

# MPG

MINIMUM SUPPORT (MPG)  
MD-11-DTMSA-A

EP-DTMSA-A-DL-A  
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FICHE 1 OF 1

NOV 1976  
**digital**  
MADE IN U.S.A.

The microfiche strip contains approximately 15 frames. Each frame displays a different view of data, including:

- Tables with multiple columns and rows of text.
- Bar charts with vertical bars of varying heights.
- Line graphs with plotted data points.
- Summary statistics or key figures.

The text and graphics are small and difficult to read due to the high resolution of the microfiche format.







CO1

MAINDEC-11-DTMSA-A MINIMUM SUPPORT DEVICE ROUTINES FOR MPG  
DTMSAA.P11 REVISION HISTORY

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SEQ 0002

11004

.SBTTL REVISION HISTORY

: APR 76 DTMSA-A INITIAL RELEASE







# E01

MAINDEC-11-DTMSA-A MINIMUM SUPPORT DEVICE ROUTINES FOR MPG  
DTMSAA.P11 DEVICE ROUTINE TABLE

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SEQ 0004

105 000106' 000000  
106 000110' 000000  
107 000112' 000000  
108 000114' 000000  
109 000116' 000062

.WORD 0  
.WORD 0  
.WORD 0  
.WORD 0  
DVREGS: .BLKW 50.

:ADR OF PACK TBL EXTENSION  
:ADR OF MODEL VECTOR TBL EXTEN.  
:ADR OF COMPILER TBL EXTEN.  
:ADR OF DEV INTERFACE WD SYM TBL  
:TABLE MOVED IN HERE!



.SBTTL TAILOR DEVICE ROUTINE TO SPECIFIC DEVICE

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132 000262' 010701
133 000264' 062701 000210
134 000270' 010702
135 000272' 062702 001276
136 000276' 016300 000032
137 000302' 042700 000006
138 000306' 005721
139 000310' 001404
140 000312' 026100 177776
141 000316' 001405
142 000320' 000772
143 000322' 061101
144 000324' 020102
145 000326' 001367
146 000330' 000455
147 000332' 005721
148 000334' 001376
149 000336' 012100
150 000340' 012167 177460
151 000344' 012167 177456
152 000350' 012167 177454
153 000354' 012167 177452
154 000360' 012167 177434
155 000364' 162700 000014
156 000370' 010702
157 000372' 062702 177524
158 000376' 012122
159 000400' 162700 000002
160 000404' 001374
161 000406' 010201
162 000410' 012722 177777
163 000414' 010700
164 000416' 062700 177362
165 000422' 160002
166 000424' 010220

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;THIS ROUTINE IS ENTERED FROM MPG'S "LOAD DEVICE ROUTINE" S/R
;AND WILL TAILOR THE DEVICE ROUTINE TABLE TO THE APPLICABLE
;INFORMATION FOR THE DEVICE SPECIFIED IN THE MODEL CODE WORD
;IN THE PROGRAM TABLE. IT WILL ALSO RELOCATE TO THE END OF
;THE DEVICE ROUTINE TABLE, ALL SYMBOLIC NAMES SUPPORTED
;FOR THE DEVICE'S REGISTERS. BEFORE RETURNING TO MPG, THE
;STORAGE AREA FOR THE SIZE OF THE DEVICE ROUTINE WILL BE
;ADJUSTED TO INCLUDE ONLY THE INFORMATION PERTINENT TO THIS
;DEVICE. THIS RESULTS IN DESTROYING THE FOLLOWING CODE AND
;INFORMATION FOR OTHER DEVICES. THESE AREAS ARE THEN USABLE
;FOR OTHER FUNCTIONS SUCH AS SOURCE AND OBJECT CODE.

;JSR R5, SETUP ;ROUTINE CALL

;R3 = PROG TBL ADR

;DESTROYS R0,R1,R2

SETUP: MOV PC,R1 ;BEGINNING OF TABLES
ADD #TBLBGN-.,R1 ;TO R1
MOV PC,R2 ;END OF TABLES
ADD #TBLEND-.,R2 ;TO R2
MOV PMDLC(D(R3),R0 ;GET DEVICE'S MDL CODE
BIC #6,R0 ;RESET SAVE/FETCH BITS
10$: TST (R1)+ ;END OF MDL CODES FOR THIS DEV?
BEQ 20$ ;BR IF YES
CMP -2(R1),R0 ;FOUND MODEL MATCH?
BEQ RELOC ;YES-FILL IN DUMMY TBL
BR 10$ ;GO CK FOR NXT CODE
20$: ADD (R1),R1 ;POINT R1 AT NEXT TBL
CMP R1,R2 ;ANY MORE?
BNE 10$ ;YES MORE-KEEP LOOKING
BR DUMSET ;NO MORE-GEN DUMMY
RELOC: TST (R1)+ ;BYPASS ANY MORE MDL CODES
BNE RELOC
MOV (R1)+,R0 ;TBL LNTH TO R0
MOV (R1)+,DREGADR ;UPDATE DEV REG ADDR
MOV (R1)+,IVCTADR ;INTERRUPT VECTOR ADDR
MOV (R1)+,RBSRQR ;READ BUS PRIORITY AND
MOV (R1)+,WBSRQR ;WRITE BUS PRIORITY
MOV (R1)+,SIZE ;STORE UNIBUS MAP USAGE FLAG
SUB #12,R0 ;R0 HAS REMAINING LENGTH
MOV PC,R2 ;POINT R2
ADD #DVREGS-.,R2 ;AT DEV REG NAME TBL
40$: MOV (R1)+,(R2)+ ;FILL IN TABLE
SUB #2,R0
BNE 40$
TBLSET: MOV R2,R1 ;SAVE END POINTER
MOV #177777,(R2)+ ;STORE ALL ONES
MOV PC,R0 ;FIND LOCZ
ADD #LOCZ-.,R0 ;STORE DVREND-.
SUB R0,R2 ;AT LOCZ
MOV R2,(R0)+

