

.NLIST SEQ
.REMA

IDENTIFICATION

PRODUCT CODE: AC-E670F-MC
PRODUCT NAME: CXLPAFO LP11 MODULE
PRODUCT DATE: SEPTEMBER 1978
MAINTAINER: DEC/X11 SUPPORT GROUP

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1. ABSTRACT

LPA EXERCISES ANY LP11 PRINTER HAVING A STANDARD PARALLEL INTERFACE. THE BASIC TEST PRINTS AN INCREMENTAL TEST PATTERN UTILIZING ALL POSSIBLE PRINTING CHARACTERS AND THE SPACE CHARACTER PRINT SET EXISTS OF 80 OR 132 COLUMNS AND A CHOICE OF 64 OR 98 CHARACTER PRINT ONLY A PORTION OF THE TOTAL LINES DESIRED TO ACTUALLY BE PRINTED. DURING A "PAUSE" (HEREBY CONTINUING THE EXERCISE OF THE INTERFACE AND PRINTER GRAPHICS) THEREBY CONSUMING THE PAPER. NOTE: NO PAUSE IS ALLOWED ON THE LP04 PRINTER. SEE SECTION 8C. FOR SETUP.

2. REQUIREMENTS

HARDWARE: LP11 LINE PRINTER CONTROL AND ONE LP11 LINE PRINTER.
STORAGE: LPA REQUIREMENTS:
1. DECIMAL WORDS: 429
2. OCTAL WORDS: 0655
3. OCTAL BYTES: 1532

3. PASS DEFINITION

ONE PASS OF THIS MODULE WILL PRINT AN INCREMENTAL TEST PATTERN, THE # OF LINES PRINTED BEING DETERMINED BY THE OPERATOR. REFER TO "OPERATOR OPTIONS" BELOW FOR SETUP INSTRUCTIONS.

4. CONFIGURATION REQUIREMENTS

DEFAULT PARAMETERS:

DEVADR: 177514, VECTOR: 200, BRI: 4, DEVCNT: 1, SRI: 0

5. DEVICE SETUP

A. LOAD PAPER
B. SWITCH ON-LINE

6. OPERATION OPTIONS

A. SET SR2 = NON ZERO TO ELIMINATE ANY PAUSE FUNCTIONS
(SR2 MUST BE NON ZERO IF PRINTER IS LP04)

B. THE 16 SR1 BITS HAVE THE FOLLOWING FUNCTIONS:

X PPP PPP PPP XXX AAA

AAA = (0) FOR 80 COLUMNS, 64 CHARACTERS
{1} FOR 80 COLUMNS, 96 CHARACTERS
{2} FOR 132 COLUMNS, 64 CHARACTERS
{3} FOR 132 COLUMNS, 96 CHARACTERS

PPP PPP PPP = RELATIVE PAUSE SIZE PER PASS, IE
{000} = SPECIAL DEFAULT SITUATION
{400} = MAXIMUM PAUSE

X = UNUSED BIT

THE PAUSE DURATION WILL ALSO BE AFFECTED BY THE CPU TYPE AND BY
THE SIZE OF THE OVERALL EXERCISER CONFIGURED.

AS EACH BIT OF THE RELATIVE PAUSE SIZE (PPP PPP PPP) IS
SET IN SR1 FROM LEAST TO MOST SIGNIFICANT, THE # OF LINES
TO BE PRINTED IS REDUCED BY ONE HALF. FOR EXAMPLE:

ICONT=200

PPP PPP PPP = {000}	= ALL LINES PRINTED (IF SR2 = NON-ZERO)
PPP PPP PPP = {001}	= 100 {8} LINES PRINTED
PPP PPP PPP = {002}	= 040 {8} LINES PRINTED
PPP PPP PPP = {004}	= 020 {8} LINES PRINTED
PPP PPP PPP = {010}	= 010 {8} LINES PRINTED
PPP PPP PPP = {020}	= 004 {8} LINES PRINTED
PPP PPP PPP = {040}	= 002 {8} LINES PRINTED
PPP PPP PPP = {100}	= 001 {8} LINES PRINTED

NOTE: IF THE PAUSE IS SET UP SUCH THAT MORE THAN
ONE BIT IS A "ONE", ONLY THE MOST
SIGNIFICANT BIT WILL BE USED FOR SETUP OF
LINES TO BE PRINTED.

