```
0001 MUPAR DOMUS MACRO ASSEMBLER REV 01.06
11
12                ;                                                    RCSL   : 43-GL75
13
14                ;                                                    AUTHER: MLM
15
16                ;                                                    EDITED: 78.08.0
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21                ;                          MUPAR.01
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36                ;KEYWORDS:       RC3600, MONITOR, USER SYMBOLS.

                  ;ABSTRACT:       RC3600 MONITOR USER SYMBOL DEFINITIONS.
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; ASCII PAPER TAPE: RCSL:43-GL7537

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10002 MUPAR
01
                .TITL MUPAR
03      000012  .RDX 10
04              ;   ******   FORMAT DEFINITIONS   ******
05                                      ; ITEM:
06      000000  .DUSR NEXT= 0           ;   NEXT ITEM IN A QUEUE OF ITEMS
07      000001  .DUSR PREV= NEXT+1      ;   PREVIOUS ITEM IN A QUEUE OF ITEMS
08      000002  .DUSR CHAIN=PREV+1      ;   NEXT ITEM IN A CHAIN OF ITEMS
09      000003  .DUSR SIZE= CHAIN+1     ;   SIZE OF THE ITEM
10      000004  .DUSR NAME= SIZE+1      ;   NAME OF THE ITEM (THREE WORDS)
11
12                                      ; PROCESS DESCRIPTOR:
13              ;       NEXT            ;   NEXT PROCESS IN A QUEUE OF PROCESSES
14              ;       PREV            ;   PREVIOUS PROCESS IN A QUEUE OF PROCES
15              ;       CHAIN           ;   NEXT PROCESS IN THE PROCESS CHAIN
16              ;       SIZE            ;   SIZE OF THE PROCESS DESCRIPTOR
17              ;       NAME            ;   NAME OF THE PROCESS (THREE WORDS)
18      000007  .DUSR EVENT=NAME+3      ;   EVENT QUEUE HEAD (TWO WORDS)
19      000011  .DUSR BUFFE=EVENT+2     ;   FREE MESSAGE BUFFER CHAIN HEAD
20      000012  .DUSR PROG= BUFFE+1     ;   PROGRAM ADDRESS
21      000013  .DUSR STATE=PROG+1      ;   STATE OF PROCESS
22      000014  .DUSR TIMER=STATE+1     ;   TIMER COUNT
23      000015  .DUSR PRIOR=TIMER+1     ;   PRIORITY
24      000016  .DUSR BREAD=PRIOR+1     ;   BREAK ADDRESS
25      000017  .DUSR AC0=   BREAD+1    ;   SAVED AC0
26      000020  .DUSR AC1=   AC0+1      ;   SAVED AC1
27      000021  .DUSR AC2=   AC1+1      ;   SAVED AC2
28      000022  .DUSR AC3=   AC2+1      ;   SAVED AC3
29      000023  .DUSR PSW=   AC3+1      ;   PSW (PROCESS STATUS WORD)
30      000024  .DUSR SAVE=  PSW+1      ;   SAVED LINK
31      000025  .DUSR 0=     SAVE+1     ; OPTIONAL WORDS:
32
33              ; INTERPRETER PROCESSES
34      000025  .DUSR SAVE1=0           ; WORK LOC.
