

**NAME**

foo2zjs-wrapper – Convert Postscript into a ZJS printer stream

**SYNOPSIS**

**foo2zjs-wrapper** [*options*] [*ps-file*]

**DESCRIPTION**

**foo2zjs-wrapper** is a Foomatic compatible printer wrapper for the **foo2zjs** printer driver. This script reads a Postscript *ps-file* or standard input and converts it to Zenographics ZjStream printer format for driving the Minolta/QMS 2300 DL network color laser printer and other Zenographics-based printers.

This script can be used in a standalone fashion, but is intended to be called from a printer spooler system which uses the Foomatic printer database.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Print in color (else monochrome).

**-C** *colormode*

Color correction mode [0].

- 0 Best compromise
- 1 Photos (using m2300w CRDs)
- 2 Photos and text (using m2300w CRDs)
- 3 Graphics and text (using m2300w CRDs)
- 10 ICM color profile (using -G \*.icm file)

**-d** *duplex*

Duplex code to send to printer [1].

| 1 off | 2 long edge | 3 short edge

**-m** *media*

Media code to send to printer [1].

Media	2300DL	2200DL
standard	1	1
transparency	2	2
envelope	257	na
letterhead	259	na
thick	261	4
postcard	262	na
labels	263	3

**-p** *paper*

Paper size code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5
20	env #10	27	env DL
28	env C5	34	env B5
37	env Monarch		

**-n** *copies*

Number of copies [1].

- r** *xresxyres*  
Set device resolution in pixels/inch [1200x600].
- s** *source*  
Source (Input Slot) code to send to printer [7].
 

1	upper	4	manual
2	lower	7	auto
- t** Draft mode. Every other pixel is white.
- 2 -3 -4 -5 -6 -8 -9 -10 -12 -14 -15 -16 -18**  
Print in N-up. Requires the **psutils** package.
- o** *orient*  
Orientation used for N-up.
 

Portrait	-op	(normal)
Landscape	-ol	(rotated 90 degrees anticlockwise)
Seascape	-os	(rotated 90 degrees clockwise)

### Printer Tweaking Options

These are the options used to customize the operation of **foo2zjs** for a particular printer.

- u** *xoffxyoff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.
- l** *xoffxyoff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.
- L** *mask*  
Send the logical clipping values from -u/-l in the ZjStream. **foo2zjs-wrapper** always runs Ghostscript with the ideal page dimensions, so that the scale of the image is correct, regardless whether or not the printer has unprintable regions. This option is used to move the position of the clipped image back to where it belongs on the page. The default is to send the amount which was clipped by -u and -l, and should be good in most cases.
  - 0 don't send any logical clipping amounts
  - 1 only send Y clipping amount
  - 2 only send X clipping amount
  - 3 send both X and Y clipping amounts
- P** Do not send START\_PLANE codes on monochrome output. May be needed by some monochrome-only printers, such as the HP LaserJet 1000.
- X** *padlen*  
Add extra zero padding to the end of BID segments. The default is 16 bytes. Padding 16 bytes of zeroes is needed for older ZjStream printers, such as the Minolta 2200DL and HP LaserJet 1000, and seems harmless to newer ones, such as the Minolta 2300DL. So the default should be good for all cases.
- z** *model*  
Model: 0=2300DL, 1=HP1020. Default is 0.

### Color Tweaking Options

These are the options used to control the quality of color output. Color correction is currently a WORK IN PROGRESS.

- g** *gsopts*  
Additional options to pass to Ghostscript, such as -g“-dDITHERPPI=nnn”, etc. This option may appear more than once.

**-G** *profile.icm*

Convert *profile.icm* to a Postscript color rendering dictionary (CRD) using **foo2zjs-icc2ps** and adjust the printer colors by using the Postscript **setcolorrendering** operator. (WORK IN PROGRESS).

**-G** *gamma-file.ps*

Prepend *gamma-file.ps* to the Postscript input to perform color correction using the **setcolortransfer** Postscript operator. For example, the file might contain:  
 {0.333 exp} {0.333 exp} {0.333 exp} {0.333 exp} setcolortransfer

**-I** *intent*

Select profile intent from the ICM file. 0=Perceptual, 1=Colorimetric, 2=Saturation, 3=Absolute. Default is 0 (perceptual).

**Debugging Options**

These options are used for debugging **foo2zjs** and its wrapper.

**-S** *plane*

Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

- 1 Cyan
- 2 Magenta
- 3 Yellow
- 4 Black

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Create a monochrome ZjStream from a Postscript document, examine it, and then print it using a RAW print queue:

```
foo2zjs-wrapper testpage.ps > testpage.zm
zjsdecode < testpage.zm
lpr -P raw testpage.zm
```

Create a color ZjStream stream from a Postscript document:

```
foo2zjs-wrapper -c testpage.ps > testpage.zc
```

**FILES**

**/usr/local/bin/foo2zjs-wrapper**

**SEE ALSO**

**foo2zjs(1)**, **zjsdecode(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2zjs.rkkda.com/>

**NAME**

foo2zjs – Convert Ghostscript pbmraw or bitcmk format into a ZJS printer stream

**SYNOPSIS**

**foo2zjs** [*options*] <*pbmraw-file*> >*zjs-file*

**foo2zjs** [*options*] <*bitcmk-file*> >*zjs-file*

**foo2zjs** [*options*] <*pksmraw-file*> >*zjs-file*

**DESCRIPTION**

**foo2zjs** converts Ghostscript pbmraw, bitcmk, or pksmraw output formats to monochrome or color ZJS streams, for driving the Minolta/QMS 2300 DL network color laser printer and other Zenographics-based printers.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Force color mode if autodetect doesn't work.

**-d** *duplex*

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
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**-g** *xpixxypix*

Set page dimensions in pixels [10200x6600].

**-m** *media*

Media code to send to printer [1].

Media	2300DL	2200DL
standard	1	1
transparency	2	2
envelope	257	na
letterhead	259	na
thick	261	4
postcard	262	na
labels	263	3

**-p** *paper*

Paper code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5
20	env #10	27	env DL
28	env C5	34	env B5
37	env Monarch		

**-n** *copies*

Number of copies [1].

**-r** *xresxyres*

Set device resolution in pixels/inch [1200x600].

**-s** *source*  
 Source (InputSlot) code to send to printer [7].

1	upper	4	manual
2	lower	7	auto

**-t** Draft mode. Every other pixel is white.

**-J** *filename*  
 Filename string to send to printer.

**-U** *username*  
 Username string to send to printer.

### Printer Tweaking Options

These are the options used to customize the operation of **foo2zjs** for a particular printer.

**-u** *xoff* *xyoff*  
 Set the offset of the start of the printable region from the upper left corner, in pixels [0x0].

**-l** *xoff* *xyoff*  
 Set the offset of the end of the printable region from the lower right corner, in pixels [0x0].

**-L** *mask*  
 Send logical clipping amounts implied by -u/-l in the ZjStream [3].

0	don't send any logical clipping amounts
1	only send Y clipping amount
2	only send X clipping amount
3	send both X and Y clipping amounts

**-P** Do not send START\_PLANE codes on monochrome output. May be needed by some black and white only printers, such as the HP LaserJet 1000.

**-A** AllIsBlack: convert C=1,M=1,Y=1 to just K=1. Works with bitcmymk input only.

**-B** BlackClears: K=1 forces C,M,Y to 0. Works with bitcmymk input only.

**-X** *padlen*  
 Add extra zero padding to the end of BID segments. The default is 16 bytes. Padding 16 bytes of zeroes is needed for older ZjStream printers, such as the Minolta 2200DL and HP LaserJet 1000, and seems harmless to newer ones, such as the Minolta 2300DL. So the default should be good for all cases.

**-z** *model*  
 Model: 0=2300DL, 1=HP1020. Default is 0.

### Debugging Options

These options are used for debugging **foo2zjs**.

**-S** *plane*  
 Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

1	Cyan
2	Magenta
3	Yellow
4	Black

**-D** *level*  
 Set Debug level [0].

### EXAMPLES

Create a black and white ZJS stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
```

```
-sPAPERSIZE=letter -r1200x600 -sDEVICE=pbmraw  
-sOutputFile=- - < testpage.ps  
| foo2zjs -r1200x600 -g10200x6600 -p1 >testpage.zm
```

Create a color ZJS stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE  
-sPAPERSIZE=letter -g10200x6600 -r1200x600 -sDEVICE=bitcmk  
-sOutputFile=- - < testpage.ps  
| foo2zjs -r1200x600 -g10200x6600 -p1 >testpage.zc
```

**FILES**

**/usr/local/bin/foo2zjs**

**SEE ALSO**

**foo2zjs-wrapper(1)**, **zjsdecode(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2zjs.rkkda.com/>

**NAME**

**zjsdecode** – Decode a ZjStream into human readable form.

**SYNOPSIS**

**zjsdecode** [*options*] <*zjs-file*

**DESCRIPTION**

**zjsdecode** decodes a ZjStream into human readable form.

A ZjStream is the printer language used by some Minolta/QMS and HP printers, such as the 2300DL and LJ-1000.