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167	000426'	005010		CLR	(R0)	: CLEAR FLAGWORD
168	000430'	010700		MOV	PC,R0	: POINT R0
169	000432'	062700	177462	ADD	#DVREGS-2-.,R0	: AT INTERFACE ADR ENTRY
170	000436'	160001		SUB	R0,R1	: CALC DUMMY INTERFACE TBL ADR
171	000440'	010110		MOV	R1,(R0)	: INSERT
172	000442'	005721		TST	(R1)+	: CALC DUMMY COMPILE TBL ADR
173	000444'	010140		MOV	R1-(R0)	: INSERT
174	000446'	005721		TST	(R1)+	: CALC DUMMY VECTOR TBL ADR
175	000450'	010140		MOV	R1-(R0)	: INSERT
176	000452'	005721		TST	(R1)+	
177	000454'	010140		MOV	R1-(R0)	: INSERT
178	000456'	005721		TST	(R1)+	: CALC DUMMY FUNCT TBL ADR
179	000460'	010140		MOV	R1-(R0)	: INSERT
180	000462'	000205		RTS	R5	: RETURN TO MPG
181						
182	000464'	010702		DUMSET: MOV	PC,R2	: THIS PATH SHOULD
183	000466'	062702	177430	ADD	#DVREGS-.,R2	: NEVER BE TRAVELED,
184	000472'	000745		BR	TBLSET	: BUT WERE READY ANYWAY.



.SBTTL CD11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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186
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191      000474'
192
193 000474' 021000
194 000476' 000000
195 000500' 000044
196 000502' 172460
197 000504' 000230
198 000506' 000200
199 000510' 000000
200 000512' 000001
201 000514' 042103 052123
202 000520' 000000
203 000522' 042103 041503
204 000526' 000002
205 000530' 042103 040502
206 000534' 000004
207 000536' 042103 041104
208 000542' 000006
209      000544'

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TBLBGN= .
CDBGN: .WORD 21000
        .WORD 0
        .WORD CDEND-
        .WORD 172460
        .WORD 230
        .WORD 200
        .WORD 0
        .WORD 1
        .ASCII /CDST/
        .WORD 0
        .ASCII /CDCC/
        .WORD 2
        .ASCII /CDBA/
        .WORD 4
        .ASCII /CDDB/
        .WORD 6
CDEND= .

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;CD11 MODEL CODE
;FIRST DEVICE REGISTER ADR
;INTERRUPT VECTOR ADR
;INT PROC STATUS WORD (BR 4)
;INT PROC STATUS WORD
;UNIBUS MAP USAGE FLAG
;VALID DEVICE REGISTER NAMES &
;THEIR POSITIONS RELATIVE TO
;THE DEVICE REGISTERS BASE ADDRESS.

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# I01

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211 .SBTTL CR11/CM11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION
212
213
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216 000544' 020000 CRBGN: .WORD 20000 ;CR11 MODEL CODE
217 000546' 020020 .WORD 20020 ;CM11 MODEL CODE
218 000550' 000000 .WORD 0
219 000552' 000036 .WORD CREND-.
220 000554' 177160 .WORD 177160 ;FIRST DEVICE REGISTER ADR
221 000556' 000230 .WORD 230 ;INTERRUPT VECTOR ADR
222 000560' 000300 .WORD 300 ;INT PROC STATUS WORD (BR 6)
223 000562' 000000 .WORD 0 ;INT PROC STATUS WORD
224 000564' 000000 .WORD 0 ;UNIBUS MAP USAGE FLAG
225 000566' 051103 020123 .ASCII /CRS / ;VALID DEVICE REGISTER NAMES &
226 000572' 000000 .WORD 0 ;THEIR POSITIONS RELATIVE TO
227 000574' 051103 030502 .ASCII /CRB1/ ;THE DEVICE REGISTERS BASE ADDRESS.
228 000600' 000002 .WORD 2
229 000602' 051103 031102 .ASCII /CRB2/
230 000606' 000004 .WORD 4
231 000610' CREND= .
```



.SBTTL DC11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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233
234
235
236
237
238 000610' 017000
239 000612' 000000
240 000614' 000044
241 000616' 174000
242 000620' 000300
243 000622' 000240
244 000624' 000000
245 000626' 000000
246 000630' 041522 051123
247 000634' 000000
248 000636' 041122 043125
249 000642' 000002
250 000644' 051524 051103
251 000650' 000004
252 000652' 041124 043125
253 000656' 000006
254 000660'

```

```

DCBGN: .WORD 17000
        .WORD 0
        .WORD DCEND-
        .WORD 174000
        .WORD 300
        .WORD 240
        .WORD 0
        .WORD 0
        .ASCII /RCSR/
        .WORD 0
        .ASCII /RBUF/
        .WORD 2
        .ASCII /TSCR/
        .WORD 4
        .ASCII /TBUF/
        .WORD 6
DCEND= .

