

DL11

DEVICE ROUTINE FOR MPR
MD-11-DTDLA-B

EP DTDLA B DL A

NOV 1976

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MADE IN USA

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
31	32	33
34	35	36
37	38	39
40	41	42
43	44	45
46	47	48
49	50	51
52	53	54
55	56	57
58	59	60
61	62	63
64	65	66
67	68	69
70	71	72
73	74	75
76	77	78
79	80	81
82	83	84
85	86	87
88	89	90
91	92	93
94	95	96
97	98	99
100	101	102

B01

MAINDEC-11-DTDLA-B
DTDLA-B.P11

DL11 DEVICE ROUTINE FOR MPG

MACY11 27(732) 24-SEP-76 14:09 PAGE 1

SEQ 0032

.REM

IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DTDLA-B
PRODUCT NAME: DL11 DEVICE ROUTINE FOR MPG
DATE: APRIL 1976
MAINTAINER: DIAGNOSTIC GROUP
AUTHOR: W. R. GREENE

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MAIN070-11-DTOLA-B DL11 SERVICE ROUTINE FOR MPG
DTOLAB.F11 REVISION HISTORY

MACY11 27(732) 24-SEP-76 14:09 PAGE 2

EE0 0033

10.000 - 0.000 = 0.000

.SBTTL REVISION HISTORY

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:      APR 76      DTDLA-B RELEASE
:      JAN 76      ADDED MEMORY MANAGEMENT SUPPORT
:      AUG 75      DTDLA-A INITIAL RELEASE

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E01

MAINDEX-11-DTDLA-S DL11 DEVICE ROUTINE FOR MPG
DTDLAB.F11 STANDARD DEVICE ROUTINE TABLE

MACY11 27(732) 24-SEP-76 14:09 PAGE 3-1

SEQ 0035

110	000072	000000		TSTVEC:	.WORD	0	:TEST INT VECTOR ROUT BR ADR
111	000074	000000		RTNINT:	.WORD	0	:RETURN FROM INT ROUT BR ADR
112	000076	000000		GETBYT:	.WORD	0	:GET DATA BYTE ROUT BR ADR
113	000100	000000		PUTBYT:	.WORD	0	:PUT DATA BYTE ROUT BR ADR
114	000102	000014			.WORD	DVREGS-	:ADR OF DEVICE REGISTER NAMES
115	000104	000042			.WORD	DVCMDS-	:ADR OF DEVICE FUNCTIONS
116	000106	000142			.WORD	DVPKTE-	:ADR OF PACK TBL EXTENSION
117	000110	000310			.WORD	DVMVTE-	:ADR OF MODEL VECTOR TBL EXTEN.
118	000112	000372			.WORD	DVCPTE-	:ADR OF COMPILER TBL EXTEN.
119	000114	000514			.WORD	DVIWST-	:ADR OF DEV INTERFACE WD SYM TBL
120							
121							
122	000116	041522	051123	DVREGS:	.ASCII	/RCSR/	:VALID DEVICE REGISTER NAMES &
123	000122	000000			.WORD	0	:THEIR POSITIONS RELATIVE TO
124	000124	041122	043125		.ASCII	/RBUF/	:THE DEVICE REGISTERS BASE ADDRESS.
125	000130	000002			.WORD	2	
126	000132	041530	051123		.ASCII	/XCSR/	
127	000136	000004			.WORD	4	
128	000140	041130	043125		.ASCII	/XBUF/	
129	000144	000006			.WORD	6	
130		000146		DVREGE=	.		
131							
132	000146	120	001	DVCMDS:	.BYTE	120,1	:VALID DEVICE FUNCTIONS
133	000150	000772			.WORD	READ-	:FLAG BYTE:
134	000152	130	001		.BYTE	130,1	:BIT 7 = NPR DEV
135	000154	001166			.WORD	WRITE-	:BIT 3 = MASSBUS DEV
136	000156	160	001		.BYTE	160,1	:BIT 0 = 2 WORDS FOR ADR
137	000160	001172			.WORD	BREAK-	(18 BIT ADRS)
138	000162	376	000		.BYTE	376,0	
139	000164	001624			.WORD	CRESET-	
140	000166	375	000		.BYTE	375,0	
141	000170	001610			.WORD	NOWAIT-	
142	000172	374	000		.BYTE	374,0	
143	000174	001424			.WORD	WAIT-	
144	000176	373	000		.BYTE	373,0	
145	000200	002634			.WORD	REPORT-	
146	000202	372	000		.BYTE	372,0	
147	000204	002630			.WORD	REPORT-	
148	000206	371	000		.BYTE	371,0	
149	000210	001620			.WORD	CALL-	
150	000212	370	000		.BYTE	370,0	
151	000214	001646			.WORD	LISTEN-	
152	000216	367	000		.BYTE	367,0	
153	000220	001610			.WORD	ANSWER-	
154	000222	366	000		.BYTE	366,0	
155	000224	001664			.WORD	HANGUP-	
156	000226	365	000		.BYTE	365,0	
157	000230	001722			.WORD	SEND-	
158	000232	364	000		.BYTE	364,0	
159	000234	001750			.WORD	RECV-	
160	000236	363	000		.BYTE	363,0	
161	000240	001762			.WORD	RDRON-	
162	000242	362	000		.BYTE	362,0	
163	000244	001774			.WORD	RDROFF-	
164	000246	177777			.WORD	177777	:TABLE TERMINATOR

166	000250	051103	051505	052105	DVPKTE:	.ASCII	/CRESET/	:PACK TABLE EXTENSION
167	000256	376	000			.BYTE	376,0	
168	000260	047516	040527	052111		.ASCII	/NOWAIT/	
169	000266	375	000			.BYTE	375,0	
170	000270	020040	040527	052111		.ASCII	/WAIT/	
171	000276	374	000			.BYTE	374,0	
172	000300	052123	052101	051525		.ASCII	/STATUS/	
173	000306	373	000			.BYTE	373,0	
174	000310	047503	047125	051524		.ASCII	/COUNTS/	
175	000316	372	000			.BYTE	372,0	
176	000320	020040	040503	046114		.ASCII	/CALL/	
177	000326	371	000			.BYTE	371,0	
178	000330	044514	052123	047105		.ASCII	/LISTEN/	
179	000336	370	000			.BYTE	370,0	
180	000340	047101	053523	051105		.ASCII	/ANSWER/	
181	000346	367	000			.BYTE	367,0	
182	000350	040510	043516	050125		.ASCII	/HANGUP/	
183	000356	366	000			.BYTE	366,0	
184	000360	020040	042523	042116		.ASCII	/SEND/	
185	000366	365	000			.BYTE	365,0	
186	000370	020040	042522	053103		.ASCII	/RECV/	
187	000376	364	000			.BYTE	364,0	
188	000400	051040	051104	047117		.ASCII	/RDRON/	
189	000406	363	000			.BYTE	363,0	
190	000410	042122	047522	043106		.ASCII	/RDROFF/	
191	000416	362	000			.BYTE	362,0	
192								
193	000420	000376	000632		DVMVTE:	.WORD	376,LCRST-LOCZ	:MODEL VECTOR TABLE EXTENSION
194	000424	000375	000632			.WORD	375,LNWAIT-LOCZ	
195	000430	000374	000632			.WORD	374,LWAIT-LOCZ	
196	000434	000373	000632			.WORD	373,LSTATS-LOCZ	
197	000440	000372	000632			.WORD	372,LCOUNT-LOCZ	
198	000444	000371	000632			.WORD	371,LCALL-LOCZ	
199	000450	000370	000632			.WORD	370,LLISEN-LOCZ	
200	000454	000367	000632			.WORD	367,LANSWR-LOCZ	
201	000460	000366	000632			.WORD	366,LHNGUP-LOCZ	
202	000464	000365	000632			.WORD	365,LSEND-LOCZ	
203	000470	000364	000632			.WORD	364,LRECV-LOCZ	
204	000474	000363	000632			.WORD	363,LDRON-LOCZ	
205	000500	000362	000632			.WORD	362,LDRDROF-LOCZ	
206								
207								
208								
209								
210	000504	003	376					
211	000506	004537	000012		DVCPTE:	.BYTE	3,376	:CONTROL RESET
212	000512	003	375			.WORD	4537,10.	
213	000514	004537	000012			.BYTE	3,375	:NO WAIT
214	000520	003	374			.WORD	4537,10.	
215	000522	004537	000012			.BYTE	3,374	:WAIT
216	000526	004	373			.WORD	4537,10.	
217	000530	004537	000012	001002		.BYTE	4,373	:STATUS
218	000536	004	372			.WORD	4537,10.,1002	
219	000540	004537	000012	001001		.BYTE	4,372	:COUNTS
220	000546	003	371			.WORD	4537,10.,1001	
221	000550	004537	000012			.BYTE	3,371	:CALL
						.WORD	4537,10.	

222	000554'	003	370	.BYTE	3,370	;LISTEN
223	000556'	004537	000012	.WORD	4537,10.	
224	000562'	003	367	.BYTE	3,367	;ANSWER
225	000564'	004537	000012	.WORD	4537,10.	
226	000570'	003	366	.BYTE	3,366	;HANGUP
227	000572'	004537	000012	.WORD	4537,10.	
228	000576'	003	365	.BYTE	3,365	;SEND
229	000600'	004537	000012	.WORD	4537,10.	
230	000604'	003	364	.BYTE	3,364	;RECEIVE
231	000606'	004537	000012	.WORD	4537,10.	
232	000612'	003	363	.BYTE	3,363	;READER ON
233	000614'	004537	000012	.WORD	4537,10.	
234	000620'	003	362	.BYTE	3,362	;READER OFF
235	000622'	004537	000012	.WORD	4537,10.	
236	000626'	177777		.WORD	177777	;TABLE END

...
 DEVICE INTERFACE WORD SYMBOL TABLE

237						
238						
239						
240						
241	000630'	177777		DVIWST: .WORD	177777	;TABLE END
242						
243						
244						
245						

...
 MODEL STATEMENT TABLE EXTENSION

246	000632'			LCRST:		
247	000632'			LNWAIT:		
248	000632'			LWAIT:		
249	000632'			LSTATS:		
250	000632'			LCOUNT:		
251	000632'			LCALL:		
252	000632'			LLISEN:		
253	000632'			LANSWR:		
254	000632'			LHNGUP:		
255	000632'			LSEND:		
256	000632'			LRECV:		
257	000632'			LRDRON:		
258	000632'	000		LRDROF:	.BYTE	0
259	000634'				.EVEN	
260						
261		000634'		HSKPST=	.	
262		000634'		ISTAT=	.	;STORAGE FOR DEV REG'S AT INT
263	000634'	000000		RCSR:	.WORD	0
264	000636'	000000		RBUF:	.WORD	0
265	000640'	000000		XCSR:	.WORD	0
266	000642'	000000		XBUF:	.WORD	0
267						
268	000644'	000004		CSTAT:	.BLKW	4
269						;DEV REG CURRENT VALUE STORAGE
270	000654'	000000		BYRD:	.WORD	0
271	000656'	000000			.WORD	0
272	000660'	000000		BYWR:	.WORD	0
273	000662'	000000			.WORD	0
274	000664'	000000		RDCNT:	.WORD	0
275	000666'	000000		WRCNT:	.WORD	0
276	000670'	000000		BKCNT:	.WORD	0
277	000672'	000000		MISCNT:	.WORD	0

