

.TITLE LP15
/LINE PRINTER SYSTEM EXECISER MODULE,
/REV, DATE == 3/1/71 == (1)

.EBREL

00000 R 600016 A
00001 R 000000 A
00002 R 000000 A
00003 R 000000 A
00004 R 000070 R
00005 R 000032 R
00006 R 142061 A
00007 R 650640 A
00010 R 000100 A
00011 R A

UODSW 600016
0
0
0
.DSA LPTSER
.DSA LPTINT
.SIXBT "LP15F "
100 /MASK FOR CHAIN MODE
.BLOCK 7

00020 R 000000 A
00021 R 000000 A
00022 R 000000 A
00023 R A

SYSERR 0
ERWC 0
ERCODE 0
.BLOCK 7

/INITIATION ROUTINE, ENTERED FROM MONITOR,

00032 R 000000 A
00033 R 707764 A
00034 R 707702 A
00035 R 200032 R
00036 R 040070 R
00037 R 440600 R
00040 R 600556 R
00041 R 777777 A
00042 R 040600 R
00043 R 706621 A
00044 R 706641 A
00045 R 141114 R
00046 R 141115 R
00047 R 140020 R
00050 R 140021 R
00051 R 777770 A
00052 R 041125 R
00053 R 100547 R
00054 R 100276 R
00055 R 100320 R
00056 R 100547 R
00057 R 100522 R
00060 R 100547 R
00061 R 100464 R
00062 R 100547 R
00063 R 100403 R
00064 R 100410 R
00065 R 441125 R
00066 R 600053 R
00067 R 600107 R

LPTINT 0
EBA
EEM
LAC LPTINT
DAC LPTSER
ISZ SWITCH
JMP QUTEX
LAW =1
DAC SWITCH
CLF
CLE
DZM APIFLG#
DZM BRKFLG#
DZM SYSERR
DZM ERWC
LAW -TSTRUN
DAC RUNLEN#
LPTIN1 JMS PRTFF
JMS LFWD
JMS RTWD
JMS PRTFF
JMS BUFSNG
JMS PRTFF
JMS PRTRQI
JMS PRTFF
JMS IOPPR
JMS PLSPR
ISZ RUNLEN
JMP LPTIN1
JMP TERMIN

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,EJECT

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00070 R 000000 A /SERVICE ENTRANCE FROM THE MONITOR,
00071 R 707764 A LPTSER 0 /SERVICE ENTRANCE,
00072 R 707702 A EBA
00073 R 100157 R JMS FLAG
00074 R 620075 R JMP* EXIT

/
00075 R 000000 A EXIT 0 /ROUTINE FOR EXIT TO THE MONITOR,
00076 R 201114 R LAC APIFLG
00077 R 741200 A SNA
00100 R 600105 R JMP ,+5
00101 R 141114 R DZM APIFLG
00102 R 201113 R LAC ACSAVE#
00103 R 703344 A DBR
00104 R 620070 R JMP* LPTSER
00105 R 750000 A CLA
00106 R 600103 R JMP ,=3

/
00107 R 200020 R TERMIN LAC SYSERR
00110 R 741200 A SNA /TERMINATE ROUTINE,
00111 R 140021 R DZM ERWC
00112 R 777774 A LAW =4
00113 R 040020 R DAC SYSERR
00114 R 141115 R DZM BRKFLG
00115 R 100075 R JMS EXIT
00116 R 740040 A HLT

/
/MONITOR EXIT ROUTINE - EXPECTS FLAG DRIVEN RETURN,
/
00117 R 000000 A MONEXT 0
00120 R 141115 R DZM BRKFLG
00121 R 100075 R JMS EXIT
00122 R 620117 R JMP* MONEXT

/
/BREAK EXIT TO THE MONITOR,
/
00123 R 000000 A BRKEXT 0
00124 R 200020 R LAC SYSERR
00125 R 740200 A SZA
00126 R 600132 R JMP ,+4
00127 R 140021 R DZM ERWC
00130 R 777773 A LAW =2
00131 R 741000 A SKP
00132 R 777776 A LAW =2
00133 R 040020 R DAC SYSERR
00134 R 777777 A LAW =1
00135 R 041115 R DAC BRKFLG
00136 R 100075 R JMS EXIT
00137 R 620123 R JMP* BRKEXT
,EJECT

