

IDENTIFICATION

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



MEMORANDUM

TO : [Illegible]

FROM : [Illegible]

SUBJECT: [Illegible]

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

0110
0110 0110
0172

*110

0

*172

0172 0176
0173 0172
0174 0173
0175 0174
0176 0175
0177 1234

K176, 176
K172, 174
K173, 175
K174, 174
K175, 172
K1234, 1234

/LOC 172
/173
/174
/175
/176
/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
TAL K4400
DCM TP177
SZA
HLT
TAU K4400
SKP
0
CI
TAU 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
TAU K4577
CIM
TAU 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
TAL K7777
DCA TP0
SZA
HLT
TAL TP0
CMF
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
TAL K0
DCA TP0
SZA
HLT
TAL 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	CLA		
0251	1054	TAD	K2525	
0252	3200	DC	TP0	
0253	7440	SZA		
0254	7402	HLT		/DCA DID NOT CLEAR AC
0255	1054	TAU	K2525	
0256	7041	CIA		
0257	1200	TAU	TP0	
0260	7440	SZA		
0261	7402	HLT		/DCA FAILED /AC SHOULD BE ZERO

/DCA TEST 6

0262	7200	CLA		
0263	1055	TAD	K6666	
0264	3200	DC	TP0	
0265	7440	SZA		
0266	7402	HLT		/DCA DID NOT CLEAR AC
0267	1055	TAD	K6666	
0270	7041	CIA		
0271	1200	TAU	TP0	
0272	7440	SZA		
0273	7402	HLT		/DCA FAILED /AC SHOULD BE ZERO

/DCA TEST 7

0274	7200	CLA		
0275	1056	TAU	K4444	
0276	3377	DCA	TP177	
0277	7440	SZA		
0300	7402	HLT		/DCA DID NOT CLEAR AC
0301	1056	TAU	K4444	
0302	7041	CIA		
0303	1377	TAU	TP177	
0304	7440	SZA		
0305	7402	HLT		/DCA FAILED /AC SHOULD BE ZERO

/DCA TEST 8

0306	7200	CLA		
0307	1057	TAU	K7070	
0310	3377	DCA	TP177	
0311	7440	SZA		
0312	7402	HLT		/DCA DID NOT CLEAR AC
0313	1057	TAU	K7070	
0314	7041	CIA		
0315	1377	TAU	TP177	
0316	7440	SZA		
0317	7402	HLT		/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
 TAW K0707
 DCA 0
 SZ
 HLI
 TAW K0707
 CIA
 TA 0
 SZA
 HLI

/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
 TAW K5252
 DCA 0
 SZA
 HLI
 TAW K5252
 CIA
 TA 0
 SZA
 HLI

/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
 TAW K1111
 DCA 0
 SZA
 HLI
 TAW K1111
 CIA
 TAW 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
 TAW K5555
 DCA 0
 SZA
 HLI
 TAW K5555
 CIA
 TAD 0
 SZA
 HLI

/DCA DID NOT CLEAR AC

/DCA FAILED
 /AC SHOULD BE ZERO

0370 7000
0371 7000
0372 7000
0373 7000
0374 7000
0375 7000
0376 7410
0377 0000

NOP
NOP
NOP
NOP
NOP
NOP
SKF
0

TP177,

0400

*400

/INDIRECT ADDRESSING TEST 1

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

CLA
 TAU I K0177 /OPERAND=1234
 CIA
 TAU 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
 TAU K7777
 ANW I K0177 /OPERAND=1234
 CIA
 TAU 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
 TAU 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
 TAU I K176 /OPERAND=175
 CIA
 TAU K175
 SZA
 HLI /TAD INDIRECT FAILED
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 5

0435	7200	CLA	
0436	1020	TAV	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	TAV	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	TAV	K176
0455	7040	CMA	
0456	7440	SZA	
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	SZA	
0465	7402	HLI	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 8

0466	7200	CLA	
0467	1020	TAV	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	SZA	
0510	7402	HLT	/UCA 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	SZA	
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	SZA	/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	SZA	
0541	7402	HLT	/UCA INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 13

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

/INDIRECT ADDRESSING TEST 14

0550	7200	CLA	
0551	1020	TAW K777	
0552	0575	AND I K174	/OPERAND=173
0553	7041	CIA	
0554	1174	TAW K173	
0555	7440	SZA	/AND INDIRECT FAILED
0556	7402	HLI	/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	SKM	
0564	7402	HLI	/ISZ SKIPPED ILLEGALLY
0565	1000	TAL 0	
0566	7041	CIA	
0567	1175	TAW K174	
0570	7040	CM	
0571	7440	SZA	
0572	7402	HLI	/DCA INDIRECT FAILED /AC SHOULD BE ZERO
0573	5377	JMP ,+4	
0574	7000	NOP	
0575	7000	NOP	
0576	7000	NOP	
0577	7000	NOP	

