

IDENTIFICATION

PRODUCT CODE:	MAINDEC-8E-DØBA
PRODUCT NAME:	POP-8/E INSTRUCTION TEST 2
DATE CREATED:	OCTOBER 23, 1970
MAINTAINER:	DIAGNOSTIC GROUP
AUTHOR:	ED FORTMILLER

AB(CT

THIS PROGRAM IS AN EXTENSIVE TEST OF AUTOINDEXING, INDIRECT ADDRESSING, AND THE DCA INSTRUCTION FOR THE PDP-8/E. IT ALSO OFFERS MINIMAL TESTING FOR INTERRUPT AND THE AND, TAD, ISZ, JMS, JMP, AND PROCESSOR IOT INSTRUCTIONS.

2. REQUIREMENTS

2.1 EQUIPMENT

PDP-8/E EQUIPPED WITH TELETYPE

2.2 STORAGE

THE PROGRAM OCCUPIES MEMORY LOCATIONS 0000-4416, THE BINARY LOADER MUST BE STORED IN THE LAST MEMORY PAGE.

2.3 PRELIMINARY PROGRAMS

IT IS ASSUMED THAT MAINDEC-8E-Q0A(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

200

4.3 OPERATOR ACTION

A. SET THE SWITCH REGISTER TO 200. PRESS LOAD ADDRESS.

B. PUSH CLEAR AND THEN CONTINUE. 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 CLEAR BUTTON WILL CLEAR THEIR FLAGS AND NO
FLAGS WILL TURN ON UNLESS AUTHORIZED.
- 8. MISCELLANEOUS
- 8.1 EXECUTION TIME
256 PROGRAM LOOPS PER MINUTE.

PROGRAM DESCRIPTION

THE RAM IS A SERIES OF MANY SMALL INDIVIDUAL TESTS. A TEST IS PERFORMED USING PREVIOUSLY CHECK 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. PROCESSOR IOT TEST

A: USING CAF
B: USING SRQ
C: USING SPF
D: USING STI
E: USING SKON
F: USING ION
G: USING IOF
H: USING GTF
I: USING RTF

5. 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

6. CHECK FOR UNAUTHORIZED AUTOINDEXING

AT THE COMPLETION OF 212 PROGRAM LOOPS THE BELL RINGS TO ASSURE THE OPERATOR THAT THE PROGRAM IS FUNCTIONING PROPERLY.

LISTING


```

/PDP-8/E INSTRUCTION TEST 2
/COPYRIGHT 1970, DIGITAL EQUIPMENT CORP., MAYNARD, MASS. 01754
SKON=6000 /SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
SRQ=6003 /SKIP IF INTERRUPT REQUEST
GTF=6004 /GET INTERRUPT FLAGS
RTF=6005 /RESTORE INTERRUPT FLAGS AND TURN INTERRUPT ON
CAF=6007 /CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT F.F.
SPF=6040 /SET PRINTER FLAG
KIE=6035 /ENABLE TTY INTERRUPT F.F. WHEN AC 11 EQUALS A 1
BSW=7002 /SWAP BYTES IN AC

```

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

0057	7070	K7070,	7070		
0060	0707	K0707,	0707		
0061	5252	K5252,	5252		
0062	1111	K1111,	1111		
0063	5555	K5555,	5555		
0064	5200	K5200,	5200		
0065	0004	K4,	4		
0110	0000	*110	0		
0172	0172	*172			
0172	0176	K176,	176	/LOC 172	
0173	0172	K172,	172	/173	
0174	0173	K173,	173	/174	
0175	0174	K174,	174	/175	
0176	0175	K175,	175	/176	
0177	1234	K1234,	1234	/177	
0200	0200	*200			
0200	7200	/DCA TEST 1			
0201	7410	CLA			
0202	0000	SKP			
0203	1052	TP0,			
0204	3377				
0205	7440	TAD K4400			
0206	7402	DCA TP177			
0207	7410	SZA			
0210	0000	HLT			
0211	1052	SKP			
0212	7041	TP0,			
0213	1377				
0214	7440	TAD K4400			
0215	7402	CLA			
0216	7200	/DCA TEST 2			
0217	1053	CLA			
0220	3202	TAD K4577			
0221	7440	DCA TP0			
0222	7402	SZA			
0223	1053	HLT			
0224	7041	TAD K4577			
0225	1202	CLA			
0226	7440	TAD TP0			
0227	7402	SZA			
		HLT			
/DCA DID NOT CLEAR AC					
/AC=-(4400)					
/DCA FAILED					
/AC SHOULD EQUAL ZERO					
/DCA DID NOT CLEAR AC					
/DCA FAILED					
/AC SHOULD EQUAL ZERO					

/DCA TEST 3

0230	7200	CLA	
0231	1020	TAD	K777
0232	3202	DCA	TP0
0233	7440	SZA	
0234	7402	HLT	
0235	1202	TAD	TP0
0236	7040	CMA	
0237	7440	SZA	
0240	7402	HLT	

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 4

0241	7200	CLA	
0242	1020	TAD	K0
0243	3202	DCA	TP0
0244	7440	SZA	
0245	7402	HLT	
0246	1202	TAD	TP0
0247	7440	SZA	
0250	7402	HLT	

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 5

0251	7200	CLA	
0252	1054	TAD	K2525
0253	3202	DCA	TP0
0254	7440	SZA	
0255	7402	HLT	
0256	1054	TAD	K2525
0257	7041	CIA	
0260	1202	TAD	TP0
0261	7440	SZA	
0262	7402	HLT	

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 6

0263	7200	CLA	
0264	1055	TAD	K6666
0265	3202	DCA	TP0
0266	7440	SZA	
0267	7402	HLT	
0270	1055	TAD	K6666
0271	7041	CIA	
0272	1202	TAD	TP0
0273	7440	SZA	
0274	7402	HLT	

/DCA DID NOT CLEAR AC

/DCA FAILED
/AC SHOULD BE ZERO

/DCA TEST 7

0345	7200	CLA			
0346	1062	TAD K1111			
0347	3000	DCA 0			
0350	7440	SZA			
0351	7402	HLT		/DCA DID NOT CLEAR AC	
0352	1062	TAD K1111			
0353	7041	CIA			
0354	1000	TAD 0			
0355	7440	SZA		/DCA FAILED	
0356	7402	HLT		/AC SHOULD BE ZERO	
				/DCA TEST 12	
0357	7200	CLA			
0360	1063	TAD K5555			
0361	3000	DCA 0			
0362	7440	SZA			
0363	7402	HLT		/DCA DID NOT CLEAR AC	
0364	1063	TAD K5555			
0365	7041	CIA			
0366	1000	TAD 0			
0367	7440	SZA		/DCA FAILED	
0370	7402	HLT		/AC SHOULD BE ZERO	
0371	7000	NOP			
0372	7000	NOP			
0373	7000	NOP			
0374	7000	NOP			
0375	7000	NOP			
0376	7410	SKP			
0377	0000	TP177, 0			
0400	0400	*400			
				/INDIRECT ADDRESSING TEST 1	
0400	7200	CLA			
0401	1442	TAD I K0177		/OPERAND=1234	
0402	7041	CIA			
0403	1177	TAD K1234			
0404	7440	SZA			
0405	7402	HLT		/TAD INDIRECT FAILED	
				/AC SHOULD BE ZERO	
				/INDIRECT ADDRESSING TEST 2	
0406	7200	CLA			
0407	7410	SKP			
0410	0000	0			
0411	1020	TAD K7777			
0412	0442	AND I K0177		/OPERAND=1234	

0413	7041	CIA	
0414	1177	TAD	K1234
0415	7440	SZA	
0416	7402	HLT	

/AND INDIRECT FAILED
/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 3

0417	7200	CLA	
0420	1020	TAD	K7777
0421	3000	DCA	0
0422	2436	ISZ	I K0
0423	7402	HLT	
0424	1000	TAD	0
0425	7440	SZA	
0426	7402	HLT	

/ISZ FAILED, NO SKIP
/ISZ INDIRECT FAILED
/AC SHOULD BE 0

/INDIRECT ADDRESSING TEST 4

0427	7200	CLA	
0430	1572	TAD	I K175
0431	7041	CIA	
0432	1176	TAD	K175
0433	7440	SZA	
0434	7402	HLT	

/OPERAND=175
/TAD INDIRECT FAILED
/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 5

0435	7200	CLA	
0436	1020	TAD	K7777
0437	0572	AND	I K176
0440	7041	CIA	
0441	1176	TAD	K175
0442	7440	SZA	
0443	7402	HLT	

/OPERAND=175
/AND INDIRECT FAILED
/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 6

0444	7200	CLA	
0445	1172	TAD	K176
0446	3000	DCA	0
0447	2436	ISZ	I K0
0450	7410	SKP	
0451	7402	HLT	
0452	1000	TAD	0
0453	7041	CIA	
0454	1172	TAD	K176
0455	7040	CMA	
0456	7440	SZA	
0457	7402	HLT	

/ISZ SKIPPED ILLEGALLY
/DCA INDIRECT FAILED
/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 7

0460 7200 CLA
0461 1573 TAD I K172 /OPERAND=173
0462 7041 CIA
0463 1172 TAD K176
0464 7440 SZA
0465 7402 HLT /TAD INDIRECT FAILED
/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 8

0466 7200 CLA
0467 1020 TAD K7777
0470 0573 AND I K172 /OPERAND=176
0471 7041 CIA
0472 1172 TAD K176
0473 7440 SZA /AND INDIRECT FAILED
0474 7402 HLT /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 /ISZ SKIPPED ILLEGALLY
0502 7402 HLT
0503 1000 TAD 0
0504 7041 CIA
0505 1173 TAD K172
0506 7040 CMA
0507 7440 SZA /DCA INDIRECT FAILED
0510 7402 HLT /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 10

0511 7200 CLA
0512 1574 TAD I K173 /OPERAND=172
0513 7041 CIA
0514 1172 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 0573 AND I K173 /OPERAND=176
0522 7041 CIA
0523 1172 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	TAD I K174	/OPERAND=173
0544	7041	CIA	
0545	1174	TAD K173	
0546	7440	SZA	
0547	7402	HLT	/TAD INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 14			
0550	7200	CLA	
0551	1020	TAD K777	
0552	0575	AND I K174	/OPERAND=173
0553	7041	CIA	
0554	1174	TAD K173	
0555	7440	SZA	
0556	7402	HLT	/AND INDIRECT FAILED /AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 15			
0557	7200	CLA	
0560	1175	TAD K174	
0561	3000	DCA 0	
0562	2436	ISZ I K0	
0563	7410	SKP	
0564	7402	HLT	/ISZ SKIPPED ILLEGALLY
0565	1000	TAD 0	
0566	7041	CIA	
0567	1175	TAD K174	
0570	7040	CMA	
0571	7440	SZA	
0572	7402	HLT	/DCA INDIRECT FAILED /AC SHOULD BE ZERO
0573	5377	JMP ,+4	