```

```

;DC11 MODEL CODE
;FIRST DEVICE REGISTER ADR
;INTERRUPT VECTOR ADR
;INT PROC STATUS WORD (BR 5)
;INT PROC STATUS WORD
;UNIBUS MAP USAGE FLAG
;VALID DEVICE REGISTER NAMES &
;THEIR POSITIONS RELATIVE TO
;THE DEVICE REGISTERS BASE ADDRESS.

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.SBTTL DN11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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000660' 016000  
000662' 000000  
000664' 000022  
000666' 175200  
000670' 000300  
000672' 000200  
000674' 000000  
000676' 000000  
000700' 041501 020125  
000704' 000000  
000706'

DNBGN: .WORD 16000  
.WORD 0  
.WORD DNEND-  
.WORD 175200  
.WORD 300  
.WORD 200  
.WORD 0  
.WORD 0  
.ASCII /ACU /  
.WORD 0  
DNEND= .

;DN11 MODEL CODE  
;FIRST DEVICE REGISTER ADR  
;INTERRUPT VECTOR ADR  
;INT PROC STATUS WORD (BR 4)  
;INT PROC STATUS WORD  
;UNIBUS MAP USAGE FLAG  
;VALID DEVICE REGISTER NAMES &  
;THEIR POSITIONS RELATIVE TO



.SBTTL KW11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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000706' 022000  
000710' 000000  
000712' 000044  
000714' 172540  
000716' 000104  
000720' 000300  
000722' 000000  
000724' 000000  
000726' 053513 041523  
000732' 000000  
000734' 053513 051102  
000740' 000002  
000742' 053513 051103  
000746' 000004  
000750' 045514 020123  
000754' 005006  
000756'

KWBGN: .WORD 22000  
.WORD 0  
.WORD KWEND-  
.WORD 172540  
.WORD 104  
.WORD 300  
.WORD 0  
.WORD 0  
.ASCII /KWSC/  
.WORD 0  
.ASCII /KWBR/  
.WORD 2  
.ASCII /KWCR/  
.WORD 4  
.ASCII /LKS /  
.WORD 5006  
KWEND= .

;KW11 MODEL CODE  
;FIRST DEVICE REGISTER ADR  
;INTERRUPT VECTOR ADR  
;INT PROC STATUS WORD (BR 6)  
;INT PROC STATUS WORD  
;UNIBUS MAP USAGE FLAG  
;VALID DEVICE REGISTER NAMES &  
;THEIR POSITIONS RELATIVE TO  
;THE DEVICE REGISTERS BASE ADDRESS.



296 .SBTTL RC11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION  
297  
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301 000756' 014000  
302 000760' 000000  
303 000762' 000074  
304 000764' 177440  
305 000766' 000210  
306 000770' 000240  
307 000772' 000000  
308 000774' 000001  
309 000776' 041522 040514  
310 001002' 000000  
311 001004' 041522 040504  
312 001010' 000002  
313 001012' 041522 051105  
314 001016' 000004  
315 001020' 041522 051503  
316 001024' 000006  
317 001026' 041522 041527  
318 001032' 000010  
319 001034' 041522 040503  
320 001040' 000012  
321 001042' 041522 047115  
322 001046' 000014  
323 001050' 041522 041104  
324 001054' 000016  
325 001056'

RCBGN: .WORD 14000  
.WORD 0  
.WORD RCEND-  
.WORD 177440  
.WORD 210  
.WORD 240  
.WORD 0  
.WORD 1  
.ASCII /RCLA/  
.WORD 0  
.ASCII /RCDA/  
.WORD 2  
.ASCII /RCER/  
.WORD 4  
.ASCII /RCCS/  
.WORD 6  
.ASCII /RCWC/  
.WORD 10  
.ASCII /RCCA/  
.WORD 12  
.ASCII /RCMN/  
.WORD 14  
.ASCII /RCDB/  
.WORD 16  
RCEND= .

;RC11 MODEL CODE  
  
;FIRST DEVICE REGISTER ADR  
;INTERRUPT VECTOR ADR  
;INT PROC STATUS WORD (BR 5)  
;INT PROC STATUS WORD  
;UNIBUS MAP USAGE FLAG  
;VALID DEVICE REGISTER NAMES &  
;THEIR POSITIONS RELATIVE TO  
;THE DEVICE REGISTERS BASE ADDRESS.



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327
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332 001056' 013000
333 001060' 000000
334 001062' 000074
335 001064' 177460
336 001066' 000204
337 001070' 000240
338 001072' 000000
339 001074' 000001
340 001076' 041504 020123
341 001102' 000000
342 001104' 041527 020040
343 001110' 000002
344 001112' 046503 020101
345 001116' 000004
346 001120' 040504 020122
347 001124' 000006
348 001126' 040504 020105
349 001132' 000010
350 001134' 041104 020122
351 001140' 000012
352 001142' 040515 020040
353 001146' 000014
