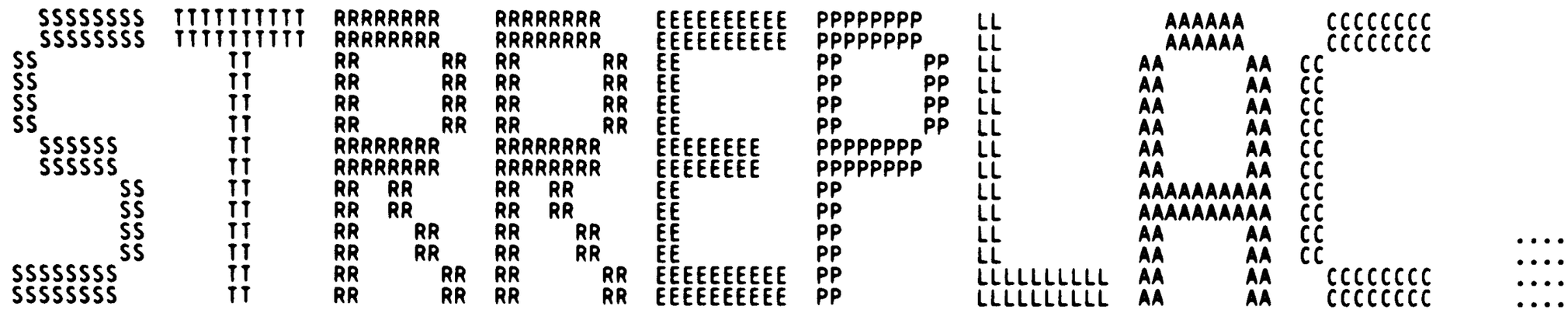
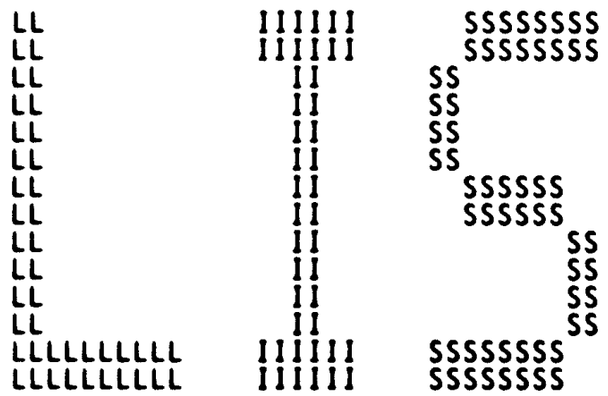
```
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                    III        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        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**STRREPLAC





```
;  1          0001  0 MODULE STR$REPLACE (                    ! replace a substring in a string
;  2          0002  0
;  3          0003  0                     IDENT = '1-005' ! File: STRREPLAC.B32   Edit: RKR1005
;  4          0004  0
;  5          0005  0                        ) =
;  6          0006  1 BEGIN
;  7          0007  1 !
;  8          0008  1 !*****************************************************************************
;  9          0009  1 !*                                                                           *
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; 27          0027  1 !*                                                                         *
; 28          0028  1 !*                                                                         *
; 29          0029  1 !*****************************************************************************
; 30          0030  1 !
; 31          0031  1
; 32          0032  1 !++
; 33          0033  1 ! FACILITY: String support library
; 34          0034  1 !
; 35          0035  1 ! ABSTRACT:
; 36          0036  1 !
; 37          0037  1 !       This module take an input string, an output string, and a
; 38          0038  1 !       replacement string of any supported class or dtype.  It copies
; 39          0039  1 !       the source string to the destination string replacing the part
; 40          0040  1 !       of the source string specified by a starting position and an
; 41          0041  1 !       ending position by the replacement string.
; 42          0042  1 !
; 43          0043  1 ! ENVIRONMENT: User mode, AST level or not or mixed
; 44          0044  1 !
; 45          0045  1 ! AUTHOR: R. Will, CREATION DATE: 2-Dec-79
; 46          0046  1 !
; 47          0047  1 ! MODIFIED BY:
; 48          0048  1 !
; 49          0049  1 !  R. Will, 2-Dec-79: VERSION 01
; 50          0050  1 ! 1-001 - original
; 51          0051  1 ! 1-002 - String speedup, make JSB entry do code in line.
; 52          0052  1 !         RW  8-Jan-1980
; 53          0053  1 ! 1-003 - Enhance to recognize additional classes of descriptors by
; 54          0054  1 !         using $STR$GET_LEN_ADDR to extract length and address of
; 55          0055  1 !         first data byte.  Remove string interlocking code.
; 56          0056  1 !         RKR 27-APR-81
; 57          0057  1 ! 1-004 - Speed up code.  RKR 7-OCT-1981.
```

```
;    58          0058  1 ! 1-005 - Use STR$COPY_R_R8 for copy operation.  Use $STR$SIGNAL_FATAL
;    59          0059  1 !           instead of $STR$CHECK_STATUS.  RKR 18-NOV-1981.
;    60          0060  1 !--
;    61          0061  1
;    62          0062  1 !<BLF/PAGE>
```