0574 7000
0575 7000
0576 7000
0577 7000

NOP
NOP
NOP
NOP

0500

*0600

/INDIRECT ADDRESSING TEST 16

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

CLA
TAD I K175
CIA
TAD K174
SEA
HLT

/OPERAND=174

/TAD INDIRECT FAILED
/AC SHOULD BE ZERO

/AUTO INDEX TEST 1

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

CLA
TAD K0
DCA 10
AND I 10
TAD 10
TAD K7776
CMA
SEA
HLT

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 2

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

CLA
TAD K7776
DCA 10
AND I 10
TAD 10
TAD K0
CMA
SEA
HLT

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 3

0630 7200
0631 1034
0632 3010
0633 3410
0634 1010
0635 1035
0636 7040
0637 7440
0638 7402

CLA
TAD K7775
DCA 10
DCA I 12
TAD 10
TAD K0021
CMA
SEA
HLT

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD EQUAL 0021

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 4

0641 7200

CLA

```

0642 1033      TAD K7773
0643 3010      DCA 10
0644 1410      TAD I 10
0645 7200      CLA
0646 1010      TAD 10
0647 1047      TAD K0003
0650 7040      CMA
0651 7440      SZA
0652 7402      HLT

```

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

/AUTO INDEX TEST 5

```

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

```

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

/AUTO INDEX TEST 6

```

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

```

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

/AUTO INDEX TEST 7

```

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

```

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

/AUTO INDEX TEST 8

```

0706 7200      CLA
0707 1026      TAD K7677
0710 3010      DCA 10
0711 0410      AND I 10
0712 1010      TAD 10
0713 1043      TAD K0077

```

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

0715 7040 CMA
0716 7440 SZA
0717 7402 HLT

/AUTO INDEX TEST 9

0717 7200 CLA
0720 1025 TAD K7577
0721 3010 DCA 10
0722 0410 AND I 10
0723 1010 TAD 10
0724 1042 TAD K0177
0725 7040 CMA
0726 7440 SZA
0727 7402 HLT

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

/AUTO INDEX TEST 10

0730 7200 CLA
0731 1024 TAD K7377
0732 3010 DCA 10
0733 0410 AND I 10
0734 1010 TAD 10
0735 1041 TAD K0377
0736 7040 CMA
0737 7440 SZA
0740 7402 HLT

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

/AUTO INDEX TEST 11

0741 7200 CLA
0742 1023 TAD K6777
0743 3010 DCA 10
0744 0410 AND I 10
0745 1010 TAD 10
0746 1040 TAD K0777
0747 7040 CMA
0750 7440 SZA
0751 7402 HLT

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

/AUTO INDEX TEST 12

0752 7200 CLA
0753 1022 TAD K5777
0754 3010 DCA 10
0755 2410 ISZ I 10
0756 7000 NOP
0757 1010 TAD 10
0760 1037 TAD K1777
0761 7040 CMA
0762 7440 SZA
0763 7402 HLT

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

/AUTO INDEX TEST 13

0764	7200	CLA	
0765	1021	TAD K3777	/CONSTANT TO BE INDEXED
0766	3010	DCA 10	
0767	0410	AND I 10	/DO AUTO INDEX
0770	1010	TAD 10	
0771	1021	TAD K3777	/AC SHOULD EQUAL 7777
0772	7040	CMA	
0773	7440	SZA	/AC SHOULD BE ZERO
0774	7402	HLT	/AUTO INDEX ERROR
0775	7000	NOP	
0776	7000	NOP	
0777	7000	NOP	

*1000

/AUTO INDEX TEST 14

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

/AUTO INDEX TEST 15

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

/AUTO INDEX TEST 16

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

```

1035 7200 /AUTO INDEX TEST 17
1036 1034 CLA
1037 1011 TAD K7775
1038 1011 DCA 11
1039 1011 DCA I 11
1040 1011 TAD 11
1041 1011 TAD K0001
1042 1051 CMA
1043 1040 SZA
1044 1040 HLT
1045 7402 /CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

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1046 7200 /AUTO INDEX TEST 18
1047 1033 CLA
1048 1011 TAD K7773
1049 1011 DCA 11
1050 1011 TAD I 11
1051 1011 CLA
1052 7200 TAD 11
1053 1011 TAD K0003
1054 1047 CMA
1055 7040 SZA
1056 7440 HLT
1057 7402 /CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

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1060 7200 /AUTO INDEX TEST 19
1061 1032 CLA
1062 1011 TAD K7767
1063 1011 DCA 11
1064 1011 AND I 11
1065 1011 TAD 11
1066 1046 TAD K0007
1067 7040 CMA
1068 7440 SZA
1069 7402 HLT
1070 7402 /CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

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1071 7200 /AUTO INDEX TEST 20
1072 1031 CLA
1073 1011 TAD K7757
1074 1011 DCA 11
1075 1011 AND I 11
1076 1011 TAD 11
1077 1045 TAD K0017
1078 7040 CMA
1079 7440 SZA
1080 7402 HLT
1081 7402 /CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

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1102 7200 /AUTO INDEX TEST 21
1103 1027 CLA
1104 1011 TAD K7737
1105 1011 DCA 11
1106 1011 AND I 11
1107 1011 TAD 11
1108 1011 /CONSTANT TO BE INDEXED
/DO AUTO INDEX

```

1107 1044 TAD K0037 /AC SHOULD BE ZERO
 1110 7040 CMA /AC SHOULD BE ZERO
 1111 7440 SZA /AUTO INDEX ERROR
 1112 7402 HLT

/AUTO INDEX TEST 22

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

/AUTO INDEX TEST 23

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

/AUTO INDEX TEST 24

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

/AUTO INDEX TEST 25

1146 7200 CLA /CONSTANT TO BE INDEXED
 1147 1023 TAD K6777
 1150 3011 DCA 11 /DO AUTO INDEX
 1151 0411 AND I 11
 1152 1011 TAD 11 /AC SHOULD BE ZERO
 1153 1040 TAD K0777 /AC SHOULD BE ZERO
 1154 7040 CMA /AUTO INDEX ERROR
 1155 7440 SZA
 1156 7402 HLT

/AUTO INDEX TEST 26

1157 7200 CLA /CONSTANT TO BE INDEXED
 1160 1022 TAD K5777
 1161 3011 DCA 11 /DO AUTO INDEX
 1162 2411 ISZ I 11 EX

1163	7000	NOP	
1164	1011	TAD 11	
1165	1037	TAD K1777	/AC SHOULD EQUAL 7777
1166	7040	CMA	
1167	7440	SZA	/AC SHOULD BE ZERO
1170	7402	HLT	/AUTO INDEX ERROR
1171	7000	NOP	
1172	5376	JMP 04	
1173	7000	NOP	
1174	7000	NOP	
1175	7000	NOP	
1176	7000	NOP	
1177	7000	NOP	

PAUSE

/TEST 2 - TAPE 2

*1200

/AUTO INDEX TEST 27

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

/AUTO INDEX TEST 28

1211	7200	CLA	
1212	1020	TAD K7777	/CONSTANT TO BE INDEXED
1213	3011	DCA 11	
1214	0411	AND I 11	/DO AUTO INDEX
1215	1011	TAD 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	TAD K0	/CONSTANT TO BE INDEXED
1224	3012	DCA 12	
1225	0412	AND I 12	/DO AUTO INDEX
1226	1012	TAD 12	
1227	1035	TAD K7776	/AC SHOULD EQUAL 7777
1230	7040	CMA	
1231	7440	SZA	/AC SHOULD BE ZERO
1232	7402	HLT	/AUTO INDEX ERROR

```

1233 7200 /AUTO INDEX TEST 30
1234 1035 CLA
1235 3012 TAD K7776
1236 0412 DCA 12
1237 1012 AND I 12
1238 1036 TAD 12
1239 7040 TAD K0
1240 7040 CMA
1241 7440 SZA
1242 7402 HLT
1243 7402 /CONSTANT TO BE INDEXED
1244 7200 /DO AUTO INDEX
1245 1035 /AC SHOULD EQUAL 7777
1246 3012 /AC SHOULD BE ZERO
1247 3412 /AUTO INDEX ERROR
1248 1012
1249 1051
1250 7040
1251 7440
1252 7402

```

```

1244 7200 /AUTO INDEX TEST 31
1245 1034 CLA
1246 3012 TAD K7775
1247 3412 DCA 12
1248 1012 DCA I 12
1249 1051 TAD 12
1250 7040 TAD K0001
1251 7440 CMA
1252 7402 SZA
1253 7402 HLT
1254 7402 /CONSTANT TO BE INDEXED
1255 1033 /DO AUTO INDEX
1256 3012 /AC SHOULD EQUAL 7777
1257 3412 /AC SHOULD BE ZERO
1258 1012 /AUTO INDEX ERROR
1259 1051
1260 7040
1261 7440
1262 7402

```

```

1255 7200 /AUTO INDEX TEST 32
1256 1033 CLA
1257 3012 TAD K7773
1258 1412 DCA 12
1259 7200 TAD I 12
1260 1012 CLA
1261 1047 TAD 12
1262 7040 TAD K0003
1263 7440 CMA
1264 7402 SZA
1265 7402 HLT
1266 7402 /CONSTANT TO BE INDEXED
1267 7200 /DO AUTO INDEX
1268 1032 /AC SHOULD EQUAL 7777
1269 3012 /AC SHOULD BE ZERO
1270 0412 /AUTO INDEX ERROR
1271 1012
1272 1046
1273 7040
1274 7440
1275 7402
1276 7402
1277 7402

```

```

1267 7200 /AUTO INDEX TEST 33
1268 1032 CLA
1269 3012 TAD K7767
1270 0412 DCA 12
1271 1012 AND I 12
1272 1046 TAD 12
1273 7040 TAD K0007
1274 7440 CMA
1275 7402 SZA
1276 7402 HLT
1277 7402 /CONSTANT TO BE INDEXED
1278 1031 /DO AUTO INDEX
1279 3012 /AC SHOULD EQUAL 7777
1280 0412 /AC SHOULD BE ZERO
1281 1012 /AUTO INDEX ERROR
1282 1045
1283 1012
1284 1045

```

```

1300 7200 /AUTO INDEX TEST 34
1301 1031 CLA
1302 3012 TAD K7757
1303 0412 DCA 12
1304 1012 AND I 12
1305 1045 TAD 12
1306 1012 TAD K0017
1307 1045 /CONSTANT TO BE INDEXED
1308 1012 /DO AUTO INDEX
1309 1045 /AC SHOULD EQUAL 7777

```

```

1306 7040 CMA
1307 7440 SZA
1310 7402 HLT

/AUTO INDEX TEST 35
1311 7200 CLA
1312 1027 TAD K7737
1313 3012 DCA 12
1314 0412 AND I 12
1315 1012 TAD 12
1316 1044 TAD K0037
1317 7040 CMA
1320 7440 SZA
1321 7402 HLT

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

