```
RRRRRRRRRRR      UUU          UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF   FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF   FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF   FFFFFFFFFFFFFFF
RRR          RRR UUU          UUU  NNN         NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNN         NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNN         NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNNNNN      NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNNNNN      NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNNNNN      NNN  000          000 FFF               FFF
RRRRRRRRRRR      UUU          UUU  NNN   NNN   NNN  000          000 FFFFFFFFFFF       FFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN   NNN   NNN  000          000 FFFFFFFFFFF       FFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN   NNN   NNN  000          000 FFFFFFFFFFF       FFFFFFFFFFF
RRR   RRR        UUU          UUU  NNN       NNNNNN 000          000 FFF               FFF
RRR   RRR        UUU          UUU  NNN       NNNNNN 000          000 FFF               FFF
RRR   RRR        UUU          UUU  NNN       NNNNNN 000          000 FFF               FFF
RRR      RRR     UUU          UUU  NNN          NNN 000          000 FFF               FFF
RRR      RRR     UUU          UUU  NNN          NNN 000          000 FFF               FFF
RRR      RRR     UUU          UUU  NNN          NNN 000          000 FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
```

```
_$2

Sym
---
NDX
NDX
NUM
NUM
OPE
OUT
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PAC
PAC
PAC
PAC
PAC
PAC
PAD
PAG
PAG
PAG
PAG
PAG
PAG
PAG
PER
PUT
RCO
RIN

RLI
RNO
RNO
RTY
SAV
STR
STR
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STR
STR

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```
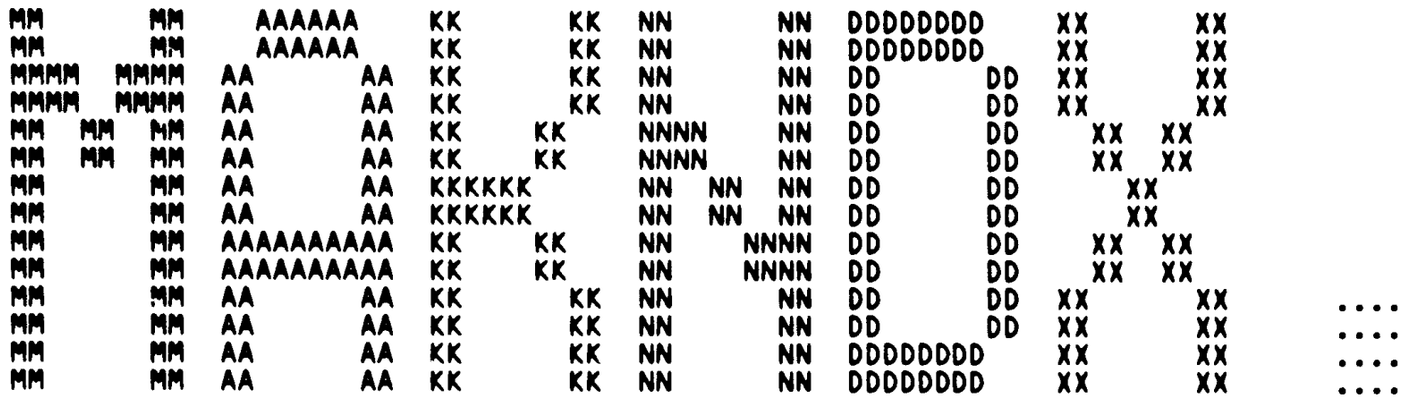
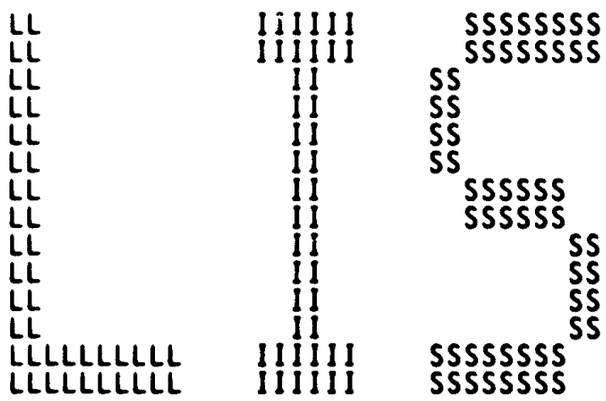


MM MM AAAAAA KK KK NN NN DDDDDDDD XX XX
MM MM AAAAAA KK KK NN NN DDDDDDDD XX XX
MMMM MMMM AA AA KK KK NN NN DD DD XX XX
MMMM MMMM AA AA KK KK NN NN DD DD XX XX
MM MM MM AA AA KK KK NNNN NN DD DD XX XX
MM MM MM AA AA KK KK NNNN NN DD DD XX XX
MM MM AA AA KKKKK NN NN NN DD DD XX
MM MM AA AA KKKKK NN NN NN DD DD XX
MM MM AAAAAAAAAA KK KK NN NNNN DD DD XX XX
MM MM AAAAAAAAAA KK KK NN NNNN DD DD XX XX
MM MM AA AA KK KK NN NN DD DD XX XX ....
MM MM AA AA KK KK NN NN DD DD XX XX ....
MM MM AA AA KK KK NN NN DDDDDDDD XX XX ....
MM MM AA AA KK KK NN NN DDDDDDDD XX XX ....


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

