

IDENTIFICATION

PRODUCT CODE: MAINDEC-8/E-D0AB
PRODUCT NAME: PDP-8/E INSTRUCTION TEST 1
DATE CREATED: MAY 10, 1971
MAINTAINER: DIAGNOSTIC GROUP
AUTHOR: ED FORTMILLER



1. ABSTRACT

THIS IS A DIAGNOSTIC PROGRAM FOR TESTING THE AND, TAD, OPERATE, AND BASIC MO, INSTRUCTIONS OF THE PDP-8/E ONLY.

2. REQUIREMENTS

2.1 EQUIPMENT

A PDP-8/E EQUIPPED WITH TELETYPE.

2.2 STORAGE

THIS PROGRAM USES LOCATIONS 0000-5514. THE BINARY LOADER MUST BE STORED IN THE LAST MEMORY PAGE.

2.3 PRELIMINARY PROGRAMS

3. LOADING PROCEDURE

3.1 METHOD

THE STANDARD BINARY LOADER IS USED.

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS

SR=7777

4.2 STARTING ADDRESS

0200

4.3 OPERATOR ACTION

1. SET SR TO 200 AND PRESS LOAD ADDRESS.

2. SET SR TO 7777 AND PUSH CLEAR AND CONTINUE

3. PROGRAM WILL HALT. MA=147

4. IF AC IS NOT EQUAL TO 0000 AN ERROR HAS OCCURRED.

5. PUSH CONTINUE. PROGRAM WILL RUN UNTIL STOPPED OR UNTIL 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(S) PRECEDING THE HLT WITH A JMP TO THE BEGINNING OF THE TEST.

7. RESTRICTIONS

7.1 STARTING RESTRICTIONS: NONE

7.2 OPERATING RESTRICTIONS: NONE

8. MISCELLANEOUS

8.1 EXECUTION TIME

THE TELETYPE BELL RINGS AT THE END OF 1440 PROGRAM PASSES WHICH IS APPROXIMATELY EVERY 5 SECONDS.

9.

PROGRAM DESCRIPTION

THE PROGRAM CONSISTS OF MANY INDIVIDUAL TESTS. IN MOST CASES EACH TEST CHECKS ONLY ONE FUNCTION AND USES PREVIOUSLY TESTED FUNCTIONS AS A BASIS FOR THE TEST. THE PROGRAM COUNTER ACTION IS STRICTLY SEQUENTIAL EXCEPT FOR SKIPS. THE ONLY JMP INSTRUCTIONS USED ARE AT THE BEGINNING AND END OF THE PROGRAM. THE SEQUENCE OF TESTING IS AS FOLLOWS:

1. TEST ALL OPERATE FUNCTIONS INDIVIDUALLY EXCEPT FOR ROTATES.
2. TEST "TAD" INSTRUCTION.
3. TEST ROTATE FUNCTIONS.
4. TEST "BSW" INSTRUCTION.
5. GROUP 1 OPERATE INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.
6. GROUP 2 OPERATE INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.
7. MQ INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.
8. TEST "AND" INSTRUCTION.

THE TELETYPE BELL RINGS APPROXIMATELY EVERY 5 SECONDS.

10.

LISTING

/PDP-8/E INSTRUCTION TEST 1 MAINDEC-8E-D0AB
 /COPYRIGHT 1970, 1971, DIGITAL EQUIPMENT CORP., MAYNARD, MASS. 01754
 /TAPE 1

7002	BSW=7002	/SWAP BYTES IN AC
7401	NOPE=7401	/NOP
7601	CLAE=7601	/CLEAR AC
7421	MOQ=7421	/LOAD MQ FROM AC THEN CLEAR AC
7501	MOA=7501	/INCLUSIVE OR, MQ AND AC
7621	CAM=7621	/CLEAR AC AND MQ
7521	SWP=7521	/SWAP AC AND MQ
7701	ACL=7701	/LOAD AC FROM MQ, CLEAR MQ

0000	0000	*0	0
0001	5001		JMP 1
0002	0002		0002
0003	0003		0003
0004	0000		0
0005	0000		0000
0006	7402	HALT,	HLT
0007	7000	NOOP,	NOP
0010	0000		0

/CONSTANTS AND VARIABLES

0020	0020	*20	0000
0021	0001	K0000,	0001
0022	0002	K0001,	0002
0023	0003	K0002,	0003
0024	0004	K3,	3
0025	0006	K0004,	0004
0026	0010	K6,	6
0027	0014	K0010,	0010
0030	0020	K14,	14
0031	0030	K0020,	0020
0032	0040	K30,	30
0033	0060	K0040,	0040
0034	0100	K60,	60
0035	0140	K0100,	0100
0036	0200	K140,	140
0037	0300	K0200,	0200
0040	0400	K300,	300
0041	0600	K0400,	0400
0042	1000	K600,	600
0043	1234	K1000,	1000
0044	1400	K1234,	1234
0045	2000	K1400,	1400
0046	3000	K2000,	2000
0047	3312	K3000,	3000
0050	4000	K3312,	3312
0051	7717	K4000,	4000
0052	7776	K7717,	7717
0053	7775	K7776,	7776
		K7775,	7775

0054	7773	K7773,	7773
0055	7767	K7767,	7767
0056	7757	K7757,	7757
0057	7737	K7737,	7737
0060	7177	K7177,	7177
0061	7677	K7677,	7677
0062	7577	K7577,	7577
0063	7377	K7377,	7377
0064	6777	K6777,	6777
0065	5777	K5777,	5777
0066	3777	K3777,	3777
0067	7777	K7777,	7777
0070	5252	K5252,	5252
0071	2525	K2525,	2525
0072	6000	K6000,	6000
0073	7000	K7000,	7000
0074	7400	K7400,	7400
0075	7600	K7600,	7600
0076	7740	K7740,	7740
0077	7760	K7760,	7760
0100	7770	K7770,	7770
0101	7774	K7774,	7774

0102	0007	K0007,	0007
0103	0067	K0067,	0067
0104	0047	K0047,	0047
0105	0037	K0037,	0037
0106	0077	K0077,	0077
0107	0177	K0177,	0177
0110	0377	K0377,	0377
0111	0777	K0777,	0777
0112	1777	K1777,	1777
0113	7700	K7700,	7700
0114	5225	K5225,	5225
0115	2552	K2552,	2552
0116	0770	K0770,	0770
0117	7007	K7007,	7007
0120	0207	DEL,	0207
0121	5140	BLCNT,	-2640
0122	5140	BLCNT,	-2640

0144 0144
 0145 1067
 0146 7200
 0146 7402

*144
 /TAD,CLA,HLT,TEST
 START, TAD K7777
 CLA
 HLT

/AC SHOULD=0
 /SET SR TO 7777, CONTINUE

0147 7410
 0150 7402
 0151 7200

/SKIP TEST
 SKP
 HLT
 /SEA TEST 1
 CLA

/SKP FAILED

0152	7440	SEA	/SEA SHOULD HAVE SKIPPED
0153	7402	HLT	/AC SHOULD EQUAL ZERO
0154	7450	SNA	/SNA SHOULD NOT HAVE SKIPPED
0155	7410	SKP	/AC SHOULD EQUAL ZERO
0156	7402	HLT	

/SEA TEST 2

0157	7200	CLA	/SEA SHOULD NOT HAVE SKIPPED
0160	1050	TAD	/AC SHOULD EQUAL 4000
0161	7440	SEA	
0162	7410	SKP	
0163	7402	HLT	

0164	7450	SNA	/SNA SHOULD HAVE SKIPPED
0165	7402	HLT	/AC SHOULD EQUAL 4000

/SEA TEST 3

0166	7200	CLA	/SEA SHOULD NOT HAVE SKIPPED
0167	1045	TAD	/AC SHOULD EQUAL 2000
0170	7440	SEA	
0171	7410	SKP	
0172	7402	HLT	

0173	7450	SNA	/SNA SHOULD HAVE SKIPPED
0174	7402	HLT	/AC SHOULD EQUAL 2000
0175	7000	NOP	
0176	7000	NOP	
0177	7410	SKP	/SKIP OVER JMP START.

*200
BEGIN, JMP START
/SEA TEST 4

0200	5144	CLA	/BEGINNING OF INSTRUCTION TEST 1.
0201	7200	CLA	
0202	1042	TAD	
0203	7440	SEA	
0204	7410	SKP	
0205	7402	HLT	

/SEA TEST 5

0206	7450	SNA	/SEA SHOULD NOT HAVE SKIPPED
0207	7402	HLT	/AC SHOULD EQUAL 1000
0210	7200	CLA	/SNA SHOULD HAVE SKIPPED
0211	1040	TAD	/AC SHOULD EQUAL 10000
0212	7440	SEA	
0213	7410	SKP	
0214	7402	HLT	

/SEA TEST 6

0215	7450	SNA	/SEA SHOULD NOT HAVE SKIPPED
0216	7402	HLT	/AC SHOULD EQUAL 0400
		SNA	/SNA SHOULD HAVE SKIPPED
		HLT	/AC SHOULD EQUAL 0400

0217 7200 CLA
 0220 1036 TAD K0200
 0221 7440 SEA
 0222 7410 SKP
 0223 7402 HLT

/SEA SHOULD NOT HAVE SKIPPED
 /AC SHOULD EQUAL 0200

0224 7450 SNA
 0225 7402 HLT

/SNA SHOULD HAVE SKIPPED
 /AC SHOULD EQUAL 0200

/SEA TEST 7

0226 7200 CLA
 0227 1034 TAD K0100
 0230 7440 SEA
 0231 7410 SKP
 0232 7402 HLT

/SEA SHOULD NOT HAVE SKIPPED
 /AC SHOULD EQUAL 0100

0233 7450 SNA
 0234 7402 HLT

/SNA SHOULD HAVE SKIPPED
 /AC SHOULD EQUAL 0100

/SEA TEST 8

0235 7200 CLA
 0236 1032 TAD K0040
 0237 7440 SEA
 0240 7410 SKP
 0241 7402 HLT

/SEA SHOULD NOT HAVE SKIPPED
 /AC SHOULD EQUAL 0040

0242 7450 SNA
 0243 7402 HLT

/SNA SHOULD HAVE SKIPPED
 /AC SHOULD EQUAL 0040

/SEA TEST 9

0244 7200 CLA
 0245 1030 TAD K0020
 0246 7440 SEA
 0247 7410 SKP
 0250 7402 HLT

/SEA SHOULD NOT HAVE SKIPPED
 /AC SHOULD EQUAL 0020

0251 7450 SNA
 0252 7402 HLT

/SNA SHOULD HAVE SKIPPED
 /AC SHOULD EQUAL 0020

/SEA TEST 10

0253 7200 CLA
 0254 1026 TAD K0010
 0255 7440 SEA
 0256 7410 SKP
 0257 7402 HLT

/SEA SHOULD NOT HAVE SKIPPED
 /AC SHOULD EQUAL 0010

0260 7450 SNA
 0261 7402 HLT

/SNA SHOULD HAVE SKIPPED
 /AC SHOULD EQUAL 0010

/SEA TEST 11

0262 7200 CLA
 0263 1024 TAD K0004

0264 7440
0265 7410
0266 7402
0267 7450
0270 7402

SEA
SKP
HLT
SNA
HLT

/SEA SHOULD NOT HAVE SKIPPED
/AC SHOULD EQUAL 0004
/SNA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 0004

/SEA TEST 12

0271 7200
0272 1022
0273 7440
0274 7410
0275 7402
0276 7450
0277 7402

CLA
TAD K0002
SEA
SKP
HLT
SNA
HLT

/SEA SHOULD NOT HAVE SKIPPED
/AC SHOULD EQUAL 0002
/SNA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 0002

/SEA TEST 13

0300 7200
0301 1021
0302 7440
0303 7410
0304 7402
0305 7490
0306 7402

CLA
TAD K0001
SEA
SKP
HLT
SNA
HLT

/SEA SHOULD NOT HAVE SKIPPED
/AC SHOULD EQUAL 0001
/SNA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 0001

/SPA TEST 1

0307 7200
0310 1066
0311 7510
0312 7402

CLA
TAD K3777
SPA
HLT

/SPA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 3777

/SPA TEST 2

0313 7200
0314 1050
0315 7510
0316 7410
0317 7402

CLA
TAD K4000
SPA
SKP
HLT

/SPA SHOULD NOT HAVE SKIPPED
/AC SHOULD EQUAL 4000

/SMA TEST 1

0320 7200
0321 1066
0322 7500
0323 7410
0324 7402

CLA
TAD K3777
SMA
SKP
HLT

/SMA SHOULD NOT HAVE SKIPPED
/AC SHOULD EQUAL 3777

/SMA TEST 2

0325 7200
CLA

0326 1050 TAD K4000
0327 7500 SMA
0330 7402 HLT

/SMA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 4000

0331 7200 /CMA TEST 1
0332 1067 CLA
0333 7040 TAD K7777
0334 7440 CMA
0335 7402 SEA
HLT

/CMA DID NOT COMPLEMENT AC
/AC SHOULD EQUAL 0000

0336 7200 /CMA - TAD TEST 1
0337 1071 CLA
0340 7040 TAD K2525
0341 7450 CMA
0342 7402 SNA
HLT

/TAD OR CMA ERROR
/AC SHOULD EQUAL 5252

0343 1071 TAD K2525
0344 7040 CMA
0345 7440 SEA
0346 7402 HLT

/TAD OR CMA ERROR
/AC SHOULD EQUAL 0000

0347 7200 /CMA - TAD TEST 2
0350 1070 CLA
0351 7040 TAD K5252
0352 7450 CMA
0353 7402 SNA
HLT

/TAD OR CMA ERROR
/AC SHOULD EQUAL 2525

0354 1070 TAD K5252
0355 7040 CMA
0356 7440 SEA
0357 7402 HLT

/TAD OR CMA ERROR
/AC SHOULD EQUAL 0000

0360 7200 /CMA - TAD TEST 3
0361 1067 CLA
0362 7040 TAD K7777
0363 7440 CMA
0364 7402 SEA
HLT

/TAD OR CMA ERROR
/AC SHOULD EQUAL 0000

0365 7200 /IAC TEST 1
0366 7001 CLA
0367 7440 IAC
0370 7410 SEA
0371 7402 SKP
HLT

/IAC DID NOT INCREMENT
/AC SHOULD EQUAL 0001

0372 7200 /IAC TEST 2
0373 1067 CLA
0374 7001 TAD K7777
IAC

0375 7440
0376 7402

SEA
HLT

/IAC DID NOT INCREMENT
/AC SHOULD EQUAL 0000

/IAC TEST 3

0377 7200
0400 1101
0401 7001
0402 7001
0403 7001
0404 7001
0405 7440
0406 7402

CLA
TAD K7774
IAC
IAC
IAC
IAC
SEA
HLT

/IAC NOT INCREMENTING
/AC SHOULD EQUAL 0000

/SEL TEST 1

0407 7200
0410 7100
0411 7004
0412 7430
0413 7402

CLA
CLL
RAL
SEL
HLT

/CLEAR LINK
/CLEAR LINK SAFETY
/SEL SHOULD HAVE SKIPPED
/LINK SHOULD EQUAL ZERO

/SEL TEST 2

0414 7200
0415 7100
0416 7020
0417 1050
0420 7004
0421 7430
0422 7410
0423 7402

CLA
CLL
CML
TAD K4000
RAL
SEL
SKP
HLT

/CLEAR LINK
/COMPLEMENT LINK
/SET LINK SAFETY
/SEL SHOULD NOT HAVE SKIPPED
/LINK SHOULD EQUAL ONE

/SNL TEST 1

0424 7200
0425 7100
0426 7004
0427 7420
0430 7410
0431 7402

CLA
CLL
RAL
SNL
SKP
HLT

/CLEAR LINK
/CLEAR LINK SAFETY
/SNL SHOULD NOT HAVE SKIPPED
/LINK SHOULD EQUAL ZERO

/SNL TEST 2

0432 7200
0433 7100
0434 7020
0435 1050
0436 7004
0437 7420
0440 7402

CLA
CLL
CML
TAD K4000
RAL
SNL
HLT

/CLEAR LINK
/COMPLEMENT LINK
/SET LINK SAFETY
/SNL SHOULD HAVE SKIPPED
/LINK SHOULD EQUAL ONE

/CLL TEST 1

0441 7200
0442 1050

CLA
TAD K4000

0443 7024 RAL /SET LINK
0444 7420 SNL /CANNOT SET LINK WITH RAL
0445 5252 JMP CLL11 /TRY A CML

0446 7100 CLL1, CLL /CLL DID NOT CLEAR LINK
0447 7430 SEL /LINK SHOULD EQUAL ONE
0450 7402 HLT /SET LINK

0451 5256 JMP .+5 /CANNOT SET LINK WITH
0452 7020 CML /RAL OR CML, CANNOT
0453 7420 SNL /PERFORM CLL TEST 1
0454 7402 HLT