```
;    64          0063  1 !
;    65          0064  1 ! SWITCHES:
;    66          0065  1 !
;    67          0066  1
;    68          0067  1 SWITCHES ADDRESSING_MODE
;    69          0068  1                 (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
;    70          0069  1
;    71          0070  1 !
;    72          0071  1 ! LINKAGES:
;    73          0072  1 !
;    74          0073  1
;    75          0074  1 REQUIRE 'RTLIN:STRLNK';         ! Use require file with string linkage
;    76          0259  1
;    77          0260  1 !
;    78          0261  1 ! TABLE OF CONTENTS:
;    79          0262  1 !
;    80          0263  1
;    81          0264  1 FORWARD ROUTINE
;    82          0265  1     STR$REPLACE,                        ! replace a substring
;    83          0266  1     STR$REPLACE_R8 : STR$JSB_REPLACE;   ! replace a substring, JSB entry
;    84          0267  1
;    85          0268  1 !
;    86          0269  1 ! INCLUDE FILES:
;    87          0270  1 !
;    88          0271  1
;    89          0272  1 REQUIRE 'RTLIN:RTLPSECT';       ! Declare PSECTs code
;    90          0367  1
;    91          0368  1 REQUIRE 'RTLIN:STRMACROS';      ! use string macros to code
;    92          1284  1
;    93          1285  1 LIBRARY 'RTLSTARLE';            ! STARLET library for macros and symbol
;    94          1286  1
;    95          1287  1 !
;    96          1288  1 ! MACROS: NONE
;    97          1289  1 !
;    98          1290  1
;    99          1291  1 !
;   100          1292  1 ! EQUATED SYMBOLS: NONE
;   101          1293  1 !
;   102          1294  1
;   103          1295  1 !
;   104          1296  1 ! PSECT DECLARATIONS
;   105          1297  1 !
;   106          1298  1
;   107          1299  1 DECLARE_PSECTS (STR);
;   108          1300  1
;   109          1301  1 !
;   110          1302  1 ! OWN STORAGE: NONE
;   111          1303  1 !
;   112          1304  1
;   113          1305  1 !
;   114          1306  1 ! EXTERNAL REFERENCES:
;   115          1307  1 !
;   116          1308  1
;   117          1309  1 EXTERNAL ROUTINE
;   118          1310  1     LIB$STOP,                           ! Routine to signal error
;   119          1311  1     STR$COPY_R_R8 : STR$JSB_COPY_R ;    ! Routine to do the copy
;   120          1312  1
```

```
;  121          1313  1 EXTERNAL LITERAL
;  122          1314  1     STR$_NORMAL,                ! successful completion
;  123          1315  1     STR$_STRTOOLON,             ! tried to create string longer
;  124          1316  1                                 !  than 65535
;  125          1317  1     STR$_ILLSTRSPE,             ! illegal string specification
;  126          1318  1     STR$_ILLSTRPOS;             ! illegal string position
```

```
;  128          1319  1 GLOBAL ROUTINE STR$REPLACE (          ! Replace a substring
;  129          1320  1
;  130          1321  1         DEST_DESC,              ! Pointer to destination descriptor
;  131          1322  1         SRC_DESC,               ! Pointer to source descriptor
;  132          1323  1         START_POS,              ! First character to be included
;  133          1324  1         END_POS,                ! Last character position to include
;  134          1325  1         REPLACE_DESC            ! pointer to replacement string desc
;  135          1326  1
;  136          1327  1                                 ) =
;  137          1328  1
;  138          1329  1 !++
;  139          1330  1 ! FUNCTIONAL DESCRIPTION:
;  140          1331  1 !
;  141          1332  1 !       This routine copies to the destination string, the characters
;  142          1333  1 !       from the beginning of the source string through the character
;  143          1334  1 !       before that specified by the start position (3rd input), then
;  144          1335  1 !       it continues copying to the destination string taking the
;  145          1336  1 !       input from the replacement string (the 5th input).  When the
;  146          1337  1 !       replacement string is exhausted, the copy continues from the
;  147          1338  1 !       source string starting at the character position after the end
;  148          1339  1 !       position (4th input parameter) until the source string is
;  149          1340  1 !       exhausted.  The string is built in a temporary and copied to
;  150          1341  1 !       the destination string (by JSB to STR$COPY_R_R8) according
;  151          1342  1 !       to the syntax of the class of the destination string.  The
;  152          1343  1 !       following conditions will return warnings, but the listed
;  153          1344  1 !       actions will be taken.
;  154          1345  1 !       If the starting position is < 1, 1 is used.  If the ending
;  155          1346  1 !       position is > length of the source string, the length of the
;  156          1347  1 !       source string is used.  If the starting position > the ending
;  157          1348  1 !       position, the overlapping portions of the source string will be
;  158          1349  1 !       copied twice.  The CALL entry is implemented by JSBing to the
;  159          1350  1 !       JSB entry.
;  160          1351  1 !
;  161          1352  1 ! FORMAL PARAMETERS:
;  162          1353  1 !
;  163          1354  1 !       DEST_DESC.wt.dx         pointer to destination string descriptor
;  164          1355  1 !       SRC_DESC.rt.dx          pointer to source string descriptor
;  165          1356  1 !       START_POS.rl.r          character position in source to start
;  166          1357  1 !                               substring
;  167          1358  1 !       END_POS.rl.r            character position in source to end
;  168          1359  1 !                               substring
;  169          1360  1 !       REPLACE_DESC.rt.dx      pointer to replacement string descriptor
;  170          1361  1 !
;  171          1362  1 ! IMPLICIT INPUTS:
;  172          1363  1 !
;  173          1364  1 !       NONE
;  174          1365  1 !
;  175          1366  1 ! IMPLICIT OUTPUTS:
;  176          1367  1 !
;  177          1368  1 !       NONE
;  178          1369  1 !
;  179          1370  1 ! COMPLETION CODES:
;  180          1371  1 !
;  181          1372  1 !       any codes returned by STR$REPLACE_R8
;  182          1373  1 !
;  183          1374  1 ! SIDE EFFECTS:
;  184          1375  1 !
```

