

IDENTIFICATION

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

1. ABSTRACT

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

2. REQUIREMENTS

2.1 Equipment

PDP-8I, 8S equipped with Teletype

2.2 Storage

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

2.3 Preliminary Programs

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

3. LOADING PROCEDURE

3.1 Method

The standard Binary Loader is used.

4. STARTING PROCEDURE

4.1 Control Switch Settings (None)

4.2 Starting Address

201

4.3 Operator Action

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

5. OPERATING PROCEDURE

Same as Section 4.

6. ERRORS

6.1 Error Halts and Description

See listing.

6.2 Error Recovery

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

7. RESTRICTIONS

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

8. MISCELLANEOUS

8.1 Execution Time

Five program loops per second.

9. PROGRAM DESCRIPTION

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

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

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

3. Autoindex Test

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

4. Interrupt Test

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

5. Check for unauthorized Autoindexing

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

10. LISTING

/INSTRUCTION TEST 2

0000	0000	*0		
0000	0000		0	/LOC 0
0001	5001		JMP 1	/LOC 1
0002	0002		2	/LOC 2
0003	0003		3	/LOC 3
0007	0007	*7		
0007	0000		0	
0020	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	*110		
	0000		0	
	0172	*172		
0172	0176	K176,	176	/LOC 172
0173	0172	K172,	174	/173
0174	0173	K173,	173	/174
0175	0174	K174,	174	/175
0176	0175	K175,	172	/176
0177	1234	K1234,	12*4	/177

0200 0200
0200 0000

*200
TP0, 0

/DCA TEST 1

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

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

/DCA DID NOT CLEAR AC

/AC=- (4400)

/DCA FAILED
/AC SHOULD EQUAL ZERO

/DCA TEST 2

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

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

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD EQUAL ZERO

/DCA TEST 3

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

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

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 4

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

CLA
TAD K0
DCA TP0
SZA
HLT
TAD TP0

/DCA DID NOT CLEAR AC

0246 7440
0247 7402

SZA
HLT

/UCA 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	TAD	K4444
0276	3377	DC	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	TAD	K7070
0310	3377	DC	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	TAD	K0707
0322	3000	DCA	0
0323	7440	SZ	
0324	7402	HLI	/DCA DID NOT CLEAR AC
0325	1060	TAD	K0707
0326	7041	CIA	
0327	1000	TA	0
0330	7440	SZA	
0331	7402	HLI	/DCA FAILED

/AC SHOULD BE ZERO

/DCA TEST 10

0332	7200	CLA	
0333	1061	TAD	K5252
0334	3000	DCA	0
0335	7440	SZA	
0336	7402	HLI	/DCA DID NOT CLEAR AC
0337	1061	TAD	K5252
0340	7041	CIA	
0341	1000	TA	0
0342	7440	SZA	
0343	7402	HLI	/DCA FAILED

/AC SHOULD BE ZERO

/DCA TEST 11

0344	7200	CLA	
0345	1062	TAD	K1111
0346	3000	DCA	0
0347	7440	SZA	
0350	7402	HLI	/DCA DID NOT CLEAR AC
0351	1062	TAD	K1111
0352	7041	CIA	
0353	1000	TA	0
0354	7440	SZA	
0355	7402	HLI	/DCA FAILED

/AC SHOULD BE ZERO

/DCA TEST 12

0356	7200	CLA	
0357	1063	TAD	K5555
0360	3000	DCA	0
0361	7440	SZA	
0362	7402	HLI	/DCA DID NOT CLEAR AC
0363	1063	TAD	K5555
0364	7041	CIA	
0365	1000	TA	0
0366	7440	SZA	
0367	7402	HLI	/DCA FAILED

/AC SHOULD BE ZERO

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

TP177,

NOP
NOP
NOP
NOP
NOP
NOP
SKP
0

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

CL*
 SKP
 0
 TAU K7777
 ANW I K0177 /OPERAND=1234
 CIA
 TAU K1234
 SZA
 HLT /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

CL*
 TAU K7777
 DCA 0
 ISB I K0
 HLT /ISZ FAILED, NO SKIP
 TAD 0
 SZA
 HLT /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
 HLT /TAD INDIRECT FAILED
 /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 5

0435	7200	CLA	
0436	1020	TAU K7777	
0437	0572	AND I K176	/OPERAND=176
0440	7041	CIA	
0441	1176	TAU K175	
0442	7440	SZA	/AND INDIRECT FAILED
0443	7402	HLT	/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 6

0444	7200	CLA	
0445	1172	TAU K176	
0446	3000	DCA 0	
0447	2436	ISZ I K0	
0450	7410	SKP	
0451	7402	HLT	/ISZ SKIPPED ILLEGALLY
0452	1000	TAD 0	
0453	7041	CIA	
0454	1172	TAU K176	
0455	7040	GMA	
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	TAU K176	
0464	7440	SZA	
0465	7402	HLT	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 8

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

/INDIRECT ADDRESSING TEST 9

0475	7200	CLA	
0476	1173	TAD K172	
0477	3000	DC 0	
0500	2436	ISZ I K0	
0501	7410	SKP	
0502	7402	HLT	/ISZ SKIPPED ILLEGALLY
0503	1000	TAD 0	
0504	7041	CIA	
0505	1173	TAD K172	
0506	7040	CMA	
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 K7777	
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	TAL K174	
0561	3000	DCA 0	
0562	2436	IS# I K0	
0563	7410	SKH	
0564	7402	HLT	/ISZ SKIPPED ILLEGALLY
0565	1000	TAU 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	NOH	
0575	7000	NOH	
0576	7000	NOH	
0577	7000	NOH	

