

#### IDENTIFICATION

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

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## 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	CLA	
0321	1060	TAW	K0707
0322	3000	DCA	0
0323	7440	SZ	
0324	7402	HLI	
0325	1060	TAW	K0707
0326	7041	CIA	
0327	1000	TA	0
0330	7440	SZA	
0331	7402	HLI	

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

## /DCA TEST 10

0332	7200	CLA	
0333	1061	TAW	K5252
0334	3000	DCA	0
0335	7440	SZA	
0336	7402	HLI	
0337	1061	TAW	K5252
0340	7041	CIA	
0341	1000	TA	0
0342	7440	SZA	
0343	7402	HLI	

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

## /DCA TEST 11

0344	7200	CLA	
0345	1062	TAW	K1111
0346	3000	DCA	0
0347	7440	SZA	
0350	7402	HLI	
0351	1062	TAW	K1111
0352	7041	CIA	
0353	1000	TAU	0
0354	7440	SZA	
0355	7402	HLT	

/DCA DID NOT CLEAR AC

/DCA FAILED  
/AC SHOULD BE ZERO

## /DCA TEST 12

0356	7200	CLA	
0357	1063	TAW	K5555
0360	3000	DCA	0
0361	7440	SZA	
0362	7402	HLI	
0363	1063	TAW	K5555
0364	7041	CIA	
0365	1000	TAD	0
0366	7440	SZA	
0367	7402	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	/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	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	/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 K777	
0552	0575	AND I K174	/OPERAND=173
0553	7041	CIA	
0554	1174	TAU 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	TAU 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	CLA	
0601	1576	TAU I K175	/OPERAND=174
0602	7041	CIA	
0603	1175	TAU K174	
0604	7440	SZ*	
0605	7402	HLT	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/AUTO INDEX TEST 1

0606	7200	CL*	
0607	1036	TAU K0	/CONSTANT TO BE INDEXED
0610	3010	DC* 10	
0611	0410	ANU I 10	/DO AUTO INDEX
0612	1010	TAU 10	
0613	1035	TAD K7776	/AC SHOULD EQUAL 7777
0614	7040	CMA	
0615	7440	SZ*	/AC SHOULD BE ZERO
0616	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 2

0617	7200	CLA	
0620	1035	TAU K7776	/CONSTANT TO BE INDEXED
0621	3010	DC* 10	
0622	0410	ANU I 10	/DO AUTO INDEX
0623	1010	TAU 10	
0624	1036	TAD K0	/AC SHOULD EQUAL 7777
0625	7040	CMA	
0626	7440	SZ	/AC SHOULD BE ZERO
0627	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 3

0630	7200	CLA	
0631	1034	TAD K7775	/CONSTANT TO BE INDEXED
0632	3010	DC* 10	
0633	3410	DCA I 10	/DO AUTO INDEX
0634	1010	TAU 10	
0635	1051	TAU K0001	/AC SHOULD EQUAL 7777
0636	7040	CMA	
0637	7440	SZ*	/AC SHOULD BE ZERO
0640	7402	HLT	/AUTO INDEX ERROR

/AUTO INDEX TEST 4

0641	7200	CLA	
0642	1033	TAU K7773	/CONSTANT TO BE INDEXED
0643	3010	DC* 10	
0644	1410	TAU I 10	/DO AUTO INDEX
0645	7200	CLA	
0646	1010	TAU 10	

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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	SZ	/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	SZ	/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          SZ0          /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
1107 7200          CLA
1108 1027          TAD K7737          /CONSTANT TO BE INDEXED
1109 3011          DC# 11
1105 0411          AND I 11          /DO AUTO INDEX
1106 1011          TAF 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          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          TAW 11
1131 1042          TAU K1177          /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 7200          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	TAW 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	DC* 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	DC* 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

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/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	ISZ 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
1411	7200	/AUTO INDEX TEST 42	
1412	1020	CLA	
1413	3012	TAD K7777	/CONSTANT TO BE INDEXED
1414	0412	DCA 12	
1415	1012	AND I 12	/DO AUTO INDEX
1416	1020	TAD 12	
1417	7040	TAD K7777	/AC SHOULD EQUAL 7777
1420	7440	CMA	
1421	7402	SZA	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR
1422	7200	/AUTO INDEX TEST 43	
1423	1036	CLA	
1424	3013	TAD K0	/CONSTANT TO BE INDEXED
1425	0413	DCA 13	
1426	1013	AND I 13	/DO AUTO INDEX
1427	1035	TAD 13	
1430	7040	TAD K7776	/AC SHOULD EQUAL 7777
1431	7440	CMA	
1432	7402	SZ-	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR
1433	7200	/AUTO INDEX TEST 44	
1434	1035	CLA	
1435	3013	TAD K7776	/CONSTANT TO BE INDEXED
1436	0413	DCA 13	
1437	1013	AND I 13	/DO AUTO INDEX
1440	1036	TAD 13	
1441	7040	TAD K0	/AC SHOULD EQUAL 7777
1442	7440	CMA	
1443	7402	SZA	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR
1444	7200	/AUTO INDEX TEST 45	
1445	1034	CLA	
1446	3013	TAD K7775	/CONSTANT TO BE INDEXED
1447	3413	DCA 13	
1450	1013	DCA I 13	/DO AUTO INDEX
1451	1051	TAD 13	
1452	7040	TAD K0001	/AC SHOULD EQUAL 7777
1453	7440	CMA	
		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	ANU 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	ANU 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	ANU 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         TAD K7377          /CONSTANT TO BE INDEXED
1546 3013         DC# 13
1547 0413         AND I 13          /DO AUTO INDEX
1550 1013         TAU 13
1551 1041         TAD 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         TAD K0777          /AC SHOULD EQUAL 7777
1563 7040         CMA
1564 7440         SZA          /AC SHOULD BE ZERO
1565 7402         HLT          /AUTO INDEX ERROR

