

IDENTIFICATION

| | |
|---------------|----------------------------|
| PRODUCT CODE: | HAINDEC-8E-D000 |
| PRODUCT NAME: | PDP-8/E INSTRUCTION TEST 2 |
| DATE CREATED: | JUNE 10, 1971 |
| MAINTAINER: | DIAGNOSTIC GROUP |
| AUTHOR: | ED-FORTMILLER |



1. ABSTRACT

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-D0A(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

THE TELETYPE BELL RINGS AT THE END OF 1550 PROGRAM PASSES
WHICH IS APPROXIMATELY EVERY 5 SECONDS.

9. PROGRAM DESCRIPTION

THE PROGRAM IS A SERIES OF MANY SMALL INDIVIDUAL TEST. EACH TEST IS PERFORMED USING PREVIOUSLY CHECK FUNCTINS 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 KIE
- 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
- J. FOLLOWING SKP
- K. FOLLOWING JMP I

6. CHECK FOR UNAUTHORIZED AUTOINDEXING

THE TELETYPE BELL RINGS APPROXIMATELY EVERY 5 SECONDS TO ASSURE THE OPERATOR THAT THE PROGRAM IS FUNCTIONING PROPERLY.

/PDP-8/E INSTRUCTION TEST 2 MAINDEC-8E-00BB
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| | | |
|------|-----------|---|
| 6000 | SKON=6000 | /SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF |
| 6003 | SRQ=6003 | /SKIP IF INTERRUPT REQUEST |
| 6004 | GTF=6004 | /GET INTERRUPT FLAGS |
| 6005 | RTF=6005 | /RESTORE INTERRUPT FLAGS AND TURN INTERRUPT ON |
| 6007 | CAF=6007 | /CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT F.F. |
| 6040 | SPF=6040 | /SET PRINTER FLAG |
| 6035 | KIE=6035 | /ENABLE TTY INTERRUPT F.F. WHEN AC 11 EQUALS A 1 |
| 7002 | BSW=7002 | /SWAP BYTES IN AC |

| | | | |
|------|------|----|--------------|
| 0000 | 0000 | *0 | |
| 0000 | 0000 | | 0 /LOC 0 |
| 0001 | 0001 | | JMP 1 /LOC 1 |
| 0002 | 0002 | | 2 /LOC 2 |
| 0003 | 0003 | | 3 /LOC 3 |

| | | | |
|------|------|----|----------------------------|
| 0007 | 0007 | *7 | |
| 0007 | 0000 | | 0 /CONSTANTS AND VARIABLES |

| | | | |
|------|------|--------|------|
| 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 | 5555 | K5555, | 5555 |
| 0064 | 5200 | K5200, | 5200 |
| 0065 | 0004 | K4, | 4 |

| | | | |
|------|------|------|---|
| 0110 | 0110 | *110 | |
| 0110 | 0000 | | 0 |

| | | | |
|------|------|--|--|
| 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 | *200 | | |
|------|------|--|--|

/DCA TEST 1

| | | | | |
|------|------|------|-------|--------------------------------------|
| 0200 | 7200 | CLA | | |
| 0201 | 7410 | SKP | | |
| 0202 | 0000 | TP0, | 0 | |
| 0203 | 1052 | TAD | K4400 | |
| 0204 | 3377 | DCA | TP177 | |
| 0205 | 7440 | SEA | | |
| 0206 | 7402 | HLT | | /DCA DID NOT CLEAR AC |
| 0207 | 7410 | SKP | | |
| 0210 | 0000 | 0 | | |
| 0211 | 1052 | TAD | K4400 | |
| 0212 | 7041 | CIA | | /AC=-(4400) |
| 0213 | 1377 | TAD | TP177 | |
| 0214 | 7440 | SEA | | |
| 0215 | 7402 | HLT | | /DCA FAILED /AC SHOULD EQUAL ZERO |

/DCA TEST 2

| | | | | |
|------|------|-----|-------|-----------------------|
| 0216 | 7200 | CLA | | |
| 0217 | 1053 | TAD | K4577 | |
| 0220 | 3202 | DCA | TP0 | |
| 0221 | 7440 | SEA | | |
| 0222 | 7402 | HLT | | /DCA DID NOT CLEAR AC |
| 0223 | 1053 | TAD | K4577 | |
| 0224 | 7041 | CIA | | |
| 0225 | 1202 | TAD | TP0 | |
| 0226 | 7440 | SEA | | |
| 0227 | 7402 | HLT | | /DCA FAILED |

/AC SHOULD EQUAL ZERO

/DCA TEST 3

| | | | |
|------|------|-----|-----------------------------------|
| 0230 | 7200 | CLA | |
| 0231 | 1020 | TAD | K7777 |
| 0232 | 3202 | DCA | TP0 |
| 0233 | 7440 | SZA | |
| 0234 | 7402 | HLT | /DCA DID NOT CLEAR AC |
| 0235 | 1202 | TAD | TP0 |
| 0236 | 7040 | CMA | |
| 0237 | 7440 | SZA | |
| 0240 | 7402 | HLT | /DCA FAILED /AC SHOULD BE ZERO |

/DCA TEST 4

| | | | |
|------|------|-----|-----------------------|
| 0241 | 7200 | CLA | |
| 0242 | 1036 | TAD | K0 |
| 0243 | 3202 | DCA | TP0 |
| 0244 | 7440 | SZA | /DCA DID NOT CLEAR AC |
| 0245 | 7402 | HLT | |
| 0246 | 1202 | TAD | TP0 |
| 0247 | 7440 | SZA | /DCA FAILED |
| 0250 | 7402 | HLT | /AC SHOULD BE ZERO |

/DCA TEST 5

| | | | |
|------|------|-----|-----------------------------------|
| 0251 | 7200 | CLA | |
| 0252 | 1054 | TAD | K2525 |
| 0253 | 3202 | DCA | TP0 |
| 0254 | 7440 | SZA | |
| 0255 | 7402 | HLT | /DCA DID NOT CLEAR AC |
| 0256 | 1054 | TAD | K2525 |
| 0257 | 7041 | CIA | |
| 0260 | 1202 | TAD | TP0 |
| 0261 | 7440 | SZA | |
| 0262 | 7402 | HLT | /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 | /DCA DID NOT CLEAR AC |
| 0270 | 1055 | TAD | K6666 |
| 0271 | 7041 | CIA | |
| 0272 | 1202 | TAD | TP0 |
| 0273 | 7440 | SZA | |
| 0274 | 7402 | HLT | /DCA FAILED /AC SHOULD BE ZERO |

/DCA TEST 7

| | | | |
|------|------|-----|-----------------------------------|
| 0275 | 7200 | CLA | |
| 0276 | 1056 | TAD | K4444 |
| 0277 | 3377 | DCA | TP177 |
| 0300 | 7440 | SEA | |
| 0301 | 7402 | HLT | /DCA DID NOT CLEAR AC |
| 0302 | 1056 | TAD | K4444 |
| 0303 | 7041 | CIA | |
| 0304 | 1377 | TAD | TP177 |
| 0305 | 7440 | SEA | |
| 0306 | 7402 | HLT | /DCA FAILED /AC SHOULD BE ZERO |

/DCA TEST 8

| | | | |
|------|------|-----|-----------------------------------|
| 0307 | 7200 | CLA | |
| 0310 | 1057 | TAD | K7070 |
| 0311 | 3377 | DCA | TP177 |
| 0312 | 7440 | SEA | |
| 0313 | 7402 | HLT | /DCA DID NOT CLEAR AC |
| 0314 | 1057 | TAD | K7070 |
| 0315 | 7041 | CIA | |
| 0316 | 1377 | TAD | TP177 |
| 0317 | 7440 | SEA | |
| 0320 | 7402 | HLT | /DCA FAILED /AC SHOULD BE ZERO |

/DCA TEST 9

| | | | |
|------|------|-----|-----------------------------------|
| 0321 | 7200 | CLA | |
| 0322 | 1060 | TAD | K0707 |
| 0323 | 3000 | DCA | 0 |
| 0324 | 7440 | SEA | |
| 0325 | 7402 | HLT | /DCA DID NOT CLEAR AC |
| 0326 | 1060 | TAD | K0707 |
| 0327 | 7041 | CIA | |
| 0330 | 1000 | TAD | 0 |
| 0331 | 7440 | SEA | |
| 0332 | 7402 | HLT | /DCA FAILED /AC SHOULD BE ZERO |

/DCA TEST 10

| | | | |
|------|------|-----|-----------------------------------|
| 0333 | 7200 | CLA | |
| 0334 | 1061 | TAD | K5252 |
| 0335 | 3000 | DCA | 0 |
| 0336 | 7440 | SEA | |
| 0337 | 7402 | HLT | /DCA DID NOT CLEAR AC |
| 0340 | 1061 | TAD | K5252 |
| 0341 | 7041 | CIA | |
| 0342 | 1000 | TAD | 0 |
| 0343 | 7440 | SEA | |
| 0344 | 7402 | HLT | /DCA FAILED /AC SHOULD BE ZERO |

/DCA TEST 11

| | | | |
|------|------|-----------|-----------------------------------|
| 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 | |
| 0356 | 7402 | HLT | /DCA FAILED /AC SHOULD BE ZERO |

/DCA TEST 12

| | | | |
|------|------|-----------|-----------------------------------|
| 0357 | 7200 | CLA | |
| 0360 | 1063 | TAD K5555 | |
| 0361 | 3000 | DCA 0 | |
| 0362 | 7440 | SEA | |
| 0363 | 7402 | HLT | /DCA DID NOT CLEAR AC |
| 0364 | 1063 | TAD K5555 | |
| 0365 | 7041 | CIA | |
| 0366 | 1000 | TAD 0 | |
| 0367 | 7440 | SEA | |
| 0370 | 7402 | HLT | /DCA FAILED /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