;READ CMND COUNT
 ;WRITE CMND COUNT
 ;BREAK CMND COUNT
 ;MISC. CMND COUNT (CRESET,

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MAINDEC-11-DTDLA-B
DTDLAB.P11

DL11 DEVICE ROUTINE FOR MPG
STANDARD DEVICE ROUTINE TABLE

MACY11 27(732) 24-SEP-76 14:09 PAGE 3-4

SEQ 0038

278				:CALL, LISTEN, ANSWER, HANGUP, SEND, RECV)
279	000674'	000000	RICNT: .WORD 0	:READ INTERRUPT COUNT
280	000676'	000000	WICNT: .WORD 0	:WRITE INTERRUPT COUNT
281	000700'	000000	OVRRUN: .WORD 0	:OVERRUN ERRORS COUNT
282	000702'	000000	FRAMER: .WORD 0	:FRAMING ERRORS COUNT
283	000704'	000000	PARERR: .WORD 0	:PARITY ERRORS COUNT
284	000706'	000000	DATAER: .WORD 0	:DATA ERROR COUNT
285	000710'	000000	TOECNT: .WORD 0	:# OF ENTRIES INTO T/O ERROR ROUT
286				
287	000712'	000000	FLAG: .WORD 0	:FLAGWORD STORAGE
288				
289				
290	000714'		HSKPEN= .	
291				
292	000000		XXXX= 0	:VALUE TO BE TAILORED BY DEV ROUT
293				
294	000001		MMVER= 1	:SYSTEM FLGWD BIT DEF.
295	120000		PSCONS= 120000	:INT SRVC VIRT PAGE BASE
296	000002		USMTPS= 2	:MTPS INST LEGAL FLAG


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298 .SBTTL DL11 FUNCTION ROUTINES
299
300 ;TIMEOUT ERROR HANDLER
301
302 000714' 005267 177770 TOUTER: INC TOECNT ;INCR TIME OUT ERROR COUNT
303 000720' 026727 177764 000010 CMP TOECNT, #8. ;EXCEEDED 8 TIMEOUTS?
304 000726' 001401 BEQ 2$ ;YES - CONTINUE
305 000730' 000205 RTS R5 ;NO - RETURN
306 000732' 004067 002714 2$: JSR R0, SAVREG ;SAVE REGISTERS
307 000736' 004767 002742 JSR PC, SUPTAD ;P TBL ADR TO R3
308 000742' 005004 CLR R4
309 000744' 042713 000010 BIC #WT410T, (R3)
310 000750' 004567 003202 JSR R5, PRINT ;PRINT TIMEOUT ERR MSG
311 000754' 000026 .WORD TOEMSG-
312 000756' 000023 .WORD 19
313 000760' 004567 000042 JSR R5, KILL ;KILL THE PROGRAM
314 000764' 004767 002442 JSR PC, ERDIRG ;DISPLAY STATUS & STMT #
315 000770' 004067 002672 JSR R0, RESREG ;RESTORE REGISTERS
316 000774' 012605 TOUTEX: MOV (SP)+, R5 ;GO DISPLAY DEVICE REGS
317 000776' 000177 177046 JMP @CUPGER
318
319 001002' 046104 030461 052040 TOEMSG: .ASCII 'DL11 TIMEOUT ON I/O'
320 001010' 046511 047505 052125
321 001016' 047440 020116 027511
322 001024' 117
323 001026' 001026' .EVEN
324
325 ;KILL USER PROGRAM ROUTINE
326
327 KILL: MOV DREGAD, R2 ;GET DEV REG ADR
328 BIT #100, 4(R2) ;XMIT INT EBL SET?
329 BNE CWRINT ;YES-CLEAR
330 TSRINT: BIT #100, (R2) ;RCV INT SET?
331 BEQ KILLEX ;NO-EXIT
332 JSR R5, TRVECT ;TEST READ INT VECTOR
333 BR CWRINT ;BRANCH IF NOT ME
334 JSR R5, HANGUP ;DISCONNECT LINE
335 BIC #100, (R2) ;RESET RD INT EBL
336 BIC #RDBSY, FLAGWD ;RESET READ BSY IN FLAG WD
337 JSR PC, RRINTV ;RESET INT VECTOR INFO
338 CWRINT: JSR R5, TWVECT ;TEST WRITE INT VECTOR
339 BR TSRINT ;BRANCH IF NOT ME
340 JSR R5, HANGUP ;DISCONNECT LINE
341 BIC #100, 4(R2) ;RESET WR INT EBL
342 BIC #WRBSY, FLAGWD ;RESET WRITE BSY IN FLAG WD
343 JSR PC, RWINTV ;RESET INT VECTOR INFO
344 BR TSRINT
345 KILLEX: CLR ERR ;CLEAR ERROR INDICATOR
346 RTS R5 ;RETURN
347
348 ;READ COMMAND HANDLER
349
350 READ: MOV R5, STMT ;SAVE R5
351 SUB #4, STMT ;FOR STMT # REFERENCE
352 MOV DREGAD, R4 ;DEV REG ADDR TO R4
353 BIT #100, (R4) ;TEST RCV INT EBL

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351 001164' 001403 BEQ SRDBSY ;CONTINUE IF NOT SET
352 001166' 004577 176654 JSR R5, @CIBSY ;OTHERWISE RELEASE CONTROL
353 001172' 000763 BR READ
354 001174' 052767 020000 176600 SRDBSY: BIS #RDBSY, FLAGWD ;SET READ BUSY
355 001202' 016767 176620 000012 MOV IVCTAD, 10$ ;INT VECTOR ADDR TO CALL
356 001210' 016767 176614 000006 MOV RBUSRQ, 20$ ;ALSO BUS PRIORITY
357 001216' 004577 176644 JSR R5, @SETVEC ;GO SET THE VECTOR
358 001222' 000000 10$: .WORD XXXX
359 001224' 000000 20$: .WORD XXXX
360 001226' 001232 .WORD RDINT-
361 001230' 004767 002450 GTPTBS: JSR PC, SUPTAD ;GET P TBL BASE IN R3
362 001234' 005067 176562 CLR ERR ;CLEAR ERROR INDICATOR
363 001240' 005267 177420 INC RDCNT ;INCR READ CMD COUNT
364 001244' 032763 000200 000002 BIT #SOPER, POPSW(R3) ;TEST MAINT BIT IN OPSW
365 001252' 001404 BEQ RDMNCL
366 001254' 052764 000004 000004 BIS #4, 4(R4) ;SET RCSR BIT TO SAME STATE
367 001262' 000402 BR RDMNST
368 001264' 042714 000004 RDMNCL: BIC #4, (R4)
369 001270' 012500 RDMNST: MOV (R5)+, R0 ;GET ADDRESS
370 001272' 012567 000760 MOV (R5)+, RADDR
371 001276' 012567 000756 MOV (R5)+, RBYTES ;BYTE COUNT AND
372 001302' 012500 MOV (R5)+, R0 ;LINE NBR FROM CALL
373 001304' 052763 000010 000000 BIS #WT4IOT, PFLGWD(R3) ;SET WAIT FOR I/O TERM
374 001312' 052714 000100 SETRSE: BIS #100, (R4) ;SET RECEIVE INT ENABLE
375 001316' 032767 100000 176456 BIT #DRWAIT, FLAGWD ;TEST DEV ROUT NOWAIT
376 001324' 001002 BNE RDNOWT ;BRANCH IF SET
377 001326' 000167 000300 JMP TSTIEB ;OTHERWISE WAIT
378 001332' 042763 000010 000000 RDNOWT: BIC #WT4IOT, PFLGWD(R3) ;CLEAR WAIT FOR I/O TERM
379 001340' 000205 RTS ;RETURN INLINE
380
381 ;WRITE AND BREAK COMMAND HANDLER
382
383 001342' 042767 000010 176432 WRITE: BIC #BRFLG, FLAGWD ;CLEAR BREAK FLAG
384 001350' 000403 BR XMIT
385 001352' 052767 000010 176422 BREAK: BIS #BRFLG, FLAGWD ;SET BREAK FLAG
386 001360' 010567 002162 XMIT: MOV R5, STMNT ;SAVE R5
387 001364' 162767 000004 002154 SUB #4, STMNT ;FOR STMNT # REFERENCE
388 001372' 016704 176426 MOV DREGAD, R4 ;DEV REG ADDR TO R4
389 001376' 032764 000100 000004 BIT #100, 4(R4) ;TEST XMIT INT EBL
390 001404' 001403 BEQ SETBSY ;CONTINUE IF NOT SET
391 001406' 004577 176434 JSR R5, @CIBSY ;OTHERWISE RELEASE CONTROL
392 001412' 000762 BR XMIT
393 001414' 052767 040000 176360 SETBSY: BIS #WRBSY, FLAGWD ;SET WRITE BUSY
394 001422' 016767 176400 000020 MOV IVCTAD, 10$ ;INT VECTOR ADDR TO CALL
395 001430' 062767 000004 000012 ADD #4, 10$ ;ADJUST FOR WRITE INT
396 001436' 016767 176370 000006 MOV WBUSRQ, 20$ ;ALSO PASS BUS PRIORITY
397 001444' 004577 176416 JSR R5, @SETVEC ;GO SET THE VECTOR
398 001450' 000000 10$: .WORD XXXX
399 001452' 000000 20$: .WORD XXXX
400 001454' 000616 .WORD WRINT-
401 001456' 004767 002222 JSR PC, SUPTAD ;GET P TBL BASE IN R3
402 001462' 005067 176334 CLR ERR ;CLEAR ERROR INDICATOR
403 001466' 032763 000200 000002 BIT #SOPER, POPSW(R3) ;TEST MAINT BIT IN OPSW
404 001474' 001404 BEQ WRMNCL
405 001476' 052764 000004 000004 BIS #4, 4(R4) ;SET XCSR BIT TO SAME STATE
406 001504' 000402 BR WRMNST

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K01

 MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
 DTDLAB.P11 DL11 FUNCTION ROUTINES