354 001150' 042101 020123
355 001154' 000016
356 001156'

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.SBTTL RF11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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RFBGN: .WORD 13000
        .WORD 0
        .WORD RFEND-.
        .WORD 177460
        .WORD 204
        .WORD 240
        .WORD 0
        .WORD 1
        .ASCII /DCS /
        .WORD 0
        .ASCII /WC /
        .WORD 2
        .ASCII /CMA /
        .WORD 4
        .ASCII /DAR /
        .WORD 6
        .ASCII /DAE /
        .WORD 10
        .ASCII /DBR /
        .WORD 12
        .ASCII /MA /
        .WORD 14
        .ASCII /ADS /
        .WORD 16

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;RF11 MODEL CODE
;FIRST DEVICE REGISTER ADR
;INTERRUPT VECTOR ADR
;INT PROC STATUS WORD (BR 5)
;INT PROC STATUS WORD
;UNIBUS MAP USAGE FLAG
;VALID DEVICE REGISTER NAMES &
;THEIR POSITIONS RELATIVE TO
;THE DEVICE REGISTERS BASE ADDRESS.

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RFEND= .



.SBTTL RP11 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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358
359
360
361
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363 001156' 015000
364 001160' 000000
365 001162' 000124
366 001164' 176710
367 001166' 000254
368 001170' 000240
369 001172' 000000
370 001174' 000001
371 001176' 050122 051504
372 001202' 000000
373 001204' 050122 051105
374 001210' 000002
375 001212' 050122 051503
376 001216' 000004
377 001220' 050122 041527
378 001224' 000006
379 001226' 050122 040502
380 001232' 000010
381 001234' 050122 040503
382 001240' 000012
383 001242' 050122 040504
384 001246' 000014
385 001250' 050122 030515
386 001254' 000016
387 001256' 050122 031115
388 001262' 000020
389 001264' 050122 031515
390 001270' 000022
391 001272' 052523 040503
392 001276' 000024
393 001300' 044523 047514
394 001304' 000026
395 001306'

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RPBGN: .WORD 15000
        .WORD 0
        .WORD RPEND-
        .WORD 176710
        .WORD 254
        .WORD 240
        .WORD 0
        .WORD 1
        .ASCII /RPDS/
        .WORD 0
        .ASCII /RPER/
        .WORD 2
        .ASCII /RPCS/
        .WORD 4
        .ASCII /RPWC/
        .WORD 6
        .ASCII /RPBA/
        .WORD 10
        .ASCII /RPCA/
        .WORD 12
        .ASCII /RPDA/
        .WORD 14
        .ASCII /RPM1/
        .WORD 16
        .ASCII /RPM2/
        .WORD 20
        .ASCII /RPM3/
        .WORD 22
        .ASCII /SUCA/
        .WORD 24
        .ASCII /SILO/
        .WORD 26
RPEND= .

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;RP11 MODEL CODE
;FIRST DEVICE REGISTER ADR
;INTERRUPT VECTOR ADR
;INT PROC STATUS WORD (BR 5)
;INT PROC STATUS WORD
;UNIBUS MAP USAGE FLAG
;VALID DEVICE REGISTER NAMES &
;THEIR POSITIONS RELATIVE TO
;THE DEVICE REGISTERS BASE ADDRESS.

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.SBTTL RX11/RX01 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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001306' 024000  
001310' 024020  
001312' 000000  
001314' 000052  
001316' 177170  
001320' 000264  
001322' 000240  
001324' 000000  
001326' 000000  
001330' 054122 051503  
001334' 000000  
001336' 054122 041104  
001342' 000002  
001344' 054122 040524  
001350' 000002  
001352' 054122 040523  
001356' 000002  
001360' 054122 051505  
001364' 000002  
001366'

RXBGN: .WORD 24000  
.WORD 24020  
.WORD 0  
.WORD RXEND-  
.WORD 177170  
.WORD 264  
.WORD 240  
.WORD 0  
.WORD 0  
.ASCII /RXCS/  
.WORD 0  
.ASCII /RXDB/  
.WORD 2  
.ASCII /RXTA/  
.WORD 2  
.ASCII /RXSA/  
.WORD 2  
.ASCII /RXES/  
.WORD 2  
RXEND= .

:RX11 MODEL CODE  
:RX01 MODEL CODE  
  