*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 | SEA | |
| 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 | ISE I K0 | |
| 0423 | 7402 | HLT | /ISE FAILED. NO SKIP |
| 0424 | 1000 | TAD 0 | |
| 0425 | 7440 | SEA | |
| 0426 | 7402 | HLT | /ISE INDIRECT FAILED /AC SHOULD BE 0 |

/INDIRECT ADDRESSING TEST 4

| | | | |
|------|------|------------|--|
| 0427 | 7200 | CLA | |
| 0430 | 1572 | TAD I K176 | /OPERAND=175 |
| 0431 | 7041 | CIA | |
| 0432 | 1176 | TAD K175 | |
| 0433 | 7440 | SEA | |
| 0434 | 7402 | HLT | /TAD INDIRECT FAILED /AC SHOULD BE ZERO |

/INDIRECT ADDRESSING TEST 5

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

/INDIRECT ADDRESSING TEST 6

| | | | |
|------|------|----------|------------------------|
| 0444 | 7200 | CLA | |
| 0445 | 1172 | TAD K176 | |
| 0446 | 3000 | DCA 0 | |
| 0447 | 2436 | ISE I K0 | |
| 0450 | 7410 | SKP | |
| 0451 | 7402 | HLT | /ISE SKIPPED ILLEGALLY |
| 0452 | 1000 | TAD 0 | |
| 0453 | 7041 | CIA | |
| 0454 | 1172 | TAD K176 | |
| 0455 | 7040 | CMA | |
| 0456 | 7440 | SEA | |
| 0457 | 7402 | HLT | /DCA INDIRECT FAILED |

/AC SHOULD BE ZERO

/INDIRECT ADDRESSING TEST 7

| | | | |
|------|------|------------|--|
| 0460 | 7200 | CLA | |
| 0461 | 1573 | TAD I K172 | /OPERAND=176 |
| 0462 | 7041 | CIA | |
| 0463 | 1172 | TAD K176 | |
| 0464 | 7440 | SEA | |
| 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 | SEA | /AND INDIRECT FAILED |
| 0474 | 7402 | HLT | /AC SHOULD BE ZERO |

/INDIRECT ADDRESSING TEST 9

| | | | |
|------|------|----------|--|
| 0475 | 7200 | CLA | |
| 0476 | 1173 | TAD K172 | |
| 0477 | 0000 | DCA 0 | |
| 0500 | 0436 | ISE I K0 | |
| 0501 | 7410 | SKP | |
| 0502 | 7402 | HLT | /ISE SKIPPED ILLEGALLY |
| 0503 | 1000 | TAD 0 | |
| 0504 | 7041 | CIA | |
| 0505 | 1173 | TAD K172 | |
| 0506 | 7040 | CNA | |
| 0507 | 7440 | SEA | |
| 0510 | 7402 | HLT | /DCA INDIRECT FAILED /AC SHOULD BE ZERO |

/INDIRECT ADDRESSING TEST 10

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

/INDIRECT ADDRESSING TEST 11

| | | | |
|------|------|------------|--------------|
| 0517 | 7200 | CLA | |
| 0520 | 1020 | TAD K7777 | |
| 0521 | 0574 | AND I K173 | /OPERAND=172 |
| 0522 | 7041 | CIA | |

| | | | |
|------|------|----------|----------------------|
| 0523 | 1173 | TAD K172 | |
| 0524 | 7440 | SEA | /AND INDIRECT FAILED |
| 0525 | 7402 | HLT | /AC SHOULD BE ZERO |

/INDIRECT ADDRESSING TEST 12

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

/INDIRECT ADDRESSING TEST 13

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

/INDIRECT ADDRESSING TEST 14

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

/INDIRECT ADDRESSING TEST 15

| | | | |
|------|------|----------|------------------------|
| 0557 | 7200 | CLA | |
| 0560 | 1175 | TAD K174 | |
| 0561 | 3000 | DCA 0 | |
| 0562 | 2436 | ISE I K0 | |
| 0563 | 7410 | SKP | |
| 0564 | 7402 | HLT | /ISE SKIPPED ILLEGALLY |
| 0565 | 1000 | TAD 0 | |
| 0566 | 7041 | CIA | |
| 0567 | 1175 | TAD K174 | |
| 0570 | 7040 | CMA | |
| 0571 | 7440 | SEA | |
| 0572 | 7402 | HLT | /DCA INDIRECT FAILED |

/AC SHOULD BE ZERO

| | | | |
|------|------|-----|-----|
| 0573 | 5377 | JMP | .*4 |
| 0574 | 7000 | NOP | |
| 0575 | 7000 | NOP | |
| 0576 | 7000 | NOP | |
| 0577 | 7000 | NOP | |

0600

#600

/INDIRECT ADDRESSING TEST 16

| | | | | |
|------|------|-----|--------|--------------|
| 0600 | 7200 | CLA | | |
| 0601 | 1576 | TAD | I K175 | /OPERAND=174 |
| 0602 | 7041 | CIA | | |
| 0603 | 1175 | TAD | K174 | |
| 0604 | 7440 | SEA | | |
| 0605 | 7402 | HLT | | |

/TAD INDIRECT FAILED
/AC SHOULD BE ZERO

/AUTO INDEX TEST 1

| | | | | |
|------|------|-----|-------|-------------------------|
| 0606 | 7200 | CLA | | |
| 0607 | 1036 | TAD | K0 | /CONSTANT TO BE INDEXED |
| 0610 | 3010 | DCA | 10 | |
| 0611 | 0410 | AND | I 10 | /DO AUTO INDEX |
| 0612 | 1010 | TAD | 10 | |
| 0613 | 1035 | TAD | K7776 | /AC SHOULD EQUAL 7777 |
| 0614 | 7040 | CMA | | |
| 0615 | 7440 | SEA | | /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 | AND | I 10 | /DO AUTO INDEX |
| 0623 | 1010 | TAD | 10 | |
| 0624 | 1036 | TAD | K0 | /AC SHOULD EQUAL 7777 |
| 0625 | 7040 | CMA | | |
| 0626 | 7440 | SEA | | /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 | TAD | 10 | |
| 0635 | 1031 | TAD | K0001 | /AC SHOULD EQUAL 7777 |
| 0636 | 7040 | CMA | | |
| 0637 | 7440 | SEA | | /AC SHOULD BE ZERO |
| 0640 | 7402 | HLT | | /AUTO INDEX ERROR |

/AUTO INDEX TEST 4

| | | | |
|------|------|-----------|-------------------------|
| 0641 | 7200 | CLA | |
| 0642 | 1033 | TAD K7773 | /CONSTANT TO BE INDEXED |
| 0643 | 3010 | DCA 10 | |
| 0644 | 1410 | TAD I 10 | /DO AUTO INDEX |
| 0645 | 7200 | CLA | |
| 0646 | 1010 | TAD 10 | |
| 0647 | 1047 | TAD K0003 | /AC SHOULD EQUAL 7777 |
| 0650 | 7040 | CMA | |
| 0651 | 7440 | SEA | /AC SHOULD BE ZERO |
| 0652 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 5

| | | | |
|------|------|-----------|-------------------------|
| 0653 | 7200 | CLA | |
| 0654 | 1032 | TAD K7767 | /CONSTANT TO BE INDEXED |
| 0655 | 3010 | DCA 10 | |
| 0656 | 0410 | AND I 10 | /DO AUTO INDEX |
| 0657 | 1010 | TAD 10 | |
| 0660 | 1046 | TAD K0007 | /AC SHOULD EQUAL 7777 |
| 0661 | 7040 | CMA | |
| 0662 | 7440 | SEA | /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 | TAD 10 | |
| 0671 | 1045 | TAD K0017 | /AC SHOULD EQUAL 7777 |
| 0672 | 7040 | CMA | |
| 0673 | 7440 | SEA | /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 | TAD 10 | |
| 0702 | 1044 | TAD K0037 | /AC SHOULD EQUAL 7777 |
| 0703 | 7040 | CMA | |
| 0704 | 7440 | SEA | /AC SHOULD BE ZERO |
| 0705 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 8

| | | | |
|------|------|-----------|-------------------------|
| 0706 | 7200 | CLA | |
| 0707 | 1026 | TAD K7677 | /CONSTANT TO BE INDEXED |
| 0710 | 3010 | DCA 10 | |
| 0711 | 0410 | AND I 10 | /DO AUTO INDEX |

| | | | |
|------|------|-----------|-----------------------|
| 0712 | 1010 | TAD 10 | |
| 0713 | 1043 | TAD K0077 | /AC SHOULD EQUAL 7777 |
| 0714 | 7040 | CMA | |
| 0715 | 7440 | SZA | /AC SHOULD BE ZERO |
| 0716 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 9

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

/AUTO INDEX TEST 10

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

/AUTO INDEX TEST 11

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

/AUTO INDEX TEST 12

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

/AUTO INDEX TEST 13

| | | | |
|------|------|-----------|-------------------------|
| 0764 | 7200 | 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 | SEA | /AC SHOULD BE ZERO |
| 0774 | 7402 | HLT | /AUTO INDEX ERROR |
| 0775 | 7000 | NOP | |
| 0776 | 7000 | NOP | |
| 0777 | 7000 | NOP | |