```

```

/AUTO INDEX TEST 36
1322 7200 CLA
1323 1027 TAD K7677
1324 3012 DCA 12
1325 0412 AND I 12
1326 1012 TAD 12
1327 1044 TAD K0077
1330 7040 CMA
1331 7440 SZA
1332 7402 HLT

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

```

```

/AUTO INDEX TEST 37
1333 7200 CLA
1334 1027 TAD K7577
1335 3012 DCA 12
1336 0412 AND I 12
1337 1012 TAD 12
1340 1044 TAD K0177
1341 7040 CMA
1342 7440 SZA
1343 7402 HLT

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

```

```

/AUTO INDEX TEST 38
1344 7200 CLA
1345 1027 TAD K7377
1346 3012 DCA 12
1347 0412 AND I 12
1350 1012 TAD 12
1351 1044 TAD K0377
1352 7040 CMA
1353 7440 SZA
1354 7402 HLT

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

```

```

/AUTO INDEX TEST 39
1355 7200 CLA
1356 1027 TAD K6777
1357 3012 DCA 12
1360 0412 AND I 12
1361 1012 TAD 12

/CONSTANT TO BE INDEXED
/DO AUTO INDEX

```

```

1362 1040      TAD K0777
1363 7040      CMA
1364 7440      SZA
1365 7402      HLT

/AUTO INDEX TEST 40
1366 7200      CLA
1367 1022      TAD K5777
1370 3012      DCA 12
1371 2412      ISZ I 12
1372 7000      NOP
1373 1012      TAD 12
1374 1037      TAD K1777
1375 7040      CMA
1376 7440      SZA
1377 7402      HLT

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

```

```

*1400
/AUTO INDEX TEST 41
1400 7200      CLA
1401 1021      TAD K3777
1402 3012      DCA 12
1403 0412      AND I 12
1404 1012      TAD 12
1405 1021      TAD K3777
1406 7040      CMA
1407 7440      SZA
1410 7402      HLT

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

```

```

/AUTO INDEX TEST 42
1411 7200      CLA
1412 1020      TAD K7777
1413 3012      DCA 12
1414 0412      AND I 12
1415 1012      TAD 12
1416 1020      TAD K7777
1417 7040      CMA
1420 7440      SZA
1421 7402      HLT

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

```

```

/AUTO INDEX TEST 43
1422 7200      CLA
1423 1036      TAD K0
1424 3013      DCA 13
1425 0413      AND I 13
1426 1013      TAD 13
1427 1035      TAD K7776
1430 7040      CMA
1431 7440      SZA
1432 7402      HLT

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

```

```

/AUTO INDEX TEST 44
1432 7200      CLA
1433 1035      TAD K7776
1434 7402      HLT

/CONSTANT TO BE INDEXED

```

1435 3013
1436 0413
1437 1013
1440 1036
1441 7040
1442 7440
1443 7402
/AUTO INDEX TEST 45
1444 7200
1445 1034
1446 3013
1447 3413
1450 1013
1451 1051
1452 7040
1453 7440
1454 7402
DCA 13
AND I 13
TAD 13
TAD K0
CMA
SZA
HLT
/DO AUTO INDEX
/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD EQUAL 7777
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