More information on Zenographics ZjStream can be found at:

<http://ddk.zeno.com>

**COMMAND LINE OPTIONS**

These are the options that can appear on the command line.

**-d** *basename*

Basename of .pbm file for saving decompressed planes.

**-r** *basename*

Basename of .jbg file for saving raw planes

**-h** Print hex file offsets.

**-o** Print file offsets.

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Decode an ZjStream file created by foo2zjs.

```
$ zjsdecode < testpage.zm
ZJT_START_DOC, 3 items
    ZJI_PAGECOUNT, 0 (0x0)
    ZJI_DMDUPLEX, 1 (0x1)
    ZJI_QUANTITY, 1 (0x1)
ZJT_START_PAGE, 17 items
    ZJI_0x17, 0 (0x0)
    ZJI_0x16, 1 (0x1)
    ZJI_VIDEO_X, 10200 (0x27d8)
    ZJI_VIDEO_Y, 6600 (0x19c8)
    ZJI_VIDEO_BPP, 1 (0x1)
    ZJI_RASTER_X, 10200 (0x27d8)
    ZJI_RASTER_Y, 6600 (0x19c8)
    ZJI_OFFSET_X, 0 (0x0)
    ZJI_OFFSET_Y, 0 (0x0)
    ZJI_NBIE, 1 (0x1)
    ZJI_RESOLUTION_X, 1200 (0x4b0)
    ZJI_RESOLUTION_Y, 600 (0x258)
    ZJI_DMDEFAULTSOURCE, 7 (0x7)
    ZJI_DMCOPIES, 1 (0x1)
    ZJI_DMPAPER, 1 (0x1)
    ZJI_DMEDIATYPE, 1 (0x1)
    ZJI_MINOLTA_PAGE_NUMBER, 1 (0x1)
```

```
ZJT_JBIG_BIH, 0 items
    Data: 20 bytes
        DL = 0, D = 0, P = 1, - = 0, XY = 10200 x 6600
        L0 = 128, MX = 16, MY = 0
        Order    = 3   ILEAVE SMID
        Options = 92   LRLTWO TPDON TPBON DPON
        52 stripes, 0 layers, 1 planes
ZJT_JBIG_BID, 0 items
    Data: 65536 bytes
ZJT_JBIG_BID, 0 items
    Data: 29120 bytes
ZJT_END_JBIG, 0 items
ZJT_END_PAGE, 0 items
ZJT_END_DOC, 0 items
```

**FILES**

**/usr/local/bin/zjsdecode**

**SEE ALSO**

**foo2zjs-wrapper(1), foo2zjs(1), jbg2pbm(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2zjs.rkkda.com/>



**NAME**

foo2oak-wrapper – Convert Postscript into an OAKT printer stream

**SYNOPSIS**

**foo2oak-wrapper** [*options*] [*ps-file*]

**DESCRIPTION**

**foo2oak-wrapper** is a Foomatic compatible printer wrapper for the **foo2oak** printer driver. This script reads a Postscript *ps-file* or standard input and converts it to Oak Technology OAKT printer format for driving the HP Color LaserJet 1500 laser printer and other OAKT-based printers.

This script can be used in a standalone fashion, but is intended to be called from a printer spooler system which uses the Foomatic printer database.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-b** *bits* Number of bits per plane (1 or 2) [1].

**-c** Print in color (else monochrome).

**-m** *media*

Media code to send to printer [1].

1	standard	259	letterhead
2	transparency	261	thickstock
3	glossy	262	postcard
257	envelope	263	labels

**-p** *paper*

Paper size code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5

**-n** *copies*

Number of copies [1].

**-r** *xresxyres*

Set device resolution in pixels/inch [600x600].

**-s** *source*

Source (Input Slot) code to send to printer [7].

1	upper	4	manual
7	auto		

**-2 -3 -4 -5 -6 -8 -9 -10 -12 -14 -15 -16 -18**

Print in N-up. Requires the **psutils** package.

**-o** *orient*

Orientation used for N-up.

Portrait	-op	(normal)
Landscape	-ol	(rotated 90 degrees anticlockwise)
Seascape	-os	(rotated 90 degrees clockwise)

**Printer Tweaking Options**

These are the options used to customize the operation of **foo2oak** for a particular printer.

**-u** *xoff* *xyoff*

Set the offset of the start of the printable region from the upper left corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

**-l** *xoff* *xyoff*

Set the offset of the end of the printable region from the lower right corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

**-L** *mask*

Send the logical clipping values from -u/-l in the OAKT stream. **foo2oak-wrapper** always runs Ghostscript with the ideal page dimensions, so that the scale of the image is correct, regardless whether or not the printer has unprintable regions. This option is used to move the position of the clipped image back to where it belongs on the page. The default is to send the amount which was clipped by -u and -l, and should be good in most cases.

0 don't send any logical clipping amounts

1 only send Y clipping amount

2 only send X clipping amount

3 send both X and Y clipping amounts

**Color Tweaking Options**

These are the options used to control the quality of color output. Color correction is currently a WORK IN PROGRESS.

**-g** *gsopts*

Additional options to pass to Ghostscript, such as -g“-dDITHERPPI=nnn”, etc. This option may appear more than once.

**-G** *profile.icm*

Convert *profile.icm* to a Postscript color rendering dictionary (CRD) using **foo2zjs-icc2ps** and adjust the printer colors by using the Postscript **setcolorrendering** operator. (WORK IN PROGRESS).

**-G** *gamma-file.ps*

Prepend *gamma-file.ps* to the Postscript input to perform color correction using the **setcolortransfer** Postscript operator. For example, the file might contain:  
{0.333 exp} {0.333 exp} {0.333 exp} {0.333 exp} setcolortransfer

**-I** *intent*

Select profile intent from the ICM file. 0=Perceptual, 1=Colorimetric, 2=Saturation, 3=Absolute. Default is 0 (perceptual).

**Debugging Options**

These options are used for debugging **foo2oak** and its wrapper.

**-S** *plane*

Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

1 Cyan

2 Magenta

3 Yellow

4 Black

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Create a monochrome OAKT stream from a Postscript document, examine it, and then print it using a RAW print queue:

```
foo2oak-wrapper testpage.ps > testpage.oak
oakdecode < testpage.oak
lpr -P raw testpage.oak
```

Create a color OAKT stream from a Postscript document:

```
foo2oak-wrapper -c testpage.ps > testpage.oak
```

**FILES**

**/usr/local/bin/foo2oak-wrapper**

**SEE ALSO**

**foo2oak(1), oak(1)**

**AUTHOR**

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<http://foo2oak.rkkda.com/>

**NAME**

foo2oak – Convert Ghostscript pbmraw, pgmraw or bitcmk format into an OAKT printer stream

**SYNOPSIS**

**foo2oak** [*options*] <*pbmraw-file*> *OAKT-file*

**foo2oak** [*options*] <*pgmraw-file*> *OAKT-file*

**foo2oak** [*options*] <*bitcmk-file*> *OAKT-file*

**DESCRIPTION**

**foo2oak** converts Ghostscript pbmraw or bitcmk output formats to monochrome or color OAKT streams, for driving the HP color Laserjet 1500 laser printer and other OAKT-based printers.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Force color mode if autodetect doesn't work.

**-g** *xpixxypix*  
Set page dimensions in pixels [10200x6600].

**-m** *media*  
Media code to send to printer [1].

1	standard	259	letterhead
2	transparency	261	thickstock
3	glossy	262	postcard
257	envelope	263	labels

**-p** *paper*  
Paper code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5

**-n** *copies*  
Number of copies [1].

**-r** *xresxyres*  
Set device resolution in pixels/inch [600x600].

**-s** *source*  
Source (InputSlot) code to send to printer [7].

1	tray1	4	manual
7	auto		

**-J** *filename*  
Filename string to send to printer.

**-U** *username*  
Username string to send to printer.

**Printer Tweaking Options**

These are the options used to customize the operation of **foo2oak** for a particular printer.

- u** *xoff* **x** *yoff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [0x0].
- l** *xoff* **x** *yoff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [0x0].
- L** *mask*  
Send logical clipping amounts implied by -u/-l in the OAKT stream [3].
  - 0 don't send any logical clipping amounts
  - 1 only send Y clipping amount
  - 2 only send X clipping amount
  - 3 send both X and Y clipping amounts
- A** Turn off: conversion of C=1,M=1,Y=1 to pure black.
- B** Turn off: K=1 forces C,M,Y to 0.

### Debugging Options

These options are used for debugging **foo2oak**.

- S** *plane*  
Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.
  - 1 Cyan
  - 2 Magenta
  - 3 Yellow
  - 4 Black
- D** *level*  
Set Debug level [0].

### EXAMPLES

Create a black and white OAKT stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -r600x600 -sDEVICE=pbmraw
-sOutputFile=- - < testpage.ps
| foo2oak -r600x600 -g5100x6600 -p1 >testpage.oak
```

Create a color OAKT stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -g5100x6600 -r600x600 -sDEVICE=bitcmk
-sOutputFile=- - < testpage.ps
| foo2oak -r600x600 -g5100x6600 -p1 >testpage.oak
```

### FILES

**/usr/local/bin/foo2oak**

### SEE ALSO

**foo2oak-wrapper(1)**, **oakdecode(1)**

### AUTHOR

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2oak.rkkda.com/>

**NAME**

oakdecode – Decode an OAKT printer stream into human readable form.