0600

*600

/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
 DC* 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
 DC* 10
 ANU 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
 TAD 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
SZA
HLT

/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 5

0653	7200	CLA	
0654	1032	TAP	K7767 /CONSTANT TO BE INDEXED
0655	3010	DCA	10
0656	0410	AND	I 10 /DO AUTO INDEX
0657	1010	TA	10
0660	1046	TAD	K0007 /AC SHOULD EQUAL 7777
0661	7040	CMA	
0662	7440	SZA	/AC SHOULD BE ZERO
0663	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 6

0664	7200	CLA	
0665	1031	TAD	K7757 /CONSTANT TO BE INDEXED
0666	3010	JCA	10
0667	0410	AND	I 10 /DO AUTO INDEX
0670	1010	TAP	10
0671	1045	TAP	K0017 /AC SHOULD EQUAL 7777
0672	7040	CMA	
0673	7440	SZA	/AC SHOULD BE ZERO
0674	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 7

0675	7200	CLA	
0676	1027	TAD	K7737 /CONSTANT TO BE INDEXED
0677	3010	DCA	10
0700	0410	AND	I 10 /DO AUTO INDEX
0701	1010	TAP	10
0702	1044	TAP	K0037 /AC SHOULD EQUAL 7777
0703	7040	CMA	
0704	7440	SZA	/AC SHOULD BE ZERO
0705	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 8

0706	7200	CLA	
0707	1026	TA	K7677 /CONSTANT TO BE INDEXED
0710	3010	DCA	10
0711	0410	AND	I 10 /DO AUTO INDEX
0712	1010	TAP	10
0713	1043	TAD	K0077 /AC SHOULD EQUAL 7777
0714	7040	CMA	
0715	7440	SZA	/AC SHOULD BE ZERO
0716	7402	HLT	/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	TAW 10	
1005	1020	TAD K7777	/AC SHOULD EQUAL 7777
1006	7040	CMA	
1007	7410	SKP	
1010	0000	Z	
1011	7440	SZA	/AC SHOULD BE ZERO
1012	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 15

1013	7200	CLA	
1014	1036	TAW K0	/CONSTANT TO BE INDEXED
1015	3011	DCA 11	
1016	0411	AND I 11	/DO AUTO INDEX
1017	1011	TAW 11	
1020	1035	TAL 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	TAW K7776	/CONSTANT TO BE INDEXED
1026	3011	DCA 11	
1027	0411	AND I 11	/DO AUTO INDEX
1030	1011	TAW 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          TAW 11
1042 1051          TAD K0001          /AC SHOULD EQUAL 7777
1043 7040          CMA
1044 7440          SZA          /AC SHOULD BE ZERO
1045 7402          HLI          /AUTO INDEX ERROR

/AUTO INDEX TEST 18
1046 7200          CLA
1047 1033          TAW K7773          /CONSTANT TO BE INDEXED
1050 3011          DCA 11
1051 1411          TAP 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          HLI          /AUTO INDEX ERROR

/AUTO INDEX TEST 19
1060 7200          CLA
1061 1032          TAW 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          HLI          /AUTO INDEX ERROR

/AUTO INDEX TEST 20
1071 7200          CLA
1072 1031          TAW 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
1100 7440          SZA          /AC SHOULD BE ZERO
1101 7402          HLI          /AUTO INDEX ERROR

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/AUTO INDEX TEST 21
1102 7200          CLA
1103 1027         TAD K7737          /CONSTANT TO BE INDEXED
1104 3011         DC# 11
1105 0411         AND I 11          /DO AUTO INDEX
1106 1011         TAF 11
1107 1044         TA 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         TA 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         TAF 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         TA 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 7202          CLA
1147 1023          LCA K0777          /CONSTANT TO BE INDEXED
1150 3011          LCA 11
1151 0411          AND J 11          /DO AUTO INDEX
1152 1011          TAU 11
1153 1040          TAU K0777          /AC SHOULD EQUAL 7777
1154 7040          CMA
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

```

PAUSE

/TEST 2 - TAPE 2

1200

*1200

1200	7200	/AUTO INDEX TEST 27	
1201	1021	CL	
1202	3011	TAL K3777	/CONSTANT TO BE INDEXED
1203	0411	DCA 11	
1204	1011	AND I 11	/DO AUTO INDEX
1205	1021	TAL 11	
1206	7040	TAD K3777	/AC SHOULD EQUAL 7777
1207	7440	CMA	
1210	7402	SZA	/AC SHOULD BE ZERO
		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	TAL 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