0600

*600

/INDIRECT ADDRESSING TEST 16

0600	7200	CLA	
0601	1576	TAD I K175	/OPERAND=174
0602	7041	CIA	
0603	1175	TAD K174	
0604	7440	SZ*	
0605	7402	HLT	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/AUTO INDEX TEST 1

0606	7200	CLA*	
0607	1036	TAU K0	/CONSTANT TO BE INDEXED
0610	3010	DCA 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	TAD K7776	/CONSTANT TO BE INDEXED
0621	3010	DCA 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	DCA 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	DCA 10	
0644	1410	TAD I 10	/DO AUTO INDEX
0645	7200	CLA	
0646	1010	TAU 10	

0647 1047
0650 7040
0651 7440
0652 7402

TAV K0003
CMA
SEA
HLT

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 5

0653	7200	CLA	
0654	1032	TAU K7767	/CONSTANT TO BE INDEXED
0655	3010	DCA 10	
0656	0410	AND I 10	/DO AUTO INDEX
0657	1010	TAU 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	DCA 10	
0667	0410	AND I 10	/DO AUTO INDEX
0670	1010	TAU 10	
0671	1045	TAD 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	TAU 10	
0702	1044	TAD 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	TAU K7677	/CONSTANT TO BE INDEXED
0710	3010	DCA 10	
0711	0410	AND I 10	/DO AUTO INDEX
0712	1010	TAU 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	TAU 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	TAU K5777	/CONSTANT TO BE INDEXED
0754	3010	DCA 10	
0755	2410	ISE I 10	/DO AUTO INDEX
0756	7000	NOM	
0757	1010	TA- 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
0765 1021
0766 3010
0767 0410
0770 1010
0771 1021
0772 7040
0773 7440
0774 7402
0775 7000
0776 7000
0777 7000

CLA
TAD K3777 /CONSTANT TO BE INDEXED
DCA 10
AND I 10 /DO AUTO INDEX
TAD 10
TAU K3777 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLI /AUTO INDEX ERROR
NOP
NOP
NOP

```

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          TAU 10
1005 1020          TAD K7777          /AC SHOULD EQUAL 7777
1006 7040          CMA
1007 7410          SKP
1010 0000          0
1011 7440          SZA          /AC SHOULD BE ZERO
1012 7402          HLT          /AUTO INDEX ERROR

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/AUTO INDEX TEST 15

1013 7200          CLA
1014 1036          TAU K0          /CONSTANT TO BE INDEXED
1015 3011          DCA 11
1016 0411          AND I 11          /DO AUTO INDEX
1017 1011          TAU 11
1020 1035          TAU K7776          /AC SHOULD EQUAL 7777
1021 7040          CMA
1022 7440          SZA          /AC SHOULD BE ZERO
1023 7402          HLT          /AUTO INDEX ERROR

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/AUTO INDEX TEST 16

1024 7200          CLA
1025 1035          TAU K7776          /CONSTANT TO BE INDEXED
1026 3011          DCA 11
1027 0411          AND I 11          /DO AUTO INDEX
1030 1011          TAU 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

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/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

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/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

```

		/AUTO INDEX TEST 21	
1102	7200	CLA	
1103	1027	TAD K7757	/CONSTANT TO BE INDEXED
1104	3011	DC* 11	
1105	0411	AND I 11	/DO AUTO INDEX
1106	1011	TAD 11	
1107	1044	TA K0057	/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	TAD 11	
1131	1042	TAD K0177	/AC SHOULD EQUAL 7777
1132	7040	CMA	
1133	7440	SZA	/AC SHOULD BE ZERO
1134	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 24	
1135	7200	CLA	
1136	1024	TAD K7377	/CONSTANT TO BE INDEXED
1137	3011	DCA 11	
1140	0411	AND I 11	/DO AUTO INDEX
1141	1011	TAD 11	
1142	1041	TAD K0377	/AC SHOULD EQUAL 7777
1143	7040	CMA	
1144	7440	SZA	/AC SHOULD BE ZERO
1145	7402	HLT	/AUTO INDEX ERROR

```

/AUTO INDEX TEST 25
1146 7200          CL#
1147 1023          TAN K0777          /CONSTANT TO BE INDEXED
1150 3011          DCA 11
1151 0411          AND I 11          /DO AUTO INDEX
1152 1011          TAN 11
1153 1040          TAN K0777          /AC SHOULD EQUAL 7777
1154 7040          CM#
1155 7440          SZA          /AC SHOULD BE ZERO
1156 7402          HLI          /AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 26
1157 7200          CLA
1160 1022          TAD K5777          /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		
1201	1021	CL	
1202	3011	TA- 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	TAU 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	TAD 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	TAD K7773	/CONSTANT TO BE INDEXED
1257	3012	DCA 12	
1260	1412	TAD I 12	/DO AUTO INDEX
1261	7200	CLA	
1262	1012	TAD 12	
1263	1047	TAD 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	TAD K7767	/CONSTANT TO BE INDEXED
1271	3012	DCA 12	
1272	0412	AND I 12	/DO AUTO INDEX
1273	1012	TAD 12	
1274	1046	TAD K0007	/AC SHOULD EQUAL 7777
1275	7040	CMA	
1276	7440	SZA	/AC SHOULD BE ZERO
1277	7402	HLT	/AUTO INDEX ERROR