:FIRST DEVICE REGISTER ADR  
:INTERRUPT VECTOR ADR  
:INT PROC STATUS WORD (BR 5)  
:INT PROC STATUS WORD  
:UNIBUS MAP USAGE FLAG  
:VALID DEVICE REGISTER NAMES &  
:THEIR POSITIONS RELATIVE TO  
:THE DEVICE REGISTERS BASE ADDRESS



.SBTTL TAIL MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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001366' 012000  
001370' 000000  
001372' 000030  
001374' 177500  
001376' 000260  
001400' 000300  
001402' 000000  
001404' 000000  
001406' 040524 051503  
001412' 000000  
001414' 040524 041104  
001420' 000002  
001422'

TABGN: .WORD 12000  
.WORD 0  
.WORD TAEND-  
.WORD 177500  
.WORD 260  
.WORD 300  
.WORD 0  
.WORD 0  
.ASCII /TACS/  
.WORD 0  
.ASCII /TADB/  
.WORD 2  
TAEND= .

;TAIL MODEL CODE  
  
;FIRST DEVICE REGISTER ADR  
;INTERRUPT VECTOR ADR  
;INT PROC STATUS WORD (BR 5)  
;INT PROC STATUS WORD  
;UNIBUS MAP USAGE FLAG  
;VALID DEVICE REGISTER NAMES &  
;THEIR POSITIONS RELATIVE TO  
;THE DEVICE REGISTERS BASE ADDRESS.



.SBTTL TMO2/TU16 MINIMUM SUPPORT DEVICE ROUTINE INFORMATION

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001422' 023000  
001424' 023020  
001426' 000000  
001430' 000140  
001432' 172440  
001434' 000224  
001436' 000240  
001440' 000000  
001442' 000000  
001444' 052115 030503  
001450' 000000  
001452' 052115 041527  
001456' 000002  
001460' 052115 040502  
001464' 000004  
001466' 052115 041506  
001472' 000006  
001474' 052115 031103  
001500' 000010  
001502' 052115 051504  
001506' 000012  
001510' 052115 051105  
001514' 000014  
001516' 052115 051501  
001522' 000016  
001524' 052115 041503  
001530' 000020  
001532' 052115 041104  
001536' 000022  
001540' 052115 051115  
001544' 000024  
001546' 052115 052104  
001552' 000026  
001554' 052115 047123  
001560' 000030  
001562' 052115 041524  
001566' 000032  
001570'

TMBGN: .WORD 23000  
.WORD 23020  
.WORD 0  
.WORD TMEND-  
.WORD 172440  
.WORD 224  
.WORD 240  
.WORD 0  
.WORD 0  
.ASCII /MTC1/  
.WORD 0  
.ASCII /MTWC/  
.WORD 2  
.ASCII /MTBA/  
.WORD 4  
.ASCII /MTFC/  
.WORD 6  
.ASCII /MTC2/  
.WORD 10  
.ASCII /MTDS/  
.WORD 12  
.ASCII /MTER/  
.WORD 14  
.ASCII /MTAS/  
.WORD 16  
.ASCII /MTCC/  
.WORD 20  
.ASCII /MTDB/  
.WORD 22  
.ASCII /MTMR/  
.WORD 24  
.ASCII /MTDT/  
.WORD 26  
.ASCII /MTSN/  
.WORD 30  
.ASCII /MTTC/  
.WORD 32

TMEND= .  
TBLEND= .

;TMO2 MODEL CODE  
;TU16 MODEL CODE  
  
;FIRST DEVICE REGISTER ADR  
;INTERRUPT VECTOR ADR  
;INT PROC STATUS WORD (BR 5)  
;INT PROC STATUS WORD  
;UNIBUS MAP USAGE FLAG  
;VALID DEVICE REGISTER NAMES &  
;THEIR POSITIONS RELATIVE TO  
;THE DEVICE REGISTERS BASE ADDRESS



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489          .SBTTL FORMATS FOR PROGRAM & DEVICE ROUTINE TABLES
490
491          ; PROGRAM TABLE FORMAT
492
493          000242 PTLGTH= 162. ;PROGRAM TABLE LENGTH - NON MEM MGMNT VERSION OF MPG
494
495          ;(PTLGTH= 212. ;PROGRAM TABLE LENGTH - MEM MGMNT VERSION OF MPG)
496
497          000000 PFLGWD= +0. ;PROGRAM FLAG WORD - 1 WORD
498
499          000002 URSTOP= 2 ; 1 = USER HAS STOPPED THIS PROGRAM
500          000004 ERSTOP= 4 ; 1 = AN ERROR HAS STOPPED THIS PROGRAM
501          000010 WT4IOT= 10 ; 1 = WAITING FOR I/O TERMINATION
502          000020 CTPRIO= 20 ; 1 = CONSOLE OR PRINTER I/O IN PROGRESS
503          000040 SETDED= 40 ; 1 = THIS PROG SET THE PRT DEV DEDICATED FLAG
504          000100 OCPRES= 100 ; 1 = OBJ CODE IS PRESENT
505          000200 USEUBM= 200 ; 1 = THIS PROG USES THE UNIBUS MAP (MEM MGMNT ONLY)
506          100000 ACTIVE= 100000 ; 1 = PROGRAM IS ACTIVE (SPECIFIED FOR EXECUTION)
507
508          000002 POPSW= +2. ;PROGRAM'S OPERATION SWITCHES - 1 WORD
509
