```
M  7

   CCCCCCCCCCCC     OOOOOOOOO     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
   CCCCCCCCCCCC     OOOOOOOOO     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
   CCCCCCCCCCCC     OOOOOOOOO     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
CCC              OOO         OOO  BBB         BBB  RRR         RRR        TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR         RRR        TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR         RRR        TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR         RRR        TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR         RRR        TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR         RRR        TTT        LLL
CCC              OOO         OOO  BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
CCC              OOO         OOO  BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
CCC              OOO         OOO  BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR   RRR              TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR   RRR              TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR   RRR              TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR      RRR           TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR      RRR           TTT        LLL
CCC              OOO         OOO  BBB         BBB  RRR      RRR           TTT        LLL
   CCCCCCCCCCCC     OOOOOOOOO     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
   CCCCCCCCCCCC     OOOOOOOOO     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
   CCCCCCCCCCCC     OOOOOOOOO     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
```

FILEID**COBCVTQP

```
  CCCCCCCC    OOOOOO    BBBBBBBB      CCCCCCCC  VV      VV  TTTTTTTTTT    QQQQQQ    PPPPPPPP
  CCCCCCCC    OOOOOO    BBBBBBBB      CCCCCCCC  VV      VV  TTTTTTTTTT    QQQQQQ    PPPPPPPP
CC          OO      OO  BB      BB  CC          VV      VV      TT      QQ      QQ  PP      PP
CC          OO      OO  BB      BB  CC          VV      VV      TT      QQ      QQ  PP      PP
CC          OO      OO  BB      BB  CC          VV      VV      TT      QQ      QQ  PP      PP
CC          OO      OO  BB      BB  CC          VV      VV      TT      QQ      QQ  PP      PP
CC          OO      OO  BBBBBBBB    CC          VV      VV      TT      QQ      QQ  PPPPPPPP
CC          OO      OO  BBBBBBBB    CC          VV      VV      TT      QQ      QQ  PPPPPPPP
CC          OO      OO  BB      BB  CC          VV      VV      TT      QQ  QQ  QQ  PP
CC          OO      OO  BB      BB  CC          VV      VV      TT      QQ  QQ  QQ  PP
CC          OO      OO  BB      BB  CC            VV  VV        TT      QQ    QQ    PP              ....
CC          OO      OO  BB      BB  CC            VV  VV        TT      QQ    QQ    PP              ....
  CCCCCCCC    OOOOOO    BBBBBBBB      CCCCCCCC      VV          TT        QQQQ  QQ  PP              ....
  CCCCCCCC    OOOOOO    BBBBBBBB      CCCCCCCC      VV          TT        QQQQ  QQ  PP              ....

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
```