```

/AUTO INDEX TEST 34
1300 7200          CLA
1301 1031         TAD K7757          /CONSTANT TO BE INDEXED
1302 3012         DCA 12
1303 0412         AND I 12          /DO 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          CLM
1312 1027         TAD K7737          /CONSTANT TO BE INDEXED
1313 3012         DCA 12
1314 0412         AND I 12          /DO AUTO INDEX
1315 1012         TAW 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          /DO 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          /DO 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	0412	AND I 12	/DO AUTO INDEX
1350	1012	TAU 12	
1351	1041	TAW K0377	/AC SHOULD EQUAL 7777
1352	7040	CMA	
1353	7440	SZA	/AC SHOULD BE ZERO
1354	7402	HL	/AUTO INDEX ERROR
		/AUTO INDEX TEST 39	
1355	7200	CLA	
1356	1023	TAU K6777	/CONSTANT TO BE INDEXED
1357	3012	DC* 12	
1360	0412	AND I 12	/DO AUTO INDEX
1361	1012	TA 12	
1362	1040	TAW 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 K5777	/CONSTANT TO BE INDEXED
1370	3012	DCA 12	
1371	2412	IS* I 12	/DO AUTO INDEX
1372	7000	NOP	
1373	1012	TAU 12	
1374	1037	TAD K1777	/AC SHOULD EQUAL 7777
1375	7040	CMA	
1376	7440	SZA	/AC SHOULD BE ZERO
1377	7402	HLI	/AUTO INDEX ERROR

```

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

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

/AUTO INDEX TEST 42
1411 7200
1412 1020
1413 3012
1414 0412
1415 1012
1416 1020
1417 7040
1420 7440
1421 7402

  CLA
  TAU K7777          /CONSTANT TO BE INDEXED
  DCA 12
  AND I 12          /DO AUTO INDEX
  TAD 12
  TAU K7777          /AC SHOULD EQUAL 7777
  CMA
  SZA                /AC SHOULD BE ZERO
  HLT                /AUTO INDEX ERROR

/AUTO INDEX TEST 43
1422 7200
1423 1036
1424 3013
1425 0413
1426 1013
1427 1035
1430 7040
1431 7440
1432 7402

  CLA
  TAD K0             /CONSTANT TO BE INDEXED
  DCA 13
  AND I 13          /DO AUTO INDEX
  TAU 13
  TAU K7776          /AC SHOULD EQUAL 7777
  CMA
  SZA                /AC SHOULD BE ZERO
  HLT                /AUTO INDEX ERROR

/AUTO INDEX TEST 44
1433 7200
1434 1035
1435 3013
1436 0413
1437 1013
1440 1036
1441 7040
1442 7440
1443 7402

  CLA
  TAU K7776          /CONSTANT TO BE INDEXED
  DCA 13
  AND I 13          /DO AUTO INDEX
  TAU 13
  TAD K0             /AC SHOULD EQUAL 7777
  CMA
  SZA                /AC SHOULD BE ZERO
  HLT                /AUTO INDEX ERROR

/AUTO INDEX TEST 45
1444 7200
1445 1034
1446 3013
1447 3413
1450 1013
1451 1051
1452 7040
1453 7440

  CLA
  TAU K7775          /CONSTANT TO BE INDEXED
  DCA 13
  DCA I 13          /DO AUTO INDEX
  TAU 13
  TAD K0001          /AC SHOULD EQUAL 7777
  CMA
  SZA                /AC SHOULD BE ZERO

```

1454 7402

HLT

/AUTO INDEX ERROR

		/AUTO INDEX TEST 46	
1455	7200	CLA	
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	CLA	
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

		/AJTO INDEX TEST 50	
1522	7200	CLA	
1523	1026	TAD K7677	/CONSTANT TO BE INDEXED
1524	3013	DC 13	
1525	0413	AND I 13	/DD AUTO INDEX
1526	1013	TAU 13	
1527	1043	TAU K0077	/AC SHOULD EQUAL 7777
1530	7040	CM#	
1531	7440	SZA	/AC SHOULD BE ZERO
1532	7402	HLT	/AUTO INDEX ERROR
		/AJTO INDEX TEST 51	
1533	7200	CLA	
1534	1025	TAD K7577	/CONSTANT TO BE INDEXED
1535	3013	DCA 13	
1536	0413	AND I 13	/DD AUTO INDEX
1537	1013	TAU 13	
1540	1042	TAU K0177	/AC SHOULD EQUAL 7777
1541	7040	CM#	
1542	7440	SZA	/AC SHOULD BE ZERO
1543	7402	HLT	/AUTO INDEX ERROR
		/AJTO INDEX TEST 52	
1544	7200	CLA	
1545	1024	TAU K7377	/CONSTANT TO BE INDEXED
1546	3013	DC# 13	
1547	0413	AND I 13	/DD AUTO INDEX
1550	1013	TAU 13	
1551	1041	TAU K0377	/AC SHOULD EQUAL 7777
1552	7040	CM#	
1553	7440	SZ	/AC SHOULD BE ZERO
1554	7402	HLT	/AUTO INDEX ERROR
		/AJTO INDEX TEST 53	
1555	7200	CLA	
1556	1023	TAD K6777	/CONSTANT TO BE INDEXED
1557	3013	DC# 13	
1560	0413	AND I 13	/DD AUTO INDEX
1561	1013	TAU 13	
1562	1040	TAU K0777	/AC SHOULD EQUAL 7777
1563	7040	CM#	
1564	7440	SZA	/AC SHOULD BE ZERO
1565	7402	HLT	/AUTO INDEX ERROR

