CLIUT

```
MM       MM     AAAAAA    TTTTTTTTTT   CCCCCCCC   HH      HH  KK      KK  EEEEEEEEEE  YY        YY
MM       MM     AAAAAA    TTTTTTTTTT   CCCCCCCC   HH      HH  KK      KK  EEEEEEEEEE  YY        YY
MMMM   MMMM    AA    AA       TT       CC         HH      HH  KK    KK    EE          YY      YY
MMMM   MMMM    AA    AA       TT       CC         HH      HH  KK    KK    EE           YY    YY
MM  MM  MM    AA    AA       TT       CC         HH      HH  KK  KK      EE            YY  YY
MM  MM  MM    AA    AA       TT       CC         HH      HH  KK  KK      EE            YY  YY
MM       MM    AA    AA       TT       CC         HHHHHHHHHH  KKKKK      EEEEEEE         YY
MM       MM    AA    AA       TT       CC         HHHHHHHHHH  KKKKK      EEEEEEE         YY
MM       MM    AAAAAAAAAA     TT       CC         HH      HH  KK  KK      EE             YY
MM       MM    AAAAAAAAAA     TT       CC         HH      HH  KK  KK      EE             YY
MM       MM    AA    AA       TT       CC         HH      HH  KK    KK    EE             YY       ::::
MM       MM    AA    AA       TT       CC         HH      HH  KK    KK    EE             YY       ::::
MM       MM    AA    AA       TT       CCCCCCCC   HH      HH  KK      KK  EEEEEEEEEE     YY       ::::
MM       MM    AA    AA       TT       CCCCCCCC   HH      HH  KK      KK  EEEEEEEEEE     YY       ::::


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
```

```
0000    1            .TITLE  MATCHKEY - MATCH A STRING AGAINST A KEY
0000    2            .IDENT  'V04-000'
0000    3
0000    4    ;
0000    5    ;************************************************************************
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0000   24    ;*                                                                      *
0000   25    ;*                                                                      *
0000   26    ;************************************************************************
0000   27    ;
0000   28
0000   29    ;++
0000   30    ; FACILITY:     GENERAL PURPOSE UTILITY SUBROUTINE
0000   31    ;
0000   32    ; ABSTRACT:     MATCH A STRING AGAINST A TABLE OF KEYS
0000   33    ;
0000   34    ;
0000   35    ; ENVIRONMENT:  USER MODE/NON-PRIVILEGED CODE
0000   36    ;
0000   37    ; AUTHOR:       W.H.BROWN, CREATION DATE:3-JUN-1977
0000   38    ;
0000   39    ; MODIFIED BY:
0000   40    ;
0000   41    ;       . : VERSION
0000   42    ; 01    -
0000   43    ;--
```

```
                   0000    45              .SBTTL  DECLARATIONS
                   0000    46  ;
                   0000    47  ; INCLUDE FILES:
                   0000    48  ;
                   0000    49  ;
                   0000    50  ; MACROS:
                   0000    51  ;
                   0000    52  ;
                   0000    53  ; EQUATED SYMBOLS:
                   0000    54  ;
       00000004    0000    55          TABLE   = 4                     ; ADDRESS OF KEYWORDS
       00000008    0000    56          DESCP   = 8                     ; ADDRESS OF DESCRIPTOR FOR STRING
       0000000C    0000    57          ADDR    = 12                    ; ADDRESS TO STORE RESULT
                   0000    58  ;
                   0000    59  ; OWN STORAGE:
                   0000    60  ;
                   0000    61  ;          NONE
```

```
                    0000    63                .SBTTL  MATCH KEY
                    0000    64  ;++
                    0000    65  ; FUNCTIONAL DESCRIPTION:
                    0000    66  ;
                    0000    67  ;       THIS ROUTINE ACCEPTS A LIST OF COUNTED STRINGS
                    0000    68  ;       AND A DESCRIPTOR FOR A VARAIABLE LENTHG STRING.
                    0000    69  ;       AN ATTEMPT IS MADE TO FIND A STRING IN THE LIST
                    0000    70  ;       THAT MATCHES THE VARIABLE STRING CHECKING THE
                    0000    71  ;       LENGTH OF THE SHORTER STRING.  IF A MATCH IS NOT FOUND,
                    0000    72  ;       A ZERO IS RETURNED. IF MORE THAN 1 VALUE MATCHES, THE
                    0000    73  ;       INDEX TO THE FIRST MATCH IS RETURNED A NEGATIVE NUMBER.
                    0000    74  ;       OTHERWISE THE INDEX IN THE TABLE OF STRINGS IS RETURNED,
                    0000    75  ;       AS A VALUE STARTING WITH 1.
                    0000    76  ;
                    0000    77  ; CALLING SEQUENCE:
                    0000    78  ;
                    0000    79  ;       CALLS   #2,LIB$MATCHKEY          ; RETURN INDEX IN R1
                    0000    80  ;
                    0000    81  ; INPUT PARAMETERS:
                    0000    82  ;
                    0000    83  ;       THE ADDRESS OF THE LIST OF COUNTED STRINGS FOLLOWED BY A 0 BYTE
                    0000    84  ;       THE ADDRESS OF A QUADWORD DESCRIPTOR DESCRIBING THE STRING TO MATCH
                    0000    85  ;
                    0000    86  ; IMPLICIT INPUTS:
                    0000    87  ;
                    0000    88  ;       NONE
                    0000    89  ;
                    0000    90  ; OUTPUT PARAMETERS:
                    0000    91  ;
                    0000    92  ;       R0 IS RETURNED AS THE INDEX TO THE MATCH
                    0000    93  ;
                    0000    94  ; IMPLICIT OUTPUTS:
                    0000    95  ;
                    0000    96  ;       NONE
                    0000    97  ;
                    0000    98  ; COMPLETION CODES:
                    0000    99  ;
                    0000   100  ;       A ZERO INDICATES NO MATCH, A MINUS NUMBER IS MORE THAN 1 MATCH
                    0000   101  ;
                    0000   102  ; SIDE EFFECTS:
                    0000   103  ;
                    0000   104  ;       NONE
                    0000   105  ;
                    0000   106  ;--
                00000000   107                .PSECT  LIB_CODE        EXE,RD,NOWRT
                    0000   108
                    0000   109  LIB$MATCHKEY::                        ; MATCH KEYWORD
           007C    0000   110                .WORD   ^M<R2,R3,R4,R5,R6>   ; REGISTERS TO SAVE
  54  08 BC  7D    0002   111                MOVQ    @DESCP(AP),R4   ; GET DESCRIPTOR FOR THE STRING
  56  04 AC  D0    0006   112                MOVL    TABLE(AP),R6    ; THE INPUT STRINGS
       0E  10    000A   113                BSBB    100$            ; TRY FOR FIRST MATCH
       50  DD    000C   114                PUSHL   R0              ; SAVE THE INDEX
       07  13    000E   115                BEQL    10$             ; BR IF NO MATCH
       08  10    0010   116                BSBB    100$            ; TRY FOR AMBIGUOUS MATCH
       03  13    0012   117                BEQL    10$             ; NOT AMBIGUOUS
  7E  8E  CE    0014   118                MNEGL   (SP)+,-(SP)     ; CHANGE TO NEGATIVE
       01  BA    0017   119  10$:          POPR    #^M<R0>         ; GET INDEX
```

```
                 04   0019   120              RET                  ;
                      001A   121                                   ;
             01  DD   001A   122 100$:         PUSHL   #1           ; GET A INITIAL VALUE
          50  86  9A   001C  123 110$:         MOVZBL  (R6)+,R0     ; GET THE LENGTH
              18  13   001F  124               BEQL    130$         ; BR IF END OF STRING
          51  56  D0   0021  125               MOVL    R6,R1        ; SET ADDRESS
          56  50  C0   0024  126               ADDL    R0,R6        ; POINT AT NEXT
          54  50  D1   0027  127               CMPL    R0,R4        ; SEE WHICH IS BIGGER
              03  15   002A  128               BLEQ    120$         ; BR IF TARGET IS SHORTER
          50  54  D0   002C  129               MOVL    R4,R0        ; SET INPUT LENGTH
      65  61  50  29   002F  130 120$:         CMPC3   R0,(R1),(R5) ; CHECK FOR MATCH
              06  13   0033  131               BEQL    140$         ; BR IF FOUND A MATCH
              6E  D6   0035  132               INCL    (SP)         ; COUNT THE ITERATIONS
              E3  11   0037  133               BRB     110$         ; TRY AGAIN
              6E  D4   0039  134 130$:         CLRL    (SP)         ; SET ZERO INDEX
          50 8ED0   003B   135 140$:         POPL    R0           ; GET THE VALUE
              05   003E   136               RSB                  ; RETURN WITH CONDITION CODE SET
                   003F   137
                   003F   138               .END
```

```
ADDR          = 0000000C
DESCP         = 00000008
LIB$MATCHKEY    00000000 RG    01
TABLE         = 00000004
```

