File created: 24-Feb-2024 10:05:37 **{WMEDLEY}<library>lafite>LAFITE-MIME.;1**

edit by: rmk

changes to: (VARS MIMECOMS)

previous date: 3-Aug-2005 09:39:34 {WMEDLEY}<library>lafite>MIME.;1

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

```
(RPAQQ LAFITE-MIMECOMS
       ((FNS DEMIME PARSEMIME DEMIMEPART DEMIMETEXT DEMIMEAPPL MIMEERROR MIMEHEADERS MIMEPARAMS
             PARSE-SUNATTACHMENT RECODEMIMEHEADER)
        (COMS ;; Replaces function on LAFITECOMMANDS and LAFITEHARDCOPY, so that MIME objects are decoded in messages.  These
              ;; functions require the LAFITEMSG and MAILFOLDER records to be available:
              (DECLARE%: DONTEVAL@LOAD DONTCOPY EVAL@COMPILE (FILES (LOADCOMP)
                                                                    LAFITE-DECLS))
              (FNS LA.COPY.MESSAGE.TEXT \LAFITE.APPEND.MESSAGE.BODY)
              ;; Replaces function on LAFITEBROWSE, so that browser window interprets different character sets.
              (FNS PRINTMESSAGESUMMARY.STRING))
        (FNS ADDMIMEOBJECT MIMEOBJINIT MIMEOBJ.DISPLAYFN MIMEOBJ.COPYFN MIMEOBJ.BUTTONEVENTINFN
             MIMEOBJ.IMAGEBOXFN)
        (P (MIMEOBJINIT))
        (FNS DEPS FINDPSSEGMENTS POSTSCRIPTPART)
        (FNS STREAMFROMBASE64 STREAMFROMBINHEX STREAMFROMASCII STREAMFROMENRICHEDTEXT STREAMFROMUUENCODE
             STREAMFROMQUOTEDPRINTABLE STREAMFROMUTF-8)
        (CONSTANTS BINHEXCHARS)
        (INITVARS (BINHEXCHARARRAY NIL))
        (DECLARE%: EVAL@COMPILE DONTCOPY (GLOBALVARS BINHEXCHARARRAY)
                   (MACROS BINHEXBYTE BINHEXWORD BINHEXLONG))
        [INITVARS (ATTACHMENTDIR '(CONCAT "{dsk}/tilde/" (L-CASE (USERNAME))
                                          "/attachments"]
        (GLOBALVARS ATTACHMENTDIR)
        [COMS ;; MIMEFASTRECODECHARCODE is a copy of FASTRECODECHARCODED on /project/dict/code/CHARACTERFNS
              (FNS CACHEMIMECHARRECODEMAPS MIMEFASTRECODECHARCODE MIMERECODEMAP)
              (INITVARS (CURRENTCHARENCODING 'XEROX-RENDERING))
              [VARS (CACHEDCHARENCODINGS '(ISO8859/1 ISO-8859-1 ISO8859_1 ISO% 8859-1 LATIN1 ISO8859/2
                                                     ISO-8859-2 ISO8859_2 LATIN2 CP1252 WINDOWS-1252 CP1250
                                                     WINDOWS-1250]
              ;; MIMERECODEMAPS must be set up by executing
              ;;   (CACHEMIMECHARRECODEMAPS CACHEDCHARENCODINGS)
              ;; in a system that has /project/dict/code/CHARACTERFNS loaded.
              (ARRAY MIMERECODEMAPS)
              (P (MOVD? 'NILL 'CHARRECODEMAP]
        (DECLARE%: DONTCOPY (RECORDS MIMEPART))))

(DEFINEQ

(DEMIME
  [LAMBDA (MSGWINDOW TEXTSTREAM OUTFILE)                    ; Edited 19-Jan-2000 07:14 by rmk:
                                                            ; Edited 17-Jan-2000 22:05 by rmk:
                                                            ; Edited 25-Feb-99 18:26 by rmk:
                                                            ; Edited 31-Oct-98 13:54 by rmk:
    (RESETLST
        (LET [(INSTREAM (OR MSGWINDOW (WHICHW]
             (SETQ INSTREAM (IF (GETSTREAM INSTREAM 'INPUT T)
                                ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
                                ELSE [RESETSAVE [SETQ INSTREAM (OPENSTREAM INSTREAM 'INPUT NIL
                                                                           '((TYPE TEXT]
                                                       '(PROGN (CLOSEF? OLDVALUE]
                                                     INSTREAM))
             (SETFILEPTR INSTREAM 0)
             (FILEPOS "MIME-Version:" INSTREAM)
             (DEMIMEPART INSTREAM TEXTSTREAM (PARSEMIME INSTREAM 1 (GETEOFPTR INSTREAM))
                    NIL OUTFILE)))])

(PARSEMIME
  [LAMBDA (INSTREAM PARTNUM ENDPOS MAILFOLDER)              ; Edited 19-Mar-2002 08:50 by rmk:
    ;; Returns a tree of MIMEPART records, NIL if there are none.  Note that the STARTPOS of the first part is the end of the main set of message
    ;; headers.
    (DECLARE (SPECVARS MAILFOLDER))                         ; MAILFOLDER is available so that messages can be printed in
                                                            ; the appropriate prompt window
    (LET (PART (HEADERS (MIMEHEADERS INSTREAM))
               (STARTPOS (GETFILEPTR INSTREAM))
               TYPE)
         (IF HEADERS
             THEN (SETQ TYPE (CDR (ASSOC 'CONTENT-TYPE HEADERS)))
```

```
                (SETQ PART (CREATE MIMEPART
                                  STARTPOS _ STARTPOS
                                  ENDPOS _ ENDPOS
                                  MAINTYPE _ (OR (CAAR TYPE)
                                                 'TEXT)
                                  SUBTYPE _ (OR (CADAR TYPE)
                                                'PLAIN)
                                  TYPEPROPS _ (CDR TYPE)
                                  ENCODING _ (CADR (ASSOC 'CONTENT-TRANSFER-ENCODING HEADERS))
                                  DISPOSITION _ (CDR (ASSOC 'CONTENT-DISPOSITION HEADERS))
                                  PARTNUM _ PARTNUM))
                (SELECTQ (FETCH MAINTYPE OF PART)
                    (MULTIPART (REPLACE SUBPARTS OF PART
                                  WITH (FOR PARTNUM PARTSTART PARTEND
                                            [BOUNDARY _ (CONCAT "--" (CADR (ASSOC 'BOUNDARY
                                                                                  (FETCH TYPEPROPS
                                                                                     OF PART]
                                       FROM 1 FIRST
                                       ;; Back up to start first search, since MIMEHEADERS might have read the crucial CR.  But also have
                                       ;; to confirm that an EOL occurred before the boundary; FFILEPOS doesn't seem to match when the
                                       ;; file's EOL convention is not CR.  This would all get simpler if FFILEPOS were fixed:  simply give T
                                       ;; as the tail argument.
                                                (AND (SETQ PARTSTART (FFILEPOS BOUNDARY INSTREAM
                                                                               (SUB1 STARTPOS)))
                                                     (IF (MEMB (\BACKPEEKBIN INSTREAM)
                                                               (CHARCODE (CR LF)))
                                                         THEN (SETFILEPTR INSTREAM
                                                                          (ADD PARTSTART (NCHARS BOUNDARY
                                                                                                 )))
                                                       T
                                                       ELSE (SETFILEPTR INSTREAM STARTPOS)
                                                            NIL))
                                       UNTIL [AND (EQ (CHARCODE -)
                                                      (PEEKCCODE INSTREAM))
                                                  (PROGN (READCCODE INSTREAM)
                                                         (EQ (CHARCODE -)
                                                             (PEEKCCODE INSTREAM]
                                       COLLECT
                                            ;; 2 hyphens marks the end of the last boundary.  Probably should also check for
                                            ;; final EOL, but...
                                            (IF (AND (EQ (PEEKCCODE INSTREAM)
                                                         (CHARCODE CR)))
                                                THEN (READCCODE INSTREAM))
                                            (SETQ PARTSTART (GETFILEPTR INSTREAM))
                                            (IF (SETQ PARTEND (FFILEPOS BOUNDARY INSTREAM NIL ENDPOS))
                                                THEN (SELCHARQ (\BACKBIN INSTREAM)
                                                               ((CR LF)
                                                                    (SETQ PARTEND (SUB1 PARTEND)))
                                                               NIL)
                                              ELSE
                                            ;; If part doesn't end with a boundary, it's an  illformed mime message, but deal with it anyway.
                                            ;; REPEATUNTIL will stop the iteration in this peculiar case.
                                                         (SETQ PARTEND ENDPOS))
                                            (SETFILEPTR INSTREAM PARTSTART)
                                            (PROG1 (PARSEMIME INSTREAM PARTNUM PARTEND)
                                                   (SETFILEPTR INSTREAM (IPLUS PARTEND (NCHARS BOUNDARY))))
                                       REPEATUNTIL (IEQP PARTEND ENDPOS))))
                    (MESSAGE [LET ((P (PARSEMIME INSTREAM PARTNUM ENDPOS)))
                                  ;; P is the part for the message body.  We also add a separate part for the message headers, so they
                                  ;; will be displayed.
                                  (REPLACE SUBPARTS OF PART
                                     WITH (IF P
                                              THEN (LIST (CREATE MIMEPART
                                                                 MAINTYPE _ 'TEXT
                                                                 STARTPOS _ STARTPOS
                                                                 ENDPOS _ (SUB1 (FETCH STARTPOS OF P)))
                                                         P)
                                            ELSE (CONS (CREATE MIMEPART
                                                               MAINTYPE _ 'TEXT
                                                               STARTPOS _ STARTPOS
                                                               ENDPOS _ ENDPOS
                                                               PARTNUM _ 1])
                    (TEXT                                  ; Text could have postscript hidden in it, if it's long enough
                          (SETQ PART (OR (POSTSCRIPTPART INSTREAM STARTPOS ENDPOS)
                                         PART)))
                    (X-SUN-ATTACHMENT
                        (PARSE-SUNATTACHMENT PART INSTREAM))
                    NIL)
              ELSE (SETQ PART (POSTSCRIPTPART INSTREAM STARTPOS ENDPOS)))
            PART])
```

(**DEMIMEPART**

```
[LAMBDA (INSTREAM TEXTSTREAM PART OBJECTFLAG OUTFILE)          ; Edited 3-Aug-2005 09:39 by N.H.Briggs
  (CL:WHEN PART
      (SELECTQ (FETCH MAINTYPE OF PART)
          (MULTIPART (SELECTQ (FETCH SUBTYPE OF PART)
                          ((MIXED X-SUN-ATTACHMENT REPORT)     ; Don't know what REPORT is, put it here
                              (FOR P IN (FETCH SUBPARTS OF PART)
                                 DO (DEMIMEPART INSTREAM TEXTSTREAM P OBJECTFLAG OUTFILE)))
                          ((RELATED ALTERNATIVE SIGNED)
                              (FOR P TEXT IN (FETCH SUBPARTS OF PART)
                                 WHEN [AND (EQ 'TEXT (FETCH MAINTYPE OF P))
                                           (PROGN (SETQ TEXT P)
                                                  (EQ 'PLAIN (FETCH SUBTYPE OF P]
                                 DO (DEMIMEPART INSTREAM TEXTSTREAM P OBJECTFLAG OUTFILE)
                                    (RETURN)
                                 FINALLY (DEMIMEPART INSTREAM TEXTSTREAM (OR TEXT
                                                                             (CAR (FETCH SUBPARTS
                                                                                    OF PART)))
                                                     OBJECTFLAG OUTFILE)))
                          (APPLEDOUBLE (FOR P IN (FETCH SUBPARTS OF PART)
                                          UNLESS (EQ 'APPLEFILE (FETCH SUBTYPE OF P))
                                          DO (DEMIMEPART INSTREAM TEXTSTREAM P OBJECTFLAG OUTFILE)
                                             (RETURN)
                                          FINALLY (DEMIMEPART INSTREAM TEXTSTREAM
                                                              (CAR (FETCH SUBPARTS OF PART))
                                                              OBJECTFLAG OUTFILE)))
                          (ERROR "UNRECOGNIZED MULTIPLE SUBTYPE" PART)))
          (MESSAGE (FOR P IN (FETCH SUBPARTS OF PART) DO (DEMIMEPART INSTREAM TEXTSTREAM P OBJECTFLAG
                                                                     OUTFILE)))
          (TEXT (CL:WHEN OBJECTFLAG
                    (SETFILEPTR TEXTSTREAM (ADD1 (GETFILEPTR TEXTSTREAM)))
                    (CL:UNLESS (EQ 1 (FETCH PARTNUM OF PART))
                           (TEDIT.INSERT TEXTSTREAM "

                                  --Included text:
                                  "))
                    (CL:UNLESS (AND (EQ 'PLAIN (FETCH SUBTYPE OF PART))
                                    (ILEQ (- (FETCH ENDPOS OF PART)
                                             (FETCH STARTPOS OF PART))
                                          10000))
                        ;; So the text can be saved to a file if needed.  Use doc since that invokes MSWord which is somewhat intelligent
                        ;; about EOL conventions.
                        (ADDMIMEOBJECT INSTREAM PART TEXTSTREAM "Attachedtext.doc")))
                (DEMIMETEXT INSTREAM TEXTSTREAM PART OBJECTFLAG OUTFILE))
          ((APPLICATION IMAGE)
              (DEMIMEAPPL INSTREAM PART OBJECTFLAG TEXTSTREAM OUTFILE))
          (PROGN (HELP (CONCAT "UNRECOGNIZED MIME TYPE: " (FETCH MAINTYPE OF PART)
                               "; RETURN for APPLICATION type")
                       PART)
                 (DEMIMEAPPL INSTREAM PART OBJECTFLAG TEXTSTREAM OUTFILE)))))])
```