1000 *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 | |
| 1011 | 7440 | SEA | /AC SHOULD BE ZERO |
| 1012 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 15

| | | | |
|------|------|-----------|-------------------------|
| 1013 | 7200 | CLA | |
| 1014 | 1036 | TAD K0 | /CONSTANT TO BE INDEXED |
| 1015 | 3011 | DCA 11 | |
| 1016 | 0411 | AND I 11 | /DO AUTO INDEX |
| 1017 | 1011 | TAD 11 | |
| 1020 | 1035 | TAD K7776 | /AC SHOULD EQUAL 7777 |
| 1021 | 7040 | CMA | |
| 1022 | 7440 | SEA | /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 | SEA | /AC SHOULD BE ZERO |
| 1034 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 17 | | | |
| 1035 | 7200 | CLA | |
| 1036 | 1034 | TAD K7775 | /CONSTANT TO BE INDEXED |
| 1037 | 3011 | DCA 11 | |
| 1040 | 3411 | DCA I 11 | /DO AUTO INDEX |
| 1041 | 1011 | TAD 11 | |
| 1042 | 1051 | TAD K0001 | /AC SHOULD EQUAL 7777 |
| 1043 | 7040 | CMA | |
| 1044 | 7440 | SEA | /AC SHOULD BE ZERO |
| 1045 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 18 | | | |
| 1046 | 7200 | CLA | |
| 1047 | 1033 | TAD K7773 | /CONSTANT TO BE INDEXED |
| 1050 | 3011 | DCA 11 | |
| 1051 | 1411 | TAD I 11 | /DO AUTO INDEX |
| 1052 | 7200 | CLA | |
| 1053 | 1011 | TAD 11 | |
| 1054 | 1047 | TAD K0003 | /AC SHOULD EQUAL 7777 |
| 1055 | 7040 | CMA | |
| 1056 | 7440 | SEA | /AC SHOULD BE ZERO |
| 1057 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 19 | | | |
| 1060 | 7200 | CLA | |
| 1061 | 1032 | TAD K7767 | /CONSTANT TO BE INDEXED |
| 1062 | 3011 | DCA 11 | |
| 1063 | 0411 | AND I 11 | /DO AUTO INDEX |
| 1064 | 1011 | TAD 11 | |
| 1065 | 1046 | TAD K0007 | |
| 1066 | 7040 | CMA | |
| 1067 | 7440 | SEA | /AC SHOULD BE ZERO |
| 1070 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 20 | | | |
| 1071 | 7200 | CLA | |
| 1072 | 1031 | TAD K7757 | /CONSTANT TO BE INDEXED |
| 1073 | 3011 | DCA 11 | |
| 1074 | 0411 | AND I 11 | /DO AUTO INDEX |
| 1075 | 1011 | TAD 11 | |
| 1076 | 1045 | TAD K0017 | /AC SHOULD EQUAL 7777 |
| 1077 | 7040 | CMA | |
| 1100 | 7440 | SEA | /AC SHOULD BE ZERO |
| 1101 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 21 | | | |
| 1102 | 7200 | CLA | |
| 1103 | 1027 | TAD K7737 | /CONSTANT TO BE INDEXED |
| 1104 | 3011 | DCA 11 | |

| | | | |
|---------------------|------|-----------|-------------------------|
| 1105 | 0411 | AND I 11 | /DO AUTO INDEX |
| 1106 | 1011 | TAD 11 | |
| 1107 | 1044 | TAD K0037 | /AC SHOULD EQUAL 7777 |
| 1110 | 7040 | CMA | |
| 1111 | 7440 | SEA | /AC SHOULD BE ZERO |
| 1112 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 22 | | | |
| 1113 | 7200 | CLA | |
| 1114 | 1026 | TAD K7677 | /CONSTANT TO BE INDEXED |
| 1115 | 3011 | DCA 11 | |
| 1116 | 0411 | AND I 11 | /DO AUTO INDEX |
| 1117 | 1011 | TAD 11 | |
| 1120 | 1043 | TAD K0077 | /AC SHOULD EQUAL 7777 |
| 1121 | 7040 | CMA | |
| 1122 | 7440 | SEA | /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 | SEA | /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 | SEA | /AC SHOULD BE ZERO |
| 1145 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 25 | | | |
| 1146 | 7200 | CLA | |
| 1147 | 1023 | TAD K6777 | /CONSTANT TO BE INDEXED |
| 1150 | 3011 | DCA 11 | |
| 1151 | 0411 | AND I 11 | /DO AUTO INDEX |
| 1152 | 1011 | TAD 11 | |
| 1153 | 1040 | TAD K0777 | /AC SHOULD EQUAL 7777 |
| 1154 | 7040 | CMA | |
| 1155 | 7440 | SEA | /AC SHOULD BE ZERO |
| 1156 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 26 | | | |
| 1157 | 7200 | CLA | |
| 1160 | 1022 | TAD K5777 | /CONSTANT TO BE INDEXED |

| | | | |
|------|------|-----------|-----------------------|
| 1161 | 3011 | DCA 11 | |
| 1162 | 2411 | ISE I 11 | /DO AUTO INDEX |
| 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 ,+4 | |
| 1173 | 7000 | NOP | |
| 1174 | 7000 | NOP | |
| 1175 | 7000 | NOP | |
| 1176 | 7000 | NOP | |
| 1177 | 7000 | NOP | |

PAUSE

/TEST 2 - TAPE 2

1200

*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
1232 7402

SZA
HLT

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 30

1233 7200
1234 1035
1235 3012
1236 0412
1237 1012
1240 1036
1241 7040
1242 7440
1243 7402

CLA
TAD K7776
DCA 12
AND I 12
TAD 12
TAD K0
CMA
SZA
HLT

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

/AUTO INDEX TEST 31

1244 7200
1245 1034
1246 3012
1247 3412
1250 1012
1251 1051
1252 7040
1253 7440
1254 7402

CLA
TAD K7775
DCA 12
DCA I 12
TAD 12
TAD K0001
CMA
SZA
HLT

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

/AUTO INDEX TEST 32

1255 7200
1256 1033
1257 3012
1260 1412
1261 7200
1262 1012
1263 1047
1264 7040
1265 7440
1266 7402

CLA
TAD K7773
DCA 12
TAD I 12
CLA
TAD 12
TAD K0003
CMA
SZA
HLT

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

/AUTO INDEX TEST 33

1267 7200
1270 1032
1271 3012
1272 0412
1273 1012
1274 1046
1275 7040
1276 7440
1277 7402

CLA
TAD K7767
DCA 12
AND I 12
TAD 12
TAD K0007
CMA
SZA
HLT

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

/AUTO INDEX TEST 34

1300 7200
1301 1031
1302 3012
1303 0412

CLA
TAD K7757
DCA 12
AND I 12

/CONSTANT TO BE INDEXED
/DO AUTO INDEX

| | | | |
|------|------|-----------|-----------------------|
| 1304 | 1012 | TAD 12 | |
| 1305 | 1045 | TAD K0017 | /AC SHOULD EQUAL 7777 |
| 1306 | 7040 | CMA | |
| 1307 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1310 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 35

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

/AUTO INDEX TEST 36

| | | | |
|------|------|-----------|-------------------------|
| 1322 | 7200 | CLA | |
| 1323 | 1026 | TAD K7677 | /CONSTANT TO BE INDEXED |
| 1324 | 3012 | DCA 12 | |
| 1325 | 0412 | AND I 12 | /DO AUTO INDEX |
| 1326 | 1012 | TAD 12 | |
| 1327 | 1043 | TAD 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 | TAD 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 | DCA 12 | |
| 1347 | 0412 | AND I 12 | /DO AUTO INDEX |
| 1350 | 1012 | TAD 12 | |
| 1351 | 1041 | TAD K0377 | /AC SHOULD EQUAL 7777 |
| 1352 | 7040 | CMA | |
| 1353 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1354 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 39

| | | | |
|------|------|-----------|-------------------------|
| 1355 | 7200 | CLA | |
| 1356 | 1023 | TAD K6777 | /CONSTANT TO BE INDEXED |
| 1357 | 3012 | DCA 12 | |

| | | | |
|------|------|-----------|-----------------------|
| 1360 | 0412 | AND I 12 | /DO AUTO INDEX |
| 1361 | 1012 | TAD 12 | |
| 1362 | 1040 | TAD 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 | CLA | |
| 1367 | 1022 | TAD K5777 | /CONSTANT TO BE INDEXED |
| 1370 | 3012 | DCA 12 | |
| 1371 | 2412 | ISE I 12 | /DO AUTO INDEX |
| 1372 | 7000 | NOP | |
| 1373 | 1012 | TAD 12 | |
| 1374 | 1037 | TAD K1777 | /AC SHOULD EQUAL 7777 |
| 1375 | 7040 | CMA | |
| 1376 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1377 | 7402 | HLT | /AUTO INDEX ERROR |

1400

*1400
/AUTO INDEX TEST 41

| | | | |
|------|------|-----------|-------------------------|
| 1400 | 7200 | CLA | |
| 1401 | 1021 | TAD K3777 | /CONSTANT TO BE INDEXED |
| 1402 | 3012 | DCA 12 | |
| 1403 | 0412 | AND I 12 | /DO AUTO INDEX |
| 1404 | 1012 | TAD 12 | |
| 1405 | 1021 | TAD K3777 | /AC SHOULD EQUAL 7777 |
| 1406 | 7040 | CMA | |
| 1407 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1410 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 42

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

/AUTO INDEX TEST 43

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

/AUTO INDEX TEST 44

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

/AUTO INDEX TEST 45

| | | | |
|------|------|-----------|-------------------------|
| 1444 | 7200 | CLA | |
| 1445 | 1034 | TAD K7775 | /CONSTANT TO BE INDEXED |
| 1446 | 3013 | DCA 13 | |
| 1447 | 3413 | DCA I 13 | /DO AUTO INDEX |
| 1450 | 1013 | TAD 13 | |
| 1451 | 1051 | TAD K0001 | /AC SHOULD EQUAL 7777 |
| 1452 | 7040 | CMA | |
| 1453 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1454 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 46

