G 2

```
TTTTTTTTTTTTTTT  RRRRRRRRRRRR        AAAAAAAAA        CCCCCCCCCCCC  EEEEEEEEEEEEEEE
TTTTTTTTTTTTTTT  RRRRRRRRRRRR        AAAAAAAAA        CCCCCCCCCCCC  EEEEEEEEEEEEEEE
TTTTTTTTTTTTTTT  RRRRRRRRRRRR        AAAAAAAAA        CCCCCCCCCCCC  EEEEEEEEEEEEEEE
      TTT        RRR         RRR  AAA         AAA  CCC              EEE
      TTT        RRR         RRR  AAA         AAA  CCC              EEE
      TTT        RRR         RRR  AAA         AAA  CCC              EEE
      TTT        RRR         RRR  AAA         AAA  CCC              EEE
      TTT        RRR         RRR  AAA         AAA  CCC              EEE
      TTT        RRR         RRR  AAA         AAA  CCC              EEE
      TTT        RRRRRRRRRRRR     AAA         AAA  CCC              EEEEEEEEEEEE
      TTT        RRRRRRRRRRRR     AAA         AAA  CCC              EEEEEEEEEEEE
      TTT        RRRRRRRRRRRR     AAA         AAA  CCC              EEEEEEEEEEEE
      TTT        RRR   RRR        AAAAAAAAAAAAAAA  CCC              EEE
      TTT        RRR   RRR        AAAAAAAAAAAAAAA  CCC              EEE
      TTT        RRR   RRR        AAAAAAAAAAAAAAA  CCC              EEE
      TTT        RRR      RRR     AAA         AAA  CCC              EEE
      TTT        RRR      RRR     AAA         AAA  CCC              EEE
      TTT        RRR      RRR     AAA         AAA  CCC              EEE
      TTT        RRR         RRR  AAA         AAA     CCCCCCCCCCCC  EEEEEEEEEEEEEEE
      TTT        RRR         RRR  AAA         AAA     CCCCCCCCCCCC  EEEEEEEEEEEEEEE
      TTT        RRR         RRR  AAA         AAA     CCCCCCCCCCCC  EEEEEEEEEEEEEEE
```

FILEID**STRUCDEF

L 16

```
  SSSSSSSS  TTTTTTTTTT  RRRRRRRR    UU      UU    CCCCCCCC  DDDDDDDD    EEEEEEEEEE  FFFFFFFFFF
  SSSSSSSS  TTTTTTTTTT  RRRRRRRR    UU      UU    CCCCCCCC  DDDDDDDD    EEEEEEEEEE  FFFFFFFFFF
SS              TT      RR      RR  UU      UU  CC          DD      DD  EE          FF
SS              TT      RR      RR  UU      UU  CC          DD      DD  EE          FF
SS              TT      RR      RR  UU      UU  CC          DD      DD  EE          FF
SS              TT      RR      RR  UU      UU  CC          DD      DD  EE          FF
  SSSSSS        TT      RRRRRRRR    UU      UU  CC          DD      DD  EEEEEEEE    FFFFFFFF
  SSSSSS        TT      RRRRRRRR    UU      UU  CC          DD      DD  EEEEEEEE    FFFFFFFF
        SS      TT      RR  RR      UU      UU  CC          DD      DD  EE          FF
        SS      TT      RR  RR      UU      UU  CC          DD      DD  EE          FF
        SS      TT      RR    RR    UU      UU  CC          DD      DD  EE          FF               ....
        SS      TT      RR    RR    UU      UU  CC          DD      DD  EE          FF               ....
SSSSSSSS        TT      RR      RR  UUUUUUUUUU    CCCCCCCC  DDDDDDDD    EEEEEEEEEE  FF               ....
SSSSSSSS        TT      RR      RR  UUUUUUUUUU    CCCCCCCC  DDDDDDDD    EEEEEEEEEE  FF               ....

LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
!--------------------------------------------------------------------
!
!        STRUCDEF -- DECLARATION FILE FOR DATA STRUCTURE DEFINITION
!                    AND ACCESS MACROS USED IN THE VAX DEBUGGER
!
!--------------------------------------------------------------------
!
! Version:      'V04-000'
!
!****************************************************************************
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!*                                                                          *
!****************************************************************************
!
!
!
! WRITTEN BY
!       Bert Beander    August, 1981.
!
! MODULE FUNCTION:
!       This REQUIRE file contains all macros used in defining and accessing
!       data structures (BLISS BLOCKs) in the VAX Debugger.  These symbolic
!       names should always be used in BLISS Field-References.
!
```

```
   !       DATA STRUCTURE DEFINITION AND ACCESS
   !
   !
   !
   !       The following macros must be used in defining field names for all data
   !       structures in the Debugger.  These macros supply the position, size, and
   !       sign-extension values when used in FIELD declarations for BLOCK and
   !       BLOCKVECTOR data structures.  The various generic forms (as specified by
   !       the letters in the names) are as follows:
   !
   !               A       Materialized address
   !               L       Longword
   !               W       Zero-extended word
   !               B       Zero-extended byte
   !               V       Zero-extended bit field
   !               SW      Sign-extended word
   !               SB      Sign-extended byte
   !               SV      Sign-extended bit field
   !
   !       The "A" form should be used whenever the field being defined is such
   !       that only the address of the field may be materialized in a structure
   !       reference; that is, fetch and store operations on the field are not
   !       valid.  An example of such a field is an ASCII string.
   !
   !       Each of the "V" and "SV" forms take one or two parameters.  The first
   !       parameter is the bit position within the longword (or byte) and the
   !       second is the field size in bits.  The second parameter is optional;
   !       if omitted, it defaults to 1.  Thus V_(5) means bit 5 while V_(5,3)
   !       means the 3-bit field starting at bit 5 and ending at bit 7.  Bit
   !       positions are counted from the low-order (least significant) end of the
   !       longword, starting at zero.
   !
   !       The following data structure picture shows the locations of the various
   !       fields that can be specified.  Note how the bit positions are numbered
   !       along the top of the illustration.
   !
   !
   !        3 3 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1
   !        1 0 9 8 7 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 0
   !
   !       +---------------------------------------------------------------+
   !    0  :                               L_                              :
   !       +-------------------------------+-------------------------------+
   !    1  :              W1_              :              W0_              :
   !       +---------------+---------------+---------------+---------------+
   !    2  :      B3_      :      B2_      :      B1_      :      B0_      :
   !       +---------------+---------------+---------------+---------------+
   !
   !
   !***

MACRO
           A_      =  0,  0,  0 %,          ! Address of a longword

           A0_     =  0,  0,  0 %,          ! Address of byte 0
           A1_     =  8,  0,  0 %,          ! Address of byte 1
           A2_     = 16,  0,  0 %,          ! Address of byte 2
```