(DEMIMETEXT

```
[LAMBDA (INSTREAM TEXTSTREAM PART OBJECTFLAG OUTFILE)          ; Edited 28-Jun-2002 16:21 by rmk:
  (IF [AND (NULL TEXTSTREAM)
           (OR OUTFILE (ASSOC 'NAME (FETCH (MIMEPART TYPE) OF PART]
      THEN (DEMIMEAPPL INSTREAM PART OBJECTFLAG TEXTSTREAM OUTFILE)
    ELSE (LET (TEDITSTREAM RICHTEXT (TTYPROCESS (TTY.PROCESS))
                   [CHARSET (CADR (ASSOC 'CHARSET (FETCH TYPEPROPS OF PART]
                   (STARTPOS (FETCH STARTPOS OF PART))
                   (ENDPOS (FETCH ENDPOS OF PART)))
              (SETQ TEXTSTREAM (IF (NULL TEXTSTREAM)
                                   THEN (TEXTSTREAM (TEDIT))
                                   ELSEIF (GETSTREAM TEXTSTREAM 'OUTPUT T)
                                   ELSEIF (CAR (NLSETQ (TEXTSTREAM TEXTSTREAM)))
                                   ELSE [RESETSAVE [SETQ TEXTSTREAM (OPENSTREAM TEXTSTREAM 'OUTPUT 'NEW
                                                                                '((TYPE TEXT]
                                                         '(PROGN (CLOSEF? OLDVALUE)
                                                                 (AND RESETSTATE (DELFILE OLDVALUE]
                                                   TEXTSTREAM))
              (CL:WHEN (TEXTSTREAMP TEXTSTREAM)
                  (SETQ TEDITSTREAM TEXTSTREAM)
                  (SETQ TEXTSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH)))
              ;; If TEXTSTREAM is a tedit stream, the output is copied to a dummy NODIRCORE stream, so that it then then be included back
              ;; in TEXTSTREAM in a single action.  To do this, we save the original TEXTSTREAM in a new variable TEDITSTREAM, then
              ;; bind TEXTSTREAM to a NODIRCORE.
              (IF (MEMB (FETCH SUBTYPE OF PART)
                        '(ENRICHED HTML))
                  THEN (SETQ RICHTEXT (LIST TEXTSTREAM CHARSET))
                       ;; Save CHARSET conversion as part of richtext
                       (SETQ TEXTSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH))
                       (SETQ CHARSET NIL))
              [SELECTQ (FETCH ENCODING OF PART)
                   (QUOTED-PRINTABLE
                        (STREAMFROMQUOTEDPRINTABLE INSTREAM TEXTSTREAM STARTPOS ENDPOS CHARSET))
```

```
                    (BASE64 (STREAMFROMBASE64 INSTREAM TEXTSTREAM STARTPOS ENDPOS CHARSET T))
                    ((X-UUENCODE UUENCODE)
                         (STREAMFROMUUENCODE INSTREAM TEXTSTREAM STARTPOS ENDPOS CHARSET T))
                    (UTF-8 (STREAMFROMUTF-8 INSTREAM TEXTSTREAM STARTPOS ENDPOS CHARSET T))
                    (LET [(CHARMAP (AND CHARSET (NEQ 'US-ASCII (U-CASE CHARSET))
                                        (MIMERECODEMAP CHARSET]
                         (COND
                            (CHARMAP (SETFILEPTR INSTREAM STARTPOS)
                                   (WHILE (ILESSP (GETFILEPTR INSTREAM)
                                                  ENDPOS)
                                          DO (PRINTCCODE (MIMEFASTRECODECHARCODE (READCCODE INSTREAM)
                                                                                 CHARMAP)
                                                         TEXTSTREAM)))
                            (T (COPYCHARS INSTREAM TEXTSTREAM STARTPOS ENDPOS]
               (CL:WHEN RICHTEXT
                    (STREAMFROMENRICHEDTEXT TEXTSTREAM (CAR RICHTEXT)
                           NIL NIL (CADR RICHTEXT)
                           (FETCH SUBTYPE OF PART))
                    (SETQ TEXTSTREAM (CAR RICHTEXT)))
               (CL:WHEN TEDITSTREAM
                    (TEDIT.INCLUDE TEDITSTREAM TEXTSTREAM)
                    (SETQ TEXTSTREAM TEDITSTREAM)
                    (TEDIT.STREAMCHANGEDP TEXTSTREAM T)
                    (TTY.PROCESS TTYPROCESS))
               TEXTSTREAM])
```

(DEMIMEAPPL

```
[LAMBDA (INSTREAM PART OBJECTFLAG TEXTSTREAM OUTFILE)          ; Edited 27-Jun-2002 16:52 by rmk:
```

;; If OBJECTFLAG, inserts a MIMEOBJECT in TEXTSTREAM, for later demiming. If OUTFILE is given, then that file/stream is used instead of
;; FILENAME as the destination of the demimed information.

```
    (IF OBJECTFLAG
        THEN (ADDMIMEOBJECT INSTREAM PART TEXTSTREAM)
      ELSE (LET ((FILENAME)
                 (STARTPOS (FETCH STARTPOS OF PART))
                 (ENDPOS (FETCH ENDPOS OF PART)))
                (CL:WHEN (FETCH MAINDISPOSITION OF PART)
                    (PRINTOUT T (FETCH MAINDISPOSITION OF PART)
                           ": "))
                (CL:UNLESS (EQ OUTFILE '{LPT})
                    [SETQ FILENAME (CADR (OR (ASSOC 'FILENAME (FETCH (MIMEPART DISPOSITIONPROPS) OF PART))
                                             (ASSOC 'NAME (FETCH (MIMEPART TYPE) OF PART])
                (CL:WHEN OUTFILE
                    (SETQ FILENAME (IF FILENAME
                                       THEN (PACKFILENAME 'BODY OUTFILE 'BODY FILENAME)
                                     ELSE OUTFILE)))
                (TERPRI T)
                (PRINTOUT T (FETCH SUBTYPE OF PART)
                      T)
                (CL:UNLESS FILENAME
                    (SETQ FILENAME (PACKFILENAME 'NAME (CONCAT (L-CASE (FETCH (MIMEPART SUBTYPE) OF PART))
                                                               "-attachment")
                                                 'EXTENSION
                                                 (SELECTQ (U-CASE (FETCH (MIMEPART SUBTYPE) OF PART))
                                                      (POSTSCRIPT 'ps)
                                                      NIL)))
                    (PRINTOUT T "filename not specified, using %"" FILENAME "%"" T))
                (CL:UNLESS (EQ FILENAME '{LPT})
                    (SETQ FILENAME (PACKFILENAME 'BODY FILENAME 'DIRECTORY (EVAL ATTACHMENTDIR))))
                (SELECTQ (FETCH SUBTYPE OF PART)
                     (MSWORD (CL:UNLESS (EQ '.doc (L-CASE (SUBATOM FILENAME -4 -1)))
                                 (SETQ FILENAME (PACK* FILENAME '.doc))))
                     (MSEXCEL (CL:UNLESS (EQ '.xls (L-CASE (SUBATOM FILENAME -4 -1)))
                                  (SETQ FILENAME (PACK* FILENAME '.xls))))
                     (HTML (CL:UNLESS (MEMB (L-CASE (SUBATOM FILENAME -4 -1))
                                            '(htm . html))
                               (SETQ FILENAME (PACK* FILENAME '.html))))
                     (VND.FDF (CL:UNLESS (EQ (L-CASE (SUBATOM FILENAME -4 -1))
                                             'pdf)
                                  (SETQ FILENAME (PACK* FILENAME '.pdf))))
                     NIL)
                (CL:UNLESS (OR OUTFILE (EQ 'MAC-BINHEX40 (FETCH SUBTYPE OF PART)))
                    ;; Wait to see if extension changes on BINHEX
                    (PRINTOUT T "Filename = " FILENAME))
                (SELECTQ (FETCH ENCODING OF PART)
                     (BASE64 (STREAMFROMBASE64 INSTREAM FILENAME STARTPOS ENDPOS))
                     (QUOTED-PRINTABLE
                          (STREAMFROMQUOTEDPRINTABLE INSTREAM FILENAME STARTPOS ENDPOS))
                     (UTF-8 (STREAMFROMUTF-8 INSTREAM FILENAME STARTPOS ENDPOS))
                     (X-UUENCODE (STREAMFROMUUENCODE INSTREAM FILENAME STARTPOS ENDPOS))
                     ((NIL 7BIT 8BIT)
                          (IF (EQ 'MAC-BINHEX40 (FETCH SUBTYPE OF PART))
                              THEN (STREAMFROMBINHEX INSTREAM FILENAME STARTPOS ENDPOS)
                            ELSE ;; Assumes default encoding is vanilla ascii, with EOL conversions
```

```
                        (STREAMFROMASCII INSTREAM FILENAME STARTPOS ENDPOS)))
                (PRINTOUT T "Unknown transfer encoding:  " (FETCH ENCODING OF PART)
                       T])
```

(MIMEERROR

```
[LAMBDA (MSG)                                                    ; Edited 21-Oct-2001 17:55 by rmk:
```

;; Prints MSG in appropriate window

```
(DECLARE (USEDFREE MAILFOLDER))
(IF (BOUNDP 'MAILFOLDER)
    THEN (LAB.PROMPTPRINT MAILFOLDER MSG)
  ELSE (PROMPTPRINT MSG])
```

(MIMEHEADERS

```
[LAMBDA (INSTREAM X-SUN)                                         ; Edited  1-Nov-99 16:59 by rmk:
  (BIND TAG LINE POS UNTIL [EQ 0 (NCHARS (SETQ LINE (CL:READ-LINE INSTREAM NIL ""]
    WHEN (SETQ POS (STRPOS ":" LINE)) DO [SETQ TAG (U-CASE (SUBATOM LINE 1 (SUB1 POS]
                                         [SETQ LINE (CL:STRING-TRIM "       " (SUBSTRING LINE (ADD1 POS)
                                                                                    NIL
                                                                                    (CONSTANT (CONCAT]
```

;; Lines can have internal semi-colons that separate parameters. If a line ends in a semicolon, then
;; the tag is continued on the next line. If a parameter has an =, then it is an av pair.

```
                (SELECTQ TAG
                    (CONTENT-TYPE  ; Extract type/subtype, then parameters
                                   [PUSH $$VAL `(,TAG ,@(MIMEPARAMS INSTREAM LINE
                                                                    ])
                    (CONTENT-TRANSFER-ENCODING
                                   ; Should be a single value
                        [PUSH $$VAL (LIST TAG (U-CASE (MKATOM LINE])
                    (CONTENT-DESCRIPTION
                        (PUSH $$VAL (LIST TAG LINE)))
                    (CONTENT-DISPOSITION
                        [PUSH $$VAL `(,TAG ,@(MIMEPARAMS INSTREAM LINE])
                    (CL:WHEN [AND X-SUN (STREQUAL "X-SUN" (SUBSTRING TAG 1 5
                                                                  (CONSTANT (CONCAT
                                                                                  ]
                        [PUSH $$VAL (LIST TAG (U-CASE (MKATOM LINE])])
```

(MIMEPARAMS

```
[LAMBDA (INSTREAM LINE MORE)                                     ; Edited 12-Jan-2000 12:37 by rmk:
                                                                 ; Edited 12-Jan-2000 12:29 by rmk:
                                                                 ; Edited 12-Jan-2000 12:27 by rmk:
                                                                 ; Edited 12-Jan-2000 12:26 by rmk:
                                                                 ; Edited  1-Nov-99 16:46 by rmk:
                                                                 ; Edited  9-Mar-99 15:58 by rmk:
                                                                 ; Edited  9-Mar-99 15:52 by rmk:
```

;; Assumes first "parameter" is a singleton type, perhaps with a subtype

```
(LET (MORE POS TYPE)
     [SETQ TYPE (U-CASE (IF (SETQ POS (STRPOS ";" LINE))
                            THEN (SETQ MORE T)
                                 (PROG1 (SUBSTRING LINE 1 (SUB1 POS))
                                     (SETQ LINE (SUBSTRING LINE (ADD1 POS)))
                                     (CL:WHEN LINE
                                         (SETQ LINE (CL:STRING-TRIM "       " LINE))))
                          ELSE (PROG1 LINE (SETQ LINE NIL]
     [SETQ TYPE (IF (SETQ POS (STRPOS "/" TYPE))
                    THEN [LIST [MKATOM (CL:STRING-TRIM "    " (SUBSTRING TYPE 1 (SUB1 POS]
                               (MKATOM (CL:STRING-TRIM "    " (SUBSTRING TYPE (ADD1 POS]
                  ELSE (LIST (MKATOM TYPE]
     (CONS TYPE (BIND PNAME PVALUE PARAM POS WHILE MORE
                   COLLECT (CL:UNLESS LINE
                               (SETQ LINE (CL:READ-LINE INSTREAM NIL NIL))
                               (CL:WHEN LINE
                                   (SETQ LINE (CL:STRING-TRIM "     " LINE))))
                         [SETQ PARAM (IF (SETQ POS (STRPOS ";" LINE))
                                         THEN (SETQ MORE T)
                                              (PROG1 (CL:STRING-TRIM "      " (SUBSTRING LINE 1 (SUB1 POS)))
                                                  (SETQ LINE (SUBSTRING LINE (ADD1 POS)))
                                                  (CL:WHEN LINE
                                                      (SETQ LINE (CL:STRING-TRIM "  " LINE))))
                                       ELSE (SETQ MORE NIL)
                                            (PROG1 LINE (SETQ LINE NIL]
                         (IF (SETQ POS (STRPOS "=" PARAM))
                             THEN [SETQ PNAME (MKATOM (U-CASE (CL:STRING-TRIM "     " (SUBSTRING
                                                                                        PARAM 1 (SUB1 POS]
                                  [SETQ PVALUE (CL:STRING-TRIM "    %"" (SUBSTRING PARAM (ADD1 POS]
                                  (LIST PNAME PVALUE)
                           ELSE (LIST (U-CASE PARAM])
```

(PARSE-SUNATTACHMENT

```
[LAMBDA (PART INSTREAM)                                          ; Edited 14-Sep-99 10:11 by rmk:
```

```
                                                                    ; Edited 14-Sep-99 10:00 by rmk:
    (REPLACE SUBTYPE OF PART WITH (FETCH MAINTYPE OF PART))
    (REPLACE MAINTYPE OF PART WITH 'MULTIPART)
    (REPLACE SUBPARTS OF PART
       WITH (FOR PARTNUM STARTPOS ENDPOS SUBPART SUNHEADERS SUBPART TEMP MAINTYPE (PARTEND _
                                                                                    (FETCH ENDPOS
                                                                                       OF PART))
                [BOUNDARY _ (CONCAT "----------" (CHARACTER (CHARCODE CR] FROM 1
             FIRST (SETQ STARTPOS (FILEPOS BOUNDARY INSTREAM (FETCH STARTPOS OF PART)
                                         PARTEND NIL T))
             COLLECT (SETQ SUNHEADERS (MIMEHEADERS INSTREAM T))
                   (SETQ STARTPOS (GETFILEPTR INSTREAM))
                   (FOR I FROM 1 TO (CADR (ASSOC 'X-SUN-CONTENT-LINES SUNHEADERS))
                      DO (FILEPOS (CHARACTER (CHARCODE CR))
                                  INSTREAM NIL PARTEND NIL T))
                   (SETQ ENDPOS (GETFILEPTR INSTREAM))
                   (SETQ MAINTYPE (SELECTQ (SETQ TEMP (CADR (ASSOC 'X-SUN-DATA-TYPE SUNHEADERS)))
                                          ((NIL DEFAULT)
                                              'TEXT)
                                          TEMP))
                   (SETQ SUBPART (CREATE MIMEPART
                                         STARTPOS _ STARTPOS
                                         ENDPOS _ ENDPOS
                                         MAINTYPE _ MAINTYPE
                                         ENCODING _ (CADR (ASSOC 'X-SUN-ENCODING-INFO SUNHEADERS))
                                         DISPOSITION _ (CDR (ASSOC 'CONTENT-DISPOSITION SUNHEADERS))
                                         PARTNUM _ PARTNUM))
                   (CL:WHEN (SETQ TEMP (CADR (ASSOC 'X-SUN-CHARSET SUNHEADERS)))
                       (PUSH (FETCH TYPEPROPS OF SUBPART)
                             (LIST 'CHARSET TEMP)))
                   (CL:WHEN (AND (SETQ TEMP (CADR (ASSOC 'X-SUN-DATA-NAME SUNHEADERS)))
                                 (NEQ MAINTYPE 'TEXT)
                                 (NEQ TEMP 'TEXT))
                       (PUSH (FETCH TYPEPROPS OF SUBPART)
                             (LIST 'NAME TEMP)))
                   SUBPART
             REPEATWHILE (SETQ STARTPOS (FILEPOS BOUNDARY INSTREAM NIL PARTEND NIL T])
```