MACY11 27(732) 24-SEP-76 14:09 PAGE 4-2

SEQ 0041

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407 001506' 042714 000004 WRMNCL: BIC #4,(R4)
408 001512' 012500 WRMNST: MOV (R5)+,R0 ;GET ADDRESS
409 001514' 012567 000542 MOV (R5)+,WADDR
410 001520' 012567 000540 MOV (R5)+,WBYTES ;BYTE COUNT AND
411 001524' 012500 MOV (R5)+,R0 ;LINE NBR FROM CALL
412 001526' 042764 000001 000004 BIC #1,4(R4) ;CLEAR BREAK BIT
413 001534' 032767 000010 176240 BIT #BRFLG,FLAGWD ;TEST BREAK FLAG
414 001542' 001406 BEQ IWC
415 001544' 052764 000001 000004 BIS #1,4(R4) ;SET BREAK IF FLG =1
416 001552' 005267 177112 INC BKCNT ;INCREMENT BREAK CNT
417 001556' 000402 BR SETTSE
418 001560' 005267 177102 IWC: INC WRCNT ;INCREMENT WRITE CNT
419 001564' 052763 000010 000000 SETTSE: BIS #WT4IOT,PFLGWD(R3) ;SET WAIT FOR I/O TERM
420 001572' 052764 000100 000004 BIS #100,4(R4) ;SET XMIT INT EBL
421 001600' 032767 100000 176174 BIT #DRWAIT,FLAGWD ;TEST DEV ROUT NOWAIT
422 001606' 001411 BEQ TSTIEB ;IF RESET TEST INT EBL
423 001610' 042763 000010 000000 BIC #WT4IOT,PFLGWD(R3) ;CLEAR WAIT FOR I/O TERM
424 001616' 000205 RETURN: RTS R5 ;RETURN INLINE
425
426 ;WAIT COMMAND HANDLER
427
428 001620' 042767 100000 176154 WAIT: BIC #DRWAIT,FLAGWD ;CLEAR DEV ROUT NOWAIT
429 001626' 016704 176172 MOV DREGAD,R4 ;POINT R4 AT REG ADDR
430 001632' 032714 000100 TSTIEB: BIT #100,(R4) ;TEST RECV INT
431 001636' 001055 BNE RELEAS ;IF SET, RELEASE CONTROL
432 001640' 032764 000100 000004 BIT #100,4(R4) ;TEST XMIT INT
433 001646' 001051 BNE RELEAS ;IF SET, RELEASE CONTROL
434 001650' 032767 000002 176124 TRMTST: BIT #CLRVCT,FLAGWD ;TEST IF VECTOR CLR REQD
435 001656' 001410 BEQ 10$ ;BRANCH IF NOT
436 001660' 004567 002406 JSR R5,TRVECT ;TEST READ VECTOR
437 001664' 000405 BR 10$ ;BRANCH IF NOT ME
438 001666' 004767 001044 JSR PC,RRINTV ;GO RESET THE VECTOR
439 001672' 042767 000002 176102 BIC #CLRVCT,FLAGWD ;CLEAR THE REQ FLAG
440 001700' 032767 000004 176074 10$: BIT #CLWVCT,FLAGWD ;TEST IF VECTOR CLR REQD
441 001706' 001410 BEQ ERRTST ;BRANCH IF NOT
442 001710' 004567 002406 JSR R5,TWVECT ;TEST WRITE VECTOR
443 001714' 000405 BR ERRTST ;BRANCH IF NOT ME
444 001716' 004767 001032 JSR PC,RWINTV ;GO RESET THE VECTOR
445 001722' 042767 000004 176052 BIC #CLWVCT,FLAGWD ;CLEAR THE REQ FLAG
446 001730' 005767 000334 ERRTST: TST ERRFLG ;TEST FOR ANY ERROR
447 001734' 001730 BEQ RETURN ;RETURN IF NONE
448 001736' 012767 000001 176056 MOV #1,ERR ;SET ERROR INDICATOR
449 001744' 004767 001734 JSR PC,SUPTAD
450 001750' 032763 020000 000002 BIT #PRONER,POPSW(R3) ;TEST DONT PRINT ON ERR BIT
451 001756' 001003 BNE ERREXT ;EXIT IF SET
452 001760' 005004 CLR R4
453 001762' 000167 001342 JMP ERRAPT
454 001766' 000177 176056 ERREXT: JMP JCUPGER
455 001772' 004577 176050 RELEAS: JSR R5,JCIOBSY ;OTHERWISE RELEASE CONTROL
456 001776' 000715 BR TSTIEB
457
458 ;NOWAIT COMMAND HANDLER
459
460 002000' 052767 100000 175774 NOWAIT: BIS #DRWAIT,FLAGWD ;SET NOWAIT FLAG
461 002006' 000703 BR RETURN
462

```


L01

MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
DTDLAB.P11 DL11 FUNCTION ROUTINES

MACY11 27(732) 24-SEP-76 14:09 PAGE 4-3

SEQ 0042

```
463                                     ;CRESET COMMAND HANDLER
464
465 002010' 016704 176010      CRESET: MOV      DREGAD,R4
466 002014' 005014              CLR      (R4)
467 002016' 005064 000004      CLR      4(R4)      ;CLEAR ALL CONTROL BITS
468 002022' 005067 175774      CLR      ERR      ;CLEAR ERROR INDICATOR
469 002026' 000205              RTS      R5          ;RETURN
```



```

471
472                                     ;CALL & ANSWER COMMAND HANDLER
473
474 002030' 016704 175770      CALL:
475 002030' 052714 000002      ANSWER: MOV    DREGAD,R4
476 002034' 032714 010000      BIS    #2,(R4)                ;SET DTR
477 002040' 001003 175774      BIT    #10000,(R4)            ;TEST CARRIER DETECT
478 002044' 004577 175774      BNE    CALLOK                  ;EXIT WHEN DETECTED
479 002046' 000766 175774      JSR    R5,ACIOBSY              ;ELSE RELEASE CONTROL
480 002052' 005267 176612      BR     CALL
481 002054' 000205 176612      CALLOK: INC   MISCNT
482 002060' 000205 176612      RTS    R5                      ;RETURN INLINE
483
484                                     ;LISTEN COMMAND HANDLER
485
486 002062' 016704 175736      LISTEN: MOV   DREGAD,R4
487 002066' 032714 040000      BIT    #40000,(R4)            ;TEST RING IND
488 002072' 001003 175746      BNE    RANG                     ;EXIT WHEN DETECTED
489 002074' 004577 175746      JSR    R5,ACIOBSY              ;ELSE RELEASE CONTROL
490 002100' 000770 176564      BR     LISTEN
491 002102' 005267 176564      RANG:  INC   MISCNT
492 002106' 000205 176564      RTS    R5                      ;RETURN INLINE
493
494                                     ;HANGUP COMMAND HANDLER
495
496 002110' 016704 175710      HANGUP: MOV   DREGAD,R4
497 002114' 042714 000004      DISCON: BIC    #4,(R4)                ;LOWER RTS
498 002120' 012700 000017      MOV    #15,R0
499 002124' 012701 000553      HNGDL1: MOV   #363,R1            ;DELAY 15 MS
500 002130' 005301 175710      HNGDL2: DEC    R1
501 002132' 001376 175710      BNE    HNGDL2
502 002134' 005300 175710      DEC    R0
503 002136' 001372 175710      BNE    HNGDL1
504 002140' 042714 000002      BIC    #2,(R4)                ;LOWER DTR
505 002144' 005267 176522      INC    MISCNT
506 002150' 000205 176522      RTS    R5                      ;RETURN INLINE
507
508                                     ;SEND COMMAND HANDLER
509
510 002152' 016704 175646      SEND:  MOV    DREGAD,R4
511 002156' 052714 000004      BIS    #4,(R4)                ;RAISE RTS
512 002162' 032714 020000      BIT    #20000,(R4)            ;TEST CTS
513 002166' 001003 175652      BNE    SENDOK                  ;EXIT WHEN SET
514 002170' 004577 175652      JSR    R5,ACIOBSY              ;ELSE RELEASE CONTROL
515 002174' 000766 175652      BR     SEND
516 002176' 005267 176470      SENDOK: INC   MISCNT
517 002202' 000205 176470      RTS    R5                      ;RETURN INLINE
518
519                                     ;RCV COMMAND HANDLER
520
521 002204' 016704 175614      RCV:   MOV    DREGAD,R4
522 002210' 042714 000004      BIC    #4,(R4)                ;LOWER RTS
523 002214' 005267 176452      RCVOK: INC   MISCNT
524 002220' 000205 176452      RTS    R5                      ;RETURN INLINE
525
526

```


NO1

MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
DTDLAB.P11 DL11 FUNCTION ROUTINES

MACY11 27(732) 24-SEP-76 14:09 PAGE 4-5

SEQ 0044

```

527                                     ;READER ON COMMAND HANDLER
528
529 002222' 016704 175576      RDRON: MOV      DREGAD,R4
530 002226' 052714 000001      BIS      #1,(R4)          ;TURN READER ON
531 002232' 005267 176434      INC      MISCNT
532 002236' 000205              RTS      R5              ;RETURN INLINE
533
534                                     ;READER OFF COMMAND HANDLER
535
536 002240' 016704 175560      RDROFF: MOV     DREGAD,R4
537 002244' 042714 000001      BIC      #1,(R4)          ;TURN READER OFF
538 002250' 005267 176416      INC      MISCNT
539 002254' 000205              RTS      R5              ;RETURN INLINE
540
541 002256' 000000      RADDR:  .WORD    0
542 002260' 000000      RBYTES: .WORD    0
543 002262' 000000      WADDR:  .WORD    0
544 002264' 000000      WBYTES: .WORD    0
545 002266' 000000      RCR:    .WORD    0
546 002270' 000000      ERRFLG: .WORD    0
547                                     ;RECEIVE CONT REG
548                                     ;ERROR FLAG

```

```

;WRITE INTERRUPT HANDLER
WRINT: JSR    RD, SAVREG      ;SAVE REGISTERS
        JSR    RS, STSTAT    ;STORE DEVICE REG CONTENTS
        .WORD  ISTAT-
        INC    WICNT         ;INCR WRITE INTERRUPT CNT
        JSR    PC, SUPTAD     ;SET INTERNAL PTRS
        TST    WBYTES        ;TEST BYTE COUNT
        BEQ    WTERM         ;BRANCH IF ZERO
        MOV    PC, R3
        ADD    #WADDR-., R3
        MOV    (R3), RD
        TSTB   @ (R3)+
        JSR    PC, @GETBYT
        MOVB   R1, @ (R4)
        MOV    PC, R1
        ADD    #BYWR+2-., R1
        ADD    #1, (R1)
        ADC    -(R1)
        DEC    (R3)
        INC    -(R3)
        BR     INTXT
        BIC    #1, 4(R4)
        BIC    #WRBSY, FLAGWD
        BIC    #100, 4(R4)
        MOV    PC, R1
        ADD    #BYWR+2-., R1
        MOV    (R1), SIZE
        JSR    PC, SUPTAD
        BIT    #100, (R4)
        BNE    GVECAD
        BIC    #WT4IOT, PFLAGWD(R3)
        BIC    #CLWVOT, FLAGWD
        JSR    RD, RESREG
        JMP    @RTNINT

