

File created: 30-Sep-85 11:41:40 {ERIS}<LISPCORE>LIBRARY>PIXELBLT.;2

changes to: (FNS PIXELBLT)

previous date: 14-Jun-85 18:58:32 {ERIS}<LISPCORE>LIBRARY>PIXELBLT.;1

Read Table: OLD-INTERLISP-FILE

Package: INTERLISP

Format: XCCS

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(RPAQQ **PIXELBLTCOMS** ((FNS BLUE+YELLOW=GREEN PIXELBLT PIXELBLT.TABLEBUILDER SPECKLE TESTFN)
(VARS BLUECOLOR GREENCOLOR YELLOWCOLOR)))

(DEFINEQ

(**BLUE+YELLOW=GREEN**

[LAMBDA (SOURCE DEST XLO YLO) (* hdj "14-Jun-85 17:38")
(LET ((BLUECOLOR 1)
(YELLOWCOLOR 4)
(GREENCOLOR 2))
(if (OR (AND (EQ SOURCE BLUECOLOR)
(EQ DEST YELLOWCOLOR))
(AND (EQ SOURCE YELLOWCOLOR)
(EQ DEST BLUECOLOR)))
then GREENCOLOR
else SOURCE])

(**PIXELBLT**

[LAMBDA (COLORTABLE SOURCEBITMAP SOURCELEFT SOURCEBOTTOM DESTBITMAP DESTINATIONLEFT DESTINATIONBOTTOM WIDTH
HEIGHT) (* hdj "30-Sep-85 11:26")
(PROG ((REALWIDTH (OR WIDTH (BITMAPWIDTH SOURCEBITMAP)))
(REALHEIGHT (OR HEIGHT (BITMAPHEIGHT SOURCEBITMAP)))
(REALDESTINATIONLEFT (OR DESTINATIONLEFT 0))
(REALDESTINATIONBOTTOM (OR DESTINATIONBOTTOM 0))
(REALSOURCELEFT (OR SOURCELEFT 0))
(REALSOURCEBOTTOM (OR SOURCEBOTTOM 0))
VALID-SOURCE-REGION VALID-DEST-REGION)
(\DTEST REALWIDTH (QUOTE SMALLP))
(\DTEST REALHEIGHT (QUOTE SMALLP))
(\DTEST REALDESTINATIONLEFT (QUOTE SMALLP))
(\DTEST REALDESTINATIONBOTTOM (QUOTE SMALLP))
(\DTEST COLORTABLE (QUOTE ARRAYP))
(\DTEST SOURCEBITMAP (QUOTE BITMAP))
(\DTEST DESTBITMAP (QUOTE BITMAP))
(OR (AND (IGEQ REALSOURCELEFT 0)
(IGEQ REALSOURCEBOTTOM 0)
(IGEQ REALWIDTH 0)
(IGEQ REALHEIGHT 0)
(ILESSP REALSOURCELEFT (BITMAPWIDTH SOURCEBITMAP))
(ILESSP REALSOURCEBOTTOM (BITMAPHEIGHT SOURCEBITMAP))
(ILESSP REALDESTINATIONLEFT (BITMAPWIDTH DESTBITMAP))
(ILESSP REALDESTINATIONBOTTOM (BITMAPHEIGHT DESTBITMAP)))
(RETURN))
(SETQ VALID-SOURCE-REGION (INTERSECTREGIONS (CREATEREGION 0 0 (BITMAPWIDTH SOURCEBITMAP)
(BITMAPHEIGHT SOURCEBITMAP))
(CREATEREGION REALSOURCELEFT REALSOURCEBOTTOM REALWIDTH REALHEIGHT)))
(SETQ VALID-DEST-REGION (INTERSECTREGIONS (CREATEREGION 0 0 (BITMAPWIDTH DESTBITMAP)
(BITMAPHEIGHT DESTBITMAP))
(CREATEREGION REALDESTINATIONLEFT REALDESTINATIONBOTTOM REALWIDTH
REALHEIGHT)))
(NOT-PIXELBLT (fetch (ARRAYP BASE) of COLORTABLE)
SOURCEBITMAP REALSOURCELEFT REALSOURCEBOTTOM DESTBITMAP REALDESTINATIONLEFT
REALDESTINATIONBOTTOM (IMIN (fetch WIDTH of VALID-SOURCE-REGION)
(fetch WIDTH of VALID-DEST-REGION))
0
(IMIN (fetch HEIGHT of VALID-SOURCE-REGION)
(fetch HEIGHT of VALID-DEST-REGION)]

(**PIXELBLT.TABLEBUILDER**

[LAMBDA (FN) (* hdj "14-Jun-85 16:41")
(LET
((TABLE (ARRAY 256 (QUOTE WORD)
0 0 128)))
[for sourceNybble from 0 to 15
do (for destNybble from 0 to 15
do (for XLowBit from 0 to 1
do (for YLowBit from 0 to 1
do

(* The (LLSH ... (UNFOLD ...)) stuff below maps from (XLowBit YLowBit) into the position of the corresponding nybble in the value. Believe it or not, we are saying (0 0) -> LLSH 12, (1 0) -> LLSH 8,

(0 1) -> LLSH 4, (1 1) -> LLSH 0)

```

(LET ((ELEMENT (LOGOR (LLSH sourceNybble 4)
                      destNybble)))
      (SETA TABLE ELEMENT (LOGOR (ELT TABLE ELEMENT)
                                  (LLSH (APPLY* FN sourceNybble destNybble XLowBit
                                             YLowBit)
                                        (UNFOLD (IDIFFERENCE (IDIFFERENCE
                                                             3
                                                             (UNFOLD YLowBit 2))
                                                             XLowBit)
                                             4]

```

TABLE])

(SPECKLE

(* hdj "14-Jun-85 18:24")

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[LAMBDA (SOURCE DEST XLO YLO)
  (LET ((BLUECOLOR 1)
        (YELLOWCOLOR 4)
        (GREENCOLOR 2)
        (REDCOLOR 3))
    (if (OR (AND (ODDP XLO)
                 (EQ SOURCE YELLOWCOLOR)
                 (EQ DEST BLUECOLOR))
          (AND (ODDP XLO)
                 (EQ SOURCE BLUECOLOR)
                 (EQ DEST YELLOWCOLOR)))
        then YELLOWCOLOR
        elseif (OR (AND (EVENP XLO)
                         (EQ SOURCE YELLOWCOLOR)
                         (EQ DEST BLUECOLOR))
                   (AND (EVENP XLO)
                         (EQ SOURCE BLUECOLOR)
                         (EQ DEST YELLOWCOLOR)))
              then REDCOLOR
              else SOURCE])

```

(TESTFN

(* hdj "14-Jun-85 16:17")

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[LAMBDA (SOURCE DEST XLOW YLOW)
  (if (NEQ DEST 15)
      then SOURCE
      else DEST])

```

(RPAQQ BLUECOLOR 1)

(RPAQQ GREENCOLOR 2)

(RPAQQ YELLOWCOLOR 4)

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BLUE+YELLOW=GREEN	1	PIXELBLT.TABLEBUILDER	1	TESTFN	2
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VARIABLE INDEX

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