```
;  185          1376  1 !       any side effects of STR$REPLACE_R8
;  186          1377  1 !
;  187          1378  1 !--
;  188          1379  1
;  189          1380  2     BEGIN
;  190          1381  2
;  191          1382  2     MAP
;  192          1383  2         SRC_DESC :      REF $STR$DESCRIPTOR,
;  193          1384  2         REPLACE_DESC :  REF $STR$DESCRIPTOR,
;  194          1385  2         DEST_DESC :     REF $STR$DESCRIPTOR;
;  195          1386  2
;  196          1387  2     RETURN STR$REPLACE_R8 (
;  197          1388  2                            DEST_DESC [0,0,0,0],
;  198          1389  2                            SRC_DESC [0,0,0,0],
;  199          1390  2                            ..START_POS,
;  200          1391  2                            ..END_POS,
;  201          1392  2                            REPLACE_DESC [0,0,0,0]);
;  202          1393  2
;  203          1394  1     END;                                    !End of STR$REPLACE

                                                    .TITLE  STR$REPLACE
                                                    .IDENT  \1-005\

                                                    .EXTRN  LIB$STOP, STR$COPY_R_R8
                                                    .EXTRN  STR$_NORMAL, STR$_STRTOOLON
                                                    .EXTRN  STR$_ILLSTRSPE, STR$_ILLSTRPOS

                                                    .PSECT  _STR$CODE,NOWRT,  SHR,  PIC,2

                                  01FC 00000        .ENTRY  STR$REPLACE, Save R2,R3,R4,R5,R6,R7,R8      ; 1319
                          54      14    AC  D0 00002  MOVL    REPLACE_DESC, R4                          ; 1392
                          53      10    BC  D0 00006  MOVL    @END_POS, R3                              ;
                          52      0C    BC  D0 0000A  MOVL    @START_POS, R2                            ;
                          50      04    AC  7D 0000E  MOVQ    DEST_DESC, R0                             ;
                                  0000V 30 00012      BSBW    STR$REPLACE_R8                            ;
                                        04 00015      RET                                               ; 1394

; Routine Size:  22 bytes,    Routine Base:  _STR$CODE + 0000

;  204          1395  1
```

```
;  206     1396  1 GLOBAL ROUTINE STR$REPLACE_R8 (          ! replace a substring
;  207     1397  1
;  208     1398  1         DEST_DESC,                  ! Pointer to destination descriptor
;  209     1399  1         SRC_DESC,                   ! Pointer to source descriptor
;  210     1400  1         START_POS,                  ! First character to be included
;  211     1401  1         END_POS,                    ! Last character position to include
;  212     1402  1         REPLACE_DESC                ! Pointer to replacement string desc
;  213     1403  1
;  214     1404  1                                   ) : STR$JSB_REPLACE =
;  215     1405  1
;  216     1406  1 !++
;  217     1407  1 ! FUNCTIONAL DESCRIPTION:
;  218     1408  1 !
;  219     1409  1 !       This routine copies to the destination string, the characters
;  220     1410  1 !       from the beginning of the source string through the character
;  221     1411  1 !       before that specified by the start position (3rd input), then
;  222     1412  1 !       it continues copying to the destination string taking the input
;  223     1413  1 !       from the replacement string (the 5th input).  When the
;  224     1414  1 !       replacement string is exhausted, the copy continues from the
;  225     1415  1 !       source string starting at the character position after the end
;  226     1416  1 !       position (4th input parameter) until the source string is
;  227     1417  1 !       exhausted.  The string is built in a
;  228     1418  1 !       temporary and copied to the destination string
;  229     1419  1 !       (by JSB to STR$COPY_R_R8) according
;  230     1420  1 !       to the syntax of the class of the destination string.  The
;  231     1421  1 !       following conditions will return warnings, but the listed
;  232     1422  1 !       actions will be taken.
;  233     1423  1 !       If the starting position is < 1, 1 is used.  If the ending
;  234     1424  1 !       position is > length of the source string, the length of the
;  235     1425  1 !       source string is used.  If the starting position > the ending
;  236     1426  1 !       position, the overlapping portions of the source string will
;  237     1427  1 !       be copied twice.
;  238     1428  1 !
;  239     1429  1 ! FORMAL PARAMETERS:
;  240     1430  1 !
;  241     1431  1 !       DEST_DESC.wt.dx         pointer to destination string descriptor
;  242     1432  1 !       SRC_DESC.rt.dx          pointer to source string descriptor
;  243     1433  1 !       START_POS.rl.v          character position in source to start
;  244     1434  1 !                               substring
;  245     1435  1 !       END_POS.rl.v            character position in source to end
;  246     1436  1 !                               substring
;  247     1437  1 !       REPLACE_DESC.rt.dx      pointer to replacement string descriptor
;  248     1438  1 !
;  249     1439  1 ! IMPLICIT INPUTS:
;  250     1440  1 !
;  251     1441  1 !       NONE
;  252     1442  1 !
;  253     1443  1 ! IMPLICIT OUTPUTS:
;  254     1444  1 !
;  255     1445  1 !       NONE
;  256     1446  1 !
;  257     1447  1 ! COMPLETION CODES:
;  258     1448  1 !
;  259     1449  1 !       STR$_NORMAL             successful completion
;  260     1450  1 !       STR$_TRU                string was truncated when copied into
;  261     1451  1 !                               destination
;  262     1452  1 !       STR$_ILLSTRPOS          if START_POS or END_POS is < 0 or >
```