;INCR BYTES WRITTEN BY 1
;DECREMENT BYTE COUNT
;INCREMENT ADDRESS
;RETURN FROM INTERRUPT
;CLEAR BREAK BIT
;RESET WRITE BUSY
;RESET XMIT INT EBL

;UPDATE ACTUAL BYTES XFERRD
;RECEIVE INT STILL UP ?
;YES - CONTINUE
;NO - RESET WAIT FOR IOT
;SET CLR VECT REQUEST
;RESTORE REGISTERS
;RETURN FROM INTERRUPT

```



```

:READ INTERRUPT HANDLER
:READ INTERRUPT HANDLER

RDINT: JSR RD, SAVREG      :SAVE REGISTERS
        JSR RS, SSTAT      :STORE DEVICE REG CONTENTS
        .WORD IS+AT-
        INC RICNT
        JSR PC, SUPTAD      :SET INTERNAL PTRS
        MOV 2(R4), R1       :GET DATA FROM RBUF
        MOV R1, R2         :SAVE IN R2
        TST RBYTES         :TEST BYTE COUNT
        BEQ RTERM          :BRANCH IF ZERO
        MOV PC, R1
        ADD #BYRD+2--, R1
        ADD #1, (R1)
        ADC -(R1)          :INCR BYTES READ BY 1
        CLR ERRFLG
        BIT #10000, R2      :TEST FOR PARITY ERROR
        BEQ NOPERR         :BRANCH IF NOT
        INC PARERR         :OTHERWISE INCR COUNT
        BISS #1, ERRFLG     :REMEMBER PARITY ERROR
        BIT #20000, R2      :TEST FOR FRAMING ERROR
        BEQ NOFERR         :BRANCH IF NOT
        INC FRAMERR        :OTHERWISE INCR COUNT
        BISS #2, ERRFLG     :REMEMBER FRAMING ERROR
        BIT #40000, R2      :TEST FOR OVERRUN ERROR
        BEQ NOOERR         :BRANCH IF NOT
        INC OVRUN          :OTHERWISE INCR COUNT
        BISS #4, ERRFLG     :REMEMBER OVERRUN ERROR
        MOV PC, R3
        ADD #RADDR--, R3
        MOV (R3), R0
        MOVE R2, R1
        JSR PC, QPUTBYT     :PUT BYTE IN MEMORY
        INC (R3)           :INCREMENT ADDRESS
        DEC 2(R3)          :DECREMENT BYTE COUNT
        BEQ RTERM          :TERMINATE IF BC ZERO
        BR INTEXT
        BIC #RDBSY, FLAGWD :RESET READ BUSY
        BIC #100, (R4)     :RESET READ INT EBL
        MOV PC, R1
        ADD #BYRD+2--, R1
        MOV (R1), SIZE
        JSR PC, SUPTAD
        BIT #100, 4(R4)
        BNE COMBER
        BIC #WT4IOT, PFLGWD(R3)
        BIC #DOERCK, POPSW(R3)
        BNE RERVEC
        BIS #CLRVC, FLAGWD
        JMP INTEXT

        :UPDATE ACTUAL BYTES XFERRED
        :TEST IF WRITE STILL UP
        :IF YES-GO COMBINE ERRORS
        :RESET WAIT FOR IOT
        :TEST DONT ERROR CK BIT
        :BRANCH IF SET
        :SET CLR RD VECT REQUEST
        :EXIT

        :RESET READ VECT SUBR

```

002460	004067	001166			
002464	004567	001234			
002470	176144				
002472	005267	176176			
002476	004767	001202			
002502	016401	000002			
002506	010102				
002510	005767	177544			
002514	001454				
002516	010701				
002520	062701	176136			
002524	062711	000001			
002530	005541				
002532	005067	177532			
002536	032702	010000			
002542	001405				
002544	005267	176134			
002550	152767	000001	177512		
002556	032702	020000			
002562	001405				
002564	005267	176112			
002570	152767	000002	177472		
002576	032702	040000			
002602	001405				
002604	005267	176070			
002610	152767	000004	177452		
002616	010703				
002620	062703	177436			
002624	011300				
002626	110201				
002630	004777	175244			
002634	005213				
002636	005363	000002			
002642	001401				
002644	000701				
002646	042767	020000	175126		
002654	042714	000100			
002660	010701				
002662	062701	175774			
002666	011167	175126			
002672	004767	001006			
002676	032764	000100	000004		
002704	001003				
002706	042763	000010	000000		
002714	032763	000400	000002		
002722	001000				
002724	052767	000002	175050		
002732	000167	177512			
002736	016767	175064	000004		

```
00000000 000744: 004577 175120          JSR      R5,BCLRVEC  
00000001 000746: 000000          108:    .WORD XXXX  
00000002 000748: 000207          RTS      PC  
  
00000003 000754: 016767 175046 000012 RWINTV: MOV     IVCTAD,108 ;RESET WRITE VECT SUBR  
00000004 000756: 062767 000004 000004        ADD     #4,108  
00000005 000758: 004577 175074          JSR      R5,BCLRVEC  
00000006 000760: 000000          108:    .WORD XXXX  
00000007 000762: 000207          RTS      PC
```


E02

 MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
 DTDLA.P11 DL11 SUPPORT ROUTINES

MACY11 27(732) 24-SEP-76 14:09 PAGE 5

SEQ 0049

.SBTTL DL11 SUPPORT ROUTINES

;DEVICE ROUTINE HOUSEKEEPING

 :JSR R5,HSKEEP
 :.WORD 0 OR 1
 :R2 = PROG'S OPSW
 :DESTROYS R0,R1

 S/R CALL
 0 = DO HSKP PER OPSW
 1 = UNCOND. DO HSKP

 003000: 005725
 003002: 001003
 003004: 032702 000004
 003010: 001010
 003012: 010700
 003014: 062700 175620
 003020: 012701 000030
 003024: 005020
 003026: 005301
 003030: 001375
 003032: 000205

 HSKEEP: TST (R5)+
 BNE 10\$
 BIT #HSKPEP,R2
 BNE 30\$
 10\$: MOV PC,R0
 ADD #HSKPST-.,R0
 MOV #HSKPEN-HSKPST/2,R1
 20\$: CLR (R0)+
 DEC R1
 BNE 20\$
 30\$: RTS R5

 :UNCONDITIONALLY DO HSKP?
 :N,Y-10\$
 :OPSW SPECIFY EACH PASS HSKP?
 :Y,N-30\$
 :SET UP FIRST WD ADR
 :SET UP # OF WORDS
 :HSKP ALL NECESSARY AREAS
 :EXIT IN-LINE

;DL11 REPORT ROUTINE

 :JSR R5,REPORT
 :.WORD FLAGWD

 S/R CALL
 FLAGWORD
 BIT 15 = CMND MODE CALL
 BIT 9 = PROG STMT CALL
 BIT 1 = DO STATUS REPORT
 BIT 0 = DO COUNTS REPORT

 003034: 005067 000232
 003040: 004067 000606
 003044: 032715 177776
 003050: 001012
 003052: 010700
 003054: 062700 175600
 003060: 012701 000016
 003064: 005720
 003066: 001003
 003070: 005301
 003072: 001374
 003074: 000472
 003076: 004767 000602
 003102: 012504
 003104: 032704 000002
 003110: 001403
 003112: 004567 000606
 003116: 175526
 003120: 032704 000002
 003124: 001416
 003126: 004567 001024
 003132: 001233
 003134: 000014

 REPORT: CLR ABBREV
 JSR R0,SAVREG
 BIT #177776,(R5)
 BNE 8\$
 MOV PC,R0
 ADD #BYRD-.,R0
 MOV #14.,R1
 2\$: TST (R0)+
 BNE 8\$
 DEC R1
 BNE 2\$
 BR DVREX
 8\$: JSR PC,SUPTAD
 MOV (R5)+,R4
 BIT #2,R4
 BEQ 10\$
 JSR R5,STSTAT
 .WORD CSTAT-
 10\$: BIT #2,R4
 BEQ DISCNT
 JSR R5,PRINT
 .WORD ATMSG-
 .WORD 12.

 :CLR ABBREVIATED RPT FLAG
 :SAVE REG'S R0 - R5
 :DISPLAYING CNTS AT END OF
 :PROG PASS? (Y,N-8\$)
 :SET UP ADR OF CNTS
 :GET # OF CNT WORDS
 :THIS CNT WORD = 0?
 :Y,N-8\$
 :DECR WORD CNT
 :CK'ED ALL WORDS? (Y,N-2\$)
 :GO TO EXIT -- ALL CNTS ARE 0'S
 :SET UP PROG TBL ADR IN R3
 :GET FLAGWORD
 :GOING TO DO STATUS DISPLAY?
 :Y,N-10\$
 :GO STORE STATUS REG'S
 :DISPLAY DEV STATUS?
 :Y,N-DISCNT
 :ISSUE 'AT INT' MSG

709	003136'	004567	000634	JSR	R5,DISPST	:GO DISPLAY STATUS AT LAST INT
710	003142'	175472		.WORD	ISTAT-	
711	003144'	004567	001006	JSR	R5,PRINT	:ISSUE 'CURRENTLY' MSG
712	003150'	001231		.WORD	CURMSG-	
713	003152'	000012		.WORD	10.	
714	003154'	004567	000616	JSR	R5,DISPST	:GO DISPLAY CURRENT STATUS
715	003160'	175464		.WORD	CSTAT-	
716	003162'	032704	000001	DISCNT: BIT	#1,R4	:DISPLAY COUNTS?
717	003166'	001431		BEQ	RPTEND	:Y,N-RPTEND
718	003170'	012700	000016	MOV	#14,R0	:SET UP # OF WORDS
719	003174'	010701		MOV	PC,R1	:SET UP ADR OF CNTS
720	003176'	062701	175456	ADD	#BYRD--,R1	
721	003202'	010702		MOV	PC,R2	:SET UP TBL ADR
722	003204'	062702	000070	ADD	#REPTBL--,R2	
723	003210'	012267	000012	RPTLP: MOV	(R2)+,RPTBAS	:MOV MSG ADR TO S/R LINKAGE
724	003214'	004067	000432	JSR	R0,SAVREG	:SAVE ALL REG'S
725	003220'	011100		MOV	(R1),R0	:GET CURRENT COUNT
726	003222'	004577	174630	JSR	R5,2BINASC	:CONVERT IT TO ASCII
727	003226'	000000		RPTBAS: .WORD	XXXX	
728	003230'	004067	000432	JSR	R0,RESREG	:RESTORE REG'S
729	003234'	005721		TST	(R1)+	:POINT AT NXT CNT
730	003236'	005300		DEC	R0	:DONE ALL WORDS?
731	003240'	001363		BNE	RPTLP	:Y,N-RPTLP
732	003242'	004567	000710	JSR	R5,PRINT	:GO ISSUE COUNTS MSG
733	003246'	001224		.WORD	CNTSMG-	
734	003250'	000330		.WORD	CNTSEN-CNTSMG	
735	003252'	004567	000700	RPTEND: JSR	R5,PRINT	:ISSUE "END OF REPORT" MSG
736	003256'	001135		.WORD	RENDMG-	
737	003260'	177763		.WORD	-13.	
738	003262'	004067	000400	DVREX: JSR	R0,RESREG	:RESTORE REGISTERS
739	003266'	005725		TST	(R5)+	:SET UP RETURN POINT
740	003270'	000205		RTS	R5	:EXIT IN-LINE
741						
742	003272'	000000		ABBREV: .WORD	0	
743						
744						
745	003274'	001260		REPTBL: .WORD	BCMRD-RPTBAS	
746	003276'	001266		.WORD	BCMRD+6-RPTBAS	
747	003300'	001302		.WORD	BCMWR-RPTBAS	
748	003302'	001310		.WORD	BCMWR+6-RPTBAS	
749	003304'	001335		.WORD	CMDCRD-RPTBAS	
750	003306'	001350		.WORD	CMDCWR-RPTBAS	
751	003310'	001364		.WORD	CMDCBK-RPTBAS	
752	003312'	001401		.WORD	CMDCMS-RPTBAS	
753	003314'	001432		.WORD	RDINMS-RPTBAS	
754	003316'	001445		.WORD	WRINMS-RPTBAS	
755	003320'	001500		.WORD	ERCOVR-RPTBAS	
756	003322'	001520		.WORD	ERCFRM-RPTBAS	
757	003324'	001537		.WORD	ERCPAR-RPTBAS	
758	003326'	001566		.WORD	ERCDTA-RPTBAS	

G02

MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
DTDLAB.F11 DL11 SUPPORT ROUTINES

MACY11 27(732) 24-SEP-76 14:09 PAGE 5-2

SEQ 0050

:DL11 ERROR REPORT ROUTINE