35      000026  .DUSR SAVE2=SAVE1+1     ;  -
36      000027  .DUSR SAVE3=SAVE2+1     ;  -
37      000030  .DUSR SAVE4=SAVE3+1     ;  -
38      000031  .DUSR SAVE5=SAVE4+1     ;  -
39      000032  .DUSR R=     SAVE5+1    ; PSEUDO ACCUMOLATOR
40      000033  .DUSR PC=    R+1        ; PSEUDO PC
41      000034  .DUSR OP=    PC+1       ; OPERATOR MESSAGE
42      000035  .DUSR .OPER=OP+1        ; OPERATOR NAME ADDRESS
43      000041  .DUSR ZN=.OPER+4        ; FIRST FILE DESCR. ENTRY ADDRESS
44
45              ; DRIVER PROCESSES
46      000025  .DUSR BUF=   0          ;   SAVED MESSAGE BUFFER ADDRESS
47      000026  .DUSR ADDRE=BUF+1       ;   CURRENT VALUE OF ADDRESS
48      000027  .DUSR COUNT=ADDRE+1     ;   CURRENT VALUE OF COUNT
49      000030  .DUSR RESER=COUNT+1     ;   RESERVER
50      000031  .DUSR CONVT=RESER+1     ;   CONVERSION TABLE ADDRESS
51      000032  .DUSR CLINT=CONVT+1     ;   CLEAR DEVICE INTERRUPT
52
53
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↓0003 MUPAR
01
02.                ; COROUTINE PROCESSES
03          000041 .DUSR CCOROUT=ZN        ; CURRENT COROUTINE
04          000042 .DUSR LATIME=CCORO+1    ; LATEST ACTIVATION TIME
05          000043 .DUSR HACTIVE=LATIM+1   ; HEAD OF ACTIVE QUEUE
06          000044 .DUSR HANSWER=HACTI+1   ; HEAD OF ANSWER QUEUE
07          000045 .DUSR HDELAY=HANSW+1    ; HEAD OF DELAY QUEUE
08          000046 .DUSR TRETURN=HDELA+1   ; RETURN FROM TEST
09          000047 .DUSR TRECORD=TRETU+1   ; TEST RECORD START
10          000050 .DUSR CDEVICE= TRECO+1; DEVICE NUMBER
11          000051 .DUSR MSEM=CDEVIC+1     ; MESSAGE SEM
12          000052 .DUSR MCOROUT=MSEM+1    ; MESSAGE COROUTINE
13          000053 .DUSR CUDEX=MCOROUT+1   ; USER DEFINED EXIT
14          000054 .DUSR CBUFFER=CUDEX+1   ; COROUTINE BUFFER
15
16                                         ; MESSAGE BUFFER:
17                 ;      NEXT             ;   NEXT BUFFER IN A QUEUE OF BUFFERS
18                 ;      PREV             ;   PREVIOUS BUFFER IN A QUEUE OF BUFFERS
19                 ;      CHAIN            ;   NEXT BUFFER IN A CHAIN OF BUFFERS
20                 ;      SIZE             ;   SIZE OF THE MESSAGE BUFFER
21          000004 .DUSR SENDE=SIZE+1      ;   SENDER PROCESS DESCRIPTOR
22          000005 .DUSR RECEI=SENDE+1     ;   RECEIVER PARAMETER
23          000006 .DUSR MESS0=RECEI+1     ;   0.MESSAGE
24          000007 .DUSR MESS1=MESS0+1     ;   1.MESSAGE
25          000010 .DUSR MESS2=MESS1+1     ;   2.MESSAGE
26          000011 .DUSR MESS3=MESS2+1     ;   3.MESSAGE
27          000012 .DUSR BSIZE=MESS3+1     ;   SIZE OF MESSAGE BUFFER
28
29                                         ; PROGRAM DESCRIPTOR:
30          000000 .DUSR PSPEC=0           ;   SPECIFICATION OF PROGRAM:
31                                         ;    B0: OWN
32                                         ;    B1: REENTRANT
33                                         ;    B2: PAGE ZERO USER
34                                         ;    B3: RESERVABLE
35                                         ;    B(8:15) PROCESS COUNT
36          000001 .DUSR PSTAR=PSPEC+1     ;   START ADDRESS
37                 ;      CHAIN            ;   NEXT PROGRAM IN A CHAIN OF PROGRAMS
38                 ;      SIZE             ;   SIZE OF THE PROGRAM AREA
39                 ;      NAME             ;   NAME OF THE PROGRAM (THREE WORDS)
40