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

/AUTO INDEX TEST 47

| | | | |
|------|------|-----------|-------------------------|
| 1467 | 7200 | CLA | |
| 1470 | 1032 | TAD 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 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 48

| | | | |
|------|------|-----------|-------------------------|
| 1500 | 7200 | CLA | |
| 1501 | 1031 | TAD K7757 | /CONSTANT TO BE INDEXED |
| 1502 | 3013 | DCA 13 | |
| 1503 | 0413 | AND I 13 | /DO AUTO INDEX |
| 1504 | 1013 | TAD 13 | |
| 1505 | 1045 | TAD K0017 | /AC SHOULD EQUAL 7777 |
| 1506 | 7040 | CMA | |
| 1507 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1510 | 7402 | HLT | /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          TAD 13
1516 1044          TAD K0037          /AC SHOULD EQUAL 7777
1517 7040          CMA
1520 7440          SZA          /AC SHOULD BE ZERO
1521 7402          HLT          /AUTO INDEX ERROR

```

```

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

```

```

/AUTO INDEX TEST 51
1533 7200          CLA
1534 1025          TAD K7577          /CONSTANT TO BE INDEXED
1535 3013          DCA 13
1536 0413          AND I 13          /DO AUTO INDEX
1537 1013          TAD 13
1540 1042          TAD K0177          /AC SHOULD EQUAL 7777
1541 7040          CMA
1542 7440          SZA          /AC SHOULD BE ZERO
1543 7402          HLT          /AUTO INDEX ERROR

```

```

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

```

```

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

```

1565 7402

HLT

/AUTO INDEX ERROR

/AUTO INDEX TEST 54

1566 7200
 1567 1022
 1570 3013
 1571 2413
 1572 7000
 1573 1013
 1574 1037
 1575 7040
 1576 7440
 1577 7402

CLA
 TAD K5777
 DCA 13
 ISZ I 13
 NOP
 TAD 13
 TAD K1777
 CMA
 SZA
 HLT

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

1600

*1600

/AUTO INDEX TEST 55

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

CLA
 TAD K3777
 DCA 13
 AND I 13
 TAD 13
 TAD K3777
 CMA
 SZA
 HLT

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

/AUTO INDEX TEST 56

1611 7200
 1612 1020
 1613 3013
 1614 0413
 1615 1013
 1616 1020
 1617 7040
 1620 7440
 1621 7402

CLA
 TAD K7777
 DCA 13
 AND I 13
 TAD 13
 TAD K7777
 CMA
 SZA
 HLT

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

/AUTO INDEX TEST 57

1622 7200
 1623 1036
 1624 3014
 1625 0414
 1626 1014
 1627 1035
 1630 7040
 1631 7440
 1632 7402

CLA
 TAD K0
 DCA 14
 AND I 14
 TAD 14
 TAD K7776
 CMA
 SZA
 HLT

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

/AUTO INDEX TEST 58

1633 7200
 1634 1035
 1635 3014

CLA
 TAD K7776
 DCA 14

/CONSTANT TO BE INDEXED

| | | | |
|---------------------|------|-----------|-------------------------|
| 1636 | 0414 | AND I 14 | /DO AUTO INDEX |
| 1637 | 1014 | TAD 14 | |
| 1640 | 1036 | TAD K0 | /AC SHOULD EQUAL 7777 |
| 1641 | 7040 | CMA | |
| 1642 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1643 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 59 | | | |
| 1644 | 7200 | CLA | |
| 1645 | 1034 | TAD K7775 | /CONSTANT TO BE INDEXED |
| 1646 | 3014 | DCA 14 | |
| 1647 | 3414 | DCA I 14 | /DO AUTO INDEX |
| 1650 | 1014 | TAD 14 | |
| 1651 | 1051 | TAD 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 | TAD K7773 | /CONSTANT TO BE INDEXED |
| 1657 | 3014 | DCA 14 | |
| 1660 | 1414 | TAD I 14 | /DO AUTO INDEX |
| 1661 | 7200 | CLA | |
| 1662 | 1014 | TAD 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 | AND I 14 | /DO AUTO INDEX |
| 1673 | 1014 | TAD 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 | TAD 14 | |
| 1705 | 1045 | TAD K0017 | /AC SHOULD EQUAL 7777 |
| 1706 | 7040 | CMA | |
| 1707 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1710 | 7402 | HLT | /AUTO INDEX ERROR |
| /AUTO INDEX TEST 63 | | | |
| 1711 | 7200 | CLA | |

| | | | |
|------|------|-----------|-------------------------|
| 1712 | 1027 | TAD K7737 | /CONSTANT TO BE INDEXED |
| 1713 | 3014 | DCA 14 | |
| 1714 | 0414 | AND I 14 | /DO AUTO INDEX |
| 1715 | 1014 | TAD 14 | |
| 1716 | 1044 | TAD K0037 | /AC SHOULD EQUAL 7777 |
| 1717 | 7040 | CMA | |
| 1720 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1721 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 64

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

/AUTO INDEX TEST 65

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

/AUTO INDEX TEST 66

| | | | |
|------|------|-----------|-------------------------|
| 1744 | 7200 | CLA | |
| 1745 | 1024 | TAD K7377 | /CONSTANT TO BE INDEXED |
| 1746 | 3014 | DCA 14 | |
| 1747 | 0414 | AND I 14 | /DO AUTO INDEX |
| 1750 | 1014 | TAD 14 | |
| 1751 | 1041 | TAD K0377 | /AC SHOULD EQUAL 7777 |
| 1752 | 7040 | CMA | |
| 1753 | 7440 | SZA | /AC SHOULD BE ZERO |
| 1754 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 67

| | | | |
|------|------|-----------|-------------------------|
| 1755 | 7200 | CLA | |
| 1756 | 1023 | TAD K6777 | /CONSTANT TO BE INDEXED |
| 1757 | 3014 | DCA 14 | |
| 1760 | 0414 | AND I 14 | /DO AUTO INDEX |
| 1761 | 1014 | TAD 14 | |
| 1762 | 1040 | TAD 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 | ISE 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 | SEA | /AC SHOULD BE ZERO |
| 1777 | 7402 | HLT | /AUTO INDEX ERROR |

| | | | |
|------|------|-----------|-------------------------|
| 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 | SEA | /AC SHOULD BE ZERO |
| 2012 | 7402 | HLT | /AUTO INDEX ERROR |

| | | | |
|------|------|-----------|-------------------------|
| 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 | SEA | /AC SHOULD BE ZERO |
| 2023 | 7402 | HLT | /AUTO INDEX ERROR |

| | | | |
|------|------|-----------|-------------------------|
| 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 | SEA | /AC SHOULD BE ZERO |
| 2034 | 7402 | HLT | /AUTO INDEX ERROR |

| | | | |
|------|------|-----------|-------------------------|
| 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
2044 7440
2045 7402

CMA
SZA
HLT

/AC SHOULD BE ZERO
/AUTO INDEX ERROR

/AUTO INDEX TEST 73

2046 7200
2047 1034
2050 3015
2051 3415
2052 1015
2053 1051
2054 7040
2055 7440
2056 7402

CLA
TAD K7775
DCA 15
DCA I 15
TAD 15
TAD K0001
CMA
SZA
HLT

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

/AUTO INDEX TEST 74

2057 7200
2060 1033
2061 3015
2062 1415
2063 7200
2064 1015
2065 1047
2066 7040
2067 7440
2070 7402

CLA
TAD K7773
DCA 15
TAD I 15
CLA
TAD 15
TAD K0003
CMA
SZA
HLT

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

/AUTO INDEX TEST 75

2071 7200
2072 1032
2073 3015
2074 0415
2075 1015
2076 1046
2077 7040
2100 7440
2101 7402

CLA
TAD K7767
DCA 15
AND I 15
TAD 15
TAD K0007
CMA
SZA
HLT

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

/AUTO INDEX TEST 76

2102 7200
2103 1031
2104 3015
2105 0415
2106 1015
2107 1045
2110 7040
2111 7440
2112 7402

CLA
TAD K7757
DCA 15
AND I 15
TAD 15
TAD K0017
CMA
SZA
HLT

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

/AUTO INDEX TEST 77

2113 7200
2114 1027
2115 3015
2116 0415

CLA
TAD K7737
DCA 15
AND I 15

/CONSTANT TO BE INDEXED
/DO AUTO INDEX

| | | | |
|------|------|-----------|-----------------------|
| 2117 | 1015 | TAD 15 | |
| 2120 | 1044 | TAD 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 | SZA | /AC SHOULD BE ZERO |
| 2134 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 79

| | | | |
|------|------|-----------|-------------------------|
| 2135 | 7200 | CLA | |
| 2136 | 1025 | TAD K7577 | /CONSTANT TO BE INDEXED |
| 2137 | 3015 | DCA 15 | |
| 2140 | 0415 | AND I 15 | /DO AUTO INDEX |
| 2141 | 1015 | TAD 15 | |
| 2142 | 1042 | TAD K0177 | /AC SHOULD EQUAL 7777 |
| 2143 | 7040 | CMA | |
| 2144 | 7440 | SZA | /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 | TAD 15 | |
| 2153 | 1041 | TAD 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 | TAD K6777 | /CONSTANT TO BE INDEXED |
| 2161 | 3015 | DCA 15 | |
| 2162 | 0415 | AND I 15 | /DO AUTO INDEX |
| 2163 | 1015 | TAD 15 | |
| 2164 | 1040 | TAD K0777 | /AC SHOULD EQUAL 7777 |
| 2165 | 7040 | CMA | |
| 2166 | 7440 | SZA | /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 TAD K5777 /CONSTANT TO BE INDEXED
 2202 3015 DCA 15
 2203 2415 ISZ I 15 /DO AUTO INDEX
 2204 7000 NOP
 2205 1015 TAD 15
 2206 1037 TAD K1777 /AC SHOULD EQUAL 7777
 2207 7040 CMA
 2210 7440 SZA /AC SHOULD BE ZERO
 2211 7402 HLT /AUTO INDEX ERROR

/AUTO INDEX TEST 83

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

/AUTO INDEX TEST 84

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

/AUTO INDEX TEST 85

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

/AUTO INDEX TEST 86

2245 7200 CLA
 2246 1035 TAD K7776 /CONSTANT TO BE INDEXED

| | | | |
|------|------|----------|-----------------------|
| 2247 | 3016 | DCA 16 | |
| 2250 | 0416 | AND I 16 | /DO AUTO INDEX |
| 2251 | 1016 | TAD 16 | |
| 2252 | 1036 | TAD K0 | /AC SHOULD EQUAL 7777 |
| 2253 | 7040 | CMA | |
| 2254 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2255 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 87

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

/AUTO INDEX TEST 88

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

/AUTO INDEX TEST 89

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

/AUTO INDEX TEST 90

| | | | |
|------|------|-----------|-------------------------|
| 2312 | 7200 | CLA | |
| 2313 | 1031 | TAD K7757 | /CONSTANT TO BE INDEXED |
| 2314 | 3016 | DCA 16 | |
| 2315 | 0416 | AND I 16 | /DO AUTO INDEX |
| 2316 | 1016 | TAD 16 | |
| 2317 | 1045 | TAD K0017 | /AC SHOULD EQUAL 7777 |
| 2320 | 7040 | CMA | |
| 2321 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2322 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 91

| | | | |
|------|------|-----------|-------------------------|
| 2323 | 7200 | CLA | |
| 2324 | 1027 | TAD K7737 | /CONSTANT TO BE INDEXED |
| 2325 | 3016 | DCA 16 | |
| 2326 | 0416 | AND I 16 | /DO AUTO INDEX |
| 2327 | 1016 | TAD 16 | |
| 2330 | 1044 | TAD K0037 | /AC SHOULD EQUAL 7777 |
| 2331 | 7040 | CMA | |
| 2332 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2333 | 7402 | HLT | /AUTO INDEX ERROR |

/AUTO INDEX TEST 92

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

/AUTO INDEX TEST 93

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

/AUTO INDEX TEST 94

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

/AUTO INDEX TEST 95

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

PAUSE

/TEST 2 - TAPE 3

| | | | |
|------|-------|---------------------|-------------------------|
| 2400 | *2400 | | |
| | | /AUTO INDEX TEST 96 | |
| 2400 | 7200 | CLA | |
| 2401 | 1022 | TAD K5777 | /CONSTANT TO BE INDEXED |
| 2402 | 3016 | DCA 16 | |
| 2403 | 2416 | ISZ I 16 | /DO AUTO INDEX |
| 2404 | 7000 | NOP | |
| 2405 | 1016 | TAD 16 | |
| 2406 | 1037 | TAD K1777 | /AC SHOULD EQUAL 7777 |
| 2407 | 7040 | CMA | |
| 2410 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2411 | 7402 | HLT | /AUTO INDEX ERROR |
| | | /AUTO INDEX TEST 97 | |
| 2412 | 7200 | CLA | |
| 2413 | 1021 | TAD K3777 | /CONSTANT TO BE INDEXED |
| 2414 | 3016 | DCA 16 | |
| 2415 | 0416 | AND I 16 | /DO AUTO INDEX |
| 2416 | 1016 | TAD 16 | |
| 2417 | 1021 | TAD K3777 | /AC SHOULD EQUAL 7777 |
| 2420 | 7040 | CMA | |
| 2421 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2422 | 7402 | HLT | /AUTO INDEX ERROR |
| | | /AUTO INDEX TEST 98 | |
| 2423 | 7200 | CLA | |
| 2424 | 1020 | TAD K7777 | /CONSTANT TO BE INDEXED |
| 2425 | 3016 | DCA 16 | |
| 2426 | 0416 | AND I 16 | /DO AUTO INDEX |
| 2427 | 1016 | TAD 16 | |
| 2430 | 1020 | TAD K7777 | /AC SHOULD EQUAL 7777 |
| 2431 | 7040 | CMA | |
| 2432 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2433 | 7402 | HLT | /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 |
| 2442 | 7040 | CMA | |
| 2443 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2444 | 7402 | HLT | /AUTO INDEX ERROR |