```

760
761
762 003330' 004767 000004      ERRRPT: JSR    PC,ERRDIS
763 003334' 000177 174510      JMP      @CUPGER
764 003340' 010701          ERRDIS: MOV    PC,R1          ;POINT R1 AT ERR MSG
765 003342' 062701 000222      ADD     #EMSGBF-. ,R1
766 003346' 012767 000014 000054  MOV    #12. ,ERMBCT
767 003354' 010700          MOV    PC,R0          ;POINT R0 AT ERR MSG TBL
768 003356' 062700 000144      ADD     #ERCDTB-. ,R0
769 003362' 105710      1$:  TSTB    (R0)
770 003364' 001416          BEQ     ERTBEN          ;BRANCH IF R0 AT TBL END
771 003366' 132067 176676      BITB    (R0)+,ERRFLG  ;TEST FOR PARTICULAR ERR
772 003372' 001003          SNE     3$          ;BRANCH IF FOUND
773 003374' 062700 000005      2$:  ADD     #5,R0
774 003400' 000770          BR      1$
775 003402' 012702 000005      3$:  MOV     #5,R2
776 003406' 112021      4$:  MOVB    (R0)+,(R1)+      ;MOVE MSG CODE TO ERR MSG
777 003410' 005267 000014      INC     ERMBCT        ;BUMP BYTE COUNT
778 003414' 005302          DEC     R2
779 003416' 001373          BNE     4$
780 003420' 000760          BR      1$
781 003422' 004567 000530      ERTBEN: JSR    R5,PRINT
782 003426' 000122          .WORD    EMSGHD-.
783 003430' 000014          ERMBCT: .WORD    12.
784 003432' 004567 000340      ERDIRG: JSR    R5,DISPST
785 003436' 175176          .WORD    ISTAT-.
786 003440' 016300 000022      ERRSNM: MOV    PSRCST(R3),R0
787 003444' 111001      10$:  MOVB    (R0),R1
788 003446' 026067 000004 000072  CMP     4(R0),STMT
789 003454' 001402          BEQ     20$
790 003456' 060100          ADD     R1,R0
791 003460' 000771          BR      10$
792 003462' 005720      20$:  TST     (R0)+
793 003464' 010701          MOV    PC,R1
794 003466' 062701 000156      ADD     #STNUM-. ,R1
795 003472' 004577 174364          JSR    R5,@DECASC
796 003476' 012767 020040 000144  MOV    #20040,STNUM+4
797 003504' 004567 000446          JSR    R5,PRINT
798 003510' 000124          .WORD    STNMNG-.
799 003512' 177762          .WORD    -14.
800 003514' 005067 176550      CLR     ERRFLG
801 003520' 000207          RTS     PC
802
803 003522' 020001 050040 051101  ERCDTB: .ASCII <001>/ PAR/
804 003530' 020002 043040 046522      .ASCII <002>/ FRM/
805 003536' 020004 047440 051126      .ASCII <004>/ OVR/
806 003544' 000          .BYTE    0
807 003546' 003546'          .EVEN
808 003550' 000000          STMT:  .WORD    0
809 003552' 046104 030461 042440  EMSGHD: .ASCII /DL11 ERROR: /
810 003556' 051122 051117 020072
811 003564' 000050          EMSGBF: .BLKB  40.
812 003634' 052123 047115 020124  STNMNG: .ASCII /STMT # /
      003642' 020043
      003644' 054130 054130 054130  STMNUM: .ASCII /XXXXXX/

```

;SAVED R5 FOR STMT #

H02

MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
DTDLAB.P11 SUBROUTINES FOR DL11 DEVICE ROUTINE

MACY11 27(732) 24-SEP-76 14:09 PAGE 6

SEQ 0051