```
;     1          0001  0 %TITLE 'Processes .INDEX, .ENT, and .SUBI directives.'
;     2          0002  0 MODULE makndx ( IDENT = 'V04-000'
;     3        P 0003  0                 %BLISS32[, ADDRESSING_MODE (EXTERNAL    = LONG_RELATIVE,
;     4          0004  0                                             NONEXTERNAL = LONG_RELATIVE)]
;     5          0005  0                 ) =
;     6          0006  1 BEGIN
;     7          0007  1 !
;     8          0008  1 !*****************************************************************************
;     9          0009  1 !*                                                                           *
;    10          0010  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                  *
;    11          0011  1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                    *
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;    16          0016  1 !*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER     *
;    17          0017  1 !*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY     *
;    18          0018  1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY     *
;    19          0019  1 !*  TRANSFERRED.                                                              *
;    20          0020  1 !*                                                                           *
;    21          0021  1 !*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE     *
;    22          0022  1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT     *
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;    24          0024  1 !*                                                                           *
;    25          0025  1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS     *
;    26          0026  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                   *
;    27          0027  1 !*                                                                           *
;    28          0028  1 !*                                                                           *
;    29          0029  1 !*****************************************************************************
;    30          0030  1 !
;    31          0031  1 !++
;    32          0032  1 ! FACILITY:     DSR (Digital Standard RUNOFF) / DSRPLUS
;    33          0033  1 !
;    34          0034  1 ! ABSTRACT:     Processes the .INDEX, .ENTRY, and .SUBINDEX commands.
;    35          0035  1 !
;    36          0036  1 ! ENVIRONMENT:  Transportable
;    37          0037  1 !
;    38          0038  1 ! AUTHOR:       R.W.Friday       CREATION DATE: June, 1978
;    39          0039  1 !
;    40          0040  1
```

```
;    42          0041  1 %SBTTL 'Revision History'
;    43          0042  1 !
;    44          0043  1 ! MODIFIED BY:
;    45          0044  1 !
;    46          0045  1 !       018     REM00018        Ray Marshall    17-November-1983
;    47          0046  1 !               Modified the external definition of ATABLE to use the new
;    48          0047  1 !                 macro ATABLE_DEFINITION defined in ATCODE.REQ.
;    49          0048  1 !
;    50          0049  1 !       017     KAD00017        Keith Dawson    23-March-1983
;    51          0050  1 !               Changed GCA_FLIP bit to (.gca_op_dev EQL op_dev_flip).
;    52          0051  1 !
;    53          0052  1 !       016     KFA00016        Ken Alden       16-March-1983
;    54          0053  1 !               SCA must now be initialized by hand all the time
;    55          0054  1 !                 since DSR is now capable of doing SAVE/RESTORE.
;    56          0055  1 !
;    57          0056  1 !       015     KFA00015        Ken Alden       10-March-1983
;    58          0057  1 !               Fixed bug with .X, CHSSTR should not have been called.
;    59          0058  1 !
;    60          0059  1 !       014     RER00014        Ron Randall     07-March-1983
;    61          0060  1 !               Global edit of all modules. Updated module names, idents,
;    62          0061  1 !               copyright dates. Changed require files to BLISS library.
;    63          0062  1 !
;    64          0063  1 !--
;    65          0064  1
```

```
;    67          0065  1 %SBTTL 'Module Level Declarations'
;    68          0066  1
;    69          0067  1 !
;    70          0068  1 ! TABLE OF CONTENTS:
;    71          0069  1 !
;    72          0070  1 ! INCLUDE FILES:
;    73          0071  1 !
;    74          0072  1 LIBRARY 'NXPORT:XPORT';                 ! XPORT Library
;    75          0073  1 REQUIRE 'REQ:RNODEF';                   ! RUNOFF variant definitions
;    76          0204  1
;    77        U 0205  1 %IF DSRPLUS %THEN
;    78        U 0206  1 LIBRARY 'REQ:DPLLIB';                   ! DSRPLUS BLISS Library
;    79          0207  1 %ELSE
;    80          0208  1 LIBRARY 'REQ:DSRLIB';                   ! DSR BLISS Library
;    81          0209  1 %FI
;    82          0210  1
;    83          0211  1 !
;    84          0212  1 ! EXTERNAL REFERENCES:
;    85          0213  1 !
;    86          0214  1 EXTERNAL LITERAL
;    87          0215  1     RINTES : UNSIGNED (8);
;    88          0216  1
;    89          0217  1 EXTERNAL
;    90          0218  1     atable : atable_definition, ! Action table.  Used to identify what type of
;    91          0219  1                                ! action is to be taken on encountering any
;    92          0220  1                                ! given character.
;    93          0221  1     FLGT : FLAG_TABLE,
;    94          0222  1
;    95        U 0223  1 %IF DSRPLUS %THEN
;    96        U 0224  1     FS01 : FIXED_STRING,
;    97          0225  1 %FI
;    98          0226  1
;    99          0227  1     GCA : GCA_DEFINITION,
;   100          0228  1     IRA : FIXED_STRING,
;   101          0229  1     MRA : REF FIXED_STRING,
;   102          0230  1     SCA : SCA_DEFINITION,
;   103          0231  1     TSF : TSF_DEFINITION,
;   104          0232  1     XMRA : FIXED_STRING,
;   105          0233  1     XTSF : VECTOR;
;   106          0234  1
;   107          0235  1 EXTERNAL ROUTINE
;   108          0236  1     ENDWRD,
;   109          0237  1     OFT,
;   110          0238  1     OUTLIN,
;   111          0239  1     RSKIPS,
;   112          0240  1     SCANT,
;   113          0241  1     SETCAS,
;   114          0242  1     SUBXR;
;   115          0243  1
;   116        U 0244  1 %IF DSRPLUS %THEN
;   117        U 0245  1 EXTERNAL ROUTINE
;   118        U 0246  1     ENDCMT,
;   119        U 0247  1     PUTATT,
;   120        U 0248  1     CHSSTR,
;   121        U 0249  1     WRATTR,
;   122        U 0250  1     XPLUS;
;   123          0251  1 %FI
```