**SYNOPSIS**

**oakdecode** [*options*] <*OAKT-file*

**DESCRIPTION**

**oakdecode** decodes an OAKT printer stream into human readable form.

An OAKT printer stream is the printer language used by the HP Color LaserJet 1500 and other printers.

**COMMAND LINE OPTIONS**

These are the options that can appear on the command line.

**-d** *basename*

Basename of .pbm file for saving decompressed planes.

**-r** *basename*

Basename of .jbg file for saving raw planes

**-i** Suppress display of image records.

**-o** Print file offsets.

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Decode an OAKT file created by foo2oak.

```
$ oakdecode < testpage.oak
0d (80) 1 OTHER
0c (64) Wed Nov 05 16:30:50 2003          a07d3    100005    32001e
0a (80) testpage.pdf
14 (16) (no args)
28 (16) Source=Tray1
29 (80) PaperType=0 UNK8=2,0,0,0, blanks(63)
2a (32) Copies=1          UNK=0
2b (32) papercode=25      xwid=4648          ywid=9000          UNK=0
33 (64)
      u0      u1      w      h      resx      resy      nBits
      x0      x0      2128    4300    600      600      x1
15 (16) (no args)
      bih0      w      h      l0      bih5      dlen      plen      unk      yOff      P      subP
3c (64) 00010000 2176 256 256 58030020 1050 1056 000 64 3 0
      DL = 0, D = 0, P = 1, - = 0, XY = 2176 x 256
      L0 = 256, MX = 32, MY = 0
      Order = 3 ILEAVE SMID
      Options = 88 LRLTWO TPDON TPBON
      1 stripes, 0 layers, 1 planes
3c (64) 00010000 2176 256 256 58030020 3668 3680 000 320 3 0
3c (64) 00010000 2176 256 256 58030020 1463 1472 000 640 3 0
3c (64) 00010000 2176 256 256 58030020 1975 1984 000 896 3 0
3c (64) 00010000 2176 224 224 58030020 2744 2752 000 1152 3 0
3c (64) 00010000 2176 256 256 58030020 988 992 000 1440 3 0
3c (64) 00010000 2176 256 256 58030020 2892 2896 000 1696 3 0
3c (64) 00010000 2176 256 256 58030020 3634 3648 000 1952 3 0
```

oakdecode(1)

oakdecode(1)

```
3c (64) 00010000 2176 256 256 58030020 3236 3248 000 2208 3 0
3c (64) 00010000 2176 256 256 58030020 2279 2288 000 2464 3 0
3c (64) 00010000 2176 256 256 58030020 3746 3760 000 2720 3 0
3c (64) 00010000 2176 200 200 58030020 2404 2416 000 2976 3 0
3c (64) 00010000 2176 256 256 58030020 3114 3120 000 3240 3 0
3c (64) 00010000 2176 96 96 58030020 1142 1152 000 3496 3 0
3c (64) 00010000 2176 256 256 58030020 2094 2112 000 3752 3 0
3c (64) 00010000 2176 256 256 58030020 1319 1328 000 4008 3 0
3c (64) 00010000 2176 36 36 58030020 208 224 000 4264 3 0
17 (16) (no args)
18 (16) UNK=0
0b (16) (no args)
```

## FILES

**/usr/local/bin/oakdecode**

## SEE ALSO

**foo2oak-wrapper(1), foo2oak(1), jbg2pbm(1)**

## AUTHOR

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2oak.rkkda.com/>

**NAME**

foo2hp2600-wrapper – Convert Postscript into a ZJS printer stream

**SYNOPSIS**

**foo2hp2600-wrapper** [*options*] [*ps-file*]

**DESCRIPTION**

**foo2hp2600-wrapper** is a Foomatic compatible printer wrapper for the **foo2hp** printer driver. This script reads a Postscript *ps-file* or standard input and converts it to Zenographics ZjStream printer format for driving the Hewlett-Packard 2600n color laser printer and other Zenographics-based printers.

This script can be used in a standalone fashion, but is intended to be called from a printer spooler system which uses the Foomatic printer database.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-b** *bits* Number of bits per plane. 1 or 2. [1].

**-c** Print in color (else monochrome).

**-d** *duplex*

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
---	-----	---	-----------	---	------------

**-m** *media*

Media code to send to printer [1].

Media	HPLJ 2600n
plain	1
preprinted	514
letterhead	513
transparency	2
prepunched	515
labels	265
bond	260
recycled	516
color	512
tough	276
envelope	267
light	258
heavy	262
cardstock	261
lightglossy	268
glossy	269
heavyglossy	270
cover	277
photo	278

**-p** *paper*

Paper size code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5jis



20	env #10	27	env DL
28	env C5	34	env B5
37	env Monarch		

**-n** *copies*

Number of copies [1].

**-r** *xresxyres*

Set device resolution in pixels/inch [1200x600].

**-s** *source*

Source (Input Slot) code to send to printer [7].

1	tray 2	4	manual/tray 1
2	tray 3	7	auto

**-t** Draft mode. Every other pixel is white.**-2 -3 -4 -5 -6 -8 -9 -10 -12 -14 -15 -16 -18**

Print in N-up. Requires the **psutils** package.

**-o** *orient*

Orientation used for N-up.

Portrait -op (normal)

Landscape -ol (rotated 90 degrees anticlockwise)

Seascape -os (rotated 90 degrees clockwise)

**Printer Tweaking Options**

These are the options used to customize the operation of **foo2hp** for a particular printer.

**-u** *xoffxyoff*

Set the offset of the start of the printable region from the upper left corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

**-l** *xoffxyoff*

Set the offset of the end of the printable region from the lower right corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

**-L** *mask*

Send the logical clipping values from -u/-l in the ZjStream. **foo2hp2600-wrapper** always runs Ghostscript with the ideal page dimensions, so that the scale of the image is correct, regardless whether or not the printer has unprintable regions. This option is used to move the position of the clipped image back to where it belongs on the page. The default is to send the amount which was clipped by -u and -l, and should be good in most cases.

- 0 don't send any logical clipping amounts
- 1 only send Y clipping amount
- 2 only send X clipping amount
- 3 send both X and Y clipping amounts

**-P** Do not send START\_PLANE codes on monochrome output. May be needed by some monochrome-only printers, such as the HP LaserJet 1000.**-X** *padlen*

Add extra zero padding to the end of BID segments. The default is 16 bytes. Padding 16 bytes of zeroes is needed for older ZjStream printers, such as the Minolta 2200DL and HP LaserJet 1000, and seems harmless to newer ones, such as the Minolta 2300DL. So the default should be good for all cases.

**Color Tweaking Options**

These are the options used to control the quality of color output. Color correction is currently a WORK IN PROGRESS.

**-g** *gsopts*

Additional options to pass to Ghostscript, such as `-g“-dDITHERPPI=nnn”`, etc. This option may appear more than once.

**-G** *profile.icm*

Convert *profile.icm* to a Postscript color rendering dictionary (CRD) using **foo2zjs-icc2ps** and adjust the printer colors by using the Postscript **setcolorrendering** operator. If *profile.icm* is *none.icm*, then prepare for ordering a ICM custom printer profile (i.e. from [www.ICCFactory.com](http://www.ICCFactory.com)).

**-G** *gamma-file.ps*

Prepend *gamma-file.ps* to the Postscript input to perform color correction using the **setcolortransfer** Postscript operator. For example, the file might contain:

```
{0.333 exp} {0.333 exp} {0.333 exp} {0.333 exp} setcolortransfer
```

**-I** *intent*

Select profile intent from the ICM file. 0=Perceptual, 1=Colorimetric, 2=Saturation, 3=Absolute. Default is 0 (perceptual).

**Debugging Options**

These options are used for debugging **foo2hp** and its wrapper.

**-S** *plane*

Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

- 1 Cyan
- 2 Magenta
- 3 Yellow
- 4 Black

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Create a monochrome ZjStream from a Postscript document, examine it, and then print it using a RAW print queue:

```
foo2hp2600-wrapper testpage.ps > testpage.zm
zjsdecode < testpage.zm
lpr -P raw testpage.zm
```

Create a color ZjStream stream from a Postscript document:

```
foo2hp2600-wrapper -c testpage.ps > testpage.zc
```

**FILES**

**/usr/local/bin/foo2hp2600-wrapper**

**SEE ALSO**

**foo2hp(1)**, **zjsdecode(1)**

**AUTHOR**

Rick Richardson <[rick.richardson@comcast.net](mailto:rick.richardson@comcast.net)>  
<http://foo2hp.rkkda.com/>

**NAME**

foo2hp – Convert Ghostscript pbmraw or bitcmk format into a ZJS printer stream

**SYNOPSIS**

**foo2hp** [*options*] <*pbmraw-file*> *zjs-file*

**foo2hp** [*options*] <*bitcmk-file*> *zjs-file*

**foo2hp** [*options*] <*cups-file*> *zjs-file*

**DESCRIPTION**

**foo2hp** converts Ghostscript pbmraw, bitcmk, or cups output formats to monochrome or color ZJS streams, for driving the Hewlett-Packard 2600n color laser printer and other Zenographics-based printers.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-b** *bits* Bits per plane if autodetect doesn't work (1 or 2) [1].