0455 5246 JMP CLL1

/CML TEST 1
CMLT1, CLL /CLL DID NOT CLEAR LINK

0456 7100 SEL /CML DID NOT SET LINK
0457 7430 HLT
0460 7402 CML
0461 7020 SNL
0462 7420 HLT
0463 7402 CML
0464 7020 HLT
0465 7430 SEL
0466 7402 HLT

/CLA TEST 1 (OPERATE GROUP 2)
CLA /CML DID NOT RESET LINK
TAD K7777

0467 7200 CLA /CLA (7600) DID NOT CLEAR AC
0470 1067 TAD K7777 /AC SHOULD EQUAL 0000
0471 7600 SEA
0472 7440 SEA
0473 7402 HLT

/OSR TEST 1

0474 7200 CLA /OSR DID NOT SET AC TO 7777
0475 7404 OSR /AC SHOULD=0
0476 7040 CMA
0477 7440 SZA
0500 7402 HLT

/NOP TEST 1 (OPERATE GROUP 1)

0501 7200 CLA /AC AND LINK EQUAL ZERO
0502 7100 CLL /TEST INSTRUCTION
0503 7000 SNA
0504 7450 SEL
0505 7430 SEL
0506 7402 HLT

/NOP FAILURE
/AC AND LINK SHOULD BE ZERO

/NOP TEST 2 (OPERATE GROUP 2)

0507 7200 CLA

0510 7100 CLL
0511 7400 /AC AND LINK EQUAL ZERO
0512 7450 /TEST INSTRUCTION
0513 7430
0514 7402 HLT
/NOP FAILURE
/AC AND LINK SHOULD BE ZERO

/TAD TEST 1
0515 7200 CLA
0516 1066 TAD K3777 /OPERAND 1
0517 1050 TAD K4000 /OPERAND 2
0520 7040 CMA
0521 7440 SEA
0522 7402 HLT
/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 2
0523 7200 CLA
0524 1065 TAD K5777 /OPERAND 1
0525 1045 TAD K2000 /OPERAND 2
0526 7040 CMA
0527 7440 SEA
0530 7402 HLT
/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 3
0531 7200 CLA
0532 1064 TAD K6777 /OPERAND 1
0533 1042 TAD K1000 /OPERAND 2
0534 7040 CMA
0535 7440 SEA
0536 7402 HLT
/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 4
0537 7200 CLA
0540 1063 TAD K7577 /OPERAND 1
0541 1040 TAD K0400 /OPERAND 2
0542 7040 CMA
0543 7440 SEA
0544 7402 HLT
/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 5
0545 7200 CLA
0546 1062 TAD K7577 /OPERAND 1
0547 1036 TAD K0200 /OPERAND 2
0550 7040 CMA
0551 7440 SEA
0552 7402 HLT
/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 6
0553 7200 CLA
0554 1061 TAD K7677 /OPERAND 1
0555 1034 TAD K0100 /OPERAND 2
0556 7040 CMA
0557 7440 SEA
0560 7402 HLT
/TAD ERROR

0561 7200
 0562 1057
 0563 1032
 0564 7040
 0565 7440
 0566 7402
 HLT

/TAD TEST 7

/AC SHOULD EQUAL 0000

/OPERAND 1
/OPERAND 2

/TAD ERROR
/AC SHOULD EQUAL 0000

0567 7200
 0570 1056
 0571 1030
 0572 7040
 0573 7440
 HLT

/TAD TEST 8

/OPERAND 1
/OPERAND 2

/TAD ERROR
/AC SHOULD EQUAL 0000

0575 7200
 0576 1055
 0577 1026
 0600 7040
 0601 7440
 0602 7402
 HLT

/TAD TEST 9

/OPERAND 1
/OPERAND 2

/TAD ERROR
/AC SHOULD EQUAL 0000

0603 7200
 0604 1054
 0605 1024
 0606 7040
 0607 7440
 0610 7402
 HLT

/TAD TEST 10

/OPERAND 1
/OPERAND 2

/TAD ERROR
/AC SHOULD EQUAL 0000

0611 7200
 0612 1053
 0613 1022
 0614 7040
 0615 7440
 0616 7402
 HLT

/TAD TEST 11

/OPERAND 1
/OPERAND 2

/TAD ERROR

0617 7200
 0620 1052
 0621 1021
 0622 7040
 0623 7440
 0624 7402
 HLT

/TAD TEST 12

/OPERAND 1
/OPERAND 2

/TAD ERROR
/AC SHOULD EQUAL 0000

0625 7200
 0626 7100
 0627 1050
 HLT

/TAD TEST 13

/OPERAND 1

/AC SHOULD EQUAL 0000

0630 1050 TAO K4000
0631 7430 SZL
0632 7440 SEA
0633 7402 HLT

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD BE EQUAL ONE.

/OPERAND 2

0634 7200 /TAD TEST 14
0635 7100 CLA
0636 1072 CLL
0637 1045 TAD K6000
0640 7430 TAD K2000
0641 7440 SZL
0642 7402 SEA
HLT

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/OPERAND 1
/OPERAND 2

0643 7200 /TAD TEST 15
0644 7100 CLA
0645 1073 CLL
0646 1042 TAD K7000
0647 7430 TAD K1000
0650 7440 SZL
0651 7402 SEA
HLT

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/OPERAND 1
/OPERAND 2

0652 7200 /TAD TEST 16
0653 7100 CLA
0654 1074 CLL
0655 1040 TAD K7400
0656 7430 TAD K0400
0657 7440 SEL
0660 7402 SEA
HLT

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/OPERAND 1
/OPERAND 2

0661 7200 /TAD TEST 17
0662 7100 CLA
0663 1075 CLL
0664 1036 TAD K7600
0665 7430 TAD K0200
0666 7440 SEL
0667 7402 SEA
HLT

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/OPERAND 1
/OPERAND 2

0670 7200 /TAD TEST 18
0671 7100 CLA
0672 1113 CLL
0673 1034 TAD K7700
0674 7430 TAD K0100
0675 7440 SEL
0676 7402 SEA
HLT

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/OPERAND 1
/OPERAND 2

0677 7200 /TAD TEST 19
0700 7100 CLA
CLL

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

0701 1076 TAO K7740 /OPERAND 1
0702 1032 TAD K0040 /OPERAND 2
0703 7430 SEL
0704 7440 SEA
0705 7402 HLT
/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/TAD TEST 20
0706 7200 CLA
0707 7100 CLL
0710 1077 TAD K7760 /OPERAND 1
0711 1030 TAD K0020 /OPERAND 2
0712 7430 SEL
0713 7440 SEA
0714 7402 HLT
/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/TAD TEST 21
0715 7200 CLA
0716 7100 CLL
0717 1100 TAD K7770 /OPERAND 1
0720 1026 TAD K0010 /OPERAND 2
0721 7430 SEL
0722 7440 SEA
0723 7402 HLT
/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/TAD TEST 22
0724 7200 CLA
0725 7100 CLL
0726 1101 TAD K7774 /OPERAND 1
0727 1024 TAD K0004 /OPERAND 2
0730 7430 SEL
0731 7440 SEA
0732 7402 HLT
/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/TAD TEST 23
0733 7200 CLA
0734 7100 CLL
0735 1032 TAD K7776 /OPERAND 1
0736 1022 TAD K0002 /OPERAND 2
0737 7430 SEL
0740 7440 SEA
0741 7402 HLT
/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

/TAD TEST 24
0742 7200 CLA
0743 7100 CLL
0744 1067 TAD K7777 /OPERAND 1
0745 1021 TAD K0001 /OPERAND 2
0746 7430 SEL
0747 7440 SEA
0750 7402 HLT
/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE

0751 7200
0752 7100
0753 7020
0754 1050
0755 1050
0756 7420
0757 7440
0760 7402

/TAD TEST 25

CLA
CLL
CML
TAD K4000
TAD K4000
SNL
SEA
HLT

/OPERAND 1
/OPERAND 2

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

0761 7200
0762 7100
0763 1066
0764 1045
0765 1045
0766 7040
0767 7420
0770 7440
0771 7402

/TAD TEST 26

CLA
CLL
TAD K3777
TAD K2000
TAD K2000
CMA
SNL
SEA
HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

0772 7200
0773 7100
0774 1065
0775 1042
0776 1042
0777 7040
1000 7420
1001 7440
1002 7402

/TAD TEST 27

CLA
CLL
TAD K5777
TAD K1000
TAD K1000
CMA
SNL
SEA
HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

1003 7200
1004 7100
1005 1064
1006 1040
1007 1040
1010 7040
1011 7420
1012 7440
1013 7402

/TAD TEST 28

CLA
CLL
TAD K6777
TAD K0400
TAD K0400
CMA
SNL
SEA
HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

1014 7200
1015 7100
1016 1063
1017 1036
1020 1036
1021 7040
1022 7420
1023 7440
1024 7402

/TAD TEST 29

CLA
CLL
TAD K7377
TAD K0200
TAD K0200
CMA
SNL
SEA
HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/TAD TEST 30

1025	7200
1026	7100
1027	1062
1030	1034
1031	1034
1032	7040
1033	7420
1034	7440
1035	7402

/TAD TEST 31

1036	7200
1037	7100
1040	1061
1041	1032
1042	1032
1043	7040
1044	7420
1045	7440
1046	7402

/TAD ERROR. AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD TEST 32

1047	7200
1050	7100
1051	1057
1052	1030
1053	1030
1054	7040
1055	7420
1056	7440
1057	7402

/TAD ERROR. AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD TEST 33

1060	7200
1061	7100
1062	1056
1063	1026
1064	1026
1065	7040
1066	7420
1067	7440
1070	7402

/TAD ERROR. AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD TEST 34

1071	7200
1072	7100
1073	1055
1074	1024
1075	1024
1076	7040
1077	7420
1100	7440

/TAD ERROR. AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/OPERAND 1
/OPERAND 2
/OPERAND 3

1101 7402 HLT /TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/TAD TEST 35

1102 7200 CLA /OPERAND 1
1103 7100 CLL /OPERAND 2
1104 1054 TAD K0002 /OPERAND 3
1105 1022 TAD K0002
1106 1022 TAD K0002
1107 7040 CMA
1110 7420 SNL
1111 7440 SEA
1112 7402 HLT

/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/TAD TEST 36

1113 7200 CLA /OPERAND 1
1114 7100 CLL /OPERAND 2
1115 1053 TAD K7775 /OPERAND 3
1116 1021 TAD K0001
1117 1021 TAD K0001
1120 7040 CMA
1121 7420 SNL
1122 7430 SEL
1123 7402 HLT

/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/TAD TEST 37

1124 7200 CLA /10;MB, CR.
1125 7100 CLL
1126 1021 TAD K0001 /0+1=1
1127 1023 TAD K3 /1+3=4
1130 1054 TAD K7773 /4+7773=7777
1131 7040 CMA /0
1132 7420 SNL
1133 7440 SEA
1134 7402 HLT

/TAD ERROR, AC AND LINK SHOULD BE ZERO.

/TAD TEST 38.

1135 7200 CLA /9; MB, CR.
1136 7100 CLL
1137 1022 TAD K0002 /0+2=2
1140 1025 TAD K6 /2+6=10
1141 1055 TAD K7767 /10+7767=7777
1142 7040 CMA /0
1143 7420 SNL
1144 7440 SEA
1145 7402 HLT

/TAD ERROR, AC AND LINK SHOULD BE ZERO.

/TAD TEST 39.

1146 7200 CLA /8; MB, CR.
1147 7100 CLL
1150 1024 TAD K0004 /0+4=4
1151 1027 TAD K14 /4+14=20

1152 1056 TAD K7757 /20+7757=7777
1153 7040 CMA /0
1154 7420 SNL
1155 7440 SEA
1156 7402 HLT

/TAD TEST 40.
/7; MB, CR,

/TAD ERROR, AC AND LINK SHOULD BE ZERO.

1157 7200 CLA
1160 7100 CLL
1161 1026 TAD K0010 /0+10=10
1162 1031 TAD K30 /10+30=40
1163 1057 TAD K7757 /40+7757=7777
1164 7840 CMA /0
1165 7420 SNL
1166 7440 SEA
1167 7402 HLT

/TAD TEST 41.
/6; MB, CR

/TAD ERROR, AC AND LINK SHOULD BE ZERO.

1170 7200 CLA
1171 7100 CLL
1172 1030 TAD K0020 /0+20=20
1173 1033 TAD K60 /20+60=100
1174 1061 TAD K7677 /100+7677=7777
1175 7040 CMA /0
1176 7420 SNL
1177 7440 SEA
1200 7402 HLT

/TAD TEST 42.
/5; MB, CR.

/TAD ERROR, AC AND LINK SHOULD BE ZERO.

1201 7200 CLA
1202 7100 CLL
1203 1052 TAD K0040 /0+40=40
1204 1035 TAD K140 /40+140=200
1205 1062 TAD K7577 /200+7577=7777
1206 7040 CMA /0
1207 7420 SNL
1210 7440 SEA
1211 7402 HLT

/TAD TEST 43.
/4; MB, CR.

/TAD ERROR, AC AND LINK SHOULD BE ZERO.

1212 7200 CLA
1213 7100 CLL
1214 1034 TAD K0100 /0+100=100
1215 1037 TAD K300 /100+300=400
1216 1063 TAD K7577 /400+7577=7777
1217 7040 CMA /0
1220 7420 SNL
1221 7440 SEA
1222 7402 HLT

/TAD TEST 44.
/3; MB, CR.

/TAD ERROR, AC AND LINK SHOULD BE ZERO.

1223 7200 CLA
1224 7100 CLL
1225 1036 TAD K0200 /0+200=200
1226 1041 TAD K600 /200+600=1000

1227 1064 TAD K6777 /1000+6777=7777
 1230 7040 CMA /0
 1231 7420 SNL
 1232 7440 SEA
 1233 7402 HLT
 /TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 45.
 /2: MB, CR.
 1234 7200 CLA /
 1235 7100 CLL /0+400=400
 1236 1040 TAD K0400 /400+1400=2000
 1237 1044 TAD K1400 /2000+5777=7777
 1240 1065 TAD K5777 /0
 1241 7040 CMA
 1242 7420 SNL
 1243 7440 SEA
 1244 7402 HLT
 /TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 46 /1: MB, CR.
 1245 7200 CLA /0+1000=1000
 1246 7100 CLL /1000+3000=4000
 1247 1042 TAD K3000 /4000+3777=7777
 1250 1046 TAD K5777 /0
 1251 1066 CMA
 1252 7040 CMA
 1253 7420 SNL
 1254 7440 SEA
 1255 7402 HLT
 /TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 47 /0: MB, CR
 1256 7200 CLA /0+2000=2000
 1257 7100 CLL /2000+6000=1 0000
 1260 1045 TAD K6000
 1261 1072 TAD K6000
 1263 7430 SEL
 1264 7402 SEA
 HLT
 /TAD ERROR. LINK SHOULD = 1. AC SHOULD = 0000.

/TAD TEST 48.
 1265 7200 CLA /0+7777=7777
 1266 7100 CLL /7777+1=1 0000
 1267 1067 TAD K7777
 1270 1021 TAD K0001
 1271 7430 SEL
 1272 7440 SEA
 1273 7402 HLT
 /TAD ERROR. LINK SHOULD = 1. AC SHOULD = 0000.

/TAD TEST 49.
 /10: AC, MB, CR.
 1274 7200 CLA /0+3=3
 1275 7100 CLL /3+3=6
 1276 1023 TAD K3 /6+7770=7776
 1277 1023 TAD K3 /7776+1=7777
 1300 1100 TAD K7770
 1301 1021 TAD K0001 /0
 1302 7040 CMA

1303 7420
1304 7440
1305 7402

SNL
SEA
HLT

/TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 50.

/91 AC, MB, CR.

1306 7200
1307 7100
1310 1025
1311 1025
1312 1077
1313 1023
1314 7040
1315 7420
1316 7440
1317 7402

CLA
CLL
TAD K6
TAD K6
TAD K7760
TAD K3
CMA
SNL
SEA
HLT

/TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 51.

/81 AC, MB, CR.

1320 7200
1321 7100
1322 1027
1323 1027
1324 1076
1325 1102
1326 7040
1327 7420
1330 7440
1331 7402

CLA
CLL
TAD K14
TAD K14
TAD K7740
TAD K0007
CMA
SNL
SEA
HLT

/TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 52.

/71 AC, MB, CR.

1332 7200
1333 7100
1334 1031
1335 1031
1336 1051
1337 7040
1340 7420
1341 7440
1342 7402

CLA
CLL
TAD K30
TAD K30
TAD K7717
CMA
SNL
SEA
HLT

/TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 53.

/61 AC, MB, CR.