```
;  263          1453  1 !                                   source-length                                                                ;
;  264          1454  1 !       STR$_ILLSTRSPE              if START_POS > END_POS
;  265          1455  1 !
;  266          1456  1 ! SIDE EFFECTS:
;  267          1457  1 !
;  268          1458  1 !       allocation or deallocation of dynamic string space
;  269          1459  1 !       may signal STR$_INSVIRMEM, STR$_ILLSTRCLA or STR$_FATINTERR
;  270          1460  1 !
;  271          1461  1 !--
;  272          1462  1
;  273          1463  2     BEGIN
;  274          1464  2
;  275          1465  2     LOCAL
;  276          1466  2         COPY_LENGTH,                        ! length of string built
;  277          1467  2         ALLOC_LENGTH : UNSIGNED WORD,       ! actual length
;  278          1468  2         NEW_POINTER,                        ! keep place in temp string
;  279          1469  2         ACTUAL_START,                       ! 1 <= actual_start <= srclen
;  280          1470  2         ACTUAL_END,                         ! 1 <= actual_end <= srclen                                          ;
;  281          1471  2         STATUS,                             ! status returned by copy
;  282          1472  2         RETURN_STATUS,                      ! save status for this routine
;  283          1473  2         IN_LEN,                             ! length of input string
;  284          1474  2         IN_ADDR,                            ! addr of 1st byte of input
;  285          1475  2         REPL_LEN,                           ! length of replacement string
;  286          1476  2         REPL_ADDR,                          ! addr of 1st byte of replace.
;  287          1477  2         TEMP_DESC : $STR$DESCRIPTOR;        ! area to build output string
;  288          1478  2
;  289          1479  2     MAP
;  290          1480  2         SRC_DESC :     REF $STR$DESCRIPTOR,
;  291          1481  2         REPLACE_DESC : REF $STR$DESCRIPTOR,
;  292          1482  2         DEST_DESC :    REF $STR$DESCRIPTOR;
;  293          1483  2
;  294          1484  2     RETURN_STATUS = 1 ;             ! Assume success to follow
;  295          1485  2
;  296          1486  2 !+
;  297          1487  2 ! precompute lengths and addresses involved
;  298          1488  2 !-
;  299          1489  2     $STR$GET_LEN_ADDR ( SRC_DESC, IN_LEN, IN_ADDR ) ;
;  300          1490  2     $STR$GET_LEN_ADDR ( REPLACE_DESC, REPL_LEN, REPL_ADDR ) ;
;  301          1491  2
;  302          1492  2     ACTUAL_START = .START_POS;
;  303          1493  2     ACTUAL_END = .END_POS;
;  304          1494  2
;  305          1495  2 !+
;  306          1496  2 ! detect error if START_POS > END_POS
;  307          1497  2 !-
;  308          1498  2
;  309          1499  2     IF .ACTUAL_END LSS .ACTUAL_START THEN
;  310          1500  2         RETURN_STATUS = STR$_ILLSTRSPE;         ! START_POS > END_POS
;  311          1501  2
;  312          1502  2 !+
;  313          1503  2 ! actual_end is >= 0 and  <= source string length
;  314          1504  2 !-
;  315          1505  2
;  316          1506  2     IF .IN_LEN LSS .ACTUAL_END
;  317          1507  2     THEN
;  318          1508  3         BEGIN
;  319          1509  3         RETURN_STATUS = STR$_ILLSTRPOS;         ! END_POS is too large
```