510          100000 STONER= 100000 ; 1 = STOP PROG EXECUTION UPON ERROR
511          040000 CYCPRG= 40000 ; 1 = CYCLE PROGRAM (ON CURRENT DEVICE)
512          020000 PRONER= 20000 ; 1 = DO NOT PRINT ON ERROR
513          010000 BIT12= 10000 ; 0 = NOT USED
514          004000 BIT11= 4000 ; 0 = NOT USED
515          002000 CYCDVL= 2000 ; 1 = CYCLE THE DEVICE LIST
516          001000 GTNXTD= 1000 ; 1 = CYCLE ON SAME DEVICE UPON ERROR
517          000400 DOERCK= 400 ; 1 = DON'T DO ERROR CHECKING
518          000200 SPOPER= 200 ; 1 = DEVICE SPECIAL OPERATION
519          000100 BIT6= 100 ; 0 = NOT USED
520          000040 DOIOT= 40 ; 1 = DO NOT PERFORM I/O TIMEOUT
521          000020 AUTORP= 20 ; 1 = DO NOT AUTOMATICALLY DISPLAY COUNTS
522          000010 AURPEP= 10 ; 1 = AUTO DISPLAY COUNTS AT END OF FINAL PASS ONLY
523          000004 HSKPEP= 4 ; 1 = HOUSEKEEP COUNTS ONLY AT RUN COMMAND
524          000002 PFBBOV= 2 ; 1 = PRINT FIRST BAD BYTE ONLY ON VERIFY
525          000001 NOCCMP= 1 ; 1 = DO NOT PRINT PROG COMPLETED MSG
526
527          000004 PFWADR= +4. ;*;PROGRAM FLAGWORD ADDRESS - 1 WORD
528
529          000006 PASCIN= +6. ;PROGRAM'S NUMBER IN ASCII - 1 WORD
530
531          000010 PNAME= +8. ;PROGRAM'S NAME IN ASCII - 6 BYTES
532
533          000016 PRDIOA= +14. ;ADDRESS OF READ I/O AREA - 1 WORD
534
535          000020 PWRIOA= +16. ;ADDRESS OF WRITE I/O AREA - 1 WORD
536
537          000022 PSRCST= +18. ;SOURCE STATEMENTS START ADDRESS - 1 WORD
538
539          000024 POBJST= +20. ;OBJECT CODE START ADDRESS - 1 WORD
540
541          000026 PLNGTH= +22. ;PROG AREA LENGTH (OBJ END MINUS PROG TBL START) - 1 WORD
542
543          000030 PTOCNT= +24. ;I/O TIMEOUT COUNT - 1 WORD

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545	000032	PMDLCD= +26.	;DEV ROUT MODEL # CODE - 1 WORD
546	000034	PDPNTR= +28.	;CURRENT DEVICE NUMBER POINTER - 1 BYTE
547	000035	PCURDV= +29.	;CURRENT DEVICE # - 1 BYTE
548	000036	PDNUMS= +30.	;DEVICE NUMBERS - 16 BYTES
549	000056	PTEM0= +46.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
550	000060	PTEM1= +48.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
551	000062	PTEM2= +50.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
552	000064	PTEM3= +52.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
553	000066	PTEM4= +54.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
554	000070	PTEM5= +56.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
555	000072	PTEM6= +58.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
556	000074	PTEM7= +60.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
557	000076	PTEM8= +62.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
558	000100	PTEM9= +64.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
559	000102	PTEM10= +66.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
560	000104	PTEM11= +68.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
561	000106	PTEM12= +70.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
562	000110	PTEM13= +72.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
563	000112	PTEM14= +74.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
564	000114	PTEM15= +76.	;USER PROGRAM TEMPORARY STORAGE - 1 WORD
565	000116	PNBR= +78.	;NUMBER OF BYTES TO TRANSFER ON MOVE (NBR) - 1 WORD
566	000120	PSRC= +80.	;DATA SOURCE ADDRESS ON MOVE (SRC) - 1 WORD
567	000122	PDST= +82.	;DATA DESTINATION ADDRESS ON MOVE (DST) - 1 WORD
568	000124	PSTKCT= +84.	;# OF WORDS (X 2) SAVED OFF STACK - 1 WORD
569	000126	PSTKSV= +86.	;STACK WORDS STORAGE AREA - 30 WORDS
570	000222	PSVREG= +146.	;USER'S R0 THRU R5 REGISTERS STORAGE AREA - 6 WORDS
571	000236	PUSRPC= +158.	;USER'S CURRENT PROGRAM COUNTER - 1 WORD