1343 7200
1344 7100
1345 1033
1346 1033
1347 1075
1350 1105
1351 7040
1352 7420
1353 7440
1354 7402

CLA
CLL
TAD K60
TAD K60
TAD K7600
TAD K0037
CMA
SNL
SEA
HLT

/TAD ERROR. AC AND LINK SHOULD BE ZERO.

/TAD TEST 54.

/51 AC, MB, CR.

1355 7200
1356 7100

CLA
CLL

1357	1035	TAD K140	/140+140=300
1360	1035	TAD K140	/300+7400=7700
1361	1074	TAD K7400	/7700+77=7777
1362	1106	TAD K0077	/0
1363	7040	CMA	/TAD ERROR, AC AND LINK SHOULD BE ZERO.
1364	7420	SNL	
1365	7440	SEA	
1366	7402	HLT	

/TAD TEST 95.
/4; AC, MB, CR.

1367	7200	CLA	/0+300=300
1370	7100	CLL	/300+300=600
1371	1037	TAD K300	/600+7177=7777
1372	1037	TAD K300	/0
1373	1037	TAD K300	/TAD ERROR, AC AND LINK SHOULD BE ZERO.
1374	1060	TAD K7177	
1374	7040	CMA	
1375	7420	SNL	
1376	7440	SEA	
1377	7402	HLT	

/TAD TEST 96.
/3; AC, MB, CR.

1400	7200	CLA	/0+600=600
1401	7100	CLL	/600+600=1400
1402	1041	TAD K600	/1400+6000=7400
1403	1041	TAD K600	/7400+377=7777
1404	1072	TAD K6000	/TAD ERROR, AC AND LINK SHOULD BE ZERO.
1405	1110	TAD K0377	
1406	7040	CMA	
1407	7420	SNL	
1410	7440	SEA	
1411	7402	HLT	

/TAD TEST 97.
/2; AC, MB, CR.

1412	7200	CLA	/0+1400=1400
1413	7100	CLL	/1400+1400=3000
1414	1044	TAD K1400	/3000+4000=7000
1415	1044	TAD K1400	/7000+777=7777
1416	1050	TAD K4000	/0
1417	1111	TAD K0777	/TAD ERROR, AC AND LI K SHOULD BE ZERO.
1420	7040	CMA	
1421	7420	SNL	
1422	7440	SEA	
1423	7402	HLT	

/TAD TEST 98.
/1; AC, MB, CR.

1424	7200	CLA	/0+3000=3000
1425	7100	CLL	/3000+3000=6000
1426	1046	TAD K3000	/6000+1777=7777
1427	1046	TAD K3000	/0
1430	1112	TAD K1777	/TAD ERROR, AC AND LINK SHOULD BE ZERO
1431	7040	CMA	
1432	7420	SNL	
1433	7440	SEA	
1434	7402	HLT	

/TAD TEST 59.
/01 AC, MB, CR.
/0+6000=6000
/6000+6000=1 4000
/1 4000+3777=1 7777
/1 0000

/TAD TEST 60.

1446 7200
1447 7100
1490 1067
1451 1067
1452 1021
1453 7040
1454 7430
1455 7440
1456 7402
CLA
CLL
TAD K6000
TAD K5777
CMA
SEL
SEA
HLT

/RAR TEST 1

1457 7200
1460 7100
1461 1021
1462 7010
1463 7420
1464 7402
CLA
CLL
TAD K0001
RAR
SNL
HLT

/RAR TEST 2

1465 7200
1466 7100
1467 1020
1470 7010
1471 7440
1472 7402
CLA
CLL
TAD K0000
RAR
SEA
HLT

/RAR TEST 3

1473 7200
1474 7100
1475 1020
1476 7010
1477 7430
1500 7402
CLA
CLL
TAD K0000
RAR
SEL
HLT

/RAR TEST 4

1501 7200
1502 7100
1503 7020
1504 1020
CLA
CLL
CML
TAD K0000

/TAD ERROR. LINK SHOULD BE 1. AC SHOULD BE ZERO.

/TAD ERROR. LINK SHOULD BE 1. AC SHOULD BE ZERO.

/ROTATE PATTERN

/RAR FAILED. LINK DROPPED A BIT
/LINK SHOULD EQUAL A ONE

/ROTATE PATTERN

/RAR FAILED. AC PICKED UP A BIT
/A ONE IN AC EQUALS THE PICKED UP BIT

/ROTATE PATTERN

/RAL FAILED. LINK PICKED UP A BIT
/LINK SHOULD EQUAL ZERO

/ROTATE PATTERN

1505 7010
1506 7430
1507 7402

RAR
SEL
HLT

/RAR LINK PICKED UP A BIT
/LINK SHOULD EQUAL ZERO

/RAR TEST 5

1510 7200
1511 7100
1512 7020
1513 1067
1514 7010
1515 7040
1516 7440
1517 7402

CLA
CLL
CML
TAD
RAR
CMA
SEA
HLT

/RAR FAILED AC DROPPED A BIT
/A ONE IN AC EQUALS THE DROPPED BIT

/RAR TEST 6

1520 7200
1521 7100
1522 7020
1523 1020
1524 7010
1525 1066
1526 7040
1527 7450
1530 7430
1531 7402

CLA
CLL
CML
TAD
RAR
TAD
CMA
SNA
SEL
HLT

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 7

1532 7200
1533 7100
1534 1050
1535 7010
1536 1065
1537 7040
1540 7450
1541 7430
1542 7402

CLA
CLL
TAD
RAR
TAD
CMA
SNA
SEL
HLT

/RAR FAILED AC AND LINK SHOULD
/EQUAL 0000

/ROTATE PATTERN

/RAR TEST 8

1543 7200
1544 7100
1545 1045
1546 7010
1547 1064
1550 7040
1551 7450
1552 7430
1553 7402

CLA
CLL
TAD
RAR
TAD
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RAR TEST 9

1554 7200
1555 7100
1556 1042

CLA
CLL
TAD

/RAR FAILED AC AND LINK SHOULD
/EQUAL 0000

/ROTATE PATTERN

1597 7010
1560 1063
1561 7040
1562 7450
1563 7430
1564 7402

RAR
TAD K7377
CMA
SNA
SEL
HLT

/RAR FAILED AC AND LINK SHOULD
/EQUAL 0000

/RAR TEST 10

1565 7200
1566 7100
1567 1040
1570 7010
1571 1062
1572 7040
1573 7450
1574 7430
1575 7402

GLA
CLL
TAD K0400
RAR
TAD K7577
CMA
SNA
SEL
HLT

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 11

1576 7200
1577 7100
1600 1036
1601 7010
1602 1061
1603 7040
1604 7450
1605 7430
1606 7402

CLA
CLL
TAD K0200
RAR
TAD K7677
CMA
SNA
SEL
HLT

/RAR FAILED AC AND LINK
/EQUAL 0000

/RAR TEST 12

1607 7200
1610 7100
1611 1034
1612 7010
1613 1057
1614 7040
1615 7450
1616 7430
1617 7402

CLA
CLL
TAD K0100
RAR
TAD K7737
CMA
SNA
SEL
HLT

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 13

1620 7200
1621 7100
1622 1032
1623 7010
1624 1056
1625 7040
1626 7450
1627 7430
1630 7402

CLA
CLL
TAD K0040
RAR
TAD K7757
CMA
SNA
SEL
HLT

/RAR FAILED AC AND LINK

/ROTATE PATTERN

/ROTATE PATTERN

/ROTATE PATTERN

/ROTATE PATTERN

/SHOULD EQUAL 0000

PAUSE

/INSTRUCTION TEST 1
/TAPE 2
/RAR TEST 14

1631 7200
1632 7100
1633 1030
1634 7010
1635 1055
1636 7040
1637 7450
1640 7430
1641 7402

CLA
CLL
TAD K0020
RAR
TAD K7767
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 15

1642 7200
1643 7100
1644 1026
1645 7010
1646 1054
1647 7040
1650 7450
1651 7430
1652 7402

CLA
CLL
TAD K0010
RAR
TAD K7773
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 16

1653 7200
1654 7100
1655 1024
1656 7010
1657 1053
1660 7040
1661 7450
1662 7430
1663 7402

CLA
CLL
TAD K0004
RAR
TAD K7775
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 17

1664 7200
1665 7100
1666 1022
1667 7010
1670 1052
1671 7040
1672 7450
1673 7430
1674 7402

CLA
CLL
TAD K0002
RAR
TAD K7776
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 18
 1675 7200
 1676 7100
 1677 1021
 1700 7010
 1701 1067
 1702 7040
 1703 7450
 1704 7420
 1705 7402
 HLT
 SNA
 CHA
 TAD K7777
 RAR
 TAD K0001
 CLA
 CLL
 CLL

/ROTATE PATTERN

/RAR FAILED AC AND LINK
 /SHOULD EQUAL 0000

/RTR TEST 1
 1706 7200
 1707 7100
 1710 1022
 1711 7012
 1712 7420
 1713 7402
 HLT
 SNL
 RTR
 TAD K0002
 CLL
 CLA

/ROTATE PATTERN

/RTR FAILED LINK DROPPED
 /A BIT LINK SHOULD EQUAL A ONE

/RTR TEST 2
 1714 7200
 1715 7100
 1716 1020
 1717 7012
 1720 7440
 1721 7402
 HLT
 SEA
 RTR
 TAD K0000
 CLL
 CLA

/ROTATE PATTERN

/RTR FAILED AC PICKED UP A BIT
 /A ONE IN AC EQUALS THE PICKED UP BIT

/RTR TEST 3
 1722 7200
 1723 7100
 1724 1020
 1725 7012
 1726 7430
 1727 7402
 HLT
 SEL
 RTR
 TAD K0000
 CLL
 CLA

/ROTATE PATTERN

/RTR LINK PICKED UP A BIT
 /LINK SHOULD EQUAL ZERO

/RTR TEST 4
 1730 7200
 1731 7100
 1732 7020
 1733 1020
 1734 7012
 1735 7430
 1736 7402
 HLT
 SEL
 RTR
 TAD K0000
 CHL
 CLL
 CLA

/ROTATE PATTERN

/RTR LINK PICKED UP A BIT
 /LINK SHOULD EQUAL ZERO

/RTR TEST 5
 1737 7200
 1740 7100
 1741 7020
 1742 1067
 1743 7012
 1744 7040
 1745 7440
 SEA
 CHA
 RTR
 TAD K7777
 CHL
 CLL
 CLA

/ROTATE PATTERN

1746 7402

HLT

/RTR AC DROPPED A BIT A ONE IN
/AC EQUALS THE DROPPED BIT

/RTR TEST 6

1747 7200
1750 7100
1751 7020
1752 1020
1753 7012
1754 1065
1755 7040
1756 7450
1757 7430
1760 7402

/ROTATE PATTERN

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 7

1761 7200
1762 7100
1763 1050
1764 7012
1765 1064
1766 7040
1767 7450
1770 7430
1771 7402

/ROTATE PATTERN

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 8

1772 7200
1773 7100
1774 1045
1775 7012
1776 1063
1777 7040
2000 7450
2001 7430
2002 7402

/ROTATE PATTERN

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 9

2003 7200
2004 7100
2005 1042
2006 7012
2007 1062
2010 7040
2011 7450
2012 7430
2013 7402

/ROTATE PATTERN

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 10

2014 7200
2015 7100
2016 1040
2017 7012
2020 1061

/ROTATE PATTERN

2021 7040
2022 7450
2023 7430
2024 7402

CMA
SNA
SEL
HLT

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 11

2025 7200
2026 7100
2027 1036
2030 7012
2031 1057
2032 7040
2033 7450
2034 7430
2035 7402

CLA
CLL
TAD K0200
RTR
TAD K7737
CMA
SNA
SEL
HLT

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 12

2036 7200
2037 7100
2040 1034
2041 7012
2042 1056
2043 7040
2044 7450
2045 7430
2046 7402

CLA
CLL
TAD K0100
RTR
TAD K7757
CMA
SNA
SEL
HLT

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 13

2047 7200
2050 7100
2051 1032
2052 7012
2053 1055
2054 7040
2055 7450
2056 7430
2057 7402

CLA
CLL
TAD K0040
RTR
TAD K7767
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 14

2060 7200
2061 7100
2062 1030
2063 7012
2064 1054
2065 7040
2066 7450
2067 7430
2070 7402

CLA
CLL
TAD K0020
RTR
TAD K7773
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 15

2071 7200
2072 7100
2073 1026

CLA
CLL
TAD K0010

/ROTATE PATTERN

2074 7012
2075 1053
2076 7040
2077 7450
2100 7430
2101 7402

RTR
TAD K7775
CMA
SNA
SZL
HLT

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 16

/ROTATE PATTERN

2102 7300
2103 1024
2104 7012
2105 1052
2106 7040
2107 7450
2110 7430
2111 7402

CLA CLL
TAD K0004
RTR
TAD K7776
CMA
SNA
SEL
HLT

/RTR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTR TEST 17

/ROTATE PATTERN

2112 7200
2113 7100
2114 1022
2115 7012
2116 7450
2117 7420
2120 7402

CLA
CLL
TAD K0002
RTR
SNA
SNL
HLT

/RTR FAILED. AC SHOULD EQUAL
/0000, LINK SHOULD EQUAL ONE

/RTR TEST 18

/ROTATE PATTERN

2121 7200
2122 7100
2123 1021
2124 7012
2125 1066
2126 7040
2127 7450
2130 7430
2131 7402

CLA
CLL
TAD K0001
RTR
TAD K3777
CMA
SNA
SEL
HLT

/RTR FAILED. AC AND LINK
/SHOULD BE ZERO

/RAL TEST 1

/ROTATE PATTERN

2132 7200
2133 7100
2134 1050
2135 7004
2136 7430
2137 7440
2140 7402

CLA
CLL
TAD K4000
RAL
SEL
SZA
HLT

/RAL FAILED. AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ONE.

/RAL TEST 2

/ROTATE PATTERN

2141 7200
2142 7100
2143 1020
2144 7004
2145 7420
2146 7440

CLA
CLL
TAD K0000
RAL
SNL
SZA

2147 7402 HLT /RAL FAILED, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

2150 7200 /RAL TEST 3
2151 7100 CLA
2152 7020 CLL
2153 1020 CML
2154 7004 TAD K0000 /ROTATE PATTERN, LINK=1
2155 7430 RAL
2156 7402 SEL
HLT /RAL FAILURE, AC SHOULD EQUAL 0001 /LINK SHOULD EQUAL ZERO

2157 7200 /RAL TEST 4
2160 7100 CLA
2161 7020 CLL
2162 1067 CML K7777 /ROTATE PATTERN, LINK=1
2163 7004 TAD
2164 7040 RAL
2165 7440 CMA
2166 7402 \$ZA
HLT /RAL FAILURE, LINK SHOULD EQUAL ONE /AC SHOULD EQUAL 0000

2167 7200 /RAL TEST 5
2170 7100 CLA
2171 1045 CLL K2000 /ROTATE PATTERN
2172 7004 TAD
2173 1066 RAL K3777
2174 7040 TAD
2175 7450 CMA
2176 7430 SMA
2177 7402 SEL
HLT /RAL FAILURE, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE

2200 7200 /RAL TEST 6
2201 7100 CLA
2202 1042 CLL K1000 /ROTATE PATTERN
2203 7004 TAD
2204 1065 RAL K5777
2205 7040 TAD
2206 7440 CMA
2207 7402 SEA
HLT /RAL FAILURE, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

2210 7200 /RAL TEST 7
2211 7100 CLA
2212 1040 CLL
2213 7004 TAD K0400 /ROTATE PATTERN
2214 1064 RAL
2215 7040 TAD K6777
2216 7450 CMA
2217 7430 SMA
HLT SEL

2220 7402

HLT

/RAL FAILURE. AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/RAL TEST 8

2221 7200
2222 7100
2223 1036
2224 7004
2225 1063
2226 7040
2227 7450
2230 7430
2231 7402

/ROTATE PATTERN

/RAL FAILURE AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/RAL TEST 9

2232 7200
2233 7100
2234 1034
2235 7004
2236 1062
2237 7040
2240 7450
2241 7430
2242 7402

/ROTATE PATTERN

/RAL FAILURE AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/RAL TEST 10

2243 7200
2244 7100
2245 1032
2246 7004
2247 1061
2250 7040
2251 7450
2252 7430
2253 7402

/ROTATE PATTERN

/RAL FAILURE AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ZERO

/RAL TEST 11

2254 7200
2255 7100
2256 1030
2257 7004
2260 1057
2261 7040
2262 7450
2263 7430
2264 7402

/ROTATE PATTERN

/RAL FAILURE AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ZERO

/RAL TEST 12

2265 7200
2266 7100
2267 1026
2270 7004
2271 1056
2272 7040
2273 7450
2274 7430
2275 7402