EXAMPLE:

ICONT=200
PPP PPP PPP = (003)
PPP PPP PPP = "11"

RESULTS IN 40(8) LINES WILL BE PRINTED
SETTING PPP PPP PPP TO 002 WOULD PRINT
THE SAME AMOUNT OF LINES (40).

IF PPP PPP PPP IS SET UP SUCH THAT THE # OF LINES TO
BE PRINTED IS ZERO, IT WILL BE DEFAULTED TO ONE LINE
PRINTED. SO EACH PASS OF LPA WILL PRINT AT LEAST ONE
LINE.

C. LOCATION "TOFCNT" MAY BE CHANGED TO MODIFY THE # OF
PASSES PER TOP OF FORM. IF ANY PAUSE IS SELECTED
LPA WILL DO 40(8) (DEFAULT) PASSES BEFORE A TOP OF FORM
OCCURS.
DEFAULT FOR NO PAUSE (PRINT ALL LINES) IS 1
TOP OF FORM PER PASS.

7. NON STANDARD PRINTOUT

8. A SPECIAL PRINTOUT OCCURS IF THE LINE PRINTER IS
SWITCHED "OFF LINE" AND AGAIN WHEN IT IS SWITCHED BACK "ON LINE".

GENERAL

A. A TOP OF FORM COMMAND DOES NOT RESTART THE CHARACTER
SET FROM THE "SPACE" CHARACTER. THE FIRST LINE AFTER A
TOP OF FORM CONTINUES WHERE THE PREVIOUS LINE LEFT OFF.

B. FOR LONG RUNS THE RECOMMENDED SETUP IS:

ICONT=2700(8) - (DEFAULT)
TOFCNT=40(8) - (DEFAULT)
SR1 = 00000Y (SEE SECTION 6 ABOVE FOR "Y" SETUP)
SR2 = 0 (DEFAULT)

THIS RESULTS IN A RUN TIME OF APPROXIMATELY 30 SECONDS PER PASS.
THE OPERATOR SHOULD VERIFY THE TOP OF FORM
AFTER A RUN IS COMPLETE.

C. TO CONTINUOUSLY PRINT(MANDATORY IF LP04), THE RECOMMENDED SETUP IS:

ICONT=200 (ICONT IS LOC. 36)
TOFCNT = 1
SR1 = 00000Y (SEE ABOVE FOR Y SETUP)
SR2 = 000001

D. AS A FURTHER PAPER SAVING ACTION, THIS
MODULE MAY BE DESELECTED WITHOUT STOPPING THE RUN) AND
THE PAPER CONSUMED, THUS PAPER CAN BE TURNED OVER AND RE-USED.
THE MODULE MAY BE AGAIN SELECTED.

LPAF DEC/X11 SYSTEM EXERCISER MODULE
XLPAFO.P11 12-OCT-78 12:08

MACV11 30A(1052) 12-OCT-78 16:49 PAGE 7

SEQ 0006

.NLIST
.WORD 0
.LIST
.ENDR

MODSP:
;*****

000224*

266 000224 000000
267 000225 000000
268 000226 000000
269 000227 000000
270 000228 000000
271 000229 000000
272 000230 000000
273 000231 000000
274 000232 000000
275 000233 000000
276 000234 000000
277 000235 000000
278 000236 000012
279 000237 000015
280 000238 000000
281 000239 000000
282 000240 000014
283 000241 000015
284 000242 000000
285 000243 000000
286 000244 000040
287 000245 000000
288 000300 000000