(RECODEMIMEHEADER

```
  [LAMBDA (INSTREAM OUTPUTSTREAM STARTPOS ENDPOS TEDITFLAG)
```

;; The description for message headers is in /project/rfc/RFC2047.TXT, and it relies on a lot of the definitions in /project/rfc/RFC2045.TXT.
;; According to the spec, encoded words can appear even if there isn't a MIME-VERSION property, but here we assume that only mime messages
;; will in fact use this kind of encoding.

```
    (BIND RUNPOS ENDRUN CHARSET ENCODING BADCHARSETS BADENCODINGS
       DO
```

;; Char-encoding runss are sequences of the form ?=charset?encoding?stuff?=, where charset is something like iso-8859-1, and encoding
;; is Q for printed quotable, B for BASE64.

```
        (IF (SETQ RUNPOS (FILEPOS "=?" INSTREAM STARTPOS ENDPOS))
            THEN
```

;; Copy since the end of the last run

```
                 (IF TEDITFLAG
                     THEN (TEDIT.INCLUDE OUTPUTSTREAM INSTREAM STARTPOS RUNPOS)
                   ELSE (COPYCHARS INSTREAM OUTPUTSTREAM STARTPOS RUNPOS))
```

;; Decode this run: skip =?, get charset and encoding

```
                 (SETFILEPTR INSTREAM (IPLUS 2 RUNPOS))
                 (SETQ CHARSET (PACKC (BIND C UNTIL (EQ (CHARCODE ?)
                                                        (SETQ C (BIN INSTREAM)))
                                             COLLECT C)))
                 (IF (MEMB CHARSET BADCHARSETS)
                     THEN (SETQ CHARSET NIL)
                   ELSEIF (MIMERECODEMAP CHARSET T)
                   ELSE (PUSH BADCHARSETS CHARSET)
                        (SETQ CHARSET NIL))
                 (SETQ ENCODING (U-CASE (READC INSTREAM)))
                 (BIN INSTREAM)                                  ; Skip the ? after the Q/B
                 (SETQ STARTPOS (GETFILEPTR INSTREAM))
                 (SETQ ENDRUN (FILEPOS "?=" INSTREAM STARTPOS ENDPOS))
                 [SELECTQ (AND CHARSET ENCODING)
                      (Q (STREAMFROMQUOTEDPRINTABLE INSTREAM OUTPUTSTREAM STARTPOS ENDRUN CHARSET))
                      (B (STREAMFROMBASE64 INSTREAM OUTPUTSTREAM STARTPOS ENDRUN CHARSET T))
                      (NIL (IF TEDITFLAG
                               THEN (TEDIT.INCLUDE OUTPUTSTREAM INSTREAM RUNPOS ENDRUN)
                             ELSE (COPYCHARS INSTREAM OUTPUTSTREAM RUNPOS ENDRUN)))
                      (PROGN (CL:UNLESS (MEMB ENCODING BADENCODINGS)
                                 (MIMEERROR (CONCAT ENCODING " is not recognized as a MIME encoding"))
                                 (PUSH BADENCODINGS ENCODING))
                             (IF TEDITFLAG
                                 THEN (TEDIT.INCLUDE OUTPUTSTREAM INSTREAM STARTPOS ENDRUN)
                               ELSE (COPYCHARS INSTREAM OUTPUTSTREAM STARTPOS ENDRUN]
                 (IF ENDRUN
                     THEN (SETQ STARTPOS (IPLUS 2 ENDRUN))
                   ELSE (RETURN))
          ELSE
```

;; Copy the remaining bytes

```
                (IF TEDITFLAG
                    THEN (TEDIT.INCLUDE OUTPUTSTREAM INSTREAM STARTPOS ENDPOS)
                  ELSE (COPYCHARS INSTREAM OUTPUTSTREAM STARTPOS ENDPOS))
                (SETFILEPTR INSTREAM ENDPOS)
                (RETURN])

)

;; Replaces function on LAFITECOMMANDS and LAFITEHARDCOPY, so that MIME objects are decoded in messages.  These functions require the
;; LAFITEMSG and MAILFOLDER records to be available:

(DECLARE%: DONTEVAL@LOAD DONTCOPY EVAL@COMPILE

(FILESLOAD (LOADCOMP)
       LAFITE-DECLS)
)

(DEFINEQ
```

(LA.COPY.MESSAGE.TEXT

```
  [LAMBDA (MAILFOLDER MSGDESCRIPTOR NEWWINDOWFLG)                    ; Edited 19-Feb-2001 10:21 by rmk:
    ;; NEWWINDOWFLG is used for MIME messages, indicates that any mime text must be copied out of the folder, to avoid dangling references.
    ;; Otherwise, the mime objects just point into the mail folder, not copied until they are decoded.
    (LET (OUTPUTSTREAM MIMEPARSE (MSGSTART (fetch (LAFITEMSG START) of MSGDESCRIPTOR))
                (MSGEND (fetch (LAFITEMSG END) of MSGDESCRIPTOR))
                (INSTREAM (\LAFITE.OPEN.FOLDER MAILFOLDER 'INPUT :ABORT)))
          (SETFILEPTR INSTREAM MSGSTART)
          (IF (SETQ MIMEPARSE (PARSEMIME INSTREAM 1 MSGEND MAILFOLDER))
              THEN ;; The first mime part should describe just the header section, but not the boilerplate text that comes after it.  We have to
                   ;; produce all the headers, then the text parts in line, and other parts by mime objects.
                   (CL:WHEN NEWWINDOWFLG
                       ;; We copy all the bytes to a NODIRCORE stream, which then becomes the INPUTSTREAM.  This will be preserved if any
                       ;; MIMEOBJECT is created that points to it, otherwise it will be collected.  OUTPUTSTREAM here is just
                       [LET [(TEMPSTRM (OPENSTREAM '{NODIRCORE} 'BOTH]
                            (COPYBYTES INSTREAM TEMPSTRM MSGSTART MSGEND)
                            (CLOSEF TEMPSTRM)
                            (SETQ INSTREAM (OPENSTREAM TEMPSTRM 'INPUT]
                       (SETQ MSGSTART 0)
                       (SETQ MSGEND (GETEOFPTR INSTREAM))
                       ;; We have to reparse, because all the byte positions have changed.  We could also go through and update all byte
                       ;; positions by substraction
                       (SETQ MIMEPARSE (PARSEMIME INSTREAM 1 MSGEND MAILFOLDER)))
                   [SETQ OUTPUTSTREAM (OPENTEXTSTREAM NIL NIL NIL NIL `(FONT ,LAFITEDISPLAYFONT]
                   (RECODEMIMEHEADER INSTREAM OUTPUTSTREAM MSGSTART (FETCH (MIMEPART STARTPOS) OF MIMEPARSE)
                         T)
                   (DEMIMEPART INSTREAM OUTPUTSTREAM MIMEPARSE T)
                   OUTPUTSTREAM
            ELSE (SETQ OUTPUTSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH))
                 (COPYBYTES INSTREAM OUTPUTSTREAM MSGSTART MSGEND)
                 (CLOSEF OUTPUTSTREAM)
                 (OPENSTREAM OUTPUTSTREAM 'INPUT NIL '((ENDOFSTREAMOP \LAFITE.EOF])
```

(\LAFITE.APPEND.MESSAGE.BODY

```
  [LAMBDA (TEXTSTREAM MSGSTREAM MSGDESCRIPTOR FILTERS)               ; Edited 15-Jul-99 10:09 by rmk:
                                                                     ; Edited 15-Jul-99 10:05 by rmk:
                                                                     ; Edited 15-Jul-99 09:48 by rmk:
                                                                     ; Edited 15-Jul-99 09:27 by rmk:
                                                                     ; Edited  5-Aug-93 20:20 by bvm
    ;; Appends the text of the indicated message to TEXTSTREAM, filtering out any header fields found in FILTERS
    (LET ((START (fetch (LAFITEMSG START) of MSGDESCRIPTOR))
          (END (fetch (LAFITEMSG END) of MSGDESCRIPTOR))
          (EOF (GETEOFPTR TEXTSTREAM))
          FILTERED MIMEPARSE)
         (if FILTERS
             then (SETQ FILTERED (LAFITE.NEW.PARSE.HEADER MSGSTREAM FILTERS START END)))
         (TEDIT.SETSEL TEXTSTREAM (ADD1 EOF)
                0
                'LEFT)                                               ; Get selection right for TEDIT.INCLUDE
         (SETFILEPTR MSGSTREAM START)
         [IF (SETQ MIMEPARSE (PARSEMIME MSGSTREAM 1 END))
             THEN ;; MAILFOLDER not passed to PARSEMIME, so error messages will appear in PROMPTWINDOW, not in browser
                  ;; promptwindow.
                  (TEDIT.INCLUDE TEXTSTREAM MSGSTREAM START (FETCH (MIMEPART STARTPOS) OF MIMEPARSE))
                  ;; The headers have to be fixed up before we start demiming, because END is not accurate in the DEMIME case.
                  (CL:WHEN [AND FILTERED (NOT (= (GETEOFPTR TEXTSTREAM)
                                                 (+ EOF (- (FETCH (MIMEPART STARTPOS) OF MIMEPARSE)
                                                           START]
                                                                     ; Rats, we have to recalculate more slowly now, since there
                                                                     ; could be ns chars in header.  TEdit counts them differently than
```

```
                                                                    ; the plain text file does
                        (SETQ FILTERED (LAFITE.PARSE.HEADER TEXTSTREAM FILTERS EOF)))
                    (SETFILEPTR MSGSTREAM (FETCH (MIMEPART STARTPOS) OF MIMEPARSE))
                    (DEMIMEPART MSGSTREAM TEXTSTREAM MIMEPARSE T)
              ELSE (TEDIT.INCLUDE TEXTSTREAM MSGSTREAM START END)
                   (CL:WHEN [AND FILTERED (NOT (= (GETEOFPTR TEXTSTREAM)
                                                  (+ EOF (- END START]
                                                                    ; Rats, we have to recalculate more slowly now, since there
                                                                    ; could be ns chars in header.  TEdit counts them differently than
                                                                    ; the plain text file does
                      (SETQ FILTERED (LAFITE.PARSE.HEADER TEXTSTREAM FILTERS EOF)))]
          [for PAIR in FILTERED do ;; Note: we are depending on the pairs being in reverse order from the parse, so that the deletions do not
                                   ;; affect the char count
                                   (TEDIT.DELETE TEXTSTREAM (+ EOF (- (CAR PAIR)
                                                                      START)
                                                                   1)
                                                 (- (CADR PAIR)
                                                    (CAR PAIR]
          (TEDIT.SETSEL TEXTSTREAM (ADD1 (GETEOFPTR TEXTSTREAM))
                 0)
          (SETFILEPTR TEXTSTREAM -1])

)

;; Replaces function on LAFITEBROWSE, so that browser window interprets different character sets.

(DEFINEQ

(PRINTMESSAGESUMMARY.STRING
  [LAMBDA (X FILE)
    (IF (STRPOS "=?" X)
        THEN (RECODEMIMEHEADER (OPENSTRINGSTREAM X 'INPUT)
                     FILE 0 (NCHARS X))
      ELSE (PRIN3 X FILE))
    X])

)

(DEFINEQ

(ADDMIMEOBJECT
  [LAMBDA (INSTREAM PART TEXTSTREAM DEFAULTFILENAME)                ; Edited 15-Dec-99 16:29 by rmk:
                                                                    ; Edited 25-Jun-99 23:17 by rmk:
                                                                    ; Edited 25-Jun-99 23:09 by rmk:
    (TEDIT.INSERT TEXTSTREAM "
           ")
    (TEDIT.INSERT.OBJECT (IMAGEOBJCREATE (LIST PART (OR [CADR (OR (ASSOC 'FILENAME (FETCH (MIMEPART
                                                                                          DISPOSITIONPROPS
                                                                                           )
                                                                                  OF PART))
                                                                   (ASSOC 'NAME (FETCH (MIMEPART TYPE)
                                                                                  OF PART]
                                                        DEFAULTFILENAME)
                                              INSTREAM)
                                 MIMEOBJIMAGEFNS)
           TEXTSTREAM)
    (TEDIT.INSERT TEXTSTREAM "
           "])

(MIMEOBJINIT
  [LAMBDA NIL                                                       ; Edited 25-Jun-99 23:35 by rmk:
                                                                    ; Edited 25-Jun-99 22:58 by rmk:
                                                                    ; Edited 25-Jun-99 20:10 by rmk:
                                                                    ; Edited 25-Jun-99 20:05 by rmk:
                                                                    ; Edited 25-Jun-99 20:03 by rmk:
    (SETQ MIMEOBJIMAGEFNS (IMAGEFNSCREATE 'MIMEOBJ.DISPLAYFN 'MIMEOBJ.IMAGEBOXFN 'MIMEOBJ.PUTFN 'MIMEOBJ.GETFN
                                 'MIMEOBJ.COPYFN
                                 'MIMEOBJ.BUTTONEVENTINFN
                                 'MIMEOBJ.COPYBUTTONEVENTINFN NIL NIL NIL NIL NIL 'MIMEOBJ.PREPRINTFN])

(MIMEOBJ.DISPLAYFN
  [LAMBDA (OBJ STREAM)                                              ; Edited 29-Jun-99 11:25 by rmk:
                                                                    ; Edited 29-Jun-99 11:19 by rmk:
                                                                    ; Edited 29-Jun-99 11:11 by rmk:
                                                                    ; Edited 25-Jun-99 22:01 by rmk:
    (LET ([PART (CAR (IMAGEOBJPROP OBJ 'OBJECTDATUM]
          [FILENAME (CADR (IMAGEOBJPROP OBJ 'OBJECTDATUM]
          (MARGIN (TIMES 3 (DSPSCALE NIL STREAM)))
          (ONEPOINT (DSPSCALE NIL STREAM))
          (FONT (FONTCREATE 'TERMINAL 10 'BOLD 0 STREAM))
         OLDFONT)
        (SETQ OLDFONT (DSPFONT FONT STREAM))
        ;; 10 is compensating for some kind of confusion with TEDIT.  It seems to invoke the DISPLAYFN 10 points to the left of the image box.
```

```
        (DSPXPOSITION (PLUS (TIMES 10 ONEPOINT)
                            MARGIN
                            (CHARWIDTH (CHARCODE SPACE)
                                   FONT))
               STREAM)
        (DSPYPOSITION (PLUS MARGIN (FONTPROP FONT 'DESCENT))
               STREAM)
        (PRINTOUT STREAM FILENAME)
        (DRAWAREABOX (PLUS (TIMES 10 ONEPOINT)
                           ONEPOINT)
               ONEPOINT
               (PLUS (TIMES 2 (PLUS ONEPOINT (CHARWIDTH (CHARCODE SPACE)
                                                    FONT)))
                     (STRINGWIDTH FILENAME FONT))
               (PLUS (TIMES 2 ONEPOINT)
                     (FONTPROP FONT 'HEIGHT)
                     (FONTPROP FONT 'DESCENT))
               ONEPOINT NIL STREAM)
        (DSPFONT OLDFONT STREAM])
```