**-c** Force color mode if autodetect doesn't work.

**-d** *duplex*

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
---	-----	---	-----------	---	------------

**-g** *xpixxypix*

Set page dimensions in pixels [10200x6600].

**-m** *media*

Media code to send to printer [1].

Media	HPLJ 2600n
plain	1
preprinted	514
letterhead	513
transparency	2
prepunched	515
labels	265
bond	260
recycled	516
color	512
tough	276
envelope	267
light	258
heavy	262
cardstock	261
lightglossy	268
glossy	269
heavyglossy	270
cover	277
photo	278

**-p** *paper*

Paper code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5jis
20	env #10	27	env DL
28	env C5	34	env B5
37	env Monarch		

- n** *copies*  
Number of copies [1].
- r** *xresxyres*  
Set device resolution in pixels/inch [600x600].
- s** *source*  
Source (InputSlot) code to send to printer [7].
 

1	tray 2	7	auto
2	tray 1		
- t** Draft mode. Every other pixel is white.
- J** *filename*  
Filename string to send to printer.
- U** *username*  
Username string to send to printer.

### Printer Tweaking Options

These are the options used to customize the operation of **foo2hp** for a particular printer.

- u** *xoffxyoff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [0x0].
- l** *xoffxyoff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [0x0].
- L** *mask*  
Send logical clipping amounts implied by -u/-l in the ZjStream [3].
  - 0 don't send any logical clipping amounts
  - 1 only send Y clipping amount
  - 2 only send X clipping amount
  - 3 send both X and Y clipping amounts
- P** Do not send START\_PLANE codes on monochrome output. May be needed by some black and white only printers, such as the HP LaserJet 1000.
- A** AllIsBlack: convert C=1,M=1,Y=1 to just K=1. Works with bitcmk input only.
- B** BlackClears: K=1 forces C,M,Y to 0. Works with bitcmk input only.
- X** *padlen*  
Add extra zero padding to the end of BID segments. The default is 16 bytes.

### Debugging Options

These options are used for debugging **foo2hp**.

- S** *plane*  
Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.
  - 1 Cyan
  - 2 Magenta
  - 3 Yellow
  - 4 Black

**-D** *level*

Set Debug level [0].

## EXAMPLES

Create a black and white ZJS stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -r600x600 -sDEVICE=pbmraw
-sOutputFile=- - < testpage.ps
| foo2hp -r600x600 -g5100x6600 -p1 >testpage.zm
```

Create a color ZJS stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -g5100x6600 -r600x600 -sDEVICE=bitcmk
-sOutputFile=- - < testpage.ps
| foo2hp -r600x600 -g5100x6600 -p1 >testpage.zc
```

## FILES

**/usr/local/bin/foo2hp**

## SEE ALSO

**foo2hp2600-wrapper(1)**, **zjsdecode(1)**

## AUTHOR

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2hp.rkkda.com/>

**NAME**

foo2xqx-wrapper – Convert Postscript into a XQX printer stream

**SYNOPSIS**

**foo2xqx-wrapper** [*options*] [*ps-file*]

**DESCRIPTION**

**foo2xqx-wrapper** is a Foomatic compatible printer wrapper for the **foo2xqx** printer driver. This script reads a Postscript *ps-file* or standard input and converts it to XQX printer format for driving the HP LaserJet M1005 MFP and other XQX-based printers.

This script can be used in a standalone fashion, but is intended to be called from a printer spooler system which uses the Foomatic printer database.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-d duplex**

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
---	-----	---	-----------	---	------------

**-m media**

Media code to send to printer [1].

Media	M1005
standard	1
transparency	2
envelope	257
letterhead	259
thick	261
postcard	262
labels	263

**-p paper**

Paper size code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5
20	env #10	27	env DL
28	env C5	34	env B5
37	env Monarch		

**-n copies**

Number of copies [1].

**-r xresxyres**

Set device resolution in pixels/inch [1200x600].

**-s source**

Source (Input Slot) code to send to printer [7].

1	upper	4	manual
2	lower	7	auto

**-t** Draft mode. Every other pixel is white.

**-2 -3 -4 -5 -6 -8 -9 -10 -12 -14 -15 -16 -18**

Print in N-up. Requires the **psutils** package.

**-o** *orient*

Orientation used for N-up.

Portrait      -op      (normal)

Landscape    -ol      (rotated 90 degrees anticlockwise)

Seascape     -os      (rotated 90 degrees clockwise)

### Printer Tweaking Options

These are the options used to customize the operation of **foo2xqx** for a particular printer.

**-u** *xoff* *xyoff*

Set the offset of the start of the printable region from the upper left corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

**-l** *xoff* *xyoff*

Set the offset of the end of the printable region from the lower right corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

**-L** *mask*

Send the logical clipping values from -u/-l in the ZjStream. **foo2xqx-wrapper** always runs Ghostscript with the ideal page dimensions, so that the scale of the image is correct, regardless whether or not the printer has unprintable regions. This option is used to move the position of the clipped image back to where it belongs on the page. The default is to send the amount which was clipped by -u and -l, and should be good in most cases.

0    don't send any logical clipping amounts

1    only send Y clipping amount

2    only send X clipping amount

3    send both X and Y clipping amounts

### Debugging Options

These options are used for debugging **foo2xqx** and its wrapper.

**-D** *level*

Set Debug level [0].

### EXAMPLES

Create a monochrome ZjStream from a Postscript document, examine it, and then print it using a RAW print queue:

```
foo2xqx-wrapper testpage.ps > testpage.xqx
xqxdecode < testpage.xqx
lpr -P raw testpage.xqx
```

### FILES

**/usr/local/bin/foo2xqx-wrapper**

### SEE ALSO

**foo2xqx(1)**, **xqxdecode(1)**

### AUTHOR

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2xqx.rkkda.com/>

**NAME**

foo2xqx – Convert Ghostscript pbmraw into a XQX printer stream

**SYNOPSIS**

**foo2xqx** [*options*] <*pbmraw-file*> *xqx-file*

**DESCRIPTION**

**foo2xqx** converts Ghostscript pbmraw to monochrome XQX streams, for driving the HP LaserJet M1005 MFP and other XQX-based printers.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-d duplex**

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
---	-----	---	-----------	---	------------

**-g xpixxypix**

Set page dimensions in pixels [10200x6600].

**-m media**

Media code to send to printer [1].

Media	M1005
standard	1
transparency	2
envelope	257
letterhead	259
thick	261
postcard	262
labels	263

**-p paper**

Paper code to send to printer [1].

1	letter	9	A4
5	legal	11	A5
7	executive	13	B5
20	env #10	27	env DL
28	env C5	34	env B5
37	env Monarch		

**-n copies**

Number of copies [1].

**-r xresxyres**

Set device resolution in pixels/inch [1200x600].

**-s source**

Source (InputSlot) code to send to printer [7].

1	upper	4	manual
2	lower	7	auto

**-t** Draft mode. Every other pixel is white.**-J filename**

Filename string to send to printer.



**-U** *username*

Username string to send to printer.

### Printer Tweaking Options

These are the options used to customize the operation of **foo2xqx** for a particular printer.

**-u** *xoff* **x** *yoff*

Set the offset of the start of the printable region from the upper left corner, in pixels [0x0].

**-l** *xoff* **x** *yoff*

Set the offset of the end of the printable region from the lower right corner, in pixels [0x0].

**-L** *mask*

Send logical clipping amounts implied by -u/-l in the ZjStream [3].

0 don't send any logical clipping amounts

1 only send Y clipping amount

2 only send X clipping amount

3 send both X and Y clipping amounts

**-A** AllIsBlack: convert C=1,M=1,Y=1 to just K=1. Works with bitcmk input only.

**-B** BlackClears: K=1 forces C,M,Y to 0. Works with bitcmk input only.

### Debugging Options

These options are used for debugging **foo2xqx**.

**-S** *plane*

Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

1 Cyan

2 Magenta

3 Yellow

4 Black

**-D** *level*

Set Debug level [0].

### EXAMPLES

Create a black and white XQX stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -r1200x600 -sDEVICE=pbmraw
-sOutputFile=- - < testpage.ps
| foo2xqx -r1200x600 -g10200x6600 -p1 >testpage.zm
```

### FILES

**/usr/local/bin/foo2xqx**

### SEE ALSO

**foo2xqx-wrapper(1)**, **xqxdecode(1)**

### AUTHOR

Rick Richardson <rick.richardson@comcast.net>

<http://foo2xqx.rkkda.com/>

**NAME**

xqxdecode – Decode a XQX stream into human readable form.

**SYNOPSIS**

**xqxdecode** [*options*] <*xqx-file*

**DESCRIPTION**

**xqxdecode** decodes a XQX stream into human readable form.

An XQX stream is the printer language used by some HP LaserJet printers, such as the HP LaserJet M1005 (MFP).

**COMMAND LINE OPTIONS**

These are the options that can appear on the command line.

**-d** *basename*

*Basename* of .pbm file for saving decompressed planes.

**-h**      Print hex file offsets.

**-o**      Print file offsets.

**-D** *level*

    Set Debug level [0].

**EXAMPLES**

Decode an XQX stream file created by foo2xqx.