```

014      .SBTTL SUBROUTINES FOR DL11 DEVICE ROUTINE
015
016      ;SAVE REGISTERS R0 THRU R5
017
018      ;JSR    R0,SAVREG      S/R CALL
019
020      SAVREG: MOV    R1,-(SP)      ;SAVE R0 THRU R5
021              MOV    R2,-(SP)
022              MOV    R3,-(SP)
023              MOV    R4,-(SP)
024              MOV    R5,-(SP)
025              MOV    R0,PC      ;EXIT IN-LINE
026
027      ;RESTORE REGISTERS R0 THRU R5
028
029      ;JSR    R0,RESREG      S/R CALL
030
031      RESREG: TST    (SP)+      ;RESTORE R4 THRU R0
032              MOV    (SP)+,R5
033              MOV    (SP)+,R4
034              MOV    (SP)+,R3
035              MOV    (SP)+,R2
036              MOV    (SP)+,R1
037              RTS     R0      ;EXIT IN-LINE
038
039      ;SET PROGRAM'S PROG TABLE ADR IN R3
040
041      ;JSR    PC,SUPTAD      S/R CALL
042
043      SUPTAD: MOV    PC,R3      ;SET UP LOCATION ZERO ADR
044              ADD    #LOCZ-.,R3
045              SUB    -2(R3),R3  ;SUBTRACT PROG TBL LENGTH
046              MOV    DREGAD,R4 ;PUT DEV REG ADR IN R4
047              RTS     PC      ;EXIT IN-LINE
048
049      ;STORE DEVICE'S STATUS REGISTERS
050
051      ;JSR    R5,STSTAT      S/R CALL
052              .WORD STADR-      REL STORAGE ADR
053              ;DESTROYS R0,R1,R2
054
055      STSTAT: MOV    DREGAD,R1
056              BIC    #2000,(R1) ;SELECT TCR
057              MOV    R5,R0      ;GET REL STORAGE ADR & MAKE
058              ADD    (R5)+,R0    ;IT ABSOLUTE
059              MOV    #DVREGS-DVREGS/6,-(SP) ;GET # OF REG'S TO STORE
060              MOV    PC,R2      ;GET ADR OF 1ST REG DISPLACEMENT
061              ADD    #DVREGS+4-.,R2
062
063      10$: MOV    (R2),R1      ;GET REG DISPLACEMENT
064              ADD    DREGAD,R1  ;ADD IN REG'S BASE ADR
065              MOV    (R1),(R0)+ ;STORE REGISTER VALUE
066              ADD    #6,R2      ;POINT AT NXT DISPLACEMENT
067              DEC    (SP)      ;DECR REG CNT
068
069      003652' 010146
070      003654' 010246
071      003656' 010346
072      003660' 010446
073      003662' 010546
074      003664' 010007
075
076      003666' 005726
077      003670' 012605
078      003672' 012504
079      003674' 012603
080      003676' 012602
081      003700' 012601
082      003702' 000200
083
084      003704' 010703
085      003706' 062703 174072
086      003712' 166303 177776
087      003716' 016704 174102
088      003722' 000207
089
090      003724' 016701 174074
091      003730' 042711 002000
092      003734' 010500
093      003736' 062500
094      003740' 012746 000004
095      003744' 010702
096      003746' 062702 174154
097      003752' 011201
098      003754' 066701 174044
099      003760' 011120
100      003762' 062702 000006
101      003766' 005316

```



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870 003770' 001370      BNE      10$      :DONE ALL? (Y,N-10$)
871 003772' 005726      TST      (SP)+    :CLEAN UP THE STACK
872 003774' 000205      RTS      R5       :EXIT IN-LINE
873
874
875
876
877
878
879
880
881 003776' 010502      :TAILOR STATUS MSG & PRINT IT
882 004000' 062502      :JSR      R5,DISPST    S/R CALL
883 004002' 010701      :WORD      STATADR-   REL ADR OF STATUS DATA
884 004004' 062701      :DESTROYS R0,R1,R2
885 004010' 012700      :GET REL DATA ADR
886 004014' 012167      :MAKE IT ABS
887 004020' 012167      :SET UP ADR OF REG NAMES IN ASCII
888 004024' 005721      :GET # OF REGISTERS TO DISPLAY
889 004026' 004067      :MOVE REG NAME TO MSG
890 004032' 011200      :BYPASS DISP VALUE
891 004034' 004577      :SAVE REG'S R0 - R5
892 004040' 000424      :GET REG'S STORED VALUE
893 004042' 004567      :CONVERT IT TO ASCII
894 004046' 000410      :PRINT THE STATUS MSG
895 004050' 000014      :RESTORE R0 - R4
896 004052' 004067      :POINT AT NXT REG VALUE
897 004056' 005722      :DECR REG CNT
898 004060' 005300      :DONE ALL? (Y,N-10$)
899 004062' 001354      :EXIT IN-LINE
900 004064' 000205      :DISPLAY CURRENT UNIT #
901
902
903
904
905
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907
908 004066' 012767      :JSR      PC,DISUNM    S/R CALL
909 004074' 116300      :R3 MUST CONTAIN PROG TBL ADR
910 004100' 020027      :DESTROYS R0,R1,R2
911 004104' 101007      :INIT TO NORM MSG LNTH
912 004106' 004577      :GET CURRENT UNIT #
913 004112' 000336      :VALID UNIT #?
914 004114' 016767      :Y,N-DISUIV
915 004122' 000410      :CONVERT # TO DECIMAL ASCII
916 004124' 012767      :MOVE ASCII # TO 1ST TWO DIGITS
917 004132' 042700      :SET UP ERR COND MSG LNTH
918 004136' 004577      :RESET HIGH BYTE
919 004142' 000306      :CONVERT BINARY TO ASCII
920 004144' 004567      :GO ISSUE UNIT # MSG
921 004150' 000260      :
922 004152' 000020      :
923 004154' 000207      :EXIT IN-LINE
924

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926                                     :ISSUE MSG TO LIST DEVICE
927
928                                     :JSR:  R5,PRINT      S/R CALL
929                                     :.WORD MSGADR-.    REL ADR OF MSG
930                                     :.WORD BYTCNT      MSG BYTE CNT (IF NEGATIVE,
931                                     :                  RESET PRT DEV DEDICATED.)
932                                     :R3 = PROG TBL ADR
933                                     :R4 = FLAGWORD -- IF NEGATIVE, USE CMND MODE PRINT
934                                     :DESTROYS R0,R1,R2
935
936 004155' 010500          PRINT:  MOV  R5,R0          ;GET MSG ADR & MAKE IT ABS
937 004160' 062500          ADD    (R5)+,R0
938 004162' 012501          MOV    (R5)+,R1          ;GET BYTE COUNT
939 004164' 005704          TST    R4                ;USE CMND MODE PRINT?
940 004166' 100030          BPL    40$              ;Y,N-40$
941 004170' 010702          MOV    PC,R2              ;SET UP LINK INFO ADR
942 004172' 062702 000040  ADD    #20$--,R2
943 004176' 160200          SUB    R2,R0              ;MAKE MSG ADR REL
944 004200' 010022          MOV    R0,(R2)+          ;STORE MSG ADR
945 004202' 010112          MOV    R1,(R2)          ;STORE MSG'S BYTE COUNT
946 004204' 100001          BPL    10$              ;CNT NEG? (Y,N-10$)
947 004206' 005412          NEG    (R2)              ;MAKE IT POSITIVE
948 004210' 016367 000006 000144 10$: MOV    PASCIN(R3),PROGNM ;STORE PROG'S # IN MSG
949 004216' 004577 173632  JSR    R5,ACLIST         ;ISSUE PROG #
950 004222' 000136          .WORD  PNMSG-
951 004224' 000005          .WORD  5
952 004226' 004577 173622  JSR    R5,ACLIST         ;ISSUE MSG SPECIFIED
953 004232' 000000          20$: .WORD  XXXX
954 004234' 000000          .WORD  XXXX
955 004236' 004577 173612  JSR    R5,ACLIST         ;ISSUE A <CR> & <LF>
956 004242' 000302          .WORD  CRLF-
957 004244' 000002          .WORD  2
958 004246' 000410          BR     PRTEX              ;GO TO EXIT
959 004250' 010067 000010  40$: MOV    R0,50$
960 004254' 010167 000006  MOV    R1,60$
961 004260' 004577 173566  JSR    R5,ACLIST         ;STORE MSG'S ABS ADR
962 004264' 000000          50$: .WORD  XXXX        ;STORE ITS BYTE CNT
963 004266' 000000          60$: .WORD  XXXX        ;GO TO MPG TO ISSUE THE MSG
964 004270' 000205  PRTEX: RTS    R5                ;EXIT IN-LINE
965
966                                     ;TEST READ INTERRUPT VECTOR S/R
967
968
969 004272' 016767 173530 000010 TRVECT: MOV    IVCTAD,20$      ;GET CURR INT VECT ADR
970 004300' 016346 000004  MOV    PFWADR(R3),-(SP) ;STORE FLGWD ADR TO IDENTIFY ME
971 004304' 004577 173562  JSR    R5,ATSTVEC      ;DO I HAVE VECTOR CONTROL?
972 004310' 000000          20$: .WORD  XXXX        ;MPG WILL TELL ME SINCE I CAN'T
973 004312' 176146          .WORD  RDINT-          ;GET AT LOWER MEM IF MEM MGMT
974 004314' 000401          BR     TRVEXT          ;BR IF I DONT HAVE CONTROL
975 004316' 005725          TST    (R5)+          ;BYPASS BR INST IN S/R CALL
976 004320' 000205  TRVEXT: RTS    R5                ;EXIT IN-LINE
977
978                                     ;TEST WRITE INTERRUPT VECTOR S/R
979
980 004322' 016767 173500 000016 TWVECT: MOV    IVCTAD,20$      ;GET CURR INT VECT ADR
981 004330' 062767 000004 000010 ADD    #4,20$        ;ADJUST FOR WRITE INT

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K02

MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
DTDLAB.P11 SUBROUTINES FOR DL11 DEVICE ROUTINE

MACY11 27(732) 24-SEP-76 14:09 PAGE 6-3

SEQ 0054

982	004336'	016346	000004	MOV	PFWADR(R3),-(SP)	:STORE FLGWD ADR TI IDENTIFY ME
983	004342'	004577	173524	JSR	R5, @TSTVEC	:DO I HAVE VECTOR CONTROL?
984	004346'	000000		20\$: .WORD	XXXX	: MPG WILL TELL ME SINCE I CAN'T
985	004350'	175722		.WORD	WRINT-	: GET AT LOWER MEM IF MEM MGMT
986	004352'	000401		BR	TWVEXT	:BR IF I DONT HAVE CONTROL
987	004354'	005725		TST	(R5)+	:BYPASS BR INST IN S/R CALL
988	004356'	000205		TWVEXT: RTS	R5	:RETURN IN-LINE
989						
990						

```

992                                     .SBTTL MESSAGE STORAGE AREA
993
994
995                                     .NLIST BEX
996
997                                     .EVEN
998 004360' 021520                                     PNMSG: .ASCII /P#/
999 004362' 054130 011 020124 040514 042522 047440 PROGNM: .ASCII /XX/<011>
1000 004365' 101 020124 040514 042522 047440 ATMSG: .ASCII /AT LAST INT:/
1001 004401' 103 051125 042522 047440 CURMSG: .ASCII /CURRENTLY:/
1002 004413' 105 042116 047440 RENDMG: .ASCII /END OF REPORT/
1003                                     .EVEN
1004 004430' 025052 025052 042040 UNITMG: .ASCII /**** DL11 UNIT: /
1005 004450' 054130 054130 054130 UNASCI: .ASCII /XXXXXX/
1006 004456' 054130 054130 020075 DVRGMG: .ASCII /XXXX= /
1007 004464' 054130 054130 054130 DVRGDT: .ASCII /XXXXXX/
1008
1009 004472' 054502 042524 035123 CNTSMG: .ASCII /BYTES: RD= /
1010 004506' 054130 054130 054130 BCMRD: .ASCII /XXXXXXXXXXXXX WR= /
1011 004530' 054130 054130 054130 BCMWR: .ASCII /XXXXXXXXXXXXX/
1012 004544' 005015 CRLF: .ASCII <015><012>
1013
1014 004546' 041411 047115 051504 .ASCII <011>/CMNDS: RD= /
1015 004563' 130 054130 054130 CMDCRD: .ASCII /XXXXXX WR= /
1016 004576' 054130 054130 054130 CMDCWR: .ASCII /XXXXXX BRK= /
1017 004612' 054130 054130 054130 CMDCBK: .ASCII /XXXXXX MISC= /
1018 004627' 130 054130 054130 CMDCMS: .ASCII /XXXXXX/<015><012>
1019 004637' 011 047111 042524 .ASCII <011>/INTERRUPTS: RD= /
1020 004660' 054130 054130 054130 RDINMS: .ASCII /XXXXXX WR= /
1021 004673' 130 054130 054130 WRINMS: .ASCII /XXXXXX/<015><012>
1022 004703' 011 051105 047522 ERRMSG: .ASCII <011>/ERRORS: OVERRUN= /
1023 004726' 054130 054130 054130 ERCOVR: .ASCII /XXXXXX FRAMING= /
1024 004746' 054130 054130 054130 ERCFRM: .ASCII /XXXXXX PARITY= /
1025 004765' 130 054130 054130 ERCPAR: .ASCII /XXXXXX/<015><012>
1026 004775' 011 040504 040524 .ASCII <011>/DATA ERRORS = /
1027 005014' 054130 054130 054130 ERCDTA: .ASCII /XXXXXX/
1028 005022' CNTSEN= .EVEN
1029
1030                                     .LIST BEX
1031
1032
1033 005022' DVREND= .