(MIMEOBJ.COPYFN

```
  [LAMBDA (OBJ)                                                    ; Edited 25-Jun-99 23:38 by rmk:
                                                                   ; Edited 25-Jun-99 23:35 by rmk:
                                                                   ; Edited 25-Jun-99 23:32 by rmk:
    (LET ([STRM (CADDR (IMAGEOBJPROP OBJ 'OBJECTDATUM]
          NEWSTRM)
         (CL:WHEN STRM
             (SETQ NEWSTRM (OPENSTREAM '{NODIRCORE 'BOTH))
             (COPYBYTES STRM NEWSTRM)
            NEWSTRM)
         (IMAGEOBJCREATE (LIST (CREATE MIMEPART USING (CAR (IMAGEOBJPROP OBJ 'OBJECTDATUM))
                                                      STARTPOS _ 0 ENDPOS _ (GETEOFPTR NEWSTRM))
                               [COPY (CADR (IMAGEOBJPROP OBJ 'OBJECTDATUM]
                               NEWSTRM)
                 MIMEOBJIMAGEFNS])
```

(MIMEOBJ.BUTTONEVENTINFN

```
  [LAMBDA (OBJ WSTRM SEL RELX RELY WINDOW HOSTSTREAM BUTTON)       ; Edited 31-May-2000 17:33 by rmk:
    (CL:WHEN (EQ BUTTON 'LEFT)
        (LET [(PART (CAR (IMAGEOBJPROP OBJ 'OBJECTDATUM]
             (SELECTQ [MENU (IF [AND (EQ 'APPLICATION (FETCH (MIMEPART MAINTYPE) OF PART))
                                     (MEMB (FETCH (MIMEPART SUBTYPE) OF PART)
                                           '(POSTCRIPT POSTSCRIPT]
                                THEN ;; Eudora seems to misspell POSTSCRIPT.
                                     (CREATE MENU
                                             TITLE _ " Postscript attachment "
                                             CENTERFLG _ T
                                             ITEMS _ '(Print Extract File% name))
                                ELSEIF [AND (EQ 'TEXT (FETCH (MIMEPART MAINTYPE) OF PART))
                                            (MEMB (FETCH (MIMEPART SUBTYPE) OF PART)
                                                  '(HTML HTM]
                                THEN (CREATE MENU
                                             TITLE _ " HTML attachment "
                                             CENTERFLG _ T
                                             ITEMS _ '(Display Extract))
                                ELSE (CREATE MENU
                                             TITLE _ " Extract attachment? "
                                             CENTERFLG _ T
                                             ITEMS _ '(Yes No File% name]
                    ((Yes Extract)
                         (LET ((TSTREAM (TTYDISPLAYSTREAM)))
                              (CLEARW TSTREAM)
                              (PROMPTPRINT "Attachment extracted to " (FULLNAME (DEMIMEPART
                                                                                 (CADDR (IMAGEOBJPROP OBJ
                                                                                                      'OBJECTDATUM))
                                                                                 NIL PART)))
                              (CLOSEW (WFROMDS TSTREAM T))))
                    (File% name (LET ((FILENAME (PopUpWindowAndGetAtom "File name (Clear to abort): "))
                                      (TSTREAM (TTYDISPLAYSTREAM)))
                                     (CLEARW TSTREAM)
                                     (PROMPTPRINT "Attachment extracted to "
                                            (FULLNAME (DEMIMEPART (CADDR (IMAGEOBJPROP OBJ 'OBJECTDATUM))
                                                                  NIL PART NIL FILENAME)))
                                     (CLOSEW (WFROMDS TSTREAM T))))
                    (Print (LET ((TSTREAM (TTYDISPLAYSTREAM)))
                                (CLEARW TSTREAM)
                                (DEMIMEPART (CADDR (IMAGEOBJPROP OBJ 'OBJECTDATUM))
                                       NIL PART NIL '{LPT})
                                (CLOSEW (WFROMDS TSTREAM T))))
                    (Display (DEMIMETEXT (CADDR (IMAGEOBJPROP OBJ 'OBJECTDATUM))
                                         (TEXTSTREAM (TEDIT))
                                         PART))
                    NIL))]])
```

(MIMEOBJ.IMAGEBOXFN

```
  [LAMBDA (OBJ STREAM)                                                    ; Edited 29-Jun-99 10:55 by rmk:
                                                                          ; Edited 29-Jun-99 10:52 by rmk:
                                                                          ; Edited 29-Jun-99 10:14 by rmk:
                                                                          ; Edited 25-Jun-99 20:54 by rmk:
```

;; The imagebox has 1 point of white space, then the border (1 pt), then another point of white space, the text, with spaces before and after the text, ;; and an extra DESCENT above the text. So the margin around the text is 3 points.

```
    (LET ([PART (CAR (IMAGEOBJPROP OBJ 'OBJECTDATUM]
          [FILENAME (CADR (IMAGEOBJPROP OBJ 'OBJECTDATUM]
          (MARGIN (TIMES 3 (DSPSCALE NIL STREAM)))
          (FONT (FONTCREATE 'TERMINAL 10 'BOLD 0 STREAM)))
```

;; I dont understand why I only need to allocate one point (DSPSCALE) for the top margin, instead of 3. But that's what makes it look ;; symmetric.

```
          (CREATE IMAGEBOX
                 XSIZE _ (PLUS (TIMES 2 (PLUS MARGIN (CHARWIDTH (CHARCODE SPACE)
                                                                FONT)))
                               (STRINGWIDTH FILENAME FONT))
                 YSIZE _ (PLUS MARGIN (FONTPROP FONT 'HEIGHT)
                               (FONTPROP FONT 'DESCENT)
                               (DSPSCALE NIL STREAM))
                 YDESC _ (PLUS MARGIN (FONTPROP FONT 'DESCENT))
                 XKERN _ 0])

)

(MIMEOBJINIT)

(DEFINEQ
```

(DEPS

```
  [LAMBDA (PSFILE MSGWINDOW)                                              ; Edited 29-Jun-99 18:10 by rmk:
                                                                          ; Edited 29-Jun-99 17:28 by rmk:
                                                                          ; Edited 29-Jun-99 17:12 by rmk:
                                                                          ; Edited 25-Jun-99 09:18 by rmk:
                                                                          ; Edited 21-Apr-99 09:19 by rmk:
                                                                          ; Edited  7-Apr-99 07:50 by rmk:
                                                                          ; Edited 29-Dec-98 15:23 by rmk:
```

;; Extracts PostScript text in MSGWINDOW, puts it in PSFILE

```
    (RESETLST
        [LET [(INSTREAM (OR MSGWINDOW (WHICHW]
             (SETQ INSTREAM (IF (GETSTREAM INSTREAM 'INPUT T)
                                ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
                                ELSE [RESETSAVE (SETQ INSTREAM (OPENSTREAM (PACKFILENAME 'BODY INSTREAM
                                                                                         'DIRECTORY
                                                                                         (EVAL ATTACHMENTDIR))
                                                                           'INPUT))
                                                '(PROGN (CLOSEF? OLDVALUE]
                                        INSTREAM))
             (FOR SEG STARTPOS ENDPOS PSSTREAM IN (FINDPSSEGMENTS INSTREAM 0)
                DO (CL:UNLESS PSFILE
                       [SETQ PSFILE (OR (CADDR SEG)
                                        (ASKUSER NIL NIL "Postscript file name?  " '(Ÿ])
                           [RESETSAVE [SETQ PSSTREAM (OPENSTREAM (PACKFILENAME 'VERSION NIL 'BODY PSFILE 'DIRECTORY
                                                                               (EVAL ATTACHMENTDIR)
                                                                               'EXTENSION
                                                                               'ps)
                                                                 'OUTPUT
                                                                 'NEW
                                                                 '((TYPE TEXT]
                                      '(PROGN (CLOSEF? OLDVALUE)
                                              (AND RESETSTATE (DELFILE OLDVALUE]
                           (COPYCHARS INSTREAM PSSTREAM (CAR SEG)
                                  (CADR SEG))
                           (SETFILEPTR INSTREAM (CADR SEG))
                           (PROG1 (FULLNAME (CLOSEF? PSSTREAM))
                                  (SETQ PSFILE NIL))
                           NIL
                FINALLY (RETURN (IF (CDR $$VAL)
                                    THEN $$VAL
                                  ELSE (CAR $$VAL])])
```

(FINDPSSEGMENTS

```
  [LAMBDA (INSTREAM BEGINPOS EOFPOS)                                      ; Edited 17-Jan-2000 22:07 by rmk:
                                                                          ; Edited 29-Jun-99 18:08 by rmk:
                                                                          ; Edited 29-Jun-99 17:00 by rmk:
```

;; Returns a list of pairs of starting/ending byte positions for all postscript segments in INSTREAM

```
    (CL:WHEN BEGINPOS (SETFILEPTR INSTREAM BEGINPOS))
    (BIND STARTPOS ENDPOS PSSTREAM TITLE WHILE (SETQ STARTPOS (FFILEPOS "%%!PS-Adobe" INSTREAM (GETFILEPTR
                                                                                                INSTREAM)
                                                                                     EOFPOS))
       DO (CL:WHEN (FFILEPOS "%%Title: " INSTREAM NIL (PLUS STARTPOS 500)
```

```
                    NIL T)
          [SETQ TITLE (MKATOM (CL:STRING-TRIM " " (CL:READ-LINE INSTREAM NIL ""]
          [IF (EQ 0 (NCHARS TITLE))
              THEN (SETQ TITLE NIL)
            ELSE (SELECTQ (U-CASE (FILENAMEFIELD TITLE 'EXTENSION))
                      (PS)
                      ((DVI NIL)
                           (SETQ TITLE (PACKFILENAME 'EXTENSION 'ps 'BODY TITLE))
                          NIL)
                      (SETQ TITLE (PACK* TITLE ".ps"])
       (IF (SETQ ENDPOS (OR (FFILEPOS "%%%%EOF" INSTREAM NIL EOFPOS NIL T)
                            (FFILEPOS "%%%%Trailer" INSTREAM NIL EOFPOS NIL T)))
           THEN ;; Add 1 because we didn't search for the closing CR, because of EOL foolishness.  But 1 should include it.
                (PUSH $$VAL (LIST STARTPOS (ADD1 ENDPOS)
                                  TITLE))
         ELSE (PRINTOUT T "Can't find Postscript terminator" T)
              (SETFILEPTR INSTREAM (IPLUS STARTPOS 5))
              NIL])
```

(POSTSCRIPTPART

```
  [LAMBDA (INSTREAM STARTPOS ENDPOS)                          ; Edited 17-Jan-2000 23:14 by rmk:
                                                              ; Edited 17-Jan-2000 23:07 by rmk:
                                                              ; Edited 17-Jan-2000 23:02 by rmk:
    (LET (HEADERS PART)
         (CL:WHEN (AND ENDPOS (IGREATERP (- ENDPOS (GETFILEPTR INSTREAM))
                                  20000)
                       (SETQ HEADERS (FINDPSSEGMENTS INSTREAM STARTPOS ENDPOS)))
            [SETQ HEADERS (FOR PSTAIL PS NEXT PSPART TEXTPART ON HEADERS AS PARTNUM FROM 1
                             JOIN (SETQ PS (CAR PSTAIL))
                                  (SETQ PSPART (CREATE MIMEPART
                                                       STARTPOS _ (CAR PS)
                                                       ENDPOS _ (CADR PS)
                                                       TYPE _ '((APPLICATION POSTSCRIPT)
                                                                (CHARSET "iso-8859-1"))
                                                       ENCODING _ (CADR (ASSOC 'CONTENT-TRANSFER-ENCODING
                                                                               HEADERS))
                                                       DISPOSITIONPROPS _
                                                       [AND (CADDR PS)
                                                            `((FILENAME ,(CADDR PS]
                                                       PARTNUM _ PARTNUM))
                                  (SETQ NEXT (CADR PSTAIL))
                                  (CL:WHEN (AND NEXT (IGREATERP (- (CAR NEXT)
                                                                   (CADR PS))
                                                                2))
                                      (ADD PARTNUM 1)
                                      (SETQ TEXTPART (CREATE MIMEPART
                                                             STARTPOS _ (CADR PS)
                                                             ENDPOS _ (CAR NEXT)
                                                             TYPE _ '((TEXT PLAIN)
                                                                      (CHARSET "iso-8859-1"))
                                                             ENCODING _ (CADR (ASSOC 'CONTENT-TRANSFER-ENCODING
                                                                                     HEADERS))
                                                             PARTNUM _ PARTNUM)))
                                  (CONS PSPART (AND TEXTPART (CONS TEXTPART]
            ;; Is there text after the message headers and before the first postscript part?  STARTPOS is the position after the headers.  Assume
            ;; that anything interesting is at least 2 bytes long.

            ;; Not sure about the SUB1.  Perhaps the ENDPOS of X=STARTPOS of X+1.
            (CL:WHEN (IGREATERP (- (FETCH STARTPOS OF (CAR HEADERS))
                                   STARTPOS)
                                2)
                (PUSH HEADERS (CREATE MIMEPART
                                      STARTPOS _ STARTPOS
                                      ENDPOS _ (SUB1 (FETCH STARTPOS OF (CAR HEADERS)))
                                      TYPE _ '((TEXT PLAIN)
                                               (CHARSET "iso-8859-1"))
                                      PARTNUM _ 1)))
            (SETQ PART (IF (CDR HEADERS)
                           THEN (CREATE MIMEPART
                                        STARTPOS _ (FETCH (MIMEPART STARTPOS) OF (CAR HEADERS))
                                        ENDPOS _ (FETCH (MIMEPART ENDPOS) OF (CAR (LAST HEADERS)))
                                        TYPE _ '((MULTIPART MIXED))
                                        SUBPARTS _ HEADERS)
                         ELSE (CAR HEADERS)))])

)

(DEFINEQ
```

(STREAMFROMBASE64

```
  [LAMBDA (INSTREAM OUTSTREAM STARTPOS ENDPOS FROMCHARENCODING TEXTP)
                                                              ; Edited 25-Jun-99 18:06 by rmk:
                                                              ; Edited 25-Jun-99 18:06 by rmk:
                                                              ; Edited 20-Oct-98 13:59 by rmk:
```