1455 7200
1456 1033
1457 3013
1460 1413
1461 7200
1462 1013
1463 1047
1464 7040
1465 7440
1466 7402
/AUTO INDEX TEST 46
1467 7200
1470 1032
1471 3013
1472 0413
1473 1013
1474 1046
1475 7040
1476 7440
1477 7402
/AUTO INDEX TEST 47
1500 7200
1501 1031
1502 3013
1503 1413
1504 1013
1505 1045
1506 7040
1507 7440
1510 7402
/AUTO INDEX TEST 48
1511 7200
1512 1031
1513 3013
1514 1413
1515 1013
1516 1045
1517 7040
1518 7440
1521 7402
/AUTO INDEX TEST 49
1522 7200
1523 1031
1524 3013
1525 1413
1526 1013
1527 1045
1528 7040
1529 7440
1532 7402
/AUTO INDEX TEST 50
1533 7200
1534 1031
1535 3013
1536 1413
1537 1013
1538 1045
1539 7040
1540 7440
1543 7402
/AUTO INDEX TEST 51
1544 7200
1545 1031
1546 3013
1547 1413
1548 1013
1549 1045
1550 7040
1551 7440
1554 7402
/AUTO INDEX TEST 52
1555 7200
1556 1031
1557 3013
1558 1413
1559 1013
1560 1045
1561 7040
1562 7440
1565 7402
/AUTO INDEX TEST 53
1566 7200
1567 1031
1568 3013
1569 1413
1570 1013
1571 1045
1572 7040
1573 7440
1576 7402
/AUTO INDEX TEST 54
1577 7200
1578 1031
1579 3013
1580 1413
1581 1013
1582 1045
1583 7040
1584 7440
1587 7402
/AUTO INDEX TEST 55
1588 7200
1589 1031
1590 3013
1591 1413
1592 1013
1593 1045
1594 7040
1595 7440
1598 7402
/AUTO INDEX TEST 56
1599 7200
1600 1031
1601 3013
1602 1413
1603 1013
1604 1045
1605 7040
1606 7440
1609 7402
/AUTO INDEX TEST 57
1610 7200
1611 1031
1612 3013
1613 1413
1614 1013
1615 1045
1616 7040
1617 7440
1620 7402
/AUTO INDEX TEST 58
1621 7200
1622 1031
1623 3013
1624 1413
1625 1013
1626 1045
1627 7040
1628 7440
1631 7402
/AUTO INDEX TEST 59
1632 7200
1633 1031
1634 3013
1635 1413
1636 1013
1637 1045
1638 7040
1639 7440
1642 7402
/AUTO INDEX TEST 60
1643 7200
1644 1031
1645 3013
1646 1413
1647 1013
1648 1045
1649 7040
1650 7440
1653 7402
/AUTO INDEX TEST 61
1654 7200
1655 1031
1656 3013
1657 1413
1658 1013
1659 1045
1660 7040
1661 7440
1664 7402
/AUTO INDEX TEST 62
1665 7200
1666 1031
1667 3013
1668 1413
1669 1013
1670 1045
1671 7040
1672 7440
1675 7402
/AUTO INDEX TEST 63
1676 7200
1677 1031
1678 3013
1679 1413
1680 1013
1681 1045
1682 7040
1683 7440
1686 7402
/AUTO INDEX TEST 64
1687 7200
1688 1031
1689 3013
1690 1413
1691 1013
1692 1045
1693 7040
1694 7440
1697 7402
/AUTO INDEX TEST 65
1698 7200
1699 1031
1700 3013
1701 1413
1702 1013
1703 1045
1704 7040
1705 7440
1708 7402
/AUTO INDEX TEST 66
1709 7200
1710 1031
1711 3013
1712 1413
1713 1013
1714 1045
1715 7040
1716 7440
1719 7402
/AUTO INDEX TEST 67
1720 7200
1721 1031
1722 3013
1723 1413
1724 1013
1725 1045
1726 7040
1727 7440
1730 7402
/AUTO INDEX TEST 68
1731 7200
1732 1031
1733 3013
1734 1413
1735 1013
1736 1045
1737 7040
1738 7440
1741 7402
/AUTO INDEX TEST 69
1742 7200
1743 1031
1744 3013
1745 1413
1746 1013
1747 1045
1748 7040
1749 7440
1752 7402
/AUTO INDEX TEST 70
1753 7200
1754 1031
1755 3013
1756 1413
1757 1013
1758 1045
1759 7040
1760 7440
1763 7402
/AUTO INDEX TEST 71
1764 7200
1765 1031
1766 3013
1767 1413
1768 1013
1769 1045
1770 7040
1771 7440
1774 7402
/AUTO INDEX TEST 72
1775 7200
1776 1031
1777 3013
1778 1413
1779 1013
1780 1045
1781 7040
1782 7440
1785 7402
/AUTO INDEX TEST 73
1786 7200
1787 1031
1788 3013
1789 1413
1790 1013
1791 1045
1792 7040
1793 7440
1796 7402
/AUTO INDEX TEST 74
1797 7200
1798 1031
1799 3013
1800 1413
1801 1013
1802 1045
1803 7040
1804 7440
1807 7402
/AUTO INDEX TEST 75
1808 7200
1809 1031
1810 3013
1811 1413
1812 1013
1813 1045
1814 7040
1815 7440
1818 7402
/AUTO INDEX TEST 76
1819 7200
1820 1031
1821 3013
1822 1413
1823 1013
1824 1045
1825 7040
1826 7440
1829 7402
/AUTO INDEX TEST 77
1830 7200
1831 1031
1832 3013
1833 1413
1834 1013
1835 1045
1836 7040
1837 7440
1840 7402
/AUTO INDEX TEST 78
1841 7200
1842 1031
1843 3013
1844 1413
1845 1013
1846 1045
1847 7040
1848 7440
1851 7402
/AUTO INDEX TEST 79
1852 7200
1853 1031
1854 3013
1855 1413
1856 1013
1857 1045
1858 7040
1859 7440
1862 7402
/AUTO INDEX TEST 80
1863 7200
1864 1031
1865 3013
1866 1413
1867 1013
1868 1045
1869 7040
1870 7440
1873 7402
/AUTO INDEX TEST 81
1874 7200
1875 1031
1876 3013
1877 1413
1878 1013
1879 1045
1880 7040
1881 7440
1884 7402
/AUTO INDEX TEST 82
1885 7200
1886 1031
1887 3013
1888 1413
1889 1013
1890 1045
1891 7040
1892 7440
1895 7402
/AUTO INDEX TEST 83
1896 7200
1897 1031
1898 3013
1899 1413
1900 1013
1901 1045
1902 7040
1903 7440
1906 7402
/AUTO INDEX TEST 84
1907 7200
1908 1031
1909 3013
1910 1413
1911 1013
1912 1045
1913 7040
1914 7440
1917 7402
/AUTO INDEX TEST 85
1918 7200
1919 1031
1920 3013
1921 1413
1922 1013
1923 1045
1924 7040
1925 7440
1928 7402
/AUTO INDEX TEST 86
1929 7200
1930 1031
1931 3013
1932 1413
1933 1013
1934 1045
1935 7040
1936 7440
1939 7402
/AUTO INDEX TEST 87
1940 7200
1941 1031
1942 3013
1943 1413
1944 1013
1945 1045
1946 7040
1947 7440
1950 7402
/AUTO INDEX TEST 88
1951 7200
1952 1031
1953 3013
1954 1413
1955 1013
1956 1045
1957 7040
1958 7440
1961 7402
/AUTO INDEX TEST 89
1962 7200
1963 1031
1964 3013
1965 1413
1966 1013
1967 1045
1968 7040
1969 7440
1972 7402
/AUTO INDEX TEST 90
1973 7200
1974 1031
1975 3013
1976 1413
1977 1013
1978 1045
1979 7040
1980 7440
1983 7402
/AUTO INDEX TEST 91
1984 7200
1985 1031
1986 3013
1987 1413
1988 1013
1989 1045
1990 7040
1991 7440
1994 7402
/AUTO INDEX TEST 92
1995 7200
1996 1031
1997 3013
1998 1413
1999 1013
2000 1045
2001 7040
2002 7440
2005 7402
/AUTO INDEX TEST 93
2006 7200
2007 1031
2008 3013
2009 1413
2010 1013
2011 1045
2012 7040
2013 7440
2016 7402
/AUTO INDEX TEST 94
2017 7200
2018 1031
2019 3013
2020 1413
2021 1013
2022 1045
2023 7040
2024 7440
2027 7402
/AUTO INDEX TEST 95
2028 7200
2029 1031
2030 3013
2031 1413
2032 1013
2033 1045
2034 7040
2035 7440
2038 7402
/AUTO INDEX TEST 96
2039 7200
2040 1031
2041 3013
2042 1413
2043 1013
2044 1045
2045 7040
2046 7440
2049 7402
/AUTO INDEX TEST 97
2050 7200
2051 1031
2052 3013
2053 1413
2054 1013
2055 1045
2056 7040
2057 7440
2060 7402
/AUTO INDEX TEST 98
2061 7200
2062 1031
2063 3013
2064 1413
2065 1013
2066 1045
2067 7040
2068 7440
2071 7402
/AUTO INDEX TEST 99
2072 7200
2073 1031
2074 3013
2075 1413
2076 1013
2077 1045
2078 7040
2079 7440
2082 7402
/AUTO INDEX TEST 100
2083 7200
2084 1031
2085 3013
2086 1413
2087 1013
2088 1045
2089 7040
2090 7440
2093 7402
/AUTO INDEX TEST 101
2094 7200
2095 1031
2096 3013
2097 1413
2098 1013
2099 1045
2100 7040
2101 7440
2104 7402
/AUTO INDEX TEST 102
2105 7200
2106 1031
2107 3013
2108 1413
2109 1013
2110 1045
2111 7040
2112 7440
2115 7402
/AUTO INDEX TEST 103
2116 7200
2117 1031
2118 3013
2119 1413
2120 1013
2121 1045
2122 7040
2123 7440
2126 7402
/AUTO INDEX TEST 104
2127 7200
2128 1031
2129 3013
2130 1413
2131 1013
2132 1045
2133 7040
2134 7440
2137 7402
/AUTO INDEX TEST 105
2138 7200
2139 1031
2140 3013
2141 1413
2142 1013
2143 1045
2144 7040
2145 7440
2148 7402
/AUTO INDEX TEST 106
2149 7200
2150 1031
2151 3013
2152 1413
2153 1013
2154 1045
2155 7040
2156 7440
2159 7402
/AUTO INDEX TEST 107
2160 7200
2161 1031
2162 3013
2163 1413
2164 1013
2165 1045
2166 7040
2167 7440
2170 7402
/AUTO INDEX TEST 108
2171 7200
2172 1031
2173 3013
2174 1413
2175 1013
2176 1045
2177 7040
2178 7440
2181 7402
/AUTO INDEX TEST 109
2182 7200
2183 1031
2184 3013
2185 1413
2186 1013
2187 1045
2188 7040
2189 7440
2192 7402
/AUTO INDEX TEST 110
2193 7200
2194 1031
2195 3013
2196 1413
2197 1013
2198 1045
2199 7040
2200 7440
2203 7402
/AUTO INDEX TEST 111
2204 7200
2205 1031
2206 3013
2207 1413
2208 1013
2209 1045
2210 7040
2211 7440
2214 7402
/AUTO INDEX TEST 112
2215 7200
2216 1031
2217 3013
2218 1413
2219 1013
2220 1045
2221 7040
2222 7440
2225 7402
/AUTO INDEX TEST 113
2226 7200
2227 1031
2228 3013
2229 1413
2230 1013
2231 1045
2232 7040
2233 7440
2236 7402
/AUTO INDEX TEST 114
2237 7200
2238 1031
2239 3013
2240 1413
2241 1013
2242 1045
2243 7040
2244 7440
2247 7402
/AUTO INDEX TEST 115
2248 7200
2249 1031
2250 3013
2251 1413
2252 1013
2253 1045
2254 7040
2255 7440
2258 7402
/AUTO INDEX TEST 116
2259 7200
2260 1031
2261 3013
2262 1413
2263 1013
2264 1045
2265 7040
2266 7440
2269 7402
/AUTO INDEX TEST 117
2270 7200
2271 1031
2272 3013
2273 1413
2274 1013
2275 1045
2276 7040
2277 7440
2280 7402
/AUTO INDEX TEST 118
2281 7200
2282 1031
2283 3013
2284 1413
2285 1013
2286 1045
2287 7040
2288 7440
2291 7402
/AUTO INDEX TEST 119
2292 7200
2293 1031
2294 3013
2295 1413
2296 1013
2297 1045
2298 7040
2299 7440
2302 7402
/AUTO INDEX TEST 120
2303 7200
2304 1031
2305 3013
2306 1413
2307 1013
2308 1045
2309 7040
2310 7440
2313 7402
/AUTO INDEX TEST 121
2314 7200
2315 1031
2316 3013
2317 1413
2318 1013
2319 1045
2320 7040
2321 7440
2324 7402
/AUTO INDEX TEST 122
2325 7200
2326 1031
2327 3013
2328 1413
2329 1013
2330 1045
2331 7040
2332 7440
2335 7402
/AUTO INDEX TEST 123
2336 7200
2337 1031
2338 3013
2339 1413
2340 1013
2341 1045
2342 7040
2343 7440
2346 7402
/AUTO INDEX TEST 124
2347 7200
2348 1031
2349 3013
2350 1413
2351 1013
2352 1045
2353 7040
2354 7440
2357 7402
/AUTO INDEX TEST 125
2358 7200
2359 1031
2360 3013
2361 1413
2362 1013
2363 1045
2364 7040
2365 7440
2368 7402
/AUTO INDEX TEST 126
2369 7200
2370 1031
2371 3013
2372 1413
2373 1013
2374 1045
2375 7040
2376 7440
2379 7402
/AUTO INDEX TEST 127
2380 7200
2381 1031
2382 3013
2383 1413
2384 1013
2385 1045
2386 7040
2387 7440
2390 7402
/AUTO INDEX TEST 128
2391 7200
2392 1031
2393 3013
2394 1413
2395 1013
2396 1045
2397 7040
2398 7440
2401 7402
/AUTO INDEX TEST 129
2402 7200
2403 1031
2404 3013
2405 1413
2406 1013
2407 1045
2408 7040
2409 7440
2412 7402
/AUTO INDEX TEST 130
2413 7200
2414 1031
2415 3013
2416 1413
2417 1013
2418 1045
2419 7040
2420 7440
2423 7402
/AUTO INDEX TEST 131
2424 7200
2425 1031
2426 3013
2427 1413
2428 1013
2429 1045
2430 7040
2431 7440
2434 7402
/AUTO INDEX TEST 132
2435 7200
2436 1031
2437 3013
2438 1413
2439 1013
2440 1045
2441 7040
2442 7440
2445 7402
/AUTO INDEX TEST 133
2446 7200
2447 1031
2448 3013
2449 1413
2450 1013
2451 1045
2452 7040
2453 7440
2456 7402
/AUTO INDEX TEST 134
2457 7200
2458 1031
2459 3013
2460 1413
2461 1013
2462 1045
2463 7040
2464 7440
2467 7402
/AUTO INDEX TEST 135
2468 7200
2469 1031
2470 3013
2471 1413
2472 1013
2473 1045
2474 7040
2475 7440
2478 7402
/AUTO INDEX TEST 136
2479 7200
2480 1031
2481 3013
2482 1413
2483 1013
2484 1045
2485 7040
2486 7440
2489 7402
/AUTO INDEX TEST 137
2490 7200
2491 1031
2492 3013
2493 1413
2494 1013
2495 1045
2496 7040
2497 7440
2499 7402
/AUTO INDEX TEST 138
2500 7200
2501 1031
2502 3013
2503 1413
2504 1013
2505 1045
2506 7040
2507 7440
2510 7402
/AUTO INDEX TEST 139
2511 7200
2512 1031
2513 3013
2514 1413
2515 1013
2516 1045
2517 7040
2518 7440
2521 7402
/AUTO INDEX TEST 140
2522 7200
2523 1031
2524 3013
2525 1413
2526 1013
2527 1045
2528 7040
2529 7440
2532 7402
/AUTO INDEX TEST 141
2533 7200
2534 1031
2535 3013
2536 1413
2537 1013
2538 1045
2539 7040
2540 7440
2543 7402
/AUTO INDEX TEST 142
2544 7200
2545 1031
2546 3013
2547 1413
2548 1013
2549 1045
2550 7040
2551 7440
2554 7402
/AUTO INDEX TEST 143
2555 7200
2556 1031
2557 3013
2558 1413
2559 1013
2560 1045
2561 7040
2562 7440
2565 7402
/AUTO INDEX TEST 144
2566 7200
2567 1031
2568 3013
2569 1413
2570 1013
2571 1045
2572 7040
2573 7440
2576 7402
/AUTO INDEX TEST 145
2577 7200
2578 1031
2579 3013
2580 1413
2581 1013
2582 1045
2583 7040
2584 7440
2587 7402
/AUTO INDEX TEST 146
2588 7200
2589 1031
2590 3013
2591 1413
2592 1013
2593 1045
2594 7040
2595 7440
2598 7402
/AUTO INDEX TEST 147
2599 7200
2600 1031
2601 3013
2602 1413
2603 1013
2604 1045
2605 7040
2606 7440
2609 7402
/AUTO INDEX TEST 148
2610 7200
2611 1031
2612 3013
2613 1413
2614 1013
2615 1045
2616 7040
2617 7440
2620 7402
/AUTO INDEX TEST 149
2621 7200
2622 1031
2623 3013
2624 1413
2625 1013
2626 1045
2627 7040
2628 7440
2631 7402
/AUTO INDEX TEST 150
2632 7200
2633 1031
2634 3013
2635 1413
2636 1013
2637 1045
2638 7040
2639 7440
2642 7402
/AUTO INDEX TEST 151
2643 7200
2644 1031
2645 3013
2646 1413
2647 1013
2648 1045
2649 7040
2650 7440
2653 7402
/AUTO INDEX TEST 152
2654 7200
2655 1031
2656 3013
2657 1413
2658 1013
2659 1045
2660 7040
2661 7440
2664 7402
/AUTO INDEX TEST 153
2665 7200
2666 1031
2667 3013
2668 1413
2669 1013
2670 1045
2671 7040
2672 7440
2675 7402

```

1511 7200 CLA
1512 1027 TAD K7737
1513 3013 DCA 13
1514 0413 AND I 13
1515 1013 TAD 13
1516 1044 TAD K0037
1517 7040 CMA
1520 7440 SZA
1521 7402 HLT