41                 ;                       ; COROUTINE DESCRIPTOR:
42          177777 .DUSR CIDENT=NEXT-1     ;   IDENTIFICATION
43          177776 .DUSR OPMASK=CIDENT-1   ; WAIT MASK
44                 ;      NEXT             ;   LINK TO NEXT COROUTINE
45          000001 .DUSR CEXIT=NEXT+1      ;   SAVED EXIT ADDRESS
46          000002 .DUSR CLATOP=CEXIT+1    ;   SAVED OPERATION
47          000003 .DUSR CRETUR=CLATO+1    ;   SAVED RETURN
48          000004 .DUSR CAC1S=CRETU+1     ;   SAVED AC1
49
50          000036 .DUSR TLENGTH=30        ; LENGTH OF TEST RECORD
51
52
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!0004 MUPAR
01                                          ; ZONE DESCRIPTOR:
02.     000000 .DUSR ZNAME=0                ;   NAME (THREE WORDS)
03              ;    SIZE                   ;   SIZE OF THE ZONE DESCRIPTOR
04      000004 .DUSR ZMODE=SIZE+1           ;   MODE OF OPERATION
05      000005 .DUSR ZKIND=ZMODE+1          ;   KIND OF DOCUMENT
06      000006 .DUSR ZMASK=ZKIND+1          ;   MASK FOR GIVE UP
07      000007 .DUSR ZGIVE=ZMASK+1          ;   GIVE UP ADDRESS
08      000010 .DUSR ZFILE=ZGIVE+1          ;   FILE COUNT
09      000011 .DUSR ZBLOC=ZFILE+1          ;   BLOCK COUNT
10      000012 .DUSR ZCONV=ZBLOC+1          ;   CONVERSION TABLE ADDRESS
11      000013 .DUSR ZBUFF=ZCONV+1          ;   BUFFER ADDRESS
12      000014 .DUSR ZSIZE=ZBUFF+1          ;   SIZE OF BUFFER
13      000015 .DUSR ZFORM=ZSIZE+1          ;   FORMAT OF RECORD
14      000016 .DUSR ZLENG=ZFORM+1          ;   LENGTH OF RECORD
15      000017 .DUSR ZFIRS=ZLENG+1          ;   FIRST OF RECORD (BYTE ADDRESS)
16      000020 .DUSR ZTOP= ZFIRS+1          ;   TOP OF RECORD (BYTE ADDRESS)
17      000021 .DUSR ZUSED=ZTOP+1           ;   USED SHARE
18      000022 .DUSR ZSHAR=ZUSED+1          ;   SHARE LENGTH (IN BYTES)
19      000023 .DUSR ZREM= ZSHAR+1          ;   REMAINING BYTES IN SHARE
20                                          ; AUXILLIARY WORDS:
21      000024 .DUSR Z0=   ZREM+1           ;   AUX 0
22      000025 .DUSR Z1=   Z0+1             ;   AUX 1
23      000026 .DUSR Z2=   Z1+1             ;   AUX 2
24      000027 .DUSR Z3=   Z2+1             ;   AUX 3
25      000030 .DUSR Z4=   Z3+1             ;   AUX 4
26      000031 .DUSR Z5=   Z4+1             ;   AUX 5
27      000006 .DUSR ZAUX= 6                ;   NUMBER OF AUXILLIARY WORDS
28      000032 .DUSR Z=    Z0+ZAUX          ; OPTIONAL WORDS:
29
30                                          ; SHARE DESCRIPTOR:
31      000000 .DUSR SOPER=0                ;   OPERATION (0.MESSAGE)
32      000001 .DUSR SCOUN=SOPER+1          ;   COUNT (1.MESSAGE)
33      000002 .DUSR SADDR=SCOUN+1          ;   ADDRESS (2.MESSAGE)
34      000003 .DUSR SSPEC=SADDR+1          ;   SPECIAL (3.MESSAGE)
35      000004 .DUSR SNEXT=SSPEC+1          ;   NEXT SHARE
36      000005 .DUSR SSTAT=SNEXT+1          ;   STATE OF SHARE
37      000006 .DUSR SFIRS=SSTAT+1          ;   FIRST SHARED (BYTE ADDRESS)
38      000007 .DUSR SSIZE=SFIRS+1          ;   SIZE OF SHARE DESCRIPTOR
39
40              ;   ******   END OF FORMAT DEFINITIONS   ******
41
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43
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:0005 MUPAR
01                ;    ******    MONITOR FUNCTION ENTRIES    ******
02.
          000002   .LOC 2
04
05        006002 .DUSR WAIT=                JSR@    .