```

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

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

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

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		/AUTO INDEX TEST 34	
1300	7200	CLA	
1301	1031	TAD K7757	/CONSTANT TO BE INDEXED
1302	3012	DCA 12	
1303	0412	AND I 12	/DD AUTO INDEX
1304	1012	TAD 12	
1305	1045	TAW K0017	/AC SHOULD EQUAL 7777
1306	7040	CMA	
1307	7440	SZA	/AC SHOULD BE ZERO
1310	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 35	
1311	7200	CLA	
1312	1027	TAD K7737	/CONSTANT TO BE INDEXED
1313	3012	DCA 12	
1314	0412	AND I 12	/DD AUTO INDEX
1315	1012	TAD 12	
1316	1044	TAD K0037	/AC SHOULD EQUAL 7777
1317	7040	CMA	
1320	7440	SZA	/AC SHOULD BE ZERO
1321	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 36	
1322	7200	CLA	
1323	1026	TAW K7677	/CONSTANT TO BE INDEXED
1324	3012	DCA 12	
1325	0412	AND I 12	/DD AUTO INDEX
1326	1012	TAD 12	
1327	1043	TAW K0077	/AC SHOULD EQUAL 7777
1330	7040	CMA	
1331	7440	SZA	/AC SHOULD BE ZERO
1332	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 37	
1333	7200	CLA	
1334	1025	TAD K7577	/CONSTANT TO BE INDEXED
1335	3012	DCA 12	
1336	0412	AND I 12	/DD AUTO INDEX
1337	1012	TAD 12	
1340	1042	TAW K0177	/AC SHOULD EQUAL 7777
1341	7040	CMA	
1342	7440	SZA	/AC SHOULD BE ZERO
1343	7402	HLT	/AUTO INDEX ERROR

		/AUTO INDEX TEST 38	
1344	7200	CLA	
1345	1024	TAD K7377	/CONSTANT TO BE INDEXED
1346	3012	DC# 12	
1347	2412	AND I 12	/DO AUTO INDEX
1350	1012	TAP 12	
1351	1041	TAP K0377	/AC SHOULD EQUAL 7777
1352	7040	CMA	
1353	7440	SZA	/AC SHOULD BE ZERO
1354	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 39	
1355	7200	CLA	
1356	1023	TAP K6777	/CONSTANT TO BE INDEXED
1357	3012	DC# 12	
1360	0412	AND I 12	/DO AUTO INDEX
1361	1012	TA 12	
1362	1040	TAP K0777	/AC SHOULD EQUAL 7777
1363	7040	CMA	
1364	7440	SZA	/AC SHOULD BE ZERO
1365	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 40	
1366	7200	CL	
1367	1022	TAD K0777	/CONSTANT TO BE INDEXED
1370	3012	DCA 12	
1371	2412	IS# I 12	/DO AUTO INDEX
1372	7000	NGP	
1373	1012	TAP 12	
1374	1037	TAD K1777	/AC SHOULD EQUAL 7777
1375	7040	CMA	
1376	7440	SZA	/AC SHOULD BE ZERO
1377	7402	HLT	/AUTO INDEX ERROR

1400	7200	*1400	
1401	1021	/AUTO INDLX TEST 41	
1402	3012	CL*	
1403	0412	TAD K3777	/CONSTANT TO BE INDEXED
1404	1012	DC* 12	
1405	1021	AND I 12	/DO AUTO INDEX
1406	7040	TAD 12	
1407	7440	TAD K3777	/AC SHOULD EQUAL 7777
1410	7402	CMA	
		SZA	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 42	
1411	7200	CLA	
1412	1020	TAD K7777	/CONSTANT TO BE INDEXED
1413	3012	DCA 12	
1414	0412	AND I 12	/DO AUTO INDEX
1415	1012	TAD 12	
1416	1020	TAD K7777	/AC SHOULD EQUAL 7777
1417	7040	CMA	
1420	7440	SZA	/AC SHOULD BE ZERO
1421	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 43	
1422	7200	CLA	
1423	1036	TAD K0	/CONSTANT TO BE INDEXED
1424	3013	DCA 13	
1425	0413	AND I 13	/DO AUTO INDEX
1426	1013	TAD 13	
1427	1035	TAD K7776	/AC SHOULD EQUAL 7777
1430	7040	CMA	
1431	7440	SZ-	/AC SHOULD BE ZERO
1432	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 44	
1433	7200	CLA	
1434	1035	TAD K7776	/CONSTANT TO BE INDEXED
1435	3013	DCA 13	
1436	0413	AND I 13	/DO AUTO INDEX
1437	1013	TAD 13	
1440	1036	TAD K0	/AC SHOULD EQUAL 7777
1441	7040	CMA	
1442	7440	SZA	/AC SHOULD BE ZERO
1443	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 45	
1444	7200	CLA	
1445	1034	TAD K7775	/CONSTANT TO BE INDEXED
1446	3013	DCA 13	
1447	3413	DCA I 13	/DO AUTO INDEX
1450	1013	TAD 13	
1451	1051	TAD K0001	/AC SHOULD EQUAL 7777
1452	7040	CMA	
1453	7440	SZ*	/AC SHOULD BE ZERO