LPSA: 0 ;LINE PRINTER STATUS ADDRESS
LPBA: 0 ;LINE PRINTER BUFFER ADDRESS
NEXT: 0 ;CONTAINS NEXT EMPTY POINT
CHACNT: 0 ;CONTAINS NUMBER OF CHARACTERS PRINTED
CHAR: 0 ;CONTAINS CHARACTER TO BE PRINTED
FRST: 0 ;1ST CHARACTER OF LINE TO BE PRINTED
COLUMN: 0 ;NUMBER OF COLUMNS TO BE PRINTED
TOP1: 0 ;LAST CHARACTER TO BE PRINTED
TOP2: 0 ;LAST CHARACTER TO BE PRINTED
PSCNTR: 0 ;RELATIVE PAUSE SIZE COUNTER
OFFTIM: 0 ;OFFLINE TIMER
PRTLIN: OPEN ;LINES LEFT TO BE PRINTED
NPCODE: 0 ;NON-PRINTABLE CODE (USED DURING PAUSE)
NPRCMD: 12 ;NORMAL PRINT COMMAND
PPRCMD: 15 ;PAUSE PRINT COMMAND
CPRCMD: OPEN ;CURRENT PRINT COMMAND
TOPFNM: 14 ;TOP-OF-FORM NORMAL COMMAND
TOPFPC: 15 ;TOP-OF-FORM (WHEN PAUSING) COMMAND
CTOPFC: OPEN ;CURRENT TOP-OF-FORM COMMAND
LINPRT: OPEN ;LINES TO BE PRINTED
TOPCNT: 40 ;# OF PASSES/TOP IF PAUSE IS ENABLED
TEMP: 0
FLG: .WORD 0

289 000302 016700 177500
290 000303 010067 177566
291 000312 010067 177706
292 000316 005720
293 000320 010067 177702
294 000324 012767 000120 177706
295 000325 012767 000121 177556
296 000326 012767 000121 177552
297 000327 012767 000140 177666
298 000328 012767 000137 177662
299 000362 032767 000001 177426
300 000370 001406
301 000372 012767 000176 177644
302 000400 012767 000177 177634
303 000406 032767 000002 177402 1S:
304 000412 001411
305 000422 012767 000204 177614
306 000423 012767 000205 177464
307 000432 012767 000205 177460
308 000440 012767 000036 177570 2S:
309 000446 012767 177364
310 000454 005767 177340
311 000460 001030
312 000462 015701 177330
313 000465 042701 100077
314 000472 001002
315 000474 012701 010000
316 000500 015767 177570
317 000506 012702 000006 177540 4S:
318 000517 006201 1S:
319 000514 005302
320 000516 013755
321 000524 001403 177546 2S:
322 000526 006201
323 000530 001373
324 000532 000403
325 000534 012767 000001 177530 3S:
326 000534 012767 000001 177530 3S:

START: MOV ADDR,R0 ;GET PRINTER STATUS REGISTER ADDRESS
MOV RO,CSRA ;SAVE FOR POSSIBLE ERROR TYPEOUT
MOV RO,LPSA ;SAVE LPS ADDRESS
TST (R0)+ ;TRAP IF NO ANSWER AT NUMBER
MOV RO,LPBA ;ELSE ADDRESS PRINTER DATA BUFFER
;SAVE PRINTER BUFFER ADDRESS
MOV #80,COLUMN ;SET UP FOR 80 COLUMNS
MOV #81,WDFR ;81 WORDS FR MEM TO LPT
MOV #81,INTR ;81 INTERRUPTS PER ITERATION
MOV #14,TOP ;AND
MOV #137,TOP1 ;64 CHARACTER SET.
BIT #1,SR1 ;96 CHARACTER SET??
BEQ #1,SR1 ;NO, BRANCH
MOV #176,TOP1 ;YES, FIX LIMITS
MOV #177,TOP ;FOR 96 CHARACTER SET.
BIT #2,SR1 ;132 COLUMNS??
BEQ #2,SR1 ;NO, BRANCH
MOV #132,COLUMN ;YES, FIX LIMIT.
MOV #133,WDFR ;CHANGE DEFAULT 80 TO 133(#WDMS FROM MEM)
MOV #133,INTR ;CHANGE DEFAULT 80 TO 133(# INTERRUPTS)
MOV #36,FRST ;FOR 1ST PASS ONLY
MOV #CONT,LINPRT ;LINPRT WILL CONTAIN # LINES TO BE PRT
TST SR2 ;IF ZERO - A PAUSE IS INDICATED
BNE RESTRT ;BR TO RESTRT IF NOT ZERO
MOV SR1,R1 ;SAVE SR1 IN REG 1
BIC #100077,R1 ;SEE IF A PAUSE IS INDICATED
MOV #10000,R1 ;IF NOT ZERO - A SPECIAL PAUSE INDICATED
MOV #TOPCNT,PSCNTR ;IT'S ZERO - USE DEFAULT PAUSE
MOV #6,R2 ;INIT COUNTER FOR TOP
ASR #6,R2 ;GET READY TO POSITION SR1 BITS
DEC R2 ;SHIFT SR1 BITS RIGHT
BNE LS ;DEC THE COUNTER
LINPRT ;DONE ? NO BR IF NOT
ASR #1,LINPRT ;REDUCE LINES TO BE PRINTED BY 1/2
BNE RS ;IF ZERO, GO SET TO 1
ASR #1,R1 ;SHIFT THE BITS
BNE RS ;BR IF NOT AT ZERO
RESTRT ;DONE - LINPRT IS NOW FRACTIONAL
;PART OF ICNT - IT CONTAINS THE
;# OF LINES THAT WILL BE PRINTED
;PER PASS
;ONLY ONE LINE TO BE PRINTED/PASS