```
$ xqxdecode -h < testpage.xm
0: \033%-12345X@PJL JOB
12: @PJL SET JAMRECOVERY=OFF
2b: @PJL SET DENSITY=3
3e: @PJL SET ECONOMODE=OFF
55: @PJL SET RET=MEDIUM
69: @PJL INFO STATUS
7a: @PJL USTATUS DEVICE = ON
93: @PJL USTATUS JOB = ON
a9: @PJL USTATUS PAGE = ON
c0: @PJL USTATUS TIMED = 30
10c: @PJL SET JOBATTR="JobAttr4=20061118160242"
10c: XQX_MAGIC, 0x5851582c (,XQX)
110: XQX_START_DOC(1), 7 items
118:         XQX_0x80000000, 84 (0x54)
124:         XQX_0x10000005, 1 (0x1)
130:         XQX_0x10000001, 0 (0x0)
13c:         XQXI_DMDUPLEX, 0 (0x0)
148:         XQX_0x10000000, 0 (0x0)
154:         XQX_0x10000003, 1 (0x1)
160:         XQXI_END, 3735928559 (0xdeadbeef)
16c: XQX_START_PAGE(3), 15 items [Page 1]
174:         XQX_0x80000000, 180 (0xb4)
180:         XQX_0x20000005, 1 (0x1)
18c:         XQXI_DMDEFAULTSOURCE, 7 (0x7)
198:         XQXI_DMEDIATYPE, 1 (0x1)
1a4:         XQX_0x20000007, 1 (0x1)
1b0:         XQXI_RESOLUTION_X, 600 (0x258)
```

```

1bc:      XQXI_RESOLUTION_Y, 600 (0x258)
1c8:      XQXI_RASTER_X, 9856 (0x2680)
1d4:      XQXI_RASTER_Y, 6432 (0x1920)
1e0:      XQXI_VIDEO_BPP, 2 (0x2)
1ec:      XQXI_VIDEO_X, 4923 (0x133b)
1f8:      XQXI_VIDEO_Y, 6432 (0x1920)
204:      XQXI_ECONOMODE, 0 (0x0)
210:      XQX_0x20000001, 1 (0x1)
21c:      XQXI_END, 3735928559 (0xdeadbeef)
228: XQX_START_PLANE(5), 4 items
230:      XQX_0x80000000, 64 (0x40)
23c:      XQX_0x40000000, 0 (0x0)
248:      XQXI_BIH(0x40000002)
          DL = 0, D = 0, P = 1, - = 0, XY = 9856 x 6432
          L0 = 128, MX = 16, MY = 0
          Order = 3 ILEAVE SMID
          Options = 92 LRLTWO TPDON TPBON DPON
          51 stripes, 0 layers, 1 planes

264:      XQXI_END, 3735928559 (0xdeadbeef)
270: XQX_JBIG(7), 110 items
2e6: XQX_END_PLANE(6), 0 items
2ee: XQX_END_PAGE(4), 0 items
2f6: XQX_END_DOC(2), 0 items
Total size: 110 bytes
0: \033%-12345X@PJL EOJ
12: \033%-12345X

```

**FILES**

/usr/local/bin/xqxdecode

**SEE ALSO**

foo2xqx-wrapper(1), foo2xqx(1)

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2xqx.rkkda.com/>

**NAME**

foo2lava-wrapper – Convert Postscript into a LAVAFLOW or OPL printer stream

**SYNOPSIS**

**foo2lava-wrapper** [*options*] [*ps-file*]

**DESCRIPTION**

**foo2lava-wrapper** is a Foomatic compatible printer wrapper for the **foo2lava** printer driver. This script reads a Postscript *ps-file* or standard input and converts it to Zenographics LAVAFLOW printer format for driving the Konica Minolta magicolor 2530 DL network color laser printer, the Konica Minolta magicolor 2480/2490 MF AIO printer, and other Zenographics-based LAVAFLOW printers.

This script can be used in a standalone fashion, but is intended to be called from a printer spooler system which uses the Foomatic printer database.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Print in color (else monochrome).

**-C** *colormode*

Color correction mode [0].

- 0 Best compromise
- 1 Photos (using m2300w CRDs)
- 2 Photos and text (using m2300w CRDs)
- 3 Graphics and text (using m2300w CRDs)
- 10 ICM color profile (using -G \*.icm file)

**-d** *duplex*

Duplex code to send to printer [1].

| 1 off | 2 long edge | 3 short edge

**-m** *media*

Media code to send to printer [0].

Media	2530DL
plain	0
transparency	4
thick stock	20
envelope	22
letterhead	23
postcard	25
labels	26
recycled	27

**-p** *paper*

Paper size code to send to printer [2].

1	executive	25	A5
2	letter	26	A4
3	legal	45	B5jis
80	env Monarch	65	B5iso
81	env #10	90	env DL
91	env C5	92	env B5
835	4x6" photo	837	10x15cm photo

- n** *copies*  
Number of copies [1].
- r** *xresxyres*  
Set device resolution in pixels/inch [1200x600].
- s** *source*  
Source (Input Slot) code to send to printer [255].  

1	Tray 1	255	auto
4	Tray 2		
- t** Draft mode. Every other pixel is white.
- 2 -3 -4 -5 -6 -8 -9 -10 -12 -14 -15 -16 -18**  
Print in N-up. Requires the **psutils** package.
- o** *orient*  
Orientation used for N-up.  

Portrait	-op	(normal)
Landscape	-ol	(rotated 90 degrees anticlockwise)
Seascape	-os	(rotated 90 degrees clockwise)

### Printer Tweaking Options

These are the options used to customize the operation of **foo2lava** for a particular printer.

- u** *xoffxyoff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.
- l** *xoffxyoff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.
- L** *mask*  
Send the logical clipping values from -u/-l in the LAVAFLow stream. **foo2lava-wrapper** always runs Ghostscript with the ideal page dimensions, so that the scale of the image is correct, regardless whether or not the printer has unprintable regions. This option is used to move the position of the clipped image back to where it belongs on the page. The default is to send the amount which was clipped by -u and -l, and should be good in most cases.  

0	don't send any logical clipping amounts
1	only send Y clipping amount
2	only send X clipping amount
3	send both X and Y clipping amounts
- z** *model*  
Model: 0=2530DL (lavafLOW) or 1=2480MF (opl). Default is 0.

### Color Tweaking Options

These are the options used to control the quality of color output. Color correction is currently a WORK IN PROGRESS.

- g** *gsopts*  
Additional options to pass to Ghostscript, such as -g“-dDITHERPPI=nnn”, etc. This option may appear more than once.
- G** *profile.icm*  
Convert *profile.icm* to a Postscript color rendering dictionary (CRD) using **foo2zjs-icc2ps** and adjust the printer colors by using the Postscript **setcolorrendering** operator. (WORK IN PROGRESS).

**-G** *gamma-file.ps*

Prepend *gamma-file.ps* to the Postscript input to perform color correction using the **setcolortransfer** Postscript operator. For example, the file might contain:  
 {0.333 exp} {0.333 exp} {0.333 exp} {0.333 exp} setcolortransfer

**-I** *intent*

Select profile intent from the ICM file. 0=Perceptual, 1=Colorimetric, 2=Saturation, 3=Absolute. Default is 0 (perceptual).

**Debugging Options**

These options are used for debugging **foo2lava** and its wrapper.

**-S** *plane*

Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

- 1 Cyan
- 2 Magenta
- 3 Yellow
- 4 Black

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Create a monochrome LAVAFLOW stream from a Postscript document, examine it, and then print it using a RAW print queue:

```
foo2lava-wrapper testpage.ps > testpage.zm
lavadecode < testpage.zm
lpr -P raw testpage.zm
```

Create a color LAVAFLOW stream from a Postscript document:

```
foo2lava-wrapper -c testpage.ps > testpage.zc
```

**FILES**

**/usr/local/bin/foo2lava-wrapper**

**SEE ALSO**

**foo2lava(1)**, **lavadecode(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2zjs.rkkda.com/>

**NAME**

foo2lava – Convert Ghostscript pbmraw or bitcmk format into a LAVAFLOW or a OPL printer stream

**SYNOPSIS**

**foo2lava** [*options*] <*pbmraw-file*> *lava-file*

**foo2lava** [*options*] <*bitcmk-file*> *lava-file*

**foo2lava** [*options*] <*pksmraw-file*> *lava-file*

**DESCRIPTION**

**foo2lava** converts Ghostscript pbmraw, bitcmk, or pksmraw output formats to monochrome or color LAVAFLOW or OPL streams, for driving the Konica Minolta magicolor 2530 DL network color laser printer, the Konica Minolta magicolor 2480/2480 MF AIO printer, and other Zenographics-based LAVAFLOW printers.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Force color mode if autodetect doesn't work.

**-d duplex**

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
---	-----	---	-----------	---	------------

**-g xpixxypix**

Set page dimensions in pixels [10200x6600].

**-m media**

Media code to send to printer [0].

Media	2530DL
plain	0
transparency	4
thick stock	20
envelope	22
letterhead	23
postcard	25
labels	26
recycled	27

**-p paper**

Paper code to send to printer [2].

1	executive	25	A5
2	letter	26	A4
3	legal	45	B5jis
80	env Monarch	65	B5iso
81	env #10	90	env DL
91	env C5	92	env C6
835	4x6" photo	837	10x15cm photo

**-n copies**

Number of copies [1].

- r** *xresxyres*  
Set device resolution in pixels/inch [1200x600].
- s** *source*  
Source (InputSlot) code to send to printer [255].  

1	Tray 1	255	auto
4	Tray 2		
- t** Draft mode. Every other pixel is white.
- J** *filename*  
Filename string to send to printer.
- U** *username*  
Username string to send to printer.

### Printer Tweaking Options

These are the options used to customize the operation of **foo2lava** for a particular printer.

- u** *xoffxyoff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [0x0].
- l** *xoffxyoff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [0x0].
- L** *mask*  
Send logical clipping amounts implied by -u/-l in the LAVAFLow stream [3].  
  - 0 don't send any logical clipping amounts
  - 1 only send Y clipping amount
  - 2 only send X clipping amount
  - 3 send both X and Y clipping amounts
- A** AllIsBlack: convert C=1,M=1,Y=1 to just K=1. Works with bitcmYk input only.
- B** BlackClears: K=1 forces C,M,Y to 0. Works with bitcmYk input only.
- z** *model*  
Model: 0=2530DL (lavafLOW) or 1=2480MF (opl). Default is 0.

### Debugging Options

These options are used for debugging **foo2lava**.

- S** *plane*  
Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.  
  - 1 Cyan
  - 2 Magenta
  - 3 Yellow
  - 4 Black
- D** *level*  
Set Debug level [0].

### EXAMPLES

Create a black and white LAVAFLow stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -r1200x600 -sDEVICE=pbmraw
-sOutputFile=- - < testpage.ps
| foo2lava -r1200x600 -g10200x6600 -p1 >testpage.zm
```

Create a color LAVAFLow stream:



```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -g10200x6600 -r1200x600 -sDEVICE=bitcmk
-sOutputFile=- - < testpage.ps
| foo2lava -r1200x600 -g10200x6600 -p1 >testpage.zc
```

**FILES**

**/usr/local/bin/foo2lava**

**SEE ALSO**

**foo2lava-wrapper(1), lavadecode(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.com>  
<http://foo2zjs.rkkda.com/>

**NAME**

lavadecode – Decode a LAVAFLOW stream into human readable form.

**SYNOPSIS**

**lavadecode** [*options*] <*lavaflow-file*

**DESCRIPTION**

**lavadecode** decodes a LAVAFLOW stream into human readable form.

A LAVAFLOW stream is the printer language used by some Konica Minolta printers, such as the KM magicolor 2530 DL.

**COMMAND LINE OPTIONS**

These are the options that can appear on the command line.

**-d** *basename*

*Basename* of .pbm file for saving decompressed planes.

**-h**    Print hex file offsets.

**-o**    Print file offsets.

**-D** *level*

    Set Debug level [0].

**EXAMPLES**

Decode an LAVAFLOW stream file created by foo2lava.

```
$ lavadecode -h < testpage.prn
0: \033%-12345X@PJL JOB NAME="stdin"
1f: \033%-12345X@PJL JOB USERNAME=" "
3d: \033%-12345X@PJL JOB TIMESTAMP="07/20/2007"
66: \033%-12345X@PJL JOB OSINFO="Linux/2.6.20-1.2316.fc5"
99: \033%-12345X@PJL ENTER LANGUAGE=LAVAFLOW
bf: \033E RESET
c1: \033&l0S DUPLEX: [off]
c6: \033&l0G
cb: \033&u1200D X RESOLUTION: [1200]
d3: \033&l1X COPIES: [1]
d8: \033&x1X TRANSMIT ONCE COPIES: [1]
dd: \033&l0O ORIENTATION: [port]
e2: \033*r1U NBIE: [1]
e7: \033*g8W BW/COLOR: [8]
      fmt=2 np=1
      BLACK: X=1200, Y=600, unk=0, #=4(2)
f4: \033*b1234M COMPRESSION: [1234]
fc: \033&l2A PAGE SIZE: [letter]
101: \033&l255H PAPER SOURCE: [auto]
108: \033&l0M MEDIA TYPE: [plain]
10d: \033&l0E TOP MARGIN: [0]
112: \033*r9792S X RASTER: [9792,0x2640]
11a: \033*r6400T Y RASTER: [6400,0x1900]
122: \033&l0U
127: \033&l0Z
12c: \033*p200X X OFFSET: [200]
133: \033*p200Y Y OFFSET: [200]
```

```

13a: \033*r1A      [Page 1]
13f: \033*b20V     [black]
                    DL = 0, D = 0, P = 1, - = 0, XY = 9792 x 6400
                    L0 = 128, MX = 0, MY = 0
                    Order = 3   ILEAVE SMID
                    Options = 92  LRLTWO TPDON TPBON DPON
                    50 stripes, 0 layers, 1 planes
159: \033*b65536V  JBIG data (first) [65536,0x10000]
                    ff 02 c2 79 54 3e be e1 a0 de 08 9a b1 d2 c2 59
... ae 88 ef a7 c7 96 d3 96 a6 d7 2c 06 38 75 22 44
10162: \033*b26432W JBIG data (end) [26432,0x6740]
                    0e 89 66 ce 01 41 41 41 41 41 41 41 41 41 41
... 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
168ab: \033*x3887138K BLACK DOTS: [3887138]
168b6: \033*x58781662W BLACK WHITEDOTS: [58781662]
168c2: \033*rC      END PAGE
168c6: \033&l0H     PAPER SOURCE: [eject]
168cb: \033E        RESET
168cd: \033%-12345X

```

**FILES**

/usr/local/bin/lavadecode

**SEE ALSO**

**foo2lava-wrapper(1)**, **foo2lava(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2lava.rkkda.com/>

**NAME**

foo2qpdf-wrapper – Convert Postscript into a QPDF printer stream

**SYNOPSIS**

**foo2qpdf-wrapper** [*options*] [*ps-file*]

**DESCRIPTION**

**foo2qpdf-wrapper** is a Foomatic compatible printer wrapper for the **foo2qpdf** printer driver. This script reads a Postscript *ps-file* or standard input and converts it to Samsung/Xerox QPDF printer format for driving the Samsung CLP-300, CLP-600, CLX-3160 and Xerox Phaser 6110 QPDF printers.

This script can be used in a standalone fashion, but is intended to be called from a printer spooler system which uses the Foomatic printer database.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Print in color (else monochrome).

**-d** *duplex*

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
---	-----	---	-----------	---	------------

**-m** *media*

Media code to send to printer [0].

Media	QPDF
plain	0
thick	1
thin	2
bond	3
color	4
card	5
labels	6
envelope	7
preprinted	8
cotton	9
recycled	10
transparency	11
archive	12

**-p** *paper*

Paper size code to send to printer [0].

0	letter	1	legal
2	A4	3	executive
6	env #10	7	env Monarch
8	env C5	9	env DL
11	B5jis	12	B5iso
16	A5	17	A6
23	env C6	24	folio
25	env 6.75	26	env #9
28	oficio		

- n** *copies*  
Number of copies [1].
- r** *xres***x***yres*  
Set device resolution in pixels/inch [1200x600].
- s** *source*  
Source (Input Slot) code to send to printer [255].
 

1	auto	2	manual
3	multi	4	tray1
- t** Draft mode. Every other pixel is white.
- 2 -3 -4 -5 -6 -8 -9 -10 -12 -14 -15 -16 -18**  
Print in N-up. Requires the **psutils** package.
- o** *orient*  
Orientation used for N-up.
 

Portrait	-op	(normal)
Landscape	-ol	(rotated 90 degrees anticlockwise)
Seascape	-os	(rotated 90 degrees clockwise)

### Printer Tweaking Options

These are the options used to customize the operation of **foo2qpdL** for a particular printer.

- u** *xoff***x***yoff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [varies with paper size].
- l** *xoff***x***yoff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [varies with paper size].
- L** *mask*  
Send the logical clipping values from -u/-l in the QPDL stream. **foo2qpdL-wrapper** always runs Ghostscript with the ideal page dimensions, so that the scale of the image is correct, regardless whether or not the printer has unprintable regions. This option is used to move the position of the clipped image back to where it belongs on the page. The default is to send the amount which was clipped by -u and -l, and should be good in most cases.
 

0	don't send any logical clipping amounts
1	only send Y clipping amount
2	only send X clipping amount
3	send both X and Y clipping amounts

### Color Tweaking Options

These are the options used to control the quality of color output. Color correction is currently a WORK IN PROGRESS.

