRUCTION
2174	5775	JMP I ,+1	
2175	3370	RET2	
	3370	*3370	
3370	1760	RET2, TAD I K2010	
3371	7440	SZ	
3372	7402	HLI	/ERROR. AC SHOULD BE ZERO
			/AND I 2010 ALTERED (2010)
3373	5774	JMP I ,+1	
3374	3400	3400	

/ILLEGAL AUTO INDEX TEST 3

	3400	*3400	
3400	7200	CLA	
3401	5602	JMP I ,+1	
3402	1173	AND3	
3403	1010	K1010, 1010	
	1173	*1173	
1173	0610	AND3, AND I 1010	/TEST INSTRUCTION
1174	5775	JMP I ,+1	
1175	3410	RET3	
	3410	*3410	
3410	1603	RET3, TAD I K1010	
3411	7440	SZ	
3412	7402	HLI	/ERROR. AC SHOULD BE ZERO
			/AND I 1010 ALTERED (1010)
3413	7200	CLA	
3414	3603	DC I K1010	

/ILLEGAL AUTO INDEX TEST 4

3415	7200	CLA	
3416	5617	JMP I ,+1	
3417	0574	AND4	
3420	0410	K410, 410	
	0574	*574	
0574	0610	AND4, AND I 410	/TEST INSTRUCTION
0575	5776	JMP I ,+1	
0576	3430	RET4	
	3430	*3430	
3430	1620	RET4, TAD I K410	
3431	7440	SZA	
3432	7402	HLT	/ERROR, AC SHOULD BE ZERO
			/AND I 410 ALTERED (410)
3433	7200	CLA	
3434	3620	DCA I K410	

/ILLEGAL AUTO INDEX TEST 5

3435	7200	CLA	
3436	5637	JMP I ,+1	
3437	0371	AND5	
3440	0210	K210, 210	
	0370	*370	
0370	5374	JMP ,+4	
0371	0610	AND5, AND I 210	/TEST INSTRUCTION
0372	5773	JMP I ,+1	
0373	3450	RET5	
	3450	*3450	
3450	1640	RET5, TAD I K210	
3451	7440	SZA	
3452	7402	HLT	/ERROR, AC SHOULD BE ZERO
			/AND I 210 ALTERED (210)
3453	7200	CLA	
3454	3640	DCA I K210	

/ILLEGAL AUTO INDEX TEST 6

3455	7200		CLA	
3456	5657		JMP I .+1	
3457	0130		AND6	
3460	0110	K110,	110	
	0130	*130		
0130	0510	AND6,	AND I 110	/TEST INSTRUCTION
0131	5532		JMP I .+1	
0132	3470		REI6	
	3470	*3470		
3470	1660	RET6,	TAN I K110	
3471	7440		SZ*	
3472	7402		HLI	/ERROR, AC SHOULD BE ZERO
				/AND I 110 ALTERED (110)
3473	7200		CLA	
3474	3110		DCA 110	

/ILLEGAL AUTO INDEX TEST 7

3475	7200		CLA	
3476	5677		JMP I .+1	
3477	0124		AND7	
3500	0050	K50,	50	
	0124	*124		
0124	0450	AND7,	AND I 50	/TEST INSTRUCTION
0125	5526		JMP I .+1	
0126	3510		REI7	
	3510	*3510		
3510	1700	RET7,	TAN I K50	
3511	7440		SZ*	
3512	7402		HLI	/ERROR, AC SHOULD BE ZERO
				/AND I 50 ALTERED (50)
3513	7200		CLA	
3514	3050		DCA 50	

/ILLEGAL AUTO INDEX TEST 8

3515	7200	CLA	
3516	5717	JMP I ,+1	
3517	0120	AND8	
3520	0030	K30,	30
	0120	*120	
0120	0430	AND8,	AND I 30
0121	5522	JMP I ,+1	/TEST INSTRUCTION
0122	3530	REI8	
	3530	*3530	
3530	1720	RET8,	TAD I K30
3531	7440	SZ*	
3532	7402	HLT	/ERROR, AC SHOULD BE ZERO
			/AND I 30 ALTERED (30)
3533	7200	CLA	
3534	3030	DCA 30	

/ILLEGAL AUTO INDEX TEST 9

3535	7200	CLA	
3536	3000	DCA 0	
3537	5740	JM I ,+1	
3540	0074	AND9	
	0074	*74	
0074	0400	AND9,	AND I 0
0075	5476	JM I ,+1	/TEST INSTRUCTION
0076	3550	RET9	
	3550	*3550	
3550	1436	RET9,	TAD I K0
3551	7440	SZ*	
3552	7402	HLT	/ERROR, AC SHOULD BE ZERO
			/AND I 0 ALTERED (0)
3553	7200	CLA	
3554	3000	DCA 0	