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336 000542* 016700 177242 RESTRT: MOV VECTOR,RO ;GET INTERRUPT VECTOR ADDRESS
337 000542* 016700 177242 MOV #INSERV,(RO)+ ;PLACE IT INTO VECTOR AREA
338 000546* 012720 000720* MOV BR1,(RO) ;AND PSW ALSO.
339 000552* 116710 177234 MOVB ;VECTOR STUFF DONE HERE BECAUSE HE MAY
340 ;HAVE RUN THE MODULE, DESELECTED IT,
341 ;TURNED ON THE LP DRIVER (LPCON COMMAND)
342 ;AND THEN SHUT IT OFF (LPOFF) AND RE-
343 ;ENABLED THE MODULE. SO WE'D NEED THE
344 ;VECTOR INTO THIS MODULE AGAIN
345
346 000556* 016767 177474 177476 MOV WPRCMD,CPRCMD ;ENABLE LINE FEEDS
347 000564* 042777 000100 177432 BIC #100,@LPSA ;DISABLE INTERRUPTS
348 000573* 016767 177474 177452 MOV LINPRT,PRTLIN ;SAVE # OF ACTUAL LINES TO BE PRINTED
349 000600* 026767 177232 177464 CMP ICNT,LINPRT ;IS A PAUSE DESTIRED ?
350 000606* 001004 BNE IS ;YES BRANCH
351 000610* 016767 177450 177452 MOV TOPFC,CTOFC ;NO - SET UP NORMAL TOP
352 000616* 000426 BR DOPASS ;GO TO WORK
353 000620* 005767 177422 1S: TST PSCNTR ;IS IT ZERO ?
354 000624* 001412 BEQ 2S ;YES - GO RESTORE COUNT
355 000626* 026767 177442 177412 CMP TOPFC,PSCNTR ;NO - BUT IS IT TIME FOR NORMAL TOP ?
356 000634* 001012 BNE 3S ;NO - BRANCH
357 000636* 016767 177422 177424 MOV TOPFC,CTOFC ;YES - SET UP NORMAL TOP
358 000644* 005367 177376 DEC PSCNTR ;DECREASE COUNT
359 000650* 000412 BR DOPASS ;GO TO WORK
360 000746* 016777 177416 177366 2S: MOV TOPFC,PSCNTR ;RESTORE COUNT OF PASSES
361 000660* 000405 BR DOPASS ;GO TO WORK
362 000662* 016767 177400 177400 3S: MOV TOPFC,CTOFC ;SET UP PAUSE TOP
363 000670* 005367 177352 DEC PSCNTR ;DECREASE PSCNTR
364
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000674* 005067 177332 DOPASS: CLR CHACNT ;CLEAR CHARACTER COUNTER
000700* 012767 000740* 177322 MOV #PAGE,NEXT ;ADJUST POINTER
000706* 052777 000100 177310 BIS #100,@LPSA ;SET INTERRUPT ENABLE
000714* 104400 000000* EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
000720* INSEVR:
000720* 005777 177300 PROCED: TST @LPSA ;ERROR BIT??
000724* 100003 BPL IS ;NO, SO BRANCH
000726* 000004 000000* 001244* PIRQ$,BEGIN,WAIT ; QUEUE UP TO CONTINUE AT WAIT AND RTI
000734* 000177 177270 1S: JMP @NEXT ;FOLLOW POINTER TO NEXT ENTRY.
000740* 012767 000756* 177262 PAGE: MOV #LINE,NEXT ;ADJUST POINTER
000746* 016777 177316 177252 MOV CTOFC,@LPBA ;ISSUE TOP-OF-FORM CODE
000754* 000002 RTI
000756* 005267 177316 LINE: INC FLG ;WE ARE GOING TO PIRQ - SET FLG
000762* 000004 000000* 000770* PIRQ$,BEGIN,3S ; QUEUE UP TO CONTINUE AT 3S AND RTI
000770* 104413 000000* 3S: ENDT$,BEGIN ;SIGNAL END OF ITERATION.
000774* 005767 177252 TST PRTLIN ;MONITOR SHALL TEST END OF PASS
001000* 001414 BEQ 2S ;PRINTING ?
001002* 005267 177230 INC FRST ;YES SKIP INCREMENTING FRST
001006* 026767 177232 177222 CMP TOP1,FRST ;GET STARTING CHARACTER
001014* 001003 BNE IS ;TOP OF CHARACTER SET REACHED??
001016* 012767 000037 177212 MOV #37,FRST ;NO, CONTINUE
001024* 016767 177206 177202 1S: MOV FRST,CHAR ;YES, START SET OVER
001032* 012767 001040 177170 2S: MOV #PRNT,NEXT ;GET NEW FIRST CHARACTER
001040* 026767 177166 177172 PRNT: CMP CHACNT,COLUMN ;DONE THIS LINE?
001046* 001446 BNE DUN ;YES, GO TO DUN
001050* 005267 177156 INC CHACNT ;NO, READY ANOTHER CHARACTER
001054* 005267 177154 INC CHAR ;FORM NEXT CHARACTER TO BE PRINTED
001060* 026767 177156 177146 CMP TOP,CHAR ;TOP OF CHARACTER SET?
001066* 001003 BNE IS ;NO, CONTINUE
001070* 012767 000040 177136 MOV #40,CHAR ;YES START OVER WITH A SPACE CHARACTER
001076* 005767 177150 1S: TST PRTLIN ;ARE WE THROUGH PRINTING ?
001102* 001404 BEQ 2S ;IF THROUGH PRINTING BR TO NON
001104* 016767 177124 177164 MOV CHAR,TEMP ;SAVE WHAT WE'RE DOING
001112* 000406 BR 3S ;GO SEE IF WE PIRQ'ED
001114* 016767 177140 177140 2S: MOV WPRCMD,CPRCMD ;INHIB LINE FEED
001122* 016767 177126 177146 MOV NP CODE,TEMP ;SAVE NON-PRINT CODE
001130* 005767 177144 3S: TST FLG ;HAVE WE PIRQ'ED ?
001134* 001407 BNE 4S ;NO - BRANCH
001136* 005067 177136 CLR FLG ;YES - CLR FLG
001142* 016777 177130 177056 MOV TEMP,@LPBA ;AND MOVE TEMP TO LP
001150* 104400 000000* EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
001154* 016777 177116 177044 4S: MOV TEMP,@LPBA ;NO - WE HAVENT PIRQ'ED - MOVE
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421 001162 000002 RTI ;TEMP IN TO LP AND RTI
422
423