- g** *gsopts*  
Additional options to pass to Ghostscript, such as -g“-dDITHERPPI=nnn”, etc. This option may appear more than once.
- G** *profile.icm*  
Convert *profile.icm* to a Postscript color rendering dictionary (CRD) using **foo2zjs-icc2ps** and adjust the printer colors by using the Postscript **setcolorrendering** operator. (WORK IN PROGRESS).
- G** *gamma-file.ps*  
Prepend *gamma-file.ps* to the Postscript input to perform color correction using the **setcolortransfer** Postscript operator. For example, the file might contain:  
{0.333 exp} {0.333 exp} {0.333 exp} {0.333 exp} setcolortransfer

**-I** *intent*

Select profile intent from the ICM file. 0=Perceptual, 1=Colorimetric, 2=Saturation, 3=Absolute. Default is 0 (perceptual).

**Debugging Options**

These options are used for debugging **foo2qpdf** and its wrapper.

**-S** *plane*

Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

- 1 Cyan
- 2 Magenta
- 3 Yellow
- 4 Black

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Create a monochrome QPDF stream from a Postscript document, examine it, and then print it using a RAW print queue:

```
foo2qpdf-wrapper testpage.ps > testpage.zm
qpdfdecode < testpage.zm
lpr -P raw testpage.zm
```

Create a color QPDF stream from a Postscript document:

```
foo2qpdf-wrapper -c testpage.ps > testpage.zc
```

**FILES**

**/usr/local/bin/foo2qpdf-wrapper**

**SEE ALSO**

**foo2qpdf(1)**, **qpdfdecode(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2qpdf.rkkda.com/>

**NAME**

foo2qpdL – Convert Ghostscript pbmraw or bitcmyk format into a QPDL printer stream

**SYNOPSIS**

**foo2qpdL** [*options*] <*pbmraw-file*> *qpdL-file*

**foo2qpdL** [*options*] <*bitcmyk-file*> *qpdL-file*

**foo2qpdL** [*options*] <*pksmraw-file*> *qpdL-file*

**DESCRIPTION**

**foo2qpdL** converts Ghostscript pbmraw, bitcmyk, or pksmraw output formats to monochrome or color QPDL streams, for driving the Samsung CLP-300, CLP-600, CLX-3160 and the Xerox Phaser 6110 QPDL printers.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Force color mode if autodetect doesn't work.

**-d duplex**

Duplex code to send to printer [1].

1	off	2	long edge	3	short edge
---	-----	---	-----------	---	------------

**-g xpixypix**

Set page dimensions in pixels [10200x6600].

**-m media**

Media code to send to printer [0].

Media	QPDL
plain	0
thick	1
thin	2
bond	3
color	4
card	5
labels	6
envelope	7
preprinted	8
cotton	9
recycled	10
transparency	11
archive	12

**-p paper**

Paper code to send to printer [0].

0	letter	1	legal
2	A4	3	executive
6	env #10	7	env Monarch
8	env C5	9	env DL
11	B5jis	12	B5iso
16	A5	17	A6

23	env C6	24	folio
25	env 6.75	26	env #9
28	oficio		

- n** *copies*  
Number of copies [1].
- r** *xresxyres*  
Set device resolution in pixels/inch [1200x600].
- s** *source*  
Source (InputSlot) code to send to printer [255].
 

1	auto	2	manual
3	multi	4	tray1
- t** Draft mode. Every other pixel is white.
- J** *filename*  
Filename string to send to printer.
- U** *username*  
Username string to send to printer.

### Printer Tweaking Options

These are the options used to customize the operation of **foo2qpd1** for a particular printer.

- u** *xoffxyoff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [0x0].
- l** *xoffxyoff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [0x0].
- L** *mask*  
Send logical clipping amounts implied by -u/-l in the QPDL stream [3].
  - 0 don't send any logical clipping amounts
  - 1 only send Y clipping amount
  - 2 only send X clipping amount
  - 3 send both X and Y clipping amounts
- A** AllIsBlack: convert C=1,M=1,Y=1 to just K=1. Works with bitcmk input only.
- B** BlackClears: K=1 forces C,M,Y to 0. Works with bitcmk input only.

### Debugging Options

These options are used for debugging **foo2qpd1**.

- S** *plane*  
Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.
  - 1 Cyan
  - 2 Magenta
  - 3 Yellow
  - 4 Black
- D** *level*  
Set Debug level [0].

### EXAMPLES

Create a black and white QPDL stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -r1200x600 -sDEVICE=pbmraw
-sOutputFile=- - < testpage.ps
```



```
| foo2qpdf -r1200x600 -g10200x6600 -p0 >testpage.zm
```

Create a color QPDF stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE  
-sPAPERSIZE=letter -g10200x6600 -r1200x600 -sDEVICE=bitcmk  
-sOutputFile=- - < testpage.ps  
| foo2qpdf -r1200x600 -g10200x6600 -p0 >testpage.zc
```

**FILES**

**/usr/local/bin/foo2qpdf**

**SEE ALSO**

**foo2qpdf-wrapper(1), qpdfdecode(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.com>  
<http://foo2qpdf.rkkda.com/>

**NAME**

qpdlddecode – Decode a QPDL stream into human readable form.

**SYNOPSIS**

**qpdlddecode** [*options*] <*qpdld-file*

**DESCRIPTION**

**qpdlddecode** decodes a QPDL stream into human readable form. Only the JBIG compression format (0x13) is handled.

An QPDL stream is the printer language used by the Samsung CLP-300, CLP-600, CLX-3160 and the Xerox Phaser 6110 printers.

**COMMAND LINE OPTIONS**

These are the options that can appear on the command line.

**-d** *basename*

*Basename* of .pbm file for saving decompressed planes.

**-h**      Print hex file offsets.

**-o**      Print file offsets.

**-D** *level*

    Set Debug level [0].

**EXAMPLES**

Decode an QPDL stream file created by foo2qpdld.

```

0:      33%-12345X@PJL DEFAULT SERVICEDATE=20070212
2c:     @PJL SET USERNAME="Unknown"
49:     @PJL SET JOBNAME="testpage.pdf"
6a:     @PJL SET COLORMODE=COLOR
84:     @PJL SET PAPERTYPE = NORMAL
a1:     @PJL ENTER LANGUAGE = QPDL
bd:     RECTYPE 0x0 len=17
        res=600, copies=1, papersize=letter(0), w=2550, h=3300
        papersource=auto, unk=0, duplex=0:0, unk=0,2, unk=268(0x10c)
ce:     RECTYPE 0xc len=68(0x44)
        stripe=0, WB=1248(0x4e0), H=128(0x80), plane=4, comp=0x13,
        len=56(0x38)
        magic=0x39abcdef, len=20(0x14), unk=0,0,0,0,0,0,
        checksum=0x356
        DL = 0, D = 0, P = 1, - = 0, XY = 9984 x 6400
        L0 = 6400, MX = 0, MY = 0
        Order = 0
        Options = 72 LRLTWO TPBON
        1 stripes, 0 layers, 1 planes
112:    RECTYPE 0xc len=68(0x44)
        stripe=0, WB=1248(0x4e0), H=128(0x80), plane=1, comp=0x13,
        len=56(0x38)
        magic=0x39abcdef, len=20(0x14), unk=0,0,0,0,0,0,
        checksum=0x356
        DL = 0, D = 0, P = 1, - = 0, XY = 9984 x 6400
        L0 = 6400, MX = 0, MY = 0
        Order = 0

```

```

Options = 72  LRLTWO TPBON
1 stripes, 0 layers, 1 planes
156:  RECTYPE 0xc  len=68(0x44)
      stripe=0, WB=1248(0x4e0), H=128(0x80), plane=2, comp=0x13,
      len=56(0x38)
      magic=0x39abcdef, len=20(0x14), unk=0,0,0,0,0,0,
      checksum=0x356
      DL = 0, D = 0, P = 1, - = 0, XY = 9984 x 6400
      L0 = 6400, MX = 0, MY = 0
      Order = 0
      Options = 72  LRLTWO TPBON
      1 stripes, 0 layers, 1 planes
19a:  RECTYPE 0xc  len=68(0x44)
      stripe=0, WB=1248(0x4e0), H=128(0x80), plane=3, comp=0x13,
      len=56(0x38)
      magic=0x39abcdef, len=20(0x14), unk=0,0,0,0,0,0,
      checksum=0x356
      DL = 0, D = 0, P = 1, - = 0, XY = 9984 x 6400
      L0 = 6400, MX = 0, MY = 0
      Order = 0
      Options = 72  LRLTWO TPBON
      1 stripes, 0 layers, 1 planes
1de:  RECTYPE 0xc  len=77488(0x12eb0)
      stripe=1, WB=1248(0x4e0), H=128(0x80), plane=1, comp=0x13,
      len=77476(0x12ea4)
      magic=0x39abcdef, len=77440(0x12e80), unk=2000000,0,0,0,0,0,
      checksum=0x9326d7
1308e: RECTYPE 0xc  len=77680(0x12f70)
      stripe=1, WB=1248(0x4e0), H=128(0x80), plane=2, comp=0x13,
      len=77668(0x12f64)
      magic=0x39abcdef, len=77632(0x12f40), unk=2000000,0,0,0,0,0,
      checksum=0x9367e5
25ffe: RECTYPE 0xc  len=69232(0x10e70)
      stripe=1, WB=1248(0x4e0), H=128(0x80), plane=3, comp=0x13,
      len=69220(0x10e64)
      magic=0x39abcdef, len=69184(0x10e40), unk=2000000,0,0,0,0,0,
      checksum=0x83938a
36e6e: RECTYPE 0xc  len=45616(0xb230)
      stripe=1, WB=1248(0x4e0), H=128(0x80), plane=4, comp=0x13,
      len=45604(0xb224)
      magic=0x39abcdef, len=45568(0xb200), unk=2000000,0,0,0,0,0,
      checksum=0x58015d
4209e: RECTYPE 0x1  len=3
      copies=1
420a1: RECTYPE 0x9  len=0
420a2:  33%-12345X