/ROTATE PATTERN

/RAL FAILURE AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ZERO

/RAL TEST 13

2276	7200
2277	7100
2300	1024
2301	7004
2302	1055
2303	7040
2304	7450
2305	7430
2306	7402

/ROTATE PATTERN

/RAL FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ZERO

/RAL TEST 14

2307	7200
2310	7100
2311	1022
2312	7004
2313	1054
2314	7040
2315	7450
2316	7430
2317	7402

/ROTATE PATTERN

/RAL FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ZERO

/RAL TEST 15

2320	7200
2321	7100
2322	1021
2323	7004
2324	1053
2325	7040
2326	7450
2327	7430
2330	7402

/ROTATE PATTERN

/RAL FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/RAL TEST 16

2331	7200
2332	7100
2333	7020
2334	7004
2335	1052
2336	7040
2337	7450
2340	7430
2341	7402

/RAL FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/RTL TEST 1

2342	7200
2343	7100
2344	1045
2345	7006
2346	7420
2347	7402

K2000

/RTL LINK DROPPED A BIT
/LINK SHOULD EQUAL A ONE

/RTL TEST 2

2350	7200
------	------

CLA

2351 7100
2352 1020
2353 7006
2354 7440
2355 7402

CLA
TAD K0000
RTL
SEA
HLT

/RTL AC PICKED UP A BIT
/A ONE IN AC EQUALS THE PICKED UP

/RTL TEST 3

2356 7200
2357 7100
2360 1020
2361 7006
2362 7430
2363 7402

CLA
CLA
TAD K0000
RTL
SEL
HLT

/RTL LINK PICKED UP A BIT
/LINK SHOULD EQUAL ZERO

/RTL TEST 4

2364 7200
2365 7100
2366 7020
2367 1020
2370 7006
2371 7430
2372 7402

CLA
CLA
CML
TAD K0000
RTL
SEL
HLT

/RTL FAILURE. LINK PICKED UP A BIT
/LINK SHOULD EQUAL A ZERO

/RTL TEST 5

2373 7200
2374 7100
2375 7020
2376 1067
2377 7006
2400 7040
2401 7440
2402 7402

CLA
CLA
CML
TAD K7777
RTL
CMA
SEA
HLT

/ROTATE PATTERN

/RTL TEST 6

/RTL FAILURE. DROPPED A BIT

2403 7200
2404 7100
2405 1050
2406 7006
2407 1052
2410 7040
2411 7450
2412 7430
2413 7402

CLA
CLA
TAD K4000
RTL
TAD K7776
CMA
SNA
SEL
HLT

/ROTATE PATTERN

/RTL TEST 7

/RTL FAILED AC AND LINK SHOULD EQUAL 0000

2414 7200
2415 7100
2416 1045
2417 7006
2420 7450
2421 7420
2422 7402

CLA
CLA
TAD K2000
RTL
SNA
SNL
HLT

/ROTATE PATTERN

/RTL TEST 8

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

2423 7200

CLA

2424 7100 CLL
2425 1042 TAD K1000
2426 7006 RTL
2427 1066 TAD K3777
2430 7040 CMA
2431 7450 SNA
2432 7430 SEL
2433 7402 HLT

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/ROTATE PATTERN

2434 7200 /RTL TEST 9
2435 7100 CLA
2436 1040 CLL
2437 7006 TAD K0400
2440 1065 RTL
2441 7040 TAD K5777
2442 7450 CMA
2443 7430 SNA
2444 7402 SEL
HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD
/EQUAL ZERO

/ROTATE PATTERN

2445 7200 /RTL TEST 10
2446 7100 CLA
2447 1036 CLL
2450 7006 TAD K0200
2451 1064 RTL
2452 7040 TAD K6777
2453 7450 CMA
2454 7430 SNA
2455 7402 SEL
HLT

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/ROTATE PATTERN

2456 7200 /RTL TEST 11
2457 7100 CLA
2460 1034 CLL
2461 7006 TAD K0100
2462 1063 RTL
2463 7040 TAD K7377
2464 7450 CMA
2465 7430 SNA
2466 7402 SEL
HLT

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/ROTATE PATTERN

2467 7200 /RTL TEST 12
2470 7100 CLA
2471 1032 CLL
2472 7006 TAD K0040
2473 1062 RTL
2474 7040 TAD K7577
2475 7450 CMA
2476 7430 SNA
2477 7402 SEL
HLT

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/RTL TEST 13
CLA
CLL
TAD K0020
RTL
TAD K7677
CMA
SNA
SEL
HLT
/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000
/ROTATE PATTERN

/RTL TEST 14
CLA
CLL
TAD K0010
RTL
TAD K7737
CMA
SNA
SEL
HLT
/RTL FAILED AC AND LINK SHOULD
/ROTATE PATTERN

/RTL TEST 15
CLA
CLL
TAD K0004
RTL
TAD K7757
CMA
SNA
SEL
HLT
/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000
/ROTATE PATTERN

/RTL TEST 16
CLA
CLL
TAD K0002
RTL
TAD K7767
CMA
SNA
SEL
HLT
/RTL FAILED AC AND LINK SHOULD
/SHOULD EQUAL 0000
/ROTATE PATTERN

/RTL TEST 17
CLA
CLL
TAD K0001
RTL
TAD K7773
CMA
SNA
/ROTATE PATTERN

2553 7430
2594 7402

SEL
HLT

/RTL FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTL TEST 18

2555 7200
2556 7100
2557 7020
2560 7006
2561 1053
2562 7040
2563 7450
2564 7430
2565 7402

CLA
CLL
CML
RTL
TAD
CMA
SNA
SEL
HLT

/RTL FAILED AC AND LINK
/SHOULD EQUAL 0000

/BSM TEST 1

2566 7200
2567 7100
2570 7040
2571 7002
2572 7040
2573 7420
2574 7440
2575 7402

CLA
CLL
CMA
BSM
CMA
SNL
SEA
HLT

/AC=7777
/SNAP BYTES AC SHOULD EQUAL 7777
/DID LINK SET?
/BSM FAILED
/AC AND LINK SHOULD=0000

/BSM TEST 2

2576 7200
2577 7100
2600 7020
2601 7002
2602 7450
2603 7420
2604 7402

CLA
CLL
CML
BSM
SNA
SNL
HLT

/LINK=1
/SNAP BYTES AC SHOULD EQUAL 0000
/BSM CAUSED THE LINK
/TO ROTATE

/BSM TEST 3

2605 7200
2606 7100
2607 1113
2610 7002
2611 1113
2612 7040
2613 7420
2614 7440
2615 7402

CLA
CLL
TAD
BSM
TAD
CMA
SNL
SEA
HLT

/AC=7700
/SNAP BYTES AC SHOULD EQUAL 0077
/AC=7777
/AC=0000
/BSM FAILED AC AND LINK
/SHOULD=0000

/BSM TEST 4

2616 7200
2617 7100
2620 1106
2621 7002
2622 1106
2623 7040
2624 7420
2625 7440

CLA
CLL
TAD
BSM
TAD
CMA
SNL
SEA

/AC=0077
/SNAP BYTES AC SHOULD EQUAL 7700
/AC=7777

2626 7402 HLT

/BSM TEST 5

2627 7300 CLA CLL
2630 1116 TAD K0770
2631 7002 BSM
2632 1116 TAD K0770
2633 7040 CMA
2634 7420 SNL
2635 7440 SEA
2636 7402 HLT

/BSM FAILED AC AND LINK
/SHOULD=0000

/SWAP BYTES AC SHOULD EQUAL 7007

/BSM FAILED AC AND LINK
/SHOULD EQUAL 0000

/BSM TEST 6

2637 7320 CLA CLL CML
2640 1117 TAD K7007
2641 7002 BSM
2642 1117 TAD K7007
2643 7040 CMA
2644 7430 SEL
2645 7440 SEA
2646 7402 HLT

/SWAP BYTES AC SHOULD EQUAL 0770

/BSM FAILED AC
/SHOULD EQUAL 0000 AND LINK=1

/BSM TEST 7

2647 7200 CLA
2650 7100 CLL
2651 1114 TAD K5225
2652 7002 BSM
2653 1114 TAD K5225
2654 7040 CMA
2655 7420 SNL
2656 7440 SEA
2657 7402 HLT

/AC=5225
/SWAP BYTES AC SHOULD EQUAL 2552
/AC=7777

/BSM FAILED AC AND LINK
/SHOULD=0000

/BSM TEST 8

2660 7200 CLA
2661 7100 CLL
2662 1115 TAD K2552
2663 7002 BSM
2664 1115 TAD K2552
2665 7040 CMA
2666 7420 SNL
2667 7440 SEA
2670 7402 HLT

/AC=2552
/SWAP BYTES AC SHOULD EQUAL 5225
/AC=7777

/BSM FAILED AC AND LINK
/SHOULD=0000

/GROUP 1 OPERATE TEST 1

2671 7200 CLA
2672 7100 CLL
2673 7040 CMA
2674 7020 CML
2675 7300 CLA CLL
2676 7420 SNL
2677 7440 SEA
2700 7402 HLT

/CLEAR AC
/CLEAR LINK
/AC EQUALS 7777
/LINK EQUALS ONE
/TEST COMBINATION

/CLA CLL FAILED. LINK SHOULD BE 0

```

2701 7200
2702 1071
2703 7240
2704 7040
2705 7440
2706 7402

```

/GROUP 1 OPERATE TEST 2

CLA
TAD K2525
CLA CMA
CMA
SEA
HLT

/AC EQUALS 0000
/AC EQUALS 2525
/TEST COMBINATION

/CLA CMA ERROR. AC SHOULD
/BE 0000

```

2707 7200
2710 7100
2711 7040
2712 7140
2713 7420
2714 7440
2715 7402

```

/GROUP 1 OPERATE TEST 3

CLA
GLL
CHA
GLL CMA
SNL
SEA
HLT

/AC=7777 LINK=1
/TEST COMBINATION

/CLL CMA FAILED. AC AND LINK
/SHOULD BE ZERO

```

2716 7100
2717 7020
2720 7200
2721 7040
2722 7340
2723 7040
2724 7420
2725 7440
2726 7402

```

/GROUP 1 OPERATE TEST 4

GLL
CML
CLA
CMA
CLA CMA GLL
CMA
SNL
SEA
HLT

/LINK=1
/AC=7777
/TEST COMBINATION

/CLA CMA GLL FAILED. AC AND
/LINK SHOULD BE ZERO

```

2727 7200
2730 7100
2731 7040
2732 7220
2733 7430
2734 7440
2735 7402

```

/GROUP 1 OPERATE TEST 5

CLA
GLL
CMA
CLA CML
SEL
SEA
HLT

/LINK=0
/AC=7777
/TEST COMBINATION

/CLA CML FAILED. AC SHOULD EQUAL
/0000. LINK SHOULD BE A ONE

```

2736 7100
2737 7020
2740 7120
2741 7420
2742 7402

```

/GROUP 1 OPERATE TEST 6

GLL
CML
GLL CML
SNL
HLT

/LINK=1
/TEST COMBINATION

/CLL CML FAILED
/LINK SHOULD BE A ONE

```

2743 7100
2744 7120
2745 7420
2746 7402

```

/GROUP 1 OPERATE TEST 7

GLL
GLL CML
SNL
HLT

/LINK=0
/TEST COMBINATION

/CLL CML FAILED.
/LINK SHOULD BE A ONE

```

2747 7120

```

/GROUP 1 OPERATE TEST 8

CLL CML

/LINK=1

2750 7240 CLA CMA /AC=7777
2751 7320 CLA CLL CML /TEST COMBINATION
2752 7430 SEL
2753 7440 SEA
2754 7402 HLT /CLA CLL CML FAILED. LINK SHOULD
/BE 1, AC SHOULD BE ZERO

/GROUP 1 OPERATE TEST 9
2755 7340 CLA CLL CMA /LINK#0, AC=7777
2756 7320 CLA CLL CML /TEST COMBINATION
2757 7430 SEL
2760 7440 SEA
2761 7402 HLT /CLA CLL CML FAILED. LINK SHOULD
/BE 1, AC SHOULD BE ZERO

/GROUP 1 OPERATE TEST 10
2762 7340 CLA CLL CMA /AC=7777, LINK#0
2763 7060 CMA CML /TEST COMBINATION
2764 7430 SEL
2765 7440 SEA
2766 7402 HLT /CMA CML FAILED. AC SHOULD BE
/0000 LINK SHOULD EQUAL ONE.

/GROUP 1 OPERATE TEST 11
2767 7300 CLA CLL /AC AND LINK#0
2770 1071 TAD K2525 /AC=2525
2771 7340 CLA CMA CLL /TEST COMBINATION
2772 7040 CMA
2773 7420 SNL
2774 7440 SEA
2775 7402 HLT /CLA CMA CML FAILED. AC SHOULD BE
/0000, LINK SHOULD EQUAL ERNO

/GROUP 1 OPERATE TEST 12
2776 7300 CLL CLA /AC AND LINK#0
2777 1071 TAD K2525 /AC=2525
3000 7160 CLL CMA CML /TEST COMBINATION
3001 1071 TAD K2525
3002 7040 CMA
3003 7430 SEL
3004 7440 SEA
3005 7402 HLT /CLL CMA CML FAILED. AC SHOULD BE
/0000, LINK SHOULD EQUAL ONE

/GROUP 1 OPERATE TEST 13
3006 7300 CLA CLL /AC=0000, LINK#1
3007 7020 CML /TEST COMBINATION
3010 7160 CLL CMA CML
3011 7040 CMA
3012 7430 SEL
3013 7440 SEA
3014 7402 HLT /CLL CMA CML FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 14
3015 7300 CLA CLL /AC=2525, LINK#0
3016 1071 TAD K2525

3017 7360
3020 7040
3021 7430
3022 7440
3023 7402

CLA CLL CMA CML
CMA
SEL
SEA
HLT

/CLA CLL CMA CML FAILED. AC SHOULD
/BE 0000 LINK SHOULD EQUAL ONE.

/GROUP 1 OPERATE TEST 15

3024 7320
3025 1070
3026 7360
3027 7040
3030 7430
3031 7440
3032 7402

CLA CLL CML
TAD K5252
CLA CLL CMA CML
CMA
SEL
SEA
HLT

/AC=5252, LINK=1

/CLA CLL CMA CML FAILED. AC SHOULD
/BE 0000, LINK SHOULD EQUAL ONE

/GROUP 1 OPERATE TEST 16

3033 7200
3034 1071
3035 7201
3036 1052
3037 7040
3040 7440
3041 7402

CLA
TAD K2525
CLA IAC
TAD K7776
CMA
SEA
HLT

/AC=2525
/TEST COMBINATION

/CLA IAC FAILED
/AC SHOULD EQUAL 0000

/GROUP 1 OPERATE TEST 17

3042 7320
3043 1052
3044 7101
3045 7040
3046 7420
3047 7440
3050 7402

CLL CML CLA
TAD K7776
CLL IAC
CMA
SNL
SEA
HLT

/AC=7776, LINK=1
/TEST COMBINATION

/CLL IAC FAILED. AC AND LINK
/SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 18

3051 7320
3052 1071
3053 7301
3054 1052
3055 7040
3056 7420
3057 7440
3060 7402

CLA CLL CML
TAD K2525
CLA CLL IAC
TAD K7776
CMA
SNL
SEA
HLT

/AC=2525 LINK=1
/TEST COMBINATION

/CLA CLL IAC FAILED. AC AND LINK
/SHOULD BE ZERO

/GROUP 1 OPERATE TEST 19

3061 7300
3062 7041
3063 7430
3064 7440
3065 7402

CLA CLL
CMA IAC
SEL
SEA
HLT

/AC=0 LINK=0
/TEST COMBINATION

/CMA IAC FAILED. AC SHOULD EQUAL
/0000. LINK SHOULD EQUAL ONE

/GROUP 1 OPERATE TEST 20

3066 7300
3067 1071

CLA CLL
TAD K2525

/AC=2525 LINK=0

3070 7241
3071 7430
3072 7440
3073 7402

CLA CMA IAC
SEL
SEA
HLT

/TEST COMBINATION
/CLA CMA IAC FAILED. AC SHOULD
/EQUAL 0000. LINK SHOULD BE ONE.