424 001164 005767 177062 DUN: TST PRTLIN ;ARE WE STILL PRINTING ?
425 001170 001402 177062 BEQ 15 ;NO - GO BRANCH
426 001172 005367 177054 DEC PRTLIN ;DEC # LINES LEFT TO BE PRINTED
427 001176 012767 000756 177024 1S: MOV #LINE,NEXT ;SET POINTER FOR A NEW LINE
428 001204 005067 177022 CLR CHACNT ;CLEAR CHARACTER COUNTER
429 001210 005767 177064 TST FLG ;HAVE WE PIRQ'ED ?
430 001214 001407 177064 BEQ 45 ;NO - BRANCH
431 001216 005067 177056 CLR FLG ;YES - CLR FLG
432 001222 016777 177034 MOV CPRCMD,@LPBA ;XMIT PRINT COMMAND
433 001230 104400 000000 EXIT\$,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
434
435 001234 016777 177022 176764 4S: MOV CPRCMD,@LPBA ;NO - HAVE NOT PIRQ'ED - MOVE PRINT
436 001242 000002 RTI ;COMMAND IN AND RTI
437
438
439
440 001244 042777 000100 176752 WAIT: BIC #100,@LPBA ;CLEAR INTERRUPT ENABLE
441 001252 016767 176746 176620 MOV LPBA,CSRA ;PROVIDE STATUS REGISTER ADDRESS
442 001260 017767 176740 176614 MOV @LPBA,ACSR ;AND CONTENTS
443 ;FOR ERROR TYPEOUT.
444 MOV #ERRTYP ;OFF LINE ERROR CODE
445 ;*****
446 001266 012767 000006 176612 ;RDERS,BEGIN,NULL ;PRINTER HAS GONE OFFLINE...WAITING
447 ;*****
448 001302 104403 000000 001424 MSGN\$,BEGIN,M4 ;ASCII MESSAGE CALL WITH COMMON HEADER
449 001310 005067 176734 CLR OFFTIM ;READY TIMER.
450
451 001314 104407 000000 1S: BREAK\$,BEGIN ;TEMPORARY RETURN TO MONITOR...
452 001320 104407 000000 BREAK\$,BEGIN ;THEN CONTINUE AT NEXT INSTRUCTION.
453 001324 104407 000000 BREAK\$,BEGIN ;TEMPORARY RETURN TO MONITOR...
454 001330 104407 000000 BREAK\$,BEGIN ;THEN CONTINUE AT NEXT INSTRUCTION.
455 001334 005777 176664 TST @LPBA ;ERROR STILL SET??
456 001340 100017 176702 BPL PICKUP ;NO, GO CONTINUE EXERCISE
457 001342 005367 176702 DEC OFFTIM ;YES, STEP TIMER
458 001346 001401 BEQ 25 ;BRANCH IF TIMEOUT
459 001350 000761 BR 15 ;BREAK, THEN CHECK AGAIN
460 001352 016767 176646 176520 2S: MOV LPBA,CSRA ;TIME'S UP, ISSUE FINAL
461 001360 017767 176640 176514 MOV @LPBA,ACSR ;ERROR MESSAGE
462 ;*****
463 001366 104405 000000 000000 ;RDERS,BEGIN,NULL ;PRINTER STILL NOT ONLINE, DROPPING MODULE
464 ;*****
465 001374 104410 000000 ENDS,BEGIN ;
466
467 001400 104407 000000 PICKUP: MSGN\$,BEGIN,M3 ;ASCII MESSAGE CALL WITH COMMON HEADER
468 001406 052777 000100 001420 BIS #100,@LPBA ;RE-ENABLE INTERRUPT AND CONTINUE
469 001414 104400 000000 EXIT\$,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
470
471
472
473 001420 001430 M3: M3 ;POINTER FOR MESSAGE #3
474 001422 177777 M4: M4 ;POINTER FOR MESSAGE #4
475 001424 001476
476 001426 177777