1566	7200	CLA	
1567	1022	TAU	K0777 /CONSTANT TO BE INDEXED
1570	3013	DC*	13
1571	2413	ISE	I 13 /DO AUTO INDEX
1572	7000	NO*	
1573	1013	TAU	13
1574	1037	TAU	K1777 /AC SHOULD EQUAL 7777
1575	7040	CM*	
1576	7440	SZ*	/AC SHOULD BE ZERO
1577	7402	HLI	/AUTO INDEX ERROR

	1600	*1600	
		/AJTO INDEX TEST 55	
1500	7200	CLA	
1501	1021	TAU K3777	/CONSTANT TO BE INDEXED
1502	3013	DCA 13	
1503	0413	AND I 13	/DO AUTO INDEX
1504	1013	TA- 13	
1505	1021	TAD K3777	/AC SHOULD EQUAL 7777
1506	7040	CM^	
1507	7440	SZA	/AC SHOULD BE ZERO
1510	7402	HLT	/AJTO INDEX ERROR
		/AUTO INDEX TEST 56	
		CLA	
1611	7200	TAN K7777	/CONSTANT TO BE INDEXED
1612	1020	DC^ 13	
1613	3013	AND I 13	/DO AUTO INDEX
1614	0413	TAD 13	
1615	1013	TAD K7777	/AC SHOULD EQUAL 7777
1616	1020	CM^	
1617	7040	SZA	/AC SHOULD BE ZERO
1620	7440	HLT	/AUTO INDEX ERROR
1621	7402		
		/AUTO INDEX TEST 57	
		CLA	
1622	7200	TAN K0	/CONSTANT TO BE INDEXED
1623	1036	DCA 14	
1624	3014	AND I 14	/DO AUTO INDEX
1625	0414	TA- 14	
1626	1014	TAD K7776	/AC SHOULD EQUAL 7777
1627	1035	CM^	
1630	7040	SZA	/AC SHOULD BE ZERO
1631	7440	HLT	/AUTO INDEX ERROR
1632	7402		

```

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

```

```

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

```

```

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

```

```

/AUTO INDEX TEST 61
1667 7200          CLA
1670 1032          TAD K7767          /CONSTANT TO BE INDEXED
1671 3014          DCA 14
1672 0414          ANU I 14          /DO AUTO INDEX
1673 1014          TAU 14
1674 1046          TAD K0007          /AC SHOULD EQUAL 7777
1675 7040          CMA
1676 7440          SZA          /AC SHOULD BE ZERO
1677 7402          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	TAU K0017	/AC SHOULD EQUAL 7777
1706	7040	CMA	
1707	7440	SZA	/AC SHOULD BE ZERO
1710	7402	HLI	/AUTO INDEX ERROR
		/AUTO INDEX TEST 63	
1711	7200	CLA	
1712	1027	TAU K7737	/CONSTANT TO BE INDEXED
1713	3014	DCB 14	
1714	0414	AND I 14	/DO AUTO INDEX
1715	1014	TAD 14	
1716	1044	TAU 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	TAU 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	TAU K7577	/CONSTANT TO BE INDEXED
1735	3014	DCB 14	
1736	0414	AND I 14	/DO AUTO INDEX
1737	1014	TAP 14	
1740	1042	TAU K0177	/AC SHOULD EQUAL 7777
1741	7040	CMA	
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          TAP 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          TAU 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          ISR 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	TA- 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	DC- 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	SZ	/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	CLA	
2072	1032	TAU K7767	/CONSTANT TO BE INDEXED
2073	3015	DCA 15	
2074	0415	AND I 15	/DO AUTO INDEX
2075	1015	TAU 15	
2076	1046	TAD K0007	/AC SHOULD EQUAL 7777
2077	7040	CM*	
2100	7440	SZA	/AC SHOULD BE ZERO
2101	7402	HLT	/AUTO INDEX ERROR
		/AUTO INDEX TEST 76	
2102	7200	CLA	
2103	1031	TAU K7757	/CONSTANT TO BE INDEXED
2104	3015	DCA 15	
2105	0415	AND I 15	/DO AUTO INDEX
2106	1015	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	CLA	
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	TAU 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 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	TAW K7577	/CONSTANT TO BE INDEXED
2137	3015	DCA 15	
2140	0415	AND I 15	/DO AUTO INDEX
2141	1015	TAW 15	
2142	1042	TAD 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	AND I 15	/DO AUTO INDEX
2152	1015	TAU 15	
2153	1041	TAW 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	TAW K6777	/CONSTANT TO BE INDEXED
2161	3015	DCA 15	
2162	0415	AND I 15	/DO AUTO INDEX
2163	1015	TAW 15	
2164	1040	TAU K0777	/AC SHOULD EQUAL 7777
2165	7040	CMA	
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	*2200	
		/AUTO INDEX TEST 82	
2200	7200	CLA	
2201	1022	TA# K5777	/CONSTANT TO BE INDEXED
2202	3015	DC# 15	
2203	2415	IS# I 15	/DO AUTO INDEX
2204	7000	NO#	
2205	1015	TA# 15	
2206	1037	TA# K1777	/AC SHOULD EQUAL 7777
2207	7040	CM#	
2210	7440	SZA	/AC SHOULD BE ZERO
2211	7402	HLI	/AUTO INDEX ERROR
		/AUTO INDEX TEST 83	
2212	7200	CLA	
2213	1021	TA# K3777	/CONSTANT TO BE INDEXED
2214	3015	DC# 15	
2215	0415	AN# I 15	/DO AUTO INDEX
2216	1015	TA# 15	
2217	1021	TA# 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	TA# K7777	/CONSTANT TO BE INDEXED
2225	3015	DC# 15	
2226	0415	AN# I 15	/DO AUTO INDEX
2227	1015	TA# 15	
2230	1020	TA# K7777	/AC SHOULD EQUAL 7777
2231	7040	CM#	
2232	7440	SZA	/AC SHOULD BE ZERO
2233	7402	HL#	/AUTO INDEX ERROR
		/AUTO INDEX TEST 85	
2234	7200	CLA	
2235	1036	TA# K0	/CONSTANT TO BE INDEXED
2236	3016	DC# 16	
2237	0416	AN# I 16	/DO AUTO INDEX
2240	1016	TA# 16	
2241	1035	TA# K7776	/AC SHOULD EQUAL 7777
2242	7040	CM#	
2243	7440	SZA	/AC SHOULD BE ZERO
2244	7402	HLT	/AUTO INDEX ERROR

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2245 7200
2246 1035
2247 3016
2250 0416
2251 1016
2252 1036
2253 7040
2254 7440
2255 7402

/AUTO INDEX TEST 86
CLA
TAU K7776 /CONSTANT TO BE INDEXED
DCA 16
AND I 16 /DO AUTO INDEX
TAU 16
TAU K0 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

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2256 7200
2257 1034
2260 3016
2261 3416
2262 1016
2263 1051
2264 7040
2265 7440
2266 7402

/AUTO INDEX TEST 87
CLA
TA K7775 /CONSTANT TO BE INDEXED
DCA 16
DCA I 16 /DO AUTO INDEX
TAU 16
TAD K0001 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

