LBX X Consortium Algorithms

X Version 11, Release 7.7

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Introduction

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! # '
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Streaming Compression

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```
out[0] (length & 0xfff) >> 8 | ((compflag) ? 0x80 : 0);
out[1] = length & 0xff;
```

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Bitmap Compression

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Pixmap Compression

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Colormap Algorithm

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```
#define RESCALE(x, nbits) (x >> (16 - nbits)) * 65535 / ((1 << nbits) - 1)
#define GRAY(r, g, b) (30L * r + 59L * g + 11L * b) / 100

sigbits = pVisual->bitsPerRGB;
```

```
switch (pVisual->class) {
   case PseudoColor:
   case DirectColor:
   case StaticColor:
   /* rescale to rgb bits */
      *red = RESCALE(*red, sigbits);
      *green = RESCALE(*green, sigbits);
      *blue = RESCALE(*blue, sigbits);
      break;
   case GrayScale:
     /* rescale to gray then rgb bits */
     *blue = *green = *red = RESCALE(GRAY(*red, *green, *blue), sigbits);
      break;
   case StaticGray:
     /* rescale to gray then [0..limg] then [0..65535] then rgb bits */
     *blue = *green = *red = RESCALE(RESCALE(GRAY(*red, *green, *blue),
pVisual>numPixelBits), sigbits);
      break;
    case TrueColor:
      /* rescale to [0..limN] then [0..65535] then rgb bits */
      *red = RESCALE(RESCALE(*red, pVisual->numRedBits), sigbits);
      *green = RESCALE(RESCALE(*green, pVisual->numGreenBits), sigbits);
      *blue = RESCALE(RESCALE(*blue, pVisual->numBlueBits), sigbits);
      break;
  }
```

```
# !                                  &    '(
%        $     $          -      %  $ 3
```

```
error = errRed * errRed + errGreen * errGreen + errBlue * errBlue
```

```
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     $  %            '%   1 $       ( %
```

Extensions

```
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  #                  %   (        !
```