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/HOLD SUBROUTINE, HOLD ON OPTION SWITCH SET,
00140 R 000000 A HOLD 0
00141 R 750004 A LAS
00142 R 500010 R AND UODSW+10
00143 R 741200 A SNA
00144 R 620140 R JMP# HOLD
00145 R 100123 R JMS BRKEXT
00146 R 600141 R JMP ,=5

/PRINT EXIT ROUTINE,
00147 R 000000 A PRT 0
00150 R 201133 R LAC (BUF=1
00151 R 060565 R DAC# SYSCA
00152 R 100140 R JMS HOLD
00153 R 706541 A LPC
00154 R 706544 A PIE
00155 R 100117 R JMS MONEXT
00156 R 620147 R JMP# PRT

/FLAG CHECK ROUTINE USED ON RETURN FROM MONITOR,
/
00157 R 000000 A FLAG 0
00160 R 041113 R DAC ACSAVE
00161 R 201134 R LAC (400000
00162 R 705501 A SPI
00163 R 600201 R JMP APIOFF
00164 R 777777 A LAW =1
00165 R 041114 R DAC APIFLG
00166 R 706501 A LSF
00167 R 600272 R JMP ER1+1

/
00170 R 706561 A FLAG1 PID
00171 R 141115 R DZM BRKFLG
00172 R 750000 A CLA
00173 R 706542 A LSE
00174 R 706621 A CLF
00175 R 706641 A CLE
00176 R 741100 A SPA
00177 R 100216 R JMS ER2
00200 R 620157 R JMP# FLAG

/
00201 R 706501 A APIOFF LSF
00202 R 741000 A SKP
00203 R 600170 R JMP FLAG1
00204 R 201115 R LAC BRKFLG
00205 R 741200 A SNA
00206 R 600214 R JMP ,+6
00207 R 200020 R LAC SYSERR
00210 R 740200 A SZA
00211 R 600214 R JMP ,+3
00212 R 141115 R DZM BRKFLG
00213 R 620157 R JMP# FLAG
00214 R 750001 A CLC
00215 R 620070 R JMP# LPTSER
,EJECT

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/ERROR ROUTINES,
/ERROR 2, FLAG ERROR FROM PRINTER CONTROL,
ER2 0
00216 R 000000 A
00217 R 041117 R DAC ER2TMP#
00220 R 201135 R LAC (2)
00221 R 100231 R JMS RESPUT
00222 R 201117 R LAC ER2TMP
00223 R 100255 R JMS PUT
00224 R 200601 R LAC BUF
00225 R 100255 R JMS PUT
00226 R 100262 R JMS ENDPUT
00227 R 140600 R DZM SWITCH
00230 R 600107 R JMP TERMIN

/RESET ERROR PUT AWAY ROUTINE,
/
00231 R 000000 A RESPUT 0
00232 R 041124 R DAC RESTMP#
00233 R 200020 R LAC SYSERR
00234 R 741200 A SNA
00235 R 600241 R JMP RESP,2
00236 R 541136 R SAD (-1)
00237 R 600247 R JMP RESP,1
00240 R 740040 A HLT

/
00241 R 201124 R RESP,2 LAC RESTMP
00242 R 040022 R DAC ERCODE
00243 R 201137 R LAC (ERCODE+1)
00244 R 041122 R DAC PUT,1
00245 R 141123 R DZM PUT,2
00246 R 620231 R JMP* RESPUT
00247 R 777776 A RESP,1 LAW -2
00250 R 040020 R DAC SYSERR
00251 R 777777 A LAW -1
00252 R 041115 R DAC BRKFLG
00253 R 100075 R JMS EXIT
00254 R 600241 R JMP RESP,2

/PUTAWAY ROUTINE FOR ERROR PRAMETERS,
/
00255 R 000000 A PUT 0
00256 R 061122 R DAC# PUT,1#
00257 R 441122 R ISZ PUT,1
00260 R 441123 R ISZ PUT,2#
00261 R 620255 R JMP# PUT