```
;  124          0252  1 !
;  125          0253  1 ! OWN STORAGE:
;  126          0254  1 !
;  127          0255  1 OWN
;  128          0256  1     PP_SCA : $H_R_SCA_BLOCK;     !Used in PUSH_SCA, POP_SCA macros (defined in SCA.REQ).
```

```
;  130          0257  1 GLOBAL ROUTINE MAKNDX (HANDLER_CODE, DO_INDEXING) : NOVALUE =
;  131          0258  1
;  132          0259  1 !++
;  133          0260  1 ! FUNCTIONAL DESCRIPTION:
;  134          0261  1 !
;  135          0262  1 !       See ABSTRACT, above.
;  136          0263  1 !
;  137          0264  1 ! FORMAL PARAMETERS:
;  138          0265  1 !
;  139          0266  1 !       HANDLER_CODE    - The command to be processed.
;  140          0267  1 !       DO_INDEXING     - If FALSE, the scan is done but no index entry is made.
;  141          0268  1 !
;  142          0269  1 ! IMPLICIT INPUTS:      None
;  143          0270  1 !
;  144          0271  1 ! IMPLICIT OUTPUTS:     None
;  145          0272  1 !
;  146          0273  1 ! ROUTINE VALUE:
;  147          0274  1 ! COMPLETION CODES:     None
;  148          0275  1 !
;  149          0276  1 ! SIDE EFFECTS:         None
;  150          0277  1 !--
;  151          0278  1
;  152          0279  2     BEGIN
;  153          0280  2     LOCAL
;  154          0281  2         SCA_PARA_COPY,
;  155          0282  2         SCA_INDENT_COPY,
;  156          0283  2         HOLD_IND_FLAG,
;  157          0284  2         HOLD_IND_EFLAG,
;  158          0285  2         SCA_COPY : SCA_DEFINITION;              !Used to preserve SCA.
;  159          0286  2
;  160          0287  2     LOCAL
;  161          0288  2         MRA_TEMP : VECTOR [4 + CH$ALLOCATION (1000)],   !Temporary MRA area
;  162          0289  2         TSF_TEMP : VECTOR [TSF_SIZE];           !Temporary TSF
;  163          0290  2
;  164          0291  2     LOCAL
;  165          0292  2         MRA_ADDRESS,                            !Preserve interrupted MRA
;  166          0293  2         TSF_ADDRESS;                            !Preserve interrupted TSF
;  167          0294  2
;  168          0295  2     LOCAL
;  169          0296  2         XTN;                                    !Computed transaction number for index entry.
;  170          0297  2
;  171        U 0298  2 %IF DSRPLUS %THEN
;  172        U 0299  2     LOCAL
;  173        U 0300  2         AN_XYPLUS;
;  174        U 0301  2
;  175        U 0302  2     AN_XYPLUS = 0;
;  176          0303  2 %FI
;  177          0304  2
;  178          0305  2     XTN = 0;                                    !Assume it's a .ENTRY command.
;  179          0306  2     !No transaction number is needed for .ENTRY commands, since they
;  180          0307  2     !get no page number in the index.  Also, if indexing commands
;  181          0308  2     !are to be ignored, no transaction number is needed either.
;  182          0309  2
;  183          0310  2     IF  .DO_INDEXING
;  184          0311  3         AND (.HANDLER_CODE NEQ H_ENTRY)
;  185          0312  3
;  186        U 0313  3 %IF DSRPLUS %THEN
```