Table of Contents

```
0000          .TITLE  COB$CVTQP_R9    COBOL Convert Quad to Packed
0000          .IDENT  /1-008/         ; File: COBCVTQP.MAR
0000
0000  ;
0000  ;************************************************************************
0000  ;*                                                                      *
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0000  ;*                                                                      *
0000  ;*                                                                      *
0000  ;************************************************************************
0000  ;
0000  ; FACILITY: COBOL TYPE CONVERSION
0000  ;++
0000  ; ABSTRACT:
0000  ;       This module contains the routine which converts signed quadwords
0000  ;       to packed.
0000  ;
0000  ;
0000  ;--
0000  ;
0000  ; VERSION: 1
0000  ;
0000  ; HISTORY:
0000  ;
0000  ; AUTHOR:
0000  ;       John Sauter, 29-DEC-78
0000  ;
0000  ; MODIFIED BY:
0000  ;
0000  ;
0000  ;
```

```
0000              .SBTTL  HISTORY         ; Detailed Current Edit History
0000
0000
0000        ; Edit History for Version 1 of COBCVTQP
0000        ;
0000        ; 1-001 - Original from Marty Jack.
0000        ; 1-002 - Use byte displacement lengths.  JBS 29-DEC-78
0000        ; 1-003 - Make entry point symbol global.  JBS 03-JAN-1979
0000        ; 1-004 - Minor editing cleanup.  JBS 11-JAN-1979
0000        ; 1-005 - Bug fixes and cleanup.  MLJ 10-Mar-1979
0000        ; 1-006 - 19 digit temps.  MLJ 13-Mar-1979
0000        ; 1-007 - Cosmetic changes.  RKR 18-OCT-79
0000        ; 1-008 - Add comments to header.  05-NOV-79
```

```
                         0000             .SBTTL  DECLARATIONS
                         0000
                         0000      ;
                         0000      ; INCLUDE FILES:
                         0000      ;
                         0000
                         0000      ;
                         0000      ; EXTERNAL SYMBOLS:
                         0000      ;        NONE
                         0000      ;
                         0000
                         0000      ;
                         0000      ; MACROS:
                         0000      ;        NONE
                         0000      ;
                         0000
                         0000      ;
                         0000      ; PSECT DECLARATIONS:
                     00000000             .PSECT  _COB$CODE        PIC, SHR, LONG, EXE, NOWRT
                         0000
                         0000      ;
                         0000      ; EQUATED SYMBOLS:
                         0000      ;        NONE
                         0000      ;
                         0000
                         0000      ;
                         0000      ; OWN STORAGE:
                         0000      ;
                         0000      ;+
                         0000      ; The following constant has the value 2**32.  It is used for scaling
                         0000      ; the high 32 bits and for compensating for unsigned arithmetic.
                         0000      ;-
  6C 29 67 49 29 04      0000      BIAS:   .PACKED 4294967296      ; 2**32
           0000000A      0006      BIAS_DIGITS=10
                         0006      ;
```

```
                              0006         .SBTTL  COB$CVTQP_R9
                              0006
                              0006    ;++
                              0006    ; FUNCTIONAL DESCRIPTION:
                              0006    ;
                              0006    ;        Converts a 64-bit (quadword) integer to packed.
                              0006    ;
                              0006    ; CALLING SEQUENCE:
                              0006    ;
                              0006    ;        JSB COB$CVTQP_R9 (scale.rl.v, src.rq.r, dstlen.rl.v, dst.wp.r)
                              0006    ;
                              0006    ;        Arguments are passed in R6, R7, R8 and R9.
                              0006    ;
                              0006    ; INPUT PARAMETERS:
                              0006    ;
                              0006    ;        SCALE.rl.v              The power of ten by which the internal
                              0006    ;                                representation of the source must be
                              0006    ;                                multiplied to scale the same as the
                              0006    ;                                internal representation of the dest.
                              0006    ;        SRC.rq.r                The number to be converted
                              0006    ;        DSTLEN.rl.v             The number of digits in the destination
                              0006    ;
                              0006    ; IMPLICIT INPUTS:
                              0006    ;
                              0006    ;        All of the trap bits in the PSL are assumed off.
                              0006    ;
                              0006    ; OUTPUT PARAMETERS:
                              0006    ;
                              0006    ;        DST.wp.r                The place to store the converted number
                              0006    ;
                              0006    ; IMPLICIT OUTPUTS:
                              0006    ;
                              0006    ;        NONE
                              0006    ;
                              0006    ; FUNCTION VALUE
                              0006    ;
                              0006    ;        1 = SUCCESS, 0 = FAILURE
                              0006    ;
                              0006    ;
                              0006    ; COMPLETION CODES:
                              0006    ;
                              0006    ;        NONE
                              0006    ;
                              0006    ; SIDE EFFECTS:
                              0006    ;
                              0006    ;        Destroys registers R0 through R9.
                              0006    ;
                              0006    ;--
                              0006
                              0006    COB$CVTQP_R9::
                  5E   14  C2 0006            SUBL2   #20,SP                  ; Allocate temp space
      04 A7   67  01   1F  EC 0009            CMPV    #31,#1,(R7),4(R7)       ; Is number in longword range?
                       13  12 000F            BNEQ    11$                     ; Br if not to do slower code
              6E  0A   67  F9 0011            CVTLP   (R7),#10,(SP)           ; Convert low order longword
69   58   00  6E  0A   56  F8 0015            ASHP    R6,#10,(SP),#0,R8,(R9)  ; Scale to destination
                              001C                                            ;     (also clears R0)
                       02  1D 001C            BVS     10$                     ; Br if overflowed
```

```
                            50   D6   001E               INCL    R0                       ; Indicate success, R0 = 1
                       5E   14   C0   0020       10$:    ADDL2   #20,SP                   ; Deallocate temp space
                                 05   0023               RSB                              ; Return
                                      0024       ;+
                                      0024       ; Come here if the input number is not in longword range.  Sum the
                                      0024       ; converted high order longword, multiplied by 2**32, and the converted
                                      0024       ; low order longword, considered as an unsigned number.
                                      0024       ;-
               6E   0A   04 A7   F9   0024       11$:    CVTLP   4(R7),#10,(SP)           ; Convert high order longword
     13   6E   0A   D3 AF   0A   25   0029               MULP    #BIAS_DIGITS,BIAS,#10,(SP),#19,8(SP)
                         08 AE        0030
                                      0032                                                ; Multiply by 2**32
                  6E   0A   67   F9   0032               CVTLP   (R7),#10,(SP)            ; Convert low order longword
                            06   18   0036               BGEQ    12$                      ; Br if nonnegative
          6E   0A   C4 AF   0A   20   0038               ADDP4   #BIAS_DIGITS,BIAS,#10,(SP)
                                      003E                                                ; Correct for signed conversion
          08 AE   13   6E   0A   20   003E       12$:    ADDP4   #10,(SP),#19,8(SP)       ; Sum low and high order parts
   69   58   00   63   13   56   F8   0044               ASHP    R6,#19,(R3),#0,R8,(R9)   ; Scale to destination
                                      004B                                                ;     (also clears R0)
                            02   1D   004B               BVS     13$                      ; Br if overflowed
                            50   D6   004D               INCL    R0                       ; Indicate success, R0 = 1
                       5E   14   C0   004F       13$:    ADDL2   #20,SP                   ; Deallocate temp space
                                 05   0052               RSB                              ; Return
                                      0053       ;
                                      0053               .END
```

```
BIAS               00000000 R     01
BIAS_DIGITS      = 0000000A
COB$CVTQP_R9       00000006 RG    01

                                        +----------------+
                                        ! Psect synopsis !
                                        +----------------+

PSECT name                      Allocation          PSECT No.  Attributes
----------                      ----------          ---------  ----------
.  ABS  .                       00000000  (    0.)  00 (  0.)  NOPIC    USR    CON    ABS    LCL NOSHR NOEXE NORD   NOWRT NOVEC BYTE
_COB$CODE                       00000053  (   83.)  01 (  1.)    PIC    USR    CON    REL    LCL   SHR   EXE   RD   NOWRT NOVEC LONG

                                      +------------------------+
                                      ! Performance indicators !
                                      +------------------------+

Phase                        Page faults    CPU Time       Elapsed Time
-----                        -----------    --------       ------------
Initialization                       32    00:00:00.05    00:00:01.01
Command processing                  114    00:00:00.28    00:00:03.45
Pass 1                               70    00:00:00.33    00:00:01.36
Symbol table sort                     0    00:00:00.00    00:00:00.00
Pass 2                               46    00:00:00.22    00:00:01.40
Symbol table output                   2    00:00:00.00    00:00:00.00
Psect synopsis output                 2    00:00:00.01    00:00:00.01
Cross-reference output                0    00:00:00.00    00:00:00.00
Assembler run totals                268    00:00:00.91    00:00:07.24

The working set limit was 750 pages.
2251 bytes (5 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 3 non-local and 4 local symbols.
179 source lines were read in Pass 1, producing 8 object records in Pass 2.
0 pages of virtual memory were used to define 0 macros.

                                     +--------------------------+
                                     ! Macro library statistics !
                                     +--------------------------+

Macro library name                           Macros defined
------------------                           --------------
_$255$DUA28:[SYSLIB]STARLET.MLB;2                   0

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS$:COBCVTQP/OBJ=OBJ$:COBCVTQP MSRC$:COBCVTQP/UPDATE=(ENH$:COBCVTQP)
```