/END PUT AWAY ROUTINE
/
00262 R 000000 A ENDPUT 0
00263 R 201123 R LAC PUT,2
00264 R 740001 A CMA
00265 R 040021 R DAC ERWC
00266 R 777777 A LAW -1
00267 R 040020 R DAC SYSERR
00270 R 620262 R JMP# ENDPUT
,EJECT

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/ERROR 1 - ERROR ROUTINE FOR API ERROR,

00271	R	000000	A	ER1	0	
00272	R	201140	R		LAC	(1)
00273	R	100231	R		JMS	RESPUT
00274	R	100262	R		JMS	ENDPUT
00275	R	600107	R		JMP	TERMIN

/LEFT WEDGE ROUTINE,

00276	R	000000	A	LFWD	0	
00277	R	100346	R		JMS	BUFCLR
00300	R	201140	R		LAC	(1)
00301	R	040601	R		DAC	BUF
00302	R	201141	R		LAC	(BUF+121)
00303	R	041116	R		DAC	BUFPTR#

/LFWD,1

00304	R	100147	R		JMS	PRT
00305	R	200570	R		LAC	LF
00306	R	061116	R		DAC*	BUFPTR
00307	R	201116	R		LAC	BUFPTR
00310	R	341136	R		TAD	(=1)
00311	R	041116	R		DAC	BUFPTR
00312	R	740001	A		CMA	
00313	R	341140	R		TAD	(1)
00314	R	341142	R		TAD	(BUF+1)
00315	R	740200	A		SZA	
00316	R	600304	R		JMP	LFWD,1
00317	R	620276	R		JMP*	LFWD

/RIGHT WEDGE PRINT ROUTINE,

00320	R	000000	A	RTWD	0	
00321	R	100346	R		JMS	BUFCLR
00322	R	201140	R		LAC	(1)
00323	R	040601	R		DAC	BUF
00324	R	201143	R		LAC	(BUF+2)
00325	R	041116	R		DAC	BUFPTR
00326	R	777660	A		LAW	=120
00327	R	041126	R		DAC	TEMP

/RTWD,1

00330	R	100147	R		JMS	PRT
00331	R	200571	R		LAC	SPC
00332	R	061116	R		DAC*	BUFPTR
00333	R	441116	R		ISZ	BUFPTR
00334	R	441126	R		ISZ	TEMP
00335	R	600330	R		JMP	RTWD,1
00336	R	620320	R		JMP*	RTWD

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00337 R 000000 A
00340 R 777742 A
00341 R 041126 R
00342 R 100147 R
00343 R 441126 R
00344 R 600342 R
00345 R 620337 R

PAGPRT 0
LAW =36
DAC TEMP
JMS PRT
ISZ TEMP
JMP =2
JMP* PAGPRT
/CLEAR BUFFER TO A SINGLE CHARACTER,
/

00346 R 000000 A
00347 R 201143 R
00350 R 041126 R
00351 R 777660 A
00352 R 041127 R
00353 R 200566 R
00354 R 061126 R
00355 R 441126 R
00356 R 441127 R
00357 R 600354 R
00360 R 200570 R
00361 R 061126 R
00362 R 620346 R

BUFCLR 0
LAC (BUF+2
DAC TEMP#
LAW =120
DAC TEMP1#
LAC CHAR
DAC* TEMP
ISZ TEMP
ISZ TEMP1
JMP =3
LAC LF
DAC* TEMP
JMP* BUFCLR

00363 R 000000 A
00364 R 201143 R
00365 R 041126 R
00366 R 777760 A
00367 R 041127 R
00370 R 200572 R
00371 R 061126 R
00372 R 441126 R
00373 R 200573 R
00374 R 061126 R
00375 R 441126 R
00376 R 441127 R
00377 R 600370 R
00400 R 200574 R
00401 R 061126 R
00402 R 620363 R

BUFESP 0
LAC (BUF+2
DAC TEMP
LAW =20
DAC TEMP1
LAC ESP1
DAC* TEMP
ISZ TEMP
LAC ESP2
DAC* TEMP
ISZ TEMP
ISZ TEMP1
JMP =7
LAC IOPSLF
DAC* TEMP
JMP* BUFESP
.EJECT

