

DJ11

DEVICE ROUTINE (MPG)
MD-11-DTDJA-B

EP-DTDJA-B-DL-A
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FICHE 1 OF 1

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digital
MADE IN U.S.A.

[Faded microfiche content, likely containing data tables or code listings]

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000000'
177776

000000' 005362
000002' 000000

100000
040000
020000
000010
000004
000002

000004' 000000
000006' 000000
000010' 000000
000012' 000000
000014' 000000
000016' 000000
000020' 000000
000022' 000000
000024' 160010
000026' 000300
000030' 000240
000032' 000240
000034' 003254
000036' 003306
000040' 000572
000042' 000450
000044' 000454
000046' 000000
000050' 000000
000052' 000000
000054' 000000
000056' 000000
000060' 000000
000062' 000000
000064' 000000

.SBTTL STANDARD DEVICE ROUTINE TABLE
.TITLE MAINDEC-11-DTDJA-B DJ11 DEVICE ROUTINE FOR MPG
;REVISION B
;FILENAME OF "TDJABD.MPG" ON MPG/XXDP MEDIA
;MACY11: DTDJA?,DTDJA?/CRF:SYM/DOC=DTDJA?.P11
;LNKX11: DTDJA?.MPG/B:0+DTDJA?/E
;PAPER TAPE: PUNCH DTDJA?.MPG/FILE:ELEV

.CSECT DJ11
.DSABL GBL
PS= 177776

;THE FOLLOWING TABLE IS IN THE STANDARDIZED FORMAT REQUIRED
;TO INTERFACE WITH MPG.

LOCZ: .WORD DVREND-
FLAGWD: .WORD 0

DRWAIT= 100000
WRBSY= 40000
RDBSY= 20000
BRFLG= 10
CLWVCT= 4
CLRVCT= ?

.WORD 0
.WORD 0
.WORD 0
.WORD 0
.WORD 0
.WORD 0

SIZE: .WORD 0
ERR: .WORD 0
DREGAD: .WORD 160010
IVCTAD: .WORD 300
RBSRQ: .WORD 240
WBSRQ: .WORD 240

.WORD HSKEEP-
.WORD REPORT-
.WORD KILL-
.WORD DATAER-
.WORD TOUTER-

CIOBSY: .WORD 0
CUPGER: .WORD 0
ULIST: .WORD 0
CLIST: .WORD 0
BINASC: .WORD 0
BTASLZ: .WORD 0
DECASC: .WORD 0
CSYSFW: .WORD 0

;DEVICE ROUT SIZE IN BYTES
;DEVICE ROUT FLAGWORD

; DEVICE ROUTINE WAIT FLAG
; WRITE BUSY FLAG
; READ BUSY FLAG
; BREAK INST FLAG
; CLEAR WRITE VECTOR FLAG
; CLEAR READ VECTOR FLAG

; INTERFACE WORD # 1 (NOT USED)
; INTERFACE WORD # 2 (NOT USED)
; INTERFACE WORD # 3 (NOT USED)
; INTERFACE WORD # 4 (NOT USED)
; INTERFACE WORD # 5 (NOT USED)
; INTERFACE WORD # 6 (NOT USED)
; # OF BYTES TRANSFERRED / UNIMAP FLG
; ERROR ON LAST I/O INDICATOR
; FIRST DEVICE REGISTER ADR
; INTERRUPT VECTOR ADR
; INT PROC STATUS WORD (BR 5)
; INT PROC STATUS WORD (BR 5)
; HOUSEKEEPING ROUT REL ADR
; REPORT ROUT REL ADR
; KILL ROUT REL ADR
; DATA ERROR COUNTER REL ADR
; TIME OUT ERROR ROUT REL ADR
; I/O BUSY BRANCH ADR
; DEVICE ERROR BRANCH ADR
; USER MODE PRINT ROUTINE BRANCH ADR
; CMND MODE PRINT ROUTINE BRANCH ADR
; CONVERT BINARY TO ASCII ROUT BR ADR
; CONVERT BINARY TO DECIMAL ASCII BR ADR
; CONVERT PACKED DECIMAL TO ASCII BR ADR
; MPG SYSTEM FLAGWORD ADR

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MAINDEC-11-DTDJA-B
DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
STANDARD DEVICE ROUTINE TABLE

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SEQ 0005

166	000266'	047503	047125	051524	.ASCII	/COUNTS/	
167	000274'	372	000		.BYTE	372,0	
168	000276'	042106	050125	054114	.ASCII	/FDUPLX/	
169	000304'	371	000		.BYTE	371,0	
170	000306'	042110	050125	054114	.ASCII	/HOUPLX/	
171	000314'	370	000		.BYTE	370,0	
172							
173	000316'	000376	000432		DVMVTE: .WORD	376,LCRST-LOCZ	;MODEL VECTOR TABLE EXTEN.
174	000322'	000375	000432		.WORD	375,LNWAIT-LOCZ	
175	000326'	000374	000432		.WORD	374,LWAIT-LOCZ	
176	000332'	000373	000432		.WORD	373,LCOUNT-LOCZ	
177	000336'	000372	000432		.WORD	372,LCOUNT-LOCZ	
178	000342'	000371	000432		.WORD	371,LFDPLX-LOCZ	
179	000346'	000370	000432		.WORD	370,LHDPLX-LOCZ	
180							
181							
182							
183							
184	000352'	003	376		DVCPT: .BYTE	3,376	;CONTROL RESET
185	000354'	004537	000012		.WORD	4537,10.	
186	000360'	003	375		.BYTE	3,375	;NO WAIT
187	000362'	004537	000012		.WORD	4537,10.	
188	000366'	003	374		.BYTE	3,374	;WAIT
189	000370'	004537	000012		.WORD	4537,10.	
190	000374'	004	373		.BYTE	4,373	;STATUS
191	000376'	004537	000012	001002	.WORD	4537,10.,1002	
192	000404'	004	372		.BYTE	4,372	;COUNTS
193	000406'	004537	000012	001001	.WORD	4537,10.,1001	
194	000414'	003	371		.BYTE	3,371	;FULL DUPLEX
195	000416'	004537	000012		.WORD	4537,10.	
196	000422'	003	370		.BYTE	3,370	;HALF DUPLEX
197	000424'	004537	000012		.WORD	4537,10.	
198							
199							
200							
201							
202	000430'	177777			DVIWST: .WORD	177777	
203							
204							
205							
206							
207	000432'				LCRST:		
208	000432'				LNWAIT:		
209	000432'				LWAIT:		
210	000432'				LSTATS:		
211	000432'				LCOUNT:		
212	000432'				LFDPLX:		
213	000432'	000			LHDPLX: .BYTE	0	
214		000434'			.EVEN		
215							
216		000434'			HSKPST=	.	
217		000434'			ISTAT=	.	;STORAGE FOR DEV REG'S AT INT
218	000434'	000000			CSR: .WORD	0	
219	000436'	000000			RBUF: .WORD	0	
220	000440'	000000			TCR: .WORD	0	
221	000442'	000000			BCR: .WORD	0	

222	000444'	000000	TBUF:	.WORD	0	
223						
224	000446'	000005	CSTAT:	.BLKW	5	; DEV REG CURRENT VALUE STORAGE
225						
226	000460'	000000	BYRD:	.WORD	0	; BYTES READ COUNT
227	000462'	000000		.WORD	0	
228	000464'	000000	BYWR:	.WORD	0	; BYTES WRITTEN COUNT
229	000466'	000000		.WORD	0	
230	000470'	000000	RDCNT:	.WORD	0	; READ CMD COUNT
231	000472'	000000	WRCNT:	.WORD	0	; WRITE CMD COUNT
232	000474'	000000	BKCNT:	.WORD	0	; BREAK CMD COUNT
233	000476'	000000	MISCNT:	.WORD	0	; MISC. CMD COUNT (CRESET, ; FDUPLX, HDUPLX)
234						
235	000500'	000000	RICNT:	.WORD	0	; READ INTERRUPT COUNT
236	000502'	000000	WICNT:	.WORD	0	; WRITE INTERRUPT COUNT
237	000504'	000000	OVRUN:	.WORD	0	; OVERRUN ERRORS COUNT
238	000506'	000000	FRAMER:	.WORD	0	; FRAMING ERRORS COUNT
239	000510'	000000	PARERR:	.WORD	0	; PARITY ERRORS COUNT
240	000512'	000000	DATAER:	.WORD	0	; DATA ERROR COUNT
241	000514'	000000	TOECNT:	.WORD	0	; # OF ENTRIES INTO T/O ERROR ROUT
242						
243	000516'	000000	FLAG:	.WORD	0	; FLAGWORD STORAGE
244						
245						
246	000520'		HSKPEN=	.		
247						
248	000000		XXXX=	0		; VALUE TO BE TAILORED BY DEV ROUT
249						
250	000001		MMVER=	1		; SYSTEM FLGWD BIT DEF.
251	120000		P5CONS=	120000		; INT SRVC VIRT PAGE BASE
252	000002		USMTPS=	2		; MTPS INST LEGAL FLAG

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DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
DJ11 FUNCTION ROUTINES