06        006003 .DUSR WAITINTERRUPT=       JSR@    .+1
07        006004 .DUSR SENDMESSAGE=         JSR@    .+2
08        006005 .DUSR WAITANSWER=          JSR@    .+3
09        006006 .DUSR WAITEVENT=           JSR@    .+4
10        006007 .DUSR SENDANSWER=          JSR@    .+5
11        006010 .DUSR SEARCHITEM=          JSR@    .+6
12        006011 .DUSR CLEANPROCESS=        JSR@    .+7
13        006012 .DUSR BREAKPROCESS=        JSR@    .+8
14        006013 .DUSR STOPPROCESS=         JSR@    .+9
15        006014 .DUSR STARTPROCESS=        JSR@    .+10
16        006015 .DUSR RECHAIN=             JSR@    .+11
17
18                ;    ******    END OF MONITOR FUNCTION ENTRIES    ******
19
20
21
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!0006 MUPAR
01          000040 .LOC 32
02.         000040 .DUSR M=     .       ; START OF MONITOR PROCESS DESCRIPTOR
03          000040 .DUSR CUR=   .       ;
04          000045 .DUSR TABLE=.+5 ; DEVICE TABLE
05          000046 .DUSR TOPTA=.+6 ; TOP OF DEVICE TABLE
06          000052 .DUSR PFIRS=.+10         ; FIRST IN PROCESS CHAIN
07          000054 .DUSR RUNNI=.+12         ; RUNNING QUEUE
08          000054 .DUSR PROCE=RUNNI ;          REFERENCE TO HEAD OF RUNNING QUEUE
09          000054 .DUSR MONIT=RUNNI ;          HEAD OF PROCESS CHAIN: MONITOR PROC
10          000056 .DUSR EXIT=.+14 ; BREAD: MONITOR EXIT
11          000057 .DUSR EFIRS=.+15         ; FIRST IN FREE CORE
12          000060 .DUSR FFIRS=.+16         ; LAST IN FREE CORE
13          000061 .DUSR DELAY=.+17         ; DELAY QUEUE
14          000064 .DUSR AREAP=.+20      ;    HEAD OF AREA PROCESS CHAIN
15          000065 .DUSR AFIRS=.+21      ;    FIRST IN AREA PROCESS CHAIN
16
17
18
19                  ; PAGE ZERO VARIABLES:
20
21          000066 .LOC 54
22          000066 .DUSR FREQU=.        ; FREQUENCY OF RTC:
23          000067 .DUSR MASK= .+1      ; INTERRUPT MASK
24          000070 .DUSR CORES=.+2      ; CORE SIZE
25          000071 .DUSR PROGR=.+3      ; REF. TO HEAD OF PROGRAM CHAIN
26          000074 .DUSR RTIME=     .+6     ; REAL TIME COUNT
27          000076 .DUSR POWIN=     .+8     ; POWER INTERRUPT COUNT
28          000077 .DUSR CDUMP=.+9      ;  CORE DUMP ENTRY
29
30                  ; PAGE ZERO CONSTANTS:
31
32          000101 .LOC 65
33          000101 .DUSR  BIT=      .       ;1B0
34          000101 .DUSR .1B0=      .       ;1B0
35          000102 .DUSR .1B1=      .+1     ;1B1
36          000103 .DUSR .1B2=      .+2     ;1B2
37          000104 .DUSR .1B3=      .+3     ;1B3
38          000105 .DUSR .1B4=      .+4     ;1B4
39          000106 .DUSR .1B5=      .+5     ;1B5
40          000107 .DUSR .1B6=      .+6     ;1B6
41          000110 .DUSR .1B7=      .+7     ;1B7
42          000111 .DUSR .1B8=      .+8     ;1B8
43          000112 .DUSR .1B9=      .+9     ;1B9
44          000113 .DUSR .1B10=     .+10    ;1B10
45          000114 .DUSR .1B11=     .+11    ;1B11
46          000115 .DUSR .1B12=     .+12    ;1B12
47          000116 .DUSR .1B13=     .+13    ;1B13
48          000117 .DUSR .1B14=     .+14    ;1B14
49          000120 .DUSR .1B15=     .+15    ;1B15
50
51
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10007 MUPAR
01                  ; STATUS BITS:
02
03          000101 .DUSR SDISC=.1B0      ; DISCONNECTED
04          000102 .DUSR SOFFL=.1B1      ; OFF LINE