```

```

2267 7200
2270 1033
2271 3016
2272 1416
2273 7200
2274 1016
2275 1047
2276 7040
2277 7440
2300 7402

/AUTO INDEX TEST 88
CL
TAU K7773 /CONSTANT TO BE INDEXED
DCA 16
TAD I 16 /DO AUTO INDEX
CLA
TAU 16
TAU K0003 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

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2301 7200
2302 1032
2303 3016
2304 0416
2305 1016
2306 1046
2307 7040
2310 7440
2311 7402

/AUTO INDEX TEST 89
CLA
TA K7767 /CONSTANT TO BE INDEXED
DCA 16
AND I 16 /DO AUTO INDEX
TAD 16
TAD K0007 /AC SHOULD EQUAL 7777
CMA
SZA /AC SHOULD BE ZERO
HLT /AUTO INDEX ERROR

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2312 7200
2313 1031
2314 3016
2315 0416
2316 1016
2317 1045
2320 7040

/AUTO INDEX TEST 90
CLA
TAU K7757 /CONSTANT TO BE INDEXED
DCA 16
AND I 16 /DO AUTO INDEX
TA 16
TAD K0017 /AC SHOULD EQUAL 7777
CMA

```

2321	7440	SEA	/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	TAV K0037	/AC SHOULD EQUAL 7777
2331	7040	CMA	
2332	7440	SEA	/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	TAV K0077	/AC SHOULD EQUAL 7777
2342	7040	CMA	
2343	7440	SEA	/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	SEA	/AC SHOULD BE ZERO
2355	7402	HLT	/AUTO INDEX ERROR

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

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

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PAUSE

/TEST 2 - TAPE 3

2400

*2400

/AJTO INDEX TEST 96

2400	7200	CLA	
2401	1022	TAC	K5777 /CONSTANT TO BE INDEXED
2402	3016	DC*	16 /DO AUTO INDEX
2403	2416	IS*	I 16
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

/AJTO INDEX TEST 97

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

		/AUTO INDEX TEST 98	
2423	7200	CL*	
2424	1020	TAU K7777	/CONSTANT TO BE INDEXED
2425	3016	DCA 16	
2426	0416	ANU 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	ANU 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	ANU 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	TAU 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

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

		/AJTO INDEX TEST 105	
2523	7200	CLA	
2524	1027	TAB 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
		/AJTO INDEX TEST 106	
2534	7200	CLA	
2535	1026	TAB K7677	/CONSTANT TO BE INDEXED
2536	3017	DCA 17	
2537	0417	AND I 17	/DO AUTO INDEX
2540	1017	TAB 17	
2541	1043	TAB 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	TAB 17	
2552	1042	TAD 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	TAD 17	
2563	1041	TAD 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	TAB K6777	/CONSTANT TO BE INDEXED
2571	3017	DCA 17	
2572	0417	AND I 17	/DO AUTO INDEX
2573	1017	TAD 17	
2574	1040	TAD 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     TAD K5777      /CONSTANT TO BE INDEXED
2602 3017     JCA 17
2603 2417     ISZ I 17      /OO AUTO INDEX
2604 7000     NOP
2605 1017     TAD 17
2606 1037     TAD K1777      /AC SHOULD EQUAL 7777
2607 7000     CMA
2608 7440     SZA      /AC SHOULD BE ZERO
2609 7440     HLT      /AUTO INDEX ERROR
2611 7402

/AUTO INDEX TEST 111
2612 7200      CLA
2613 1021     TAD K3777      /CONSTANT TO BE INDEXED
2614 3017     JCA 17
2615 0417     AND I 17      /OO AUTO INDEX
2616 1017     TAD 17
2617 1021     TAD K3777      /AC SHOULD EQUAL 7777
2618 7000     CMA
2619 7440     SZA      /AC SHOULD BE ZERO
2621 7440     HLT      /AUTO INDEX ERROR
2622 7402