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SEQ 0007

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254                                     .SBTTL  DJ11 FUNCTION ROUTINES
255
256                                     ;TIMEOUT ERROR HANDLER
257
258 000520' 005267 177770          TOUTER: INC      TOECNT          ;INCR TIME OUT ERROR COUNT
259 000524' 026727 177764 000010  CMP      TOECNT, #8.    ;EXCEEDED # TIMEOUTS?
260 000532' 001401                      BEQ      Z$              ;YES - CONTINUE
261 000534' 000205                      RTS      R5              ;NO - RETURN
262 000536' 004067 003424          Z$:   JSR      R0, SAVREG    ;SAVE REGISTERS
263 000542' 004767 003452          JSR      PC, SUPTAD     ;P TBL ADR TO R3
264 000546' 042713 000010          BIC      #W4IOT, (R3)  ;RESET WAIT FOR I/O TERM
265 000552' 005004                      CLR      R4
266 000554' 004567 003736          JSR      R5, PRINT     ;PRINT TIMEOUT ERR MSG
267 000560' 000026                      .WORD   TOEMSG-.
268 000562' 000023                      .WORD   19.
269 000564' 004567 000042          JSR      R5, KILL      ;KILL THE PROGRAM
270 000570' 004767 003152          JSR      PC, ERDIRG    ;DISPLAY STATUS & STMT #
271 000574' 004067 003402          JSR      R0, RESREG    ;RESTORE REGISTERS
272 000600' 012605                      TOUTEX: MOV     (SP)+, R5 ;GO DISPLAY DEVICE REGS
273 000602' 000177 177242          JMP
274
275 000606' 045104 030461 052040  TOEMSG: .ASCII  'DJ11 TIMEOUT ON I/O'
276 000614' 046511 047505 052125
277 000622' 047440 020116 027511
278 000630'          117
279 000632' 000632'
280                                     .EVEN
281                                     ;KILL USER PROGRAM ROUTINE
282
283 000632' 016702 177166          KILL:  MOV      DREGAD, R2 ;GET DEV REG ADR
284 000636' 032762 040100 000004  BIT      #40100, 4(R2)  ;ANY INT EBLs SET ?
285 000644' 001426                      BEQ      KILLEX         ;NO-EXIT
286 000646' 004567 003760          Z$:   JSR      R5, TRVECT ;TEST READ INT VECTOR
287 000652' 000410                      BR      CWRINT         ;BRANCH IF NOT ME
288 000654' 042762 000100 000004  BIC      #100, 4(R2)    ;RESET RD INT EBL
289 000662' 042767 020000 177112  BIC      #RDBSY, FLAGWD ;RESET READ BSY IN FLAG WD
290 000670' 004767 002350          JSR      PC, RINTV     ;RESET INT VECTOR INFO
291 000674' 004567 003762          CWRINT: JSR      R5, TRVECT ;TEST WRITE INT VECTOR
292 000700' 000410                      BR      KILLEX         ;BRANCH IF NOT ME
293 000702' 042762 040000 000004  BIC      #40000, 4(R2)  ;RESET WR INT EBL
294 000710' 042767 040000 177064  BIC      #WRBSY, FLAGWD ;RESET WRITE BSY IN FLAG WD
295 000716' 004767 002340          JSR      PC, RWINTV    ;RESET INT VECTOR INFO
296 000722' 005067 177074          KILLEX: CLR     ERR      ;CLEAR ERROR INDICATOR
297 000726' 000205                      RTS      R5            ;RETURN
298
299                                     ;READ COMMAND HANDLER
300
301 000730' 010567 003126          READ:  MOV      R5, STMT   ;SAVE R5
302 000734' 162767 000004 003120  SUB      #4, STMT      ;FOR STMT # REFERENCE
303 000742' 016704 177056          MOV     DREGAD, R4    ;DEV REG ADDR TO R4
304 000746' 032767 020000 177026  BIT      #RDBSY, FLAGWD ;TEST READ BUSY
305 000754' 001030                      BNE     GTPTBS        ;BRANCH IF SET
306 000756' 032714 000100          BIT     #100, (R4)    ;TEST RECV INT EBL
307 000762' 001403                      BEQ     SRDBSY        ;CONTINUE IF NOT SET
308 000764' 004567 177056          JSR     R5, DCIOBSY   ;OTHERWISE RELEASE CONTROL
309 000770' 000757                      BR      READ

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307	000772'	052767	020000	177002	SRDBSY:	BIS	#RDBSY, FLAGWD	;SET READ BUSY
308	001000'	016767	177022	000012		MOV	IVCTAD, 10\$;INT VECTOR ADDR TO CALL
309	001006'	016767	177016	000006		MOV	RBUSRQ, 20\$;ALSO BUS PRIORITY
310	001014'	004577	177046			JSR	R5, JSETVEC	;GO SET THE VECTOR
311	001020'	000000			10\$:	.WORD	XXXX	
312	001022'	000000			20\$:	.WORD	XXXX	
313	001024'	001664				.WORD	RDINT-	
314	001026'	005067	177462			CLR	TOECNT	;CLEAR TIME OUT ERR CNT
315	001032'	052714	000100			BIS	#100, (R4)	;SET RECV INT EBL
316	001036'	004767	003156		GTPTBS:	JSR	PC, SUPTAD	;GET P TBL BASE IN R3
317	001042'	005067	176754			CLR	ERR	;CLEAR ERROR INDICATOR
318	001046'	005267	177416			INC	RDCNT	;INCR READ CMD COUNT
319	001052'	032763	000200	000002		BIT	#SOPER, PPSW(R3)	;TEST MAINT BIT IN OPSW
320	001060'	001403				BEQ	RDMNCL	
321	001062'	052714	000004			BIS	#4, (R4)	;SET CSR BIT TO SAME STATE
322	001066'	000402				BR	RDMNST	
323	001070'	042714	000004		RDMNCL:	BIC	#4, (R4)	
324	001074'	012500			RDMNST:	MOV	(R5)+, R0	;GET ADDRESS
325	001076'	012567	001232			MOV	(R5)+, ADDR	
326	001102'	012567	001230			MOV	(R5)+, BYTES	;BYTE COUNT AND
327	001106'	012500				MOV	(R5)+, R0	;LINE NBR FROM CALL
328	001110'	001011				BNE	TESTRC	;BR IF LINE SPECIFIED
329	001112'	116301	000035			MOVB	PCURDV(R3), R1	;GET CURRENT DEV NBR
330	001116'	012700	000001			MOV	#1, R0	
331	001122'	105701				TSTB	R1	
332	001124'	001403				BEQ	TESTRC	
333	001126'	006300			CALDNL:	ASL	R0	
334	001130'	005301				DEC	R1	
335	001132'	001375				BNE	CALDNL	
336	001134'	030064	000004		TESTRC:	BIT	R0, 4(R4)	;ANY DESIRED LINE IN USE ?
337	001140'	001405				BEQ	LOADRC	;NO - KICK OFF THIS READ
338	001142'	004577	176700			JSR	R5, JCIOSY	;YES - WAIT
339	001146'	162705	000006			SUB	#6, R5	
340	001152'	000666				BR	READ	
341	001154'	050067	001162		LOADRC:	BIS	R0, RCR	;SET LINE NBRS IN RCR
342	001160'	010702				MOV	PC, R2	
343	001162'	062702	001164			ADD	#RCVTBL-. , R2	
344	001166'	012701	000020			MOV	#16. , R1	
345	001172'	006000			FRCVTL:	ROR	R0	;FILL RECEIVE TABLE
346	001174'	103007				BCC	DRCVTL	
347	001176'	016722	001132			MOV	ADDR, (R2)+	;WITH ADDRESS
348	001202'	016722	001130			MOV	BYTES, (R2)+	;AND BYTE COUNT
349	001206'	005301				DEC	R1	
350	001210'	001370				BNE	FRCVTL	
351	001212'	000407				BR	SETRSE	
352	001214'	062702	000004		DRCVTL:	ADD	#4, R2	
353	001220'	005301				DEC	R1	
354	001222'	001363				BNE	FRCVTL	
355	001224'	052763	000010	000000		BIS	#WT4IOT, PFLGWD(R3)	;SET WAIT FOR I/O TERM
356	001232'	052714	000001		SETRSE:	BIS	#1, (R4)	;SET RECEIVE SCAN ENABLE
357	001236'	032767	100000	176536		BIT	#DRWAIT, FLAGWD	;TEST DEV ROUT NOWAIT
358	001244'	001002				BNE	RDNOWT	;BRANCH IF SET
359	001246'	000167	000520			JMP	TSTIEB	;OTHERWISE WAIT
360	001252'	042763	000010	000000	RDNOWT:	BIC	#WT4IOT, PFLGWD(R3)	;CLEAR WAIT FOR I/O TERM
361	001260'	000205				RTS	R5	;RETURN INLINE
362								

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DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
DJ11 FUNCTION ROUTINES

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SEQ 0009

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363                                     ;WRITE AND BREAK COMMAND HANDLER
364
365 001262' 042767 000010 176512 WRITE: BIC      #BRFLG,FLAGWD      ;CLEAR BREAK FLAG
366 001270' 000403                                     BR      XMIT
367 001272' 052767 000010 176502 BREAK: BIS      #BRFLG,FLAGWD      ;SET BREAK FLAG
368 001300' 010567 002556 XMIT:  MOV     RS,STMT      ;SAVE RS
369 001304' 162767 000004 002550 SUB      #4,STMT      ;FOR STMT # REFERENCE
370 001312' 016704 176506 MOV     DREGAD,R4      ;DEV REG ADDR TO R4
371 001316' 032767 040000 176456 BIT      #WRBSY,FLAGWD      ;TEST WRITE BUSY
372 001324' 001033 BNE     CLRBRK      ;BRANCH IF SET
373 001326' 032714 040000 BIT      #40000,(R4)      ;TEST XMIT INT EBL
374 001332' 001403 BEQ     SETBSY      ;CONTINUE IF NOT SET
375 001334' 004577 176506 JSR     RS,ACIOBSY      ;OTHERWISE RELEASE CONTROL
376 001340' 000757 BR      XMIT
377 001342' 052767 040000 176432 SETBSY: BIS     #WRBSY,FLAGWD      ;SET WRITE BUSY
378 001350' 016767 176452 000020 MOV     IVCTAD,10$      ;INT VECTOR ADDR TO CALL
379 001356' 062767 000004 000012 ADD     #4,10$      ;ADJUST FOR WRITE INT
380 001364' 016767 176442 000006 MOV     WBUSRQ,20$      ;ALSO PASS BUS PRIORITY
381 001372' 004577 176470 JSR     RS,ASETVEC      ;GO SET THE VECTOR
382 001376' 000000 10$: .WORD  XXXX
383 001400' 000000 20$: .WORD  XXXX
384 001402' 001044 .WORD  WRINT-
385 001404' 005067 177104 CLR     TOECNT      ;CLEAR TIME OUT ERR CNT
386 001410' 052714 040000 BIS     #40000,(R4)      ;SET XMIT INT EBL
387 001414' 042714 002000 CLRBRK: BIC     #2000,(R4)      ;CLEAR BREAK REG SELECT
388 001420' 005067 176376 CLR     ERR      ;CLEAR ERROR INDICATOR
389 001424' 004767 002570 JSR     PC,SUPTAD      ;GET P TBL BASE IN R3
390 001430' 032763 000200 000002 BIT     #SOPER,POPSW(R3)      ;TEST MAINT BIT IN OPSW
391 001436' 001403 BEQ     WRMNCL
392 001440' 052714 000004 BIS     #4,(R4)      ;SET CSR BIT TO SAME STATE
393 001444' 000402 BR      WRMNST
394 001446' 042714 000004 WRMNCL: BIC     #4,(R4)
395 001452' 012500 WRMNST: MOV     (R5)+,R0      ;GET ADDRESS
396 001454' 012567 000654 MOV     (R5)+,ADDR
397 001460' 012567 000652 MOV     (R5)+,BYTES
398 001464' 012500 MOV     (R5)+,R0
399 001466' 001011 BNE     TESTTC
400 001470' 116301 000035 MOVB   PCURDV(R3),R1      ;GET CURRENT DEV NBR
401 001474' 012700 000001 MOV     #1,R0
402 001500' 105701 TSTB   R1
403 001502' 001403 BEQ     TESTTC
404 001504' 006300 DVNMLP: ASL    R0
405 001506' 005301 DEC     R1
406 001510' 001375 BNE     DVNMLP
407 001512' 030064 000004 TESTTC: BIT     R0,4(R4)      ;ANY DESIRED LINE IN USE ?
408 001516' 001405 BEQ     LOADTC      ;NO - KICK OFF THIS WRITE
409 001520' 004577 176322 JSR     RS,ACIOBSY      ;YES - WAIT
410 001524' 162705 000006 SUB     #6,R5
411 001530' 000663 BR      XMIT
412 001532' 010067 000602 LOADTC: MOV     R0,STCR      ;SET LINE NBR IN SOFT TCR
413 001536' 032777 000002 176320 BIT     #USMTPS,ACSYSFW      ;SAVE PS AND INH INT
414 001544' 001007 BNE     10$
415 001546' 113767 177776 000556 MOVB   #PS,PSSAVE
416 001554' 152737 000340 177776 BISB   #340,#PS
417 001562' 000404 BR      FSNDTB
418 001564' 106767 000542 10$: MFPS   PSSAVE