```

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

```

1522 7200 CLA
1523 1026 TAD K7677
1524 3013 DCA 13
1525 0413 AND I 13
1526 1013 TAD 13
1527 1043 TAD K0077
1530 7040 CMA
1531 7440 SZA
1532 7402 HLT

```

/AUTO INDEX TEST 50
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

1533 7200 CLA
1534 1025 TAD K7577
1535 3013 DCA 13
1536 0413 AND I 13
1537 1013 TAD 13
1540 1042 TAD K0177
1541 7040 CMA
1542 7440 SZA
1543 7402 HLT

```

/AUTO INDEX TEST 51
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

1544 7200 CLA
1545 1024 TAD K7377
1546 3013 DCA 13
1547 0413 AND I 13
1550 1013 TAD 13
1551 1041 TAD K0377
1552 7040 CMA
1553 7440 SZA
1554 7402 HLT

```

/AUTO INDEX TEST 52
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

1555 7200 CLA
1556 1023 TAD K6777
1557 3013 DCA 13
1560 0413 AND I 13
1561 1013 TAD 13
1562 1040 TAD K0777
1563 7040 CMA
1564 7440 SZA
1565 7402 HLT

```

/AUTO INDEX TEST 53
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

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

```

```

1600 1600 *1600 /AUTO INDEX TEST 55
1601 7200 CLA
1602 1021 TAD K3777
1603 3013 DCA 13
1604 4113 AND I 13
1605 1013 TAD 13
1606 1021 TAD K3777
1607 7040 CMA
1608 7440 SZA
1609 7402 HLT
          /CONSTANT TO BE INDEXED
          /DO AUTO INDEX
          /AC SHOULD BE ZERO
          /AC SHOULD BE ZERO
          /AUTO INDEX ERROR
          /AC SHOULD EQUAL 7777

```

```

1611 7200 /AUTO INDEX TEST 56
1612 1020 CLA
1613 3013 TAD K7777
1614 4113 DCA 13
1615 1013 AND I 13
1616 1020 TAD 13
1617 7040 TAD K7777
1618 7440 CMA
1619 7402 SZA
1620 7402 HLT
          /CONSTANT TO BE INDEXED
          /DO AUTO INDEX
          /AC SHOULD BE ZERO
          /AC SHOULD BE ZERO
          /AUTO INDEX ERROR
          /AC SHOULD EQUAL 7777

```

```

1622 7200 /AUTO INDEX TEST 57
1623 1036 CLA
1624 3014 TAD K0
1625 4114 DCA 14
1626 1014 AND I 14
1627 1035 TAD 14
1628 7040 TAD K7776
1629 7440 CMA
1630 7402 SZA
1631 7402 HLT
          /CONSTANT TO BE INDEXED
          /DO AUTO INDEX
          /AC SHOULD BE ZERO
          /AC SHOULD BE ZERO
          /AUTO INDEX ERROR
          /AC SHOULD EQUAL 7777

```

```

1633 7200 /AUTO INDEX TEST 58
1634 1035 CLA
1635 3014 TAD K7776
1636 4114 DCA 14
1637 1014 AND I 14
          /CONSTANT TO BE INDEXED
          /DO AUTO INDEX

```

```

1640 1036
1641 7040
1642 7440
1643 7402
    TAD K0
    CMA
    SZA
    HLT
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 59
    CLA
    TAD K7775
    DCA 14
    DCA I 14
    TAD 14
    TAD K0001
    CMA
    SZA
    HLT
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 60
    CLA
    TAD K7773
    DCA 14
    TAD I 14
    CLA
    TAD 14
    TAD K0003
    CMA
    SZA
    HLT
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 61
    CLA
    TAD K7767
    DCA 14
    AND I 14
    TAD 14
    TAD K0007
    CMA
    SZA
    HLT
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 62
    CLA
    TAD K7757
    DCA 14
    AND I 14
    TAD 14
    TAD K0017
    CMA
    SZA
    HLT
/CONSTANT TO BE INDEXED
/DO AUTO INDEX
/AC SHOULD BE ZERO
/AUTO INDEX ERROR

```

```

/AUTO INDEX TEST 63
    CLA
    TAD K7737
    DCA 14
/CONSTANT TO BE INDEXED

```


1770	3014	DCA 14	
1771	2414	ISZ I 14	/DO AUTO INDEX
1772	7000	NOP	
1773	1014	TAD 14	
1774	1037	TAD K1777	/AC SHOULD EQUAL 7777
1775	7040	CMA	
1776	7440	SZA	/AC SHOULD BE ZERO
1777	7402	HLT	/AUTO INDEX ERROR

2000	2000	*2000	
		/AUTO INDEX TEST 69	
2000	7200	CLA	
2001	1021	TAD K3777	/CONSTANT TO BE INDEXED
2002	3014	DCA 14	
2003	0414	AND I 14	/DO AUTO INDEX
2004	1014	TAD 14	
2005	1021	TAD K3777	/AC SHOULD EQUAL 7777
2006	7040	CMA	
2007	7410	SKP	
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	TAD K7777	/CONSTANT TO BE INDEXED
2015	3014	DCA 14	
2016	0414	AND I 14	/DO AUTO INDEX
2017	1014	TAD 14	
2020	1020	TAD 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	TAD K0	/CONSTANT TO BE INDEXED
2026	3015	DCA 15	
2027	0415	AND I 15	/DO AUTO INDEX
2030	1015	TAD 15	
2031	1035	TAD 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	TAD K7776	/CONSTANT TO BE INDEXED
2037	3015	DCA 15	
2040	0415	AND I 15	/DO AUTO INDEX
2041	1015	TAD 15	
2042	1036	TAD K0	/AC SHOULD EQUAL 7777
2043	7040	CMA	
2044	7440	SZA	/AC SHOULD BE ZERO

2046	7200	/AUTO INDEX TEST 73	
2047	1034	CLA	
2050	3015	TAD K7775	
2051	3415	DCA 15	/CONSTANT TO BE INDEXED
2052	1015	DCA I 15	
2053	1051	TAD 15	/DO AUTO INDEX
2054	7040	TAD K0001	
2055	7440	CMA	/AC SHOULD EQUAL 7777
2056	7402	SZA	/AC SHOULD BE ZERO
		HLT	/AUTO INDEX ERROR

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

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

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

2113	7200	/AUTO INDEX TEST 77	
2114	1027	CLA	/CONSTANT TO BE INDEXED
2115	3015	TAD K/737	
2116	0415	DCA 15	/DO AUTO INDEX
2117	1015	AND I 15	
2120	1044	TAD 15	/AC SHOULD EQUAL 7777
		TAD K0037	

2121 7040 CMA
 2122 7440 SZA
 2123 7402 HLT
 /AC SHOULD BE ZERO
 /AUTO INDEX ERROR

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

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

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

/AUTO INDEX TEST 81
 2157 7200 CLA
 2160 1023 TAD K6777
 2161 3015 DCA 15
 2162 1415 AND I 15
 2163 1015 TAD 15
 2164 1040 TAD K0777
 2165 7040 CMA
 2166 7440 SZA
 2167 7402 HLT
 2170 7000 NOP
 2171 7000 NOP
 2172 5376 JMP ,+4
 2173 7000 NOP
 2174 7000 NOP
 2175 7000 NOP
 2176 7000 NOP
 /CONSTANT TO BE INDEXED
 /DO AUTO INDEX
 /AC SHOULD EQUAL 7777
 /AC SHOULD BE ZERO
 /AUTO INDEX ERROR

21.7 7000

2200	*2200	/AUTO INDEX TEST 82	
2201	7200	CLA	/CONSTANT TO BE INDEXED
2202	1022	TAD K5777	
2203	3015	DCA 15	/DO AUTO INDEX
2204	2415	ISZ I 15	
2205	7000	NOP	
2206	1015	TAD 15	/AC SHOULD EQUAL 7777
2207	1037	TAD K1777	
2208	7040	CMA	
2209	7440	SZA	/AC SHOULD BE ZERO
2210	7402	HLT	/AUTO INDEX ERROR
2211	7402		
2212	7200	/AUTO INDEX TEST 83	
2213	1021	CLA	/CONSTANT TO BE INDEXED
2214	3015	TAD K5777	
2215	0415	DCA 15	/DO AUTO INDEX
2216	1015	AND I 15	
2217	1021	TAD 15	/AC SHOULD EQUAL 7777
2218	1021	TAD K5777	
2219	7040	CMA	
2220	7040	SZA	/AC SHOULD BE ZERO
2221	7440	HLT	/AUTO INDEX ERROR
2222	7402		
2223	7200	/AUTO INDEX TEST 84	
2224	1020	CLA	/CONSTANT TO BE INDEXED
2225	3015	TAD K7777	
2226	0415	DCA 15	/DO AUTO INDEX
2227	1015	AND I 15	
2228	1015	TAD 15	/AC SHOULD EQUAL 7777
2229	1020	TAD K7777	
2230	7040	CMA	
2231	7040	SZA	/AC SHOULD BE ZERO
2232	7440	HLT	/AUTO INDEX ERROR
2233	7402		
2234	7200	/AUTO INDEX TEST 85	
2235	1036	CLA	/CONSTANT TO BE INDEXED
2236	3016	TAD K0	
2237	0416	DCA 16	/DO AUTO INDEX
2238	1016	AND I 16	
2239	1016	TAD 16	/AC SHOULD EQUAL 7777
2240	1035	TAD K7776	
2241	7040	CMA	
2242	7040	SZA	/AC SHOULD BE ZERO
2243	7440	HLT	/AUTO INDEX ERROR
2244	7402		
2245	7200	/AUTO INDEX TEST 86	
2246	1035	CLA	/CONSTANT TO BE INDEXED
2247	3016	TAD K7776	
2248	0416	DCA 16	/DO AUTO INDEX
2249	1416	AND I 16	

2251 1016	TAD 16		
2252 1036	TAD K0	/AC SHOULD EQUAL 7777	
2253 7040	CMA	/AC SHOULD BE ZERO	
2254 7440	SZA	/AUTO INDEX ERROR	
2255 7402	HLT		
/AUTO INDEX TEST 87			
2256 7200	CLA		/CONSTANT TO BE INDEXED
2257 1034	TAD K7775		
2260 3016	DCA 16	/DO AUTO INDEX	
2261 3416	DCA I 16	/AC SHOULD EQUAL 7777	
2262 1016	TAD 16		
2263 1051	TAD K0001	/AC SHOULD BE ZERO	
2264 7040	CMA	/AUTO INDEX ERROR	
2265 7440	SZA		
2266 7402	HLT		
/AUTO INDEX TEST 88			
2267 7200	CLA		/CONSTANT TO BE INDEXED
2270 1033	TAD K7773		
2271 3016	DCA 16	/DO AUTO INDEX	
2272 1416	TAD I 16		
2273 7200	CLA	/AC SHOULD EQUAL 7777	
2274 1016	TAD 16		
2275 1047	TAD K0003	/AC SHOULD BE ZERO	
2276 7040	CMA	/AUTO INDEX ERROR	
2277 7440	SZA		
2300 7402	HLT		
/AUTO INDEX TEST 89			
2301 7200	CLA		/CONSTANT TO BE INDEXED
2302 1032	TAD K7767		
2303 3016	DCA 16	/DO AUTO INDEX	
2304 0416	AND I 16		
2305 1016	TAD 16	/AC SHOULD EQUAL 7777	
2306 1046	TAD K0007	/AC SHOULD BE ZERO	
2307 7040	CMA	/AUTO INDEX ERROR	
2310 7440	SZA		
2311 7402	HLT		
/AUTO INDEX TEST 90			
2312 7200	CLA		/CONSTANT TO BE INDEXED
2313 1031	TAD K7757		
2314 3016	DCA 16	/DO AUTO INDEX	
2315 0416	AND I 16		
2316 1016	TAD 16	/AC SHOULD EQUAL 7777	
2317 1045	TAD K0017		
2320 7040	CMA	/AC SHOULD BE ZERO	
2321 7440	SZA	/AUTO INDEX ERROR	
2322 7402	HLT		
/AUTO INDEX TEST 91			
2323 7200	CLA		/CONSTANT TO BE INDEXED
2324 1027	TAD K7737		