05          000103 .DUSR SBUSY=.1B2      ; BUSY
06          000104 .DUSR SDEV1=.1B3      ; DEVICE MODE 1
07          000105 .DUSR SDEV2=.1B4      ; DEVICE MODE 2
08          000106 .DUSR SDEV3=.1B5      ; DEVICE MODE 3
09          000107 .DUSR SILLE=.1B6      ; ILLEGAL
10          000110 .DUSR SEOF= .1B7      ; EOF
11          000111 .DUSR SBLOC=.1B8      ; BLOCK ERROR
12          000112 .DUSR SDATA=.1B9      ; DATA LATE
13          000113 .DUSR SPARI=.1B10     ; PARITY ERROR
14          000114 .DUSR SEM=  .1B11     ; END MEDIUM
15          000117 .DUSR STIME=.1B14     ; TIMER
16
17                  ; CONTROL BITS:
18
19          000111 .DUSR CERAS=.1B8      ; ERASURE
20          000112 .DUSR CDISC=.1B9      ; DISCONNECT
21          000113 .DUSR CPOSI=.1B10     ; POSITIONING
22          000114 .DUSR CTERM=.1B11     ; TERMINATION
23          000115 .DUSR CCONV=.1B12     ; CONVERSION
24          000116 .DUSR CRESE=.1B13     ; RESERVATION
25
```

```
!0008 MUPAR
01
02.       000121 .LOC 81
          000055 .DUSR .0=        PPIORTTY+M
          000120 .DUSR .1=       .1B15
05        000117 .DUSR .2=       .1B14
06        000121 .DUSR .3=        .
07        000116 .DUSR .4=       .1B13
08        000122 .DUSR .5=        .+1
09        000123 .DUSR .6=        .+2
10        000124 .DUSR .7=        .+3
11        000115 .DUSR .8=       .1B12
12        000125 .DUSR .9=        .+4
13        000126 .DUSR .10=       .+5
14        000127 .DUSR .12=       .+6
15        000130 .DUSR .13=       .+7
16        000131 .DUSR .15=       .+8
17        000114 .DUSR .16=      .1B11
18        000132 .DUSR .24=       .+9
19        000133 .DUSR .25=       .+10
20        000113 .DUSR .32=      .1B10
21        000134 .DUSR .40=       .+11
22        000135 .DUSR .48=       .+12
2         000136 .DUSR .56=       .+13
24        000137 .DUSR .60=       .+14
25        000140 .DUSR .63=       .+15
26        000112 .DUSR .64=      .1B9
27        000141 .DUSR .120=      .+16
28        000142 .DUSR .127=      .+17
29        000111 .DUSR .128=     .1B8
30        000143 .DUSR .255=      .+18
31        000110 .DUSR .256=     .1B7
32        000107 .DUSR .512=     .1B6
33        000106 .DUSR .1024=    .1B5
34        000105 .DUSR .2048=    .1B4
35        000104 .DUSR .4096=    .1B3
36        000103 .DUSR .8192=    .1B2
37        000102 .DUSR .16384=   .1B1
38        000101 .DUSR .32768=   .1B0
39        000144 .DUSR .M3=       .+19
40        000145 .DUSR .M4=       .+20
41        000146 .DUSR .M16=      .+21
42        000147 .DUSR .M256=     .+22
43
44        000116 .DUSR .NAME=.4      ; NAME.PROC
45        000124 .DUSR .EVEN=.7      ; EVENT.PROC
46        000124 .DUSR .EDOC=.EVEN   ; DOCUMENT.ENTRY
47        000123 .DUSR .MESS=.6      ; MESS.BUF
48        000124 .DUSR .SSIZ=.7      ; SIZE OF SHARE DESCRIPTOR
49        000150 .DUSR .Z=    104      ; OPTIONAL.ZONE
50        000127 .DUSR .RTC= .12     ; RTC DEVICE NUMBER
51        000126 .DUSR .NL=   .10    ;
52        000126 .DUSR .LF=   .10    ;
53        000130 .DUSR .CR=   .13    ;
54        000127 .DUSR .FF=   .12    ;
55        000112 .DUSR CUR2=.64      ; MONITOR PROCESS*2
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```
10009 MUPAR
01                ; REFERENCES TO REENTRANT SYSTEM UTILITY PROCEDURES:
02
03        000164   .LOC 116
04
05        006164 .DUSR NEXTOPERATION=    JSR@    .