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419	001570'	106427	000340		MTPS	#340	
420	001574'	010702			FSNDB: MOV	PC,R2	
421	001576'	062702	000434		ADD	#SNDTBL-.,R2	
422	001602'	012701	000020		MOV	#16.,R1	
423	001606'	006000			FSNDTL: ROR	R0	;FILL SEND TABLE
424	001610'	103007			BCC	DSNDTL	
425	001612'	016722	000516		MOV	ADDR,(R2)+	;WITH ADDRESS
426	001616'	016722	000514		MOV	BYTES,(R2)+	;AND BYTE COUNT
427	001622'	005301			DEC	R1	
428	001624'	001370			BNE	FSNDTL	
429	001626'	000404			BR	SETTSE	
430	001630'	062702	000004		DSNDTL: ADD	#4,R2	
431	001634'	005301			DEC	R1	
432	001636'	001363			BNE	FSNDTL	
433	001640'	052763	000010	000000	SETTSE: BIS	#WT4IOT,PFLGWD(R3)	;SET WAIT FOR I/O TERM
434	001646'	056764	000466	000004	BIS	STCR,4(R4)	;SET LINE NBR IN HARD TCR
435	001654'	032767	000010	176120	BIT	#BRFLG,FLAGWD	;IF BREAK FLAG SET
436	001662'	001410			BEQ	INCRWC	
437	001664'	052714	002000		BIS	#2000,(R4)	;SELECT BREAK REG
438	001670'	056764	000444	000004	BIS	STCR,4(R4)	;SET LINE NBR IN BCR
439	001676'	005267	176572		INC	BKCNT	;INCR BREAK CMD COUNT
440	001702'	000402			BR	SETSCN	
441	001704'	005267	176562		INCRWC: INC	WRCNT	;INCR WRITE CMD COUNT
442	001710'	052714	000400		SETSCN: BIS	#400,(R4)	;SET MASTER SCAN EBL
443	001714'	032777	000002	176142	BIT	#USMTPS,DCSYSFW	;RESTORE PS AND EBL INT
444	001722'	001004			ENE	10\$	
445	001724'	116737	000402	177776	MOVB	PSSAVE,2#PS	
446	001732'	000402			BR	20\$	
447	001734'	106467	000372		10\$: MTPS	PSSAVE	
448	001740'	032767	100000	176034	20\$: BIT	#DRWAIT,FLAGWD	;TEST DEV ROUT NOWAIT
449	001746'	001411			BEQ	TSTIEB	;IF RESET TEST INT EBL
450	001750'	042763	000010	000000	BIC	#WT4IOT,PFLGWD(R3)	;CLEAR WAIT FOR I/O TERM
451	001756'	000205			RETURN: RTS	R5	;OTHERWISE RETURN
452							
453							
454							
455	001760'	042767	100000	176014	WAIT: BIC	#DRWAIT,FLAGWD	;CLEAR DEV ROUT NOWAIT
456	001766'	016704	176032		MOV	DREGWD,R4	;POINT R4 AT REG ADDR
457	001772'	032714	040100		TSTIEB: BIT	#40100,(R4)	;TEST INT EBL
458	001776'	001053			BNE	RELEAS	;IF SET, RELEASE CONTROL
459	002000'	032767	000002	175774	TRMTST: BIT	#CLRVRT,FLAGWD	;TEST IF VECTOR CLR REQD
460	002006'	001410			BEQ	10\$;BRANCH IF NOT
461	002010'	004567	002616		JSR	R5,TRVECT	;TEST READ VECTOR
462	002014'	000405			BR	10\$;BRANCH IF NOT ME
463	002016'	004767	001222		JSR	PC,RRINTV	;GO RESET THE VECTOR
464	002022'	042767	000002	175752	BIC	#CLRVRT,FLAGWD	;CLEAR THE REQ FLAG
465	002030'	032767	000004	175744	10\$: BIT	#CLWVRT,FLAGWD	;TEST IF VECTOR CLR REQD
466	002036'	001410			BEQ	ERRTST	;BRANCH IF NOT
467	002040'	004567	002616		JSR	R5,TWVECT	;TEST WRITE VECTOR
468	002044'	000405			BR	ERRTST	;BRANCH IF NOT ME
469	002046'	004767	001210		JSR	PC,RWINTV	;GO RESET THE VECTOR
470	002052'	042767	000004	175722	BIC	#CLWVRT,FLAGWD	;CLEAR THE REQ FLAG
471	002060'	005767	000260		ERRTST: TST	ERRFLG	;TEST FOR ANY ERROR
472	002064'	001734			BEQ	RETURN	;RETURN IF NONE
473	002066'	012767	000001	175726	MOV	#1,ERR	;SET ERROR INDICATOR
474	002074'	004767	002120		JSR	PC,SUPTAD	

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MAINDEC-11-DTJJA-B
DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
DJ11 FUNCTION ROUTINES

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SEQ 0012

;WRITE & READ CONTROL TABLES							
514							
515							
516	002232'	000000	000000	SNDTBL: .WORD	0,0	:LINE	0 ADDR/BYTE CNT
517	002236'	000000	000000	.WORD	0,0	:	1
518	002242'	000000	000000	.WORD	0,0	:	2
519	002246'	000000	000000	.WORD	0,0	:	3
520	002252'	000000	000000	.WORD	0,0	:	4
521	002256'	000000	000000	.WORD	0,0	:	5
522	002262'	000000	000000	.WORD	0,0	:	6
523	002266'	000000	000000	.WORD	0,0	:	7
524	002272'	000000	000000	.WORD	0,0	:	8
525	002276'	000000	000000	.WORD	0,0	:	9
526	002302'	000000	000000	.WORD	0,0	:	10
527	002306'	000000	000000	.WORD	0,0	:	11
528	002312'	000000	000000	.WORD	0,0	:	12
529	002316'	000000	000000	.WORD	0,0	:	13
530	002322'	000000	000000	.WORD	0,0	:	14
531	002326'	000000	000000	.WORD	0,0	:	15
532							
533	002332'	000000		PSSAVE: .WORD	0	;PROC STATUS SAVE	
534	002334'	000000		ADDR: .WORD	0		
535	002336'	000000		BYTES: .WORD	0		
536	002340'	000000		STCR: .WORD	0	;XMIT SOFT CONT REG	
537	002342'	000000		RCR: .WORD	0	;RECEIVE CONT REG	
538	002344'	000000		ERRFLG: .WORD	0	;ERROR FLAG	
539							
540							
541	002346'	000000	000000	RCVTBL: .WORD	0,0	:LINE	0 ADDR/BYTE CNT
542	002352'	000000	000000	.WORD	0,0	:	1
543	002356'	000000	000000	.WORD	0,0	:	2
544	002362'	000000	000000	.WORD	0,0	:	3
545	002366'	000000	000000	.WORD	0,0	:	4
546	002372'	000000	000000	.WORD	0,0	:	5
547	002376'	000000	000000	.WORD	0,0	:	6
548	002402'	000000	000000	.WORD	0,0	:	7
549	002406'	000000	000000	.WORD	0,0	:	8
550	002412'	000000	000000	.WORD	0,0	:	9
551	002416'	000000	000000	.WORD	0,0	:	10
552	002422'	000000	000000	.WORD	0,0	:	11
553	002426'	000000	000000	.WORD	0,0	:	12
554	002432'	000000	000000	.WORD	0,0	:	13
555	002436'	000000	000000	.WORD	0,0	:	14
556	002442'	000000	000000	.WORD	0,0	:	15

NO1

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DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
DJ11 FUNCTION ROUTINES

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SEQ 0013

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558                                     ;WRITE INTERRUPT HANDLER
559
560 002446' 004067 001514      WRINT: JSR   R0, SAVREG      ;SAVE REGISTERS
561 002452' 004567 001562      JSR   R5, STSTAT    ;STORE DEVICE REG CONTENTS
562 002456' 175756              .WORD  ISTAT-.
563 002460' 005267 176016      INC   WICNT         ;INCR WRITE INTERRUPT COUNT
564 002464' 004767 001530      JSR   PC, SUPTAD    ;SET INTERNAL PTRS
565 002470' 116401 000007      MOVB  7(R4), R1     ;GET LINE NBR FROM TBUF
566 002474' 110102              MOVB  R1, R2        ;SAVE IN R2
567 002476' 006301              ASL   R1
568 002500' 006301              ASL   R1            ;USE AS TABLE INDEX
569 002502' 010703              MOV   PC, R3
570 002504' 062703 177526      ADD   #SNDTBL-. , R3 ;POINT R3 AT TBL ENTRY
571 002510' 060103              ADD   R1, R3        ;ADD INDEX
572 002512' 005763 000002      TST   2(R3)         ;TEST BYTE COUNT
573 002516' 001417              BEQ   WTERM        ;BRANCH IF ZERO
574 002520' 010701              MOV   PC, R1
575 002522' 062701 175744      ADD   #BYWR+2-. , R1
576 002526' 062711 000001      ADD   #1, (R1)      ;INCR BYTES WRITTEN BY 1
577 002532' 005541              ADC   -(R1)
578 002534' 011300              MOV   (R3), R0
579 002536' 105733              TSTB  2(R3)+
580 002540' 004777 175332      JCR   PC, 2GETBYT  ;GET BYTE FROM MEM
581 002544' 110164 000006      MOVB  R1, 6(R4)
582 002550' 005313              DEC   (R3)          ;DECREMENT BYTE COUNT
583 002552' 005243              INC   -(R3)        ;INCREMENT ADDRESS
584 002554' 000450              BR    INTXT        ;RETURN FROM INTERRUPT
585 002556' 010701              WTERM: MOV  PC, R1
586 002560' 062701 175706      ADD   #BYWR+2-. , R1
587 002564' 011167 175230      MOV   (R1), SIZE   ;UPDATE ACTUAL BYTES XFERRD
588 002570' 012701 000001      MOV   #1, R1
589 002574' 105702              WTRMLP: TSTB  R2
590 002576' 001403              BEQ   CLRSCN
591 002600' 006301              ASL   R1            ;SET BIT AS PER LINE NBR
592 002602' 005302              DEC   R2
593 002604' 001373              BNE   WTRMLP
594 002606' 052714 002000      CLRSCN: BIS  #2000, (R4) ;SELECT BREAK REGISTER
595 002612' 040164 000004      BIC  R1, 4(R4)     ;RESET LINE NBR BIT
596 002616' 042714 002000      BIC  #2000, (R4)  ;SELECT TCR
597 002622' 040164 000004      BIC  R1, 4(R4)     ;RESET LINE NBR BIT
598 002626' 005764 000004      TST  4(R4)        ;ALL LINES DISABLED ?
599 002632' 001401              BEQ   STOPWR      ;YES - STOP ALL WRITES
600 002634' 000420              BR    INTXT        ;RETURN FROM INTERRUPT
601 002636' 042767 040000 175136 STOPWR: BIC  #WRBSY, FLAGWD ;RESET WRITE BUSY
602 002644' 042714 040400      BIC  #40400, (R4) ;RESET XMIT SCN & INT EBL
603 002650' 004767 001344      JSR   PC, SUPTAD
604 002654' 032714 000100      BIT  #100, (R4)    ;RECEIVE INT STILL UP ?
605 002660' 001003              BNE   GVECAD       ;YES - CONTINUE
606 002662' 042763 000010 000000 GVECAD: BIC  #WT4IOT, PFLGWD(R3) ;NO - RESET WAIT FOR IOT
607 002670' 052767 000004 175104 INTEXT: BIS  #CLWVCT, FLAGWD ;SET CLR VECT REQUEST
608 002676' 004067 001300      JSR   R0, RESREG   ;RESTORE REGISTERS
609 002702' 000177 175166      JMP   2RTNINT     ;RETURN FROM INTERRUPT
610 002706' 000000              LNUM: .WORD  0

