





0001 0  
0002 0  
0003 0  
0004 0  
0005 0  
0006 0  
0007 0  
0008 0  
0009 0  
0010 0  
0011 0  
0012 0  
0013 0  
0014 0  
0015 0  
0016 0  
0017 0  
0018 0  
0019 0  
0020 0  
0021 0  
0022 0  
0023 0  
0024 0  
0025 0  
0026 0  
0027 0  
0028 0  
0029 0  
0030 0  
0031 0  
0032 0  
0033 0  
0034 0  
0035 0  
0036 0  
0037 0  
0038 0  
0039 0  
0040 0  
0041 0  
0042 0  
0043 0

XTITLE 'SMGTPALIB - SMGS TPARSE require files'  
Run-Time Library Screen Management Bliss Definition Library  
Module: SMGTPALIB.REQ Edit: PLL1001

```
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*****
```

```
++
FACILITY:      Screen Management
ABSTRACT:
      This file contains require files used in the creation of TERMTABLE.EXE.
MODIFIED BY:
1-001 - Original.  PLL 30-JAN-1984
--
LIBRARY 'RTLSTARLE';      ! Starlet definitions
REQUIRE 'RTLIN:SMGTABDEF'; ! Terminal Table Definitions
```

R0044 0  
R0045 0  
R0046 0  
R0047 0  
R0048 0  
R0049 0  
R0050 0  
R0051 0  
R0052 0  
R0053 0  
R0054 0  
R0055 0  
R0056 0  
R0057 0  
R0058 0  
R0059 0  
R0060 0  
R0061 0  
R0062 0  
R0063 0  
R0064 0  
R0065 0  
R0066 0  
R0067 0  
R0068 0  
R0069 0  
R0070 0  
R0071 0  
R0072 0  
R0073 0  
R0074 0  
R0075 0  
R0076 0  
R0077 0  
R0078 0  
R0079 0  
R0080 0  
R0081 0  
R0082 0  
R0083 0  
R0084 0  
R0085 0  
R0086 0  
R0087 0  
R0088 0  
R0089 0  
R0090 0  
R0091 0  
R0092 0  
R0093 0  
R0094 0  
R0095 0  
R0096 0  
R0097 0  
R0098 0  
R0099 0  
R0100 0

Terminal Table Data Structure Definitions for RTL SMGS facility  
File: SMGTABDEF.REQ Edit: PLL1001

```

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*****

```

++  
FACILITY: Screen Management

ABSTRACT:  
This module defines the internal structure of the binary  
TERMTABLE.EXE.