```
;  187        U 0314  3          AND (.HANDLER_CODE NEQ H_YPLUS)
;  188          0315  3 %FI
;  189          0316  3
;  190          0317  2      THEN
;  191          0318  3          BEGIN
;  192          0319  3          ! Compute the transaction number associated with this entry.
;  193          0320  3
;  194          0321  3          XTN = .GCA_NORMAL_XTN;
;  195          0322  3          GCA_NORMAL_XTN = .GCA_NORMAL_XTN + 1;   !Bump for next index entry
;  196          0323  3
;  197          0324  3          !The page number associated with this index entry is the same
;  198          0325  3          !as that of the word being worked on.
;  199          0326  3
;  200          0327  3          IF  .SCA_WRD_F_XTN EQL 0
;  201          0328  3          THEN
;  202          0329  3              SCA_WRD_F_XTN = .XTN;
;  203          0330  3
;  204          0331  3          IF  .XTN NEQ 0
;  205          0332  3          THEN
;  206          0333  3              SCA_WRD_L_XTN = .XTN;
;  207          0334  3
;  208          0335  2          END;
;  209          0336  2
;  210          0337  2          RSKIPS (IRA);                              !Skip spaces and tabs preceeding the index item(s)
;  211          0338  2
;  212          0339  2          HOLD_IND_FLAG = .FLGT [IND_FLAG, FLAG_CHARACTER];       !Preserve <INDEX flag> status.
;  213          0340  2          HOLD_IND_EFLAG = .FLGT [IND_FLAG, FLAG_ENABLED];
;  214          0341  2          OFT (H_NO_FLAGS_INDE, IND_FLAG);                !Disable <INDEX flag>
;  215          0342  2
;  216          0343  2          IF  .FLGT [SBX_FLAG, FLAG_ENABLED] AND .SCA_FLAGS
;  217          0344  2          THEN
;  218          0345  2          !Enable <SUBINDEX flag> recognition. The <SUBINDEX flag> temporarily
;  219          0346  2          !occupies areas reserved for the <INDEX flag>.
;  220          0347  3              BEGIN
;  221          0348  3              FLGT [IND_FLAG, FLAG_CHARACTER] = .FLGT [SBX_FLAG, FLAG_CHARACTER];
;  222          0349  3              FLGT [IND_FLAG, FLAG_ENABLED] = TRUE;
;  223          0350  3              ATABLE [.FLGT [SBX_FLAG, FLAG_CHARACTER]] = A_FLAG;
;  224          0351  2              END;
;  225          0352  2
;  226        U 0353  2 %IF DSRPLUS %THEN
;  227        U 0354  2      IF  .HANDLER_CODE EQL H_XPLUS OR .HANDLER_CODE EQL H_YPLUS
;  228        U 0355  2      THEN
;  229        U 0356  2          BEGIN
;  230        U 0357  2          LOCAL
;  231        U 0358  2              STATUS;
;  232        U 0359  2
;  233        U 0360  2          STATUS = XPLUS (.HANDLER_CODE);
;  234        U 0361  2
;  235        U 0362  2          IF  .STATUS
;  236        U 0363  2          THEN
;  237        U 0364  2              BEGIN
;  238        U 0365  2              !
;  239        U 0366  2              !Note the fact that an .XP/.YP was given, so we can generate
;  240        U 0367  2              !a warning message if .DX/.PX is ever used after .XP/.YP.
;  241        U 0368  2              GCA_XP_EVER = TRUE;
;  242        U 0369  2              !
;  243        U 0370  2              !Mark this entry as an .XP/.YP entry. This will allow DOFLG
```

```
;  244        U 0371  2              !to determine if it should generate escape sequence for the
;  245        U 0372  2              !Nopermute flag (as it should if the command is .XP/.YP), or
;  246        U 0373  2              !simply eat it (as it should for .X/.Y).
;  247        U 0374  2              AN_XYPLUS = TRUE;
;  248        U 0375  2              !
;  249        U 0376  2              END
;  250        U 0377  2          ELSE
;  251        U 0378  2              BEGIN
;  252        U 0379  2              !The syntax of user-supplied attributes is illegal (mismatched
;  253        U 0380  2              !parens). In this case we cannot distinguish what is intended
;  254        U 0381  2              !for the index entry, so advance past the rest of the text and
;  255        U 0382  2              !return.
;  256        U 0383  2              ENDCMT ();
;  257        U 0384  2              RETURN;
;  258        U 0385  2              END;
;  259        U 0386  2
;  260        U 0387  2          END;
;  261        U 0388  2
;  262           0389  2 %FI
;  263           0390  2      PUSH_SCA;   !Save the SAVEd SCA bits.                                                    ;
;  264           0391  2
;  265           0392  2      INCR I FROM 0 TO SCA_SIZE - 1 DO
;  266           0393  2          SCA_COPY [.I] = .SCA [.I];                  !Save SCA                            ;
;  267           0394  2                                                                                           ;
;  268           0395  2      !Initialize the SCA before doing SCANT                                               ;
;  269           0396  2      SCA_LM = 0;
;  270           0397  2      SCA_RM = 150;                                  !Set wide right margin so won't start a new line.
;  271           0398  2      SCA_X_FLAG = FALSE;                            !Turn off index flag now in case we are in the middle of an
;  272           0399  2      SCA_SPACING = 1;                               !Single spacing avoids spurious intermediate code.
;  273           0400  2      SETCAS (.GCA_XCASE);                           !Use case translation rules defined by .XLOWER or .XUPPER co
;  274           0401  2      SCA_FC = TRUE;                                 !This is the first character for the MRA.
;  275           0402  2      SCA_FC_CASE = TRUE;                            !Use first character-of-word case rules.
;  276           0403  2      SCA_XROUTINE = TRUE;                           !TRUE ==> use SUBXR for index phrase processing routine.
;  277           0404  2      SCA_PRESCAN = TRUE;                            !A ';' terminates the scan.
;  278           0405  2      SCA_PARA_COPY = .SCA_PARA_PND;                 !Don't let FCIMRA do any indentation, etc.
;  279           0406  2      SCA_INDENT_COPY = .SCA_INDENT;
;  280           0407  2      SCA_PARA_PND = FALSE;
;  281           0408  2      SCA_INDENT = 0;
;  282           0409  2      SCA_FILL = FALSE;
;  283           0410  2      SCA_JUSTIFY = FALSE;
;  284           0411  2
;  285           0412  2      !Preserve the addresses of the structures to which these items refer.                 ;
;  286           0413  2      MRA_ADDRESS = .MRA;                                                                  ;
;  287           0414  2      TSF_ADDRESS = .TSF;                                                                  ;
;  288           0415  2      !Now switch working buffers, so that text currently being accumulated                ;
;  289           0416  2      !is not disturbed.                                                                   ;
;  290           0417  2      MRA = MRA_TEMP;                                                                      ;
;  291           0418  2      TSF = TSF_TEMP;                                                                      ;
;  292           0419  2      !Now manually set up MRA, to look like a FIXED STRING.
;  293           0420  2      FS_MAXSIZE (MRA) = 1000;
;  294           0421  2      FS_INIT (MRA);                                 !And that finishes the initialization.
;  295           0422  2
;  296           0423  2      !Now initialize TSF for SCANT.
;  297           0424  2      INCR I FROM 0 TO TSF_SIZE - 1 DO
;  298           0425  2          TSF [.I] = 0;                                                                    ;
;  299           0426  2                                                                                           ;
;  300        U 0427  2 %IF DSRPLUS %THEN                                                                         ;
```