; R

```
;    0100  0              A3_      = 24,  0,  0 %,         ! Address of byte 3
;    0101  0
;    0102  0              L_       =  0, 32,  0 %,         ! Longword
;    0103  0              W_       =  0, 16,  0 %,         ! Word, zero-extended
;    0104  0              B_       =  0,  8,  0 %,         ! Byte, zero-extended
;    0105  0
;    0106  0              W0_      =  0, 16,  0 %,         ! Word 0 zero-extended
;    0107  0              W1_      = 16, 16,  0 %,         ! Word 1 zero-extended
;    0108  0
;    0109  0              B0_      =  0,  8,  0 %,         ! Byte 0 zero-extended
;    0110  0              B1_      =  8,  8,  0 %,         ! Byte 1 zero-extended
;    0111  0              B2_      = 16,  8,  0 %,         ! Byte 2 zero-extended
;    0112  0              B3_      = 24,  8,  0 %,         ! Byte 3 zero-extended
;    0113  0
;    0114  0              V_(P,S) = P, %IF %NULL(S) %THEN 1 %ELSE S %FI, 0 %, ! Unsigned bit field
;    0115  0
;    0116  0              V0_(P,S) = P,       %IF %NULL(S) %THEN 1 %ELSE S %FI, 0 %, ! Bits in B0_
;    0117  0              V1_(P,S) = (P+8),   %IF %NULL(S) %THEN 1 %ELSE S %FI, 0 %, ! Bits in B1_
;    0118  0              V2_(P,S) = (P+16),  %IF %NULL(S) %THEN 1 %ELSE S %FI, 0 %, ! Bits in B2_
;    0119  0              V3_(P,S) = (P+24),  %IF %NULL(S) %THEN 1 %ELSE S %FI, 0 %, ! Bits in B3_
;    0120  0
;    0121  0              SW_      =  0, 16,  1 %,         ! Word, sign-extended
;    0122  0              SB_      =  0,  8,  1 %,         ! Byte, sign-extended
;    0123  0
;    0124  0              SW0_     =  0, 16,  1 %,         ! Word 0 sign-extended
;    0125  0              SW1_     = 16, 16,  1 %,         ! Word 1 sign-extended
;    0126  0
;    0127  0              SB0_     =  0,  8,  1 %,         ! Byte 0 sign-extended
;    0128  0              SB1_     =  8,  8,  1 %,         ! Byte 1 sign-extended
;    0129  0              SB2_     = 16,  8,  1 %,         ! Byte 2 sign-extended
;    0130  0              SB3_     = 24,  8,  1 %,         ! Byte 3 sign-extended
;    0131  0
;    0132  0              SV_(P,S)= P, %IF %NULL(S) %THEN 1 %ELSE S %FI, 1 %, ! Signed bit field
;    0133  0
;    0134  0              SV0_(P,S) = P,       %IF %NULL(S) %THEN 1 %ELSE S %FI, 1 %, ! Bits in B0_
;    0135  0              SV1_(P,S) = (P+8),   %IF %NULL(S) %THEN 1 %ELSE S %FI, 1 %, ! Bits in B1_
;    0136  0              SV2_(P,S) = (P+16),  %IF %NULL(S) %THEN 1 %ELSE S %FI, 1 %, ! Bits in B2_
;    0137  0              SV3_(P,S) = (P+24),  %IF %NULL(S) %THEN 1 %ELSE S %FI, 1 %; ! Bits in B3_
;    0138  0      !
;    0139  0      !
;    0140  0      ! END OF STRUCDEF.REQ





;                                 COMMAND QUALIFIERS

;       BLISS/LIBRARY=LIB$:STRUCDEF.L32/LIST=LIS$:STRUCDEF.LIS SRC$:STRUCDEF.REQ

; Run Time:          00:01.2
; Elapsed Time:      00:02.8
; Lines/CPU Min:      7058
; Lexemes/CPU-Min:  28336
; Memory Used:  12 pages
; Library Precompilation Complete
```

0400 AH-BT13A-SE
VAX/VMS V4.0

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TRACEMSG
MDL

TBKLIB
REQ

TRACE

TRACE
MAP

STRUCDEF
REQ

TBKPROLOG
REQ

STRUCDEF
LIS

TBKDST
REQ

0401 AH-BT13A-SE
VAX/VMS V4.0

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