```
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
```

FILEID**STRMATCH

```
  SSSSSSSS  TTTTTTTTTT  RRRRRRRR    MM      MM    AAAAAA    TTTTTTTTTT    CCCCCCCC  HH      HH
  SSSSSSSS  TTTTTTTTTT  RRRRRRRR    MM      MM    AAAAAA    TTTTTTTTTT    CCCCCCCC  HH      HH
SS              TT      RR      RR  MMMM  MMMM   AA    AA      TT       CC        HH      HH
SS              TT      RR      RR  MMMM  MMMM   AA    AA      TT       CC        HH      HH
SS              TT      RR      RR  MM  MM  MM   AA    AA      TT       CC        HH      HH
SS              TT      RR      RR  MM  MM  MM   AA    AA      TT       CC        HH      HH
  SSSSSS        TT      RRRRRRRR    MM      MM   AA    AA      TT       CC        HHHHHHHHHH
  SSSSSS        TT      RRRRRRRR    MM      MM   AA    AA      TT       CC        HHHHHHHHHH
        SS      TT      RR  RR      MM      MM   AAAAAAAAAA      TT       CC        HH      HH
        SS      TT      RR  RR      MM      MM   AAAAAAAAAA      TT       CC        HH      HH
        SS      TT      RR    RR    MM      MM   AA    AA        TT       CC        HH      HH
        SS      TT      RR    RR    MM      MM   AA    AA        TT       CC        HH      HH
SSSSSSSS        TT      RR      RR  MM      MM   AA    AA        TT         CCCCCCCC  HH      HH
SSSSSSSS        TT      RR      RR  MM      MM   AA    AA        TT         CCCCCCCC  HH      HH

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     1          .TITLE  STR$MATCH_WILD          Match General Wild Card Specification
0000     2          .IDENT  'V03-002'               ; File: STRMATCH.MAR  Edit:LEB3002
0000     3
0000     4  ;
0000     5  ;*****************************************************************************
0000     6  ;*                                                                           *
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0000    24  ;*                                                                           *
0000    25  ;*                                                                           *
0000    26  ;*****************************************************************************
0000    27
0000    28  ;++
0000    29  ;
0000    30  ; FACILITY:  General Utility Library
0000    31  ;
0000    32  ; ABSTRACT:
0000    33  ;
0000    34  ;       This routine performs the general embedded wild card matching
0000    35  ;       algorithm.
0000    36  ;
0000    37  ; ENVIRONMENT:
0000    38  ;
0000    39  ;       Runs at any access mode, AST Reentrant
0000    40  ;
0000    41  ; AUTHOR:  Andrew C. Goldstein,  CREATION DATE:  10-Aug-1979  11:36
0000    42  ;
0000    43  ; MODIFIED BY:
0000    44  ;
0000    45  ;       V03-002 LEB             Linda Benson    15-Dec-1983
0000    46  ;               Change name from STR$MATCH_NAME to STR$MATCH_WILD
0000    47  ;               to more correctly match intent of this routine.
0000    48  ;               This marks version that has been incorporated into
0000    49  ;               the RTL.  Add EDIT field to module.
0000    50  ;
0000    51  ;       V03-001 BLS0178         Benn Schreiber  13-Mar-1982
0000    52  ;               Add interface to call as str$match_name
0000    53  ;
0000    54  ;       V02-001 MLJ0031         Martin L. Jack, 4-Aug-1981  6:32
0000    55  ;               Reorganize for simplicity and speed.
0000    56  ;
0000    57  ;--
```

```
                     ;
                     ; EXTERNAL DECLARATIONS:
                     ;
                     ; Prevent undeclared symbols from being automatically global.