```
;   320          1510  3          ACTUAL_END = .IN_LEN ;                  ! use srclen, remember
;   321          1511  3                                                  ! error
;   322          1512  3          END
;   323          1513  2      ELSE IF .ACTUAL_END LSS 0
;   324          1514  2          THEN
;   325          1515  3              BEGIN
;   326          1516  3              RETURN_STATUS = STR$_ILLSTRPOS;     ! END_POS is too small
;   327          1517  3              ACTUAL_END = 0;                     ! Use 1, remember error
;   328          1518  2              END;
;   329          1519  2
;   330          1520  2  !+
;   331          1521  2  ! actual_start is >= 1 and  <= source string length + 1
;   332          1522  2  !-
;   333          1523  2
;   334          1524  2      IF .IN_LEN + 1 LSS .ACTUAL_START
;   335          1525  2      THEN
;   336          1526  3          BEGIN
;   337          1527  3          RETURN_STATUS = STR$_ILLSTRPOS;         ! START_POS is too large
;   338          1528  3          ACTUAL_START = .IN_LEN + 1;             ! use srclen, remember
;   339          1529  3                                                  ! error
;   340          1530  3          END
;   341          1531  2      ELSE IF .ACTUAL_START LSS 1
;   342          1532  2          THEN
;   343          1533  3              BEGIN
;   344          1534  3              RETURN_STATUS = STR$_ILLSTRPOS;     ! START_POS is too small
;   345          1535  3              ACTUAL_START = 1;                   ! use 1, remember error
;   346          1536  2              END;
;   347          1537  2
;   348          1538  2  !+
;   349          1539  2  ! Create a temp descriptor and build destination string in it.
;   350          1540  2  !-
;   351          1541  2
;   352          1542  2
;   353          1543  2      TEMP_DESC [DSC$W_LENGTH] = 0 ;              ! initialize descriptor
;   354          1544  2      TEMP_DESC [DSC$B_DTYPE]  = DSC$K_DTYPE_T ;
;   355          1545  2      TEMP_DESC [DSC$B_CLASS]  = DSC$K_CLASS_D ;
;   356          1546  2      TEMP_DESC [DSC$A_POINTER]= 0 ;
;   357          1547  2
;   358          1548  2  !+
;   359          1549  2  ! Number to copy is number from src + number from replace
;   360          1550  2  !-
;   361          1551  2      COPY_LENGTH = .IN_LEN - .ACTUAL_END + .ACTUAL_START - 1 + .REPL_LEN;
;   362          1552  2
;   363          1553  2      IF .COPY_LENGTH GTR 65535
;   364          1554  2      THEN RETURN_STATUS = STR$_STRTOOLON         ! remember fatal error
;   365          1555  2      ELSE
;   366          1556  3          BEGIN
;   367          1557  3          ALLOC_LENGTH = .COPY_LENGTH;    ! need word unsigned for macro
;   368          1558  3
;   369          1559  3                                          ! allocate space to temp
;   370          1560  4          IF (NOT (STATUS = $STR$ALLOC_TMP (.ALLOC_LENGTH, TEMP_DESC)))
;   371          1561  3          THEN RETURN_STATUS = .STATUS    ! if fails, remember failure
;   372          1562  3          ELSE                            ! if it succeeds continue
;   373          1563  4              BEGIN
;   374          1564  4
;   375          1565  4              !+
;   376          1566  4              ! copy up to start_pos from source string into temp string
```

```
;  377          1567  4          !-
;  378          1568  4          NEW_POINTER = CH$MOVE (.ACTUAL_START - 1, .IN_ADDR,
;  379          1569  4                                .TEMP_DESC [DSC$A_POINTER]);
;  380          1570  4
;  381          1571  4          !+
;  382          1572  4          ! copy entire replacement string onto end of temp string
;  383          1573  4          !-
;  384          1574  4          NEW_POINTER = CH$MOVE (.REPL_LEN, .REPL_ADDR, .NEW_POINTER);
;  385          1575  4
;  386          1576  4          !+
;  387          1577  4          ! copy from END_POS to end in source string onto end of temp
;  388          1578  4          ! string.
;  389          1579  4          !-
;  390          1580  4          CH$MOVE (.IN_LEN - .ACTUAL_END,
;  391          1581  4                   CH$PLUS (.IN_ADDR, .ACTUAL_END),
;  392          1582  4                   .NEW_POINTER);
;  393          1583  4
;  394          1584  4          !+
;  395          1585  4          ! Copy the temp to the destination string and deallocate
;  396          1586  4          ! the temp
;  397          1587  4          !-
;  398          1588  4
;  399          1589  4          STATUS = STR$COPY_R_R8 (
;  400          1590  4                                  .DEST_DESC,
;  401          1591  4                                  .TEMP_DESC [DSC$W_LENGTH],
;  402          1592  4                                  .TEMP_DESC [DSC$A_POINTER] ) ;
;  403          1593  4          IF .STATUS NEQ SS$_NORMAL
;  404          1594  4          THEN RETURN_STATUS = .STATUS;          ! copy truncated, or
;  405          1595  4                                                 ! fatal error, return
;  406          1596  4                                                 ! instead of previous
;  407          1597  4                                                 ! status
;  408          1598  4
;  409          1599  5              IF (NOT (STATUS = $STR$DEALOC_TMP (TEMP_DESC))) ! deallocate
;  410          1600  5                                                              ! the temp
;  411          1601  4              THEN RETURN_STATUS = .STATUS;
;  412          1602  3              END;                               ! end of allocate else
;  413          1603  3
;  414          1604  2          END;                                   ! end of STRTOOLON else
;  415          1605  2
;  416          1606  2      $STR$SIGNAL_FATAL (RETURN_STATUS);         ! signal severe errors
;  417          1607  2      RETURN .RETURN_STATUS;
;  418          1608  1      END;                                       !End of STR$REPLACE