```
;  301        U 0428  2      TSF_XYPLUS = .AN_XYPLUS;             !This information is used by UNPUS (called from OUTLIN), among other
;  302          0429  2 %FI
;  303          0430  2
;  304          0431  2      TSF_INDEX = TRUE;                        !This TSF record describes an index entry.
;  305          0432  2      TSF_FIRST_XTN = .XTN;
;  306          0433  2
;  307          0434  2      SCA_WRD_INT_L = 0;
;  308          0435  2      SCA_WRD_EXT_L = 0;
;  309          0436  2      SCA_WRD_ISEQN = 0;
;  310          0437  2      SCA_WRD_DRAFT = 0;
;  311          0438  2      SCA_WRD_DRAFT_F = 0;
;  312          0439  2      SCA_WRD_BARS = 0;
;  313          0440  2      SCA_WRD_BAR_CHR = 0;
;  314          0441  2      SCA_WRD_SEQN_F = 0;
;  315          0442  2      SCA_WRD_IPAGEN = 0;
;  316          0443  2      SCA_WRD_FOOTW = 0;
;  317          0444  2      SCA_WRD_F_XTN = 0;
;  318          0445  2      SCA_WRD_L_XTN = 0;
;  319          0446  2      SCA_WRD_LC_PNCT = 0;
;  320          0447  2      SCA_WRD_LST_SP = 0;
;  321          0448  2      SCA_WRD_LST_JUS = 0;
;  322          0449  2      SCA_WRD_LST_UND = 0;
;  323          0450  2      SCA_WRD_PNTR = .FS_NEXT (MRA);
;  324          0451  2      SCA_WRD_CPEND = RINTES;                  !Tell ENDCHR no character is pending.
;  325          0452  2      FS_START (MRA) = .SCA_WRD_PNTR;
;  326          0453  2
;  327          0454  2      !Now let SCANT process the command.
;  328          0455  2      SCANT ();
;  329          0456  2
;  330          0457  2      !Restore <INDEX flag> to former status.
;  331          0458  2      OFT (H_NO_FLAGS_INDE, IND_FLAG);
;  332          0459  2      FLGT [IND_FLAG, FLAG_CHARACTER] = .HOLD_IND_FLAG;
;  333          0460  2      FLGT [IND_FLAG, FLAG_ENABLED] = .HOLD_IND_EFLAG;
;  334          0461  2
;  335          0462  2      IF  .FLGT [IND_FLAG, FLAG_ENABLED]
;  336          0463  2          AND .SCA_FLAGS
;  337          0464  2      THEN
;  338          0465  2          ATABLE [.FLGT [IND_FLAG, FLAG_CHARACTER]] = A_FLAG;
;  339          0466  2
;  340          0467  2      !Return here is with a word.
;  341          0468  2      IF  .DO_INDEXING
;  342          0469  2      THEN
;  343          0470  3          BEGIN
;  344          0471  3
;  345          0472  3          IF  .SCA_WRD_CPEND NEQ RINTES
;  346          0473  3          THEN
;  347          0474  3              ENDWRD (FALSE, FALSE, FALSE);       !End word, but don't write a space too.
;  348          0475  3
;  349        U 0476  3 %IF DSRPLUS %THEN
;  350        U 0477  3          !
;  351        U 0478  3          !Find out if there is a sort string,
;  352        U 0479  3          !and if so, check its validity.
;  353        U 0480  3          !
;  354        U 0481  3          IF  .HANDLER_CODE EQL H_XPLUS OR .HANDLER_CODE EQL H_YPLUS
;  355        U 0482  3          THEN
;  356        U 0483  3              BEGIN
;  357        U 0484  3              CHSSTR ();
```