/AUTO INDEX TEST 112
2623 7200      CLA
2624 1020     TAD K7777      /CONSTANT TO BE INDEXED
2625 3017     JCA 17
2626 0417     AND I 17      /OO AUTO INDEX
2627 1017     TAD 17
2628 1020     TAD K7777      /AC SHOULD EQUAL 7777
2629 7000     CMA
2631 7000     SZA      /AC SHOULD BE ZERO
2632 7440     HLT      /AUTO INDEX ERROR
2633 7402

/AUTO INDEX TEST 113
2634 5236     JMP .+2
2635 7402     HLT      /JMP FAILED
2636 7410     SKP      /JMP WORKED (A LITTLE)
2637 2544     T644
2640 1237     TAJ , -1
2641 3010     JCA 10
2642 5410     JMP I 10      /TEST INSTRUCTION
2643 7402     HLT      /JMP INDIRECT FAILED
2644 7402     HLT      /LOCATION 2610, NO INDEX
                               /IN WTI STATE,

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

2657 7410 SKP
2660 2664 . +4
2661 1260 TAD , -1
2662 3010 DCA 10
2663 4410 JMS I 10 /TEST INSTRUCTION
2664 7402 HLT /JMS FAILED
2665 7402 HLT /JMS FAILED
2666 1265 TAD , -1
2667 7410 SKP
2670 2664 . -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 4011 STR /RUBOUT CHARACTER
2677 6041 TSF
2700 6046 TLS
2701 6041 TSF
2702 5301 JMP , -1
2703 7200 CLA
2704 1312 TAD BACK1 /FLAG IS ON
2705 3002 DCA 2
2706 6001 ION
2707 7000 NOP /GO TO LOC 0000
2710 7402 HLT /NO INTERRUPT
2711 2710 OUT1, , -1
2712 2713 BACK1, , +1
2713 7440 SZA /RETURN FROM LOC 1
2714 7402 HLT /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

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		/INTERRUPT TEST 2		
2722	1041		TAD K0377	/RUBOUT CHARACTER
2723	6041		TSP	
2724	6040		TLS	
2725	6041		TSP	
2726	5320		JMP , -1	
2727	7200		CLA	/FLAG IS ON
2730	1330		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	1330		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	6040		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	6020		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	
2774	7402		HLT	/INTERRUPT ERROR /WRONG ADDRESS STORED
2775	7000		NOP	
2776	7000		NOP	
2777	7000		NOP	

	3000	*3000	
		/INTERRUPT TEST 4	
3000	1041	TAD K0377	/RUBOUT CHARACTER
3001	6041	TSF	
3002	6046	ILS	
3003	6041	TSF	
3004	5233	JMP ,-1	
3005	7207	CLA	/FLAG IS ON
3006	1215	TAD BACK4	
3007	3002	DCA 2	
3010	1020	TAD K7777	
3011	6001	ION	
3012	3003	DCA 3	
3013	7402	HLI	/NO INTERRUPT
3014	3013	OUT4, ,-1	
3015	3016	BACK4, +1	
3016	7440	SZA	/RETURN FROM LOC1
3017	7402	HLT	/CONFIDENCE CHECK
			/AC SHOULD BE ZERO
3020	1003	TAD 3	
3021	7040	CMA	
3022	7440	SZA	
3023	7402	HLT	/DCA PRIOR TO INTERRUPT
			/FAILED
3024	3003	DCA 3	
3025	1030	TAD 0	
3026	7041	CIA	
3027	1214	TAD OUT4	
3030	7640	SZA CLA	
3031	7402	HLT	/INTERRUPT ERROR
			/WRONG ADDRESS STORED
		/INTERRUPT TEST 5	
3032	1041	TAD K0377	/RUBOUT CHARACTER
3033	6041	TSF	
3034	6046	ILS	
3035	6041	TSF	
3036	5235	JMP ,-1	
3037	7200	CLA	/FLAG IS ON
3040	1250	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	3051	BACK5,	, +1	
3051	7440		SZA	/RETURN FROM LOC1
3052	7402		HLT	/CONFIDENCE CHECK
				/AC SHOULD BE ZERO
3053	1003		TAD 3	
3054	7040		CMA	
3055	7440		SZA	
3056	7402		HLT	/ISZ PRIOR TO
				/INTERRUPT FAILED
3057	3003		DCA 3	
3060	1000		TAD 0	
3061	7041		CIA	
3062	1247		TAD OUT5	
3063	7640		SZA CLA	
3064	7402		HLT	/INTERRUPT ERROR
				/WRONG ADDRESS STORED
		/INTERRUPT TEST 6		
3065	1041		TAD K0377	/RUBOUT CHARACTER
3066	6041		TSF	
3067	6046		ILS	
3070	6041		TSF	
3071	5270		JMP , -1	
3072	7200		CLA	/FLAG IS ON
3073	1304		TAD BACK6	
3074	3002		DCA 2	
3075	1020		TAD K7777	
3076	3003		DCA 3	
3077	6001		ION	
3100	2003		ISZ 3	
3101	7402		HLT	/NO INTERRUPT
3102	7402		HLT	
3103	3102	OUT6,	, -1	
3104	3105	BACK6,	, +1	
3105	7440		SZA	/RETURN FROM LOC 1
3106	7402		HLT	/CONFIDENCE CHECK
				/AC SHOULD BE ZERO
3107	1003		TAD 3	
3110	7440		SZA	
3111	7402		HLT	/ISZ PRIOR TO
				/INTERRUPT FAILED
3112	3003		DCA 3	
3113	1000		TAD 0	
3114	7041		CIA	
3115	1303		TAD OUT6	
3116	7640		SZA CLA	
3117	7402		HLT	/INTERRUPT ERROR
				/WRONG ADDRESS STORED

```

/INTERRUPT TEST 7
3120 1041 TAD K0377 /RUBOUT CHARACTER
3121 6041 TSF
3122 6046 TLS
3123 6041 TSF
3124 5323 JMP , -1
3125 7200 CLA /FLAG IS ON
3126 1334 TAD BACK7
3127 3002 DCA 2
3130 6001 ION
3131 5331 JMP ,
3132 7402 HLT /NO INTERRUPT
3133 3131 OUT7, , -2
3134 3135 BACK7, , +1
3135 7440 SZA /RETURN FROM LOC 1
3136 7402 HLT /CONFIDENCE CHECK
/AC SHOULD BE 0

3137 1000 TAD 0
3140 7041 CIA
3141 1333 TAD OUT7
3142 7640 SZA CLA
3143 7402 HLT /INTERRUPT ERROR
/WRONG ADDRESS STORED