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612                                     ;READ INTERRUPT HANDLER
613
614 002710' 004067 001252      RDINT: JSR   RD, SAVREG      ;SAVE REGISTERS
615 002714' 004567 001320      JSR   RS, STSTAT   ;STORE DEVICE REG CONTENTS
616 002720' 175514              .WORD  ISTAT-
617 002722' 005267 175552      INC   RICNT
618 002726' 004767 001266      JSR   PC, SUPTAD   ;SET INTERNAL PTRS
619 002732' 016401 000002      MOV   2(R4), R1    ;GET DATA FROM RBUF
620 002736' 010102              MOV   R1, R2       ;SAVE IN R2
621 002740' 000301              SWAB  R1
622 002742' 042701 177760      BIC   #177760, R1  ;FILTER OUT OTHER BITS
623 002746' 010167 000334      MOV   R1, UNITNM  ;SAVE UNIT NUMBER
624 002752' 006301              ASL   R1
625 002754' 006301              ASL   R1            ;USE AS TABLE INDEX
626 002756' 010703              MOV   PC, R3
627 002760' 062703 177366      ADD   #RCVTBL-., R3 ;POINT R3 AT TBL ENTRY
628 002764' 060103              ADD   R1, R3       ;ADD INDEX
629 002766' 005763 000002      TST   2(R3)        ;TEST BYTE COUNT
630 002772' 001451              BEQ   RTERM        ;BRANCH IF ZERO
631 002774' 010701              MOV   PC, R1
632 002776' 062701 175464      ADD   #BYRD+2-., R1
633 003002' 062711 000001      ADD   #1(R1)
634 003006' 005541              ADC   -(R1)
635 003010' 005067 177330      CLR   ERRFLG
636 003014' 032702 010000      BIT   #10000, R2   ;TEST FOR PARITY ERROR
637 003020' 001405              BEQ   NOPERR       ;BRANCH IF NOT
638 003022' 005267 175462      INC   PARERR       ;OTHERWISE INCR COUNT
639 003026' 152767 000001 177310 BISB  #1, ERRFLG    ;REMEMBER PARITY ERROR
640 003034' 032702 020000      BIT   #20000, R2   ;TEST FOR FRAMING ERROR
641 003040' 001405              BEQ   NOFERR       ;BRANCH IF NOT
642 003042' 005267 175440      INC   FRAMERR      ;OTHERWISE INCR COUNT
643 003046' 152767 000002 177270 BISB  #2, ERRFLG    ;REMEMBER FRAMING ERROR
644 003054' 032702 040000      BIT   #40000, R2   ;TEST FOR OVERRUN ERROR
645 003060' 001405              BEQ   NOOERR       ;BRANCH IF NOT
646 003062' 005267 175416      INC   OVERRUN      ;OTHERWISE INCR COUNT
647 003066' 152767 000004 177250 BISB  #4, ERRFLG    ;REMEMBER OVERRUN ERROR
648 003074' 110201              MOVB  R2, R1
649 003076' 012300              MOV   (R3)+, RD
650 003100' 004777 174774      JSR   PC, PUTBYT   ;PUT BYTE IN MEM
651 003104' 005263 177776      INC   -2(R3)        ;INCREMENT ADDRESS
652 003110' 005313              DEC   (R3)          ;DECREMENT BYTE COUNT
653 003112' 001401              BEQ   RTERM        ;TERMINATE IF BC ZERO
654 003114' 000670              BR    INTXT
655 003116' 010701              RTERM: MOV   PC, R1
656 003120' 062701 175342      ADD   #BYRD+2-., R1
657 003124' 011167 174670      MOV   (R1), SIZE   ;UPDATE ACTUAL BYTES XFERRD
658 003130' 012701 000001      MOV   #1, R1
659 003134' 000302              SWAB  R2
660 003136' 042702 177760      BIC   #177760, R2  ;FILTER ALL BUT LINE NBR
661 003142' 105702              RTRMLP: TSTB R2
662 003144' 001403              BEQ   STRSCN
663 003146' 006301              ASL   R1            ;SET BIT AS PER LINE NBR
664 003150' 005302              DEC   R2
665 003152' 001373              BNE   RTRMLP
666 003154' 040167 177162      STRSCN: BIC  R1, RCR ;RESET LINE NBR BIT
667 003160' 005767 177156      TST   RCR          ;ALL LINES DISABLED ?

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668	003164'	001401				BEG	STOPRD		:YES - STOP ALL READS
669	003166'	000643				BR	INTEXT		:RETURN FROM INTERRUPT
670	003170'	042767	020000	174604	STOPRD:	BIC	#RDBSY, FLAGWD		:RESET READ BUSY
671	003176'	042714	000101			BIC	#101, (R4)		:RESET READ & READ INT EBL
672	003202'	004767	001012			JSR	PC, SUPTAD		
673	003206'	032714	040000			BIT	#40000, (R4)		:TEST IF WRITE STILL UP
674	003212'	001003				BNE	COMBER		:IF YES-GO COMBINE ERRORS
675	003214'	042763	000010	000000		BIC	#WT4IOT, PFLGWD(R3)		:RESET WAIT FOR IOT
676	003222'	032763	000400	000002	COMBER:	BIT	#DOERCK, POPSW(R3)		:TEST DONT ERROR CK BIT
677	003230'	001000				BNE	RERVEC		:BRANCH IF SET
678	003232'	052767	000002	174542	RERVEC:	BIS	#CLR VCT, FLAGWD		:SET CLR RD VECT REQUEST
679	003240'	000167	177432			JMP	INTEXT		:EXIT
680									
681									
682									
683	003244'	016767	174556	000004	RRINTV:	MOV	IVCTAD, 10\$:RESET READ VECT SUBR
684	003252'	004577	174612			JSR	RS, @CLRVEC		
685	003256'	000000			10\$:	.WORD	XXXX		
686	003260'	000207				RTS	PC		
687									
688									
689	003262'	016767	174540	000012	RWINTV:	MOV	IVCTAD, 10\$:RESET WRITE VECT SUBR
690	003270'	062767	000004	000004		ADD	#4, 10\$		
691	003276'	004577	174566			JSR	RS, @CLRVEC		
692	003302'	000000			10\$:	.WORD	XXXX		
693	003304'	000207				RTS	PC		
694	003306'	000000			UNITNM:	.WORD	0		:UNIT NBR AT LAST REC INT

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.SBTTL DJ11 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

003310' 005725
003312' 001003
003314' 032702 000004
003320' 001010
003322' 010700
003324' 062700 175110
003330' 012701 000032
003334' 005020
003336' 005301
003340' 001375
003342' 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

;DJ11 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

003344' 005067 000236
003350' 004067 000612
003354' 032715 177776
003360' 001012
003362' 010700
003364' 062700 175074
003370' 012701 000016
003374' 005720
003376' 001003
003400' 005301
003402' 001374
003404' 000474
003406' 004767 000606
003412' 012504
003414' 032704 000002
003420' 001403
003422' 004567 000612
003426' 175020
003430' 004767 000702
003434' 032704 000002
003440' 001416
003442' 004567 001050
003446' 001257

REPORT: CLR ABBREV
JSR R0,SAVREG
BIT #177776,(R5)
BNE 8\$
MOV PC,R0
ADD #BYRD-.,R0
2\$: MOV #14.,R1
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\$: JSR PC,DISUNM
BIT #2,R4
BEQ DISCNT
JSR R5,PRINT
WORD ATIMSG-

: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 CURR UNIT #
:DISPLAY DEV STATUS?
:Y,N-DISCNT
:ISSUE 'AT INT' MSG

E02

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DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
DJ11 SUPPORT ROUTINES