```
;   358        U 0485  3              !
;   359        U 0486  3              ! The sort string has now been checked and adjusted if necessary.
;   360        U 0487  3              ! Now we write the sort= and Append= strings to the attributes block.
;   361        U 0488  3              !
;   362        U 0489  3              WRATTR ();
;   363        U 0490  3              END;
;   364        U 0491  3          !
;   365        U 0492  3          !Write an attributes block only if:
;   366        U 0493  3          ! 1) Indexing is going to the .BRN file, and
;   367        U 0494  3          ! 2) The indexed text was not null, and
;   368        U 0495  3          ! 3) This was an .XP/.YP.
;   369        U 0496  3          ! 4) Not generating a .BFL (FLIP) file.
;   370        U 0497  3          !
;   371        U 0498  3          IF  .GCA_BIX                !Indexing to a file?
;   372        U 0499  3              AND
;   373        U 0500  3              .TSF_EXT_HL NEQ 0       !Non-null index entry?
;   374        U 0501  3              AND
;   375        U 0502  3              .TSF_XYPLUS             !.XP/.YP?
;   376        U 0503  3              AND
;   377        U 0504  3              NOT (.gca_op_dev EQL op_dev_flip)          !Not generating a .BFL?
;   378        U 0505  3          THEN
;   379        U 0506  3              PUTATT ();              !OK, write out the attributes.
;   380          0507  3 %FI
;   381          0508  3
;   382          0509  3          OUTLIN (FALSE);                 !Don't disturb justification algorithm
;   383          0510  2          END;
;   384          0511  2
;   385          0512  2      INCR I FROM 0 TO SCA_SIZE - 1 DO
;   386          0513  2          SCA [.I] = .SCA_COPY [.I];              !Restore SCA
;   387          0514  2
;   388          0515  2      POP_SCA;    !Restore the SAVEd SCA bits.
;   389          0516  2
;   390          0517  2      MRA = .MRA_ADDRESS;                        !Restore previous status.
;   391          0518  2      TSF = .TSF_ADDRESS;
;   392          0519  2      SCA_PARA_PND = .SCA_PARA_COPY;
;   393          0520  2      SCA_INDENT = .SCA_INDENT_COPY;
;   394          0521  1      END;                                       !End of MAKNDX


                                                        .TITLE  MAKNDX Processes .INDEX, .ENT, and .SUBI direct
;                                                                       ives.
                                                        .IDENT  \V04-000\

                                                        .PSECT  $OWN$,NOEXE,2

                                              00000 PP_SCA: .BLKB   48

                                                        .EXTRN  RINTES, ATABLE, FLGT
                                                        .EXTRN  GCA, IRA, MRA, SCA
                                                        .EXTRN  TSF, XMRA, XTSF
                                                        .EXTRN  ENDWRD, OFT, OUTLIN
                                                        .EXTRN  RSKIPS, SCANT, SETCAS
                                                        .EXTRN  SUBXR