```

```

/INTERRUPT TEST 8
3144 1041 TAD K0377 /RUBOUT CHARACTER
3145 6041 TSF
3146 6046 TLS
3147 6041 TSF
3150 5347 JMP , -1
3151 7200 CLA /FLAG IS ON
3152 1360 TAD BACK8
3153 3002 DCA 2
3154 6001 ION
3155 4003 JMS 3
3156 7402 HLT /NO INTERRUPT
3157 3156 OUT8, , -1
3160 3161 BACK8, , +1
3161 7440 SZA /RETURN FROM LOC 1
3162 7402 HLT /CONFIDENCE CHECK
/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 1100
3171 7041
3172 1064
3173 7540
3174 7402

3175 7000
3176 7000
3177 7000

TAU 2
CIA
TAU K4
SFA CLA
HLT

NOP
NOP
NOP

/INTERRUPT ERROR
/WRONG ADDRESS STORED

```

*3200
/INTERRUPT TEST 9
3200 1041 TAD K0377 /RUBOUT CHARACTER
3201 6041 TSF
3202 6046 TLS
3203 6041 TSF
3204 5233 JMP ,-1
3205 7200 CLA /FLAG IS ON
3206 1215 TAD BACK9
3207 3002 DCA 2
3210 1020 TAD K7777
3211 6001 ION
3212 7200 CLA
3213 7402 HLT /NO INTERRUPT
3214 3213 OUT9, ,-1
3215 3216 BACK9, ,+1
3216 7440 SZA
3217 7402 HLT /RETURN FROM LOC 1
/CLA PRIOR TO INTERRUPT
/FAILED