                     ;
                             .DISABLE  GLOBAL
                             .EXTERNAL STR$ANALYZE_SDESC_R1
                             .EXTERNAL STR$_MATCH,STR$_NOMATCH
                     ;
                     ; MACROS:
                     ;
                             NONE
                     ;
                     ; EQUATED SYMBOLS:
                     ;
                             NONE
                     ;
                     ; OWN STORAGE:
                     ;
                             NONE
                     ;
                     ; PSECT DECLARATIONS:
                     ;
00000000             .PSECT _STR$CODE PIC, USR, CON, REL, LCL, SHR, -
                                     EXE, RD, NOWRT, LONG
```

```
                     0000     85          .SBTTL  STR$MATCH_WILD, general wild card matching
                     0000     86 ;++
                     0000     87 ; Functional Description
                     0000     88 ;       This routine performs the general embedded wild card matching
                     0000     89 ;       algorithm.
                     0000     90 ;
                     0000     91 ; Calling Sequence:
                     0000     92 ;       ret_status.wlc.v = STR$MATCH_WILD (CAND.rt.dx,PATRN.rt.dx)
                     0000     93 ;
                     0000     94 ; Formal Parameters:
                     0000     95 ;       CAND.rt.dx      Address of string descriptor for candidate string
                     0000     96 ;                        (The current item being looked at)
                     0000     97 ;       PATRN.rt.dx     Address of string descriptor for pattern string
                     0000     98 ;                        (The item looking for)
                     0000     99 ;
                     0000    100 ; Implicit Inputs:
                     0000    101 ;       none
                     0000    102 ;
                     0000    103 ; Output Parameters:
                     0000    104 ;       none
                     0000    105 ;
                     0000    106 ; Implicit Outputs:
                     0000    107 ;       none
                     0000    108 ;
                     0000    109 ; Routines Called:
                     0000    110 ;       STR$ANALYZE_SDESC_R1
                     0000    111 ;
                     0000    112 ; Routine Value:
                     0000    113 ;       STR$_MATCH   if the strings match.
                     0000    114 ;       STR$_NOMATCH if the strings don't match
                     0000    115 ;
                     0000    116 ; Signals:
                     0000    117 ;       Errors from STR$ANALYZE_SDESC
                     0000    118 ;
                     0000    119 ; Side Effects:
                     0000    120 ;       none
                     0000    121 ;
                     0000    122 ;--
                     0000    123
                03FC 0000    124          .ENTRY  str$match_wild,^M<R2,R3,R4,R5,R6,R7,R8,R9>
                     0002    125
     50   04 AC    D0 0002    126          MOVL    4(AP),R0                ; get first descriptor address
00000000'GF    16  0006    127          JSB     G^STR$ANALYZE_SDESC_R1  ; extract string length and address
     7E   50    7D  000C    128          MOVQ    R0,-(SP)                ; save descriptor
     50   08 AC    D0 000F    129          MOVL    8(AP),R0                ; get second descriptor address
00000000'GF    16  0013    130          JSB     G^STR$ANALYZE_SDESC_R1  ; analyze second descriptor
     54   50    7D  0019    131          MOVQ    R0,R4                   ; set up for match algorithm
     52   8E    7D  001C    132          MOVQ    (SP)+,R2                ; retrieve first descriptor
50   00000000'8F    D0 001F    133          MOVL    #STR$_NOMATCH,R0        ; Assume failure
          56    D4  0026    134          CLRL    R6                      ; Clear saved candidate count
                     0028    135 ;
                     0028    136 ; Main scanning loop.
                     0028    137 ;
          54    D7 0028    138 10$:     DECL    R4                      ; Pattern exhausted?
          24    19 002A    139          BLSS    30$                     ; Branch if yes
     51   85    9A 002C    140          MOVZBL  (R5)+,R1                ; Get next character in pattern
     2A   51    91 002F    141          CMPB    R1,#^A'*'               ; Pattern specifies wild string?
```

```
                     28   13  0032   142          BEQL    60$                     ; Branch if yes
                     52   D7  0034   143          DECL    R2                      ; Candidate exhausted?
                     23   19  0036   144          BLSS    50$                     ; Branch if yes
                  83 51   91  0038   145          CMPB    R1,(R3)+                ; Compare pattern to candidate
                     EB   13  003B   146          BEQL    10$                     ; Branch if pattern equals candidate
                  25 51   91  003D   147          CMPB    R1,#^A'%'               ; Pattern specifies wild character?