/IOPS MODE PRINT -- PRINT EES AND SPACES,

00403 R 000000 A
 00404 R 140601 R
 00405 R 100363 R
 00406 R 100337 R
 00407 R 620403 R

IOPPRT 0
 DZM BUF
 JMS BUFESP
 JMS PAGPRT
 JMP* IOPPRT

/EXCLAMATION POINT FOLLOWED BY PLUS SIGN PRINT,
 /THIS PATTERN PRODUCES HIGH SPEED PRINT,

00410 R 000000 A
 00411 R 201140 R
 00412 R 040601 R
 00413 R 100416 R
 00414 R 100337 R
 00415 R 620410 R

PLSPRT 0
 LAC (1)
 DAC BUF
 JMS BUFPLS
 JMS PAGPRT
 JMP* PLSPRT

/CLEAR BUFFER FOR EXCLAMATION AND PLUS PRINT,

00416 R 000000 A
 00417 R 201143 R
 00420 R 041126 R
 00421 R 777774 A
 00422 R 041130 R
 00423 R 200577 R
 00424 R 041132 R
 00425 R 777754 A
 00426 R 041127 R
 00427 R 201132 R
 00430 R 061126 R
 00431 R 441126 R
 00432 R 441127 R
 00433 R 600430 R
 00434 R 201132 R
 00435 R 341144 R
 00436 R 041132 R
 00437 R 441130 R
 00440 R 600425 R
 00441 R 200570 R
 00442 R 061126 R
 00443 R 620416 R

BUFPLS 0
 LAC (BUF+2
 DAC TEMP
 LAW #4
 DAC TEMP2#
 LAC EXCLM
 DAC TEMP4#
 BUFPL1 LAW #24
 DAC TEMP1
 LAC TEMP4
 BUFPL4 DAC* TEMP
 ISZ TEMP
 ISZ TEMP1
 JMP BUFPL4
 LAC TEMP4
 TAD (12)
 DAC TEMP4
 ISZ TEMP2
 JMP BUFPL1
 LAC LF
 DAC* TEMP
 JMP* BUFPLS
 .EJECT

/PRINT ROTATING PATTERN...

```

/
BUFROT 0
00444 R 000000 A    LAW      -3
00445 R 777775 A    DAC      TEMP
00446 R 041126 R    LAC      (BUF+2
00447 R 201143 R    DAC      TEMP1
00450 R 041127 R    LAW      -100
00451 R 777700 A    DAC      TEMP2#
00452 R 041130 R    LAC      SPC
00453 R 200571 R    DAC*     TEMP1
00454 R 061127 R    TAD      (1)
00455 R 341140 R    ISZ      TEMP1
00456 R 441127 R    ISZ      TEMP2
00457 R 441130 R    JMP      ,=4
00460 R 600454 R    ISZ      TEMP
00461 R 441126 R    JMP      ,=11
00462 R 600451 R    JMP*    BUFROT
00463 R 620444 R

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/ACTUAL PRINT ROTATING PATTERN ROUTINE,

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/
PRTRT 0
00464 R 000000 A    JMS      BUFROT
00465 R 100444 R    LAC      (BUF
00466 R 201145 R    DAC      TEMP2
00467 R 041130 R    LAW      -120
00470 R 777660 A    DAC      TEMP1
00471 R 041127 R    LAC      (BUF-1
00472 R 201133 R    DAC      BUFPTR
00473 R 041116 R    LAC      (BUF+122
00474 R 201146 R    DAC      LFPTR#
00475 R 041120 R    PRTRT1  LAC*    LFPTR
00476 R 221120 R    DAC      LFSAV#
00477 R 041121 R    LAC      LF
00500 R 200570 R    DAC*    LFPTR
00501 R 061120 R    LAC      (1)
00502 R 201140 R    DAC*    TEMP2
00503 R 061130 R    LAC      BUFPTR
00504 R 201116 R    DAC*    SYSCA
00505 R 060565 R    JMS      HOLD
00506 R 100140 R    LPC
00507 R 706541 A    PIE
00510 R 706544 A    JMS      MONEXT
00511 R 100117 R    LAC      LFSAV
00512 R 201121 R    DAC*    LFPTR
00513 R 061120 R    ISZ     LFPTR
00514 R 441120 R    ISZ     BUFPTR
00515 R 441116 R    ISZ     TEMP2
00516 R 441130 R    ISZ     TEMP1
00517 R 441127 R    JMP     PRTRT1
00520 R 600476 R    JMP*   PRTRT
00521 R 620464 R    .EJECT

```

/PRINT SINGLE LINES OF ALL THE SAME CHARACTERS.