                                                        .PSECT  $CODE$,NOWRT,2

                                          0FFC 00000    .ENTRY  MAKNDX, Save R2,R3,R4,R5,R6,R7,R8,R9,R10,-  ; 0257
```

```
                                                                                R11
                          5B 00000000'   EF   9E 00002          MOVAB   PP_SCA, R11                                     ;
                          5A 00000000G   EF   9E 00009          MOVAB   SCA+144, R10                                    ;
                          5E      F9E8   CE   9E 00010          MOVAB   -1560(SP), SP                                   ;
                                         53   D4 00015          CLRL    XTN                                             ; 0305
                          2B        08   AC   E9 00017          BLBC    DO_INDEXING, 2$                                 ; 0310
                00000040  8F        04   AC   D1 0001B          CMPL    HANDLER_CODE, #64                               ; 0311
                                         21   13 00023          BEQL    2$
                          53 00000000G   EF   D0 00025          MOVL    GCA+168, XTN                                    ; 0321
                             00000000G   EF   D6 0002C          INCL    GCA+168                                         ; 0322
                                 0098    CA   D5 00032          TSTL    SCA+296                                         ; 0327
                                         05   12 00036          BNEQ    1$
                    0098  CA                 53   D0 00038          MOVL    XTN, SCA+296                                    ; 0329
                                         53   D5 0003D 1$:       TSTL    XTN                                             ; 0331
                                         05   13 0003F          BEQL    2$
                    009C  CA                 53   D0 00041          MOVL    XTN, SCA+300                                    ; 0333
                             00000000G   EF   9F 00046 2$:       PUSHAB  IRA                                             ; 0337
                00000000G EF                01   FB 0004C          CALLS   #1, RSKIPS
                          57 00000000G   EF   D0 00053          MOVL    FLGT+112, HOLD_IND_FLAG                         ; 0339
                          56 00000000G   EF   D0 0005A          MOVL    FLGT+40, HOLD_IND_EFLAG                         ; 0340
                                         0A   DD 00061          PUSHL   #10                                             ; 0341
                          7E        84   8F   9A 00063          MOVZBL  #132, -(SP)
                00000000G EF                02   FB 00067          CALLS   #2, OFT
                          25 00000000G   EF   E9 0006E          BLBC    FLGT+52, 3$                                     ; 0343
                          21        00   BA   E9 00075          BLBC    @SCA+144, 3$
                00000000G EF 00000000G   EF   D0 00079          MOVL    FLGT+124, FLGT+112                              ; 0348
                00000000G EF                01   D0 00084          MOVL    #1, FLGT+40                                     ; 0349
                          50 00000000G   EF   9E 0008B          MOVAB   ATABLE, R0                                      ; 0350
                00000000GFF40                03   90 00092          MOVB    #3, @FLGT+124[R0]
                          6B        D4   BA   D0 0009A 3$:       MOVL    @SCA+100, PP_SCA                                ; 0387
                    04    AB        D8   BA   D0 0009E          MOVL    @SCA+104, PP_SCA+4
                    08    AB        DC   BA   D0 000A3          MOVL    @SCA+108, PP_SCA+8
                    0C    AB        E0   BA   D0 000A8          MOVL    @SCA+112, PP_SCA+12
                    10    AB        E4   BA   D0 000AD          MOVL    @SCA+116, PP_SCA+16
                    14    AB        E8   BA   D0 000B2          MOVL    @SCA+120, PP_SCA+20
                    18    AB        EC   BA   D0 000B7          MOVL    @SCA+124, PP_SCA+24
                    1C    AB        F0   BA   D0 000BC          MOVL    @SCA+128, PP_SCA+28
                    20    AB        F4   BA   D0 000C1          MOVL    @SCA+132, PP_SCA+32
                    24    AB        F8   BA   D0 000C6          MOVL    @SCA+136, PP_SCA+36
                    28    AB        FC   BA   D0 000CB          MOVL    @SCA+140, PP_SCA+40
                    2C    AB        00   BA   D0 000D0          MOVL    @SCA+144, PP_SCA+44
                                         50   D4 000D5          CLRL    I                                               ; 0392
                FE80  CD40      FF70  CA40   D0 000D7 4$:       MOVL    SCA[I], SCA_COPY[I]                             ; 0393
            EF          50 0000005F    8F   F3 000E0          AOBLEQ  #95, I, 4$
                             E4   BA   D4 000E8          CLRL    @SCA+116                                                ; 0396
                    E8   BA        96   8F   9A 000EB          MOVZBL  #150, @SCA+120                                  ; 0397
                             0C   AA   D4 000F0          CLRL    SCA+156                                                 ; 0398
                    EC   BA             01   D0 000F3          MOVL    #1, @SCA+124                                    ; 0399
                             00000000G  FF   DD 000F7          PUSHL   @GCA+84                                         ; 0400
                00000000G   EF              01   FB 000FD          CALLS   #1, SETCAS
                    04   AA             01   D0 00104          MOVL    #1, SCA+148                                     ; 0401
                    40   AA             01   D0 00108          MOVL    #1, SCA+208                                     ; 0402
                    28   AA             01   D0 0010C          MOVL    #1, SCA+184                                     ; 0403
                    1C   AA             01   D0 00110          MOVL    #1, SCA+172                                     ; 0404
                         58        4C   AA   7D 00114          MOVQ    SCA+220, SCA_INDENT_COPY                        ; 0406
                                   4C   AA   7C 00118          CLRQ    SCA+220                                         ; 0408
                                   D8   BA   D4 0011B          CLRL    @SCA+104                                        ; 0409
```