                                                .EXTRN  STR$ANALYZE_SDESC_R1
                                                .EXTRN  STR$$INIT, STR$$V_INIT
                                                .EXTRN  STR$$ALOC_SHORT
                                                .EXTRN  STR$$Q_SHORT_Q, LIB$GET_VM
                                                .EXTRN  STR$_INSVIRMEM, LIB$FREE_VM
                                                .EXTRN  STR$_FATINTERR

                    5E            18  C2 00000 STR$REPLACE_R8::
                                                SUBL2   #24, SP                         ; 1396
                                  50  DD 00003         PUSHL   R0                      ;
                                  01  DD 00005         PUSHL   #1                      ; 1484
                    02      03    A1  91 00007         CMPB    3(SRC_DESC), #2         ; 1489
```

```
                                  0B  1A 0000B       BGTRU   1$                                    ;
              10   AE             61  3C 0000D       MOVZWL  (SRC_DESC), IN_LEN                    ;
              0C   AE       04    A1  D0 00011       MOVL    4(SRC_DESC), IN_ADDR                  ;
                                  11  11 00016       BRB     2$                                    ;
                   50             51  D0 00018 1$:   MOVL    SRC_DESC, R0                          ;
                      00000000G   00  16 0001B       JSB     STR$ANALYZE_SDESC_R1                  ;
              10   AE             50  D0 00021       MOVL    R0, 16(SP)                            ;
              0C   AE             51  D0 00025       MOVL    R1, 12(SP)                            ;
                   02       03    A4  91 00029 2$:   CMPB    3(REPLACE_DESC), #2                   ; 1490
                                  0A  1A 0002D       BGTRU   3$                                    ;
                   57             64  3C 0002F       MOVZWL  (REPLACE_DESC), REPL_LEN              ;
              14   AE       04    A4  D0 00032       MOVL    4(REPLACE_DESC), REPL_ADDR            ;
                                  10  11 00037       BRB     4$                                    ;
                   50             54  D0 00039 3$:   MOVL    REPLACE_DESC, R0                      ;
                      00000000G   00  16 0003C       JSB     STR$ANALYZE_SDESC_R1                  ;
                   57             50  D0 00042       MOVL    R0, R7                                ;
              14   AE             51  D0 00045       MOVL    R1, 20(SP)                            ;
                   56             53  D0 00049 4$:   MOVL    END_POS, ACTUAL_END                   ; 1493
                   52             56  D1 0004C       CMPL    ACTUAL_END, ACTUAL_START              ; 1499
                   07             18  0004F          BGEQ    5$                                    ;
                   6E 00000000G   8F  D0 00051       MOVL    #STR$_ILLSTRSPE, RETURN_STATUS        ; 1500
                   56       10    AE  D1 00058 5$:   CMPL    IN_LEN, ACTUAL_END                    ; 1506
                                  0D  18 0005C       BGEQ    6$                                    ;
                   6E 00000000G   8F  D0 0005E       MOVL    #STR$_ILLSTRPOS, RETURN_STATUS        ; 1509
                   56       10    AE  D0 00065       MOVL    IN_LEN, ACTUAL_END                    ; 1510
                                  0D  11 00069       BRB     7$                                    ; 1506
                                  56  D5 0006B 6$:   TSTL    ACTUAL_END                            ; 1513
                                  09  18 0006D       BGEQ    7$                                    ;
                   6E 00000000G   8F  D0 0006F       MOVL    #STR$_ILLSTRPOS, RETURN_STATUS        ; 1516
                                  56  D4 00076       CLRL    ACTUAL_END                            ; 1517
      50      10   AE             01  C1 00078 7$:   ADDL3   #1, IN_LEN, R0                        ; 1524
                   52             50  D1 0007D       CMPL    R0, ACTUAL_START                      ;
                                  0C  18 00080       BGEQ    8$                                    ;
                   6E 00000000G   8F  D0 00082       MOVL    #STR$_ILLSTRPOS, RETURN_STATUS        ; 1527
                   52             50  D0 00089       MOVL    R0, ACTUAL_START                      ; 1528
                                  0E  11 0008C       BRB     9$                                    ; 1524
                                  52  D5 0008E 8$:   TSTL    ACTUAL_START                          ; 1531
                                  0A  14 00090       BGTR    9$                                    ;
                   6E 00000000G   8F  D0 00092       MOVL    #STR$_ILLSTRPOS, RETURN_STATUS        ; 1534
                   52             01  D0 00099       MOVL    #1, ACTUAL_START                      ; 1535
              18   AE 020E0000    8F  D0 0009C 9$:   MOVL    #34471936, TEMP_DESC                  ; 1543
                            1C    AE  D4 000A4       CLRL    TEMP_DESC+4                           ; 1546
      50      10   AE             56  C3 000A7       SUBL3   ACTUAL_END, IN_LEN, R0                ; 1551
                   50             52  C0 000AC       ADDL2   ACTUAL_START, R0                      ;
                   50      FF A740    9E 000AF       MOVAB   -1(REPL_LEN)[R0], COPY_LENGTH         ;
          0000FFFF   8F           50  D1 000B4       CMPL    COPY_LENGTH, #65535                   ; 1553
                                  0A  15 000BB       BLEQ    10$                                   ;
                   6E 00000000G   8F  D0 000BD       MOVL    #STR$_STRTOOLON, RETURN_STATUS        ; 1554
                               0116   31 000C4       BRW     25$                                   ;
                   53             50  B0 000C7 10$:  MOVW    COPY_LENGTH, ALLOC_LENGTH             ; 1557
                   07 00000000G   00  E8 000CA       BLBS    STR$$V_INIT, 11$                      ; 1560
          00000000G  00           00  FB 000D1       CALLS   #0, STR$$INIT                         ;
                   50 00000000G   8F  D0 000D8 11$:  MOVL    #STR$_NORMAL, RETURN_STATUS           ;
              00F0   8F           53  B1 000DF       CMPW    ALLOC_LENGTH, #240                    ;
                                  40  1A 000E4       BGTRU   17$                                   ;
                                  53  B5 000E6       TSTW    ALLOC_LENGTH                          ;
                                  04  12 000E8       BNEQ    12$                                   ;
```