2329 3016 DCA 16 /DO AUTO INDEX
 2326 0416 AND I 16 /AC SHOULD EQUAL 7777
 2327 1016 TAD 16 /AC SHOULD BE ZERO
 2330 1044 TAD K0037 /AUTO INDEX ERROR
 2331 7040 CMA
 2332 7440 SZA
 2333 7402 HLT

/AUTO INDEX TEST 92

2334 7200 CLA /CONSTANT TO BE INDEXED
 2335 1026 TAD K7677 /DO AUTO INDEX
 2336 3016 DCA 16 /AC SHOULD EQUAL 7777
 2337 0416 AND I 16 /AC SHOULD BE ZERO
 2340 1016 TAD 16 /AUTO INDEX ERROR
 2341 1043 TAD K0077
 2342 7040 CMA
 2343 7440 SZA
 2344 7402 HLT

/AUTO INDEX TEST 93

2345 7200 CLA /CONSTANT TO BE INDEXED
 2346 1025 TAD K7577 /DO AUTO INDEX
 2347 3016 DCA 16 /AC SHOULD EQUAL 7777
 2350 0416 AND I 16 /AC SHOULD BE ZERO
 2351 1016 TAD 16 /AUTO INDEX ERROR
 2352 1042 TAD K0177
 2353 7040 CMA
 2354 7440 SZA
 2355 7402 HLT

/AUTO INDEX TEST 94

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

/AUTO INDEX TEST 95

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

PAUSE

/TEST 2 - TAPE 3

2400

#2422.

/AUTO INDEX TEST 96

2400	7200	CLA	K5777	/CONSTANT TO BE INDEXED
2401	1022	TAD		
2402	3016	DCA	16	/DO AUTO INDEX
2403	2416	ISZ	I 16	

/AC SHOULD EQUAL 7777

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 97

2412 7200
2413 1021
CLA
TAD K3777
/CONSTANT TO BE INDEXED

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 98

2423	7200	CLA	/CONSTANT TO BE INDEXED
2424	1020	TAD	
		K7777	

/CONSTANT TO BE INDEXED/

/DO AUTO INDEX

/AC SHOULD EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 99

2434	7200	CLA	
2435	1036	TAD K0	/CONSTANT TO BE INDEXED
2436	3017	DCA 17	
2437	0417	AND I 17	/DO AUTO INDEX
2440	1017	TAD 17	
2441	1035	TAD K7776	/AC SHOULD EQUAL 7777

/CONSTANT TO BE INDEXED

/DO AUTO INDEX

/AC SHOULD BE EQUAL 7777

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 100

2445 7200

POP-8/E	INSTRUCTION TEST 2	PAL10	V141	4-NOV-70	129	PAGE 1-30
2447	1035	TAD K7776		/CONSTANT TO BE INDEXED		
2447	3017	DCA 17		/DO AUTO INDEX		
2450	0417	AND I 17		/AC SHOULD EQUAL 7777		
2451	1017	TAD 17		/AC SHOULD BE ZERO		
2452	1036	TAD K0		/AUTO INDEX ERROR		
2453	7040	CMA				
2454	7440	SZA				
2455	7402	HLT				
/AUTO INDEX TEST 101						
2456	7200	CLA		/CONSTANT TO BE INDEXED		
2457	1034	TAD K7775		/DO AUTO INDEX		
2460	3017	DCA 17		/AC SHOULD EQUAL 7777		
2461	3017	DCA I 17		/AC SHOULD BE ZERO		
2462	1017	TAD 17		/AUTO INDEX ERROR		
2463	1051	TAD K0001				
2464	7040	CMA				
2465	7440	SZA				
2466	7402	HLT				
/AUTO INDEX TEST 102						
2467	7200	CLA		/CONSTANT TO BE INDEXED		
2470	1033	TAD K7773		/DO AUTO INDEX		
2471	3017	DCA 17		/AC SHOULD EQUAL 7777		
2472	1017	TAD I 17		/AC SHOULD BE ZERO		
2473	7200	CLA		/AUTO INDEX ERROR		
2474	1017	TAD 17				
2475	1047	TAD K0003				
2476	7040	CMA				
2477	7440	SZA				
2500	7402	HLT				
/AUTO INDEX TEST 103						
2501	7200	CLA		/CONSTANT TO BE INDEXED		
2502	1032	TAD K7767		/DO AUTO INDEX		
2503	3017	DCA 17		/AC SHOULD EQUAL 7777		
2504	0417	AND I 17		/AC SHOULD BE ZERO		
2505	1017	TAD 17		/AUTO INDEX ERROR		
2506	1046	TAD K0007				
2507	7040	CMA				
2510	7440	SZA				
2511	7402	HLT				
/AUTO INDEX TEST 104						
2512	7200	CLA		/CONSTANT TO BE INDEXED		
2513	1031	TAD K7757		/DO AUTO INDEX		
2514	3017	DCA 17		/AC SHOULD EQUAL 7777		
2515	0417	AND I 17		/AC SHOULD BE ZERO		
2516	1017	TAD 17		/AUTO INDEX ERROR		
2517	1045	TAD K0017				
2520	7040	CMA				
2521	7440	SZA				
2522	7402	HLT				

2523	7200	/AUTO INDEX TEST 105	
2524	1027	CLA 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
2534	7200	/AUTO INDEX TEST 106	
2535	1026	CLA K7677	/CONSTANT TO BE INDEXED
2536	3017	DCA 17	
2537	0417	AND I 17	/DO AUTO INDEX
2540	1017	TAD 17	
2541	1043	TAD K0077	/AC SHOULD EQUAL 7777
2542	7040	CMA	
2543	7440	SZA	/AC SHOULD BE ZERO
2544	7402	HLT	/AUTO INDEX ERROR
2545	7200	/AUTO INDEX TEST 107	
2546	1025	CLA K7577	/CONSTANT TO BE INDEXED
2547	3017	DCA 17	
2550	0417	AND I 17	/DO AUTO INDEX
2551	1017	TAD 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
2556	7200	/AUTO INDEX TEST 108	
2557	1024	CLA 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
2567	7200	/AUTO INDEX TEST 109	
2570	1023	CLA 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	CMA	
2576	7440	SZA	/AC SHOULD BE ZERO

```

2600      *2600
          /AUTO INDEX TEST 110
2600 7200      CLA
2601 1022      TAD K5777
2602 3017      DCA 17
2603 2417      ISZ I 17
2604 7000      NOP
2605 1017      TAD 17
2606 1037      TAD K1777
2607 7040      CMA
2610 7440      SZA
2611 7402      HLT
          /CONSTANT TO BE INDEXED
          /DO AUTO INDEX
          /AC SHOULD EQUAL 7777
          /AC SHOULD BE ZERO
          /AUTO INDEX ERROR
  
```

```

          /AUTO INDEX TEST 111
2612 7200      CLA
2613 1021      TAD K3777
2614 3017      DCA 17
2615 0417      AND I 17
2616 1017      TAD 17
2617 1021      TAD K3777
2620 7040      CMA
2621 7440      SZA
2622 7402      HLT
          /CONSTANT TO BE INDEXED
          /DO AUTO INDEX
          /AC SHOULD EQUAL 7777
          /AC SHOULD BE ZERO
          /AUTO INDEX ERROR
  
```

```

          /AUTO INDEX TEST 112
2623 7200      CLA
2624 1020      TAD K7777
2625 3017      DCA 17
2626 0417      AND I 17
2627 1017      TAD 17
2630 1020      TAD K7777
2631 7040      CMA
2632 7440      SZA
2633 7402      HLT
          /CONSTANT TO BE INDEXED
          /DO AUTO INDEX
          /AC SHOULD EQUAL 7777
          /AC SHOULD BE ZERO
          /AUTO INDEX ERROR
  
```

```

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

/AUTO INDEX TEST 114

2645 4247
2646 7402
2647 7402
2650 1247
2651 7410
2652 2646
2653 7041
2654 1252
2655 7443
2656 7402

JMS I, +2
HLT
HLT
TAD I, -1
SKP
I, -4
CIA
TAD I, -2
SEA
HLT

/JMS FAILED
/JMS FAILED

/WRONG ADDRESS STORED
/DURING JMS
/JMS WORKS (I GUESS)

2657 7410
2660 2664
2661 1260
2662 3010
2663 4410
2664 7402
2665 7402
2666 1265
2667 7410
2670 2664
2671 7041
2672 1270
2673 7440
2674 7402
2675 5676
2676 4200

SKP
I, +4
TAD I, -1
DCA I, 10
JMS I, 10
HLT
HLT
TAD I, -1
SKP
I, -4
CIA
TAD I, -2
SEA
HLT
JMP I, +1
PIOTST

/TEST INSTRUCTION
/JMS FAILED
/JMS FAILED

/WRONG ADDRESS STORED DURING JMS
/GO TO PROCESSOR IOT TESTS

/INTERRUPT TEST 1

2677 4700
2700 4011
2701 6040
2702 6041
2703 7402
2704 7200
2705 1313
2706 3002
2707 6001
2710 7000
2711 7402
2712 2711
2713 2714
2714 7440
2715 7402

INTESI, JMS I, +1
STR
SPF
TSF
HLT
CLA
TAD BACK1
DCA 2
ION
NOP
HLT
I, -1
OUT1,
BACK1,
I, +1
SEA
HLT

/SET PRINTER FLAG
/SPF OR TSF FAILED
/FLAG IS ON

/NO INTERRUPT
/GO TO LOC 0000

/RETURN FROM LOC 1
/AC SHOULD BE 0
/CONFIDENCE CHECK

2716 1000
2717 7041
2720 1312
2721 7640
2722 7402

/INTERRUPT ERROR
/WRONG ADDRESS STORED