00522	R	000000	A	BUFSNG	0	
00523	R	201140	R		LAC	(1)
00524	R	040601	R		DAC	BUF
00525	R	777700	A		LAW	=100
00526	R	041126	R		DAC	TEMP
00527	R	200571	R		LAC	SPC
00530	R	041131	R		DAC	TEMP3#
00531	R	201143	R	BUFSN1	LAC	(BUF+2
00532	R	041127	R		DAC	TEMP1
00533	R	777660	A		LAW	=120
00534	R	041130	R		DAC	TEMP2
00535	R	201131	R		LAC	TEMP3
00536	R	061127	R		DAC*	TEMP1
00537	R	441127	R		ISZ	TEMP1
00540	R	441130	R		ISZ	TEMP2
00541	R	600536	R		JMP	,=3
00542	R	100147	R		JMS	PRT
00543	R	441131	R		ISZ	TEMP3
00544	R	441126	R		ISZ	TEMP
00545	R	600531	R		JMP	BUFSN1
00546	R	620522	R		JMP*	BUFSNG
/						
00547	R	000000	A	PRTFF	0	
00550	R	200567	R		LAC	FF
00551	R	040603	R		DAC	BUF+2
00552	R	201140	R		LAC	(1)
00553	R	040601	R		DAC	BUF
00554	R	100147	R		JMS	PRT
00555	R	620547	R		JMP*	PRTFF
/						
00556	R	777700	A	OUTEX	LAW	=100
00557	R	040600	R		DAC	SWITCH
00560	R	777771	A		LAW	=7
00561	R	040020	R		DAC	SYERR
00562	R	100075	R		JMS	EXIT
00563	R	740040	A		HLT	
					.EJECT	

/CONSTANTS,,

```

00564 R 000034 A   SYSWC   34
00565 R 000035 A   SYSCA   35
00566 R 000315 A   CHAR    315
00567 R 000214 A   FF      214
00570 R 000212 A   LF      212
00571 R 000240 A   SPC     240
00572 R 424100 A   ESP1   424100
00573 R 402212 A   ESP2   402212
00574 R 050000 A   IOPSLF 500000
00575 R 000000 A           0
00576 R 000253 A   PLUS   253
00577 R 000241 A   EXCLM  241
00600 R 777777 A   SWITCH 777777
000010 A   TSTRUN=10

```

/M CHARACTER,

/LINE FEED CHARACTER,
/SPACE CHARACTER,

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00601 R 000001 A   BUF     1
00602 R 000000 A           0
00603 R           A           ,BLOCK 310

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706621 A   CLF=706621
706641 A   CLE=706641
706541 A   LPC=706541
706542 A   LSE=706542
706501 A   LSF=706501
706544 A   PIE=706544
706561 A   PID=706561
707764 A   EBA=707764
707702 A   EEM=707702

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/CLEAR DONE FLAG,
/CLEAR STATUS AND ERROR FLAG,
/PRINT ONE LINE,
/READ STATUS,
/SKIP IF DONE OR ERROR FLAG SET,
/ENABLE INTERRUPT SYSTEM,
/DISABLE INTERRUPT SYSTEM,

```

,END UODSW

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01133 R 000600 R #L
01134 R 400000 A #L
01135 R 000002 A #L
01136 R 777777 A #L
01137 R 000023 R #L
01140 R 000001 A #L
01141 R 000722 R #L
01142 R 000602 R #L
01143 R 000603 R #L
01144 R 000012 A #L
01145 R 000601 R #L
01146 R 000723 R #L

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SIZE=01155

NO ERROR LINES