;; TEXTP if this is a text file, in which case charencoding and CR/LF conventions should be observed

```
(RESETLST
    [IF (GETSTREAM INSTREAM 'INPUT T)
      ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
        THEN (SETQ INSTREAM (TEXTSTREAM INSTREAM))
      ELSE (RESETSAVE (SETQ INSTREAM (OPENSTREAM INSTREAM 'INPUT))
                  '(PROGN (CLOSEF? OLDVALUE]
    [IF (GETSTREAM OUTSTREAM 'OUTPUT T)
      ELSEIF (CAR (NLSETQ (TEXTSTREAM OUTSTREAM)))
        THEN (SETQ OUTSTREAM (TEXTSTREAM OUTSTREAM))
      ELSE (RESETSAVE [SETQ OUTSTREAM (OPENSTREAM OUTSTREAM 'OUTPUT 'NEW (AND TEXTP '((TYPE TEXT]
                  '(PROGN (CLOSEF? OLDVALUE)
                          (AND RESETSTATE (DELFILE OLDVALUE]
    (CL:UNLESS STARTPOS (SETQ STARTPOS 0))
    (SETFILEPTR INSTREAM STARTPOS)
    (FOR NBINS C BYTE VAL CRFLAG (I _ 3)
         [TEDITSTREAM _ (IF (TEXTSTREAMP OUTSTREAM)
                            THEN (PROG1 OUTSTREAM
                                        (SETQ OUTSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH)))]
         (RECODEMAP _ (MIMERECODEMAP FROMCHARENCODING)) FROM (- (OR ENDPOS (GETEOFPTR INSTREAM))
                                                                STARTPOS)
      TO 1 BY -1
      DO (SETQ C (BIN INSTREAM))
         (IF (AND (IGEQ C (CHARCODE A))
                  (ILEQ C (CHARCODE Z)))
             THEN (SETQ C (IDIFFERENCE C (CHARCODE A)))
           ELSEIF (AND (IGEQ C (CHARCODE a))
                       (ILEQ C (CHARCODE z)))
             THEN (SETQ C (IDIFFERENCE C (IDIFFERENCE (CHARCODE a)
                                                      26)))
           ELSEIF (AND (IGEQ C (CHARCODE 0))
                       (ILEQ C (CHARCODE 9)))
             THEN (SETQ C (IDIFFERENCE C (IDIFFERENCE (CHARCODE 0)
                                                      52)))
           ELSEIF (EQ C (CHARCODE +))
             THEN (SETQ C 62)
           ELSEIF (EQ C (CHARCODE /))
             THEN (SETQ C 63)
           ELSEIF (EQ C (CHARCODE =))
             THEN                                          ; Pad with 0 at very end
                  (SELECTQ I
                       (1                                  ; Two chars read, expect two pads
                          (CL:UNLESS (EQ (CHARCODE =)
                                         (BIN INSTREAM))
                                 (HELP "Padding = in ill-formed configuration"))
                          (SETQ BYTE (LOGOR (LLSH VAL 4)
                                            (LRSH C 2)))
                          (IF TEXTP
                              THEN (SELCHARQ BYTE
                                             (CR (SETQ CRFLAG T)
                                                 (BOUT OUTSTREAM BYTE))
                                             (LF (IF CRFLAG
                                                     THEN (SETQ CRFLAG NIL)
                                                   ELSE (BOUT OUTSTREAM BYTE)))
                                             (PROGN (BOUT OUTSTREAM BYTE)
                                                    (SETQ CRFLAG NIL)))
                            ELSE (BOUT OUTSTREAM BYTE)))
                       (0                                  ; 3 chars read, expect one pad
                          (SETQ BYTE (LOGOR (LLSH VAL 6)
                                            C))
                          (IF TEXTP
                              THEN (SELCHARQ BYTE
                                             (CR (SETQ CRFLAG T)
                                                 (BOUT OUTSTREAM BYTE))
                                             (LF (IF CRFLAG
                                                     THEN (SETQ CRFLAG NIL)
                                                   ELSE (BOUT OUTSTREAM BYTE)))
                                             (PROGN (BOUT OUTSTREAM BYTE)
                                                    (SETQ CRFLAG NIL)))
                            ELSE (BOUT OUTSTREAM BYTE)))
                       (HELP "Padding = in ill-formed configuration"))
                  (RETURN)
           ELSE                                          ; throw everything else away
                (GO $$ITERATE))
         (SELECTQ I
             (3                                          ; Just read first byte, save
                (SETQ VAL C)
                (SETQ I 2))
             (2                                          ; Read second byte, can output first result
                (SETQ BYTE (LOGOR (LLSH VAL 2)
                                  (LRSH C 4)))
                (IF TEXTP
                    THEN (SELCHARQ BYTE
                                   (CR (SETQ CRFLAG T)
                                       (BOUT OUTSTREAM BYTE))
                                   (LF (IF CRFLAG
                                           THEN (SETQ CRFLAG NIL)
```

```
                                        ELSE (BOUT OUTSTREAM BYTE)))
                                   (PROGN (BOUT OUTSTREAM BYTE)
                                          (SETQ CRFLAG NIL)))
                         ELSE (BOUT OUTSTREAM BYTE))
                      (SETQ VAL (LOGAND C 15))
                      (SETQ I 1))
                   (1 (SETQ BYTE (LOGOR (LLSH VAL 4)
                                        (LRSH C 2)))
                      (IF TEXTP
                          THEN (SELCHARQ BYTE
                                         (CR (SETQ CRFLAG T)
                                             (BOUT OUTSTREAM BYTE))
                                         (LF (IF CRFLAG
                                                 THEN (SETQ CRFLAG NIL)
                                               ELSE (BOUT OUTSTREAM BYTE)))
                                         (PROGN (BOUT OUTSTREAM BYTE)
                                                (SETQ CRFLAG NIL)))
                         ELSE (BOUT OUTSTREAM BYTE))
                      (SETQ VAL (LOGAND C 3))
                      (SETQ I 0))
                   (PROGN (SETQ BYTE (LOGOR (LLSH VAL 6)
                                            C))
                          (IF TEXTP
                              THEN (SELCHARQ BYTE
                                             (CR (SETQ CRFLAG T)
                                                 (BOUT OUTSTREAM BYTE))
                                             (LF (IF CRFLAG
                                                     THEN (SETQ CRFLAG NIL)
                                                   ELSE (BOUT OUTSTREAM BYTE)))
                                             (PROGN (BOUT OUTSTREAM BYTE)
                                                    (SETQ CRFLAG NIL)))
                            ELSE (BOUT OUTSTREAM BYTE))
                          (SETQ I 3)))
            FINALLY (CL:WHEN TEDITSTREAM
                         (TEDIT.INCLUDE TEDITSTREAM OUTSTREAM)
                         (SETQ OUTSTREAM TEDITSTREAM))))
    OUTSTREAM])
```

(STREAMFROMBINHEX

```
[LAMBDA (INSTREAM OUTSTREAM STARTPOS ENDPOS FROMCHARENCODING TEXTP)
                                                        ; Edited 10-Jun-2001 22:00 by rmk:
    ;; TEXTP if this is a text file, in which case charencoding and CR/LF conventions should be observed
    (RESETLST
        (CL:UNLESS STARTPOS (SETQ STARTPOS 0))
        (CL:UNLESS (AND (FILEPOS "file must be converted with BinHex 4.0)" INSTREAM STARTPOS ENDPOS NIL T
                                 UPPERCASEARRAY)
                        (EQ (CHARCODE CR)
                            (READCCODE INSTREAM)))
                   (ERROR "Header missing from BinHex file part"))
        (UNTIL (SELCHARQ (BIN INSTREAM)
                         ((CR LF)
                              NIL)
                         (%: T)
                         (ERROR "Colon missing from BinHex file part")))
        (CL:UNLESS BINHEXCHARARRAY
            (LET [(TMP (CL:MAKE-ARRAY (CONSTANT (ADD1 (- (NTHCHARCODE BINHEXCHARS -1)
                                                         (CHCON1 BINHEXCHARS]
                   (FOR I C FROM 1 WHILE (SETQ C (NTHCHARCODE BINHEXCHARS I))
                      DO (CL:SETF [CL:SVREF TMP (- C (CONSTANT (CHCON1 BINHEXCHARS]
                                  (SUB1 I)))
                   (SETQ BINHEXCHARARRAY TMP)))
        (LET (TEDITSTREAM NEXTBYTE LASTBYTE FNAME VERSION TYPE CREATOR FLAGS DATALENGTH EXTENSION (REPEAT 0)
                  (POS 0)
                  (RECODEMAP (MIMERECODEMAP FROMCHARENCODING)))
             (SETQ FNAME (ALLOCSTRING (BINHEXBYTE)))
             (FOR I FROM 1 TO (NCHARS FNAME) DO (RPLCHARCODE FNAME I (BINHEXBYTE)))
             (SETQ VERSION (BINHEXBYTE))
             (SETQ TYPE (BINHEXLONG))
             (SETQ CREATOR (BINHEXLONG))                    ; Perhaps creator could be used to attach proper extension for
                                                            ; PC?
             (SETQ EXTENSION (CASE CREATOR
                                   (1297307460              ; Word
                                      (PRINTOUT T "Microsoft Word file" T)
                                      'doc)
                                   ((1297303877 1297044307) ; HTML? First is for IE, 2nd for Netscape
                                      (PRINTOUT T "HTML file" T)
                                      'html)
                                   (T NIL)))
             (SETQ FLAGS (BINHEXWORD))
             (SETQ DATALENGTH (BINHEXLONG))
             (BINHEXLONG)                                   ; Length of resource fork
             (BINHEXWORD)                                   ; CRC
             ;;
             ;; Now, open the output stream, done after decoding the type so that we can finagle the extension based on the kind of file.  Except
             ;; that we don't yet know how to map type-numbers into extensions.
```

```
            [IF (GETSTREAM INSTREAM 'INPUT T)
              ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
                THEN (SETQ INSTREAM (TEXTSTREAM INSTREAM))
              ELSE (RESETSAVE (SETQ INSTREAM (OPENSTREAM INSTREAM 'INPUT))
                          '(PROGN (CLOSEF? OLDVALUE]
            [IF (GETSTREAM OUTSTREAM 'OUTPUT T)
              ELSEIF (CAR (NLSETQ (TEXTSTREAM OUTSTREAM)))
                THEN (SETQ OUTSTREAM (TEXTSTREAM OUTSTREAM))
              ELSE (RESETSAVE [SETQ OUTSTREAM (OPENSTREAM (IF EXTENSION
                                                              THEN (PACKFILENAME 'BODY OUTSTREAM 'EXTENSION
                                                                                 EXTENSION)
                                                            ELSE OUTSTREAM)
                                                      'OUTPUT
                                                      'NEW
                                                      (AND TEXTP '((TYPE TEXT]
                          '(PROGN (CLOSEF? OLDVALUE)
                                  (AND RESETSTATE (DELFILE OLDVALUE]
            (IF (TEXTSTREAMP OUTSTREAM)
                THEN (SETQ TEDITSTREAM OUTSTREAM)
                     (SETQ OUTSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH))
              ELSE (PRINTOUT T "BinHex name: " (FULLNAME OUTSTREAM)
                          T))
            ;;
            ;; Finally, decode the data fork
            (FOR I FROM 1 TO DATALENGTH DO (BOUT OUTSTREAM (BINHEXBYTE)))
            ;; File now contains Word: CRC, Bytes: Resource Fork, Word CRC, which we ignore since we don't care about error checking or the
            ;; resource fork.
            (CL:WHEN TEDITSTREAM
                (TEDIT.INCLUDE TEDITSTREAM OUTSTREAM)
                (SETQ OUTSTREAM TEDITSTREAM))))
    OUTSTREAM])
```

(STREAMFROMASCII

```
  [LAMBDA (INSTREAM OUTSTREAM STARTPOS ENDPOS)                    ; Edited 27-Oct-98 07:39 by rmk:
    ;; Default encoding:  no conversion, except for EOL
    (RESETLST
        [IF (GETSTREAM INSTREAM 'INPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
            THEN (SETQ INSTREAM (TEXTSTREAM INSTREAM))
          ELSE (RESETSAVE (SETQ INSTREAM (OPENSTREAM INSTREAM 'INPUT))
                      '(PROGN (CLOSEF? OLDVALUE]
        [IF (GETSTREAM OUTSTREAM 'OUTPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM OUTSTREAM)))
            THEN (SETQ OUTSTREAM (TEXTSTREAM OUTSTREAM))
          ELSE (RESETSAVE [SETQ OUTSTREAM (OPENSTREAM OUTSTREAM 'OUTPUT 'NEW '((TYPE TEXT]
                      '(PROGN (CLOSEF? OLDVALUE)
                              (AND RESETSTATE (DELFILE OLDVALUE]
        (COPYCHARS INSTREAM OUTSTREAM (OR STARTPOS 0)
                ENDPOS))
    OUTSTREAM])
```

(STREAMFROMENRICHEDTEXT

```
  [LAMBDA (INSTREAM OUTSTREAM STARTPOS ENDPOS FROMCHARENCODING SUBTYPE)
                                                                    ; Edited 27-Dec-2000 10:58 by rmk:
                                                                    ; Edited 27-Dec-2000 10:58 by rmk:
                                                                    ; Edited 10-Dec-99 10:17 by rmk:
                                                                    ; Edited 16-Nov-99 18:26 by rmk:
    ;; Assumes that INSTREAM is a text file without NS run-encoding, hence does BIN's isntead of READCCODE's and EOL conversion.  This function
    ;; skips <> and </> tags, interpreting whichever ones it can.  SUBTYPE is one of ENRICHED, HTML, NIL(=ENRICHED).
    (CL:UNLESS SUBTYPE
        (SETQ SUBTYPE 'ENRICHED))
    (RESETLST
        [IF (GETSTREAM INSTREAM 'INPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
            THEN (SETQ INSTREAM (TEXTSTREAM INSTREAM))
          ELSE (RESETSAVE (SETQ INSTREAM (OPENSTREAM INSTREAM 'INPUT))
                      '(PROGN (CLOSEF? OLDVALUE]
        [IF (GETSTREAM OUTSTREAM 'OUTPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM OUTSTREAM)))
            THEN (SETQ OUTSTREAM (TEXTSTREAM OUTSTREAM))
          ELSE (RESETSAVE [SETQ OUTSTREAM (OPENSTREAM OUTSTREAM 'OUTPUT 'NEW '((TYPE TEXT]
                      '(PROGN (CLOSEF? OLDVALUE)
                              (AND RESETSTATE (DELFILE OLDVALUE]
        (CL:UNLESS STARTPOS (SETQ STARTPOS 0))
        (SETFILEPTR INSTREAM STARTPOS)
        (FOR NBINS C CLOSE STACK TAG PARAMS [TEDITSTREAM _ (IF (TEXTSTREAMP OUTSTREAM)
                                                               THEN (PROG1 OUTSTREAM
                                                                           (SETQ OUTSTREAM (OPENSTREAM
                                                                                            '{NODIRCORE}
                                                                                            'BOTH)))]
```

```
          [RECODEMAP _ (MIMERECODEMAP (OR FROMCHARENCODING 'ISO8859/1]
      FROM (- (OR ENDPOS (GETEOFPTR INSTREAM))
              STARTPOS)
      BY -1 WHILE (IGEQ NBINS 1)
      DO (SELCHARQ (SETQ C (BIN INSTREAM))
              (< (CL:WHEN (SETQ CLOSE (EQ (\PEEKBIN INSTREAM T)
                                          (CHARCODE /)))
                     (ADD NBINS -1)
                     (BIN INSTREAM))
                 [SETQ TAG (CONCATLIST (UNTIL [EQ (CHARCODE >)
                                                  (SETQ C (PROGN (ADD NBINS -1)
                                                                 (BIN INSTREAM]
                                          COLLECT (U-CASE (CHARACTER C]
                 (IF CLOSE
                     THEN ;; Flush stack.  Do we need to restore parameters or reinstall previous looks?
                          ;; At least in HTML, open and closes are not related:  <i> means switch to italics, </i> means nonitalics.  But
                          ;; 2 <i>'s can be followed by a single </i>.  More like commands.  Must be an rfc on this.
                          (WHILE STACK UNTIL (STREQUAL (POP STACK)
                                                       TAG))
                   ELSEIF (STREQUAL TAG "BR")
                     THEN (TERPRI OUTSTREAM)
                   ELSEIF (STREQUAL TAG "PARAM")
                     THEN (UNTIL (EQ (CHARCODE <)
                                     (\PEEKBIN INSTREAM T))
                             DO (ADD NBINS -1)
                                (BIN INSTREAM))
                   ELSE (PUSH STACK TAG)))
              (& (IF (EQ SUBTYPE 'HTML)
                     THEN [SETQ TAG
                                (UNTIL [EQ (CHARCODE ;)
                                           (SETQ C (PROGN (ADD NBINS -1)
                                                          (BIN INSTREAM]
                                   COLLECT C
                                   FINALLY (RETURN (IF (LEQ (LENGTH $$VAL)
                                                            20)
                                                       THEN (PACK (FOR C IN $$VAL COLLECT (FCHARACTER C)))
                                                     ELSE (LET [(STR (ALLOCSTRING (LENGTH $$VAL]
                                                                (FOR I FROM 1 AS C IN $$VAL
                                                                   DO (RPLCHARCODE STR I C))
                                                                STR]
                                                 (SELECTQ TAG
                                                      (amp (PRINTCCODE (CHARCODE &)
                                                                       OUTSTREAM))
                                                      (nbsp (SPACES 1 OUTSTREAM))
                                                      (quot (PRINTCCODE (CHARCODE %')
                                                                        OUTSTREAM))
                                                      (IF (AND (EQ (CHARCODE %#)
                                                                   (CHCON1 TAG))
                                                               (FIXP (SUBATOM TAG 2 -1)))
                                                          THEN (PRINTCCODE (MIMEFASTRECODECHARCODE (SUBATOM TAG 2 -1)
                                                                                                   RECODEMAP)
                                                                           OUTSTREAM)
                                                        ELSE (PRINTOUT OUTSTREAM "&" TAG ";")))
                                                   ELSE (PRINTCCODE (IF RECODEMAP
                                                                        THEN (MIMEFASTRECODECHARCODE C RECODEMAP)
                                                                      ELSE C)
                                                                    OUTSTREAM)))
                              (CR (IF (EQ (CHARCODE LINEFEED)
                                          (\PEEKBIN INSTREAM T))
                                      THEN (BIN INSTREAM)
                                           (ADD NBINS -1))
                                  (IF (EQ SUBTYPE 'HTML)
                                      THEN (SPACES 1 OUTSTREAM)
                                    ELSE (TERPRI OUTSTREAM)))
                              (LF (CL:UNLESS (EQ SUBTYPE 'HTML)
                                      (IF (EQ SUBTYPE 'HTML)
                                          THEN (SPACES 1 OUTSTREAM)
                                        ELSE (TERPRI OUTSTREAM))))
                              (PRINTCCODE (IF RECODEMAP
                                              THEN (MIMEFASTRECODECHARCODE C RECODEMAP)
                                            ELSE C)
                                          OUTSTREAM))
      FINALLY (CL:WHEN TEDITSTREAM
                   (TEDIT.INCLUDE TEDITSTREAM OUTSTREAM)
                   (SETQ OUTSTREAM TEDITSTREAM)))
  OUTSTREAM)])
```