```
                                    55  D4 000EA          CLRL    TEMP                                                    ;
                                    2F  11 000EC          BRB     16$                                                     ;
                                51  53  3C 000EE 12$:     MOVZWL  ALLOC_LENGTH, R1                                        ;
                                51  D7 000F1            DECL    R1                                                      ;
                                51  07  8A 000F3        BICB2   #7, R1                                                  ;
                                58 00000000G0041  9E 000F6        MOVAB   STR$$Q_SHORT_Q[R1], REMQUE_ADDR                 ;
                                55      00    B8  0F 000FE 13$:     REMQUE  @0(REMQUE_ADDR), TEMP                           ;
                                    05  1D 00102          BVS     14$                                                     ;
                                54  01  D0 00104          MOVL    #1, ALLOC_DONE                                          ;
                                    0C  11 00107          BRB     15$                                                     ;
                                    54  D4 00109 14$:     CLRL    ALLOC_DONE                                              ;
                                7E  53  3C 0010B          MOVZWL  ALLOC_LENGTH, -(SP)                                     ;
                00000000G       00  01  FB 0010E          CALLS   #1, STR$$ALOC_SHORT                                     ;
                                05  54  E8 00115 15$:     BLBS    ALLOC_DONE, 16$                                         ;
                                2C  50  E9 00118          BLBC    RETURN_STATUS, 19$                                      ;
                                    E1  11 0011B          BRB     13$                                                     ;
                                27  50  E9 0011D 16$:     BLBC    RETURN_STATUS, 19$                                      ;
                          1C    AE  55  D0 00120          MOVL    TEMP, TEMP_DESC+4                                       ;
                                    1D  11 00124          BRB     18$                                                     ;
                              1C    AE  9F 00126 17$:     PUSHAB  TEMP_DESC+4                                             ;
                          0C    AE  53  3C 00129          MOVZWL  ALLOC_LENGTH, 12(SP)                                    ;
                              0C    AE  9F 0012D          PUSHAB  12(SP)                                                  ;
                00000000G       00  02  FB 00130          CALLS   #2, LIB$GET_VM                                          ;
                                09  50  E8 00137          BLBS    RETURN_STATUS, 18$                                      ;
                                50 00000000G  8F  D0 0013A        MOVL    #STR$_INSVIRMEM, RETURN_STATUS                  ;
                                    04  11 00141          BRB     19$                                                     ;
                          18    AE  53  B0 00143 18$:     MOVW    ALLOC_LENGTH, TEMP_DESC                                 ;
                                58  50  D0 00147 19$:     MOVL    RETURN_STATUS, STATUS                                   ;
                                03  50  E8 0014A          BLBS    RETURN_STATUS, 20$                                      ;
                                  008A  31 0014D          BRW     24$                                                     ;
                                    52  D7 00150 20$:     DECL    R2                                                      ; 1568
                1C  BE      0C  BE      52  28 00152          MOVC3   R2, @IN_ADDR, @TEMP_DESC+4                          ; 1569
                    63      14  BE      57  28 00158          MOVC3   REPL_LEN, @REPL_ADDR, (NEW_POINTER)                 ; 1574
                    50      10  AE      56  C3 0015D          SUBL3   ACTUAL_END, IN_LEN, R0                              ; 1580
                                57      0C  AE  D0 00162      MOVL    IN_ADDR, R7                                         ; 1582
                                63    6647      50  28 00166 MOVC3   R0, (ACTUAL_END)[R7], (NEW_POINTER)                ;
                                    52      1C  AE  D0 0016B  MOVL    TEMP_DESC+4, R2                                     ; 1590
                                    51      18  AE  3C 0016F  MOVZWL  TEMP_DESC, R1                                       ;
                                    50      04  AE  D0 00173  MOVL    DEST_DESC, R0                                       ;
                                        00000000G   00  16 00177  JSB     STR$COPY_R_R8                                   ;
                                    58          50  D0 0017D  MOVL    R0, STATUS                                          ;
                                    01          58  D1 00180  CMPL    STATUS, #1                                          ; 1593
                                                03  13 00183  BEQL    21$                                                 ;
                                    6E          58  D0 00185  MOVL    STATUS, RETURN_STATUS                               ; 1594
                                    50 00000000G    8F  D0 00188 21$: MOVL    #STR$_NORMAL, RETURN_STATUS                 ; 1599
                                          1C    AE  D5 0018F  TSTL    TEMP_DESC+4                                         ;
                                                40  13 00192  BEQL    23$                                                 ;
                              00F0      8F      18  AE  B1 00194  CMPW    TEMP_DESC, #240                                 ;
                                                1C  1A 0019A  BGTRU   22$                                                 ;
                                    51      1C  AE  D0 0019C  MOVL    TEMP_DESC+4, STRING_BLOCK                           ;
                                    51      FE  A1  3C 001A0  MOVZWL  -2(STRING_BLOCK), ALLOC_LENGTH                      ;
                                    51          51  D7 001A4  DECL    R1                                                  ;
                                    51          07  8A 001A6  BICB2   #7, R1                                              ;
                                    51 00000000G0041  9E 001A9        MOVAB   STR$$Q_SHORT_Q[R1], INSQUE_ADDR             ;
                              00    B1      1C  BE  0E 001B1  INSQUE  @TEMP_DESC+4, @0(INSQUE_ADDR)                       ;
                                                1C  11 001B6  BRB     23$                                                 ;
                                          1C    AE  9F 001B8 22$: PUSHAB  TEMP_DESC+4                                     ;
```