```
                                    D4   BA   D4 0011E          CLRL    @SCA+100                                        ; 0410
                                55 00000000G EF   D0 00121      MOVL    MRA, MRA_ADDRESS                                ; 0413
                                54 00000000G EF   D0 00128      MOVL    TSF, TSF_ADDRESS                                ; 0414
                    00000000G   EF     00A0   CE   9E 0012F     MOVAB   MRA_TEMP, MRA                                   ; 0417
                    00000000G   EF            6E   9E 00138     MOVAB   TSF_TEMP, TSF                                   ; 0418
                                50 00000000G EF   D0 0013F      MOVL    MRA, R0                                         ; 0420
                          08    A0     03E8   8F   3C 00146     MOVZWL  #1000, 8(R0)
                                       0C    A0   D4 0014C     CLRL    12(R0)                                          ; 0421
                                60     10    A0   9E 0014F     MOVAB   16(R0), (R0)
                          04    A0            60   D0 00153     MOVL    (R0), 4(R0)
                                52 00000000G EF   D0 00157      MOVL    TSF, R2                                         ; 0425
                                            51   D4 0015E      CLRL    I
                                          6241   D4 00160 5$:  CLRL    (R2)[I]
                    F9          51            27   F3 00163     AOBLEQ  #39, I, 5$
                          14    A2            01   D0 00167     MOVL    #1, 20(R2)                                      ; 0431
                          38    A2            53   D0 0016B     MOVL    XTN, 56(R2)                                     ; 0432
                                       6C    AA   7C 0016F     CLRQ    SCA+252                                         ; 0434
                                       74    AA   7C 00172     CLRQ    SCA+260                                         ; 0436
                                       7C    AA   D4 00175     CLRL    SCA+268                                         ; 0438
                                0080   CA          01   8A 00178     BICB2   #1, SCA+272                             ; 0439
                                     0084   CA   D4 0017D      CLRL    SCA+276                                         ; 0440
                                     008C   CA   7C 00181      CLRQ    SCA+284                                         ; 0441
                                     0094   CA   7C 00185      CLRQ    SCA+292                                         ; 0443
                                     009C   CA   D4 00189      CLRL    SCA+300                                         ; 0445
                                     00B8   CA   7C 0018D      CLRQ    SCA+328                                         ; 0446
                                     00C0   CA   7C 00191      CLRQ    SCA+336                                         ; 0448
                          68    AA       04    A0   D0 00195     MOVL    4(R0), SCA+248                                  ; 0450
                                0088   CA   00G   8F   9A 0019A     MOVZBL  #RINTES, SCA+280                        ; 0451
                                60     68    AA   D0 001A0     MOVL    SCA+248, (R0)                                   ; 0452
                    00000000G   EF            00   FB 001A4     CALLS   #0, SCANT                                       ; 0455
                                              0A   DD 001AB     PUSHL   #10                                             ; 0458
                                7E       84   8F   9A 001AD     MOVZBL  #132, -(SP)
                    00000000G   EF            02   FB 001B1     CALLS   #2, OFT
                    00000000G   EF            57   D0 001B8     MOVL    HOLD_IND_FLAG, FLGT+112                         ; 0459
                    00000000G   EF            56   D0 001BF     MOVL    HOLD_IND_EFLAG, FLGT+40                         ; 0460
                                13 00000000G EF   E9 001C6      BLBC    FLGT+40, 6$                                     ; 0462
                                0F       00   BA   E9 001CD     BLBC    @SCA+144, 6$                                    ; 0463
                                50 00000000G EF   9E 001D1      MOVAB   ATABLE, R0                                      ; 0465
                    00000000GFF40             03   90 001D8     MOVB    #3, @FLGT+112[R0]
                                1F       08   AC   E9 001E0 6$:  BLBC    DO_INDEXING, 8$                                 ; 0468
                    00000000G   8F     0088   CA   D1 001E4     CMPL    SCA+280, #RINTES                                ; 0472
                                              0B   13 001ED     BEQL    7$
                                              7E   7C 001EF     CLRQ    -(SP)                                           ; 0474
                                              7E   D4 001F1     CLRL    -(SP)
                    00000000G   EF            03   FB 001F3     CALLS   #3, ENDWRD
                                              7E   D4 001FA 7$:  CLRL    -(SP)                                           ; 0509
                    00000000G   EF            01   FB 001FC     CALLS   #1, OUTLIN
                                              50   D4 00203 8$:  CLRL    I                                               ; 0512
                          FF70 CA40      FE80 CD40   D0 00205 9$:  MOVL    SCA_COPY[I], SCA[I]                             ; 0513
                EF                50 0000005F   8F   F3 0020E     AOBLEQ  #95, I, 9$
                          D4    BA            6B   D0 00216     MOVL    PP_SCA, @SCA+100
                          D8    BA       04   AB   D0 0021A     MOVL    PP_SCA+4, @SCA+104
                          DC    BA       08   AB   D0 0021F     MOVL    PP_SCA+8, @SCA+108
                          E0    BA       0C   AB   D0 00224     MOVL    PP_SCA+12, @SCA+112
                          E4    BA       10   AB   D0 00229     MOVL    PP_SCA+16, @SCA+116
                          E8    BA       14   AB   D0 0022E     MOVL    PP_SCA+20, @SCA+120
                          EC    BA       18   AB   D0 00233     MOVL    PP_SCA+24, @SCA+124
```

```
                     F0   BA        1C   AB  D0 00238          MOVL    PP_SCA+28, @SCA+128                    ;
                     F4   BA        20   AB  D0 0023D          MOVL    PP_SCA+32, @SCA+132                    ;
                     F8   BA        24   AB  D0 00242          MOVL    PP_SCA+36, @SCA+136                    ;
                     FC   BA        28   AB  D0 00247          MOVL    PP_SCA+40, @SCA+140                    ;
                     00   BA        2C   AB  D0 0024C          MOVL    PP_SCA+44, @SCA+144                    ;
            00000000G   EF                 55  D0 00251          MOVL    MRA_ADDRESS, MRA                       ; 0517
            00000000G   EF                 54  D0 00258          MOVL    TSF_ADDRESS, TSF                       ; 0518
                     4C   AA                 58  7D 0025F          MOVQ    SCA_INDENT_COPY, SCA+220               ; 0520
                                                 04 00263          RET                                            ; 0521

; Routine Size:  612 bytes,    Routine Base:  $CODE$ + 0000

;  395          0522  1
;  396          0523  1 END                                         !End of module
;  397          0524  0 ELUDOM



;                                  PSECT SUMMARY
;
;       Name                    Bytes                           Attributes
;
;  $OWN$                          48  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $CODE$                        612  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                               Library Statistics
;
;                                        -------- Symbols --------      Pages       Processing
;       File                             Total    Loaded   Percent      Mapped      Time
;
;  _$255$DUA28:[SYSLIB]XPORT.L32;1         590         0         0         252       00:00.1
;  _$255$DUA28:[RUNOFF.SRC]DSRLIB.L32;1   1248        87         6          86       00:00.3



;                                    COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:MAKNDX/OBJ=OBJ$:MAKNDX MSRC$:MAKNDX/UPDATE=(ENH$:MAKNDX)

; Size:         612 code + 48 data bytes
; Run Time:       00:16.4
; Elapsed Time:   00:36.0
; Lines/CPU Min:   1920
; Lexemes/CPU-Min: 18557
; Memory Used:  144 pages
; Compilation Complete
```