0061 AH-BT13A-SE
VAX/VMS V4.0

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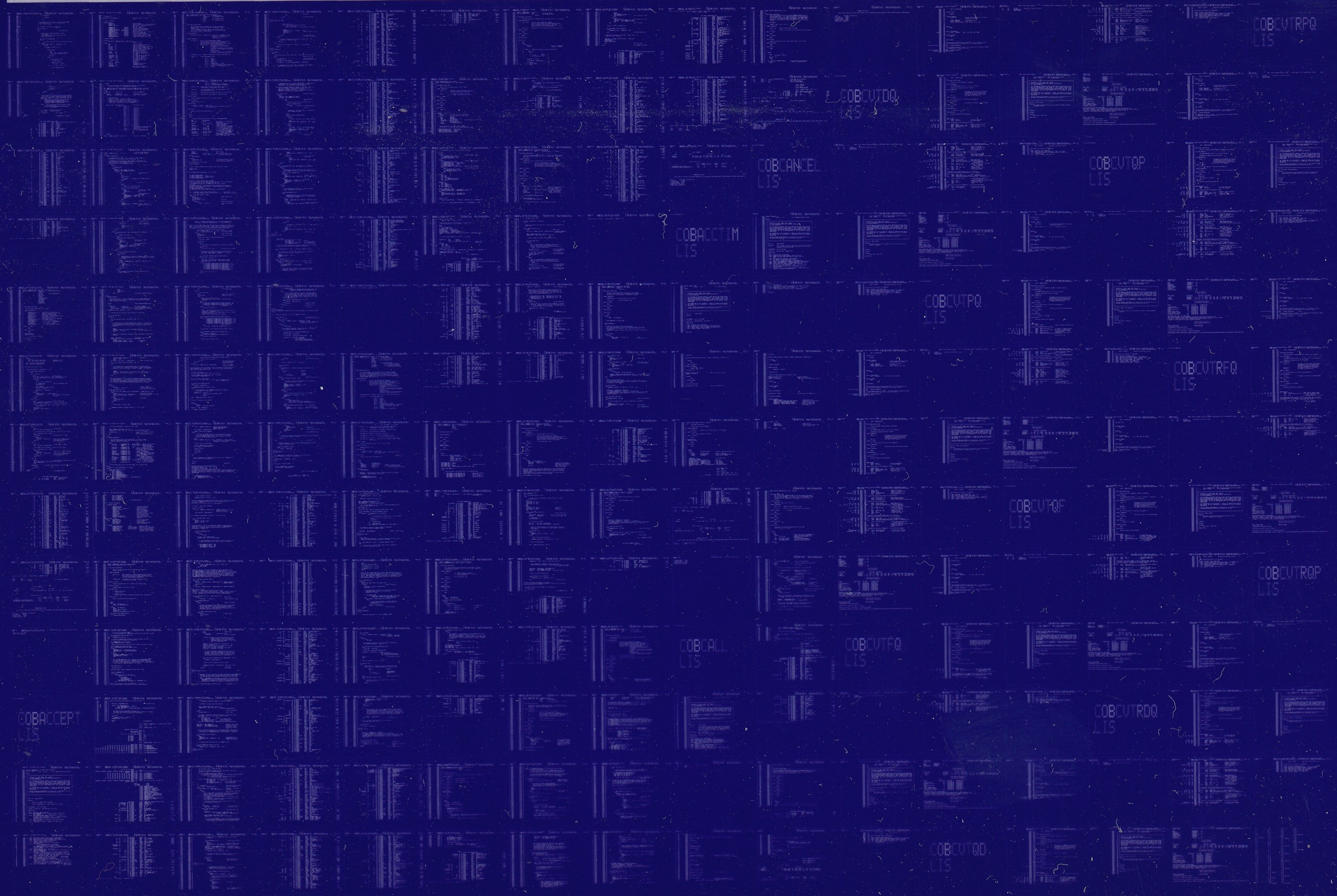

COBCVTRPQ
LIS

COBCVTDQ
LIS

COBCANCEL
LIS

COBCVTQP
LIS

COBACCTIM
LIS

COBCVTPQ
LIS

COBCVTRFQ
LIS

COBCVTQF
LIS

COBCVTRQP
LIS

COBCALL
LIS

COBCVTFQ
LIS

COBACCEPT
LIS

COBCVTRDQ
LIS

COBCVTQD
LIS