(STREAMFROMUUENCODE

```
[LAMBDA (INSTREAM FILENAME STARTPOS ENDPOS FROMCHARENCODING TEXTP)
                                                          ; Edited 21-Jan-2001 20:03 by rmk:
  (RESETLST
      [LET (TEMP STR)
           [RESETSAVE [SETQ TEMP (OPENSTREAM '/tmp/uudecodefile 'OUTPUT NIL '((TYPE TEXT]
                  '(PROGN (CLOSEF? OLDVALUE)
                          (DELFILE (FULLNAME OLDVALUE]
```

```
            (SETFILEPTR INSTREAM STARTPOS)
            (SKIPSEPRCODES INSTREAM FILERDTBL)
            (CL:UNLESS (EQUAL (CHARCODE (b e g i n SPACE))
                              (FOR I FROM 1 TO 6 COLLECT (READCCODE INSTREAM)))
                   (ERROR "%"begin%" line missing from uuencoded file"))
            (PRINTOUT TEMP "begin ")
            ;; Copy mode characters
            (BIND C DO (SETQ C (READCCODE INSTREAM))
                       (PRINTCCODE C TEMP)
               REPEATUNTIL (EQ C (CHARCODE SPACE)))
            ;; Have to convert spaces in filename
            (SETQ STR (CL:STRING-TRIM " " (CL:READ-LINE INSTREAM NIL "")))
            (FOR I C FROM 1 WHILE (SETQ C (NTHCHARCODE STR I)) WHEN (EQ C (CHARCODE SPACE))
               DO (RPLCHARCODE STR I (CHARCODE _)))
            (PRINTOUT TEMP STR T)
            (COPYCHARS INSTREAM TEMP (GETFILEPTR INSTREAM)
                   ENDPOS)
            (CLOSEF TEMP)
            (ShellCommand (CONCAT "cd /tmp; uudecode uudecodefile"))
            (IF (EQ FILENAME T)
                THEN [COPYFILE (PACKFILENAME 'DIRECTORY '{dsk}/tmp 'BODY STR)
                               T
                               (AND TEXTP '((TYPE TEXT]
              ELSEIF (STREAMP FILENAME)
                THEN ;; Logic copied from DEMIMETEXT:
                     (LET (CHARMAP)
                          [SETQ TEMP (OPENSTREAM (PACKFILENAME 'DIRECTORY '{dsk}/tmp 'BODY STR)
                                                 'INPUT NIL '((TYPE TEXT]
                          (COND
                             ((AND CHARSET (NEQ 'US-ASCII (U-CASE CHARSET))
                                   (SETQ CHARMAP (MIMERECODEMAP CHARSET)))
                              (UNTIL (EOFP TEMP) DO (PRINTCCODE (MIMEFASTRECODECHARCODE (READCCODE TEMP)
                                                                                        CHARMAP)
                                                                FILENAME)))
                             (T (COPYCHARS TEMP FILENAME)))
                          (CLOSEF TEMP))
              ELSE (RENAMEFILE (PACKFILENAME 'DIRECTORY '{dsk}/tmp 'BODY STR)
                               (PACKFILENAME 'DIRECTORY (EVAL ATTACHMENTDIR)
                                             'BODY STR])])
```

(STREAMFROMQUOTEDPRINTABLE

```
  [LAMBDA (INSTREAM OUTSTREAM STARTPOS ENDPOS FROMCHARENCODING)  ; Edited 27-Dec-2000 10:59 by rmk:
                                                                 ; Edited 27-Dec-2000 10:59 by rmk:
                                                                 ; Edited 25-Jun-99 18:07 by rmk:
                                                                 ; Edited 25-Jun-99 18:07 by rmk:
                                                                 ; Edited 17-Sep-98 08:22 by rmk:
    ;; Assumes that INSTREAM is a text file, hence does EOL conversion
    (RESETLST
        [IF (GETSTREAM INSTREAM 'INPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
            THEN (SETQ INSTREAM (TEXTSTREAM INSTREAM))
          ELSE (RESETSAVE (SETQ INSTREAM (OPENSTREAM INSTREAM 'INPUT))
                      '(PROGN (CLOSEF? OLDVALUE]
        [IF (GETSTREAM OUTSTREAM 'OUTPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM OUTSTREAM)))
            THEN (SETQ OUTSTREAM (TEXTSTREAM OUTSTREAM))
          ELSE (RESETSAVE [SETQ OUTSTREAM (OPENSTREAM OUTSTREAM 'OUTPUT 'NEW '((TYPE TEXT]
                      '(PROGN (CLOSEF? OLDVALUE)
                              (AND RESETSTATE (DELFILE OLDVALUE]
        (CL:UNLESS STARTPOS (SETQ STARTPOS 0))
        (SETFILEPTR INSTREAM STARTPOS)
        (FOR NBINS C [TEDITSTREAM _ (IF (TEXTSTREAMP OUTSTREAM)
                                        THEN (PROG1 OUTSTREAM
                                                    (SETQ OUTSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH)))]
           [RECODEMAP _ (MIMERECODEMAP (OR FROMCHARENCODING 'ISO8859/1]
          FROM (- (OR ENDPOS (GETEOFPTR INSTREAM))
                  STARTPOS)
          TO 1 BY -1
          DO (SELCHARQ (SETQ C (BIN INSTREAM))
                  (= (ADD NBINS -1)                          ; Special code
                     [SELCHARQ (SETQ C (BIN INSTREAM))
                          (CR                                ; CR(LF) or LF after = is flushed
                              (LET ((POS (GETFILEPTR INSTREAM)))
                                   (IF (EQ (CHARCODE LINEFEED)
                                           (BIN INSTREAM))
                                       THEN                  ; Bin above should be \PEEKBIN, but that doesn't work for
                                                             ; TEDIT streams.
                                            (ADD NBINS -1)
                                     ELSE (SETFILEPTR INSTREAM POS))))
                          (LF)
                          (PROGN (CL:WHEN [OR (AND (IGEQ C (CHARCODE 0))
                                                   (ILEQ C (CHARCODE 9)))
```

```
                                        (AND (IGEQ C (CHARCODE A))
                                             (ILEQ C (CHARCODE F]
                                    ;; Hex digit begins 2 digit hex code
                                    [SETQ C (LOGOR (LLSH [IF (ILEQ C (CHARCODE 9))
                                                             THEN (- C (CHARCODE 0))
                                                           ELSE (IPLUS 10 (- C (CHARCODE A]
                                                         4)
                                                   (IF (ILEQ (PROGN (ADD NBINS -1)
                                                                    (SETQ C (BIN INSTREAM)))
                                                             (CHARCODE 9))
                                                       THEN (- C (CHARCODE 0))
                                                     ELSE (IPLUS 10 (- C (CHARCODE A])
                                (CL:WHEN RECODEMAP
                                    (SETQ C (MIMEFASTRECODECHARCODE C RECODEMAP)))
                                (IF (MEMB C (CHARCODE (CR LF)))
                                    THEN (TERPRI OUTSTREAM)
                                  ELSE (PRINTCCODE C OUTSTREAM])
                        (CR (IF (EQ (CHARCODE LINEFEED)
                                    (\PEEKBIN INSTREAM T))
                                THEN (BIN INSTREAM)
                                     (ADD NBINS -1))
                            (TERPRI OUTSTREAM))
                        (LF (TERPRI OUTSTREAM))
                        (PRINTCCODE (IF RECODEMAP
                                        THEN (MIMEFASTRECODECHARCODE C RECODEMAP)
                                      ELSE C)
                                    OUTSTREAM))
                FINALLY (CL:WHEN TEDITSTREAM
                            (TEDIT.INCLUDE TEDITSTREAM OUTSTREAM)
                            (SETQ OUTSTREAM TEDITSTREAM)))
        OUTSTREAM)])
```