# H02

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600           ;FOLLOWING ENTRIES (PRDIOX THRU PUBMAP) ARE ONLY IN MEM MGMNT VERSION
601
602           ;(PRDIOX= +160. ;18/22 BIT ABSOLUTE ADDRESS OF READ I/O AREA - 2 WORDS)
603
604           ;(PRDIOV= +164. ;18 BIT VIRTUAL ADDRESS OF READ I/O AREA - 2 WORDS)
605
606           ;(PWRIOX= +168. ;18/22 BIT ABSOLUTE ADDRESS OF WRITE I/O AREA - 2 WORDS)
607
608           ;(PWRIOV= +172. ;18 BIT VIRTUAL ADDRESS OF WRITE I/O AREA - 2 WORDS)
609
610           ;(PUPARS= +176. ;STORAGE AREA FOR USER'S PAR'S 0 THRU 7 - 8 WORDS)
611
612           ;(PUPDRS= +192. ;STORAGE AREA FOR USER'S PDR'S 0 THRU 7 - 8 WORDS)
613
614           ;(PUBMAP= +208. ;1ST UNIBUS MAP REG # AND # OF REGS USED - 1 WORD)
615
616           ;END OF MEM MGMNT ONLY ENTRIES
617
618           000240      PTSIZE= +160. ;PROGRAM TABLE SIZE IN BYTES - 1 WORD - NON MEM MGMNT
619
620           ;(PTSIZE= +210. ;PROGRAM TABLE SIZE IN BYTES - 1 WORD - MEM MGMNT VERSION)
621
622           000242      PTEND= +162. ;END OF PROGRAM TABLE - NON MEM MGMNT VERSION
623
624           ;(PTEND= +212. ;END OF PROGRAM TABLE - MEM MGMNT VERSION)

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626           ;      DEVICE ROUTINE TABLE
627
628           DRTLTH= 78.      ;DEVICE ROUTINE TABLE LENGTH
629           000116
630           ;
631           DEVRSZ= +0.      ;DEVICE ROUTINE SIZE IN BYTES - 1 WORD
632           000000
633           DEVFWD= +2.      ;DEVICE ROUTINE FLAGWORD - 1 WORD
634           000002
635           DEVIW1= +4.      ;DEVICE INTERFACE WORD # 1 - 1 WORD
636           000004
637           DEVIW2= +6.      ;DEVICE INTERFACE WORD # 2 - 1 WORD
638           000006
639           DEVIW3= +8.      ;DEVICE INTERFACE WORD # 3 - 1 WORD
640           000010
641           DEVIW4= +10.     ;DEVICE INTERFACE WORD # 4 - 1 WORD
642           000012
643           DEVIW5= +12.     ;DEVICE INTERFACE WORD # 5 - 1 WORD
644           000014
645           DEVIW6= +14.     ;DEVICE INTERFACE WORD # 6 - 1 WORD
646           000016
647           DEVIW7= +16.     ;DEVICE INTERFACE WORD # 7 - 1 WORD (SIZE)
648           000020
649           DEVIW8= +18.     ;DEVICE INTERFACE WORD # 8 - 1 WORD (ERR)
650           000022
651           DEVDRA= +20.     ;DEVICE REGISTERS ADDRESS - 1 WORD
652           000024
653           DEVIVA= +22.     ;DEVICE INTERRUPT VECTOR ADDRESS - 1 WORD
654           000026
655           DEVRPS= +24.     ;DEVICE READ PROCESSOR STATUS WORD (BUS REQ) - 1 WORD
656           000030
657           DE VWPS= +26.     ;DEVICE WRITE PROC STATUS WORD (BUS REQ) - 1 WORD
658           000032
659           DHKPAD= +28.     ;DEVICE ROUT HOUSEKEEPING ROUT REL ENTRY ADR - 1 WORD
660           000034
661           DERPAD= +30.     ;DEVICE ROUT REPORT ROUT REL ENTRY ADR - 1 WORD
662           000036
663           DKILAD= +32.     ;DEVICE ROUT KILL ROUTINE REL ENTRY ADR - 1 WORD
664           000040
665           DECTAD= +34.     ;DEVICE ROUT ERROR COUNTER REL ADR - 1 WORD
666           000042
667           DTOEAD= +36.     ;DEVICE ROUT TIMEOUT ERR ROUT REL ENTRY ADR - 1 WORD
668           000044
669           DEVI0B= +38.     ;DEVICE I/O BUSY BRANCH ADDRESS (CIOBSY) - 1 WORD
670           000046
671           DEVDER= +40.     ;DEVICE ERROR BRANCH ADDRESS (CUPGER) - 1 WORD
672           000050
673           DVUPRT= +42.     ;USER MODE PRINT BRANCH ADDRESS (ULIST) - 1 WORD
674           000052
675           DVCPRN= +44.     ;CMND MODE PRINT BRANCH ADDRESS (CLIST) - 1 WORD
676           000054
677           DEVBTA= +46.     ;CONVERT BINARY TO ASCII BR ADR (BINASC) - 1 WORD
678           000056
679           DVBTDA= +48.     ;CONVERT BINARY TO DECIMAL ASCII BR ADR (BTASLZ) - 1 WORD
680           000060
681