3074 7320
3075 1021
3076 7141
3077 7040
3100 7420
3101 7440
3102 7402

CLA CMA IAC
SEL
SEA
HLT

/TEST COMBINATION
/AC=0000 LINK=1
/AC=0001
/TEST COMBINATION
/CMA IAC FAILED. AC SHOULD BE
/0000 LINK SHOULD BE 0

3103 7320
3104 1071
3105 7341
3106 7430
3107 7440
3110 7402

CLA CMA IAC
SEL
SEA
HLT

/TEST COMBINATION
/AC=2525 LINK=1
/TEST COMBINATION
/CLA CMA IAC FAILED. AC SHOULD BE
/0000. LINK SHOULD BE ONE

3111 7300
3112 1070
3113 7341
3114 7430
3115 7440
3116 7402

CLA CMA IAC
SEL
SEA
HLT

/TEST COMBINATION
/AC=5252 LINK=0
/TEST COMBINATION
/CLA CMA IAC FAILED AC SHOULD
/BE 0000. LINK SHOULD BE ONE

3117 7300
3120 1052
3121 7021
3122 7040
3123 7430
3124 7440
3125 7402

CLA CMA IAC
SEL
SEA
HLT

/TEST COMBINATION
/AC=7776 LINK=0
/TEST COMBINATION
/CMA IAC FAILED AC SHOULD BE
/0000. LINK SHOULD BE ONE

3126 7320
3127 1052
3130 7021
3131 7040
3132 7420
3133 7440
3134 7402

CLA CMA IAC
SEL
SEA
HLT

/TEST COMBINATION
/AC =7776 LINK=1
/TEST COMBINATION
/CMA IAC FAILED. AC SHOULD BE
/0000. LINK SHOULD BE ZERO

3135 7300
3136 1071
3137 7221
3140 1052

CLA CMA IAC
SEL
SEA
HLT

/TEST COMBINATION
/AC=2525 LINK=0
/TEST COMBINATION

3141 7040 CMA
3142 7430 SEL
3143 7440 SEA
3144 7402 HLT

/CLA CML IAC FAILED. AC SHOULD BE
/0000. LINK SHOULD EQUAL ONE

3145 7520 /GROUP 1 OPERATE TEST 27
3146 1092 CLA CLL CML /AC=0000 LINK=1
3147 7121 TAD K7776 /AC=7776
3150 7040 CLL CML IAC /TEST COMBINATION
3151 7430 CMA
3152 7440 SEL
3153 7402 SEA
HLT

/CLL CML IAC FAILURE. AC SHOULD BE
/0000. LINK SHOULD EQUAL ONE.

3154 7300 /GROUP 1 OPERATE TEST 28
3155 1092 CLA CLL
3156 7121 TAD K7776
3157 7040 CLL CML IAC /TEST COMBINATION
3160 7430 CMA
3161 7440 SEL
3162 7402 SEA
HLT

/CLL CML IAC FAILED. AC SHOULD
/BE 0000. LINK SHOULD BE ONE

3163 7300 /GROUP 1 OPERATE TEST 29
3164 1071 CLA CLL
3165 7321 TAD K2525 /AC=2525 LINK=0
3166 1092 CLA CLL CML IAC /TEST COMBINATION
3167 7040 TAD K7776
3170 7430 CMA
3171 7440 SEL
3172 7402 SEA
HLT

/CLA CLL CML IAC FAILED. AC SHOULD
/BE 0000. LINK SHOULD BE ONE

3173 7320 /GROUP 1 OPERATE TEST 30
3174 1071 CLA CLL CML
3175 7321 TAD K2525 /AC=2525 LINK=1
3176 1092 CLA CLL CML IAC /TEST COMBINATION
3177 7040 TAD K7776
3200 7430 CMA
3201 7440 SEL
3202 7402 SEA
HLT

/CLA CLL CML IAC FAILED. AC SHOULD
/BE 0000. LINK SHOULD BE ONE

3203 7300 /GROUP 1 OPERATE TEST 31
3204 1021 CLA CLL
3205 7061 TAD K0001
3206 7040 CMA CML IAC /TEST COMBINATION
3207 7430 CMA
3210 7440 SEL
3211 7402 SEA
HLT

/CMA CML IAC FAILED. AC SHOULD

3212 7320
 3213 1021
 3214 7061
 3215 7040
 3216 7420
 3217 7440
 3220 7402

/GROUP 1 OPERATE TEST 32
 /BE 0000, LINK SHOULD BE ONE

CLA CLL CML
 TAD K0001 /AC=0001 LINK=1
 CMA CML IAC /TEST COMBINATION
 CMA
 SNL
 SEA
 HLT

/CMA CML IAC FAILURE. AC SHOULD BE
 /0000, LINK SHOULD BE ZERO

3221 7300
 3222 1071
 3223 7261
 3224 7420
 3225 7430
 3226 7402

/GROUP 1 OPERATE TEST 33
 /AC=0000 LINK=0
 /AC=2525

CLA CLL
 TAD K2525
 CLA CMA CML IAC /TEST COMBINATION
 SNL
 SEL
 SEA
 HLT

/CLA CMA CML IAC FAILED. AC SHOULD
 /BE 0000, LINK SHOULD BE ZERO

3227 7320
 3230 1071
 3231 7261
 3232 7430
 3233 7440
 3234 7402

/GROUP 1 OPERATE TEST 34
 /AC=2525 LINK=1

CLA CLL CML
 TAD K2525
 CLA CMA CML IAC /TEST COMBINATION
 SEL
 SEA
 HLT

/CLA CMA CML IAC FAILED. AC SHOULD
 /BE 0000, LINK SHOULD BE ONE

3235 7300
 3236 1021
 3237 7161
 3240 7040
 3241 7430
 3242 7440
 3243 7402

/GROUP 1 OPERATE TEST 35
 /AC=0001 LINK=0

CLA CLL
 TAD K0001
 CLL CMA CML IAC /TEST COMBINATION
 CMA
 SEL
 SEA
 HLT

/CLL CMA CML IAC FAILED. AC SHOULD BE
 /0000, LINK SHOULD BE ONE

3244 7320
 3245 1021
 3246 7161
 3247 7040
 3250 7430
 3251 7440
 3252 7402

/GROUP 1 OPERATE TEST 36
 /AC=0001 LINK=1

CLA CLL CML
 TAD K0001
 CLL CMA CML IAC /TEST COMBINATION
 CMA
 SEL
 SEA
 HLT

/CLL CMA CML IAC FAILED. AC SHOULD BE
 /0000, LINK SHOULD BE ONE

3253 7300
 3254 1071
 3255 7361
 3256 7420
 3257 7440
 3260 7402

/GROUP 1 OPERATE TEST 37
 /AC=2525 LINK=0
 /TEST COMBINATION

CLA CLL
 TAD K2525
 CLA CLL CMA CML IAC /TEST COMBINATION
 SNL
 SEA
 HLT

/CLA CLL CMA CML IAC FAILURE AC AND
 /LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 38

3261 7360 CLA CMA CLL CML /AC=7777 LINK=1
 3262 7210 CLA RAR /TEST COMBINATION
 3263 1066 TAD K3777
 3264 7040 CMA
 3265 7420 SNL
 3266 7440 SEA
 3267 7402 HLT
 /CLA RAR FAILED. LINK AND
 /AC SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 39
 CLA CMA CLL CML /AC=7777 LINK=1
 CLA RAR /TEST COMBINATION
 TAD K7776
 CMA
 SNL
 SEA
 HLT

3270 7360
 3271 7204
 3272 1052
 3273 7040
 3274 7420
 3275 7440
 3276 7402
 /CLA RAL FAILED LINK AND
 /AC SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 40
 CLA CMA CLL CML /AC=7777 LINK =1
 CLA RTR /TEST COMBINATION
 TAD K5777
 CMA
 SNL
 SEA
 HLT

3277 7360
 3300 7212
 3301 1065
 3302 7040
 3303 7420
 3304 7440
 3305 7402
 /CLA RTR FAILED. AC AND
 /LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 41
 CLA CMA CLL CML /AC=7777, LINK*1
 CLA RTL /TEST COMBINATION
 TAD K7775
 CMA
 SNL
 SEA
 HLT

3306 7360
 3307 7206
 3310 1053
 3311 7040
 3312 7420
 3313 7440
 3314 7402
 /CLA RTL FAILED. AC AND LINK
 /SHOULD BE ZERO

/GROUP 1 OPERATE TEST 42
 CLA CLL CML /AC=0040 LINK=1
 TAD K0040 /TEST COMBINATION
 CLL RAR
 TAD K7797
 CMA
 SNL
 SEA
 HLT

3315 7320
 3316 1032
 3317 7110
 3320 1056
 3321 7040
 3322 7420
 3323 7440
 3324 7402
 /CLA RAR FAILED. AC AND LINK
 /SHOULD BE ZERO

/GROUP 1 OPERATE TEST 43

3325 7320
 3326 1032
 3327 7104
 3330 1061
 3331 7040
 CLA CLL CML /AC=0040 LINK=1
 TAD K0040 /TEST COMBINATION
 CLL RAL
 TAD K7677
 CMA

3332 7420 SNL
3333 7440 SEA
3334 7402 HLT
/CLL RAL FAILED. AC AND LINK
/SHOULD BE ZERO

/GROUP 1 OPERATE TEST 44

3335 7320 CLA CLL CML /AC=0040 LINK=1
3336 1032 TAD K0040 /TEST COMBINATION
3337 7112 CLL RTR
3340 1055 TAD K7767
3341 7040 CMA
3342 7420 SNL
3343 7440 SEA
3344 7402 HLT
/CLL RTR FAILED. AC AND LINK
/SHOULD BE ZERO

/GROUP 1 OPERATE TEST 45

3345 7320 CLA CLL CML /AC=0040 LINK=1
3346 1032 TAD K0040 /TEST COMBINATION
3347 7106 CLL RTL
3350 1062 TAD K7577
3351 7040 CMA
3352 7420 SNL
3353 7440 SEA
3354 7402 HLT
/CLL RTL FAILED. AC AND LINK
/SHOULD BE ZERO

/GROUP 1 OPERATE TEST 46

3355 7360 CLA CLL CML CMA /AC=7777 LINK=1
3356 7310 CLL CLA RAR /TEST COMBINATION
3357 7420 SNL
3360 7440 SEA
3361 7402 HLT
/CLL CLA RAR FAILED AC AND
/LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 47

3362 7360 CLA CMA CLL CML /AC=7777 LINK=1
3363 7304 CLL CLA RAL /TEST COMBINATION
3364 7420 SNL
3365 7430 SEL
3366 7402 HLT
/CLL CLA RAL FAILED. AC AND
/LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 48

3367 7360 CLA CMA CLL CML /AC=7777 LINK=1
3370 7312 CLA CLL RTR /TEST COMBINATION
3371 7420 SNL
3372 7440 SEA
3373 7402 HLT
/CLA CLL RTR FAILED. AC AND
/LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 49

3374 7360 CLA CMA CLL CML /AC=7777 LINK=1
3375 7306 CLA CLL RTL /TEST COMBINATION
3376 7420 SNL
3377 7440 SEA
3400 7402 HLT
/CLA CLL RTL FAILED. AC AND
/LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 50

3401 7300 CLA CLL /AC=0000 LINK=0
 3402 7030 CML RAR /TEST COMBINATION
 3403 1066 TAD K3777
 3404 7040 CMA
 3405 7420 SNL
 3406 7440 SEA
 3407 7402 HLT
 /CML RAR FAILED. AC AND LINK
 /SHOULD BE ZERO

3410 7300 /GROUP 1 OPERATE TEST 51
 3411 7024 CLA CLL /AC=0000 LINK=0
 3412 1052 CML RAL /TEST COMBINATION
 3413 7040 TAD K7776
 3414 7420 CMA
 3415 7440 SNL
 3416 7402 SEA
 HLT
 /CML RAL FAILED. AC AND LINK
 /SHOULD BE ZERO.

3417 7300 /GROUP 1 OPERATE TEST 52
 3420 7032 CLA CLL /AC=0000 LINK=0
 3421 1065 CML RTR /TEST COMBINATION
 3422 7040 TAD K5777
 3423 CMA
 3424 7420 SNL
 3425 7440 SEA
 HLT
 /CML RTR FAILED. AC AND LINK
 /SHOULD EQUAL ZERO

3426 7300 /GROUP 1 OPERATE TEST 53
 3427 7026 CLA CLL /AC=0000 LINK=0
 3430 1053 CML RTL /TEST COMBINATION
 3431 7040 TAD K7779
 3432 CMA
 3433 7420 SNL
 3434 7440 SEA
 HLT
 /CML RTL FAILED. AC AND LINK
 /SHOULD EQUAL ZERO

3435 7300 /GROUP 1 OPERATE TEST 54
 3436 1070 CLA CLL /AC=5252 LINK=0
 3437 7230 TAD K5252 /TEST COMBINATION
 3440 1066 CLA CML RAR
 3441 7040 TAD K3777
 3442 7420 CMA
 3443 7440 SNL
 3444 7402 SEA
 HLT
 /CLA CML RAR FAILED. AC AND
 PAUSE

3445 7300 /INSTRUCTION TEST - 1
 3446 1070 /GROUP 1 OPERATE TEST 55
 3447 7224 /TAPE 3
 CLA CLL /AC=5252 LINK=0
 TAD K5252 /TEST COMBINATION
 CLA CML RAL

3450 1052
3451 7040
3452 7420
3453 7440
3454 7402

TAD K7776
CMA
SNL
SEA
HLT

/CLA CML RAL FAILED. AC AND
/LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 56

3455 7300
3456 1070
3457 7232
3460 1065
3461 7040
3462 7420
3463 7440
3464 7402

CLA CLL
TAD K5252
CLA CML RTR
TAD K5777
CMA
SNL
SEA
HLT

/CLA CML RTR FAILED. AC AND
/LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 57

3465 7300
3466 1070
3467 7226
3470 1053
3471 7040
3472 7420
3473 7440
3474 7402

CLA CLL
TAD K5252
CLA CML RTL
TAD K7775
CMA
SNL
SEA
HLT

/CLA CML RTL FAILED, AC AND
/LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 58

3475 7300
3476 7130
3477 7004
3500 7430
3501 7440
3502 7402

CLA CLL
CLL CML RAR
RAL
SEL
SEA
HLT

/CLL CML RAR FAILED. AC SHOULD
/BE 0000 LINK SHOULD BE 1

/GROUP 1 OPERATE TEST 59

3503 7320
3504 7130
3505 7004
3506 7430
3507 7440
3510 7402

CLA CLL CML
CLL CML RAR
RAL
SEL
SEA
HLT

/CLL CML RAR FAILED. AC SHOULD BE
/0000. LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 60

3511 7300
3512 7124
3513 7010
3514 7430
3515 7440
3516 7402

CLA CLL
CLL CML RAL
RAR
SEL
SEA
HLT

/AC=0000 LINK=0
/TEST COMBINATION
/CLL CML RAL FAILED. AC SHOULD
/EQUAL 0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 61

3517 7420
3520 7124

CLA CLL CML
CLL CML RAL

/AC=0000 LINK=1
/TEST COMBINATION

3521 7010
3522 7430
3523 7440
3524 7402

RAR
SEL
SEA
HLT

/CLL CML RAL FAILED. AC SHOULD
/EQUAL 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 62

3525 7300
3526 7132
3527 7006
3530 7430
3531 7440
3532 7402

CLA CLL
CLL CML RTR
RTL
SEL
SEA
HLT

/AC=0000 LINK=0
/TEST COMBINATION

/CLL CML RTR FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 63

3533 7320
3534 7132
3535 7006
3536 7430
3537 7440
3540 7402

CLA CLL CML
CLL CML RTR
RTL
SEL
SEA
HLT

/AC=0000 LINK=1
/TEST COMBINATION

/CLL CML RTR FAILED. AC SHOULD
/BE 0000 LINK SHOULD BE ONE.

/GROUP 1 OPERATE TEST 64

3541 7300
3542 7126
3543 7012
3544 7430
3545 7440
3546 7402

CLA CLL
CLL CML RTL
RTR
SEL
SEA
HLT

/AC=0000 LINK=0
/TEST COMBINATION

/CLL CML RTL FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 65

3547 7320
3550 7126
3551 7012
3552 7430
3553 7440
3554 7402

CLA CLL CML
CLL CML RTL
RTR
SEL
SEA
HLT

/AC=0000 LINK=1
/TEST COMBINATION

/CLL CML RTL FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE A ONE.