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

```

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      SEA      /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      SEA      /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      SEA      /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      SEA      /AC SHOULD BE ZERO
                HLT      /AUTO INDEX ERROR

```

```

/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          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          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      ANU 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      ANU 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     ANI I 15      /DO AUTO INDEX
2130 1015     TAD 15
2131 1043     TAD K0077      /AC SHOULD EQUAL 7777
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 7777
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     ANI I 15      /DO AUTO INDEX
2152 1015     TAU 15
2153 1041     TAU K0377      /AC SHOULD EQUAL 7777
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     ANI I 15      /DO AUTO INDEX
2163 1015     TAU 15
2164 1040     TAU K0777      /AC SHOULD EQUAL 7777
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     CM^
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     TAW 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      CL#
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

Acc=0  
 (17)=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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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
2608 7440         SZA
2609 7440         /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
2622 7402         HLT              /AC SHOULD BE ZERO
                                   /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
2633 7402         HLT              /AC SHOULD BE ZERO
                                   /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
2643 7402         HLT
2644 7402         HLT              /TEST INSTRUCTION
                                   /JMP INDIRECT FAILED
                                   /LOCATION 2610, NO INDEX
                                   /IN WTI STATE,

```

```

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
2705 3002          DCA 2                               /FLAG IS ON
2706 5001          ION
2707 7000          NOP
2710 7402          HLT                               /GO TO LOC 0000
2711 2710          OUT1, , -1                               /NO INTERRUPT
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
3041 3002          DCA 2
3042 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
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 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
3158 3161          BACK8,    , +1
3159 7440          SZA          /RETURN FROM LOC 1
3160 7402          HLT          /CONFIDENCE CHECK
                                   /AC SHOULD BE ZERO

3163 1000          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

TAD 0  
CIA  
TAD K4  
SZA CLA  
HLT

NOP  
NOP  
NOP

/INTERRUPT ERROR  
/WRONG ADDRESS STORED

```

3200
*3200
/INTERRUPT TEST 9
3200 1041 TAD K0377 /RUBOUT CHARACTER
3201 0041 ISF
3202 0040 ILS
3203 0041 ISF
3204 5230 JMP ,-1
3205 7200 CLA /FLAG IS ON
3206 1215 TAD BACK9
3207 3002 DCA 2
3210 1020 TAD K7777
3211 0001 ION
3212 7200 CLA
3213 7402 HLT /NO INTERRUPT
3214 3213 OUT9, ,-1
3215 3216 BACK9, ,+1
3216 7440 SZA /RETURN FROM LOC 1
3217 7402 HLT /CLA PRIOR TO INTERRUPT
/FAILED

3220 1000 TAD 0
3221 7441 CIA
3222 1214 TAD OUT9
3223 7640 SZA CLA
3224 7402 HLT /INTERRUPT FAILED
/WRONG ADDRESS STORED

/INTERRUPT TEST 10
3225 1041 TAD K0377 /RUBOUT CHARACTER
3226 0041 ISF
3227 0040 ILS
3230 0041 ISF
3231 5230 JMP ,-1
3232 7200 CLA /FLAG IS ON
3233 1242 TAD BACK10
3234 3002 DCA 2
3235 0001 ION
3236 0041 ISF
3237 7402 HLT /NO INTERRUPT
3240 7402 HLT

```

```

3241 3240      OUT10,  ,-1
3242 3243      BACK10,  ,+1
3243 7440      SZA
3244 7402      HLT
                        /RETURN FROM LOC 1
                        /CONFIDENCE CHECK
                        /AC SHOULD BE ZERO

3245 1000      TAD 0
3246 7041      CIA
3247 1241      TAD OUT10
3250 7640      SZA CLA
3251 7402      HLT
                        /INTERRUPT ERROR
                        /WRONG ADDRESS STORED

```

```

/INTERRUPT TEST 11
3252 1041      TAD K0377
3253 6041      TSP
3254 6046      TLR
3255 6041      TSP
3256 5255      JMP ,-1
3257 7200      CLA
3260 1317      TAD BACK11
3261 3002      DCA 2
3262 6001      ION
3263 6002      IOF
3264 6001      ION
3265 6002      IOF
3266 6001      ION
3267 6002      IOF
3270 6001      ION
3271 6002      IOF
3272 6001      ION
3273 6002      IOF
3274 6001      ION
3275 6002      IOF
3276 6001      ION
3277 6002      IOF
3300 6001      ION
3301 6002      IOF
3302 6001      ION
3303 6002      IOF
3304 6001      ION
3305 6002      IOF
3306 6001      ION
3307 6002      IOF
3310 6001      ION
3311 6002      IOF
3312 6001      ION
3413 6002      IOF
                        /RUBOUT CHARACTER
                        /FLAG IS ON

```

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		AND2		
3360	2010	K2010,	20+0		
	2173	*2173			
2173	0610	AND2,	AND 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		SZA		
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