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1035          .SBTTL FORMATS FOR PROGRAM & DEVICE ROUTINE TABLES
1036
1037          ; PROGRAM TABLE FORMAT
1038
1039          000242      PTLGTH= 162.      ;PROGRAM TABLE LENGTH - NON MEM MGMNT VERSION OF MPG
1040
1041          ;(PTLGTH= 212. ;PROGRAM TABLE LENGTH - MEM MGMNT VERSION OF MPG)
1042
1043          000000      PFLGWD= +0.      ;PROGRAM FLAG WORD - 1 WORD
1044
1045          000002      URSTOP= 2      ; 1 = USER HAS STOPPED THIS PROGRAM
1046          000004      ERSTOP= 4      ; 1 = AN ERROR HAS STOPPED THIS PROGRAM
1047          000010      WT4IOT= 10     ; 1 = WAITING FOR I/O TERMINATION
1048          000020      CTPRIO= 20     ; 1 = CONSOLE OR PRINTER I/O IN PROGRESS
1049          000040      SETDED= 40     ; 1 = THIS PROG SET THE PRT DEV DEDICATED FLAG
1050          000100      OCPRES= 100    ; 1 = OBJ CODE IS PRESENT
1051          000200      USEUBM= 200    ; 1 = THIS PROG USES THE UNIBUS MAP (MEM MGMNT ONLY)
1052          100000      ACTIVE= 100000 ; 1 = PROGRAM IS ACTIVE (SPECIFIED FOR EXECUTION)
1053
1054          000002      POPSW= +2.      ;PROGRAM'S OPERATION SWITCHES - 1 WORD
1055
1056          100000      STONER= 100000 ; 1 = STOP PROG EXECUTION UPON ERROR
1057          040000      CYCPRG= 40000  ; 1 = CYCLE PROGRAM (ON CURRENT DEVICE)
1058          020000      PRONER= 20000  ; 1 = DO NOT PRINT ON ERROR
1059          010000      BIT12= 10000   ; 0 = NOT USED
1060          004000      BIT11= 4000    ; 0 = NOT USED
1061          002000      CYCDVL= 2000   ; 1 = CYCLE THE DEVICE LIST
1062          001000      GTNXTD= 1000   ; 1 = CYCLE ON SAME DEVICE UPON ERROR
1063          000400      DOERCK= 400     ; 1 = DON'T DO ERROR CHECKING
1064          000200      SPOPER= 200     ; 1 = DEVICE SPECIAL OPERATION
1065          000100      BIT6= 100       ; 0 = NOT USED
1066          000040      DOIOT= 40       ; 1 = DO NOT PERFORM I/O TIMEOUT
1067          000020      AUTORP= 20      ; 1 = DO NOT AUTOMATICALLY DISPLAY COUNTS
1068          000010      AURPEP= 10      ; 1 = AUTO DISPLAY COUNTS AT END OF FINAL PASS ONLY
1069          000004      HSKPEP= 4       ; 1 = HOUSEKEEP COUNTS ONLY AT RUN COMMAND
1070          000002      PFBBOV= 2      ; 1 = PRINT FIRST BAD BYTE ONLY ON VERIFY
1071          000001      NOCOMP= 1      ; 1 = DO NOT PRINT PROG COMPLETED MSG
1072
1073          000004      PFWADR= +4.      ;*;PROGRAM FLAGWORD ADDRESS - 1 WORD
1074
1075          000006      PASCIN= +6.      ;PROGRAM'S NUMBER IN ASCII - 1 WORD
1076
1077          000010      PNAME= +8.      ;PROGRAM'S NAME IN ASCII - 6 BYTES
1078
1079          000016      PRDIOA= +14.     ;ADDRESS OF READ I/O AREA - 1 WORD
1080
1081          000020      PWRIOA= +16.     ;ADDRESS OF WRITE I/O AREA - 1 WORD
1082
1083          000022      PSRCST= +18.     ;SOURCE STATEMENTS START ADDRESS - 1 WORD
1084
1085          000024      POBJST= +20.     ;OBJECT CODE START ADDRESS - 1 WORD
1086
1087          000026      PLNGTH= +22.     ;PROG AREA LENGTH (OBJ END MINUS PROG TBL START) - 1 WORD
1088
1089          000030      PTOCNT= +24.     ;I/O TIMEOUT COUNT - 1 WORD
1090

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1091	000032	PMDLCD= +26.	;DEV ROUT MODEL # CODE - 1 WORD
1092			
1093	000034	PDPNTR= +28.	;CURRENT DEVICE NUMBER POINTER - 1 BYTE
1094			
1095	000035	PCURDV= +29.	;CURRENT DEVICE # - 1 BYTE
1096			
1097	000036	PDNUMS= +30.	;DEVICE NUMBERS - 16 BYTES
1098			
1099	000056	PTEM0= +46.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1100			
1101	000060	PTEM1= +48.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1102			
1103	000062	PTEM2= +50.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1104			
1105	000064	PTEM3= +52.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1106			
1107	000066	PTEM4= +54.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1108			
1109	000070	PTEM5= +56.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1110			
1111	000072	PTEM6= +58.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1112			
1113	000074	PTEM7= +60.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1114			
1115	000076	PTEM8= +62.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1116			
1117	000100	PTEM9= +64.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1118			
1119	000102	PTEM10= +66.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1120			
1121	000104	PTEM11= +68.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1122			
1123	000106	PTEM12= +70.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1124			
1125	000110	PTEM13= +72.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1126			
1127	000112	PTEM14= +74.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1128			
1129	000114	PTEM15= +76.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1130			
1131	000116	PNBR= +78.	;NUMBER OF BYTES TO TRANSFER ON MOVE (NBR) - 1 WORD
1132			
1133	000120	PSRC= +80.	;DATA SOURCE ADDRESS ON MOVE (SRC) - 1 WORD
1134			
1135	000122	PDST= +82.	;DATA DESTINATION ADDRESS ON MOVE (DST) - 1 WORD
1136			
1137	000124	PSTKCT= +84.	;# OF WORDS (X 2) SAVED OFF STACK - 1 WORD
1138			
1139	000126	PSTKSV= +86.	;STACK WORDS STORAGE AREA - 30 WORDS
1140			
1141	000222	PSVREG= +146.	;USER'S R0 THRU R5 REGISTERS STORAGE AREA - 6 WORDS
1142			
1143	000236	PUSRPC= +158.	;USER'S CURRENT PROGRAM COUNTER - 1 WORD
1144			

;FOLLOWING ENTRIES (PRDIOX THRU PUBMAP) ARE ONLY IN MEM MGMNT VERSION

 ;(PRDIOX= +160. ;19/22 BIT ABSOLUTE ADDRESS OF READ I/O AREA - 2 WORDS)
 ;(PRDIOV= +164. ;19 BIT VIRTUAL ADDRESS OF READ I/O AREA - 2 WORDS)
 ;(PWRIOX= +168. ;19/22 BIT ABSOLUTE ADDRESS OF WRITE I/O AREA - 2 WORDS)
 ;(PWRIOV= +172. ;19 BIT VIRTUAL ADDRESS OF WRITE I/O AREA - 2 WORDS)
 ;(PUPARS= +176. ;STORAGE AREA FOR USER'S PAR'S 0 THRU 7 - 8 WORDS)
 ;(PUPDRS= +192. ;STORAGE AREA FOR USER'S PDR'S 0 THRU 7 - 8 WORDS)
 ;(PUBMAP= +208. ;1ST UNIBUS MAP REG # AND # OF REGS USED - 1 WORD)

;END OF MEM MGMNT ONLY ENTRIES

000240

 PTSIZE= +160. ;PROGRAM TABLE SIZE IN BYTES - 1 WORD - NON MEM MGMNT
 ;(PTSIZE= +210. ;PROGRAM TABLE SIZE IN BYTES - 1 WORD - MEM MGMNT VERSION)

000242

 PTEND= +162. ;END OF PROGRAM TABLE - NON MEM MGMNT VERSION
 ;(PTEND= +212. ;END OF PROGRAM TABLE - MEM MGMNT VERSION)

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: DEVICE ROUTINE TABLE

000116	DRTLTH= 79.	:DEVICE ROUTINE TABLE LENGTH
000000	DEVRSZ= +0.	:DEVICE ROUTINE SIZE IN BYTES - 1 WORD
000002	DEVFWD= +2.	:DEVICE ROUTINE FLAGWORD - 1 WORD
000004	DEVIW1= +4.	:DEVICE INTERFACE WORD # 1 - 1 WORD
000006	DEVIW2= +6.	:DEVICE INTERFACE WORD # 2 - 1 WORD
000010	DEVIW3= +8.	:DEVICE INTERFACE WORD # 3 - 1 WORD
000012	DEVIW4= +10.	:DEVICE INTERFACE WORD # 4 - 1 WORD
000014	DEVIW5= +12.	:DEVICE INTERFACE WORD # 5 - 1 WORD
000016	DEVIW6= +14.	:DEVICE INTERFACE WORD # 6 - 1 WORD
000020	DEVIW7= +16.	:DEVICE INTERFACE WORD # 7 - 1 WORD (SIZE)
000022	DEVIW8= +18.	:DEVICE INTERFACE WORD # 8 - 1 WORD (ERR)
000024	DEVDR= +20.	:DEVICE REGISTERS ADDRESS - 1 WORD
000026	DEVIVA= +22.	:DEVICE INTERRUPT VECTOR ADDRESS - 1 WORD
000030	DEVRRS= +24.	:DEVICE READ PROCESSOR STATUS WORD (BUS REQ) - 1 WORD
000032	DEVWPS= +26.	:DEVICE WRITE PROC STATUS WORD (BUS REQ) - 1 WORD
000034	DHXPAD= +28.	:DEVICE ROUT HOUSEKEEPING ROUT REL ENTRY ADR - 1 WORD
000036	DERPAD= +30.	:DEVICE ROUT REPORT ROUT REL ENTRY ADR - 1 WORD
000040	DKILAD= +32.	:DEVICE ROUT KILL ROUTINE REL ENTRY ADR - 1 WORD
000042	DECTAD= +34.	:DEVICE ROUT ERROR COUNTER REL ADR - 1 WORD
000044	DTOEAD= +36.	:DEVICE ROUT TIMEOUT ERR ROUT REL ENTRY ADR - 1 WORD
000046	DEVI0B= +38.	:DEVICE I/O BUSY BRANCH ADDRESS (CIOBSY) - 1 WORD
000050	DEVDER= +40.	:DEVICE ERROR BRANCH ADDRESS (CUPGER) - 1 WORD
000052	DVUPRT= +42.	:USER MODE PRINT BRANCH ADDRESS (ULIST) - 1 WORD
000054	DVCPRT= +44.	:CMND MODE PRINT BRANCH ADDRESS (CLIST) - 1 WORD
000056	DEVSTA= +46.	:CONVERT BINARY TO ASCII BR ADR (BINASC) - 1 WORD
000060	DVBSTA= +48.	:CONVERT BINARY TO DECIMAL ASCII BR ADR (BTASLZ) - 1 WORD

000062	DVPDTA= +50.	;CONVERT PACKED DECIMAL TO ASCII BR ADR (DECASC) - 1 WORD
000064	DVSFWD= +52.	;MPG SYSTEM FLAGWORD ADDRESS (CSYSFW) - 1 WORD
000066	DVSVEC= +54.	;SET INTERRUPT VECTOR BR ADR (SETVEC) - 1 WORD
000070	DVVEC= +56.	;CLEAR INTERRUPT VECTOR BR ADR (CLRVEC) - 1 WORD
000072	DVTVEC= +58.	;TEST INTERRUPT VECTOR BR ADR (TSTVEC) - 1 WORD
000074	DVRINT= +60.	;RETURN FROM INTERRUPT BR ADR (RTNINT) - 1 WORD
000076	DVGETB= +62.	;GET DATA BYTE BR ADR (GETBYT) - 1 WORD
000100	DVPUTB= +64.	;PUT DATA BYTE BR ADR (PUTBYT) - 1 WORD
000102	DEVSTP= +66.	;DEVICE ROUT REL SYMBOL TABLE POINTER - 1 WORD
000104	DEVETP= +68.	;DEVICE ROUT REL ENTRY TABLE POINTER - 1 WORD
000106	DVPTEP= +70.	;PACK TABLE EXTEN. REL POINTER - 1 WORD
000110	DVVTEP= +72.	;VECTOR TABLE EXTEN. REL POINTER - 1 WORD
000112	DVCTEP= +74.	;COMPILER TBL EXTEN. REL POINTER - 1 WORD
000114	DVIWSP= +76.	;DEVICE INTERFACE WORD SYMBOL TBL REL POINTER - 1 WORD
000116	DRTEND= +78.	;END OF DEVICE ROUTINE TABLE
000001	.END	