/ILLEGAL AUTO INDEX TEST 10

3555 7200
3556 5757
3557 0070

CLA
JMP I .+1
ANW10

0070 0407
0071 5472
0072 3600

*70
AND10, ANW I 7 /TEST INSTRUCTION
JMP I .+1
REL10

3600 1446
3601 7440
3602 7402

*3600
RET10, TAD I K0007
SZ*
HLI /ERROR, AC SHOULD BE ZERO
/AND I 7 ALTERED (7)

3603 7200
3604 3007

CL*
DCA 7

/CHECK FOR TTY BELL

3605 1223
3606 7001
3607 3223
3610 1223
3611 1224
3612 7640
3613 5622
3614 3223
3615 1225
3616 6046
3617 6041
3620 5217
3621 5622
3622 0201
3623 0000
3624 7730
3625 0207

TAW BLCNT
IAL
DC* BLCNT
TAD BLCNT
TAW RNCNT
SEA CLA
JMP I K201
DCA BLCNT
TAW BELCOD
TL
TSP
JMP .-1
JMP I .+1
K201, 201
BLCNT, 0
RNCNT, -50
BELCOD, 207

4010 0010
4010 0000

*4010
0

4011 0000
4012 1221
4013 3001
4014 3002
4015 3003
4016 1041
4017 2211
4020 5611
4021 5402

STR, 0
TAW JMPIX
DC* 1
DCA 2
DC 3
TAD K0377
ISE STR
JMP I STR
JMPIX, 5402

\$

THERE ARE NO ERRORS

SYMBOL TABLE

AND1	4000
AND10	0270
AND2	2173
AND3	1173
AND4	0574
AND5	0371
AND6	0130
AND7	0124
AND8	0120
AND9	0074
BACK1	2711
BACK10	3242
BACK11	3317
BACK12	3334
BACK2	2763
BACK3	2735
BACK4	3015
BACK5	3050
BACK6	3104
BACK7	3134
BACK8	3160
BACK9	3215
BELCOD	3625
BLCNT	3623
JMPIX	4021
K0	0036
K0001	0051
K0003	0047
K0007	0046
K0017	0045
K0037	0044
K0077	0043
K0177	0042
K0377	0041
K0707	0060
K0777	0040
K1010	3403
K110	3460
K1111	0062
K1234	0177
K172	0173
K173	0174
K174	0175
K175	0176
K176	0172
K1777	0237
K201	3622
K2010	3360
K210	3440
K2525	0054
K30	3520
K3777	0021
K4	0064

SYMBOL TABLE

K4010	3343
K410	3420
K4400	0052
K4444	0056
K4577	0053
K50	3500
K5252	0061
K5555	0063
K5777	0022
K6666	0055
K6777	0023
K7070	0057
K7377	0024
K7577	0025
K7677	0026
K7737	0027
K7757	0031
K7767	0032
K7773	0033
K7775	0034
K7776	0035
K7777	0020
OUT1	2710
OUT10	3241
OUT2	2762
OUT3	2734
OUT4	3014
OUT5	3047
OUT6	3103
OUT7	3133
OUT8	3157
OUT9	3214
RET1	3350
RET10	3600
RET2	3370
RET3	3410
RET4	3430
RET5	3450
RET6	3470
RET7	3510
RET8	3530
RET9	3550
RNGCNT	3624
STR	4011
TP0	0200
TP177	0377

SYMBOL TABLE

K7777	0020
K3777	0021
K5777	0022
K6777	0023
K7377	0024
K7577	0025
K7677	0026
K7737	0027
K7757	0031
K7767	0032
K7773	0033
K7775	0034
K7776	0035
K0	0036
K1777	0037
K0777	0040
K0377	0041
K0177	0042
K0077	0043
K0037	0044
K0017	0045
K0007	0046
K0003	0047
K0001	0051
K4400	0052
K4577	0053
K2525	0054
K6666	0055
K4444	0056
K7070	0057
K0707	0060
K5252	0061
K1111	0062
K5555	0063
K4	0064
AND10	0070
AND9	0074
AND8	0120
AND7	0124
AND6	0130
K176	0172
K172	0173
K173	0174
K174	0175
K175	0176
K1234	0177
TP0	2200
AND5	0371
TP177	0377
AND4	0574
AND3	1173
AND2	2173
OUT1	2710

SYMBOL TABLE

BACK1	2711
OUT3	2734
BACK3	2735
OUT2	2762
BACK2	2763
OUT4	3014
BACK4	3015
OUT5	3047
BACK5	3050
OUT6	3103
BACK6	3104
OUT7	3133
BACK7	3134
OUT8	3157
BACK8	3160
OUT9	3214
BACK9	3215
OUT10	3241
BACK10	3242
BACK11	3317
BACK12	3334
K4010	3343
RET1	3350
K2010	3360
RET2	3370
K1010	3403
RET3	3410
K410	3420
RET4	3430
K210	3440
RET5	3450
K110	3460
RET6	3470
K50	3500
RET7	3510
K30	3520
RET8	3530
RET9	3550
RET10	3600
K201	3622
HLCNT	3623
RNGCNT	3624
BELCOD	3625
AND1	4000
STR	4011
JMPIX	4021