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

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/AUTO INDEX TEST 50
1522 7200          CLA
1523 1026         TAD K7677          /CONSTANT TO BE INDEXED
1524 3013         DC 13
1525 0413         AND I 13          /DO AUTO INDEX
1526 1013         TAU 13
1527 1043         TAD K0077          /AC SHOULD EQUAL 7777
1530 7040         CM#
1531 7440         SZA          /AC SHOULD BE ZERO
1532 7402         HLT          /AUTO INDEX ERROR

/AUTO INDEX TEST 51
1533 7200          CLA
1534 1026         TAD K7577          /CONSTANT TO BE INDEXED
1535 3013         DCA 13
1536 0413         AND I 13          /DO AUTO INDEX
1537 1013         TAU 13
1540 1042         TAD K0177          /AC SHOULD EQUAL 7777
1541 7040         CM#
1542 7440         SZA          /AC SHOULD BE ZERO
1543 7402         HLT          /AUTO INDEX ERROR

/AUTO INDEX TEST 52
1544 7200          CLA
1545 1024         TAU K7377          /CONSTANT TO BE INDEXED
1546 3013         DC# 13
1547 0413         AND I 13          /DO AUTO INDEX
1550 1013         TAU 13
1551 1041         TAU K0377          /AC SHOULD EQUAL 7777
1552 7040         CMA
1553 7440         SZ#          /AC SHOULD BE ZERO
1554 7402         HLT          /AUTO INDEX ERROR

/AUTO INDEX TEST 53
1555 7200          CLA
1556 1023         TAD K6777          /CONSTANT TO BE INDEXED
1557 3013         DCA 13
1560 0413         AND I 13          /DO AUTO INDEX
1561 1013         TAU 13
1562 1040         TAU K0777          /AC SHOULD EQUAL 7777
1563 7040         CMA
1564 7440         SZA          /AC SHOULD BE ZERO
1565 7402         HLT          /AUTO INDEX ERROR

```


	1600		*1600		
			/AUTO INDEX TEST 55		
1600	7200		CLA		
1601	1021		TAU K3777		/CONSTANT TO BE INDEXED
1602	3013		DCA 13		
1603	0413		ANW I 13		/DO AUTO INDEX
1604	1013		TA- 13		
1605	1021		TAD K3777		/AC SHOULD EQUAL 7777
1606	7040		CM^		
1607	7440		SZA		/AC SHOULD BE ZERO
1610	7402		HLI		/AUTO INDEX ERROR
			/AUTO INDEX TEST 56		
1611	7200		CLA		
1612	1020		TAW K7777		/CONSTANT TO BE INDEXED
1613	3013		DC# 13		
1614	0413		ANW I 13		/DO AUTO INDEX
1615	1013		TAD 13		
1616	1020		TAD K7777		/AC SHOULD EQUAL 7777
1617	7040		CM^		
1620	7440		SZA		/AC SHOULD BE ZERO
1621	7402		HLT		/AUTO INDEX ERROR
			/AUTO INDEX TEST 57		
1622	7200		CLA		
1623	1036		TAW K0		/CONSTANT TO BE INDEXED
1624	3014		DC# 14		
1625	0414		AND I 14		/DO AUTO INDEX
1626	1014		TA- 14		
1627	1035		TAD K7776		/AC SHOULD EQUAL 7777
1630	7040		CM^		
1631	7440		SZA		/AC SHOULD BE ZERO
1632	7402		HLI		/AUTO INDEX ERROR

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1633 7200      /AUTO INDEX TEST 58
1634 1035      CL#
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
      HLT      /AUTO INDEX ERROR

```

```

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
      HLT      /AUTO INDEX ERROR

```

```

1655 7200      /AUTO INDEX TEST 60
1656 1033      CL#
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
      HLT      /AUTO INDEX ERROR

```

```

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
      HLT      /AUTO INDEX ERROR

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/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         TAP 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         TAP K7737          /CONSTANT TO BE INDEXED
1713 3014         DC* 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         TAP 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         TAP K7577          /CONSTANT TO BE INDEXED
1735 3014         DC* 14
1736 0414         AND I 14          /DO AUTO INDEX
1737 1014         TAP 14
1740 1042         TAP K0177        /AC SHOULD EQUAL 7777
1741 7040         CM-
1742 7440         SZA          /AC SHOULD BE ZERO
1743 7402         HLI          /AUTO INDEX ERROR