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SEQ 0017

752	003450'	000014		.WORD	12.	
753	003452'	004567	000750	JSR	R5,DISPST	;GO DISPLAY STATUS AT LAST INT
754	003456'	174756		.WORD	ISTAT-	
755	003460'	004567	001032	JSR	R5,PRINT	;ISSUE 'CURRENTLY' MSG
756	003464'	001255		.WORD	CURMSG-	
757	003466'	000012		.WORD	10.	
758	003470'	004567	000732	JSR	R5,DISPST	;GO DISPLAY CURRENT STATUS
759	003474'	174752		.WORD	CSTAT-	
760	003476'	032704	000001	DISCNT: BIT	#1,R4	;DISPLAY COUNTS?
761	003502'	001431		BEG	RPTEND	;Y,N-RPTEND
762	003504'	012700	000016	MOV	#14,R0	;SET UP # OF WORDS
763	003510'	010701		MOV	PC,R1	;SET UP ADR OF CNTS
764	003512'	062701	174746	ADD	#BYRD-. ,R1	
765	003516'	010702		MOV	PC,R2	;SET UP TBL ADR
766	003520'	062702	000070	ADD	#REPTBL-. ,R2	
767	003524'	012267	000012	RPTLP: MOV	(R2)+,RPTBAS	;MOV MSG ADR TO S/R LINKAGE
768	003530'	004067	000432	JSR	R0,SAVEG	;SAVE ALL REG'S
769	003534'	011100		MOV	(R1),R0	;GET CURRENT COUNT
770	003536'	004577	174314	JSR	R5,ABINASC	;CONVERT IT TO ASCII
771	003542'	000000		RPTBAS: .WORD	XXXX	
772	003544'	004067	000432	JSR	R0,RESREG	;RESTORE REG'S
773	003550'	005721		TST	(R1)+	;POINT AT NXT CNT
774	003552'	005300		DEC	R0	;DONE ALL WORDS?
775	003554'	001363		BNE	RPTLP	;Y,N-RPTLP
776	003556'	004567	000734	JSR	R5,PRINT	;GO ISSUE COUNTS MSG
777	003562'	001250		.WORD	CNTSMG-	
778	003564'	000330		.WORD	CNTSEN-CNTSMG	
779	003566'	004567	000724	RPTEND: JSR	R5,PRINT	;ISSUE "END OF REPORT" MSG
780	003572'	001161		.WORD	RENDMG-	
781	003574'	177763		.WORD	-13.	
782	003576'	004067	000400	DVREX: JSR	R0,RESREG	;RESTORE REGISTERS
783	003602'	005725		TST	(R5)+	;SET UP RETURN POINT
784	003604'	000205		RTS	R5	;EXIT IN-LINE
785						
786	003606'	000000		ABBREV: .WORD	0	
787						
788						
789	003610'	001304		REPTBL: .WORD	BCMRD-RPTBAS	
790	003612'	001312		.WORD	BCMRD+6-RPTBAS	
791	003614'	001326		.WORD	BCMR-RPTBAS	
792	003616'	001334		.WORD	BCMR+6-RPTBAS	
793	003620'	001361		.WORD	CMDCRD-RPTBAS	
794	003622'	001374		.WORD	CMDCR-RPTBAS	
795	003624'	001410		.WORD	CMDCBK-RPTBAS	
796	003626'	001425		.WORD	CMDCMS-RPTBAS	
797	003630'	001456		.WORD	RDINMS-RPTBAS	
798	003632'	001471		.WORD	WRINMS-RPTBAS	
799	003634'	001524		.WORD	ERCOVR-RPTBAS	
800	003636'	001544		.WORD	EPCFRM-RPTBAS	
801	003640'	001563		.WORD	-PAR-RPTBAS	
802	003642'	001612		.WORD	ERCDTA-RPTBAS	

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804                                     ;DJ11 ERROR REPORT ROUTINE
805
806 003644' 004767 000004      ERRPPT: JSR   PC,ERRDIS
807 003650' 000177 174174      JMP   JPCUPGER
808 003654' 010701      ERRDIS: MOV   PC,R1                ;POINT R1 AT ERR MSG
809 003656' 062701 000222      ADD   #EMSGBF-. ,R1
810 003662' 012767 000014 000054  MOV   #12. ,ERMBCT
811 003670' 010700      MOV   PC,R0                ;POINT R0 AT ERR MSG TBL
812 003672' 062700 000144      ADD   #ERCDTB-. ,R0
813 003676' 105710      1S:   TSTB  (R0)
814 003700' 001416      BEQ   ERTBEN              ;BRANCH IF R0 AT TBL END
815 003702' 132067 176436      BITB  (R0)+,ERRFLG      ;TEST FOR PARTICULAR ERR
816 003706' 001003      BNE   3S                 ;BRANCH IF FOUND
817 003710' 062700 000005      2S:   ADD   #5,R0
818 003714' 000770      BR    1S
819 003716' 012702 000005      3S:   MOV   #5,R2
820 003722' 112021      4S:   MOVB  (R0)+(R1)+    ;MOVE MSG CODE TO ERR MSG
821 003724' 005267 000014      INC   ERMBCT             ;BUMP BYTE COUNT
822 003730' 005302      DEC   R2
823 003732' 001373      BNE   4S
824 003734' 000760      BR    1S                ;CHECK IF MORE
825 003736' 004567 000554      ERTBEN: JSR  RS,PRINT     ;PRINT ERROR MSG
826 003742' 000122      .WORD EMSGHD-.
827 003744' 000014      ERMBC: .WORD 12.
828 003746' 004567 000454      ERDIRG: JSR  RS,DISPST   ;DISPLAY DEVICE REGS
829 003752' 174462      .WORD ISTAT-.
830 003754' 016300 000022      ERRSNM: MOV  PSRCST(R3),R0 ;GET ADDR OF SRC STMENTS
831 003760' 111001      10S:  MOVB  (R0),R1          ;SAVE STMT LENGTH
832 003762' 026067 000004 000072  CMP   4(R0),STMT        ;ERROR OCCUR ON THIS STMT?
833 003770' 001402      BEQ   20S                ;YES - BRANCH
834 003772' 060100      ADD   R1,R0              ;POINT AT NEXT STATEMENT
835 003774' 000771      BR    10S                ;GO CK NEXT STMT
836 003776' 005720      20S:  TST  (R0)+             ;SET UP ADR OF STMT # DATA
837 004000' 010701      MOV   PC,R1              ;SET UP DATA OUTPUT ADDR
838 004002' 062701 000156      ADD   #STNUM-. ,R1
839 004006' 004577 174050      JSR   RS,DEASC          ;CONVERT IT TO ASCII
840 004012' 012767 020040 000144  MOV   #20040,STNUM+4    ;SET 2 LOW DIGITS TO SPACES
841 004020' 004567 000472      JSR   RS,PRINT          ;ISSUE STMT # MSG
842 004024' 000124      .WORD STNMNG-.
843 004026' 177762      .WORD -14.
844 004030' 005067 176310      CLR  ERRFLG             ;CLEAR ERROR FLAG
845 004034' 000207      RTS   PC
846
847 004036' 020001 050040 051101  ERCDTB: .ASCII <001>/ PAR/ ;ERROR MSG CODE TABLE
848 004044' 020002 043040 046522      .ASCII <002>/ FRM/
849 004052' 020004 047440 051126      .ASCII <004>/ OVR/
850 004060' 000      .BYTE 0
851 004062' 004062'      .EVEN
852 004064' 000000      STMT: .WORD 0           ;SAVED R5 FOR STMT #
853 004072' 045104 030461 042440  EMSGHD: .ASCII /DJ11 ERROR: /
854 004072' 051122 051117 020072
855 004100' 000050      EMSGBF: .BLKB 40.
856 004150' 052123 047115 020124  STNMNG: .ASCII /STMT # /
004156' 020043
004160' 054130 054130  STNUM: .ASCII /XXXXXX/

```