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

PSECT name              Allocation          PSECT No.  Attributes
----------              ----------          ---------  ----------
.  ABS  .               00000000  (    0.)  00 (  0.)  NOPIC  USR  CON  ABS  LCL NOSHR NOEXE NORD  NOWRT NOVEC BYTE
LIB_CODE                0000003F  (   63.)  01 (  1.)  NOPIC  USR  CON  REL  LCL NOSHR  EXE   RD  NOWRT NOVEC BYTE

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

Phase                   Page faults    CPU Time      Elapsed Time
-----                   -----------    --------      ------------
Initialization                   10    00:00:00.07   00:00:01.50
Command processing               75    00:00:00.86   00:00:04.65
Pass 1                           65    00:00:00.48   00:00:02.80
Symbol table sort                 0    00:00:00.00   00:00:00.00
Pass 2                           49    00:00:00.29   00:00:02.15
Symbol table output               2    00:00:00.01   00:00:00.01
Psect synopsis output             2    00:00:00.02   00:00:00.02
Cross-reference output            0    00:00:00.00   00:00:00.00
Assembler run totals            205    00:00:01.74   00:00:11.13
```

The working set limit was 750 pages.
1705 bytes (4 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 4 non-local and 6 local symbols.
138 source lines were read in Pass 1, producing 11 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:[CLIUTL.OBJ]CLIUTL.MLB;1          0
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                0
_$255$DUA28:[SYSLIB]STARLET.MLB;2             0
TOTALS (all libraries)                        0
```

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:MATCHKEY/OBJ=OBJ$:MATCHKEY MSRC$:MATCHKEY/UPDATE=(ENH$:MATCHKEY)+EXECML$/LIB+LIB$:CLIUTL/LIB

PRONOUNCE
LIS

QUEMAN
LIS

MATCHKEY
LIS

PUTCLIMSG
LIS

QUEMANMSG
LIS

PASSWORDS
LIS

QUEMANSHO
LIS