```

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

```

```

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

```

```

/AUTO INDEX TEST 102
2467 7200          CLA
2470 1033         TAD 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         TAD 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         TAD K7767          /CONSTANT TO BE INDEXED
2503 3017         DCA 17
2504 0417         AND I 17          /DO AUTO INDEX
2505 1017         TAD 17
2506 1046         TAD 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         TAD 17
2517 1045         TAD K0017          /AC SHOULD EQUAL 7777
2520 7040         CMA
2521 7440         SZA          /AC SHOULD BE ZERO

```

2522 7402

HLT

/AUTO INDEX ERROR

/AUTO INDEX TEST 105

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

/AUTO INDEX TEST 106

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

/AUTO INDEX TEST 107

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

/AUTO INDEX TEST 108

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

/AUTO INDEX TEST 109

2567 7200
2570 1023
2571 3017
2572 0417
2573 1017
2574 1040CLA
TAD K6777
DCA 17
AND I 17
TAD 17
TAD K0777/CONSTANT TO BE INDEXED
/DO AUTO INNEX
/AC SHOULD EQUAL 7777

| | | | |
|------|------|-----|--------------------|
| 2575 | 7040 | CMA | |
| 2576 | 7440 | SZA | /AC SHOULD BE ZERO |
| 2577 | 7402 | HLT | /AUTO INDEX ERROR |

2600 *2600
/AUTO INDEX TEST 110

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

/AUTO INDEX TEST 111

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

/AUTO INDEX TEST 112

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

/AUTO INDEX TEST 113

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


```

/INTERRUPT TEST 2
2723 6040      SPF      /SET PRINTER FLAG
2724 6041      TSF
2725 7402      HLT      /SPF FAILED TO SET PRINTER FLAG
2726 7200      CLA      /FLAG IS ON
2727 1335      TAD BACK3
2730 3002      DCA 2
2731 6001      ION
2732 1020      TAD K7777
2733 7402      HLT      /NO INTERRUPT
2734 2733      OUT3,    .-1
BACK3,        .+1
2735 2736      CMA
2736 7040      CMA      /RETURN FROM LOC1
2737 7440      SZA
2740 7402      HLT      /CONFIDENCE CHECK
                          /AC SHOULD BE 0

2741 1000      TAD 0
2742 7041      CIA
2743 1334      TAD OUT3
2744 7640      SZA CLA
2745 7402      HLT      /INTERRUPT ERROR
                          /WRONG ADDRESS STORED

/INTERRUPT TEST 3
2746 6040      SPF      /SET PRINTER FLAG
2747 6041      TSF
2750 7402      HLT      /SPF FAILED TO SET PRINTER FLAG
2751 7200      CLA      /FLAG IS ON
2752 1361      TAD BACK2
2753 3002      DCA 2
2754 1020      TAD K7777
2755 6001      ION
2756 0020      AND K7777
2757 7402      HLT      /NO INTERRUPT
2760 2757      OUT2,    .-1
BACK2,        .+1
2761 2762      CMA
2762 7040      CMA      /RETURN FROM LOC1
2763 7440      SZA
2764 7402      HLT      /CONFIDENCE CHECK
                          /AC SHOULD BE 0

2765 1000      TAD 0
2766 7041      CIA
2767 1360      TAD OUT2
2770 7640      SZA CLA
2771 7402      HLT      /INTERRUPT ERROR
                          /WRONG ADDRESS STORED