                     E6   13  0040   148          BEQL    10$                     ; Branch if yes
                              0042   149 ;
                              0042   150 ; We have detected a mismatch, or we are out of pattern while there is
                              0042   151 ; candidate left.  Back up to the last '*', advance a candidate character,
                              0042   152 ; and try again.
                              0042   153 ;
                     56   D7  0042   154 20$:    DECL    R6                      ; Count a saved candidate character
                     15   19  0044   155          BLSS    50$                     ; Branch if no saved candidate
                     57   D6  0046   156          INCL    R7                      ; Set to try next character
                  52 56   7D  0048   157          MOVQ    R6,R2                   ; Restore descriptors to backup point
                  54 58   7D  004B   158          MOVQ    R8,R4                   ;
                     D8   11  004E   159          BRB     10$                     ; Continue testing
                              0050   160 ;
                              0050   161 ; Here when pattern is exhausted.
                              0050   162 ;
                     52   D5  0050   163 30$:    TSTL    R2                      ; Candidate exhausted?
                     EE   12  0052   164          BNEQ    20$                     ; Branch if no
                              0054   165 ;
                              0054   166 ; Here to return.
                              0054   167 ;
           50 00000000'8F    D0  0054   168 40$:    MOVL    #STR$_MATCH,R0          ; Set success return
                              04  005B   169 50$:    RET                             ; Return
                              005C   170 ;
                              005C   171 ; We have detected a '*' in the pattern.  Save the pointers for backtracking.
                              005C   172 ;
                     54   D5  005C   173 60$:    TSTL    R4                      ; Pattern null after '*'?
                     F4   13  005E   174          BEQL    40$                     ; Branch if yes
                  56 52   7D  0060   175          MOVQ    R2,R6                   ; Save descriptors of both strings
                  58 54   7D  0063   176          MOVQ    R4,R8                   ;
                     C0   11  0066   177          BRB     10$                     ; Continue testing
                              0068   178
                              0068   179          .END
```

```
STR$ANALYZE_SDESC_R1            ********    X   00
STR$MATCH_WILD                  00000000 RG     01
STR$_MATCH                      ********    X   00
STR$_NOMATCH                    ********    X   00
```

Psect synopsis

```
PSECT name                      Allocation          PSECT No.  Attributes
----------                      ----------          ---------  ----------
.  ABS  .                       00000000  (    0.)  00 (  0.)  NOPIC   USR   CON   ABS   LCL NOSHR NOEXE NORD  NOWRT NOVEC BYTE
_STR$CODE                       00000068  (  104.)  01 (  1.)    PIC   USR   CON   REL   LCL   SHR   EXE   RD  NOWRT NOVEC LONG
```

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	30	00:00:00.02	00:00:02.84
Command processing	116	00:00:00.30	00:00:01.88
Pass 1	71	00:00:00.31	00:00:02.72
Symbol table sort	0	00:00:00.01	00:00:00.01
Pass 2	46	00:00:00.22	00:00:02.54
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	2	00:00:00.01	00:00:00.50
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	269	00:00:00.88	00:00:10.50

The working set limit was 900 pages.
2203 bytes (5 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.
179 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
_255DUA28:[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$:STRMATCH/OBJ=OBJ$:STRMATCH MSRC$:STRMATCH/UPDATE=(ENH$:STRMATCH)
```

STRDUPLCH
LIS

STRCOMPAR
LIS

STRFINDSB
LIS

STRMATCH
LIS

STRMSG
LIS

STRLENEXT
LIS

STRCOPY
LIS

STRFINDFI
LIS

STRLEFT
LIS

STRMULTI
LIS

STRCOMEQL
LIS

STRCONCAT
LIS

STRMOVQ
LIS

STRGETFRE
LIS