/GROUP 1 OPERATE TEST 66

3555 7300
3556 1070
3557 7330
3560 7004
3561 7430
3562 7440
3563 7402

CLA CLL
TAD K5252
CLA CLL CML RAR
RAL
SEL
SEA
HLT

/AC=5252 LINK=0
/TEST COMBINATION

/CLA CLL CML RAR FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 67

3564 7320
3565 1071
3566 7330
3567 7004
3570 7430
3571 7440

CLA CLL CML
TAD K2525
CLA CLL CML RAR
RAL
SEL
SEA

/AC=2525 LINK=1
/TEST COMBINATION

3572 7402

HLT /CLA CLL CML RAR FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 68

3573 7300
3574 1071
3575 7324
3576 7010
3577 7430
3600 7440
3601 7402

CLA CLL /AC=2525 LINK=0
TAD K2525
CLA CLL CML RAL /TEST COMBINATION
RAR
SEL
SEA
HLT

/CLA CLL CML RAL FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 69

3602 7320
3603 1070
3604 7324
3605 7010
3606 7430
3607 7440
3610 7402

CLA CLL CML /AC=5252 LINK=1
TAD K5252
CLA CLL CML RAL /TEST COMBINATION
RAR
SEL
SEA
HLT

/CLA CLL CML RAL FAILED. AC SHOULD
/BE 0000 LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 70

3611 7300
3612 1071
3613 7332
3614 7006
3615 7430
3616 7440
3617 7402

CLA CLL /AC=2525 LINK=0
TAD K2525
CLA CLL CML RTR /TEST COMBINATION
RTL
SEL
SEA
HLT

/CLA CLL CML RTR FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 71

3620 7320
3621 1070
3622 7332
3623 7006
3624 7430
3625 7440
3626 7402

CLA CLL CML /AC=5252 LINK=1
TAD K5252
CLA CLL CML RTR /TEST COMBINATION
RTL
SEL
SEA
HLT

/CLA CLL CML RTR FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 72

3627 7300
3630 1071
3631 7326
3632 7012
3633 7430
3634 7440
3635 7402

CLA CLL /AC=2525 LINK=0
TAD K2525
CLA CLL CML RTL /TEST COMBINATION
RTR
SEL
SEA
HLT

/CLA CLL CML RTL FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE A ZERO

/GROUP 1 OPERATE TEST 73

3636 7320
3637 1070
3640 7326

CLA CLL CML /AC=5252 LINK=1
TAD K5252
CLA CLL CML RTL /TEST COMBINATION
HLT

3641 7012
3642 7430
3643 7440
3644 7402

RTR
SEL
SEA
HLT

/CLA CLL CML RTL FAILED. AC SHOULD
/BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 74

3645 7300
3646 1067
3647 7041
3650 1052
3651 7040
3652 7420
3653 7440
3654 7402

CLA CLL
TAD K7777
CIA
TAD K7776
CMA
SNL
SEA
HLT

/TEST PATTERN
/AC EQUALS 0001
/CIA FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ZERO

/GROUP 1 OPERATE TEST 75

3655 7300
3656 1052
3657 7041
3660 1053
3661 7040
3662 7440
3663 7440
3664 7402

CLA CLL
TAD K7776
CIA
TAD K7775
CMA
SNL
SEA
HLT

/TEST PATTERN
/AC EQUALS 0002
/CIA FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ZERO

/GROUP 1 OPERATE TEST 76

3665 7300
3666 1101
3667 7041
3670 1054
3671 7040
3672 7420
3673 7440
3674 7402

CLA CLL
TAD K7774
CIA
TAD K7773
CMA
SNL
SEA
HLT

/TEST PATTERN
/AC EQUALS 0004
/CIA FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 77

3675 7300
3676 1100
3677 7041
3700 1055
3701 7040
3702 7420
3703 7440
3704 7402

CLA CLL
TAD K7770
CIA
TAD K7767
CMA
SNL
SEA
HLT

/TEST PATTERN
/AC EQUALS 0010
/CIA FAILED AC SHOULD EQUAL 0000

/GROUP 1 OPERATE TEST 78

3705 7300
3706 1077
3707 7041
3710 1056
3711 7040
3712 7420
3713 7440
3714 7402

CLA CLL
TAD K7760
CIA
TAD K7757
CMA
SNL
SEA
HLT

/TEST PATTERN
/AC EQUALS 0020
/CIA FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 79

3715 7300

CLA CLL

3716 1076 TAD K7740 /TEST PATTERN
 3717 7041 CIA /AC EQUALS 0040
 3720 1057 TAD K7737
 3721 7040 CMA
 3722 7420 SNL
 3723 7440 SEA
 3724 7402 HLT
 /CIA FAILED AC SHOULD EQUAL 0000
 /LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 80

3725 7300 CLA CLL /TEST PATTERN
 3726 1113 TAD K7700 /AC EQUALS 0100
 3727 7041 CIA
 3730 1061 TAD K7677
 3731 7040 CMA
 3732 7420 SNL
 3733 7440 SEA
 3734 7402 HLT
 /CIA FAILED A SHOULD EQUAL 0000
 /LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 81

3735 7300 CLA CLL /TEST PATTERN
 3736 1075 TAD K7600 /AC EQUALS 0200
 3737 7041 CIA
 3740 1062 TAD K7577
 3741 7040 CMA
 3742 7420 SNL
 3743 7440 SEA
 3744 7402 HLT
 /CIA FAILED AC SHOULD EQUAL 0000
 /LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 82

3745 7300 CLA CLL /TEST PATTERN
 3746 1074 TAD K7400 /AC EQUALS 0400
 3747 7041 CIA
 3750 1063 TAD K7377
 3751 7040 CMA
 3752 7420 SNL
 3753 7440 SEA
 3754 7402 HLT
 /CIA FAILED AC SHOULD EQUAL 0000
 /LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 83

3755 7300 CLA CLL /TEST PATTERN
 3756 1073 TAD K7000 /AC EQUALS 1000
 3757 7041 CIA
 3760 1064 TAD K6777
 3761 7040 CMA
 3762 7420 SNL
 3763 7440 SEA
 3764 7402 HLT

/GROUP 1 OPERATE TEST 84

3765 7300 CLA CLL /CIA FAILED AC SHOULD EQUAL 0000
 3766 1072 TAD K6000 /LINK SHOULD EQUAL ZERO
 /TEST PATTERN

3767 7041 CIA /AC EQUALS 2000
3770 1065 TAD K5777
3771 7040 CMA
3772 7420 SNL
3773 7440 SEA
3774 7402 HLT
/CIA FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 85
CLA CL /TEST PATTERN
TAD K4000 /AC EQUALS 4000
CIA TAD K5777
CMA
SNL
SEA
HLT

3775 7300 /CIA FAILED AC SHOULD EQUVA 000
3776 1050 TAD K0000 /LINK SHOULD EQUALL ZERO
3777 7041 /TEST PATTERN
4000 1066 CIA
4001 7040 CMA
4002 7420 SNL
4003 7440 SEA
4004 7402 HLT

/GROUP 1 OPERATE TEST 86
CLA CL /TEST PATTERN
TAD K0000 /AC EQUALS 0000, LINK EQUALS A ONE
CIA
SNA
SNL
HLT
/CIA FAILED AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL A ONE

4005 7300 /GROUP OPERATE TEST 87
4006 1020 CLA CMA CLL /AC=7777,L=0
4007 7041 TAD K0000 /AC=0,L=1
4010 7450 CIA
4011 7420 SNA
4012 7402 SNL
HLT
/ERROR; LINC NOT SET OR
/AC NOT 0

4013 7340 /GROUP 1 OPERATE TEST 88
4014 7311 CLA CMA CLL /AC=7777,L=1
4015 7430 CLA CLL IAC RAR /AC=0,L=1
4016 7440 SEL
4017 7402 SEA
HLT
/ERROR; LINC NOT 0
/AC NOT=2

4020 7300 /GROUP 1 OPERATE TEST 89
4021 7305 CLA CLL CML /AC=0,L=1
4022 7430 CLA CLL IAC RTR /AC=4000,L=0
4023 7402 SEL
4024 7041 HLT
4025 1022 CMA IAC
4026 7440 TAD K0002
7402 SEA
HLT
/ERROR; AC NOT 4000

4030 7320 /GROUP 1 OPERATE TEST 90
4031 7313 CLA CLL CML /AC=7777,L=1
4032 7430 CLA CLL IAC RTR
4033 7402 SEL
4034 7500 HLT
7402 SMA
HLT
/ERROR; AC NOT 4000

4037 7307 CLA CLL IAC RTL /AC=4,LINC=0
4040 7430 SEL
4041 7402 HLT /ERROR: LINC NOT 0
4042 7041 CMA IAC
4043 1024 TAD K0004
4044 7440 SZA
4045 7402 HLT /ERROR: AC NOT 4

/GROUP 1 OPERATE TEST 91
4046 7300 CLA CLL /AC=0, L=0
4047 7331 CLA CML IAC RAR /AC=4000, L=1
4050 7520 SMA SNL
4051 7402 HLT /ERROR: AC NOT 4000 OR
/LINC NOT 1

/GROUP 1 OPERATE TEST 92
4052 7300 CLA CLL /AC=0,L=0
4053 7345 CLA CMA CLL IAC RAL /AC=0001,L=0
4054 7430 SEL
4055 7402 HLT /LINC NOT=0
4056 7041 CMA IAC
4057 1021 TAD K0001
4060 7440 SZA
4061 7402 HLT /AC NOT 0001

/GROUP 1 OPERATE TEST 93
4062 7360 CLA CMA CLL CML /AC=7777,L=1
4063 7373 CLA CMA CLL CML IAC RTR /AC=0,L=0
4064 7440 SZA
4065 7402 HLT /ERROR:
4066 7430 SEL
4067 7402 HLT /ERROR:

/GROUP 1 OPERATE TEST 94
4070 7332 CLA CLL CML RTR /L=0 AC=2000
4071 7006 RTL /L=1 AC=0000
4072 7430 SEL
4073 7440 SZA
4074 7402 HLT /CLA CLL CML RTR OR RTL FAILED

/GROUP 1 OPERATE TEST 95
4075 7360 CLA CMA CLL CML
4076 7342 CLA CLL CMA BSM/AC=7777 LINC=0
4077 7040 CMA
4100 7420 SNL
4101 7440 SZA
4102 7402 HLT /7742 FAILED

/GROUP 1 OPERATE TEST 96
4103 7360 CLA CMA CLL CML /AC=0100 LINC=0
4104 7303 CLA CLL IAC BSM /AC=7777
4105 1061 TAD K7677 /AC=0000
4106 7040 CMA /AC=0000

4107 7420 SNL
4110 7440 SEA
4111 7482 HLT
/7703 FAILED

/GROUP 1 OPERATE TEST 97
4112 7360 CLA CMA CLL CML /AC=0000 LINK=1
4113 7343 CLA CLL CMA IAC BSW
4114 7430 SZL
4115 7440 SEA
4116 7402 HLT
/7743 FAILED

/GROUP 1 OPERATE TEST 98
4117 7360 CLA CMA CLL CML /AC=0000 LINK=0
4120 7363 CLA CLL CMA CML IAC BSW
4121 7420 SNL
4182 7440 SEA
4123 7402 HLT
/7763 FAILED

/GROUP 1 OPERATE TEST 99
4124 7300 CLA CLL K1234
4125 1043 TAD IAC BSW /AC=4465 L=1
4126 7063 CMA CML IAC BSW
4127 1047 TAD K3312
4130 7040 CMA
4131 7430 SEL
4132 7440 SEA
4133 7402 HLT
/7063 FAILED

/GROUP 1 OPERATE TEST 100
4134 7332 CLA CLL CML RTR /AC=2000 L=1
4135 7063 CMA CML IAC BSW /AC=0060 L=1
4136 1051 TAD K7717 /AC=7777 L=1
4137 7040 CMA
4140 7430 SEL
4141 7440 SEA
4142 7402 HLT
/7063 FAILED

/GROUP 2 OPERATE TEST 1
4143 7240 CLA CMA /AC=7777
4144 7700 CLA SMA /TEST COMBINATION
4145 7402 HLT /CLA SMA DID NOT SKIP
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 2
4146 7440 SEA /CLA SMA DID NOT CLEAR AC
4147 7402 HLT /AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 3
4150 7240 CLA CMA /AC=7777
4151 7640 CLA SZA /TEST COMBINATION
4152 7440 SEA /CLA SEA SKIPPED OR AC NOT
4153 7402 HLT /CLEARED TO 0000
/AC=7777

/GROUP 2 OPERATE TEST 3
4154 7240 CLA CMA /AC=7777

4155 7540 SMA SEA /TEST COMBINATION
4156 74B2 HLT /SMA SEA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 7777

/GROUP 2 OPERATE TEST 4

4157 72B0 CLA /AC=0000
4160 7540 SMA SEA /TEST COMBINATION
4161 74B2 HLT /SMA SEA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 0000

/GROUP 2 OPERATE TEST 5

4162 72B0 CLA /AC=3777
4163 1066 TAD K3777 /TEST COMBINATION
4164 7540 SMA SEA /SMA SEA SHOULD NOT HAVE SKIPPED
4165 7450 SMA /AC SHOULD EQUAL 3777
4166 74B2 HLT

/GROUP 2 OPERATE TEST 6

4167 7240 CLA CMA /AC=7777
4170 7740 CLA SMA SEA /TEST COMBINATION
4171 74B2 HLT /CLA SMA SEA SHOULD HAVE SKIPPED
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 7

4172 7440 SEA /AC WAS NOT CLEARED
4173 74B2 HLT /AC SHOULD BE 0000
4174 72B0 CLA /AC=0000
4175 7740 CLA SMA SEA /TEST COMBINATION
4176 74B2 HLT /CLA SMA SEA SHOULD HAVE SKIPPED
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 8

4177 7440 SEA /AC WAS NOT CLEARED
4200 74B2 HLT /AC SHOULD BE 0000
4201 72B0 CLA /AC=3777
4202 1066 TAD K3777 /TEST COMBINATION
4203 7740 CLA SMA SEA /SMA SEA DID NOT SKIP OR AC
4204 7440 SEA /NOT CLEARED TO 0000
4205 74B2 HLT

/GROUP 2 OPERATE TEST 9

4206 75B0 CLL CLA /LINK=0
4207 1070 TAD K5252 /AC=5252
4210 7620 CLA SNL /TEST COMBINATION
4211 7440 SEA /SNL SKIPPED OR AC NOT CLEARED
4212 74B2 HLT /AC AND LINK SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 10

4213 7520 CLA CLL CML /AC=2525 LINK=1
4214 1071 TAD K2525 /TEST COMBINATION
4215 7620 CLA SNL /SNL DID NOT SKIP
4216 74B2 HLT

4217 7440
4220 7402
SEZ
HLT
/LINK SHOULD EQUAL ONE
/CLA SNL DID NOT CLEAR AC
/AC SHOULD EQUAL 0000

/GROUP 2 OPERATE TEST 11
/AC=0000 LINK=0
/TEST COMBINATION

4221 7300
4222 7520
4223 7440
4224 7402
CLA CLL
SMA SNL
SEZ
HLT
/SMA SNL SKIPPED. AC AND LINK
/SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 12
/AC=0000 LINK=1
/TEST COMBINATION

4225 7520
4226 7520
4227 7402
CLA CLL CML
SMA SNL
HLT
/SNL SHOULD HAVE SKIPPED. LINK = 1

/GROUP 2 OPERATE TEST 13
/AC=4000 LINK=0
/TEST COMBINATION
/SMA SHOULD HAVE SKIPPED
/AC=4000

4230 7300
4231 1050
4232 7520
4233 7402
CLA CLL
TAD K4000
SMA SNL
HLT
/AC=4000 LINK=0
/TEST COMBINATION
/SMA SHOULD HAVE SKIPPED
/AC=4000

/GROUP 2 OPERATE TEST 14
/AC=4000 LINK=1
/TEST COMBINATION
/SMA SNL SHOULD HAVE SKIPPED
/AC=4000 LINK=1

4234 7320
4235 1050
4236 7520
4237 7402
CLA CLL CML
TAD K4000
SMA SNL
HLT
/AC=4000 LINK=1
/TEST COMBINATION
/SMA SNL SHOULD HAVE SKIPPED
/AC=4000 LINK=1

/GROUP 2 OPERATE TEST 15
/AC=0000 LINK=0
/TEST COMBINATION

4240 7300
4241 7720
4242 7440
4243 7402
CLA CLL
CLA SMA SNL
SEZ
HLT
/SMA SNL SKIPPED. AC AND LINK
/SHOULD BE ZERO

/GROUP 2 OPERATE TEST 16
/AC=0000 LINK=1
/TEST COMBINATION
/SNL SHOULD HAVE SKIPPED
/LINK=1

4244 7320
4245 7720
4246 7402
CLA CLL CML
CLA SMA SNL
HLT
SEZ
HLT
/CLA SMA SNL DID NOT CLEAR AC
/AC SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 17
/AC=4000 LINK=0
/TEST COMBINATION
/SMA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL 0000 LINK=0

4251 7300
4252 1050
4253 7720
4254 7402
CLA CLL
TAD K4000
CLA SMA SNL
HLT
SEZ
HLT
/CLA SMA SNL DID NOT CLEAR AC
/AC SHOULD EQUAL 0000

/GROUP 2 OPERATE TEST 18
/AC=4000 LINK=1

4257 7320
4260 1050
CLA CLL CML
TAD K4000
/AC=4000 LINK=1

4261 7720 CLA SMA SNL /TEST COMBINATION
4262 7402 HLT /CLA SMA SNL SHOULD HAVE SKIPPED
4263 7440 SEA /AC SHOULD BE 0000 LINK=1
4264 7402 HLT /CLA SMA SNL DID NOT CLEAR AC
/AC SHOULD BE 0000 LINK=1