2772 5773      JMP I .+1
2773 3000      3000

3000          *3000
/INTERRUPT TEST 4
3000 6040      SPF      /SET PRINTER FLAG
3001 6041      TSF

```


| | | | | |
|------|------|-------------------|-----------|---------------------------------|
| 3002 | 7402 | | HLT | /SPF FAILED TO SET PRINTER FLAG |
| 3003 | 7200 | | CLA | /FLAG IS ON |
| 3004 | 1213 | | TAD BACK4 | |
| 3005 | 3002 | | DCA 2 | |
| 3006 | 1020 | | TAD K7777 | |
| 3007 | 6001 | | ION | |
| 3010 | 3023 | | DCA 3 | |
| 3011 | 7402 | | HLT | /NO INTERRUPT |
| 3012 | 3011 | OUT4, | .-1 | |
| 3013 | 3014 | BACK4, | +.1 | |
| 3014 | 7440 | | SZA | /RETURN FROM LOC1 |
| 3015 | 7402 | | HLT | /CONFIDENCE CHECK |
| | | | | /AC SHOULD BE ZERO |
| 3016 | 1003 | | TAD 3 | |
| 3017 | 7040 | | CMA | |
| 3020 | 7440 | | SZA | |
| 3021 | 7402 | | HLT | /DCA PRIOR TO INTERRUPT |
| | | | | /FAILED |
| 3022 | 3003 | | DCA 3 | |
| 3023 | 1000 | | TAD 0 | |
| 3024 | 7041 | | CIA | |
| 3025 | 1212 | | TAD OUT4 | |
| 3026 | 7640 | | SZA CLA | |
| 3027 | 7402 | | HLT | /INTERRUPT ERROR |
| | | | | /WRONG ADDRESS STORED |
| | | /INTERRUPT TEST 5 | | |
| 3030 | 6040 | | SPF | /SET PRINTER FLAG |
| 3031 | 6041 | | TSF | |
| 3032 | 7402 | | HLT | /SPF FAILED TO SET PRINTER FLAG |
| 3033 | 7200 | | CLA | /FLAG IS ON |
| 3034 | 1244 | | TAD BACK5 | |
| 3035 | 3002 | | DCA 2 | |
| 3036 | 1035 | | TAD K7776 | |
| 3037 | 3003 | | DCA 3 | |
| 3040 | 6001 | | ION | |
| 3041 | 2003 | | ISZ 3 | |
| 3042 | 7402 | | HLT | /NO INTERRUPT |
| 3043 | 3042 | OUT5, | .-1 | |
| 3044 | 3045 | BACK5, | +.1 | |
| 3045 | 7440 | | SZA | /RETURN FROM LOC1 |
| 3046 | 7402 | | HLT | /CONFIDENCE CHECK |
| | | | | /AC SHOULD BE ZERO |
| 3047 | 1003 | | TAD 3 | |
| 3050 | 7040 | | CMA | |
| 3051 | 7440 | | SZA | |
| 3052 | 7402 | | HLT | /ISZ PRIOR TO |
| | | | | /INTERRUPT FAILED |
| 3053 | 3003 | | DCA 3 | |
| 3054 | 1000 | | TAD 0 | |
| 3055 | 7041 | | CIA | |
| 3056 | 1243 | | TAD OUT5 | |
| 3057 | 7640 | | SZA CLA | |
| 3060 | 7402 | | HLT | /INTERRUPT ERROR |

/WRONG ADDRESS STORED

/INTERRUPT TEST 6

| | | | |
|------|------|------------|---------------------------------|
| 3061 | 6040 | SPF | /SET PRINTER FLAG |
| 3062 | 6041 | TSF | |
| 3063 | 7402 | HLT | /SPF FAILED TO SET PRINTER FLAG |
| 3064 | 7200 | CLA | /FLAG IS ON |
| 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 | SZA | /RETURN FROM LOC 1 |
| 3100 | 7402 | HLT | /CONFIDENCE CHECK |
| | | | /AC SHOULD BE ZERO |
| 3101 | 1003 | TAD 3 | |
| 3102 | 7440 | SZA | |
| 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 | SZA CLA | |
| 3111 | 7402 | HLT | /INTERRUPT ERROR |
| | | | /WRONG ADDRESS STORED |

/INTERRUPT TEST 7

| | | | |
|------|------|------------|---------------------------------|
| 3112 | 6040 | SPF | /SET PRINTER FLAG |
| 3113 | 6041 | TSF | |
| 3114 | 7402 | HLT | /SPF FAILED TO SET PRINTER FLAG |
| 3115 | 7200 | CLA | /FLAG IS ON |
| 3116 | 1324 | TAD BACK7 | |
| 3117 | 3002 | DCA 2 | |
| 3120 | 6001 | ION | |
| 3121 | 5521 | JMP . | |
| 3122 | 7402 | HLT | /NO INTERRUPT |
| 3123 | 3121 | OUT7, .-2 | |
| 3124 | 3125 | BACK7, .+1 | |
| 3125 | 7440 | SZA | /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 | SZA CLA | |
| 3133 | 7402 | HLT | /INTERRUPT ERROR |
| | | | /WRONG ADDRESS STORED |

```

      /INTERRUPT TEST 8
3134 6040      SPF      /SET PRINTER FLAG
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
3143 4003      JMS 3
3144 7402      HLT      /NO INTERRUPT
3145 3144      OUT8,    .-1
3146 3147      BACK8,   .+1
3147 7440      SZA
3150 7402      HLT      /RETURN FROM LOC 1
                               /CONFIDENCE CHECK
                               /AC SHOULD BE ZERO

3151 1003      TAD 3
3152 7041      CIA
3153 1345      TAD OUT8
3154 7440      SZA
3155 7402      HLT      /JMS ERROR PRIOR
                               /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
      /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
3211 7402      HLT      /NO INTERRUPT
3212 3211      OUT9,    .-1
3213 3214      BACK9,   .+1
3214 7440      SZA
3215 7402      HLT      /RETURN FROM LOC 1
                               /CLA PRIOR TO INTERRUPT
                               /FAILED

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

SPF

/SET PRINTER FLAG

3224 6041

TSF

3225 7402

HLT

/SPF FAILED TO SET PRINTER FLAG
/FLAG IS ON

3226 7200

CLA

3227 1236

TAD BACK10

3230 3002

DCA 2

3231 6001

ION

3232 6041

TSF

3233 7402

HLT

/NO INTERRUPT

3234 7402

HLT

3235 3234

OUT10, .-1

3236 3237

BACK10, .+1

3237 7440

SZA

/RETURN FROM LOC 1

3240 7402

HLT

/CONFIDENCE CHECK
/AC SHOULD BE ZERO

3241 1000

TAD 0

3242 7041

CIA

3243 1235

TAD OUT10

3244 7640

SZA CLA

3245 7402

HLT

/INTERRUPT ERROR
/WRONG ADDRESS STORED

/INTERRUPT TEST 11

3246 6040

SPF

/SET PRINTER FLAG

3247 6041

TSF

3250 7402

HLT

/SPF FAILED TO SET PRINTER FLAG
/FLAG IS ON

3251 7200

CLA

3252 1311

TAD BACK11

3253 3002

DCA 2

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
3302 6001 ION
3303 6002 IOF
3304 6001 ION
3305 6002 IOF

```

```

3306 6041 TSF
3307 7402 HLT
3310 7410 SKP
3311 3313 BACK11, .+2
3312 7410 SKP
3313 7402 HLT

```

/WHAT HAPPENED TO MY FLAG

```

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

```

/INTERRUPT TEST 12

```

3314 6042 TCF
3315 7200 CLA
3316 1326 TAD BACK12
3317 3002 DCA 2
3320 6001 ION
3321 7000 NOP
3322 7000 NOP
3323 7000 NOP
3324 7000 NOP
3325 7410 SKP
3326 3330 BACK12, .+2
3327 7410 SKP
3330 7402 HLT

```

/CLEAR FLAG

```

/INTERRUPT WITH NO
/FLAG.

```

```

3331 6002 IOF

```

/INTERRUPT TEST 13

```

3332 6040 SPF
3333 6041 TSF
3334 7402 HLT
3335 7200 CLA
3336 1345 TAD BAC13
3337 3002 DCA 2
3340 6001 ION
3341 7410 SKP
3342 7402 HLT
3343 7402 HLT
3344 3343 OUTT13, .-1
3345 3346 BAC13, .+1
3346 7440 SZA
3347 7402 HLT
3350 1000 TAD 0
3351 7041 CIA
3352 1344 TAD OUTT13
3353 7640 SZA CLA
3354 7402 HLT

```

/SPF FAILED TO SET PRINTER FLAG.

/NO INTERRUPT

```

/INTERRUPT ERROR
/WRONG ADDRESS STORED

```

```

/INTERRUPT TEST 14
3355 6040      SPF
3356 6041      TSF
3357 7402      HLT          /SPF FAILED TO SET PRINTER FLAG
3360 7200      CLA
3361 1370      TAD BAC14
3362 3002      DCA 2
3363 6001      ION
3364 5765      JMP I .+1
3365 3366      .+1
3366 7402      HLT          /NO INTERRUPT
3367 3366      OUTT14, .-1
3370 3371      BAC14, .+1
3371 7440      SZA
3372 7402      HLT
3373 1000      TAD 0
3374 7041      CIA
3375 1367      TAD OUTT14
3376 7640      SZA CLA
3377 7402      HLT          /INTERRUPT ERROR
                               /WRONG ADDRESS STORED

```

```

/INTERRUPT TEST 15.
3400 6007      CAF          /CLEAR THE WORLD
3401 1212      TAD BAC15    /GET RETURN INTERRUPT ADDRESS
3402 3002      DCA 2        /STORE IT IN ADDRESS 2
3403 6001      ION          /INTERRUPT ON
3404 7000      NOP          /
3405 6007      CAF          /CLEAR THE WORLD
3406 6040      SPF          /SET PAINTER FLAG.
3407 6000      SKON
3410 5213      JMP .+3      /
3411 7402      HLT          /CAF FAILED TO CLEAR ION
3412 3411      BAC15, .-1
3413 6007      CAF          /CLEAR FOR EXIT.
3414 5615      JMP I .+1
3415 3600      IAIT1
                               PAGE

```