MODIFIED BY:  
1-001 - Original. PLL 2-Nov-1983

```

--
The internal structure of TERMTABLE.EXE is divided into several sections.

Each terminal definition consists of 660 capability pointers and
a data area. If a terminal does not have a particular capability defined,
the pointer for that capability will be zero. Otherwise, the capability
pointer is an offset into the data area.

Each capability data consists of a count and the data. The data may be
a binary number or an ascii string. A negative count indicates that
this is a dynamic string which requires processing (substitution, conversion,
or arithmetic).

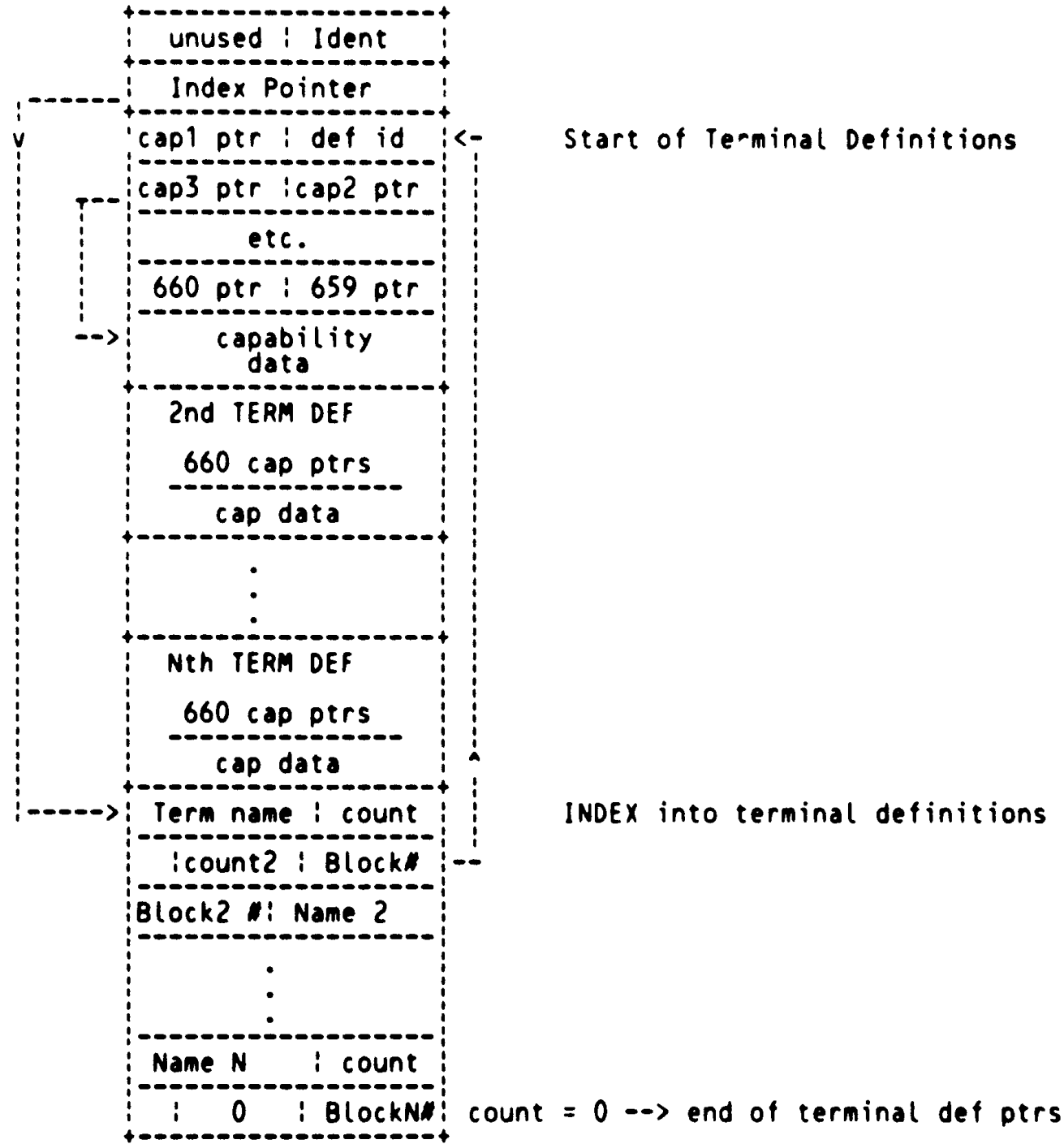
TERMTABLE.EXE also contains an index so that individual terminal definitions

```

R0101 0  
 R0102 0  
 R0103 0  
 R0104 0  
 R0105 0  
 R0106 0  
 R0107 0  
 R0108 0  
 R0109 0  
 R0110 0  
 R0111 0  
 R0112 0  
 R0113 0  
 R0114 0  
 R0115 0  
 R0116 0  
 R0117 0  
 R0118 0  
 R0119 0  
 R0120 0  
 R0121 0  
 R0122 0  
 R0123 0  
 R0124 0  
 R0125 0  
 R0126 0  
 R0127 0  
 R0128 0  
 R0129 0  
 R0130 0  
 R0131 0  
 R0132 0  
 R0133 0  
 R0134 0  
 R0135 0  
 R0136 0  
 R0137 0  
 R0138 0  
 R0139 0  
 R0140 0  
 R0141 0  
 R0142 0  
 R0143 0  
 R0144 0  
 R0145 0  
 R0146 0  
 R0147 0  
 R0148 0  
 R0149 0  
 R0150 0  
 R0151 0  
 R0152 0  
 R0153 0  
 R0154 0  
 R0155 0  
 R0156 0  
 R0157 0

can be located. The index will consist of a count, the ascii name for the terminal, and the block number where the terminal definition begins. The index will actually be located at the end of TERMTABLE.EXE. This is because the number of terminal definitions is unpredictable, and we don't want to impose an arbitrary size constraint that would restrict the number of terminals defined.