/GROUP 2 OPERATE TEST 19
CLA CLL /AC=0000 LINK=0
SEA SNL /TEST COMBINATION
HLT /SEA SNL DID NOT SKIP
/AC=0000

4270 7520 /GROUP 2 OPERATE TEST 20
4271 7460 CLL CLA CML /AC=0000 LINK=1
4272 7402 SEA SNL /TEST COMBINATION
HLT /SEA SNL DID NOT SKIP
/AC=0000 LINK=1

4273 7300 /GROUP 2 OPERATE TEST 21
4274 1040 CLA CLL /AC=0400 LINK=0
4275 7460 TAD K0040 /TEST COMBINATION
4276 7450 SEA SNL
SMA
HLT /SEA SNL SKIPPED
/AC=0400 LINK=0

4300 7520 /GROUP 2 OPERATE TEST 22
4301 1032 CLA CLL CML /AC=0040 LINK=1
4302 7460 TAD K0040 /TEST COMBINATION
4303 7402 SEA SNL /SEA SNL SHOULD HAVE SKIPPED
HLT /LINK=1

4304 7300 /GROUP 2 OPERATE TEST 23
4305 7660 CLA CLL /AC=0000 LINK=0
4306 7402 CLA SEA SNL /TEST COMBINATION
HLT /CLA SEA SNL SHOULD HAVE SKIPPED
/AC AND LINK SHOULD EQUAL ZERO

4307 7440 SEA /CLA SEA SNL DID NOT CLEAR AC
4310 7402 HLT /AC SHOULD BE 0000

4311 7320 /GROUP 2 OPERATE TEST 24
4312 7660 CLA CLL CML /AC=0000 LINK=1
4313 7402 CLA SEA SNL /TEST COMBINATION
HLT /CLA SEA SNL SHOULD HAVE SKIPPED
/AC=0000 LINK=1

4314 7440 SEA /CLA SEA SNL DID NOT CLEAR AC
4315 7402 HLT /AC SHOULD EQUAL 0000

4316 7520 /GROUP 2 OPERATE TEST 25
4317 1036 CLA CLL CML /AC=0200 LINK=1
4320 7660 TAD K0200 /TEST COMBINATION OR
4321 7402 CLA SEA SNL /CLA SEA SNL SHOULD HAVE SKIPPED
HLT /LINK=1

4322 7440 SEA /CLA SEA SNL DID NOT CLEAR AC
4323 7402 HLT

4324 7300
4325 1045
4326 7660
4327 7440
4330 7402

/GROUP 2 OPERATE TEST 26 /AC SHOULD EQUAL 0000
CLA CLL /AC=2000 LINK=0
TAD K2000 /TEST COMBINATION
CLA SZA SNL
SZA
HLT /CLA SZA SNL FAILED. AC AND
/LINK SHOULD EQUAL ZERO

4331 7300
4332 7560
4333 7402

/GROUP 2 OPERATE TEST 27 /AC=0000 LINK=0
CLA CLL /TEST COMBINATION
SMA SZA SNL /SMA SZA SNL SHOULD HAVE SKIPPED
HLT /AC=0000 LINK=0

4334 7320
4335 1066
4336 7560
4337 7402

/GROUP 2 OPERATE TEST 28 /AC=3777 LINK=1
CLA CLL CML /TEST COMBINATION
TAD K3777 /SMA SZA SNL SHOULD HAVE SKIPPED
SMA SZA SNL /AC=3777 LINK=1
HLT

4340 7300
4341 1050
4342 7560
4343 7402

/GROUP 2 OPERATE TEST 29 /AC=4000 LINK=0
CLA CLL /TEST COMBINATION
TAD K4000 /SMA SZA SNL SHOULD HAVE SKIPPED
SMA SZA SNL /AC=4000 LINK=0
HLT

4344 7300
4345 1066
4346 7560
4347 7450
4350 7402

/GROUP 2 OPERATE TEST 30 /AC=3777 LINK=0
CLA CLL /TEST COMBINATION
TAD K3777 /SMA SZA SNL SHOULD NOT HAVE
SMA SZA SNL /SKIPPED. AC=3777 LINK=0
SNA
HLT

4351 7300
4352 7760
4353 7402
4354 7440
4355 7402

/GROUP 2 OPERATE TEST 31 /AC=0000 LINK=0
CLA CLL /TEST COMBINATION
CLA SMA SZA SNL /CLA SMA SZA SNL SHOULD HAVE SKIPPED
HLT /AC SHOULD EQUAL 0000
SZA
HLT /AC NOT ZERO AFTER CLA SMA SZA SNL
/AC SHOULD BE 0000 LINK=0

4356 7320
4357 1066
4360 7760
4361 7402
4362 7440
4363 7402

/GROUP 2 OPERATE TEST 32 /AC=3777 LINK=1
CLA CLL CML /TEST COMBINATION
TAD K3777 /CLA SMA SZA SNL DID NOT SKIP
CLA SMA SZA SNL /AC SHOULD BE 0000 LINK=1
HLT
SZA
HLT /CLA SMA SZA SNL DID NOT CLEAR AC
/AC SHOULD EQUAL 0000 LINK=1

4364 7300

/GROUP 2 OPERATE TEST 33
CLA CLL

4365 1050 TAD K4000 /AC=4000 LINK=0
4366 7760 CLA SMA SZA SNL /TEST COMBINATION
4367 7402 HLT /CLA SMA SZA SNL SHOULD HAVE SKIPPED
/AC SHOULD BE 0000. LINK=0
4370 7440 SZA
4371 7402 HLT /CLA SMA SZA SNL DID NOT CLEAR AC
/AC SHOULD EQUAL 0000

/GROUP 2 OPERATE TEST 34
4372 7300 CLA CLL /AC=3777 LINK=0
4373 1066 TAD K3777
4374 7760 CLA SMA SZA SNL /TEST COMBINATION
4375 7440 SZA
4376 7402 HLT /CLA SMA SZA SNL FAILED, AC
/SHOULD BE ZERO. LINK=0

/GROUP 2 OPERATE TEST 35
4377 7300 CLA CLL /AC=0000 LINK=0
4400 7410 SKP /TEST INSTRUCTION
4401 7402 HLT /SKIP FAILED
/AC AND LINK EQUAL ZERO

/GROUP 2 OPERATE TEST 36
4402 7320 CLA CLL CML /AC=0000 LINK=1
4403 7410 SKP /TEST INSTRUCTION
4404 7402 HLT /SKIP FAILED
/AC=0000 LINK=1

/GROUP 2 OPERATE TEST 37
4405 7320 CLA CLL CML /AC=3777 LINK=1
4406 1066 TAD K3777
4407 7410 SKP /TEST INSTRUCTION
4410 7402 HLT /SKIP FAILED
/AC=3777 LINK=1

/GROUP 2 OPERATE TEST 38
4411 7300 CLA CLL /AC=3777 LINK=0
4412 1066 TAD K3777
4413 7410 SKP /TEST INSTRUCTION
4414 7402 HLT /SKIP FAILED
/AC=3777 LINK=0

/GROUP 2 OPERATE TEST 39
4415 7200 CLA /AC=3777
4416 1066 TAD K3777 /TEST COMBINATION
4417 7710 CLA SPA /CLA SPA DID NOT SKIP. AC
4420 7402 HLT /SHOULD BE ZERO
4421 7440 SZA
4422 7402 HLT /CLA SPA DID NOT CLEAR AC
/AC SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 40
4423 7200 CLA /AC=4000
4424 1050 TAD K4000 /TEST COMBINATION
4425 7710 CLA SPA
4426 7440 SZA
4427 7402 HLT /CLA SPA FAILED, AC SHOULD
/EQUAL 0000

/GROUP 2 OPERATE TEST 41

4430 7240 /AC=7777
4431 7650 /TEST COMBINATION
4432 7402 /CLA SNA DID NOT SKIP
HLT /AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 42

4433 7200 /AC=0000
4434 7650 /TEST COMBINATION
4435 7440 /CLA SNA FAILED
4436 7402 /AC SHOULD EQUAL 0000
HLT

/GROUP 2 OPERATE TEST 43

4437 7200 /AC=0000
4440 7550 /TEST COMBINATION (AND)
4441 7440 /SPA SNA SKIPPED
4442 7402 /AC=0000
HLT

/GROUP 2 OPERATE TEST 44

4443 7200 /AC=3777
4444 1066 /TEST COMBINATION (AND)
4445 7550 /SPA SNA FAILED TO SKIP
4446 7402 /AC=3777
HLT

/GROUP 2 OPERATE TEST 45

4447 7200 /AC=4000
4450 1050 /TEST COMBINATION (AND)
4451 7550 /SPA SNA SKIPPED.
4452 7450 /AC=4000
4453 7402 HLT

/GROUP 2 OPERATE TEST 46

4454 7200 /AC=0000
4455 7750 /TEST COMBINATION (AND)
4456 7440 /CLA SPA SNA FAILED.
4457 7402 /AC SHOULD BE 0000
HLT

/GROUP 2 OPERATE TEST 47

4460 7200 /AC=3777
4461 1066 /TEST COMBINATION (AND)
4462 7750 /CLA SPA SNA DID NOT SKIP
4463 7402 /AC SHOULD BE 0000
HLT

/GROUP 2 OPERATE TEST 48

4464 7440 /CLA SPA SNA DID NOT CLEAR THE AC
4465 7402 /AC SHOULD EQUAL 0000
HLT

/GROUP 2 OPERATE TEST 48

4466 7200 /AC=4000
4467 1050 /TEST COMBINATION (AND)
4470 7750 /CLA SPA SNA FAILED
4471 7440 /AC SHOULD EQUAL ZERO
4472 7402 HLT

PAUSE

/INSTRUCTION TEST - TAPE 4
/GROUP 2 OPERATE TEST 49

4473 7320
4474 1070
4475 7630
4476 7402

4477 7440
4500 7402

CLA CLL
TAD K5252 /AC=5252 LINK=0
CLA SZL /TEST COMBINATION
HLT /CLA SZL DID NOT SKIP
/AC AND LINK SHOULD BE 0
SZA /CLA SZL DID NOT CLEAR AC
HLT /AC SHOULD BE ZERO. LINK=0

/GROUP 2 OPERATE TEST 50

4501 7360
4502 7630
4503 7440
4504 7402

CLA CLL CML CHA /AC=7777 LINK=1
CLA SZL /TEST COMBINATION (AND)
SZA
HLT /CLA SZL FAILED. AC SHOULD
/BE 0000. LINK=1

/GROUP 2 OPERATE TEST 51

4505 7300
4506 1066
4507 7530
4510 7402

CLA CLL
TAD K3777 /AC=3777 LINK=0
SPA SZL /TEST COMBINATION (AND)
HLT /SPA SZL DID NOT SKIP
/AC=3777 LINK=0

/GROUP 2 OPERATE TEST 52

4511 7320
4512 1066
4513 7530
4514 7450
4515 7402

CLA CLL CML /AC=3777 LINK=1
TAD K3777 /TEST COMBINATION (AND)
SPA SZL
SMA
HLT /SPA SZL SKIPPED
/AC=3777 LINK=1

/GROUP 2 OPERATE TEST 53

4516 7300
4517 1050
4520 7530
4521 7500
4522 7402

CLA CLL /AC=4000 LINK=0
TAD K4000 /TEST COMBINATION (AND)
SPA SZL
SMA
HLT /SPA SZL SKIPPED
/AC=4000 LINK=0

/GROUP 2 OPERATE TEST 54

4523 7300
4524 1066
4525 7730
4526 7402

CLA CLL /AC=3777 LINK=0
TAD K3777 /TEST COMBINATION (AND)
CLA SPA SZL /CLA SPA SZL SHOULD HAVE SKIPPED
HLT /AC SHOULD BE 0000. LINK=0

4527 7440
4530 7402

SZA /CLA SPA SZL DID NOT CLEAR THE AC
HLT /AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 55

4531 7320
4532 1066
4533 7730

CLA CLL CML /AC=3777 LINK=1
TAD K3777 /TEST COMBINATION (AND)
CLA SPA SZL

4534 7440 SZA /CLA SPA SZL FAILED
4535 7402 HLT /AC SHOULD EQUAL 0000 LINK=1

/GROUP 2 OPERATE TEST 56

4536 7300 CLA CLL /AC=4000 LINK=0
4537 1050 TAD K4000 /TEST COMBINATION (AND)
4540 7730 CLA SPA SZL
4541 7440 SZA
4542 7402 HLT /CLA SPA SZL FAILED
/AC SHOULD EQUAL 0000 LINK=0

/GROUP 2 OPERATE TEST 57

4543 7300 CLA CLL /AC=4000 LINK=0
4544 1050 TAD K4000 /TEST COMBINATION (AND)
4545 7470 SNA SEL /SNA SZL DID NOT SKIP
4546 7402 HLT /AC = 4000 LINK=0

/GROUP 2 OPERATE TEST 58

4547 7320 CLA CLL CML /AC=4000 LINK=1
4550 1050 TAD K4000 /TEST COMBINATION (AND)
4551 7470 SNA SEL
4552 7420 SNL
4553 7402 HLT /SNA SZL SKIPPED
/AC=4000 LINK=1

/GROUP 2 OPERATE TEST 59

4554 7300 CLA CLL /AC=0000 LINK=0
4555 7470 SNA SEL /TEST COMBINATION (AND)
4556 7430 SEL
4557 7402 HLT /SNA SZL SKIPPED
/AC=0000 LINK=0

/GROUP 2 OPERATE TEST 60

4560 7320 CLA CLL CML /AC=4000 LINK=1
4561 1050 TAD K4000 /TEST COMBINATION (AND)
4562 7670 CLA SNA SEL
4563 7440 SZA
4564 7402 HLT /CLA SNA SEL FAILED. AC SHOULD
/BE 0000. LINK=1

/GROUP 2 OPERATE TEST 61

4565 7300 CLA CLL /AC=4000 LINK=0
4566 1050 TAD K4000 /TEST COMBINATION (AND)
4567 7670 CLA SNA SZL
4570 7402 HLT /CLA SNA SZL DID NOT SKIP
/AC SHOULD BE 0000. LINK=0

/GROUP 2 OPERATE TEST 62

4571 7440 SZA /CLA SNA SEL DID NOT CLEAR AC
4572 7402 HLT /AC AND LINK SHOULD BE ZERO
/AC=0000 LINK=0
/TEST COMBINATION (AND)
/CLA SNA SEL FAILED. AC SHOULD
/BE 0000. LINK=0

/GROUP 2 OPERATE TEST 63

4573 7300 CLA CLL
4574 7670 CLA SNA SZL
4575 7440 SZA
4576 7402 HLT
4577 7300 CLA CLL

4600 1066 TAD K3777 /AC=3777 LINK=0
4601 7570 SPA SNA SEL /TEST COMBINATION (AND)
4602 7402 HLT /SPA SNA SEL DID NOT SKIP
/AC=3777 LINK=0

/GROUP 2 OPERATE TEST 64

4603 7320 CLA CLL CML /AC=3777 LINK=1
4604 1066 TAD K3777 /TEST COMBINATION (AND)
4605 7570 SPA SNA SEL
4606 7420 SNL
4607 7402 HLT /SPA SNA SEL SKIPPED
/AC=3777 LINK=1

/GROUP 2 OPERATE TEST 65

4610 7300 CLA CLL /AC=0000 LINK=0
4611 7570 SPA SNA SEL /TEST COMBINATION (AND)
4612 7430 SEL
4613 7402 HLT /SPA SNA SEL SKIPPED
/AC=0000 LINK=0

/GROUP 2 OPERATE TEST 66

4614 7300 CLA CLL /AC=4000 LINK=0
4615 1050 TAD K4000 /TEST COMBINATION (AND)
4616 7570 SPA SNA SEL
4617 7430 SEL /SPA SNA SEL SKIPPED
4620 7402 HLT /AC=4000 LINK=0

/GROUP 2 OPERATE TEST 67

4621 7300 CLA CLL /AC=3777 LINK=0
4622 1066 TAD K3777 /TEST COMBINATION (AND)
4623 7770 CLA SPA SNA SEL /CLA SPA SNA SEL DID NOT SKIP
4624 7402 HLT /AC AND LINK SHOULD BE ZERO
4625 7440 SZA /CLA SPA SNA SEL DID NOT CLEAR AC
4626 7402 HLT /AC AND LINK SHOULD BE ZERO

/GROUP 2 OPERATE TEST 68

4627 7320 CLA CLL CML /AC=3777 LINK=1
4630 1066 TAD K3777 /TEST COMBINATION (AND)
4631 7770 CLA SPA SNA SEL
4632 7440 SZA /CLA SPA SNA SEL FAILED. AC SHOULD
4633 7402 HLT /BE 0000, LINK SHOULD EQUAL ONE