```

/ILLEGAL AUTO INDEX TEST1
3600 7200      IAIT1, CLA
3601 5602      JMP I .+1
3602 4000      AND1
3603 4010      K4010, 4010
                               *4000
4000 0610      AND1, AND I 4010    /TEST INSTRUCTION
4001 5602      JMP I .+1
4002 3604      RET1
                               *K4010+1
3604 1623      RET1, TAD I K4010
3605 7440      SZA

```

| | | | |
|------|------|-------------|----------------------------|
| 3606 | 7402 | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | /AND I 4010 ALTERED (4010) |
| 3607 | 7200 | CLA | |
| 3610 | 3603 | DCA I K4010 | |

/ILLEGAL AUTO INDEX TEST 2

| | | | |
|------|------|-------------------|----------------------------|
| 3611 | 7200 | CLA | |
| 3612 | 5613 | JMP I .+1 | |
| 3613 | 2173 | AND2 | |
| 3614 | 2010 | K2010, 2010 | |
| | 2173 | *2173 | |
| 2173 | 0610 | AND2, AND I 2010 | /TEST INSTRUCTION |
| 2174 | 5775 | JMP I .+1 | |
| 2175 | 3615 | RET2 | |
| | 3615 | *K2010+1 | |
| 3615 | 1614 | RET2, TAD I K2010 | |
| 3616 | 7440 | SZA | |
| 3617 | 7402 | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | /AND I 2010 ALTERED (2010) |
| 3620 | 5621 | JMP I .+1 | |
| 3621 | 3622 | AITST3 | |

/ILLEGAL AUTO INDEX TEST 3

| | | | |
|------|------|-------------------|----------------------------|
| 3622 | 7200 | AITST3, CLA | |
| 3623 | 5624 | JMP I .+1 | |
| 3624 | 1173 | AND3 | |
| 3625 | 1010 | K1010, 1010 | |
| | 1173 | *1173 | |
| 1173 | 0610 | AND3, AND I 1010 | /TEST INSTRUCTION |
| 1174 | 5775 | JMP I .+1 | |
| 1175 | 3626 | RET3 | |
| | 3626 | *K1010+1 | |
| 3626 | 1625 | RET3, TAD I K1010 | |
| 3627 | 7440 | SZA | |
| 3630 | 7402 | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | /AND I 1010 ALTERED (1010) |
| 3631 | 7200 | CLA | |
| 3632 | 3625 | DCA I K1010 | |

/ILLEGAL AUTO INDEX TEST 4

| | | | |
|------|------|-----------|--|
| 3633 | 7200 | CLA | |
| 3634 | 5635 | JMP I .+1 | |
| 3635 | 0574 | AND4 | |
| 3636 | 0410 | K410, 410 | |
| | 0574 | *574 | |

| | | | | |
|------|------|---------|------------|---------------------------|
| 0574 | 0610 | AND4, | AND I 410 | /TEST INSTRUCTION |
| 0575 | 5776 | | JMP I .+1 | |
| 0576 | 3637 | | RET4 | |
| | 3637 | *K410+1 | | |
| 3637 | 1636 | RET4, | TAD I K410 | |
| 3640 | 7440 | | SZA | |
| 3641 | 7422 | | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | | /AND I 410 ALTERED (410) |
| 3642 | 7200 | | CLA | |
| 3643 | 3636 | | DCA I K410 | |

/ILLEGAL AUTO INDEX TEST 5

| | | | | |
|------|------|---------|------------|---------------------------|
| 3644 | 7200 | | CLA | |
| 3645 | 5646 | | JMP I .+1 | |
| 3646 | 0372 | | AND5 | |
| 3647 | 0210 | K210, | 210 | |
| | 0371 | *371 | | |
| 0371 | 5375 | | JMP .+4 | |
| 0372 | 0610 | AND5, | AND I 210 | /TEST INSTRUCTION |
| 0373 | 5774 | | JMP I .+1 | |
| 0374 | 3650 | | RET5 | |
| | 3650 | *K210+1 | | |
| 3650 | 1647 | RET5, | TAD I K210 | |
| 3651 | 7440 | | SZA | |
| 3652 | 7402 | | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | | /AND I 210 ALTERED (210) |
| 3653 | 7200 | | CLA | |
| 3654 | 3647 | | DCA I K210 | |

/ILLEGAL AUTO INDEX TEST 6

| | | | | |
|------|------|---------|------------|---------------------------|
| 3655 | 7200 | | CLA | |
| 3656 | 0657 | | JMP I .+1 | |
| 3657 | 0130 | | AND6 | |
| 3660 | 0110 | K110, | 110 | |
| | 0130 | *130 | | |
| 0130 | 0510 | AND6, | AND I 110 | /TEST INSTRUCTION |
| 0131 | 5532 | | JMP I .+1 | |
| 0132 | 3661 | | RET6 | |
| | 3661 | *K110+1 | | |
| 3661 | 1660 | RET6, | TAD I K110 | |
| 3662 | 7440 | | SZA | |
| 3663 | 7402 | | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | | /AND I 110 ALTERED (110) |
| 3664 | 7200 | | CLA | |
| 3665 | 3110 | | DCA 110 | |

/ILLEGAL AUTO INDEX TEST 7

| | | | | |
|------|------|--------|-----------|---------------------------|
| 3666 | 7200 | | CLA | |
| 3667 | 5670 | | JMP I .+1 | |
| 3670 | 0124 | | AND7 | |
| 3671 | 0050 | K50, | 50 | |
| | 0124 | *124 | | |
| 0124 | 0450 | AND7, | AND I 50 | /TEST INSTRUCTION |
| 0125 | 5526 | | JMP I .+1 | |
| 0126 | 3672 | | RET7 | |
| | 3672 | *K50+1 | | |
| 3672 | 1671 | RET7, | TAD I K50 | |
| 3673 | 7440 | | SZA | |
| 3674 | 7402 | | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | | /AND I 50 ALTERED (50) |
| 3675 | 7200 | | CLA | |
| 3676 | 3050 | | DCA 50 | |

/ILLEGAL AUTO INDEX TEST 8

| | | | | |
|------|------|--------|-----------|---------------------------|
| 3677 | 7200 | | CLA | |
| 3700 | 5701 | | JMP I .+1 | |
| 3701 | 0120 | | AND8 | |
| 3702 | 0030 | K30, | 30 | |
| | 0120 | *120 | | |
| 0120 | 0430 | AND8, | AND I 30 | /TEST INSTRUCTION |
| 0121 | 5522 | | JMP I .+1 | |
| 0122 | 3703 | | RET8 | |
| | 3703 | *K30+1 | | |
| 3703 | 1702 | RET8, | TAD I K30 | |
| 3704 | 7440 | | SZA | |
| 3705 | 7402 | | HLT | /ERROR. AC SHOULD BE ZERO |
| | | | | /AND I 30 ALTERED (30) |
| 3706 | 7200 | | CLA | |
| 3707 | 3030 | | DCA 30 | |

/ILLEGAL AUTO INDEX TEST 9

| | | | | |
|------|------|---------|-----------|-------------------|
| 3710 | 7200 | | CLA | |
| 3711 | 3000 | | DCA 0 | |
| 3712 | 5713 | | JMP I .+1 | |
| 3713 | 0074 | IAITS9, | AND9 | |
| | 0074 | *74 | | |
| 0074 | 0400 | AND9, | AND I 0 | /TEST INSTRUCTION |
| 0075 | 5476 | | JMP I .+1 | |
| 0076 | 3714 | | RET9 | |

| | | | |
|--|-----------|-----------|---------------------------|
| | 3714 | *IAITS9+1 | |
| | 3714 1436 | RET9, | TAD I K0 |
| | 3715 7440 | | SZA |
| | 3716 7402 | | HLT |
| | | | /ERROR, AC SHOULD BE ZERO |
| | | | /AND I 0 ALTERED (0) |
| | 3717 7200 | | CLA |
| | 3720 3000 | | DCA 0 |

/ILLEGAL AUTO INDEX TEST 10

| | | | |
|--|-----------|---------|-------------------|
| | 3721 7200 | | CLA |
| | 3722 5723 | | JMP I .+1 |
| | 3723 0070 | IAIT10, | AND10 |
| | | | |
| | 0070 | *70 | |
| | 0070 0407 | AND10, | AND I 7 |
| | 0071 5472 | | JMP I .+1 |
| | 0072 3724 | | RET10 |
| | | | /TEST INSTRUCTION |

| | | | |
|--|-----------|-----------|---------------------------|
| | 3724 | *IAIT10+1 | |
| | 3724 1446 | RET10, | TAD I K0007 |
| | 3725 7440 | | SZA |
| | 3726 7402 | | HLT |
| | | | /ERROR, AC SHOULD BE ZERO |
| | | | /AND I 7 ALTERED (7) |
| | 3727 7200 | | CLA |
| | 3730 3007 | | DCA 7 |

/CHECK FOR TTY BELL

| | | | |
|--|-----------|---------|------------|
| | 3731 1347 | | TAD BLCNT |
| | 3732 7001 | | IAC |
| | 3733 3347 | | DCA BLCNT |
| | 3734 1347 | | TAD BLCNT |
| | 3735 1350 | | TAD RNCNT |
| | 3736 7640 | | SZA CLA |
| | 3737 5746 | | JMP I K200 |
| | 3740 3347 | | DCA BLCNT |
| | 3741 1351 | | TAD BELCOD |
| | 3742 6046 | | TL5 |
| | 3743 6041 | | TSF |
| | 3744 5343 | | JMP .-1 |
| | 3745 5746 | | JMP I .+1 |
| | 3746 0200 | K200, | 200 |
| | 3747 0000 | BLCNT, | 0 |
| | 3750 4762 | RNCNT, | -3016 |
| | 3751 0207 | BELCOD, | 207 |

| | | | |
|--|-----------|-------|-----------|
| | 4010 | *4010 | |
| | 4010 0000 | | 0 |
| | | | |
| | 4011 0000 | STR, | 0 |
| | 4012 1220 | | TAD JMP1X |
| | 4013 3001 | | DCA 1 |

```

4014 3002          DCA 2
4015 3003          DCA 3
4016 2211          ISZ STR
4017 5611          JMP I STR
4020 5402          JMPIX, 5402

```

```

          /PROCESSOR IOT TEST
          4200          PAGE
4200 7300          PIOTST, CLA CLL
4201 4602          JMS I  ,+1
4202 4011          STR

```

```

          /PROCESSOR IOT TEST 1
4203 7360          CLA CMA CLL CML
4204 6007          CAF
4205 7410          SKP
4206 7402          HLT
4207 7420          SNL
4210 7440          SZA
4211 7402          HLT

```

5203
JMP

```

          /PROCESSOR IOT TEST 2
4212 6040          SPF
4213 7410          SKP
4214 7402          HLT
4215 6041          TSF
4216 7402          HLT
4217 6007          CAF
4220 6041          TSF
4221 7410          SKP
4222 7402          HLT
4223 6003          SRQ
4224 7410          SKP
4225 7402          HLT

```