E03

MAINDEC-11-DTDLA-B
DTDLAB.P11DL11 DEVICE ROUTINE FOR MPG
SYMBOL TABLE

MACY11 27(732) 24-SEP-76 14:09 PAGE 9

SEQ 0061

ABBREV	003272R	002	DEVIW1=	000004		DVVTPE=	000110		LSTATS	000632R	002	PTM9 =	000100	
ACTIVE=	100000		DEVIW2=	000006		EMSGBF	003564R	002	LWAIT	000632R	002	PTEND =	000242	
ANSWER	002030R	002	DEVIW3=	000010		EMSGHD	003550R	002	MISCNT	000672R	002	PTLGTH=	000242	
ATIMSG	004365R	002	DEVIW4=	000012		ERCDTA	005014R	002	MMVER =	000001		PTOCNT=	000030	
AURPEP=	000010		DEVIW5=	000014		ERCDTB	003522R	002	NOCOMP=	000001		PTSIZE=	000240	
AUTORP=	000020		DEVIW6=	000016		ERCFRM	004746R	002	NOFERR	002576R	002	PUSRPC=	000236	
BOMRD	004506R	002	DEVIW7=	000020		ERCOVR	004726R	002	NOOERR	002616R	002	PUTBYT	000100R	002
BOMWR	004530R	002	DEVIW8=	000022		ERCPAR	004765R	002	NOPEER	002556R	002	PWRIOA=	000020	
BINASC	000056R	002	DEVVPS=	000030		ERDIRG	003432R	002	NOWAIT	002000R	002	P5CONS=	:20000	
BIT11 =	004000		DEVRSZ=	000000		ERMBCT	003430R	002	OCPRES=	000100		RADDR	002256R	002
BIT12 =	010000		DEVSTP=	000102		ERR	000022R	002	OVRRUN	000700R	002	RANG	002102R	002
BIT6 =	000100		DEVWPS=	000032		ERRDIS	003340R	002	PARERR	000704R	002	RBUF	000636R	002
BKONT	000670R	002	DHKKPAD=	000034		ERREXT	001766R	002	PASCIN=	000006		RBUSRQ	000030R	002
BREAK	001352R	002	DISCNT	003162R	002	ERRFLG	002270R	002	PC =	%000007		RBYTES	002260R	002
BRFLG =	000010		DISCON	002114R	002	ERRMSG	004703R	002	PCURDV=	000035		RCR	002266R	002
BTASLZ	000060R	002	DISPST	003776R	002	ERRRPT	003330R	002	PDNUMS=	000036		RCSR	000634R	002
BYRD	000654R	002	DISUIV	004124R	002	ERRSNM	003440R	002	PDPNTR=	000034		ROBSY =	020000	
BYWR	000660R	002	DISUML	004152R	002	ERRST	001730R	002	PDST =	000122		RDCNT	000664R	002
CALL	002030R	002	DISUNM	004066R	002	ERSTOP=	000004		PFBBOV=	000002		RDINMS	004660R	002
CALLOK	002054R	002	DISUPR	004144R	002	ERTBEN	003422R	002	PFLGWD=	000000		RDINT	002460R	002
CIOBSY	000046R	002	DKILAD=	000040		FLAG	000712R	002	PFWADR=	000004		RDMNCL	001264R	002
CLIST	000054R	002	DOERCK=	000400		FLAGWD	000002R	002	PLNGTH=	000026		RDMNST	001270R	002
CLRVCT=	000002		DOIOT =	000040		FRAMER	000702R	002	PMDLCD=	000032		RDNOWT	001332R	002
CLRVEC	000070R	002	DREGAD	000024R	002	GETBYT	000076R	002	PNAME =	000010		RDROFF	002240R	002
CLWVCT=	000004		DRTEND=	000116		GTNXTD=	001000		PNBR =	000116		RDRON	002222R	002
CMDCBK	004612R	002	DRTLTH=	000116		GTPTBS	001230R	002	PNMSG	004360R	002	READ	001142R	002
CMDCMS	004627R	002	DRWAIT=	100000		GVECAD	002442R	002	POBJST=	000024		RECV	002204R	002
CMDCRD	004563R	002	DTOEAD=	000044		HANGUP	002110R	002	POPSW =	000002		RECVOK	002214R	002
CMDCWR	004576R	002	DVBTDA=	000060		HNGDL1	002124R	002	PRDIOA=	000016		RELEAS	001772R	002
CNTSEN=	005022R	002	DVCMD5	000146R	002	HNGDL2	002130R	002	PRINT	004156R	002	RENDMG	004413R	002
CNTSMG	004472R	002	DVCPT=	000054		HSKEEP	003000R	002	PROGNM	004362R	002	REPORT	003034R	002
COMBER	002714R	002	DVCPT=	000504R	002	HSKPEN=	000714R	002	PRONER=	020000		REPTBL	003274R	002
CRESET	002010R	002	DVCTEP=	000112		HSKPEP=	000004		PRTEX	004270R	002	RERVEC	002724R	002
CRLF	004544R	002	DVCVEC=	000070		HSKPST=	000634R	002	PSRC =	000120		RESREG	003666R	002
CSTAT	000644R	002	DVGETB=	000076		INTXT	002450R	002	PSRCST=	000022		RETURN	001616R	002
CSYSFW	000064R	002	DVIWSP=	000114		ISTAT =	000634R	002	PSTKCT=	000124		RICNT	000674R	002
CTPRIO=	000020		DVIWST	000630R	002	IVCTAD	000026R	002	PSTKSV=	000126		RPTBAS	003226R	002
CUPGER	000050R	002	DVMYTE	000420R	002	IWC	001560R	002	PSVREG=	000222		RPTEND	003252R	002
CURMSG	004401R	002	DVPDTA=	000062		KILL	001026R	002	PTMO =	000056		RPTLP	003210R	002
CWRINT	001100R	002	DVPKTE	000250R	002	KILLEX	001134R	002	PTM1 =	000060		RRINTV	002736R	002
CYCDVL=	002000		DVPTEP=	000106		LANSWR	000632R	002	PTM10=	000102		RTERM	002646R	002
CYCPRG=	040000		DVPUTB=	000100		LCALL	000632R	002	PTM11=	000104		RTNINT	000074R	002
DATAER	000706R	002	DVREGE=	000146R	002	LCOUNT	000632R	002	PTM12=	000106		RWINTV	002754R	002
DECASC	000062R	002	DVREGS	000116R	002	LORST	000632R	002	PTM13=	000110		R0 =	%000000	
DECTAD=	000042		DVREND=	005022R	002	LHNGUP	000632R	002	PTM14=	000112		R1 =	%000001	
DERPAD=	000036		DVREX	003262R	002	LISEN	002062R	002	PTM15=	000114		R2 =	%000002	
DEVBT=	000056		DVRGDT	004464R	002	LLISEN	000632R	002	PTM2 =	000062		R3 =	%000003	
DEVDER=	000050		DVRGMG	004456R	002	LNWAIT	000632R	002	PTM3 =	000064		R4 =	%000004	
DEVDR=	000024		DVRINT=	000074		LOCZ	000000R	002	PTM4 =	000066		R5 =	%000005	
DEVETP=	000104		DVSFWD=	000064		LDRDF	000632R	002	PTM5 =	000070		SAVREG	003652R	002
DEVFWD=	000002		DVSVEC=	000066		LDRON	000632R	002	PTM6 =	000072		SEND	002152R	002
DEVIOB=	000046		DVTVEC=	000072		LRECV	000632R	002	PTM7 =	000074		SENDOK	002176R	002
DEVIVA=	000026		DVUPRT=	000052		LSEND	000632R	002	PTM8 =	000076		SETSSY	001414R	002

MAINDEC-11-DTDLA-B DL11 DEVICE ROUTINE FOR MPG
 DTDLAB.P11 SYMBOL TABLE

MACY11 27(732) 24-SEP-76 14:09 PAGE 9-1

SEQ 0062

SETDED= 000040		STMNUM 003644R	002	TRVEXT 004320R	002	USEUBM= 000200		WRINT 002272R	002
SETRSE 001312R	002	STONER= 100000		TSRINT 001042R	002	USMTPS= 000002		WRITE 001342R	002
SETTSE 001564R	002	STSTAT 003724R	002	TSTIEB 001632R	002	WADDR 002262R	002	WRMNCL 001506R	002
SETVEC 000066R	002	SUPTAD 003704R	002	TSTVEC 000072R	002	WAIT 001620R	002	WRMNST 001512R	002
SIZE 000020R	002	TOECNT 000710R	002	TWVECT 004322R	002	WBUSRQ 000032R	002	WTERM 002366R	002
SP = 0000006		TOEMSG 001002R	002	TWVEXT 004356R	002	WBYTES 002264R	002	WT4ICT= 000010	
SPOPER= 000200		TOUTER 000714R	002	ULIST 000052R	002	WICNT 000676R	002	XBUF 000642R	002
SRDBSY 001174R	002	TOUTEX 000774R	002	UNASCI 004450R	002	WRBSY = 040000		XCSR 000640R	002
STMNMG 003634R	002	TRMTST 001650R	002	UNITMG 004430R	002	WRCNT 000666R	002	XMIT 001360R	002
STMNT 003546R	002	TRVECT 004272R	002	URSTOP= 000002		WRINMS 004673R	002	XXXX = 000000	
. = 005022R	002								
. ABS. 000000	000								
000000	001								
DL11 005022	002								

ERRORS DETECTED: 0
 DEFAULT GLOBALS GENERATED: 0

*.DTDLAB/NL:TOC/DOC=DTDLAB.P11
 RUN-TIME: 3 7 1 SECONDS
 RUN-TIME RATIO: 18/12=1.4
 CORE USED: 5K (9 PAGES)

DOCUMENT PAGES: 31

Spooler runtime 5 Seconds, 24 KCS, 117 disk reads, 3 disk writes, 31 pages

***** Date 12-Oct-76 15:00:28 Monitor IPC-0 8070 (103) *****

[illegible]