```

		/AUTO INDEX TEST 66	
1744	7200	CLA	
1745	1024	TAD K7377	/CONSTANT TO BE INDEXED
1746	3014	DCA 14	
1747	0414	ANW I 14	/DO AUTO INDEX
1750	1014	TAU 14	
1751	1041	TAD K0377	/AC SHOULD EQUAL 7777
1752	7040	CMA	
1753	7440	SZA	/AC SHOULD BE ZERO
1754	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 67	
1755	7200	CLA	
1756	1023	TAD K6777	/CONSTANT TO BE INDEXED
1757	3014	DCA 14	
1760	0414	ANW I 14	/DO AUTO INDEX
1761	1014	TAU 14	
1762	1040	TAU K0777	/AC SHOULD EQUAL 7777
1763	7040	CMA	
1764	7440	SZA	/AC SHOULD BE ZERO
1765	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 68	
1766	7200	CLA	
1767	1022	TAD K5777	/CONSTANT TO BE INDEXED
1770	3014	DCA 14	
1771	2414	ISZ I 14	/DO AUTO INDEX
1772	7000	NO	
1773	1014	TAU 14	
1774	1037	TAU K1777	/AC SHOULD EQUAL 7777
1775	7040	CMA	
1776	7440	SZA	/AC SHOULD BE ZERO
1777	7402	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          SKI
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          TAU 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          CL-
2103 1031          TAU K7757          /CONSTANT TO BE INDEXED
2104 3015          DCA 15
2105 0415          AND I 15          /DO AUTO INDEX
2106 1015          TAU 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 7200          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 K077          /AC SHOULD EQUAL 777
2132 7040          CMA
2133 7440          SZ          /AC SHOULD BE ZERO
2134 7402          HLT          /AUTO INDEX ERROR

/AUTO INDEX TEST 79
2135 7200          CLA
2136 1025          TAU K7577          /CONSTANT TO BE INDEXED
2137 3015          DCA 15
2140 0415          AND I 15          /DO AUTO INDEX
2141 1015          TA- 15
2142 1042          TAU K0177          /AC SHOULD EQUAL 777
2143 7040          CMA
2144 7440          SZ*          /AC SHOULD BE ZERO
2145 7402          HLT          /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          TAU 15
2153 1041          TAU K0377          /AC SHOULD EQUAL 777
2154 7040          CMA
2155 7440          SZA          /AC SHOULD BE ZERO
2156 7402          HLT          /AUTO INDEX ERROR

/AUTO INDEX TEST 81
2157 7200          CLA
2160 1023          TAU K6777          /CONSTANT TO BE INDEXED
2161 3015          DCA 15
2162 0415          AND I 15          /DO AUTO INDEX
2163 1015          TAU 15
2164 1040          TAU K0777          /AC SHOULD EQUAL 777
2165 7040          CM*
2166 7440          SZA          /AC SHOULD BE ZERO
2167 7402          HLT          /AUTO INDEX ERROR
2170 7000          NOP
2171 7000          NOP
2172 5376          JMP ,+4
2173 7000          NOP
2174 7000          NOP
2175 7000          NOP
2176 7000          NOP
2177 7000          NOP

```

2200	7200	*2200		
2200	7200	/AUTO INDEX TEST 82		
2201	1022	CLA		
2202	3015	TAP K5777	/CONSTANT TO BE INDEXED	
2203	2415	DC# 15		
2204	7000	ISE I 15	/DO AUTO INDEX	
2205	1015	NOV		
2206	1037	TAP 15		
2207	7040	TAL K1777	/AC SHOULD EQUAL 7777	
2210	7440	CMA		
2211	7402	SZA	/AC SHOULD BE ZERO	
		HLI	/AUTO INDEX ERROR	
		/AUTO INDEX TEST 83		
2212	7200	CLA		
2213	1021	TAD K3777	/CONSTANT TO BE INDEXED	
2214	3015	DCA 15		
2215	0415	AN# I 15	/DO AUTO INDEX	
2216	1015	TAU 15		
2217	1021	TAV K3777	/AC SHOULD EQUAL 7777	
2220	7040	CM#		
2221	7440	SZA	/AC SHOULD BE ZERO	
2222	7402	HLI	/AUTO INDEX ERROR	
		/AUTO INDEX TEST 84		
2223	7200	CL#		
2224	1020	TAV K7777	/CONSTANT TO BE INDEXED	
2225	3015	DC# 15		
2226	0415	AN# I 15	/DO AUTO INDEX	
2227	1015	TAU 15		
2230	1020	TAD K7777	/AC SHOULD EQUAL 7777	
2231	7040	CMA		
2232	7440	SZA	/AC SHOULD BE ZERO	
2233	7402	HLI	/AUTO INDEX ERROR	
		/AUTO INDEX TEST 85		
2234	7200	CLA		
2235	1036	TAU K0	/CONSTANT TO BE INDEXED	
2236	3016	DC# 16		
2237	0416	AN# I 16	/DO AUTO INDEX	
2240	1016	TA# 16		
2241	1035	TAV K7776	/AC SHOULD EQUAL 7777	
2242	7040	CM#		
2243	7440	SZA	/AC SHOULD BE ZERO	
2244	7402	HLI	/AUTO INDEX ERROR	

```

/AUTO INDEX TEST 86
2245 7200      CL^
2246 1035     TAU K7776      /CONSTANT TO BE INDEXED
2247 3016     DC^ 16
2250 0416     AND I 16      /DO AUTO INDEX
2251 1016     TAU 16
2252 1036     TAU K0      /AC SHOULD EQUAL 7777
2253 7040     CMA
2254 7440     SZA      /AC SHOULD BE ZERO
2255 7402     HLI      /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     HLI      /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     TAU K0003      /AC SHOULD EQUAL 7777
2276 7040     CMA
2277 7440     SZA      /AC SHOULD BE ZERO
2300 7402     HLI      /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     HLI

```