(STREAMFROMUTF-8

```
[LAMBDA (INSTREAM OUTSTREAM STARTPOS ENDPOS FROMCHARENCODING)  ; Edited 11-Jan-2001 18:10 by rmk:
    ;; Assumes that INSTREAM is a text file, hence does EOL conversion
    (CL:UNLESS FROMCHARENCODING
        (SETQ FROMCHARENCODING 'UNICODE))
    (RESETLST
        [IF (GETSTREAM INSTREAM 'INPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM INSTREAM)))
            THEN (SETQ INSTREAM (TEXTSTREAM INSTREAM))
          ELSE (RESETSAVE (SETQ INSTREAM (OPENSTREAM INSTREAM 'INPUT))
                      '(PROGN (CLOSEF? OLDVALUE]
        [IF (GETSTREAM OUTSTREAM 'OUTPUT T)
          ELSEIF (CAR (NLSETQ (TEXTSTREAM OUTSTREAM)))
            THEN (SETQ OUTSTREAM (TEXTSTREAM OUTSTREAM))
          ELSE (RESETSAVE [SETQ OUTSTREAM (OPENSTREAM OUTSTREAM 'OUTPUT 'NEW '((TYPE TEXT]
                      '(PROGN (CLOSEF? OLDVALUE)
                              (AND RESETSTATE (DELFILE OLDVALUE]
        (CL:UNLESS STARTPOS (SETQ STARTPOS 0))
        (SETFILEPTR INSTREAM STARTPOS)
        (FOR NBINS C [TEDITSTREAM _ (IF (TEXTSTREAMP OUTSTREAM)
                                        THEN (PROG1 OUTSTREAM
                                                    (SETQ OUTSTREAM (OPENSTREAM '{NODIRCORE} 'BOTH)))]
           [RECODEMAP _ (MIMERECODEMAP (OR FROMCHARENCODING 'ISO8859/1]
          FROM (- (OR ENDPOS (GETEOFPTR INSTREAM))
                  STARTPOS)
          TO 1 BY -1
          DO [SELCHARQ (SETQ C (BIN INSTREAM))
                    (CR                                    ; CR(LF) or LF after = is flushed
                        (LET ((POS (GETFILEPTR INSTREAM)))
                             (IF (EQ (CHARCODE LINEFEED)
                                     (BIN INSTREAM))
                                 THEN                      ; Bin above should be \PEEKBIN, but that doesn't work for
                                                           ; TEDIT streams.
                                      (ADD NBINS -1)
                               ELSE (SETFILEPTR INSTREAM POS))))
                    (LF (TERPRI OUTSTREAM))
                    (LET (BYTE)
                         ;; If high-order bit is on, interpret next few bytes.
                         [IF (EQ 0 (LOGAND C (MASK.1'S 7 1)))
                           ELSE                            ; 2 or more, make sure next byte is a continuation
                                (SETQ BYTE (BIN STREAM))
                                (CL:UNLESS (EQ (MASK.1'S 7 1)
                                               (LOGAND (MASK.1'S 6 2)
                                                       BYTE))
                                    (ERROR "INVALID UTF-8 BYTE SEQUENCE" (LIST C BYTE)))
                         ;; Assemble first 2 bytes, including high-order bits that will later get masked away.
                         [SETQ C (LOGOR (LLSH C 6)
                                        (LOGAND BYTE (MASK.1'S 0 6]
                         (IF (EQ (MASK.1'S 12 2)
                                 (LOGAND C (MASK.1'S 11 3)))
```

```
                                    THEN ;; 2 bytes, 11 bits
                                         (SETQ C (LOGAND C (MASK.1'S 0 11)))
                                   ELSE ;; 3 or more
                                        (SETQ BYTE (BIN STREAM))
                                        (CL:UNLESS (EQ (MASK.1'S 7 1)
                                                       (LOGAND BYTE (MASK.1'S 6 2)))
                                            (ERROR "INVALID UTF-8 BYTE SEQUENCE" (LIST C BYTE)))
                                        ;; Assemble first 3 bytes, including high-order bits that will later get masked away.
                                        [SETQ C (LOGOR (LLSH C 6)
                                                       (LOGAND BYTE (MASK.1'S 0 6]
                                        (IF (EQ (MASK.1'S 17 3)
                                                (LOGAND C (MASK.1'S 16 4)))
                                            THEN ;; 3 bytes, 16 bits
                                                 (SETQ C (LOGAND C (MASK.1'S 0 16)))
                                          ELSE ;; 4 or more bytes, or perhaps C was a misplaced continuation (since we aren't bothering
                                               ;; 5 and 6 byte encodings)
                                               (CL:UNLESS (BITTEST C (MASK.1'S 18 1))
                                                   (ERROR "INVALID UTF-8 BYTE SEQUENCE" (LIST C)))
                                               (SETQ BYTE (BIN STREAM))
                                               (CL:UNLESS (EQ (MASK.1'S 7 1)
                                                              (LOGAND BYTE (MASK.1'S 6 2)))
                                                   (ERROR "INVALID UTF-8 BYTE SEQUENCE" (LIST C BYTE)))
                                               ;; 4 bytes, 21 bits
                                               (SETQ C (LOGOR (LLSH (LOGAND C (MASK.1'S 0 16))
                                                                    6)
                                                              (LOGAND BYTE (MASK.1'S 0 6]
                        (CL:WHEN RECODEMAP
                            (SETQ C (MIMEFASTRECODECHARCODE C RECODEMAP)))
                        (IF (MEMB C (CHARCODE (CR LF)))
                            THEN (TERPRI OUTSTREAM)
                          ELSE (PRINTCCODE C OUTSTREAM]
            FINALLY (CL:WHEN TEDITSTREAM
                         (TEDIT.INCLUDE TEDITSTREAM OUTSTREAM)
                         (SETQ OUTSTREAM TEDITSTREAM)))
          OUTSTREAM)])

)

(DECLARE%: EVAL@COMPILE

(RPAQQ BINHEXCHARS "!%"#$%%&'()*+,-012345689@ABCDEFGHIJKLMNPQRSTUVXYZ[`abcdefhijklmpqr")

(CONSTANTS BINHEXCHARS)
)

(RPAQ? BINHEXCHARARRAY NIL)

(DECLARE%: EVAL@COMPILE DONTCOPY

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS BINHEXCHARARRAY)
)

(DECLARE%: EVAL@COMPILE

(PUTPROPS BINHEXBYTE MACRO
          (NIL (IF (EQ REPEAT 0)
                   THEN [PROG (C C2 REPFLAG)
                              GETBYTE
                              [WHILE (MEMB (SETQ C (BIN INSTREAM))
                                           (CHARCODE (CR LF]
                              (CL:UNLESS (EQ (CHARCODE %:)
                                             C)
                                  [SETQ C (CL:SVREF BINHEXCHARARRAY (- C (CONSTANT (CHCON1 BINHEXCHARS]
                                  ;; Save byte in C for repetition
                                  (SETQ C (SELECTQ POS
                                                   (0                ; Start of byte, used 6 bits from first code, 2 bits from second
                                                                     ; code, carry over 4 bits
                                                       (SETQ POS 1)
                                                       [WHILE (MEMB (SETQ C2 (BIN INSTREAM))
                                                                    (CHARCODE (CR LF]
                                                       (CL:WHEN (EQ (CHARCODE %:)
                                                                    C2)
                                                              (HELP "BINHEX FILE TERMINATES IN THE MIDDLE OF A BYTE")
                                                              )
                                                       [SETQ C2 (CL:SVREF BINHEXCHARARRAY (- C2 (CONSTANT
                                                                                                  (CHCON1 BINHEXCHARS]
                                                       (SETQ NEXTBYTE (LOGAND 255 (LLSH C2 4)))
                                                       (LOGOR (LLSH C 2)
```

```
                                                    (LRSH C2 4)))
                                            (1              ; NEXTBYTE has 4 left-adjusted bits, use 4 bits from current
                                                            ; code, save 2 bits
                                               (SETQ POS 2)
                                               (PROG1 (LOGOR NEXTBYTE (LRSH C 2))
                                                   (SETQ NEXTBYTE (LOGAND 255 (LLSH C 6)))))
                                            (2              ; NEXTBYTE has 2 left-adjusted bits, use all 6 bits from current
                                                            ; code, save nothing
                                               (SETQ POS 0)
                                               (PROG1 (LOGOR NEXTBYTE C)
                                                      (SETQ NEXTBYTE 0)))
                                            NIL))
                                    ;; 144 is hex 90, the repetition mark
                                    (IF REPFLAG
                                        THEN ;; C now contains the repetition factor
                                             (IF (EQ C 0)
                                                 THEN (SETQ LASTBYTE 144)
                                                      (RETURN 144)
                                               ELSE ;; We already put out the prefix byte, and now we are putting out one that
                                                    ;; corresponds to the repeat-mark+number.
                                                    (SETQ REPEAT (- C 2))
                                                    (RETURN LASTBYTE))
                                      ELSEIF (EQ C 144)
                                        THEN (SETQ REPFLAG T)
                                             (GO GETBYTE)
                                      ELSE (SETQ LASTBYTE C)
                                           (RETURN C)))]
                          ELSE (CL:DECF REPEAT)
                               LASTBYTE)))

(PUTPROPS BINHEXWORD MACRO (NIL (LOGOR (LLSH (BINHEXBYTE)
                                             8)
                                       (BINHEXBYTE))))

(PUTPROPS BINHEXLONG MACRO (NIL (LOGOR (LLSH (BINHEXWORD)
                                             16)
                                       (BINHEXWORD))))
)
)

(RPAQ? ATTACHMENTDIR '(CONCAT "{dsk}/tilde/" (L-CASE (USERNAME))
                              "/attachments"))

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS ATTACHMENTDIR)
)

;; MIMEFASTRECODECHARCODE is a copy of FASTRECODECHARCODED on /project/dict/code/CHARACTERFNS

(DEFINEQ

(CACHEMIMECHARRECODEMAPS
  [LAMBDA (CHARENCODINGS)                                   ; Edited 27-Dec-2000 11:31 by rmk:
                                                            ; Edited 27-Dec-2000 11:17 by rmk:
                                                            ; Edited 27-Dec-2000 11:03 by rmk:
                                                            ; Edited 27-Dec-2000 10:54 by rmk:
                                                            ; Edited 27-Dec-2000 10:52 by rmk:

    (CL:UNLESS (BOUNDP 'MIMERECODEMAPS)
           (SETQ MIMERECODEMAPS NIL))

    ;; This depends on CHARACTERFNS and RECODEMAPS on /project/dict/code/.  It creates the mapping arrays that are then cached on MIME.

    (FOR C M INSIDE CHARENCODINGS WHEN (SETQ M (CHARRECODEMAP C CURRENTCHARENCODING))
       DO (SETQ M (FASTRECODEMAP M T))
          (PRINTOUT T C " " (CL:IF M
                                "cached"
                                "not found")
                T)
          (PUSH MIMERECODEMAPS (LIST (LIST C CURRENTCHARENCODING)
                                     (FOR X IN MIMERECODEMAPS WHEN (EQ M (CADR X))
                                        DO ;; If the same mapping array already exists, just put its name instead of a copy of the array,
                                           ;; to make the file smaller.
                                           (RETURN (CAR X))
                                        FINALLY (RETURN M])

(MIMEFASTRECODECHARCODE
  [LAMBDA (CODE MAPARRAY)                                   ; Edited 27-Dec-2000 10:40 by rmk:
                                                            ; Edited  7-Dec-95 14:29 by
                                                            ; Edited 21-Jun-95 10:18 by rmk:

    ;; Recodes a singleton charcode.  Leaves everything else unchanged.  MAPARRAY can contain a list of possible sequences, or an entry  an be a
    ;; simple SMALLP recoding.
```

```
    (IF (AND (SMALLP CODE)
            MAPARRAY)
        THEN (CL:WHEN (LISTP MAPARRAY)
                  (SETQ MAPARRAY (FASTRECODEMAP MAPARRAY T)))
              [LET ((CSMAP (CL:SVREF MAPARRAY (LRSH CODE 8)))
                    RECODE)
                   (IF [NOT (AND CSMAP (SETQ CSMAP (CL:SVREF CSMAP (LOGAND CODE 255]
                       THEN CODE
                     ELSEIF (SMALLP CSMAP)
                     ELSE (SETQ RECODE (CDR (ASSOC NIL CSMAP)))

                          ;; WARNING:  If recode is a sequence, then a list is returned, not a singleton

                          (IF (CDR RECODE)
                              THEN RECODE
                            ELSE (CAR RECODE]
      ELSE                                                       ; Nothing to recode
           CODE])

(MIMERECODEMAP
  [LAMBDA (CHARENCODING NOERROR)                                 ; Edited 21-Oct-2001 18:48 by rmk:
    (CL:WHEN CHARENCODING
        (SETQ CHARENCODING (MKATOM (U-CASE CHARENCODING)))       ; Canonical name
        [LET (MAP)
             (IF (SETQ MAP (CDR (SASSOC (LIST CHARENCODING CURRENTCHARENCODING)
                                       MIMERECODEMAPS)))
                 THEN (SETQ MAP (CAR MAP))                       ; Test CDR, so that NIL can be identity

                       ;; If not an array, presumably a synonym identifier, search again.

                       (IF (CL:ARRAYP MAP)
                           THEN MAP
                         ELSEIF MAP
                           THEN (CADR (SASSOC MAP MIMERECODEMAPS)))
               ELSEIF (CAR (NLSETQ (FASTRECODEMAP (CHARRECODEMAP CHARENCODING CURRENTCHARENCODING)
                                                 T)))
               ELSEIF (NOT NOERROR)
                 THEN (MIMEERROR (CONCAT CHARENCODING " is an unrecognized character encoding"])])

)

(RPAQ? CURRENTCHARENCODING 'XEROX-RENDERING)

(RPAQQ CACHEDCHARENCODINGS (ISO8859/1 ISO-8859-1 ISO8859_1 ISO% 8859-1 LATIN1 ISO8859/2 ISO-8859-2 ISO8859_2
                                     LATIN2 CP1252 WINDOWS-1252 CP1250 WINDOWS-1250))

;; MIMERECODEMAPS must be set up by executing

;;    (CACHEMIMECHARRECODEMAPS CACHEDCHARENCODINGS)

;; in a system that has /project/dict/code/CHARACTERFNS loaded.

(RPAQQ MIMERECODEMAPS
       (((WINDOWS-1250 XEROX-RENDERING)
         (CP1250 XEROX-RENDERING))
        ((CP1250 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 8218 NIL 8222 8230 8224
8225 NIL 8240 352 8249 346 356 381 377 NIL 8216 ((NIL 39) (NIL 8217)) 8220 8221 8226 8211 8212 NIL 8482 353 8250
 347 357 382 378 61217 711 728 321 NIL 260 61291 NIL 8994 211 ((NIL 227) (NIL 350)) NIL 61290 61219 210 ((NIL 90
86) (NIL 379)) NIL NIL 731 322 39 NIL NIL NIL 203 ((NIL 209) (NIL 261)) ((NIL 235) (NIL 351)) NIL 317 733 318 38
0 ((NIL 61729) (NIL 340)) 61730 61731 ((NIL 61732) (NIL 258)) 61735 ((NIL 61736) (NIL 313)) ((NIL 225) (NIL 262)
) 61741 ((NIL 61744) (NIL 268)) 61745 ((NIL 61746) (NIL 280)) 61749 ((NIL 61758) (NIL 282)) 61759 61760 ((NIL 61
764) (NIL 270)) ((NIL 226) (NIL 272)) ((NIL 61772) (NIL 323)) ((NIL 61775) (NIL 327)) 61776 61777 ((NIL 61778) (