```
                        18   AE      1C   AE  3C 001BB          MOVZWL  TEMP_DESC, 24(SP)                          ;
                                    18   AE  9F 001C0          PUSHAB  24(SP)                                     ;
                00000000G   00           02  FB 001C3          CALLS   #2, LIB$FREE_VM                            ;
                            07           50  E8 001CA          BLBS    RETURN_STATUS, 23$                         ;
                            50 00000000G 8F  D0 001CD          MOVL    #STR$_FATINTERR, RETURN_STATUS             ;
                            58           50  D0 001D4 23$:     MOVL    RETURN_STATUS, STATUS                      ;
                            03           50  E8 001D7          BLBS    RETURN_STATUS, 25$                         ;
                            6E           58  D0 001DA 24$:     MOVL    STATUS, RETURN_STATUS                      ; 1601
                            10           6E  E8 001DD 25$:     BLBS    RETURN_STATUS, 26$                         ; 1606
        04          6E      03           00  ED 001E0          CMPZV   #0, #3, RETURN_STATUS, #4                  ;
                                         09  12 001E5          BNEQ    26$                                        ;
                                         6E  DD 001E7          PUSHL   RETURN_STATUS                              ;
                00000000G   00           01  FB 001E9          CALLS   #1, LIB$STOP                               ;
                            50           8E  D0 001F0 26$:     MOVL    RETURN_STATUS, R0                          ; 1607
                            5E           1C  C0 001F3          ADDL2   #28, SP                                    ; 1608
                                             05 001F6          RSB                                                ;

; Routine Size:  503 bytes,    Routine Base:  _STR$CODE + 0016

;  419          1609  1
;  420          1610  1 END                                     !End of module
;  421          1611  1
;  422          1612  0 ELUDOM



;                                PSECT SUMMARY
;
;      Name                      Bytes                           Attributes
;
;  _STR$CODE                        525  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)


;                             Library Statistics
;
;                                      -------- Symbols --------      Pages       Processing
;      File                            Total    Loaded   Percent      Mapped      Time
;
;  _$255$DUA28:[SYSLIB]STARLET.L32;1     9776         9         0       581          00:00.8



;                                  COMMAND QUALIFIERS
;
;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS$:STRREPLAC/OBJ=OBJ$:STRREPLAC MSRC$:STRREPLAC/UPDATE=(ENH$:STRREPLAC
;       )
```

```
; Size:          525 code + 0 data bytes
; Run Time:        00:10.2
; Elapsed Time:    00:42.6
; Lines/CPU Min:    9491
; Lexemes/CPU-Min: 29799
; Memory Used:  177 pages
; Compilation Complete
```

LINKER
LIS

STRPOSIT
LIS

STRUNWDEQ
LIS

STRPOSEXT
LIS

STRREPLAC
LIS

STRSRCHN
LIS

STRRIGHT
LIS

LINKER

STRTRIM
LIS

LINK
MAP

PREFIX
REQ

ISDSORT
LIS

STRUPCASE
LIS

STRTRANSL
LIS

DATBAS
MDL

TIRAUX
REQ

ISGENC
REQ

STRPREFIX
LIS

DATBAS
LIS