```

858 .SBTTL SUBROUTINES FOR DJ11 DEVICE ROUTINE
859
860 ;SAVE REGISTERS R0 THRU R5
861
862 ;JSR R0,SAVREG S/R CALL
863
864 SAVREG: MOV R1,-(SP) ;SAVE R0 THRU R5
865 MOV R2,-(SP)
866 MOV R3,-(SP)
867 MOV R4,-(SP)
868 MOV R5,-(SP)
869 MOV R0,PC ;EXIT IN-LINE
870
871
872 ;RESTORE REGISTERS R0 THRU R5
873
874 ;JSR R0,RESREG S/R CALL
875
876 RESREG: TST (SP)+ ;RESTORE R4 THRU R0
877 MOV (SP)+,R5
878 MOV (SP)+,R4
879 MOV (SP)+,R3
880 MOV (SP)+,R2
881 MOV (SP)+,R1
882 RTS R0 ;EXIT IN-LINE
883
884
885 ;SET PROGRAM'S PROG TABLE ADR IN R3
886
887 ;JSR PC,SUPTAD S/R CALL
888
889 SUPTAD: MOV PC,R3 ;SET UP LOCATION ZERO ADR
890 ADD #LOCZ--,R3
891 SUB -2(R3),R3 ;SUBTRACT PROG TBL LENGTH
892 MOV DREGAD,R4 ;PUT DEV REG ADR IN R4
893 RTS PC ;EXIT IN-LINE
894
895
896 ;STORE DEVICE'S STATUS REGISTERS
897
898 ;JSR R5,STSTAT S/R CALL
899 ;.WORD STADR- REL STORAGE ADR
900 ;DESTROYS R0,R1,R2
901
902 STSTAT: MOV DREGAD,R1
903 BIC #2000,(R1) ;SELECT TCR
904 MOV R5,R0 ;GET REL STORAGE ADR & MAKE
905 ADD (R5)+,R0 ;IT ABSOLUTE
906 MOV #DVREGS-DVREGS/6,-(SP) ;GET # OF REG'S TO STORE
907 MOV PC,R2 ;GET ADR OF 1ST REG DISPLACEMENT
908 ADD #DVREGS+4--,R2
909 10$: MOV (R2),R1 ;GET REG DISPLACEMENT
910 ADD DREGAD,R1 ;ADD IN REG'S BASE ADR
911 MOV (R1),(R0)+ ;STORE REGISTER VALUE
912 ADD #6,R2 ;POINT AT NXT DISPLACEMENT
913 DEC (SP) ;DECR REG CNT

```

H02

MAINDEC-11-DTJJA-B DJ11 DEVICE ROUTINE FOR MPG
 DTJJA8.P11 SUBROUTINES FOR DJ11 DEVICE ROUTINE

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SEQ 0020

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914 004304' 001370      BNE      10$          ;DONE ALL? (Y,N-10$)
915 004306' 005726      TST      (SP)+        ;CLEAN UP THE STACK
916 004310' 162700      SUB      #4,RO
917 004314' 016701      MOV      DREGADR,R1
918 004320' 052711      BIS      #2000,(R1)   ;SELECT BCR
919 004324' 016110      MOV      4(R1),(R0)   ;STORE BCR CONTENTS
920 004330' 042711      BIC      #2000,(R1)   ;SELECT TCR
921 004334' 000205      RTS
922
923
924                      ;DISPLAY CURRENT UNIT #
925
926                      ;JSR      PC,DISUNM      S/R CALL
927                      ;R3 MUST CONTAIN PROG TBL ADR
928                      ;DESTROYS RO,R1,R2
929
930 004336' 012767      000022 000056  DISUNM: MOV      #18,DISUML    ;INIT TO NORM MSG LNTH
931 004344' 116300      000035      MOV      PCURDV(R3),RO ;GET CURRENT UNIT #
932 004350' 020027      000020      CMP      RO,#15.      ;VALID UNIT #?
933 004354' 101007      BHI      DISUIV        ;Y,N-DISUIV
934 004356' 004577      173476      JSR      R5,JBASLZ     ;CONVERT # TODECIMAL ASCII
935 004362' 000426      .WORD
936 004364' 016767      000424 000416      MOV      UNASCI+4,UNASCI ;MOVE ASCII # TO 1ST TWO DIGITS
937 004372' 000410      BR
938 004374' 012767      000026 000020  DISUIV: MOV      #22,DISUML    ;SET UP ERR COND MSG LNTH
939 004402' 042700      177400      BIC      #177400,RO   ;RESET HIGH BYTE
940 004406' 004577      173444      JSR      R5,JBINASC   ;CONVERT BINARY TO ASCII
941 004412' 000376      .WORD
942 004414' 004567      000076      DISUPR: JSR      R5,PRINT ;GO ISSUE UNIT # MSG
943 004420' 000350      .WORD
944 004422' 000020      DISUML: .WORD
945 004424' 000207      RTS      16.
946
947
948                      ;TAILOR STATUS MSG & PRINT IT
949
950                      ;JSR      R5,DISPST      S/R CALL
951                      ;WORD      STATADR-.      REL ADR OF STATUS DATA
952                      ;DESTROYS RO,R1,R2
953
954 004426' 010502      DISPST: MOV      R5,R2          ;GET REL DATA ADR
955 004430' 062502      ADD      (R5)+,R2     ;MAKE IT ABS
956 004432' 010701      MOV      PC,R1        ;SET UP ADR OF REG NAMES IN ASCII
957 004434' 062701      173462      ADD      #DVRREGS-,R1
958 004440' 012700      000005      MOV      #DVRREGS-DVRREGS/6,RO ;GET # OF REGISTERS TO DISPLAY
959 004444' 012167      000346      10$:  MOV      (R1)+,DVRGMG ;MOVE REG NAME TO MSG
960 004450' 012167      000344      MOV      (R1)+,DVRGMG+2
961 004454' 005721      TST      (R1)+
962 004456' 004067      177504      JSR      RO,SAVREG    ;BYPASS DISP VALUE
963 004462' 011200      MOV      (R2),RO      ;SAVE REG'S RO - R5
964 004464' 004577      173366      JSR      R5,JBINASC   ;GET REG'S STORED VALUE
965 004470' 000334      .WORD      DVRGDT-.   ;CONVERT IT TO ASCII
966 004472' 004567      000020      JSR      R5,PRINT    ;PRINT THE STATUS MSG
967 004476' 000320      .WORD      DVRGMG-.
968 004500' 000014      .WORD      12.
969 004502' 004067      177474      JSR      RO,RESREG    ;RESTORE RO - R4

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970 004506' 005722
971 004510' 005300
972 004512' 001354
973 004514' 000205

TST
DEC
BNE
RTS

(R2)+
R0
10\$
R5

;POINT AT NXT REG VALUE
;DECR REG CNT
;DONE ALL? (Y,N-10\$)
;EXIT IN-LINE

J02

MAINDEC-11-DTDJA-B
DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
SUBROUTINES FOR DJ11 DEVICE ROUTINE

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SEQ 0022

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975                                     ;ISSUE MSG TO LIST DEVICE
976
977                                     ;JSR   RS,PRINT          S/R CALL
978                                     ;.WORD MSGADR-.        REL ADR OF MSG
979                                     ;.WORD BYTCNT          MSG BYTE CNT (IF NEGATIVE,
980                                     ;                               RESET PRT DEV DEDICATED.)
981                                     ;R3 = PROG TBL ADR
982                                     ;R4 = FLAGWORD -- IF NEGATIVE, USE CMND MODE PRINT
983                                     ;DESTROYS R0,R1,R2
984
985 004518' 010500          PRINT:  MOV   RS,R0          ;GET MSG ADR & MAKE IT ABS
986 004520' 062500          ADD    (RS)+,R0
987 004522' 012501          MOV    (RS)+,R1          ;GET BYTE COUNT
988 004524' 005704          TST   R4              ;USE CMND MODE PRINT?
989 004526' 100030          BPL   40$             ;Y,N-40$
990 004530' 010702          MOV    PC,R2          ;SET UP LINK INFO ADR
991 004532' 062702 000040  ADD    #20$-,R2
992 004536' 160200          SUB    R2,R0          ;MAKE MSG ADR REL
993 004540' 010022          MOV    R0,(R2)+      ;STORE MSG ADR
994 004542' 010112          MOV    R1,(R2)       ;STORE MSG'S BYTE COUNT
995 004544' 100001          BPL   10$             ;CNT NEG? (Y,N-10$)
996 004546' 005412          NEG   (R2)           ;MAKE IT POSITIVE
997 004550' 016367 000006 000144 10$:  MOV    PASCIN(R3),PROGNM ;STORE PROG'S # IN MSG
998 004556' 004577 173272  JSR    RS,ACLIST      ;ISSUE PROG #
999 004562' 000136          .WORD PNMMSG-.
1000 004564' 000005          .WORD 5
1001 004566' 004577 173262  JSR    RS,ACLIST      ;ISSUE MSG SPECIFIED
1002 004572' 000000          .WORD XXXX
1003 004574' 000000          .WORD XXXX
1004 004576' 004577 173252  JSR    RS,ACLIST      ;ISSUE A <CR> & <LF>
1005 004602' 000302          .WORD CRLF-.
1006 004604' 000002          .WORD 2
1007 004606' 000410          BR    PRTEX          ;GO TO EXIT
1008 004610' 010067 000010 40$:  MOV    R0,50$        ;STORE MSG'S ABS ADR
1009 004614' 010167 000006  MOV    R1,60$        ;STORE ITS BYTE CNT
1010 004620' 004577 173226  JSR    RS,ACLIST      ;GO TO MPG TO ISSUE THE MSG
1011 004624' 000000          .WORD XXXX
1012 004626' 000000          .WORD XXXX
1013 004630' 000205  PRTEX: RTS    R5          ;EXIT IN-LINE
1014
1015
1016                                     ;TEST READ INTERRUPT VECTOR S/R
1017
1018 004632' 016767 173170 000010 TRVECT: MOV    IVCTAD,20$          ;GET CURR INT VECT ADR
1019 004640' 016346 000004          MOV    PFWADR(R3),-(SP) ;STORE FLGWD ADR TO IDENTIFY ME
1020 004644' 004577 173222          JSR    RS,STSTVEC      ;DO I HAVE VECTOR CONTROL?
1021 004650' 000000          .WORD XXXX            ;MPG WILL TELL ME SINCE I CAN'T
1022 004652' 176036          .WORD RDINT-.        ;GET AT LOWER MEM IF MEM MGMT
1023 004654' 000401          BR    TRVEXT          ;BR IF I DONT HAVE CONTROL
1024 004656' 005725          TST   (R0)+          ;BYPASS BR INST IN S/R CALL
1025 004660' 000205  TRVEXT: RTS    R5          ;EXIT IN-LINE
1026
1027                                     ;TEST WRITE INTERRUPT VECTOR S/R
1028
1029 004662' 016767 173140 000016 TWVECT: MOV    IVCTAD,20$          ;GET CURR INT VECT ADR
1030 004670' 062767 000004 000010 ADD    #4,20$          ;ADJUST FOR WRITE INT

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K02

MAINDEC-11-DTJJA-B DJ11 DEVICE ROUTINE FOR MPG
DTDJAB.P11 SUBROUTINES FOR DJ11 DEVICE ROUTINE

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SEQ 0023

1031	004676'	016346	000004		MOV	PFWADR(R3),-(SP)	:STORE FLGWD ADR TI IDENTIFY ME
1032	004702'	004577	173164		JSR	R5,@TSTVEC	:DO I HAVE VECTOR CONTROL?
1033	004706'	000000		20\$:	.WORD	XXXX	: MPG WILL TELL ME SINCE I CAN'T
1034	004710'	175536			.WORD	WRINT-	: GET AT LOWER MEM IF MEM MGMT
1035	004712'	000401			BR	TWVEXT	:BR IF I DONT HAVE CONTROL
1036	004714'	005725			TST	(R5)+	:BYPASS BR INST IN S/R CALL
1037	004716'	000205		TWVEXT:	RTS	R5	:RETURN IN-LINE
1038							
1039							