TERMTABLE.EXE will begin with an ident number, to allow for future changes. These future changes would probably allow more terminal capabilities (greater than 660).



R0158 0  
 R0159 0  
 R0160 0  
 R0161 0  
 R0162 0  
 R0163 0  
 R0164 0  
 R0165 0  
 R0166 0  
 R0167 0  
 R0168 0  
 R0169 0  
 R0170 0  
 R0171 0  
 R0172 0  
 R0173 0  
 R0174 0  
 R0175 0  
 R0176 0  
 R0177 0  
 R0178 0  
 R0179 0  
 R0180 0  
 R0181 0  
 R0182 0  
 R0183 0  
 R0184 0  
 R0185 0  
 R0186 0  
 R0187 0  
 R0188 0  
 R0189 0  
 R0190 0  
 R0191 0  
 R0192 0  
 R0193 0  
 R0194 0  
 R0195 0  
 R0196 0  
 R0197 0  
 R0198 0  
 R0199 0  
 R0200 0  
 R0201 0  
 R0202 0

```

!
!+
! Offsets used to access a terminal table.
!-

MACRO
    TTW_W_IDENT          = 0, 0, 16, 0%,  ! ident field (to allow for
                                           ! future changes)
    TTW_W_unused         = 2, 0, 16, 0%,  ! not used
    TTL_L_INDEX_OFFSET   = 4, 0, 32, 0%,  ! offset from here to terminal
                                           ! index
    
```

```

!+
! Define constants needed to build terminal table
!-
    
```

```

LITERAL
    SMGSK_HEADER_SIZE   = 512,           ! 1 block for header info
    SMGSK_TERM_INDEX_SIZE = 5000,        ! arbitrary size for index
    SMGSK_CAP_PTRS_SIZE  = 1536,        ! 3 blocks to hold ptrs
    SMGSK_CAP_DATA_SIZE  = 5120,        ! 10 blocks to hold data
    SMGSK_TERM_DEF_SIZE  = 6656,        ! ptrs + data (3+10 blocks)
    SMGSK_TERM_DEF_ID    = 137,         ! random number to identify
                                           ! a valid terminal def
    SMGSK_TERM_DEF_ID_OFFSET = 0,        ! location of id - 1st
                                           ! word in ptr vector
    SMGSK_MIN_REQUEST_CODE = 1,          ! lowest capability number
    SMGSK_MAX_REQUEST_CODE = 660,       ! highest capability number
    
```

```

!+
! The following are used when parsing arithmetic expressions.
! Information about expressions is stored via these encodings.
!-
    
```

```

LITERAL
    SMGSK_FAO_STRING     = %X'FFFFFFFF',
    SMGSK_ARITH_STRING   = %X'FFFFFFFE',
    SMGSK_OPERAND        = %X'FFFFFFFD',
    SMGSK_SUBSTITUTE     = %X'FFFFFFFC',
    SMGSK_ADD             = %X'FFFFFFFB',
    SMGSK_SUBTRACT       = %X'FFFFFFFA',
    SMGSK_MULTIPLY       = %X'FFFFFFF9',
    SMGSK_DIVIDE         = %X'FFFFFFF8',
    SMGSK_STORE          = %X'FFFFFFF7';
    
```

SMGTPALIB - SMGS TPARSE require files

G 16  
15-Sep-1984 23:28:41  
15-Sep-1984 22:51:35

VAX-11 Bliss-32 V4.0-742  
[SMGRTL.SRC]SMGTPALIB.REQ;1

Page 5  
(1)

: 0203 0  
: 0204 0

REQUIRE 'RTLIN:SMGTPACTL';

