

SERIES-III 8086/8087/3088 MACRO ASSEMBLER V1.1 ASSEMBLY OF MCDULE TPSSUP
 OBJECT MODULE PLACED IN :F1:TPSSUP.OBJ
 ASSEMBLER INVOKED BY: ASM86.86 :F1:TPSSUP.A86 XREF PRINT(:F5:TPSSUP.LST)

```

LOC  OBJ          LINE      SOURCE
                                1      ;$title('tpssup - SYSBOOT Support')
                                2          name      tpssup
                                3      ;;;;;;;;;;;;;;
                                4      ;
                                5          TITLE:      tpssup
                                6      ;
                                7          SYSBOOT Support
                                8      ;
                                9          DATE:      7-2-80
                               10          3-8-82
                               11          Lifted from Second Stage bootstrap for the iT
                                PS System
                               12          Bootstrap Loader
                               13      ;
                               14          ABSTRACT:      Contains long_call for calling the device driver
                               15          (large model) from the SYSBOOT (compact model),
                               16          long_goto for starting the loaded program, and
                               17          error_halt to halt after errors with interrupts
                               18          disabled.
                               19      ;
                               20          LANGUAGE DEPENDENCIES: Compatible with PLM86 COMPACT for SYSBOOT
                               21          and LARGE for driver.
                               22      ;
                               23 +1 $include(:f1:bprop.asm)
                               24      ;/*
                               25      ; *      INTEL CORPORATION PROPRIETARY INFORMATION. THIS LISTING IS
                               26      ; *      SUPPLIED UNDER THE TERMS OF A LICENSE AGREEMENT WITH INTEL
                               27      ; *      CORPORATION AND MAY NOT BE COPIED NOR DISCLOSED EXCEPT IN
                               28      ; *      ACCORDANCE WITH THE TERMS OF THAT AGREEMENT.
                               29      ; */
                               30      ;
                               31      ;;;;;;;;;;;;;;
                               32      ;
                               33      ;
                               34          public long_call
                               35          public long_goto
                               36          public error_halt
                               37      ;
                               38      cgroup      group      code
                               39      dgroup      group      data
                               40      ;
                               41      code          segment para public 'CODE'
                               42      ;
                               43      ;
                               44      code          ends
                               45      ;
                               46      data          segment word public 'DATA'
                               47      data          ends
                               48      ;
                               49          assume cs:cgroup, ds:dgroup

```

```

LOC  OBJ          LINE  SOURCE
                    50                      ;
                    51                      ;
                    52  ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                    53                      ;
                    54          TITLE:      long_call
                    55          ;          Used to call device driver (LARGE) from COMPACT
                    56          ;
                    57          CALL:      CALL long_call( ...args... / proc$P);
                    58          ;
                    59          INTERFACE VARIABLES:
                    60          ;          'args' are passed through.
                    61          ;          'proc$P' is a pointer to the LARGE model procedure
                    62          ;          to be called.
                    63          ;
                    64          CALLS:      proc$P
                    65          ;
                    66          ABSTRACT:    Calls LARGE procedure pointed to by top (last) pointer
                    67          ;          argument on stack. Called from COMPACT.
                    68          ;
                    69  ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                    70                      ;
                    71                      ;
----
                    72  data          segment                      ;
                    73                      ;
0000  ??????????  74  callee          dd          ?                      ; place to put pointer to proc
                    75                      ;
----
                    76  data          ends                      ;
                    77                      ;
----
                    78  code          segment                      ;
                    79                      ;
0000
                    80  long_call      proc          near          ;
                    81                      ;
0000 58
                    82                      pop          ax          ; pop off return offset
0001 8F060000      R          83                      pop          word ptr callee      ; pop off proc pointer
0005 8F060200      R          84                      pop          word ptr callee+2    ;
0009 0E
                    85                      push         cs          ; simulate far call
000A 50
                    86                      push         ax
000B FF2E0000      R          87                      jmp          callee
                    88                      ;
                    89  long_call      endp
                    90                      ;
----
                    91  code          ends                      ;
                    92                      ;
                    93                      ;
                    94  ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                    95                      ;
                    96          TITLE:      long_goto
                    97          ;          Jumps to its pointer argument go_address,
                    98          ;          with its pointer argument arg_pointer in es:bx
                    99          ;
100          ;          CALL:      CALL long_goto(go_address, arg_pointer)
101          ;          DECLARE
102          ;          go_address      POINTER,
103          ;          arg_pointer     POINTER;
104          ;

```

```

LOC  OBJ                LINE    SOURCE
                                105    ;      INTERFACE VARIABLES:
                                106    ;          go_address      Address to jump to
                                107    ;          arg_pointer     Loaded into es:bx before jump
                                108    ;
                                109    ;      CALLS:              go_address, no return
                                110    ;
                                111    ;      ABSTRACT:          Used to jump to loaded program, passing a pointer
                                112    ;          argument in es:bx.
                                113    ;
                                114    ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                                115    ;
-----
                                116    ;
000F   000F   88EC      117    code          segment          ;
                                118    ;
                                119    long_goto     proc      near          ;
                                120    ;
                                121    ;          mov      bp, sp          ;
0011   C45E02    122    ;          les     bx, dword ptr [bp+2] ;
0014   FF6E06    123    ;          jmp     dword ptr [bp+6]   ;
                                124    ;
                                125    long_goto     endp          ;
                                126    ;
-----
                                127    code          ends          ;
                                128    ;
                                129    ;
                                130    ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                                131    ;
                                132    ;      TITLE:           error_halt
                                133    ;          Halts
                                134    ;
                                135    ;      CALL:            CALL error_halt;
                                136    ;
                                137    ;      INTERFACE VARIABLES: none
                                138    ;
                                139    ;      CALLS:           none
                                140    ;
                                141    ;      ABSTRACT:       Used to halt after an error.
                                142    ;
                                143    ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                                144    ;
-----
                                145    code          segment          ;
                                146    ;
0017   0017   F4      147    error_halt     proc      near          ;
                                148    ;
                                149    ;          hlt
                                150    ;
                                151    error_halt     endp          ;
                                152    ;
-----
                                153    code          ends          ;
                                154    ;
                                155    ;
                                156    end

```

XREF SYMBOL TABLE LISTING

```
-----  
NAME          TYPE      VALUE  ATTRIBUTES, XREFS\  
??SEG . . .  SEGMENT          SIZE=0000H PARA PUBLIC  
CALLEE. . .  V DWORD  0000H  DATA 74# 83 84 87  
CGROUP. . .  GROUP          CODE   38# 49  
CODE. . . .  SEGMENT          SIZE=0018H PARA PUBLIC 'CODE' 38# 41 44 78 91 117 127 145 153  
DATA. . . .  SEGMENT          SIZE=0004H WORD  PUBLIC 'DATA' 39# 46 47 72 76  
DGROUP. . .  GROUP          DATA  39# 49  
ERROR_HALT. L NEAR  0017H  CODE PUBLIC 36 147# 151  
LONG_CALL . L NEAR  0000H  CODE PUBLIC 34 80# 89  
LONG_GOTO . L NEAR  000FH  CODE PUBLIC 35 119# 125
```

END OF SYMBOL TABLE LISTING

ASSEMBLY COMPLETE, NO ERRORS FOUND