```
3004 1213      TAD BACK4
3005 3002      DCA 2
3006 1020      TAD K7777
3007 6001      ION
3010 3003      DCA 3
3011 7402      HLT
3012 3011      OUT4, *-1
3013 3014      BACK4, +1
3014 7440      SZA
3015 7402      HLT

3016 1003      TAD 3
3017 7040      CMA
3020 7440      SZA
3021 7402      HLT

3022 3003      DCA 3
3023 1000      TAD 0
3024 7041      CIA
3025 1212      TAD OUT4
3026 7640      SZA CLA
3027 7402      HLT

3030 6040      /INTERRUPT TEST 5
3031 6041      SPF
3032 7402      TSF
3033 7200      HLT
3034 1244      CLA
3035 3002      TAD BACK5
3036 1035      DCA 2
3037 3003      TAD K7776

3037 3003      DCA 3
3040 6001      ION
3041 2003      ISZ 3
3042 7402      HLT
3043 3042      OUT5, *-1
3044 3045      BACK5, +1
3045 7440      SZA
3046 7402      HLT

3047 1003      TAD 3
3050 7040      CMA
3051 7440      SZA
3052 7402      HLT

3053 3003      DCA 3
3054 1000      TAD 0
3055 7041      CIA
3056 1243      TAD OUT5
3057 7640      SZA CLA
3060 7402      HLT

/NO INTERRUPT

/RETURN FROM LOC1
/CONFIDENCE CHECK
/AC SHOULD BE ZERO

/DCA PRIOR TO INTERRUPT
/FAILED

/INTERRUPT ERROR
/WRONG ADDRESS STORED

/SET PRINTER FLAG
/SPF FAILED TO SET PRINTER FLAG
/FLAG IS ON

/NO INTERRUPT

/RETURN FROM LOC1
/CONFIDENCE CHECK
/AC SHOULD BE ZERO

/ISZ PRIOR TO
/INTERRUPT FAILED

/INTERRUPT ERROR
/WRONG ADDRESS STORED
```

/INTERRUPT TEST 6

3061	6040	SPF	/SET PRINTER FLAG
3062	6041	TSF	/SPF FAILED TO SET PRINTER FLAG
3063	7402	HLT	/FLAG IS ON
3064	7200	CLA	
3065	1276	TAD BACK6	
3066	3002	DCA 2	
3067	1020	TAD K7777	
3070	3003	DCA 3	
3071	6001	ION	
3072	2003	ISZ 3	
3073	7402	HLT	/NO INTERRUPT
3074	7402	HLT	
3075	3074	OUT6, *-1	
3076	3077	BACK6, *-1	
3077	7440	SEA	/RETURN FROM LOC 1
3100	7402	HLT	/CONFIDENCE CHECK
			/AC SHOULD BE ZERO
3101	1003	TAD 3	
3102	7440	SEA	
3103	7402	HLT	/ISZ PRIOR TO
			/INTERRUPT FAILED
3104	3003	DCA 3	
3105	1000	TAD 0	
3106	7041	CIA	
3107	1275	TAD OUT6	
3110	7640	SEA CLA	
3111	7402	HLT	/INTERRUPT ERROR
			/WRONG ADDRESS STORED

/INTERRUPT TEST 7

3112	6040	SPF	/SET PRINTER FLAG
3113	6041	TSF	/SPF FAILED TO SET PRINTER FLAG
3114	7402	HLT	/FLAG IS ON
3115	7200	CLA	
3116	1324	TAD BACK7	
3117	3002	DCA 2	
3120	6001	ION	
3121	5321	JMP	
3122	7402	HLT	/NO INTERRUPT
3123	3121	OUT7, *-2	
3124	3125	BACK7, *-1	
3125	7440	SEA	/RETURN FROM LOC 1
3126	7402	HLT	/CONFIDENCE CHECK
			/AC SHOULD BE 0
3127	1000	TAD 0	
3130	7041	CIA	
3131	1323	TAD OUT7	
3132	7640	SEA CLA	
3133	7402	HLT	/INTERRUPT ERROR
			/WRONG ADDRESS STORED
3134	6041	SPF	/SET PRINTER FLAG

/INTERRUPT TEST 8

3134 6041

3135	6041	TSF	
3136	7402	HLT	/SPF FAILED TO SET PRINTER FLAG
3137	7200	CLA	/FLAG IS ON
3140	1346	TAD BACK8	
3141	3002	DCA 2	
3142	6001	ION 3	
3143	4003	JMS 3	/NO INTERRUPT
3144	7402	HLT	
3145	3144	OUT8, *-1	/RETURN FROM LOC 1
3146	3147	BACK8, *-1	/CONFIDENCE CHECK
3147	7440	SZA	/AC SHOULD BE ZERO
3150	7402	HLT	
3151	1003	TAD 3	
3152	7041	CIA	
3153	1345	TAD OUT8	
3154	7440	SZA	/JMS ERROR PRIOR
3155	7402	HLT	/TO INTERRUPT WRONG
			/ADDRESS STORED
3156	1000	TAD 0	
3157	7041	CIA	
3160	1065	TAD K4	
3161	7640	SZA CLA	
3162	7402	HLT	/INTERRUPT ERROR
			/WRONG ADDRESS STORED
3163	5764	JMP I *-1	
3164	3200	3200	
3200		*3200	
		/INTERRUPT TEST 9	
3200	6040	SPF	/SET PRINTER FLAG
3201	6041	TSF	
3202	7402	HLT	/SPF FAILED TO SET PRINTER FLAG
3203	7200	CLA	/FLAG IS ON
3204	1213	TAD BACK9	
3205	3002	DCA 2	
3206	1020	TAD K7777	
3207	6001	ION	
3210	7200	CLA	/NO INTERRUPT
3211	7402	HLT	
3212	3211	OUT9, *-1	/RETURN FROM LOC 1
3213	3214	BACK9, *-1	/CLA PRIOR TO INTERRUPT
3214	7440	SZA	/FAILED
3215	7402	HLT	
3216	1000	TAD 0	
3217	7041	CIA	
3220	1212	TAD OUT9	
3221	7640	SZA CLA	
3222	7402	HLT	/INTERRUPT FAILED
			/WRONG ADDRESS STORED

/INTERRUPT TEST 10

```

3223 6040 /SET PRINTER FLAG
3224 6041 /SPF FAILED TO SET PRINTER FLAG
3225 7402 /FLAG IS ON
3226 7200 CLA TAD BACK10
3227 1236 DCA 2
3230 3002 ION
3231 6001 TSF
3232 6041 HLT
3233 7402 HLT
3234 7402

```

/NO INTERRUPT

```

3235 3234 OUT10, 1
3236 3237 BACK10, 1
3237 7440 SZA
3240 7402 HLT
3241 1000 TAD 0
3242 7041 CIA
3243 1235 TAD OUT10
3244 7640 SZA CLA
3245 7402 HLT

```

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

/INTERRUPT ERROR
/WRONG ADDRESS STORED

/INTERRUPT TEST 11