06        006167 .DUSR WAITOPERATION=    JSR@    .+3
07        006165 .DUSR RETURNANSWER=     JSR@    .+1
08        006170 .DUSR SETINTERRUPT=     JSR@    .+4
09        006171 .DUSR SETRESERVATION=   JSR@    .+5
10        006172 .DUSR SETCONVERSION=    JSR@    .+6
11        006173 .DUSR CONBYTE=          JSR@    .+7
12        006174 .DUSR GETBYTE=          JSR@    .+8
13        006175 .DUSR PUTBYTE=          JSR@    .+9
14        006176 .DUSR MULTIPLY=         JSR@    .+10
15        006177 .DUSR DIVIDE=           JSR@    .+11
16
17        002164 .DUSR .NEXTOPERATION=   JMP@    .
18        002165 .DUSR .RETURNANSWER=    JMP@    .+1
19        002166 .DUSR .CLEARDEVICE=     JMP@    .+2
20        100166 .DUSR CLEAR= @.+2
21        002170 .DUSR .SETINTERRUPT=    JMP@    .+4
22        002171 .DUSR .SETRESERVATION=  JMP@    .+5
23        002172 .DUSR .SETCONVERSION=   JMP@    .+6
24        002173 .DUSR .CONBYTE=         JMP@    .+7
25        002174 .DUSR .GETBYTE=         JMP@    .+8
26        002175 .DUSR .PUTBYTE=         JMP@    .+9
27        002176 .DUSR .MULTIPLY=        JMP@    .+10
28        002177 .DUSR .DIVIDE=          JMP@    .+11
29
30
31
32        006000 .DUSR GOS=    JSR@    0
33        002000 .DUSR GOT=    JMP@    0
```

```
10010 MUPAR
01                ; REFERENCES TO REENTRANT INPUT/OUTPUT UTILITY PROCEDURES:
02
03        000200  .LOC 128
04
05        006232 .DUSR BINDEC=          JSR@    .+26
06        006233 .DUSR DECBIN=          JSR@    .+27
07        006200 .DUSR GETREC=          JSR@    .
08        006201 .DUSR PUTREC=          JSR@    .+1
09        006202 .DUSR WAITTRANSFER=    JSR@    .+2
10        006204 .DUSR TRANSFER=        JSR@    .+4
11        006205 .DUSR INBLOCK=         JSR@    .+5
12        006206 .DUSR OUTBLOCK=        JSR@    .+6
13        006207 .DUSR INCHAR=          JSR@    .+7
14        006210 .DUSR FREESHARE=       JSR@    .+8
15        006211 .DUSR OUTSPACE=        JSR@    .+9
16        006212 .DUSR OUTCHAR=         JSR@    .+10
17        006213 .DUSR OUTNL=           JSR@    .+11
18        006214 .DUSR OUTEND=          JSR@    .+12
19        006215 .DUSR OUTTEXT=         JSR@    .+13
20        006216 .DUSR OUTOCTAL=        JSR@    .+14
21        006217 .DUSR SETPOSITION=     JSR@    .+15
22        006220 .DUSR CLOSE=           JSR@    .+16
23        006221 .DUSR OPEN=            JSR@    .+17
24        006223 .DUSR INNAME=          JSR@    .+19
25        006222 .DUSR WAITZONE=        JSR@    .+18
26        006224 .DUSR MOVE=            JSR@    .+20
27        006225 .DUSR INTPRETE=        JSR@    .+21
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!0011 MUPAR
01        002200 .DUSR .GETREC=           JMP@    .
02        002201 .DUSR .PUTREC=           JMP@    .+1
03        002202 .DUSR .WAITTRANSFER=     JMP@    .+2
04        002203 .DUSR .REPEATSHARE=      JMP@    .+3
05        002204 .DUSR .TRANSFER=         JMP@    .+4
06        002205 .DUSR .INBLOCK=          JMP@    .+5
07        002206 .DUSR .OUTBLOCK=         JMP@    .+6
08        002210 .DUSR .FREESHARE=        JMP@    .+8
09        002207 .DUSR .INCHAR=           JMP@    .+7
10        002211 .DUSR .OUTSPACE=         JMP@    .+9
11        002212 .DUSR .OUTCHAR=          JMP@    .+10
12        002213 .DUSR .OUTNL=            JMP@    .+11
13        002214 .DUSR .OUTEND=           JMP@    .+12
14        002215 .DUSR .OUTTEXT    =      JMP@    .+13
15        002216 .DUSR .OUTOCTAL=         JMP@    .+14
16        002217 .DUSR .SETPOSITION=      JMP@    .+15
17        002220 .DUSR .CLOSE=            JMP@    .+16
18        002221 .DUSR .OPEN=             JMP@    .+17
19
20        000226 .DUSR INTGIVEUP=                 .+22
21        000230 .DUSR INTBREAK=                  .+24
22
23        000234 .DUSR MZSTART=156              ;  INTERPRETER PAGE ZERO START:
24
25        000332 .LOC 218
26        006332 .DUSR NEWCAT=            JSR@    .