/GROUP 2 OPERATE TEST 69

4634 7300 CLA CLL /AC=4000 LINK=0
4635 1050 TAD K4000 /TEST COMBINATION (AND)
4636 7770 CLA SPA SNA SEL
4637 7440 SZA /CLA SPA SNA SEL FAILED. AC SHOULD
4640 7402 HLT /BE 0000, LINK SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 70

4641 7300 CLA CLL /AC=0000 LINK=0
4642 7770 CLA SPA SNA SEL /TEST COMBINATION (AND)
4643 7440 SZA
4644 7402 HLT /CLA SPA SNA SEL FAILED. AC AND

4645 7200
4646 1070
4647 7604
4650 7040
4651 7440
4652 7402

/GROUP 2 OPERATE TEST 71
/LINK SHOULD BE ZERO.
CLA
TAD K5252 /AC=5252
CLA OSR /TEST COMBINATION
CMA
SEA
HLT
/CLA OSR FAILED
/AC SHOULD BE 0000

4653 7200
4654 1050
4655 7504
4656 7402
4657 7040
4660 7440
4661 7402

/GROUP 2 OPERATE TEST 72
CLA
TAD K4000 /AC=4000
SMA OSR /TEST COMBINATION
HLT /SMA OSR FAILED TO SKIP
/AC SHOULD BE 7777
CMA
SEA
HLT
/SMA OSR FAILED
/AC SHOULD BE 0000

4662 7200
4663 7444
4664 7402
4665 7040
4666 7440
4667 7402

/GROUP 2 OPERATE TEST 73
CLA
SEA OSR /AC=0000
HLT /TEST COMBINATION
/SEA OSR FAILED TO SKIP
/AC SHOULD BE 0000
CMA
SEA
HLT
/SEA OSR FAILED.
/AC SHOULD BE 0000

4670 7320
4671 7424
4672 7402
4673 7040
4674 7440
4675 7402

/GROUP 2 OPERATE TEST 74
CLL CML CLA /LINK=1
SNL OSR /TEST COMBINATION
HLT /SNL OSR FAILED TO SKIP
/AC SHOULD BE 7777
CMA
SEA
HLT
/SNL OSR FAILED.
/AC SHOULD BE 0000

4676 7300
4677 1066
4700 7764
4701 7450
4702 7402
4703 7040
4704 7440
4705 7402

/GROUP 2 OPERATE TEST 75
CLA CLL /AC=3777 LINK=0
TAD K3777 /TEST COMBINATION
CLA SMA SEA SNL OSR
SMA
HLT
/CLA SMA SEA SNL OSR FAILED.
/AC SHOULD BE 7777. LINK=0
CMA
SEA
HLT
/CLA SMA SEA SNL OSR FAILED
/AC SHOULD EQUAL ZERO

4706 7200
4707 7414
4710 7402

/GROUP 2 OPERATE TEST 76
CLA
SKP OSR /AC=0000
HLT /TEST COMBINATION
/SKP OSR DID NOT SKIP
/AC SHOULD BE 7777

4711 7040
4712 7440
4713 7402

CMA
SEA
HLT
/SKP OSR FAILED
/AC SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 77

4714 7200
4715 7514
4716 7402
4717 7040
4720 7440
4721 7402

CLA
SPA OSR
HLT
/AC=0000
/TEST COMBINATION
/SPA OSR DID NOT SKIP
/AC SHOULD EQUAL 7777
/SPA OSR FAILED.
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 78

4722 7200
4723 1040
4724 7454
4725 7402

CLA
TAD K0400
SNA OSR
HLT
/AC=0400
/TEST COMBINATION
/SNA OSR DID NOT SKIP
/AC SHOULD BE 7777

4726 7040
4727 7440
4730 7402

CMA
SEA
HLT
/SNA OSR FAILED
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 79

4731 7300
4732 7454
4733 7402

CLA CLL
SEL OSR
HLT
/LINK=0 AC=0000
/TEST COMBINATION
/SEL OSR DID NOT SKIP
/AC SHOULD BE 7777

4734 7040
4735 7440
4736 7402

CMA
SEA
HLT
/SEL OSR FAILED
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 80

4737 7300
4740 1066
4741 7774
4742 7402

CLA CLL
TAD K3777
CLA SPA SNA SEL OSR
HLT
/AC=3777 LINK=0
/TEST COMBINATION (AND)
/ABOVE MESS DID NOT SKIP
/AC SHOULD BE 7777

4743 7040
4744 7440
4745 7402

CMA
SEA
HLT
/CLA SPA SNA SEL OSR FAILED
/AC SHOULD BE 0000

/MO OPERATE TEST 1

4746 7360
4747 7601
4750 7430
4751 7440
4752 7402

CLA CMA CLL CML
CLAE
SEL
SEA
HLT
/AC=7777 LINK=1
/AC=0000 LINK=1

/MO OPERATE TEST 2

4753 7360

CLA CLL CMA CML
/7601 FAILED
/AC=7777 L=1

4754 7401 NOPE
4755 7040 CMA
4756 7430 SZL
4757 7440 SEA
4760 7402 HLT
/AC=7777 L=1 (NOP)
/7401 FAILED

4761 7360 /MO OPERATE TEST 3
4762 7421 CLA CMA CLL CML
4763 7430 MQL
4764 7440 SZL
4765 7402 SEA
HLT
/AC=7777 LINK=1
/AC=0000 LINK=1
/MQL DID NOT CLEAR AC

4766 7300 /MO OPERATE TEST 4
4767 7421 CLA CLL
4770 7040 MQL
4771 7501 CMA
4772 7040 MQA
4773 7420 CMA
4774 7440 SNL
4775 7402 SEA
HLT
/MO=0000, AC=0000
/AC=7777
/AC=7777, MQ=0000
/AC=0000
/MO DID NOT EQUAL 0000 OR MQA FAILED

4776 7340 /MO OPERATE TEST 5
4777 7421 CLA CMA CLL
5000 7501 MQL
5001 7040 MQA
5002 7420 CMA
5003 7440 SNL
5004 7402 SEA
HLT
/MO=7777, AC=0000
/AC=7777, MQ=7777
/MO DID NOT EQUAL 7777 OR MQA FAILED

5005 7601 /MO OPERATE TEST 6
5006 1070 CLAE
5007 7421 TAD K5252
5010 1071 MQL
5011 7501 TAD K2525
5012 7040 MQA
5013 7440 CMA
5014 7402 SEA
HLT
/MO DID NOT EQUAL 5252 OR MQA FAILED

5015 7360 /MO OPERATE TEST 7
5016 7421 CLA CMA CLL CML
5017 7040 MQL
5020 7621 CMA
5021 7440 CAM
5022 7402 SEA
5023 7501 HLT
5024 7430 MQA
5025 7440 SZL
5026 7402 SEA
HLT
/MO=7777, AC=0000
/AC=7777
/AC AND MQ.=0000
/AC SHOULD EQUAL 0000
/AC=0000, MQ=0000
/CAM DID NOT CLEAR MQ
/OR LINK WAS CLEARED

```

/MQ OPERATE TEST 8
5027 7601 CLAE
5030 7421 MQL
5031 7040 CMA
5032 7701 ACL
5033 7440 SEA
5034 7402 HLT
5035 7501 MQA
5036 7440 SEA
5037 7402 HLT

/CLEAR AC
/MQ=0000 AC=0000
/AC=0000 MQ=0000
/ACL FAILED
/AC=0000 MQ=0000
/MQ SHOULD EQUAL 0000

```

```

/MQ OPERATE TEST 9
5040 7240 CLA CMA
5041 7421 MQL
5042 7701 ACL
5043 7040 CMA
5044 7440 SEA
5045 7402 HLT
5046 7501 MQA
5047 7040 CMA
5050 7440 SEA
5051 7402 HLT

/MQ=7777 AC=0000
/AC=7777 MQ=7777
/ACL FAILED
/AC=7777, MQ=7777
/MQ SHOULD EQUAL 7777

```

```

/MQ OPERATE TEST 10
5052 7601 CLAE
5053 1070 TAD K5252
5054 7421 MQL
5055 1071 TAD K5252
5056 7701 ACL
5057 1071 TAD K5252
5060 7040 CMA
5061 7440 SEA
5062 7402 HLT
5063 7501 MQA
5064 1071 TAD K5252
5065 7040 CMA
5066 7440 SEA
5067 7402 HLT

/CLEAR AC
/MQ=5252 AC=0000
/AC=5252 MQ=5252
/ACL FAILED
/AC=5252 MQ=5252
/MQ SHOULD EQUAL 9252

```

```

/MQ OPERATE TEST 11
5070 7601 CLAE
5071 1071 TAD K5252
5072 7421 MQL
5073 1070 TAD K5252
5074 7701 ACL
5075 1070 TAD K5252
5076 7040 CMA
5077 7440 SEA
5100 7402 HLT
5101 7501 MQA
5102 1070 TAD K5252
5103 7040 CMA
5104 7440 SEA
5105 7402 HLT

/CLEAR AC
/MQ=2525 AC=0000
/AC=2525 MQ=2525
/ACL FAILED
/AC=2525 MQ=2525
/MQ SHOULD EQUAL 2525

```

5106 7621 /MO OPERATE TEST 12
 5107 7040 CAM
 5110 7521 CMA
 5111 7440 SWP
 5112 7402 SEA
 5113 7701 HLT
 5114 7040 AGL
 5115 7440 CMA
 5116 7402 SEA
 HLT
 /MO SHOULD EQUAL 7777
 /MO=0000 AC=0000
 /AC=7777
 /MO=7777 AC=0000
 /AC SHOULD EQUAL 0000
 /AC=7777 MO=7777

5117 7621 /MO OPERATE TEST 13
 5120 7040 CAM
 5121 7421 CMA
 5122 7521 SWP
 5123 7040 CMA
 5124 7440 SEA
 5125 7402 HLT
 5126 7701 AGL
 5127 7440 CMA
 5130 7402 SEA
 HLT
 /MO SHOULD EQUAL 0000
 /AC=0000 MO=0000
 /MO=7777 AC=0000
 /MO=0000 AC=7777
 /AC=0000 MO=0000
 /MO SHOULD EQUAL 0000

5131 7621 /MO OPERATE TEST 14
 5132 1070 CAM
 5133 7421 TAD
 5134 1071 MOL
 5135 7521 TAD
 5136 1071 SWP
 5137 7040 TAD
 5140 7440 CMA
 5141 7402 SEA
 5142 7701 HLT
 5143 1070 AGL
 5144 7040 TAD
 5145 7440 CMA
 5146 7402 SEA
 HLT
 /SMP FAILED
 /AC=2525 MO=2525
 /MO=0000 AC=0000
 /MO=2525 AC=0000
 /AC=5252
 /MO=5252 AC=2525
 /SMP FAILED MO SHOULD EQUAL 2525

5147 7621 /MO OPERATE TEST 15
 5150 1071 CAM
 5151 7421 TAD
 5152 1070 MOL
 5153 7521 TAD
 5154 1070 SWP
 5155 7040 TAD
 5156 7440 CMA
 5157 7402 SEA
 5160 7701 HLT
 5161 1071 AGL
 5162 7040 TAD
 5163 7440 CMA
 SZA
 /SMP FAILED
 /AC=5252 MO=5252

5164 7402 HLT /SMP FAILED M0 SHOULD EQUAL 5252

/M0 OPERATE TEST 16

5165 7621 CAM /M0=0000 AC=0000
5166 7040 CMA /AC=7777
5167 7721 CLAE SMP /AC=0000 M0=0000
5170 7440 SEA /CLAE SMP FAILED AC SHOULD EQUAL 0000
5171 7402 HLT /AC=0000 M0=0000
5172 7701 ACL /CLAE SMP FAILED M0 SHOULD EQUAL 0000
5173 7440 SEA
5174 7402 HLT

/M0 OPERATE TEST 17

5175 7621 CAM /M0=0000 AC=0000
5176 7040 CMA
5177 7421 MQL /M0=7777 AC=0000
5200 7721 CLAE SMP /AC=7777 M0=0000
5201 7040 CMA
5202 7440 SEA /CLAE SMP FAILED
5203 7402 HLT /AC=0000 M0=0000
5204 7701 ACL
5205 7440 SEA
5206 7402 HLT /CLAE SMP FAILED M0 SHOULD EQUAL 0000

/M0 OPERATE TEST 18

5207 7621 CAM /M0=0000 AC=0000
5210 1071 TAD K2525 /M0=2525 M0=0000
5211 7421 MQL /AC=5252
5212 1070 TAD K5252 /AC=2525 M0=0000
5213 7721 CLAE SMP
5214 1070 TAD K5252
5215 7040 CMA
5216 7440 SEA /CLAE FAILED
5217 7402 HLT /AC=0000 M0=0000
5220 7701 ACL
5221 7440 SEA
5222 7402 HLT /CLAE FAILED M0 SHOULD EQUAL 0000

/AND TEST 1

5223 7200 CLA /AND FAILED AC SHOULD
5224 0067 AND K7777 /BE 0000
5225 7440 SEA
5226 7402 HLT

/AND TEST 2

5227 7240 CLA CMA /AND FAILED
5230 0020 AND K0000 /AC SHOULD EQUAL 0000
5231 7440 SEA
5232 7402 HLT

/AND TEST 3

5233 7520 CLA CLL CML /AND FAILED
/AC SHOULD EQUAL 0000

5234 1067 TAD K7777 /AC=7777 LINK=1
 5235 0067 AND K7777
 5236 7040 CMA
 5237 7430 SEL
 5240 7440 SEA
 5241 7402 HLT

/AND FAILED. AC SHOULD BE
 /0000. LINK SHOULD EQUAL ONE

/AND TEST 4
 CLA CLL
 TAD K2525 /AC=2525 LINK=0
 AND K5252
 SNL
 SEA
 HLT

/AND FAILED. AC SHOULD BE
 /0000. LINK SHOULD BE 0

/AND TEST 5
 CLA CLL
 TAD K5252 /AC=5252 LINK=0
 AND K2525
 SNL
 SEA
 HLT

/AND FAILED. AC SHOULD BE
 /0000. LINK SHOULD BE 0

/AND TEST 6
 CLA CLL
 TAD K7776 /AC=7776 LINK=0
 AND K5252 /TEST INSTRUCTION
 CIA
 TAD K5252 /AC=2526
 SEL
 SEA
 HLT

/AC=2526 LINK=1
 /AND FAILURE. AC SHOULD BE
 /0000. LINK SHOULD BE ONE

/AND TEST 7
 CLA CLL
 TAD K2525 /AC=2525 LINK=0
 AND K2525 /TEST INSTRUCTION
 CIA
 TAD K2525 /AC=5253
 SEL
 SEA
 HLT

/AC=5253 LINK = 1
 /AND FAILED. AC SHOULD BE
 /0000. LINK SHOULD BE ONE.

/CHECK FOR BELL

5276 7200 CLA
 5277 1121 TAD BLCNT
 5300 7001 IAC
 5301 3121 DCA BLCNT
 5302 1121 TAD BLCNT
 5303 7640 SEA CLA
 5304 5147 JMP START+3
 5305 1122 TAD BLCNT

5306 5121

DCA BLCNT

/RING BELL

TAO BEL

TLS

TSF

JMP .-1

TCF

JMP START+3

5307 1120
5310 6046
5311 6041
5312 5311
5313 6042
5314 5147

5

ACL	7701	K600	0041
BEGIN	0200	K6000	0072
BEL	0120	K6777	0064
BLCNT	0121	K7000	0073
BLCON	0122	K7007	0117
BSM	7002	K7177	0060
CAM	7621	K7377	0063
CLAE	7601	K7400	0074
CLLI	0446	K7577	0062
CLL11	0452	K7600	0075
CMLT1	0456	K7677	0061
HALT	0006	K7700	0113
K0000	0020	K7717	0051
K0001	0021	K7737	0057
K0002	0022	K7740	0076
K0004	0024	K7757	0056
K0007	0102	K7760	0077
K0010	0026	K7767	0055
K0017	0104	K7770	0100
K0020	0030	K7773	0054
K0037	0105	K7774	0101
K0040	0032	K7775	0053
K0067	0103	K7776	0052
K0077	0106	K7777	0067
K0100	0034	MDA	7501
K0177	0107	MDL	7421
K0200	0036	NOOP	0007
K0377	0110	NOPE	7401
K0400	0040	START	0144
K0770	0116	SMP	7521
K0777	0111		
K1000	0042		
K1234	0043		
K14	0027		
K140	0035		
K1400	0044		
K1777	0112		
K2000	0045		
K2525	0071		
K2952	0115		
K3	0023		
K30	0031		
K300	0037		
K3000	0046		
K3312	0047		
K3777	0066		
K4000	0050		
K5225	0114		
K5252	0070		
K5777	0065		
K6	0025		
K60	0033		

ERRORS DETECTED: 2

LINKS GENERATED: 2

RUN-TIME: 30 SECONDS

2K CORE USED