! TPARSE parameter block defs





```
R0262 0      PARAM_A_CAP_PTRS      = TPASK_LENGTH0 +16, 0, 32, 0%,
R0263 0      | addr of buffer for cap offsets
R0264 0      PARAM_A_CAP_DATA    = TPASK_LENGTH0 +20, 0, 32, 0%,
R0265 0      | addr of buffer for data
R0266 0      PARAM_A_HEADER     = TPASK_LENGTH0 +24, 0, 32, 0%,
R0267 0      | addr of buffer with header info
R0268 0      PARAM_L_TERM_INDEX_SIZE = TPASK_LENGTH0 +28, 0, 32, 0%,
R0269 0      | # bytes in term index
R0270 0      PARAM_A_TERM_INDEX  = TPASK_LENGTH0 +32, 0, 32, 0%,
R0271 0      | address of temp. storage
R0272 0      | for terminal index
R0273 0      PARAM_L_CUR_TERM_DEF = TPASK_LENGTH0 +36, 0, 32, 0%,
R0274 0      | points to current term def
R0275 0      PARAM_L_CUR_DATA_BYTE = TPASK_LENGTH0 +40, 0, 32, 0%,
R0276 0      | next available data byte
R0277 0      PARAM_L_CUR_CAP_NUMBER = TPASK_LENGTH0 +44, 0, 32, 0%,
R0278 0      | number of capability currently
R0279 0      | being parsed
R0280 0      PARAM_L_SAVED_TOKENCNT = TPASK_LENGTH0 +48, 0, 32, 0%,
R0281 0      | remember how many chars in
R0282 0      | current cap string
R0283 0      PARAM_L_SAVED_TOKENSTR = TPASK_LENGTH0 +52, 0, 32, 0%,
R0284 0      | pointer to start of current
R0285 0      | cap string
R0286 0      PARAM_L_ORIG_TXT     = TPASK_LENGTH0 +56, 0, 32, 0%;
R0287 0      | address of buffer containing
R0288 0      | text string (pre-upcase)
R0289 0      ! End of SMGTPACTL.REQ
```

SMGTPALIB - SMGS TPARSE require files

J 16  
15-Sep-1984 23:28:41  
15-Sep-1984 22:51:35

VAX-11 Bliss-32 V4.0-742  
[SMGRTL.SRC]SMGTPALIB.REQ;1

Page 8  
(1)

```
: 0290 0  
: 0291 0 REQUIRE 'RTLIN:SMGTRMMAC';          ! TPARSE macros
```

R0292 0  
R0293 0  
R0294 0  
R0295 0  
R0296 0  
R0297 0  
R0298 0  
R0299 0  
R0300 0  
R0301 0  
R0302 0  
R0303 0  
R0304 0  
R0305 0  
R0306 0  
R0307 0  
R0308 0  
R0309 0  
R0310 0  
R0311 0  
R0312 0  
R0313 0  
R0314 0  
R0315 0  
R0316 0  
R0317 0  
R0318 0  
R0319 0  
R0320 0  
R0321 0  
R0322 0  
R0323 0  
R0324 0  
R0325 0  
R0326 0  
R0327 0  
R0328 0  
R0329 0  
R0330 0  
R0331 0  
R0332 0  
R0333 0  
R0334 0  
R0335 0  
R0336 0  
R0337 0  
MR0338 0  
MR0339 0  
MR0340 0  
MR0341 0  
MR0342 0  
MR0343 0  
MR0344 0  
R0345 0  
R0346 0  
R0347 0  
R0348 0

XTITLE 'SMGTRMMAC.REQ - Macros for TERMTABLE'  
Module: SMGTRMMAC.REQ Edit: PLL1001

```
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*****
```

++  
FACILITY: Screen Management

ABSTRACT:

This require file contains macros used in the creation of TERMTABLE.EXE.