```

          /PROCESSOR IOT TEST 3
4226 6007          CAF
4227 6040          SPF
4230 6003          SRQ
4231 7402          HLT

```

```

          /PROCESSOR IOT TEST 4
4232 6007          CAF
4233 6035          KIE
4234 7410          SKP
4235 7402          HLT
4236 6040          SPF
4237 6041          TSF
4240 7402          HLT
4241 6003          SRQ
4242 7410          SKP
4243 7402          HLT

```

/CLEAR ALL FLAGS, AC, AND LINK

/CAF SHOULD NOT SKIP

/CAF FAILED, AC AND LINK SHOULD BE ZERO

/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

/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

/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 5
4244 7201          CLA IAC
4245 6035          KIE
4246 6040          SPF
4247 6041          TSF
4250 7402          HLT
4251 6003          SRQ
4252 7402          HLT
/ENABLE TTY INTERRUPT (AC11 IS SET)
/SET PRINTER FLAG
/SPF OR TSF FAILED
/SKIP IF INTERRUPT REQUEST
/KIE FAILED TO ENABLE TTY INTERRUPT OR SRQ FAILED

/PROCESSOR IOT TEST 6
4253 6007          CAF
4254 1267          TAD      BACK13
4255 3002          DCA      2
4256 6001          ION
4257 7410          SKP
4260 7402          HLT
4261 6000          SKON
4262 7402          HLT
4263 6000          SKON
4264 7410          SKP
4265 7402          HLT
4266 5271          JMP      .+3
4267 4270          BACK13, .+1
4270 7402          HLT
/CLEAR ALL FLAGS, AC, AND LINK
/TURN INTERRUPT ON
/ION SHOULD NOT SKIP
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/SKON FAILED TO SKIP OR ION FAILED
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/SKON FAILED
/ILLEGAL INTERRUPT OCCURRED

/PROCESSOR IOT TEST 7
4271 6007          CAF
4272 1304          TAD BACK14
4273 3002          DCA 2
4274 6001          ION
4275 6002          IOF
4276 7410          SKP
4277 7402          HLT
4300 6000          SKON
4301 7410          SKP
4302 7402          HLT
4303 5306          JMP      .+3
4304 4305          BACK14, .+1
4305 7402          HLT
/CLEAR ALL FLAGS, AC, AND LINK
/TURN INTERRUPT ON
/TURN INTERRUPT OFF
/IOF SHOULD NOT SKIP
/SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF
/IOF FAILED
/ILLEGAL INTERRUPT OCCURED

/PROCESSOR IOT TEST 8
4306 6007          CAF
4307 7040          CMA
4310 6004          GTF
4311 7410          SKP
4312 7402          HLT
4313 0064          AND K5200
4314 7440          SZA
4315 7402          HLT
/CLEAR ALL FLAGS, AC, AND LINK
/GET INTERRUPT FLAGS
/GTF SHOULD NOT SKIP
/MASK
/GTF FAILED, (AC SHOULD EQUAL 0000)

/PROCESSOR IOT TEST 9
4316 7360          CLA CMA CLL CML
4317 6004          GTF
/SET LINK AND AC
/GET INTERRUPT FLAGS, (AC SHOULD EQUAL 4000)

```

4320 7420
4321 7402
4322 0064
4323 7104
4324 7430
4325 7440
4326 7402

SNL
HLT
AND K5200
CLL RAL
SZL
SZA
HLT

/LINK SHOULD BE 1
/MASK
/AC SHOULD EQUAL ZERO

/GTF FAILED

/PROCESSOR IOT TEST 10

4327 6007
4330 6040
4331 6004
4332 0064
4333 7006
4334 7004
4335 7430
4336 7440
4337 7402

CAF
SPF
GTF
AND K5200
RTL
RAL
SZL
SZA
HLT

/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 11

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

CAF
TAD BACK15
DCA 2
ION
GTF
AND K5200
SKON
HLT
CLL BSW
RTR
SZL
SZA
HLT
JMP .+3
BACK15, .+1
HLT

/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 12

7402-4360 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

CLA CLL CML
TAD BACK16
DCA 2
RTF
SKP
HLT
SNL
SZA
HLT
SKON
HLT
JMP I .+1
PTST14
BACK16, .+1
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

/ILLEGAL INTERRUPT OCCURED

5340

7402-

| | | | |
|------|------|------------------------|--|
| 4400 | 6007 | /PROCESSOR IOT TEST 13 | |
| 4401 | 1215 | PTST14, CAF | |
| 4402 | 3002 | TAD | BACK17 |
| 4403 | 7330 | DCA | 2 |
| 4404 | 6005 | CLA CLL CML RAR | /AC EQUALS 4000 |
| 4405 | 7420 | RTF | /RESTORE ALL FLAGS |
| 4406 | 7402 | SNL | |
| 4407 | 6000 | HLT | /RTF FAILED TO RESTORE LINK |
| 4410 | 7402 | SKON | /SKIP IF INTERRUPT ON AND TURN INTERRUPT OFF |
| 4411 | 6007 | HLT | /RTF FAILED TO TURN INTERRUPT ON |
| 4412 | 7300 | CAF | /CLEAR ALL FLAGS, AC, LINK, AND ENABLE TTY INTERRUPT |
| 4413 | 5614 | CLA CLL | |
| 4414 | 2677 | JMP I .+1 | /GO TO INTERRUPT TESTS |
| 4415 | 4416 | INTEST | |
| 4416 | 7402 | BACK17, .+1 | |
| | | HLT | /ILLEGAL INTERRUPT OCCURED |

5

| | | | | | | | | |
|------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0000 | 11110001 | 00000000 | 11111111 | 11111111 | 11111111 | 11111111 | 11111100 | 11101110 |
| 0100 | 00000000 | 10000000 | 11101110 | 11100000 | 00000000 | 00000000 | 00000000 | 00111111 |
| 0200 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 0300 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 0400 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 0500 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 0600 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 0700 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1000 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1100 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1200 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1300 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1400 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1500 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1600 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 1700 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2000 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2100 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2200 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2300 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2400 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2500 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2600 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 2700 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11110000 |
| 3000 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 3100 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111000 | 00000000 |
| 3200 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 3300 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 3400 | 11111111 | 11111100 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 3500 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 3600 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 3700 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11000000 | 00000000 | 00000000 |

| | | | | | | | | |
|------|----------|----------|----------|----------|----------|----------|----------|----------|
| 4000 | 11100000 | 11111111 | 10000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 4100 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 4200 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 4300 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111110 |
| 4400 | 11111111 | 11111110 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 4500 | 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

| | | | | | |
|--------|------|--------|------|--------|------|
| AITST3 | 3622 | K1010 | 3625 | OUTT14 | 3367 |
| AND1 | 4000 | K110 | 3660 | PIOTST | 4200 |
| AND10 | 0070 | K1111 | 0062 | PTST14 | 4400 |
| AND2 | 2173 | K1234 | 0177 | RET1 | 3604 |
| AND3 | 1173 | K172 | 0173 | RET10 | 3724 |
| AND4 | 0574 | K173 | 0174 | RET2 | 3615 |
| AND5 | 0372 | K174 | 0175 | RET3 | 3626 |
| AND6 | 0130 | K175 | 0176 | RET4 | 3637 |
| AND7 | 0124 | K176 | 0172 | RET5 | 3650 |
| AND8 | 0120 | K1777 | 0037 | RET6 | 3661 |
| AND9 | 0074 | K200 | 3746 | RET7 | 3672 |
| BAC13 | 3345 | K2010 | 3614 | RET8 | 3703 |
| BAC14 | 3370 | K210 | 3647 | RET9 | 3714 |
| BAC15 | 3412 | K2525 | 0054 | RNGCNT | 3750 |
| BACK1 | 2713 | K30 | 3702 | RTF | 6005 |
| BACK10 | 3236 | K3777 | 0021 | SKON | 6000 |
| BACK11 | 3311 | K4 | 0065 | SPF | 6040 |
| BACK12 | 3326 | K4010 | 3603 | SRQ | 6003 |
| BACK13 | 4267 | K410 | 3636 | STR | 4011 |
| BACK14 | 4304 | K4400 | 0052 | TP0 | 0202 |
| BACK15 | 4356 | K4444 | 0056 | TP177 | 0377 |
| BACK16 | 4375 | K4577 | 0053 | | |
| BACK17 | 4415 | K50 | 3671 | | |
| BACK2 | 2761 | K5200 | 0064 | | |
| BACK3 | 2735 | K5252 | 0061 | | |
| BACK4 | 3013 | K5555 | 0063 | | |
| BACK5 | 3044 | K5777 | 0022 | | |
| BACK6 | 3076 | K6666 | 0055 | | |
| BACK7 | 3124 | K6777 | 0023 | | |
| BACK8 | 3146 | K7070 | 0057 | | |
| BACK9 | 3213 | K7377 | 0024 | | |
| BELCOD | 3751 | K7577 | 0025 | | |
| BLCNT | 3747 | K7677 | 0026 | | |
| BSW | 7002 | K7737 | 0027 | | |
| CAF | 6007 | K7757 | 0031 | | |
| GTF | 6004 | K7767 | 0032 | | |
| IAIT1 | 3600 | K7773 | 0033 | | |
| IAIT10 | 3723 | K7775 | 0034 | | |
| IAITS9 | 3713 | K7776 | 0035 | | |
| INTEST | 2677 | K7777 | 0020 | | |
| JMPIX | 4020 | KIE | 6035 | | |
| K0 | 0036 | OUT1 | 2712 | | |
| K0001 | 0051 | OUT10 | 3235 | | |
| K0003 | 0047 | OUT2 | 2760 | | |
| K0007 | 0046 | OUT3 | 2734 | | |
| K0017 | 0045 | OUT4 | 3012 | | |
| K0037 | 0044 | OUT5 | 3043 | | |
| K0077 | 0043 | OUT6 | 3075 | | |
| K0177 | 0042 | OUT7 | 3123 | | |
| K0377 | 0041 | OUT8 | 3145 | | |
| K0707 | 0060 | OUT9 | 3212 | | |
| K0777 | 0040 | OUTT13 | 3344 | | |

ERRORS DETECTED: 0

LINKS GENERATED: 0

RUN-TIME: 20 SECONDS

2K CORE USED