```

3246 6040 /SET PRINTER FLAG
3247 6041 /SPF FAILED TO SET PRINTER FLAG
3250 7402 /FLAG IS ON
3251 7200 CLA TAD BACK11
3252 1311 DCA 2
3253 3002 ION
3254 6001 ION
3255 6002 IOF
3256 6001 ION
3257 6002 IOF
3260 6001 ION
3261 6002 IOF
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

```


/TEST INSTRUCTION

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

/TEST INSTRUCTION

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

/TEST INSTRUCTION

/ILLEGAL AUTO INDEX TEST 3

/ILLEGAL AUTO INDEX TEST 4

335 7200
3356 5757
3357 2173
3360 2010
2173
2173 0610
2174 5775
2175 3370
3370
3370 1760
3371 7440
3372 7402
3373 5774
3374 3400

3400
3400 7200
3401 5602
3402 1173
3403 1010
1173
1173 0610
1174 5775
1175 3410
3410
3410 1603
3411 7440
3412 7402
3413 7200
3414 3603

3415 7200
3416 5617
3417 0574
3420 0410
0574
0574 0610
0575 5776
0576 3430
3430
3430 1620
3431 7440

CLA
JMP I ,+1
AND2
2010
AND I 2010
JMP I ,+1
RET2
TAD I K2010
SZA
HLT
JMP I ,+1
3400

CLA
JMP I ,+1
AND3
1010
AND I 1010
JMP I ,+1
RET3
TAD I K1010
SZA
HLT
CLA
DCA I K1010

CLA
JMP I ,+1
AND4
410
K410,
410
0574
AND4,
AND I 410
JMP I ,+1
RET4
TAD I K410
SZA

HLT
/ERROR, AC SHOULD BE ZERO
/AND I 410 ALTERED (410)

CLA
DCA I K410

/ILLEGAL AUTO INDEX TEST 5

3435 7200	CLA	
3436 5637	JMP I ,+1	
3437 0372	AND5	
3440 0210	210	K210,
0371	*371	
0371 5375	JMP ,+4	
0372 0610	AND I 210	
0373 5774	JMP I ,+1	
0374 3450	RET5	/TEST INSTRUCTION
3450 1640	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	110	K110,
0130	*130	
0130 0510	AND I 110	
0131 5532	JMP I ,+1	
0132 3470	RET6	/TEST INSTRUCTION
3470 1660	TAD I K110	
3471 7440	SZA	
3472 7402	HLT	/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 124	AND7	
3500 050	50	K50,

0124	*124		
0125	AND7,	AND I 50	/TEST INSTRUCTION
0126	JMP I ,+1		
0126	RET7		
3510	*3510		
3510	RET7,	TAD I K50	
3511	1700	SZA	/ERROR, AC SHOULD BE ZERO
3512	7440	HLT	/AND I 50 ALTERED (50)
3512	7402		
3513	7200	CLA	
3514	3050	DCA 50	

/ILLEGAL AUTO INDEX TEST 8

3515	7200	CLA	
3516	5717	JMP I ,+1	
3517	0420	AND8	
3520	0030	30	
0120	0120		
0120	0430	AND I 30	/TEST INSTRUCTION
0121	5522	JMP I ,+1	
0122	3530	RET8	
3530	3530		
3530	1720	TAD I K30	
3531	7440	SZA	/ERROR, AC SHOULD BE ZERO
3532	7402	HLT	/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	JMP I ,+1	
3540	0074	AND9	
0074	0074		
0074	0400	AND I 0	/TEST INSTRUCTION
0075	5476	JMP I ,+1	
0076	3550	RET9	
3550	3550		
3550	1436	TAD I K0	
3551	7440	SZA	/ERROR, AC SHOULD BE ZERO
3552	7402	HLT	/AND I 0 ALTERED (0)
3553	7200	CLA	
3554	3000	DCA 0	

/ILLEGAL AUTO INDEX TEST 10

3555	7200	CLA	
3556	5757	JMP I ,+1	
3557	0070	AND10	
0070	0070	*70	
0070	0407	AND I 7	/TEST INSTRUCTION
0071	5472	JMP I ,+1	
0072	3600	RET10	
3600	3600	*3600	
3600	1446	RET10,	TAD I K0007
3601	7440	SZA	
3602	7402	HLT	/ERROR, AC SHOULD BE ZERO
3603	7200	CLA	/AND I 7 ALTERED (7)
3604	3007	DCA 7	

/CHECK FOR TTY BELL

3605	1223	TAD BLCNT	
3606	7001	IAC	
3607	3223	DCA BLCNT	
3610	1223	TAD BLCNT	
3611	1224	TAD RNCNT	
3612	7640	SZA CLA	
3613	5622	JMP I K200	
3614	3223	DCA BLCNT	
3615	1225	TAD BELCOD	
3616	6046	TLS	
3617	6041	TSF	
3620	5217	JMP , -1	
3621	5622	JMP I ,+1	
3622	0200	K200,	
3623	0000	BLCNT,	
3624	7000	RNCNT, -1000	
3625	0207	BELCOD, 207	
4010	4010	*4010	
4011	0000	STR,	
4012	1220	TAD JMP1X	
4013	3001	DCA 1	
4014	3002	DCA 2	
4015	3003	DCA 3	
4016	2211	IS2 STR	
4017	5011	JMP I STR	
4020	5402	JMP1X, 5402	

/PROCESSOR IOT TEST 1

4200
PIOTSI, CLA CLL
JMS I .+1
STR
SKON
SKP
HLT
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/INTERRUPT ON OR SKON FAILED

/PROCESSOR IOT TEST 2
CLA CMA CLL CML
CAF
SKP
HLT
SNL
SZA
HLT
/CLEAR ALL FLAGS, AC, AND LINK
/CAF SHOULD NOT SKIP
/CAF FAILED, AC AND LINK SHOULD BE ZERO

/PROCESSOR IOT TEST 3
SPF
SKP
HLT
TSF
HLT
CAF
TSF
SKP
HLT
SRQ
SKP
HLT
/SET PRINTER FLAG
/SPF SHOULD NOT SKIP
/SPF OR TSF FAILED
/CLEAR ALL FLAGS, AC, AND LINK
/CAF FAILED, TTY FLAG SHOULD BE CLEAR
/SKIP IF INTERRUPT REQUEST
/SRQ FAILED OR SPURIOUS INTERRUPT OCCURED

/PROCESSOR IOT TEST 4
CAF
SPF
SRQ
HLT
/CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT
/SET PRINTER FLAG
/SKIP IF INTERRUPT REQUEST
/SRQ FAILED OR CAF FAILED TO ENABLE TTY INTERRUPT

/PROCESSOR IOT TEST 5
CAF
KIE
SKP
HLT
SPF
TSF
HLT
SRQ
SKP
HLT
/CLEAR ALL FLAGS, AC, AND LINK
/DISABLE TTY INTERRUPT, (AC 11 EQUALS ZERO)
/KIE SHOULD NOT SKIP
/SET PRINTER FLAG
/SPF OR TSF FAILED
/SKIP IF INTERRUPT REQUEST
/KIE FAILED TO DISABLE TTY INTERRUPT OR SRQ FAILED

/PROCESSOR IOT TEST 6
CLA IAC
KIE
SPF
/ENABLE TTY INTERRUPT (AC11 IS SET)
/SET PRINTER FLAG

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4252 6041	TSF				/SPF OR TSF FAILED
4253 7402	HLT				/SKIP IF INTERRUPT REQUEST
4254 6003	SRQ				/KIE FAILED TO ENABLE ITT INTERRUPT OR SKQ FAILED
4255 7402	HLT				

4256 6007	CAF				/PROCESSOR IOT TEST 7
4257 1272	TAD	BACK13			/CLEAR ALL FLAGS, AC, AND LINK
4260 3002	DCA	2			/TURN INTERRUPT ON
4261 6001	ION				/ION SHOULD NOT SKIP
4262 7410	SKP				/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
4263 7402	HLT				/SKON FAILED TO SKIP OR ION FAILED
4264 6000	SKON				/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
4265 7402	HLT				/SKON FAILED
4266 6000	SKON				/ILLEGAL INTERRUPT OCCURRED
4267 7410	SKP				/CLEAR ALL FLAGS, AC, AND LINK
4270 7402	HLT				/TURN INTERRUPT ON
4271 5274	JMP	.+3			/I/O SHOULD NOT SKIP
4272 4273	JMP	.+1			/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF

4273 6007	CAF				/PROCESSOR IOT TEST 8
4274 6001	ION				/CLEAR ALL FLAGS, AC, AND LINK
4275 6002	I/O				/TURN INTERRUPT ON
4276 7410	SKP				/TURN INTERRUPT OFF
4277 7402	HLT				/I/O SHOULD NOT SKIP
4300 6000	SKON				/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
4301 7410	SKP				/I/O FAILED
4302 7402	HLT				/ILLEGAL INTERRUPT OCCURED
4303 5306	JMP	.+3			/CLEAR ALL FLAGS, AC, AND LINK
4304 4305	JMP	.+1			/GET INTERRUPT FLAGS
4305 7402	HLT				/GTF SHOULD NOT SKIP

4306 6007	CAF				/PROCESSOR IOT TEST 9
4307 7040	CMA				/CLEAR ALL FLAGS, AC, AND LINK
4310 6004	GTF				/GET INTERRUPT FLAGS
4311 7410	SKP				/GTF SHOULD NOT SKIP
4312 7402	HLT				/MASK
4313 0064	AND	K5200			/GTF FAILED, (AC SHOULD EQUAL 0000)
4314 7440	SZA				/SET LINK AND AC
4315 7402	HLT				/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 4000)

4316 7360	CLA	CMA	CLL	CML	/PROCESSOR IOT TEST 10
4317 6004	GTF				/SET LINK AND AC
4320 7420	SNL				/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 4000)
4321 7402	HLT				/LINK SHOULD BE 1
4322 0064	AND	K5200			/MASK
4323 7104	CLL	RAL			/AC SHOULD EQUAL ZERO
4324 743	SZL				
4325 7440	SZA				/GTF FAILED
4326 7402	HLT				

/PROCESSOR IOT TEST 11

4327 6007
4330 6040
4331 6004
4332 2064
4333 7006
4334 7004
4335 7430
4336 7440
4337 7402

/CLEAR ALL FLAGS, (AC, LINK, AND ENABLE TTY INTERRUPT
/SET PRINTER FLAG
/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 1000)
/MASK
/PUT INTERRUPT BUS- (AC SHOULD EQUAL 4000)
/FLAG INTO LINK, (AC SHOULD EQUAL ZERO)

/GTF FAILED TO GET INTERRUPT BUS FLAG

/PROCESSOR IOT TEST 12

4340 6007
4341 1356
4342 3002
4343 6001
4344 6004
4345 0064
4346 6000
4347 7402
4350 7102
4351 7012
4352 7430
4353 7440
4354 7402
4355 5360
4356 4357
4357 7402

/CLEAR ALL FLAGS

/TURN INTERRUPT ON
/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 0200)
/MASK
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/GTF CLEARED INTERRUPT (ION)
/PUT INTERRUPT BUS- (AC SHOULD EQUAL 0002)
/FLAG INTO LINK, (AC SHOULD EQUAL ZERO)

/GTF FAILED TO GET INTERRUPT FLAG

/ILLEGAL INTERRUPT OCCURED

/PROCESSOR IOT TEST 13

4360 7320
4361 1375
4362 3002
4363 6005
4364 7410
4365 7402
4366 7420
4367 7440
4370 7402
4371 6000
4372 7402
4373 5774
4374 4400
4375 4376
4376 7402
4400

BACK13, .+3
HLT
/RESTORE ALL FLAGS
/RTF SHOULD NOT SKIP
/LINK SHOULD BE ZERO
/AC EQUALS ZERO
/RTF FAILED, LINK AND AC SHOULD BE ZERO
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/RTF FAILED TO TURN INTERRUPT ON

BACK16, .+1

PTST14
HLT
PAGE

/PROCESSOR IOT TEST 14

4400 6007
4401 1215
4402 3002
4403 7330
4404 6005
4405 7420
4406 7402
4407 6000

PTST14, CAF
TAD BACK17
DCA 2
CLA CLL CML RAR
RTF
SNL
HLT
SKON

/AC EQUALS 4000
/RESTORE ALL FLAGS
/RTF FAILED TO RESTORE LINK
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF

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4410	7402	HLT				
4411	6007	CAF				/RTF FAILED TO TURN INTERRUPT ON
4412	7300	CLA CLL				/CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT
4413	5614	JMP I, +1				
4414	2677	INTST				/GO TO INTERRUPT TESTS
4415	4116	BACK17, +1				
4416	7402	HLT				/ILLEGAL INTERRUPT OCCURED

\$

[illegible]

4000	111 0000	11111111	10000000	00000000	00000000	00000000	00000000	00000000	00000000
4100	000 0000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
4200	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4300	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4400	11111111	11111110	00000000	00000000	00000000	00000000	00000000	00000000	00000000
4500	000 0000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
4600									
4700									

5000
5100

5200
5300

5400
5500

5600
5700

6000
6100

6200
6300

6400
6500

6600
6700

7000
7100

7200
7300

7400
7500

7600
7700

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19129

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AND1 4000
AND10 0070
AND2 2173
AND3 1173
AND4 0574
AND5 0372
AND6 0130
AND7 0124
AND8 0120
AND9 0074
BACK1 2713
BACK10 3236
BACK11 3311
BACK12 3326
BACK13 4272
BACK14 4304
BACK15 4356
BACK16 4375
BACK17 4415
BACK2 2761
BACK3 2735
BACK4 3013
BACK5 3044
BACK6 3076
BACK7 3124
BACK8 3146
BACK9 3213
BELCOD 3625
BLCNT 3623
BSW 7002
CAF 6007
GTF 6004
INTEST 2677
JMPIX 4020
K0 0036
K0001 0051
K0003 0047
K0007 0046
K0017 0045
K0037 0044
K0077 0043
K2177 0042
K0377 0041
K0707 0060
K0777 0040
K1010 3403
K110 3460
K1111 0062
K1234 1177
K172 0173
K173 0174
K174

PAL10

V141

K175
K176
K1777
K200
K2010
K210
K2525
K30
K3777
K4
K4010
K410
K4400
K4444
K4577
K50
K5200
K5252
K5555
K5777
K6666
K6777
K7070
K7377
K7577
K7677
K773
K775
K776
K777
KIE
OUT1
OUT10
OUT2
OUT3
OUT4
OUT5
OUT6
OUT7
OUT8
OUT9
PIOTST
PIOTST14
RET1
RET10
RET2
RET3
RET4
RET5

RET6
RET7
RET8
RET9
RNGCNT
RTF
SKON
SPF
SRQ
STR
TP0
TP177

3470
3510
3530
3550
3624
6005
6000
6040
6003
4011
0202
0377

ERRORS DETECTED: 0

LINKS GENERATED: 0

RUN-TIME: 18 SECONDS

2K CORE USED