```

/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	SZA	/AC SHOULD BE ZERO
2322	7402	HLT	/AUTO INDEX ERROR
/AUTO INDEX TEST 91			
2323	7200	CLA	
2324	1027	TAU K7737	/CONSTANT TO BE INDEXED
2325	3016	DCA 16	
2326	0416	AND I 16	/DO AUTO INDEX
2327	1016	TAU 16	
2330	1044	TAU K0037	/AC SHOULD EQUAL 7777
2331	7040	CMA	
2332	7440	SZA	/AC SHOULD BE ZERO
2333	7402	HLT	/AUTO INDEX ERROR
/AUTO INDEX TEST 92			
2334	7200	CLA	
2335	1026	TAU K7677	/CONSTANT TO BE INDEXED
2336	3016	DCA 16	
2337	0416	AND I 16	/DO AUTO INDEX
2340	1016	TAU 16	
2341	1043	TAU K0077	/AC SHOULD EQUAL 7777
2342	7040	CMA	
2343	7440	SZA	/AC SHOULD BE ZERO
2344	7402	HLT	/AUTO INDEX ERROR
/AUTO INDEX TEST 93			
2345	7200	CLA	
2346	1025	TAU K7577	/CONSTANT TO BE INDEXED
2347	3016	DC 16	
2350	0416	AND I 16	/DO AUTO INDEX
2351	1016	TAD 16	
2352	1042	TAD K0177	/AC SHOULD EQUAL 7777
2353	7040	CMA	
2354	7440	SZA	/AC SHOULD BE ZERO
2355	7402	HLT	/AUTO INDEX ERROR

```
2356 7200 /AUTO INDEX TEST 94
2357 1024 CLA
2360 3016 TAD K7377 /CONSTANT TO BE INDEXED
2361 0416 DC# 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

		/AUTO INDEX TEST 98	
2423	7200	CL#	
2424	1020	TAU K7777	/CONSTANT TO BE INDEXED
2425	3016	DCA 16	
2426	0416	ANW I 16	/DO AUTO INDEX
2427	1016	TA~ 16	
2430	1020	TAU K7777	/AC SHOULD EQUAL 7777
2431	7040	CMA	
2432	7440	SZA	/AC SHOULD BE ZERO
2433	7402	HLI	/AUTO INDEX ERROR
		/AUTO INDEX TEST 99	
2434	7200	CL#	
2435	1036	TAD K0	/CONSTANT TO BE INDEXED
2436	3017	DC# 17	
2437	0417	ANW I 17	/DO AUTO INDEX
2440	1017	TAU 17	
2441	1035	TAU K7776	/AC SHOULD EQUAL 7777
2442	7040	CM-	
2443	7440	SZA	/AC SHOULD BE ZERO
2444	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 100	
2445	7200	CLA	
2446	1035	TA K7776	/CONSTANT TO BE INDEXED
2447	3017	DC# 17	
2450	0417	ANW I 17	/DO AUTO INDEX
2451	1017	TA- 17	
2452	1036	TAD K0	/AC SHOULD EQUAL 7777
2453	7040	CMA	
2454	7440	SZA	/AC SHOULD BE ZERO
2455	7402	HLI	/AUTO INDEX ERROR
		/AUTO INDEX TEST 101	
2456	7200	CL#	
2457	1034	TAU K7775	/CONSTANT TO BE INDEXED
2460	3017	DC# 17	
2461	3417	DCA I 17	/DO AUTO INDEX
2462	1017	TA@ 17	
2463	1051	TAD K0001	/AC SHOULD EQUAL 7777
2464	7040	CMA	
2465	7440	SZA	/AC SHOULD BE ZERO
2466	7402	HL	/AUTO INDEX ERROR

2467 7200
 2470 1033
 2471 3017
 2472 1417
 2473 7200
 2474 1017
 2475 1047
 2476 7040
 2477 7440
 2500 7402

/AUTO INDEX TEST 102
 CLA
 TA K7773 /CONSTANT TO BE INDEXED
 DCA 17
 TAU I 17 /DO AUTO INDEX
 CLA
 TAU 17
 TAP K0003 /AC SHOULD EQUAL 7777
 CMA
 SZA /AC SHOULD BE ZERO
 HLI /AUTO INDEX ERROR

2501 7200
 2502 1032
 2503 3017
 2504 0417
 2505 1017
 2506 1046
 2507 7040
 2510 7440
 2511 7402

/AUTO INDEX TEST 103
 CLA
 TAU K7767 /CONSTANT TO BE INDEXED
 DC 17
 ANW I 17 /DO AUTO INDEX
 TA 17
 TAU K0007 /AC SHOULD EQUAL 7777
 CMA
 SZA /AC SHOULD BE ZERO
 HLI /AUTO INDEX ERROR

2512 7200
 2513 1031
 2514 3017
 2515 0417
 2516 1017
 2517 1045
 2520 7040
 2521 7440
 2522 7402

/AUTO INDEX TEST 104
 CLA
 TAD K7757 /CONSTANT TO BE INDEXED
 DCA 17
 AND I 17 /DO AUTO INDEX
 TAU 17
 TAD K0017 /AC SHOULD EQUAL 7777
 CM*
 SZ* /AC SHOULD BE ZERO
 HLT /AUTO INDEX ERROR

(17)=0
 Acc=0