NIL 336)) 61780 180 ((NIL 233) (NIL 344)) ((NIL 61791) (NIL 366)) 61792 ((NIL 61793) (NIL 368)) 61797 61803 ((NI
L 236) (NIL 354)) 251 ((NIL 61857) (NIL 341)) 61858 61859 ((NIL 61860) (NIL 259)) 61863 ((NIL 61864) (NIL 314))
 ((NIL 241) (NIL 263)) 61869 ((NIL 61872) (NIL 269)) 61873 ((NIL 61874) (NIL 281)) 61877 ((NIL 61886) (NIL 283))
 61887 61888 ((NIL 61892) (NIL 271)) ((NIL 243) (NIL 273)) ((NIL 61900) (NIL 324)) ((NIL 61903) (NIL 328)) 61904
 61905 ((NIL 61906) (NIL 337)) 61908 184 ((NIL 249) (NIL 345)) ((NIL 61919) (NIL 367)) 61920 ((NIL 61921) (NIL 36
9)) 61925 61931 ((NIL 252) (NIL 355)) ((NIL 61933) (NIL 729))) #256(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61805 NIL) N
IL))
        ((WINDOWS-1252 XEROX-RENDERING)
         (CP1252 XEROX-RENDERING))
        ((CP1252 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 8218 402 8222 8230 8224
8225 710 8240 352 8249 338 NIL NIL NIL NIL 8216 ((NIL 39) (NIL 8217)) 8220 8221 8226 8211 8212 732 8482 353 8250
 339 NIL NIL 61805 61217 NIL NIL NIL NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39
NIL NIL NIL 203 209 235 NIL NIL NIL NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 6174
```

```
9 61758 61759 61760 61764 226 61772 61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251
61857 61858 61859 61860 61863 61864 241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61
904 61905 61906 61908 184 249 61919 61920 61921 61925 61931 252 61933) NIL))
        ((LATIN2 XEROX-RENDERING)
         (ISO8859/2 XEROX-RENDERING))
        ((ISO8859_2 XEROX-RENDERING)
         (ISO8859/2 XEROX-RENDERING))
        ((ISO-8859-2 XEROX-RENDERING)
         (ISO8859/2 XEROX-RENDERING))
        ((ISO8859/2 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 39 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61217 260 728 321
 NIL 317 ((NIL 61291) (NIL 346)) NIL 8994 ((NIL 211) (NIL 352)) ((NIL 227) (NIL 350)) 356 ((NIL 61290) (NIL 377)
) 61219 ((NIL 210) (NIL 381)) ((NIL 9086) (NIL 379)) NIL 261 731 322 39 318 347 711 203 ((NIL 209) (NIL 353)) ((
NIL 235) (NIL 351)) 357 378 733 382 380 ((NIL 61729) (NIL 340)) 61730 61731 ((NIL 61732) (NIL 258)) 61735 ((NIL
61736) (NIL 313)) ((NIL 225) (NIL 262)) 61741 ((NIL 61744) (NIL 268)) 61745 ((NIL 61746) (NIL 280)) 61749 ((NIL
61758) (NIL 282)) 61759 61760 ((NIL 61764) (NIL 270)) ((NIL 226) (NIL 272)) ((NIL 61772) (NIL 323)) ((NIL 61775)
 (NIL 327)) 61776 61777 ((NIL 61778) (NIL 336)) 61780 180 ((NIL 233) (NIL 344)) ((NIL 61791) (NIL 366)) 61792 ((
NIL 61793) (NIL 368)) 61797 61803 ((NIL 236) (NIL 354)) 251 ((NIL 61857) (NIL 341)) 61858 61859 ((NIL 61860) (NI
L 259)) 61863 ((NIL 61864) (NIL 314)) ((NIL 241) (NIL 263)) 61869 ((NIL 61872) (NIL 269)) 61873 ((NIL 61874) (NI
L 281)) 61877 ((NIL 61886) (NIL 283)) 61887 61888 ((NIL 61892) (NIL 271)) ((NIL 243) (NIL 273)) ((NIL 61900) (NI
L 324)) ((NIL 61903) (NIL 328)) 61904 61905 ((NIL 61906) (NIL 337)) 61908 184 ((NIL 249) (NIL 345)) ((NIL 61919)
 (NIL 367)) 61920 ((NIL 61921) (NIL 369)) 61925 61931 ((NIL 252) (NIL 355)) ((NIL 61933) (NIL 729))) #256(NIL NI
L NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NI
L NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NI
L NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NI
L NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NI
L NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((LATIN1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO% 8859-1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO8859_1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO-8859-1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO8859/1 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 39 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61217 NIL NIL NIL
 NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39 NIL NIL NIL 203 209 235 NIL NIL NIL
NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 61749 61758 61759 61760 61764 226 61772
61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251 61857 61858 61859 61860 61863 61864
241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61904 61905 61906 61908 184 249 61919
61920 61921 61925 61931 252 61933) #256(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((US-ASCII XEROX-RENDERING)
         NIL)
        ((WINDOWS-1250 XEROX-RENDERING)
         (CP1250 XEROX-RENDERING))
        ((CP1250 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 8218 NIL 8222 8230 8224
8225 NIL 8240 352 8249 346 356 381 377 NIL 8216 8217 8220 8221 8226 8211 8212 NIL 8482 353 8250 347 357 382 378
61217 711 728 321 NIL 260 61291 NIL 8994 211 ((NIL 227) (NIL 350)) NIL 61290 61219 210 ((NIL 9086) (NIL 379)) NI
L NIL 731 322 39 NIL NIL NIL 203 ((NIL 209) (NIL 261)) ((NIL 235) (NIL 351)) NIL 317 733 318 380 ((NIL 61729) (N
IL 340)) 61730 61731 ((NIL 61732) (NIL 258)) 61735 ((NIL 61736) (NIL 313)) ((NIL 225) (NIL 262)) 61741 ((NIL 617
44) (NIL 268)) 61745 ((NIL 61746) (NIL 280)) 61749 ((NIL 61758) (NIL 282)) 61759 61760 ((NIL 61764) (NIL 270)) (
(NIL 226) (NIL 272)) ((NIL 61772) (NIL 323)) ((NIL 61775) (NIL 327)) 61776 61777 ((NIL 61778) (NIL 336)) 61780 1
80 ((NIL 233) (NIL 344)) ((NIL 61791) (NIL 366)) 61792 ((NIL 61793) (NIL 368)) 61797 61803 ((NIL 236) (NIL 354))
 251 ((NIL 61857) (NIL 341)) 61858 61859 ((NIL 61860) (NIL 259)) 61863 ((NIL 61864) (NIL 314)) ((NIL 241) (NIL 2
63)) 61869 ((NIL 61872) (NIL 269)) 61873 ((NIL 61874) (NIL 281)) 61877 ((NIL 61886) (NIL 283)) 61887 61888 ((NIL
 61892) (NIL 271)) ((NIL 243) (NIL 273)) ((NIL 61900) (NIL 324)) ((NIL 61903) (NIL 328)) 61904 61905 ((NIL 61906
) (NIL 337)) 61908 184 ((NIL 249) (NIL 345)) ((NIL 61919) (NIL 367)) 61920 ((NIL 61921) (NIL 369)) 61925 61931 (
(NIL 252) (NIL 355)) ((NIL 61933) (NIL 729))) #256(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((WINDOWS-1252 XEROX-RENDERING)
         (CP1252 XEROX-RENDERING))
        ((CP1252 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
```

```
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 8218 402 8222 8230 8224
8225 710 8240 352 8249 338 NIL NIL NIL NIL 8216 8217 8220 8221 8226 8211 8212 732 8482 353 8250 339 NIL NIL 6180
5 61217 NIL NIL NIL NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39 NIL NIL NIL 203 2
09 235 NIL NIL NIL NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 61749 61758 61759 617
60 61764 226 61772 61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251 61857 61858 61859
 61860 61863 61864 241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61904 61905 61906 6
1908 184 249 61919 61920 61921 61925 61931 252 61933) NIL))
        ((LATIN2 XEROX-RENDERING)
         (ISO8859/2 XEROX-RENDERING))
        ((ISO8859_2 XEROX-RENDERING)
         (ISO8859/2 XEROX-RENDERING))
        ((ISO-8859-2 XEROX-RENDERING)
         (ISO8859/2 XEROX-RENDERING))
        ((ISO8859/2 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61217 260 728 32
1 NIL 317 ((NIL 61291) (NIL 346)) NIL 8994 ((NIL 211) (NIL 352)) ((NIL 227) (NIL 350)) 356 ((NIL 61290) (NIL 377
)) 61219 ((NIL 210) (NIL 381)) ((NIL 9086) (NIL 379)) NIL 261 731 322 39 318 347 711 203 ((NIL 209) (NIL 353)) (
(NIL 235) (NIL 351)) 357 378 733 382 380 ((NIL 61729) (NIL 340)) 61730 61731 ((NIL 61732) (NIL 258)) 61735 ((NIL
 61736) (NIL 313)) ((NIL 225) (NIL 262)) 61741 ((NIL 61744) (NIL 268)) 61745 ((NIL 61746) (NIL 280)) 61749 ((NIL
 61758) (NIL 282)) 61759 61760 ((NIL 61764) (NIL 270)) ((NIL 226) (NIL 272)) ((NIL 61772) (NIL 323)) ((NIL 61775
) (NIL 327)) 61776 61777 ((NIL 61778) (NIL 336)) 61780 180 ((NIL 233) (NIL 344)) ((NIL 61791) (NIL 366)) 61792 (
(NIL 61793) (NIL 368)) 61797 61803 ((NIL 236) (NIL 354)) 251 ((NIL 61857) (NIL 341)) 61858 61859 ((NIL 61860) (N
IL 259)) 61863 ((NIL 61864) (NIL 314)) ((NIL 241) (NIL 263)) 61869 ((NIL 61872) (NIL 269)) 61873 ((NIL 61874) (N
IL 281)) 61877 ((NIL 61886) (NIL 283)) 61887 61888 ((NIL 61892) (NIL 271)) ((NIL 243) (NIL 273)) ((NIL 61900) (N
IL 324)) ((NIL 61903) (NIL 328)) 61904 61905 ((NIL 61906) (NIL 337)) 61908 184 ((NIL 249) (NIL 345)) ((NIL 61919
) (NIL 367)) 61920 ((NIL 61921) (NIL 369)) 61925 61931 ((NIL 252) (NIL 355)) ((NIL 61933) (NIL 729))) #256(NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((LATIN1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO% 8859-1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO8859_1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO-8859-1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO8859/1 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61217 NIL NIL NI
L NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39 NIL NIL NIL 203 209 235 NIL NIL NIL
 NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 61749 61758 61759 61760 61764 226 61772
 61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251 61857 61858 61859 61860 61863 61864
 241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61904 61905 61906 61908 184 249 61919
 61920 61921 61925 61931 252 61933) #256(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((WINDOWS-1250 XEROX-RENDERING)
         (CP1250 XEROX-RENDERING))
        ((CP1250 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 8218 NIL 8222 8230 8224
8225 NIL 8240 352 8249 346 356 381 377 NIL 8216 8217 8220 8221 8226 8211 8212 NIL 8482 353 8250 347 357 382 378
61217 711 728 321 NIL 260 61291 NIL 8994 211 ((NIL 227) (NIL 350)) NIL 61290 61219 210 ((NIL 9086) (NIL 379)) NI
L NIL 731 322 39 NIL NIL NIL 203 ((NIL 209) (NIL 261)) ((NIL 235) (NIL 351)) NIL 317 733 318 380 ((NIL 61729) (N
IL 340)) 61730 61731 ((NIL 61732) (NIL 258)) 61735 ((NIL 61736) (NIL 313)) ((NIL 225) (NIL 262)) 61741 ((NIL 617
44) (NIL 268)) 61745 ((NIL 61746) (NIL 280)) 61749 ((NIL 61758) (NIL 282)) 61759 61760 ((NIL 61764) (NIL 270)) (
(NIL 226) (NIL 272)) ((NIL 61772) (NIL 323)) ((NIL 61775) (NIL 327)) 61776 61777 ((NIL 61778) (NIL 336)) 61780 1
80 ((NIL 233) (NIL 344)) ((NIL 61791) (NIL 366)) 61792 ((NIL 61793) (NIL 368)) 61797 61803 ((NIL 236) (NIL 354))
 251 ((NIL 61857) (NIL 341)) 61858 61859 ((NIL 61860) (NIL 259)) 61863 ((NIL 61864) (NIL 314)) ((NIL 241) (NIL 2
63)) 61869 ((NIL 61872) (NIL 269)) 61873 ((NIL 61874) (NIL 281)) 61877 ((NIL 61886) (NIL 283)) 61887 61888 ((NIL
 61892) (NIL 271)) ((NIL 243) (NIL 273)) ((NIL 61900) (NIL 324)) ((NIL 61903) (NIL 328)) 61904 61905 ((NIL 61906
) (NIL 337)) 61908 184 ((NIL 249) (NIL 345)) ((NIL 61919) (NIL 367)) 61920 ((NIL 61921) (NIL 369)) 61925 61931 (
(NIL 252) (NIL 355)) ((NIL 61933) (NIL 729))) #256(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((WINDOWS-1252 XEROX-RENDERING)
```

```
         (CP1252 XEROX-RENDERING))
        ((CP1252 XEROX-RENDERING)
         (CP1252 XEROX-RENDERING))
        ((LATIN2 XEROX-RENDERING)
         (ISO8859/2 XEROX-RENDERING))
        ((ISO8859/2 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61217 260 728 32
1 NIL 317 ((NIL 61291) (NIL 346)) NIL 8994 ((NIL 211) (NIL 352)) ((NIL 227) (NIL 350)) 356 ((NIL 61290) (NIL 377
)) 61219 ((NIL 210) (NIL 381)) ((NIL 9086) (NIL 379)) NIL 261 731 322 39 318 347 711 203 ((NIL 209) (NIL 353)) (
(NIL 235) (NIL 351)) 357 378 733 382 380 ((NIL 61729) (NIL 340)) 61730 61731 ((NIL 61732) (NIL 258)) 61735 ((NIL
 61736) (NIL 313)) ((NIL 225) (NIL 262)) 61741 ((NIL 61744) (NIL 268)) 61745 ((NIL 61746) (NIL 280)) 61749 ((NIL
 61758) (NIL 282)) 61759 61760 ((NIL 61764) (NIL 270)) ((NIL 226) (NIL 272)) ((NIL 61772) (NIL 323)) ((NIL 61775
) (NIL 327)) 61776 61777 ((NIL 61778) (NIL 336)) 61780 180 ((NIL 233) (NIL 344)) ((NIL 61791) (NIL 366)) 61792 (
(NIL 61793) (NIL 368)) 61797 61803 ((NIL 236) (NIL 354)) 251 ((NIL 61857) (NIL 341)) 61858 61859 ((NIL 61860) (N
IL 259)) 61863 ((NIL 61864) (NIL 314)) ((NIL 241) (NIL 263)) 61869 ((NIL 61872) (NIL 269)) 61873 ((NIL 61874) (N
IL 281)) 61877 ((NIL 61886) (NIL 283)) 61887 61888 ((NIL 61892) (NIL 271)) ((NIL 243) (NIL 273)) ((NIL 61900) (N
IL 324)) ((NIL 61903) (NIL 328)) 61904 61905 ((NIL 61906) (NIL 337)) 61908 184 ((NIL 249) (NIL 345)) ((NIL 61919
) (NIL 367)) 61920 ((NIL 61921) (NIL 369)) 61925 61931 ((NIL 252) (NIL 355)) ((NIL 61933) (NIL 729))) #256(NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL N
IL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((LATIN1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((ISO8859/1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((windows-1252 XEROX-RENDERING)
         (CP1252 XEROX-RENDERING))
        ((CP1252 XEROX-RENDERING)
         (CP1252 XEROX-RENDERING))
        ((ISO8859/1 XEROX-RENDERING)
         (ISO8859/1 XEROX-RENDERING))
        ((windows-1252 XEROX-RENDERING)
         (CP1252 XEROX-RENDERING))
        ((CP1252 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 8218 402 8222 8230 8224
8225 710 8240 352 8249 338 NIL NIL NIL NIL 8216 8217 8220 8221 8226 8211 8212 732 8482 353 8250 339 NIL NIL 6180
5 61217 NIL NIL NIL NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39 NIL NIL NIL 203 2
09 235 NIL NIL NIL NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 61749 61758 61759 617
60 61764 226 61772 61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251 61857 61858 61859
 61860 61863 61864 241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61904 61905 61906 6
1908 184 249 61919 61920 61921 61925 61931 252 61933) NIL))
        ((ISO8859/1 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61217 NIL NIL NI
L NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39 NIL NIL NIL 203 209 235 NIL NIL NIL
 NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 61749 61758 61759 61760 61764 226 61772
 61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251 61857 61858 61859 61860 61863 61864
 241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61904 61905 61906 61908 184 249 61919
 61920 61921 61925 61931 252 61933) #256(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))
        ((windows-1252 XEROX-RENDERING)
         (CP1252 XEROX-RENDERING))
        ((CP1252 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 8218 402 8222 8230 8224
8225 710 8240 352 8249 338 NIL NIL NIL NIL 8216 8217 8220 8221 8226 8211 8212 732 8482 353 8250 339 NIL NIL 6180
5 61217 NIL NIL NIL NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39 NIL NIL NIL 203 2
09 235 NIL NIL NIL NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 61749 61758 61759 617
60 61764 226 61772 61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251 61857 61858 61859
 61860 61863 61864 241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61904 61905 61906 6
1908 184 249 61919 61920 61921 61925 61931 252 61933) NIL))
        ((ISO8859/1 XEROX-RENDERING)
         #256(#(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
```

```
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61217 NIL NIL NI
L NIL NIL 61291 NIL 8994 211 227 NIL 61290 61219 210 9086 NIL NIL NIL NIL 39 NIL NIL NIL 203 209 235 NIL NIL NIL
 NIL NIL 61729 61730 61731 61732 61735 61736 225 61741 61744 61745 61746 61749 61758 61759 61760 61764 226 61772
 61775 61776 61777 61778 61780 180 233 61791 61792 61793 61797 61803 236 251 61857 61858 61859 61860 61863 61864
 241 61869 61872 61873 61874 61877 61886 61887 61888 61892 243 61900 61903 61904 61905 61906 61908 184 249 61919
 61920 61921 61925 61931 252 61933) #256(NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL
 NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL NIL 61805 NIL) NIL))))

(MOVD? 'NILL 'CHARRECODEMAP)

(DECLARE%: DONTCOPY

(DECLARE%: EVAL@COMPILE

[RECORD MIMEPART (STARTPOS ENDPOS TYPE ENCODING DISPOSITION PARTNUM SUBPARTS)
       (RECORD TYPE ((MAINTYPE SUBTYPE) . TYPEPROPS))
       (RECORD DISPOSITION ((MAINDISPOSITION SUBDISPOSITION) . DISPOSITIONPROPS]
)
)
```

FUNCTION INDEX

VARIABLE INDEX

MACRO INDEX

RECORD INDEX

CONSTANT INDEX