3220 1000 TAD 0
3221 7041 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 6041 TSF
3227 6046 TLS
3230 6041 TSF
3231 5230 JMP ,-1
3232 7200 CLA /FLAG IS ON
3233 1242 TAD BACK10
3234 3002 DCA 2
3235 6001 ION
3236 6041 TSF
3237 7402 HLT /NO INTERRUPT
3240 7402 HLT

```


3314	0041		TSF	
3315	7402		HLT	/WHAT HAPPENED TO MY FLAG
3316	7410		SKP	
3317	5521	BACK11,	,+2	
3320	7410		SKP	
3321	7402		HLT	/INTERRUPT OCCURRED DURING /ION-IOF SEQUENCE /SEE LOCATION 0000
/INTERRUPT TEST 12				
3322	6042		TCF	/CLEAR FLAG
3323	7200		CLA	
3324	1334		TAU BACK12	
3325	5002		JCA 2	
3326	6001		ION	
3327	7000		NOP	
3330	7000		NOP	
3331	7000		NOP	
3332	7000		NOP	
3333	7410		SKP	
3334	3336	BACK12,	,+2	
3335	7410		SKP	
3336	7402		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	0610	AND1,	AND I 4010	/TEST INSTRUCTION
4001	5002		JMP I ,+1	
4002	3350		RET1	
	3350	*3350		
3350	1743	RET1,	TAD I K4010	
3351	7440		SZA	
3352	7402		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
 3356 5757
 3357 2173
 3360 2010

CLA
 JMP I .+1
 AN#2
 K2010, 20+0

2173
 2173 0610
 2174 5775
 2175 3370

*2173
 AND2, AN# I 2010
 JMP I .+1
 REI2

/TEST INSTRUCTION

3370
 3370 1760
 3371 7440
 3372 7402

*3370
 RET2, TAD I K2010
 SZ#
 HLI

/ERROR. AC SHOULD BE ZERO
 /AND I 2010 ALTERED (2010)

3373 5774
 3374 3400

JMP I .+1
 3400

/ILLEGAL AUTO INDEX TEST 3

3400
 3400 7200
 3401 5602
 3402 1173
 3403 1010

*3400
 CLA
 JMP I .+1
 AND3
 K1010, 10 0

1173
 1173 0610
 1174 5775
 1175 3410

*1173
 AND3, AND I 1010
 JMP I .+1
 RET3

/TEST INSTRUCTION

3410
 3410 1603
 3411 7440
 3412 7402

*3410
 RET3, TAD I K1010
 SZ#
 HLI

/ERROR. AC SHOULD BE ZERO
 /AND I 1010 ALTERED (1010)

3413 7200
 3414 3603

CLA
 DCA I K1010

/ILLEGAL AUTO INDEX TEST 4

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

/ILLEGAL AUTO INDEX TEST 5

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

/ILLEGAL AUTO INDEX TEST 6

3455 7200
 3456 5657
 3457 0130
 3460 0110

CLA
 JMP I .+1
 AN06
 K110, 110

0130 0130
 0130 0510
 0131 5532
 0132 3470

*130
 AN06, AN0 I 110
 JMP I .+1
 RE16

/TEST INSTRUCTION

3470 1660
 3471 7440
 3472 7402

*3470
 RET6, TAP I K110
 SZA
 HLI

/ERROR, AC SHOULD BE ZERO
 /AND I 110 ALTERED (110)

3473 7200
 3474 3110

CLA
 DCA 110

/ILLEGAL AUTO INDEX TEST 7

3475 7200
 3476 5677
 3477 0124
 3500 0050

CLA
 JMP I .+1
 AN07
 K50, 50

0124 0124
 0124 0450
 0125 5526
 0126 3510

*124
 AN07, AN0 I 50
 JMP I .+1
 RE17

/TEST INSTRUCTION

3510 1700
 3511 7440
 3512 7402

*3510
 RET7, TAP I K50
 SZA
 HLI

/ERROR, AC SHOULD BE ZERO
 /AND I 50 ALTERED (50)

3513 7200
 3514 3050

CLA
 DCA 50

/ILLEGAL AUTO INDEX TEST 8

3515 7200
 3516 5717
 3517 0120
 3520 0030

CLA
 JMP I .+1
 ANUB
 K30, 30

0120 0120
 0120 0430
 0121 5522
 0122 3530

*120
 ANDB, AND I 30 /TEST INSTRUCTION
 JMP I .+1
 RE18

3530 3530
 3530 1720
 3531 7440
 3532 7402

*3530
 RETB, TAD I K30
 SZA
 HLT /ERROR, AC SHOULD BE ZERO
 /AND I 30 ALTERED (30)

3533 7200
 3534 3030

CLA
 DCA 30

/ILLEGAL AUTO INDEX TEST 9

3535 7200
 3536 3000
 3537 5740
 3540 0074

CLA
 DCA 0
 JM I .+1
 AND9

0074 0074
 0074 0400
 0075 5476
 0076 3550

*74
 AND9, AND I 0 /TEST INSTRUCTION
 JM I .+1
 RET9

3550 3550
 3550 1436
 3551 7440
 3552 7402

*3550
 RET9, TAD I K0
 SZA
 HLT /ERROR, AC SHOULD BE ZERO
 /AND I 0 ALTERED (0)

3553 7200
 3554 3000

CLA
 DCA 0

SYMBOL TABLE

AND1	4000
AND10	0070
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	0037
K201	3622
K2010	3360
K210	3440
K2525	0054
K30	3520
K3777	0021
K4	0064

SYMBOL TABLE

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

SYMBOL TABLE

K7777	0020
K3777	0021
K5777	0022
K6777	0023
K7377	0024
K7577	0025
K7677	0026
K7737	0027
K7757	0031
K7767	0032
K7773	0033
K7775	0034
K7776	0035
K0	0036
K1777	0037
K0777	0040
K0377	0041
K0177	0042
K0077	0043
K0037	0044
K0017	0045
K0007	0046
K0003	0047
K0001	0051
K4400	0052
K4577	0053
K2525	0054
K6666	0055
K4444	0056
K7070	0057
K0707	0060
K5252	0061
K1111	0062
K5555	0063
K4	0064
AND10	0070
AND9	0074
AND8	0120
AND7	0124
AND6	0130
K176	0172
K172	0173
K173	0174
K174	0175
K175	0176
K1234	0177
TP0	0200
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
BLCNT	3623
RNGCNT	3624
BELCOD	3625
AND1	4000
STR	4011
JMPIX	4021

MAINDEC EVALUATION REQUEST

After sufficient familiarization with the operation and documentation of this MAINDEC, please indicate your assessment of the following areas and return this form to Digital Equipment Corporation.

IDENTIFICATION: MAINDEC NO. _____ Program Title _____

USAGE: Used by: Field Service Production Other _____

Frequency of Usage: Daily Weekly Monthly

SUGGESTIONS FOR IMPROVEMENT

1. Are the program loading and operating instructions: clear? , incomplete? , difficult to follow?
2. Do the error reports and program documentation provide sufficient diagnostic information. in all cases? , in most cases? , in very few cases? . Suggestions for improvement:

3. Is the program effective in isolating malfunctions: in all cases? , in most cases? , in very few cases? . Would additional Scope loops or Switch Register control be helpful? _____
Suggestions for improvement:

4. Does the program ever fail to detect malfunctions exposed by other software? _____
Were Margins used? _____ Please describe malfunction in detail:

5. Does the program ever report non-existent malfunctions? _____
Please indicate erroneous report and any pertinent operating conditions:

6. Does this MAINDEC ever expose malfunctions in the Central Processor or other peripheral units not detected by the appropriate MAINDEC? _____
Please describe malfunction and MAINDEC(S) used:

7. Does the document provide a general understanding of the functional programming requirements of the system? Good , Fair , None . Would a general description of programming requirements increase the effectiveness of this MAINDEC? _____

Remarks:

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