```

/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          CM#
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          CL#
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          CM#
2576 7440          SZA          /AC SHOULD BE ZERO
2577 7402          HLT          /AUTO INDEX ERROR

```

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```

2645 4247 /AUTO INDEX TEST 114
2646 7402 JMS ,+2
2647 7402 HLT /JMS FAILED
2650 1247 HLT /JMS FAILED
2651 7410 TAD , -1
2652 2646 SKP
2653 7041 , -4
2654 1252 CIA
2655 7440 TAD , -2
2656 7402 SZA
HLT /WRONG ADDRESS STORED
/ DURING JMS
/ JMS WORKS (I GUESS)

2657 7410 SKP
2660 2604 , +4
2661 1260 TAD , -1
2662 3010 DCA 10
2663 4410 JMS I 10
2664 7402 HLT /TEST INSTRUCTION
2665 7402 HLT /JMS FAILED
2666 1265 TAD , -1 /JMS FAILED
2667 7410 SKP
2670 2604 , -4
2671 7041 CIA
2672 1270 TAD , -2
2673 7440 SZA
2674 7402 HLT /WRONG ADDRESS STORED DURING JMS

/ INTERRUPT TEST 1

2675 4670 JMS I , +1
2676 4111 STR /RUBOUT CHARACTER
2677 6041 ISF
2700 6046 ILS
2701 6041 ISF
2702 5301 JMP , -1
2703 7200 CLA
2704 1312 TAD BACK1 /FLAG IS ON
2705 3002 DCA 2
2706 5001 ION
2707 7000 NOP /GO TO LOC 0000
2710 7402 HLT /NO INTERRUPT
2711 2710 OUT1, , -1
2712 2713 BACK1, , +1
2713 7440 SZA
2714 7402 HLT /RETURN FROM LOC 1
/AC SHOULD BE 0
/CONFIDENCE CHECK

2715 1000 TAD 0
2716 7041 CIA
2717 1311 TAD OUT1
2720 7640 SZA CLA
2721 7402 HLT /INTERRUPT ERROR
/WRONG ADDRESS STORED

```



```

/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          TSP
3004 5233          TLS
3005 7200          JMP , -1
3006 1215          CLA          /FLAG IS ON
3007 3002          TAD BACK4
3010 1020          DCA 2
3011 6001          TAD K7777
3012 3003          ION
3013 7402          DCA 3
3014 3013          HLT          /NO INTERRUPT
3015 3016          OUT4, , -1
3016 7440          BACK4, , +1
3017 7402          SZA          /RETURN FROM LOC1
3020 1003          HLT          /CONFIDENCE CHECK
3021 7040          TAD 3          /AC SHOULD BE ZERO
3022 7440          CMA
3023 7402          SZA
3024 3003          HLT          /DCA PRIOR TO INTERRUPT
3025 1000          DCA 3          /FAILED
3026 7041          TAD 0
3027 1214          CIA
3030 7540          TAD OUT4
3031 7402          SZA CLA
3032 1041          HLT          /INTERRUPT ERROR
3033 6041          /WRONG ADDRESS STORED
3034 6046          /INTERRUPT TEST 5
3035 6041          TAD K0377          /RUBOUT CHARACTER
3036 5233          TSP
3037 7200          TLS
3040 1230          JMP , -1
3041 3002          CLA          /FLAG IS ON
3042 1035          TAD BACK5
3043 1035          DCA 2
3044 1035          TAD K7776

```

3043	3003		DCA 3	
3044	6001		ION	
3045	2003		ISZ 3	
3046	7402		HLT	/NO INTERRUPT
3047	3046	OUT5,	,=-1	
3050	3151	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 K037	/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 K777	
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          TSP
3122 6046          TLS
3123 6041          TSP
3124 5323          JMP , -1
3125 7200          CLA          /FLAG IS ON
3126 1334          TAD BACK7
3127 3002          DCA 2
3130 6001          ION
3131 5031          JMP ,
3132 7402          HLT          /NO INTERRUPT
3133 3131          OUT7,      , -2
BACK7,             , +1
3134 3135          SZA          /RETURN FROM LOC 1
3135 7440          HLT          /CONFIDENCE CHECK
3136 7402          HLT          /AC SHOULD BE 0

