


```

LINE)))
      (SETQ KEY (READ SI))
      (IF (AND KEY (SYMBOLP KEY)
                (SETQ VV (READ SI))
                (OR (STRINGP VV)
                    (INTEGERP VV)))
          (LIST (INTERN (STRING KEY)
                      "KEYWORD")
                VV)
          (ERROR "Invalid BDF file - malformed PROPERTY (~A)." LINE)))
    ))
  (ERROR "Invalid BDF file - STARTPROPERTIES count (~A) is invalid or missing." V)
  (IF (EQL V (SETQ VV (/ (LENGTH PROPS)
                        2)))
      (SETF (BF-PROPERTIES FONT)
            PROPS)
      (ERROR "Invalid BDF file - STARTPROPERTIES count (~D) does not match actual (~D)." V VV
            )))
  (CHARS
   (SETQ NGLYPHS (FIRST ITEMS))
   (UNLESS (AND NGLYPHS (INTEGERP NGLYPHS)
                 (PLUSP NGLYPHS))
           (ERROR "Invalid BDF file - CHARS count (~A) is invalid or missing." NGLYPHS))
   (SETF (BF-GLYPHS FONT)
         (LOOP :REPEAT NGLYPHS :COLLECT (READ-GLYPH FILE-STREAM FONT))))
  (ENDFONT (SETQ FONT-COMPLETE T))))))
FONT)))

```

```

(DEFUN READ-DELIMITED-LIST-FROM-STRING (INPUT-STRING &OPTIONAL (DELIMIT #\))
; Edited 20-Aug-2024 16:46 by mth
  (WITH-INPUT-FROM-STRING (SI (CONCATENATE 'STRING INPUT-STRING " " (STRING DELIMIT)))
    (READ-DELIMITED-LIST DELIMIT SI)))

```

```

(DEFUN READ-GLYPH (FILE-STREAM FONT)
; Edited 23-Sep-2024 12:38 by mth
; Edited 22-Aug-2024 20:53 by mth
; Edited 21-Aug-2024 01:10 by mth

```

```

  (LET ((GLYPH (MAKE-GLYPH :SWIDTH (COPY-LIST (BF-SWIDTH FONT))
                          :DWIDTH
                          (COPY-LIST (BF-DWIDTH FONT))
                          :SWIDTH1
                          (COPY-LIST (BF-SWIDTH1 FONT))
                          :DWIDTH1
                          (COPY-LIST (BF-DWIDTH1 FONT))
                          :VVECTOR
                          (COPY-LIST (BF-VVECTOR FONT))))
        CHAR-COMPLETE LINE ITEMS V KEY POS STARTED BBW BBH)
    (LOOP :UNTIL CHAR-COMPLETE :DO (SETQ LINE (READ-LINE FILE-STREAM))
      (WHEN LINE ; Ignore blank lines
        (MULTIPLE-VALUE-SETQ (KEY POS)
                              (READ-FROM-STRING LINE))
        (WHEN (<= POS (LENGTH LINE))
          (SETQ LINE (SUBSEQ LINE POS)))
        (SETQ ITEMS (READ-DELIMITED-LIST-FROM-STRING LINE))
        (COND
         ((EQ KEY 'STARTCHAR)
          (WHEN STARTED (ERROR "Invalid BDF file - STARTCHAR inside glyph."))
          (SETF STARTED T)
          (SETF (GLYPH-NAME GLYPH)
                (STRING LINE)))
         (T (UNLESS STARTED (ERROR "Invalid BDF file - glyph has ben started."))
            (CASE KEY
             (ENCODING (SETF (GLYPH-ENCODING GLYPH)
                             (IF (EQUAL -1 (FIRST ITEMS))
                                 ITEMS
                                 (FIRST ITEMS))))
             (SWIDTH (SETF (GLYPH-SWIDTH GLYPH)
                           ITEMS))
             (DWIDTH (SETF (GLYPH-DWIDTH GLYPH)
                            ITEMS))
             (SWIDTH1 (SETF (GLYPH-SWIDTH1 GLYPH)
                             ITEMS))
             (DWIDTH1 (SETF (GLYPH-DWIDTH1 GLYPH)
                             ITEMS))
             (VVECTOR (SETF (GLYPH-VVECTOR GLYPH)
                             ITEMS))
             (BBX (SETF (GLYPH-BBW GLYPH)
                       (SETQ BBW (FIRST ITEMS))
                       (GLYPH-BBH GLYPH)
                       (SETQ BBH (SECOND ITEMS))
                       (GLYPH-BBXOFF0 GLYPH)
                       (THIRD ITEMS)
                       (GLYPH-BBYOFF0 GLYPH)
                       (FOURTH ITEMS))))
             (BITMAP (LET* ((BM (IL:BITMAPCREATE BBW BBH 1))
                           (BM.BASE (IL:|fetch| IL:BITMAPBASE IL:|of| BM)))

```

```

(BM.RASTERWIDTH (IL:|fetch| IL:BITMAPRASTERWIDTH IL:|of| BM))
(NBYTES (CEILING BBW 8))
(NCHARS (* 2 NBYTES))
(NWORDS (CEILING BBW 16))
BITS BYTEPOS WORDINDEX)
(LOOP :WITH BITROW = 0 :REPEAT BBH :DO
  (SETQ LINE (STRING-TRIM '(#\Space #\Tab
    (READ-LINE FILE-STREAM)))
  (UNLESS (AND (EQUAL NCHARS (LENGTH LINE))
    (SETQ BITS (PARSE-INTEGER LINE :RADIX 16
      :JUNK-ALLOWED T)))
    (ERROR "Invalid BDF file - bad line in BITMAP: ~A" LINE))
  (WHEN (ODDP NBYTES)
    (SETQ BITS (ASH BITS 8)))
  (SETQ WORDINDEX (* BITROW BM.RASTERWIDTH))
  (SETQ BYTEPOS (* 16 (1- NWORDS)))
  (LOOP :REPEAT NWORDS :DO (IL:\PUTBASE BM.BASE WORDINDEX
    (LDB (BYTE 16 BYTEPOS)
      BITS))
    (INCF WORDINDEX)
    (DECF BYTEPOS 16))
  (INCF BITROW))
  (SETF (GLYPH-BITMAP GLYPH)
    BM)))
(ENDCCHAR (SETQ CHAR-COMPLETE T))))))
GLYPH))

```

```

(DEFINE-FILE-ENVIRONMENT "READ-BDF" :PACKAGE (DEFPACKAGE "BDF" (:USE "XCL" "LISP")
  (:EXPORT "READ-BDF"))
  :READTABLE "XCL"
  :COMPILER :COMPILE-FILE)
(IL:PUTPROPS IL:READ-BDF IL:COPYRIGHT (IL:NONE))

```

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