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682	000062	DVPDTA= +50.	;CONVERT PACKED DECIMAL TO ASCII BR ADR (DECASC) - 1 WORD
683			
684	000064	DVSFWD= +52.	;MPG SYSTEM FLAGWORD ADDRESS (CSYSFW) - 1 WORD
685			
686	000066	DVSVEC= +54.	;SET INTERRUPT VECTOR BR ADR (SETVEC) - 1 WORD
687			
688	000070	DVCVEC= +56.	;CLEAR INTERRUPT VECTOR BR ADR (CLRVEC) - 1 WORD
689			
690	000072	DVTVEC= +58.	;TEST INTERRUPT VECTOR BR ADR (TSTVEC) - 1 WORD
691			
692	000074	DVRINT= +60.	;RETURN FROM INTERRUPT BR ADR (RTNINT) - 1 WORD
693			
694	000076	DVGETB= +62.	;GET DATA BYTE BR ADR (GETBYT) - 1 WORD
695			
696	000100	DVPUTB= +64.	;PUT DATA BYTE BR ADR (PUTBYT) - 1 WORD
697			
698	000102	DEVSTP= +66.	;DEVICE ROUT REL SYMBOL TABLE POINTER - 1 WORD
699			
700	000104	DEVETP= +68.	;DEVICE ROUT REL ENTRY TABLE POINTER - 1 WORD
701			
702	000106	DVPTEP= +70.	;PACK TABLE EXTEN. REL POINTER - 1 WORD
703			
704	000110	DVVTEP= +72.	;VECTOR TABLE EXTEN. REL POINTER - 1 WORD
705			
706	000112	DVCTEP= +74.	;COMPILER TBL EXTEN. REL POINTER - 1 WORD
707			
708	000114	DVIWSP= +76.	;DEVICE INTERFACE WORD SYMBOL TBL REL POINTER - 1 WORD
709			
710	000116	DRTEND= +78.	;END OF DEVICE ROUTINE TABLE
711			
712	001570	PRGEND= .	
713			
714	000001	.END	



ACTIVE= 100000	DEVIW3= 000010	DVTVEC= 000072	PSRCST= 000022	RPEND = 001306R
AURPEP= 000010	DEVIW4= 000012	DVUPRT= 000052	PSTKCT= 000124	RTNINT 000074R
AUTORP= 000020	DEVIW5= 000014	DVVTEP= 000110	PSTKSV= 000126	RXBGN 001306R
BINASC 000056R	DEVIW6= 000016	ERR 000022R	PSVREG= 000222	RXEND = 001366R
BIT11 = 004000	DEVIW7= 000020	ERSTOP= 000004	PTEM0 = 000056	R0 = %000000
BIT12 = 010000	DEVIW8= 000022	FLAGWD 000002R	PTEM1 = 000060	R1 = %000001
BIT6 = 000100	DEVVPS= 000030	GETBYT 000076R	PTEM10= 000102	R2 = %000002
BTASLZ 000060R	DEVRSZ= 000000	GTNXTD= 001000	PTEM11= 000104	R3 = %000003
CDBGN 000474R	DEVSTP= 000102	HSKPEP= 000004	PTEM12= 000106	R4 = %000004
CDEND = 000544R	DEVWPS= 000032	IVCTAD 000026R	PTEM13= 000110	R5 = %000005
CIOSY 000046R	DHKPAD= 000034	KWBGN 000706R	PTEM14= 000112	SETDED= 000040
CLIST 000054R	DKILAD= 000040	KWEND = 000756R	PTEM15= 000114	SETUP 000262R
CLRVEC 000070R	DNBGN 000660R	LOCZ 000000R	PTEM2 = 000062	SETVEC 000066R
CRBGN 000544R	DNEND = 000706R	NOCOMP= 000001	PTEM3 = 000064	SIZE 000020R
CREND = 000610R	DOERCK= 000400	OCPRES= 000100	PTEM4 = 000066	SP = %000006
CSYSFW 000064R	DOIOT = 000040	PASCIN= 000006	PTEM5 = 000070	SPOPER= 000200
CTPRIO= 000020	DREGAD 000024R	PC = %000007	PTEM6 = 000072	STONER= 100000
CUPGER 000050R	DRTEND= 000116	PCURDV= 000035	PTEM7 = 000074	TABGN 001366R
CYCDVL= 002000	DRTLTH= 000116	PDNUMS= 000036	PTEM8 = 000076	TAEND = 001422R
CYCPRG= 040000	DTOEAD= 000044	PDPNTR= 000034	PTEM9 = 000100	TBLBGN= 000474R
DCBGN 000610R	DUMSET 000464R	PDST = 000122	PTEND = 000242	TBLEND= 001570R
DCEND = 000660R	DVBTD= 000060	PFB8OV= 000002	PTLGTH= 000242	TBLSET 000406R
DECASC 000062R	DVCPRT= 000054	PFLGWD= 000000	PTCNT= 000030	TMBGN 001422R
DECTAD= 000042	DVCTEP= 000112	PFWADR= 000004	PTSIZE= 000240	TMEND = 001570R
DERPAD= 000036	DVCVEC= 000070	PLNGTH= 000026	PUSRPC= 000236	TSTVEC 000072R
DEVBTA= 000056	DVGETB= 000076	PMDLCD= 000032	PUTBYT 000100R	ULIST 000052R
DEVDER= 000050	DVIWSP= 000114	PNAME = 000010	PWRIOA= 000020	URSTOP= 000002
DEVDR= 000024	DVPDTA= 000062	PNBR = 000116	RBUSRQ 000030R	USEUBM= 000200
DEVETP= 000104	DVPTEP= 000106	POBJST= 000024	RCBGN 000756R	WBUSRQ 000032R
DEVFWD= 000002	DVPUTB= 000100	POPSW = 000002	RCEND = 001056R	WT4IOT= 000010
DEVI0B= 000046	DVREGS 000116R	PRDIOA= 000016	RELOC 000332R	. = 001570R

. ABS. 000000 000  
001570 001

ERRORS DETECTED: 0  
DEFAULT GLOBALS GENERATED: 0

\* ,DTMSAA/NL:TOC/DOC=DTMSAA.P11  
RUN-TIME: 24.4 SECONDS  
RUN-TIME RATIO: 39/7=5.5  
CORE USED: 5K (9 PAGES)

DOCUMENT PAGES: 23