```

1041 .SBTTL MESSAGE STORAGE AREA
1042
1043
1044 .NLIST BEX
1045
1046 .EVEN
1047 004720' 021520 PNMMSG: .ASCII /P#/
1048 004722' 054130 011 PROGNM: .ASCII /XX/<011>
1049 004725' 101 020124 040514 ATIMSG: .ASCII /AT LAST INT:/
1050 004741' 103 051125 042522 CURMSG: .ASCII /CURRENTLY:/
1051 004753' 105 042116 047440 RENDMG: .ASCII /END OF REPORT/
1052 .EVEN
1053 004770' 025052 025052 042040 UNITMG: .ASCII /**** DJ11 UNIT: /
1054 .EVEN
1055 005010' 054130 054130 054130 UNASCI: .ASCII /XXXXXX/
1056 005016' 054130 054130 020075 DVRGMG: .ASCII /XXXX= /
1057 005024' 054130 054130 054130 DVRGDT: .ASCII /XXXXXX/
1058
1059 005032' 054502 042524 035123 CNTSMG: .ASCII /BYTES: RD= /
1060 005046' 054130 054130 054130 BCMRD: .ASCII /XXXXXXXXXXXXX WR= /
1061 005070' 054130 054130 054130 BCMWR: .ASCII /XXXXXXXXXXXXX/
1062 005104' 005015 CRLF: .ASCII <015><012>
1063
1064 005106' 041411 047115 051504 .ASCII <011>/CMNDS: RD= /
1065 005123' 130 054130 054130 CMDCRD: .ASCII /XXXXXX WR= /
1066 005136' 054130 054130 054130 CMDCWR: .ASCII /XXXXXX BRK= /
1067 005152' 054130 054130 054130 CMDCBK: .ASCII /XXXXXX MISC= /
1068 005167' 130 054130 054130 CMDCMS: .ASCII /XXXXXX/<015><012>
1069 005177' 011 047111 042524 .ASCII <011>/INTERRUPTS: RD= /
1070 005220' 054130 054130 054130 RDINMS: .ASCII /XXXXXX WR= /
1071 005233' 130 054130 054130 WRINMS: .ASCII /XXXXXX/<015><012>
1072 005243' 011 051105 047522 ERRMSG: .ASCII <011>/ERRORS: OVERRUN= /
1073 005266' 054130 054130 054130 ERCOVR: .ASCII /XXXXXX FRAMING= /
1074 005306' 054130 054130 054130 ERCFRM: .ASCII /XXXXXX PARITY= /
1075 005325' 130 054130 054130 ERCPAR: .ASCII /XXXXXX/<015><012>
1076 005335' 011 040504 040524 .ASCII <011>/DATA ERRORS = /
1077 005354' 054130 054130 054130 ERCDTA: .ASCII /XXXXXX/
1078 005362' CNTSEN= .
1079 .EVEN
1080
1081 .LIST BEX
1082
1083 005362' DVREND= .

```

M02

MAINDEC-11-DTDJA-B
DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
FORMATS FOR PROGRAM & DEVICE ROUTINE TABLES

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SEQ 0025

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1085          .SBTTL FORMATS FOR PROGRAM & DEVICE ROUTINE TABLES
1086
1087          ; PROGRAM TABLE FORMAT
1088
1089          000242      PTLGTH= 162.      ;PROGRAM TABLE LENGTH - NON MEM MGMNT VERSION OF MPG
1090
1091          ;(PTLGTH= 212. ;PROGRAM TABLE LENGTH - MEM MGMNT VERSION OF MPG)
1092
1093          000000      PFLGWD= +0.      ;PROGRAM FLAG WORD - 1 WORD
1094
1095          000002      URSTOP= 2        ; 1 = USER HAS STOPPED THIS PROGRAM
1096          000004      ERSTOP= 4        ; 1 = AN ERROR HAS STOPPED THIS PROGRAM
1097          000010      WT4IOT= 10       ; 1 = WAITING FOR I/O TERMINATION
1098          000020      CTPRIO= 20       ; 1 = CONSOLE OR PRINTER I/O IN PROGRESS
1099          000040      SETDED= 40       ; 1 = THIS PROG SET THE PRT DEV DEDICATED FLAG
1100          000100      OCPRES= 100      ; 1 = OBJ CODE IS PRESENT
1101          000200      USEUBM= 200     ; 1 = THIS PROG USES THE UNIBUS MAP (MEM MGMNT ONLY)
1102          100000      ACTIVE= 100000  ; 1 = PROGRAM IS ACTIVE (SPECIFIED FOR EXECUTION)
1103
1104          000002      POPSW= +2.      ;PROGRAM'S OPERATION SWITCHES - 1 WORD
1105
1106          100000      STONER= 100000   ; 1 = STOP PROG EXECUTION UPON ERROR
1107          040000      CYCPRG= 40000    ; 1 = CYCLE PROGRAM (ON CURRENT DEVICE)
1108          020000      PRONER= 20000    ; 1 = DO NOT PRINT ON ERROR
1109          010000      BIT12= 10000    ; 0 = NOT USED
1110          004000      BIT11= 4000     ; 0 = NOT USED
1111          002000      CYCOVL= 2000    ; 1 = CYCLE THE DEVICE LIST
1112          001000      GTNXTD= 1000    ; 1 = CYCLE ON SAME DEVICE UPON ERROR
1113          000400      DOERCK= 400     ; 1 = DON'T DO ERROR CHECKING
1114          000200      SOPER= 200     ; 1 = DEVICE SPECIAL OPERATION
1115          000100      BIT6= 100      ; 0 = NOT USED
1116          000040      DOIOT= 40      ; 1 = DO NOT PERFORM I/O TIMEOUT
1117          000020      AUTORP= 20      ; 1 = DO NOT AUTOMATICALLY DISPLAY COUNTS
1118          000010      AURPEP= 10     ; 1 = AUTO DISPLAY COUNTS AT END OF FINAL PASS ONLY
1119          000004      HSKPEP= 4      ; 1 = HOUSEKEEP COUNTS ONLY AT RUN COMMAND
1120          000002      PFBBOV= 2      ; 1 = PRINT FIRST BAD BYTE ONLY ON VERIFY
1121          000001      NOCOMP= 1      ; 1 = DO NOT PRINT PROG COMPLETED MSG
1122
1123          000004      PFWADR= +4.      ;*;PROGRAM FLAGWORD ADDRESS - 1 WORD
1124
1125          000006      PASCIN= +6.      ;PROGRAM'S NUMBER IN ASCII - 1 WORD
1126
1127          000010      PNAME= +8.      ;PROGRAM'S NAME IN ASCII - 6 BYTES
1128
1129          000016      PRDIOA= +14.     ;ADDRESS OF READ I/O AREA - 1 WORD
1130
1131          000020      PWRIOA= +16.     ;ADDRESS OF WRITE I/O AREA - 1 WORD
1132
1133          000022      PSRCST= +18.     ;SOURCE STATEMENTS START ADDRESS - 1 WORD
1134
1135          000024      POBJST= +20.     ;OBJECT CODE START ADDRESS - 1 WORD
1136
1137          000026      PLNGTH= +22.     ;PROG AREA LENGTH (OBJ END MINUS PROG TBL START) - 1 WORD
1138
1139          000030      PTOCNT= +24.     ;I/O TIMEOUT COUNT - 1 WORD
1140

```

1141	000032	PMDLCD= +26.	;DEV ROUT MODEL # CODE - 1 WORD
1142			
1143	000034	PDPNTR= +28.	;CURRENT DEVICE NUMBER POINTER - 1 BYTE
1144			
1145	000035	PCURDV= +29.	;CURRENT DEVICE # - 1 BYTE
1146			
1147	000036	PDNUMS= +30.	;DEVICE NUMBERS - 16 BYTES
1148			
1149	000056	PTEM0= +46.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1150			
1151	000060	PTEM1= +48.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1152			
1153	000062	PTEM2= +50.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1154			
1155	000064	PTEM3= +52.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1156			
1157	000066	PTEM4= +54.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1158			
1159	000070	PTEM5= +56.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1160			
1161	000072	PTEM6= +58.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1162			
1163	000074	PTEM7= +60.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1164			
1165	000076	PTEM8= +62.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1166			
1167	000100	PTEM9= +64.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1168			
1169	000102	PTEM10= +66.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1170			
1171	000104	PTEM11= +68.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1172			
1173	000106	PTEM12= +70.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1174			
1175	000110	PTEM13= +72.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1176			
1177	000112	PTEM14= +74.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1178			
1179	000114	PTEM15= +76.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
1180			
1181	000116	PNBR= +78.	;NUMBER OF BYTES TO TRANSFER ON MOVE (NBR) - 1 WORD
1182			
1183	000120	PSRC= +80.	;DATA SOURCE ADDRESS ON MOVE (SRC) - 1 WORD
1184			
1185	000122	PDST= +82.	;DATA DESTINATION ADDRESS ON MOVE (DST) - 1 WORD
1186			
1187	000124	PSTKCT= +84.	;# OF WORDS (X 2) SAVED OFF STACK - 1 WORD
1188			
1189	000126	PSTKSV= +86.	;STACK WORDS STORAGE AREA - 30 WORDS
1190			
1191	000222	PSVREG= +146.	;USER'S R0 THRU R5 REGISTERS STORAGE AREA - 6 WORDS
1192			
1193	000236	PUSRPC= +158.	;USER'S CURRENT PROGRAM COUNTER - 1 WORD
1194			

1196
1197
1198
1199
1200
1201
1202
1203
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1208
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1213
1214
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1219
1220

000240

000242

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;FOLLOWING ENTRIES (PRDIOX THRU PUBMAP) ARE ONLY IN MEM MGMNT VERSION
;(PRDIOX= +160. ;18/22 BIT ABSOLUTE ADDRESS OF READ I/O AREA - 2 WORDS)
;(PRDIOV= +164. ;18 BIT VIRTUAL ADDRESS OF READ I/O AREA - 2 WORDS)
;(PWRIOX= +168. ;18/22 BIT ABSOLUTE ADDRESS OF WRITE I/O AREA - 2 WORDS)
;(PWRIOV= +172. ;18 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
PTSIZE= +160. ;PROGRAM TABLE SIZE IN BYTES - 1 WORD - NON MEM MGMNT
;(PTSIZE= +210. ;PROGRAM TABLE SIZE IN BYTES - 1 WORD - MEM MGMNT VERSION)
PTEND= +162. ;END OF PROGRAM TABLE - NON MEM MGMNT VERSION
;(PTEND= +212. ;END OF PROGRAM TABLE - MEM MGMNT VERSION)
    