MODIFIED BY:

1-001 - Original. PLL 30-JAN-1984

+  
Macro \$INCR\_CAP\_STRING\_SIZE

Add the specified number of bytes to the capability string size.  
We may be dealing with a negative size if extra processing is needed.

```
MACRO $INCR_CAP_STRING_SIZE (NUMBER_BYTES, STRING_SIZE) =
BEGIN
  IF .STRING_SIZE LSS 0
  THEN
    STRING_SIZE = .STRING_SIZE - NUMBER_BYTES
  ELSE
    STRING_SIZE = .STRING_SIZE + NUMBER_BYTES;
END;%;
```

+  
Macro \$INCR\_CUR\_DATA\_BYTE

```

R0349 0
R0350 0
R0351 0
R0352 0
R0353 0
R0354 0
R0355 0
R0356 0
R0357 0
R0358 0
R0359 0
R0360 0
R0361 0
R0362 0
R0363 0
R0364 0
R0365 0
R0366 0
R0367 0
R0368 0
R0369 0
R0370 0
R0371 0
R0372 0
R0373 0
R0374 0
R0375 0
R0376 0
R0377 0
R0378 0
R0379 0
R0380 0
R0381 0
R0382 0
R0383 0
R0384 0
R0385 0
R0386 0
R0387 0
R0388 0
R0389 0
R0390 0
R0391 0
R0392 0
R0393 0
R0394 0
R0395 0
R0396 0
R0397 0
R0398 0
R0399 0
R0400 0
R0401 0
R0402 0
R0403 0
R0404 0
R0405 0

```

Update the currently available data byte by the number of bytes just written. If this is the first byte of the string, then we also wrote a byte count.

```

MACRO $INCR_CUR_DATA_BYTE (NUMBER_BYTES, FIRST_FLAG) =
BEGIN
  AP [PARAM_L_CUR_DATA_BYTE] = .AP [PARAM_L_CUR_DATA_BYTE] +
    NUMBER_BYTES +
    (IF FIRST_FLAG
     THEN 2      ! 1 for size, 1 for kind
     ELSE 0);

  SMG$$DATA_OFFSET = .SMG$$DATA_OFFSET + NUMBER_BYTES +
    (IF FIRST_FLAG
     THEN 2
     ELSE 0);
END; %;

```

Macro to update the size of an arithmetic capability. This size will be negative.

```

MACRO $UPDATE_ARITH_STRING_SIZE (NUMBER_BYTES) =
BEGIN
  BI^C
  CAP_PTRS = .AP [PARAM_L_CUR_TERM_DEF] : VECTOR [,WORD];
  LOCAL
  CAP_SIZE : REF VECTOR [,BYTE,SIGNED];

  CAP_SIZE = .AP [PARAM_L_CUR_TERM_DEF] +
    .CAP_PTRS [.AP [PARAM_L_CUR_CAP_NUMBER]];

  CAP_SIZE [0] = .CAP_SIZE [0] - NUMBER_BYTES;
END; %;

```

We fill buffers with data and then do a block I/O write when we reach the end of a definition or when the buffer is full. Here we check to see if the buffer is full (ie. if there is room for the number of bytes we are about to put in it).

```

MACRO $CHECK_BUFFER_OVERFLOW (BYTES_TO_WRITE) =
BEGIN
  LOCAL
  REMAINING_BYTES;
  REMAINING_BYTES = SMG$K_CAP_DATA_SIZE -
    (.AP [PARAM_L_CUR_DATA_BYTE] - .AP [PARAM_A_CAP_DATA]);
  IF BYTES_TO_WRITE GTR .REMAINING_BYTES
  THEN
    CALLG (.AP, SMG$$WRITE_DATA);
END; %;

```

SMGTRMMAC.REQ - Macros for TERMTABLE

M 16  
15-Sep-1984 23:28:41  
15-Sep-1984 22:51:46

VAX-11 Bliss-32 V4.0-742  
[SMGRTL.SRC]SMGTRMMAC.REQ;1

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(1)

: R0406 0  
: R0407 0

! End of file SMGTRMMAC.REQ

```

: 0408 0
: 0409 0 ! End of file SMGTPALIB.REQ
    
```

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
_\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	1	0	581	00:01.0

COMMAND QUALIFIERS

```

: BLISS/LIBRARY=LIB$:SMGTPALIB/LIST=LISS$:SMGTPALIB/SOURCE=REQUIRE SRC$:SMGTPALIB
: Run Time: 00:04.0
: Elapsed Time: 00:05.7
: Lines/CPU Min: 6135
: Lexemes/CPU-Min: 9780
: Memory Used: 32 pages
: Library Precompilation Complete
    
```