3137 1000          TAD 0
3140 7041          CIA
3141 1333          TAD OUT7
3142 7040          SZA CLA
3143 7402          HLT          /INTERRUPT ERROR
                               /WRONG ADDRESS STORED

```

```

/INTERRUPT TEST 8
3144 1041          TAD K0377          /RUBOUT CHARACTER
3145 6041          TSP
3146 6046          TLS
3147 6041          TSP
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
BACK8,             , +1
3160 3161          SZA          /RETURN FROM LOC 1
3161 7440          HLT          /CONFIDENCE CHECK
3162 7402          HLT          /AC SHOULD BE ZERO

3163 1003          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 7000
3176 7000
3177 7000

TAU 0
CIA
TAU K4
SZA CLA
HLT

NOP
NOP
NOP

/INTERRUPT ERROR
/WRONG ADDRESS STORED

```

3200
3201 1041
3202 6041
3203 6046
3204 6041
3205 5230
3206 7200
3207 1215
3208 3002
3209 1020
3210 6001
3211 7200
3212 7402
3213 3213
3214 3216
3215 7440
3216 7402
3217 1000
3218 7441
3219 1214
3220 7640
3221 7402
3222 1041
3223 6041
3224 6046
3225 6041
3226 5230
3227 7200
3228 1242
3229 3002
3230 6001
3231 6041
3232 7402
3233 7402
3234 1041
3235 6041
3236 7402
3237 7402
3240 7402

*3200
/INTERRUPT TEST 9
TAD K0377 /RUBOUT CHARACTER
TSP
TLS
TSP
JMP ,-1
CLA /FLAG IS ON
TAD BACK9
DCA 2
TAD K7777
ION
CLA
HLT /NO INTERRUPT
OUT9, ,-1
BACK9, ,+1
SZA
HLT /RETURN FROM LOC 1
/CLA PRIOR TO INTERRUPT
/FAILED

TAD 0
CIA
TAD OUT9
SZA CLA
HLT /INTERRUPT FAILED
/WRONG ADDRESS STORED

/INTERRUPT TEST 10
TAD K0377 /RUBOUT CHARACTER
TSP
TLS
TSP
JMP ,-1
CLA /FLAG IS ON
TAD BACK10
DCA 2
ION
TSP
HLT /NO INTERRUPT
HLT

```


3314	6041	TSF	
3315	7402	HLT	/WHAT HAPPENED TO MY FLAG
3316	7410	SKP	
3317	3321	BACK11, .+2	
3320	7410	SKP	
3321	7402	HLT	/INTERRUPT OCCURRED DURING /ION-IOF SEQUENCE /SEE LOCATION 0000
<i>Teleprinter</i>			
<i>flag</i>			
3322	6042	/INTERRUPT TEST 12	
3323	7200	IOF	/CLEAR FLAG
3324	1334	CLA	
3325	3002	TAD BACK12	
3326	6001	JCA 2	
3327	7000	ION	
3330	7000	NOP	
3331	7000	NOP	
3332	7000	NOP	
3333	7410	SKP	
3334	3336	BACK12, .+2	
3335	7410	SKP	
<i>JMP 122</i>	3336	HLT	/INTERRUPT WITH NO /FLAG,
3337	6002	IOF	
/ILLEGAL AUTO INDEX TEST1			
3340	7200	CLA	
3341	5742	JMP I ,+1	
3342	4000	AND1	
3343	4010	K4010, 4010	
4000	4000	*4000	
4001	0610	AND1, AND I 4010	/TEST INSTRUCTION
4002	5602	JMP I ,+1	
4002	3350	RET1	
3350	1743	*3350	
3351	7440	RET1, TAD I K4010	
3352	7402	SEA	
		HLT	/ERROR, AC SHOULD BE ZERO /AND I 4010 ALTERED (4010)
3353	7200	CLA	
3354	3743	DCA I K4010	

/ILLEGAL AUTO INDEX TEST 2

3355	7200	CLA		
3356	5757	JMP I ,+1		
3357	2173	AN=2		
3360	2010	K2010, 20+0		
	2173	*2173		
2173	0610	AND2, ANI I 2010		/TEST INSTRUCTION
2174	5775	JMP I ,+1		
2175	3370	REI2		
	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, 10 0		
	1173	*1173		
1173	0610	AND3, AND I 1010		/TEST INSTRUCTION
1174	5775	JMP I ,+1		
1175	3410	RETS		
	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		ANW4	
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		DC- 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		SZA	
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		SZA	
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		/TEST INSTRUCTION
0121	5522		JMP I ,+1		
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		/TEST INSTRUCTION
0075	5476		JM I ,+1		
0076	3550		RET9		
	3550		*3550		
3550	1436	RET9,	TAD I K0		
3551	7440		SZ*		
3552	7402		HLI		/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
IS# 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
K0555	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	4200
STR	4211
JMPIX	4221