27        006333 .DUSR FREECAT=           JSR@    .+1
28
29                ; COROUTINE MONITOR ENTRIES
30                ;
31        000334   .LOC 220
32        000017 .DUSR COROU=15             ; CURRENT COROUTINE
33        006334 .DUSR CDELAY=JSR@    .     ; DELAY(TIME)
34        006335 .DUSR WAITSE=JSR@    .+1     ; WAITSEM(SEMAPHORE)
35        006336 .DUSR WAITCH=JSR@    .+2     ; WAITCHAINED(SEMAPHORE)
36        006337 .DUSR CWANSW=JSR@    .+3     ; WAITANSWER(BUF)
37        006340 .DUSR CTEST =JSR@    .+4     ; TESTOUT REGISTERS
38        006341 .DUSR CPRINT=JSR@    .+5     ; TESTOUT RECORD
39        006342 .DUSR CTOUT =JSR@    .+6     ; TESTGENERAL
40        006343 .DUSR SIGNAL=JSR@    .+7     ; SIGNAL(SEMAPHORE);
41        006344 .DUSR SIGCH =JSR@    .+8     ; SIGNAL CHAINEDD(SEMAPHORE)
42        006345 .DUSR CPASS =JSR@    .+9     ; PASS
```

```
!0012 MUPAR
01                ; FILE SYSTEM ENTRIES
02;
03          000346 .LOC 230
04          006346 .DUSR CREATEENTRY=JSR@ .   ;
05          006347 .DUSR LOOKUPENTRY=JSR@ .+1  ;
06          006350 .DUSR CHANGEENTRY=JSR@ .+2  ;
07          006351 .DUSR REMOVEENTRY=JSR@ .+3  ;
08          006352 .DUSR INITCATALOG=JSR@ .+4  ;
09          006353 .DUSR SETENTRY=  JSR@ .+5  ;
10
11                ; PAGE SYSTEM ENTRIES
12
13          000354 .LOC .+6
14          006354 .DUSR COMON    = JSR@ .          ; COROUTINE MONITOR
15          006355 .DUSR CALL     = JSR@ .+1
16          006356 .DUSR GOTO     = JSR@ .+2
17          006357 .DUSR GETADR   = JSR@ .+3
18          006360 .DUSR GETPOINT= JSR@ .+4
19          000014 .DUSR PWSIZE   = 12    ; NO OF WORKING LOCATIONS PR PROGRAM
20          000006 .DUSR PCWSIZE  =  6    ; NO OF WORKING LOCATIONS PR COROUTINE
21
22                ; HEAD OF CORE CHAIN
23          000361 .DUSR CORE     =  .+5
24          000362 .DUSR COMLIST  =  .+6     ; ADDR OF PROC XCOMX ENTRYLIST
25          000363 .DUSR COMNO    =  .+7     ; NO OF ENTRYS IN COMLIST
26
27
28                ; EXTENDED COROUTINE MONITOR ENTRIES
29                ;
30
31                ;
32                ;
33          000364 .LOC 244
34          006364 .DUSR CSENDM=JSR@    .   ;
35          006365 .DUSR SIGGEN=JSR@    .+1   ;
36          006366 .DUSR WAITGE=JSR@    .+2   ;
37          006367 .DUSR CTOP  =JSR@    .+3   ;
38
39
40          000370 .DUSR DEVTA=256-8        ; DEVICE TABLE
41          000464 .DUSR TOPDE=DEVTA+63-3   ; TOP OF DEVICE TABLE
42
43                .END

0000 SOURCE LINES IN ERROR
```