INSERV	000720R	338	371#																	
INVR	000120R	457#	299#	312*																
LINPR	000272R	285#	384#	427*																
LPBA	000226R	267#	294*	381*	335*	348	349													
LPSS	000224R	266#	291*	347*	417*	420*	432*	435*												
MAP2S=	104416	266#			367*	373	440*	441	442	455	460	461	469*							
MM3	001430R	473#	477#																	
MM4	001476R	475#	484#																	
MODNAM	000000R	212#																		
MODST	000244R	212#																		
MSGNS =	104403	266#	468																	
MSGSS =	104402	266#																		
MSGS =	104401	266#																		
H3	001200R	469#	473#																	
H4	001424R	469#	473#																	
NEXT	000230R	268#	378	380*	398*	427*														
NPCODE	000254R	278#																		
NPRCMD	000255R	278#																		
NULL =	000000	266#																		
OPFTIM	000250R	276#	449*	457*																
OPEN =	000000	213#	219	220	221	222	239	240	241	242	243	244	245	246						
		252	253	255	256	257	266#	277	281	284	285									
OTQAS =	104420	266#																		
PAGE	000740R	366#	380#																	
PASCMT	000034R	272#																		
PATST	000454R	316#																		
PICKUP	001400R	467#																		
PIRQS =	000004	266#	376	386																
PDPSP2 =	005726	266#																		
PDPSP2 =	022826	266#																		
PPRCMD	000260R	280#																		
PRNT	001040R	398#	412	401#																
PROCD	000720R	373#																		
PTLIN	000755R	278#	348*	391	408	424	426*													
PRTY =	000000	266#																		
PRTY0 =	000000	217#	266#																	
PRTY2 =	000040	266#																		
PRTY3 =	000140	266#																		
PRTY4 =	000200	216#	266#																	
PRTY5 =	000240	266#																		
PRTY6 =	000300	266#																		
PRTY7 =	000340	266#																		
PS	177776	266#																		
PSCNTR	000466R	275#	322*	353	355	358*	360*	363*												
PSW	177176	266#																		
PUSH =	005746	266#																		
PUSH2 =	024646	266#																		
RANDS	104417	266#																		
RANUM	000544R	285#																		
RESTRT	000542R	285#	317	331	336#															
RES1	000056R	237#																		
RES2	000060R	238#																		
RESRT	000114R	248#																		
SBADR	000102R	247#																		

SDFCNT	000042R	230#																		
SDFERS =	104406	266#																		
SDFPAS	000046R	232#																		
SPOINT	000032R	226#																		
SPSTZ =	000040	1	259																	
SR1	000016R	219#	303	308	318															
SR2	000020R	220#	316																	
SR3	000022R	221#																		
SR4	000024R	221#																		
START	000302R	255#	289#																	
STAT	000026R	224#																		
SVR0	000062R	239#																		
SVR1	000064R	240#																		
SVR2	000066R	241#																		
SVR3	000070R	242#																		
SVR4	000072R	243#																		
SVR5	000074R	243#																		
SVR6	000076R	244#																		
SYSCNT	000052R	234#																		
TEMP	000276R	287#	410*	413*	417	420														
TOFCNT	000274R	286#	322	355	360															
TOFNC	000264R	285#	351	357																
TOFPC	000266R	283#	362																	
TDP	000242R	273#	300*	306*	405															
TOP1	000244R	274#	301*	305*	394															
TRPDFD =	000022	266#																		
VECTDR	000010R	215#	337																	
WAIT	001244R	376#	440#																	
WASADR	000104R	249#																		
WDR	000106R	250#	298*	311*																
WDTO	000114R	255#																		
XPLAG	000005R	213#																		

. ABS. 000000 000
 001532 001

ERRORS DETECTED: 0
 DEFAULT GLOBALS GENERATED: 0
 XLPFA0,XLPFA0/SOL/CRF:SYN=DDXCOM,XLPFA0
 RUN-TIME: 1 1.2 SECONDS
 RUN-TIME RATIO: 25/3=7.2
 CORE USED: 7K (13 PAGES)