```

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1223      :      DEVICE ROUTINE TABLE
1224
1225      000116      DRTLTH= 78.      ;DEVICE ROUTINE TABLE LENGTH
1226      :
1227      000000      DEVRSZ= +0.      ;DEVICE ROUTINE SIZE IN BYTES - 1 WORD
1228      :
1229      000002      DEVFWD= +2.      ;DEVICE ROUTINE FLAGWORD - 1 WORD
1230      :
1231      000004      DEVIW1= +4.      ;DEVICE INTERFACE WORD # 1 - 1 WORD
1232      :
1233      000006      DEVIW2= +6.      ;DEVICE INTERFACE WORD # 2 - 1 WORD
1234      :
1235      000010      DEVIW3= +8.      ;DEVICE INTERFACE WORD # 3 - 1 WORD
1236      :
1237      000012      DEVIW4= +10.     ;DEVICE INTERFACE WORD # 4 - 1 WORD
1238      :
1239      000014      DEVIW5= +12.     ;DEVICE INTERFACE WORD # 5 - 1 WORD
1240      :
1241      000016      DEVIW6= +14.     ;DEVICE INTERFACE WORD # 6 - 1 WORD
1242      :
1243      000020      DEVIW7= +16.     ;DEVICE INTERFACE WORD # 7 - 1 WORD (SIZE)
1244      :
1245      000022      DEVIW8= +18.     ;DEVICE INTERFACE WORD # 8 - 1 WORD (ERR)
1246      :
1247      000024      DEVDR= +20.     ;DEVICE REGISTERS ADDRESS - 1 WORD
1248      :
1249      000026      DEVIVA= +22.     ;DEVICE INTERRUPT VECTOR ADDRESS - 1 WORD
1250      :
1251      000030      DEVRPS= +24.     ;DEVICE READ PROCESSOR STATUS WORD (BUS REQ) - 1 WORD
1252      :
1253      000032      DEVWPS= +26.     ;DEVICE WRITE PROC STATUS WORD (BUS REQ) - 1 WORD
1254      :
1255      000034      DHKPAD= +28.     ;DEVICE ROUT HOUSEKEEPING ROUT REL ENTRY ADR - 1 WORD
1256      :
1257      000036      DERPAD= +30.     ;DEVICE ROUT REPORT ROUT REL ENTRY ADR - 1 WORD
1258      :
1259      000040      DKILAD= +32.     ;DEVICE ROUT KILL ROUTINE REL ENTRY ADR - 1 WORD
1260      :
1261      000042      DECTAD= +34.     ;DEVICE ROUT ERROR COUNTER REL ADR - 1 WORD
1262      :
1263      000044      DTOEAD= +36.     ;DEVICE ROUT TIMEOUT ERR ROUT REL ENTRY ADR - 1 WORD
1264      :
1265      000046      DEVI0B= +38.     ;DEVICE I/O BUSY BRANCH ADDRESS (CIOBSY) - 1 WORD
1266      :
1267      000050      DEVDER= +40.     ;DEVICE ERROR BRANCH ADDRESS (CUPGER) - 1 WORD
1268      :
1269      000052      DVUPRT= +42.     ;USER MODE PRINT BRANCH ADDRESS (ULIST) - 1 WORD
1270      :
1271      000054      DVCPR= +44.     ;CMND MODE PRINT BRANCH ADDRESS (CLIST) - 1 WORD
1272      :
1273      000056      DEVBTA= +46.     ;CONVERT BINARY TO ASCII BR ADR (BINASC) - 1 WORD
1274      :
1275      000060      DVBTDA= +48.     ;CONVERT BINARY TO DECIMAL ASCII BR ADR (BTASLZ) - 1 WORD
1276
1277

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1278	000062	DVPDTA= +50.	; CONVERT PACKED DECIMAL TO ASCII BR ADR (DECASC) - 1 WORD
1279			
1280	000064	DVSFW= +52.	; MPG SYSTEM FLAGWORD ADDRESS (CSYSFW) - 1 WORD
1281			
1282	000066	DVSVEC= +54.	; SET INTERRUPT VECTOR BR ADR (SETVEC) - 1 WORD
1283			
1284	000070	DVCVEC= +56.	; CLEAR INTERRUPT VECTOR BR ADR (CLRVEC) - 1 WORD
1285			
1286	000072	DVTVEC= +58.	; TEST INTERRUPT VECTOR BR ADR (TSTVEC) - 1 WORD
1287			
1288	000074	DVRINT= +60.	; RETURN FROM INTERRUPT BR ADR (RTNINT) - 1 WORD
1289			
1290	000076	DVGETB= +62.	; GET DATA BYTE BR ADR (GETBYT) - 1 WORD
1291			
1292	000100	DVPUTB= +64.	; PUT DATA BYTE BR ADR (PUTBYT) - 1 WORD
1293			
1294	000102	DEVSTP= +66.	; DEVICE ROUT REL SYMBOL TABLE POINTER - 1 WORD
1295			
1296	000104	DEVETP= +68.	; DEVICE ROUT REL ENTRY TABLE POINTER - 1 WORD
1297			
1298	000106	DVPTEP= +70.	; PACK TABLE EXTEN. REL POINTER - 1 WORD
1299			
1300	000110	DVVTEP= +72.	; VECTOR TABLE EXTEN. REL POINTER - 1 WORD
1301			
1302	000112	DVCTEP= +74.	; COMPILER TBL EXTEN. REL POINTER - 1 WORD
1303			
1304	000114	DVIWSP= +76.	; DEVICE INTERFACE WORD SYMBOL TBL REL POINTER - 1 WORD
1305			
1306	000116	DRTEND= +78.	; END OF DEVICE ROUTINE TABLE
1307			
1308			
1309			
1310	000001	.END	

E03

MAINDEC-11-DTJJA-B
DTDJAB.P11

DJ11 DEVICE ROUTINE FOR MPG
SYMBOL TABLE

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SEQ 0030

ABBREV	003606R	002	DEVORA=	000024	DVRGDT	005024R	002	LNUM	002706R	002	PTM2 =	000062	
ACTIVE=	100000		DEVETP=	000104	DVRGMG	005016R	002	LNWAIT	000432R	002	PTM3 =	000064	
ADDR	002334R	002	DEVFMD=	000002	DVRINT=	000074		LOADRC	001154R	002	PTM4 =	000066	
ATMSG	004725R	002	DEVI08=	000046	DVSFMD=	000064		LOADTC	001532R	002	PTM5 =	000070	
AURPEP=	000010		DEVIVA=	000026	DVSVEC=	000066		LOCZ	000000R	002	PTM6 =	000072	
AUTORP=	000020		DEVIW1=	000004	DVTVEC=	000072		LSTATS	000432R	002	PTM7 =	000074	
BCMRD	005046R	002	DEVIW2=	000006	DVUPRT=	000052		LWAIT	000432R	002	PTM8 =	000076	
BCMR	005070R	002	DEVIW3=	000010	DVVTEP=	000110		MISCNT	000476R	002	PTM9 =	000100	
BCR	000442R	002	DEVIW4=	000012	EMSGBF	004100R	002	MMVER =	000001		PTEND =	000242	
BINASC	000056R	002	DEVIW5=	000014	EMSGHD	004064R	002	NOCOMP=	000001		PTLGTH=	000242	
BIT11	004000		DEVIW6=	000016	ERCDTA	005354R	002	NOFERR	003054R	002	PTCNT=	000030	
BIT12	010000		DEVIW7=	000020	ERCDTP	004036R	002	NOERR	003074R	002	PTSIZE=	000240	
BIT6	000100		DEVIW8=	000022	ERCFRM	005306R	002	NOERR	003034R	002	PUSRPC=	000236	
BKCNT	000474R	002	DEVPS=	000030	ERCOVR	005266R	002	NOWAIT	002134R	002	PUTBYT	000100R	002
BREAK	001272R	002	DEVRSZ=	000000	ERCPAR	005325R	002	OCPRES=	000100		PMR10A=	000020	
BRFLG	000010		DEVSTP=	000102	ERDIRG	003746R	002	OVRUN	000504R	002	PSCONS=	120000	
BTASLZ	000060R	002	DEVVPS=	000032	ERMBCI	003744R	002	PARERR	000510R	002	RBUF	000436R	002
BYRD	000460R	002	DHKPAD=	000034	ERR	000022R	002	PASCIN=	000006		RBSRG	000030R	002
BYTES	002336R	002	DISCNT	003476R	ERRDIS	003654R	002	PC	=%000007		RCR	000234R	002
BYR	000464R	002	DISPST	004426R	ERREXT	002122R	002	PCURDV=	000035		RCVTBL	002346R	002
CALDNL	001126R	002	DISUIV	004374R	ERRFLG	002344R	002	PDNUMS=	000036		RDSY =	020000	
CI08SY	000046R	002	DISUM	004422R	ERRMSG	005243R	002	PDPNTR=	000034		RDCNT	000470R	002
CLIST	000054R	002	DISUNM	004336R	ERRRPT	003644R	002	PDST =	000122		RDINMS	005220R	002
CLBRK	001414R	002	DISUPR	004414R	ERRSNM	003754R	002	PFB0V=	000002		RDINT	002710R	002
CLBSY	002214R	002	DKILAD=	000040	ERTST	002060R	002	PFLGMD=	000000		RDINCL	001070R	002
CLRSCN	002606R	002	DOERCK=	000400	ERTSTOP=	000004		PFWADR=	000004		RDINST	001074R	002
CLRVCT=	000002		DOIOT =	000040	ERTBEN	003736R	002	PLNGTH=	000026		RDINWT	001252R	002
CLRVEC	000070R	002	DRCVTL	001214R	FDUPLX	002162R	002	PMDLCD=	000032		READ	000730R	002
CLMVCT=	000004		DREGAD	000024R	FLAG	000516R	002	PNAME =	000010		RELEAS	002126R	002
CMDCBK	005152R	002	DRTEND=	000116	FLAGMD	000002R	002	PNR =	000116		RENDMG	004753R	002
CMDCMS	005167R	002	DRTLTH=	000116	FRAMER	000506R	002	PNUMSG	004720R	002	REPORT	003344R	002
CMDCRD	005123R	002	DRWAIT=	100000	FRCVTL	001172R	002	POBJST=	000024		REPTBL	003610R	002
CMDCMR	005136R	002	DSNDTL	001630R	FSNDTB	001574R	002	POPSW =	000002		RERVEC	003232R	002
CNTSEN=	005362R	002	DTOEAD=	000044	FSNDTL	001606R	002	PRD10A=	000016		RESREG	004202R	002
CNTSMG	005032R	002	DVBTD=	000060	GETBYT	000076R	002	PRINT	004516R	002	RETURN	001756R	002
COMBER	003222R	002	DVCMD5	000154R	GTNXTD=	001000		PROGNM	004722R	002	RICNT	000500R	002
CRESET	002200R	002	DVCPRT=	000054	GTPTBS	001036R	002	PRONER=	020000		RPTBAS	003542R	002
CRLF	005104R	002	DVCPTE	000352R	GVECAD	002670R	002	PRTEX	004630R	002	RPTEND	003566R	002
CSR	000434R	002	DVCTEP=	000112	H0UPLX	002144R	002	PS =	177776		RPTLP	003524R	002
CSTAT	000446R	002	DVCVEC=	000070	HSKEEP	003310R	002	PSRC =	000120		RRINTV	003244R	002
CSYSFW	000064R	002	DVGETB=	000076	HSKPEN=	000520R	002	PSSAVE	002332R	002	RTERM	003116R	002
CTPRIO=	000020		DVIWSP=	000114	HSKPEP=	000004		PSTKCT=	000124		RTNINT	000074R	002
CUPGER	000050R	002	DVIWST	000430R	HSKPST=	000434R	002	PSTKSV=	000126		RTRMLP	003142R	002
CURMSG	004741R	002	DVMVTE	000316R	INCMRC	001704R	002	PSVREG=	000222		RWINTV	003262R	002
CWRINT	000674R	002	DVNMLP	001504R	INTEXT	002676R	002	PTM0 =	000056		R0	=%000000	
CYCDVL=	002000		DVPTA=	000062	ISTAT =	000434R	002	PTM1 =	000060		R1	=%000001	
CYCPRG=	040000		DVPKTE	000226R	IVCTAD	000026R	002	PTM10=	000102		R2	=%000002	
DATAER	000512R	002	DVPTEP=	000106	KILL	000632R	002	PTM11=	000104		R3	=%000003	
DECASC	000062R	002	DVPUTB=	000100	KILLEX	000722R	002	PTM12=	000106		R4	=%000004	
DECTAD=	000042		DVREGE=	000154R	LCOUNT	000432R	002	PTM13=	000110		R5	=%000005	
DERPAD=	000036		DVREG5	000116R	LCRST	000432R	002	PTM14=	000112		S4VREG	004166R	002
DEVBTA=	000056		DVREND=	005362R	LFDPLX	000432R	002	PTM15=	000114		SETBSY	001342R	002
DEVDER=	000050		DVREX	003576R	LH0PLX	000432R	002				SETDED=	000040	

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SETRSE	001232R	002	STMNUM	004160R	002	TOEMSG	000606R	002	UNITMG	004770R	002	WRITE	001262R	002
SETSCN	001710R	002	STONER=	100000		TOUTER	000520R	002	UNITMH	003306R	002	WRMNCI	001446R	002
SETTSE	001640R	002	STOPRD	003170R	002	TOUTEX	000600R	002	URSTOP=	000002		WRMNST	001452R	002
SETVEC	000066R	002	STOPWR	002636R	002	TRMTST	002000R	002	USEUBM=	000200		WTERM	002556R	002
SIZE	000020R	002	STRSCN	003154R	002	TRVECT	004632R	002	USMTPS=	000002		WTRMLP	002574R	002
SNDTBL	002232R	002	STSTAT	004240R	002	TRVEXT	004660R	002	WAIT	001760R	002	WT4IOT=	000010	
SP	=%000006		SUPTAD	004220R	002	TSTIEB	001772R	002	WBUSRQ	000032R	002	XMIT	001300R	002
SPOPER=	000200		TBUF	000444R	002	TSTVEC	000072R	002	WICNT	000502R	002	XXXX	= 000000	
SRDBSY	000772R	002	TCR	000440R	002	TWVECT	004662R	002	WRBSY =	040000		.	= 005362R	002
. ABS.	000000	000												
	000000	001												
DJ11	005362	002												

ERRORS DETECTED: 0
 DEFAULT GLOBALS GENERATED: 0

#, DTDJAB/NL: TOC/DOC=DTDJAB.P11
 RUN-TIME: 3 8 1 SECONDS
 RUN-TIME RATIO: 32/13=2.4
 CORE USED: 5K (9 PAGES)

DOCUMENT PAGES: 31