```

**FILES**

/usr/local/bin/qpdldecode

**SEE ALSO**

foo2qpdl-wrapper(1), foo2qpdl(1)

qpdfdecode(1)

qpdfdecode(1)

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2qpdf.rkkda.com/>

**NAME**

foo2slx-wrapper – Convert Postscript into a SLX printer stream

**SYNOPSIS**

**foo2slx-wrapper** [*options*] [*ps-file*]

**DESCRIPTION**

**foo2slx-wrapper** is a Foomatic compatible printer wrapper for the **foo2slx** printer driver. This script reads a Postscript *ps-file* or standard input and converts it to Software Imaging K.K. SLX printer format for driving the Lexmark C500 network color laser printer and other SLX-based printers.

This script can be used in a standalone fashion, but is intended to be called from a printer spooler system which uses the Foomatic printer database.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Print in color (else monochrome).

**-m** *media*

Media code to send to printer [0].

Media	SLX
plain	0
transparency	1
labels	2
thick1	3
envelope1	4
thin	5
thick2	6
envelope2	7
middle	8
special	9

**-p** *paper*

Paper size code to send to printer [6].

6	letter	2	A4
9	legal	4	B5
8	executive	5	B5iso
10	env #10	11	env DL

**-n** *copies*

Number of copies [1].

**-r** *xresxyres*

Set device resolution in pixels/inch [1200x600].

**-s** *source*

Source (Input Slot) code to send to printer [0].

0	auto	1	cassette1
---	------	---	-----------

**-2 -3 -4 -5 -6 -8 -9 -10 -12 -14 -15 -16 -18**

Print in N-up. Requires the **psutils** package.

**-o** *orient*

Orientation used for N-up.

Portrait	-op	(normal)
Landscape	-ol	(rotated 90 degrees anticlockwise)
Seascape	-os	(rotated 90 degrees clockwise)

### Printer Tweaking Options

These are the options used to customize the operation of **foo2slx** for a particular printer.

#### **-u** *xoff* *xyoff*

Set the offset of the start of the printable region from the upper left corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

#### **-l** *xoff* *xyoff*

Set the offset of the end of the printable region from the lower right corner, in pixels [varies with paper size]. The defaults should work on the 2200DL and 2300DL, and have not been tested on any other printers.

#### **-L** *mask*

Send the logical clipping values from -u/-l in the ZjStream. **foo2slx-wrapper** always runs Ghostscript with the ideal page dimensions, so that the scale of the image is correct, regardless whether or not the printer has unprintable regions. This option is used to move the position of the clipped image back to where it belongs on the page. The default is to send the amount which was clipped by -u and -l, and should be good in most cases.

- 0 don't send any logical clipping amounts
- 1 only send Y clipping amount
- 2 only send X clipping amount
- 3 send both X and Y clipping amounts

### Color Tweaking Options

These are the options used to control the quality of color output. Color correction is currently a WORK IN PROGRESS.

#### **-g** *gsopts*

Additional options to pass to Ghostscript, such as -g“-dDITHERPPI=nnn”, etc. This option may appear more than once.

#### **-G** *profile.icm*

Convert *profile.icm* to a Postscript color rendering dictionary (CRD) using **foo2zjs-icc2ps** and adjust the printer colors by using the Postscript **setcolorrendering** operator. (WORK IN PROGRESS).

#### **-G** *gamma-file.ps*

Prepend *gamma-file.ps* to the Postscript input to perform color correction using the **setcolortransfer** Postscript operator. For example, the file might contain:

```
{0.333 exp} {0.333 exp} {0.333 exp} {0.333 exp} setcolortransfer
```

#### **-I** *intent*

Select profile intent from the ICM file. 0=Perceptual, 1=Colorimetric, 2=Saturation, 3=Absolute. Default is 0 (perceptual).

### Debugging Options

These options are used for debugging **foo2slx** and its wrapper.

#### **-S** *plane*

Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.

- 1 Cyan
- 2 Magenta
- 3 Yellow
- 4 Black

**-D** *level*

Set Debug level [0].

## EXAMPLES

Create a monochrome ZjStream from a Postscript document, examine it, and then print it using a RAW print queue:

```
foo2slx-wrapper testpage.ps > testpage.zm
slxdecode < testpage.zm
lpr -P raw testpage.zm
```

Create a color ZjStream stream from a Postscript document:

```
foo2slx-wrapper -c testpage.ps > testpage.zc
```

## FILES

**/usr/local/bin/foo2slx-wrapper**

## SEE ALSO

**foo2slx(1), slxdecode(1)**

## AUTHOR

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2slx.rkkda.com/>

**NAME**

foo2slx – Convert Ghostscript pbmraw or bitcmk format into a SLX printer stream

**SYNOPSIS**

**foo2slx** [*options*] <*pbmraw-file*> *slx-file*

**foo2slx** [*options*] <*bitcmk-file*> *slx-file*

**foo2slx** [*options*] <*pksmraw-file*> *slx-file*

**DESCRIPTION**

**foo2slx** converts Ghostscript pbmraw, bitcmk, or pksmraw output formats to monochrome or color SLX streams, for driving the Lexmark C500 network color laser printer and other SLZ-based printers. The SLX stream is a variant of ZjStream produced by Software Imaging K.K.

**COMMAND LINE OPTIONS****Normal Options**

These are the options used to select the parameters of a print job that are usually controlled on a per job basis.

**-c** Force color mode if autodetect doesn't work.

**-g** *xpixxypix*  
Set page dimensions in pixels [10200x6600].

**-m** *media*  
Media code to send to printer [0].

Media	SLX
plain	0
transparency	1
labels	2
thick1	3
envelope1	4
thin	5
thick2	6
envelope2	7
middle	8
special	9

**-p** *paper*  
Paper code to send to printer [6].

6	letter	2	A4
9	legal	4	B5
8	executive	5	B5iso
10	env #10	11	env DL

**-n** *copies*  
Number of copies [1].

**-r** *xresxyres*  
Set device resolution in pixels/inch [1200x600].

**-s** *source*  
Source (InputSlot) code to send to printer [0].

0	auto	1	cassette1
---	------	---	-----------



## Printer Tweaking Options

These are the options used to customize the operation of **foo2slx** for a particular printer.

- u** *xoff xloff*  
Set the offset of the start of the printable region from the upper left corner, in pixels [0x0].
- l** *xoff xloff*  
Set the offset of the end of the printable region from the lower right corner, in pixels [0x0].
- L** *mask*  
Send logical clipping amounts implied by -u/-l in the ZjStream [3].
  - 0 don't send any logical clipping amounts
  - 1 only send Y clipping amount
  - 2 only send X clipping amount
  - 3 send both X and Y clipping amounts
- A** AllIsBlack: convert C=1,M=1,Y=1 to just K=1. Works with bitcmk input only.
- B** BlackClears: K=1 forces C,M,Y to 0. Works with bitcmk input only.

## Debugging Options

These options are used for debugging **foo2slx**.

- S** *plane*  
Output just a single color plane from a color print and print it on the black plane. The default is to output all color planes.
  - 1 Cyan
  - 2 Magenta
  - 3 Yellow
  - 4 Black
- D** *level*  
Set Debug level [0].

## EXAMPLES

Create a black and white SLX stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -r1200x600 -sDEVICE=pbmraw
-sOutputFile=- - < testpage.ps
| foo2slx -r1200x600 -g10200x6600 -p1 >testpage.zm
```

Create a color SLX stream:

```
gs -q -dBATCH -dSAFER -dQUIET -dNOPAUSE
-sPAPERSIZE=letter -g10200x6600 -r1200x600 -sDEVICE=bitcmk
-sOutputFile=- - < testpage.ps
| foo2slx -r1200x600 -g10200x6600 -p1 >testpage.zc
```

## FILES

**/usr/local/bin/foo2slx**

## SEE ALSO

**foo2slx-wrapper(1)**, **slxdecode(1)**

## AUTHOR

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2slx.rkkda.com/>

**NAME**

slxdecode – Decode a SLX stream into human readable form.

**SYNOPSIS**

**slxdecode** [*options*] <*slx-file*

**DESCRIPTION**

**slxdecode** decodes a SLX stream into human readable form.

A SLX stream is the printer language used by some Lexmark printers, such as the C500.

More information on the Software Imaging K.K. SLX stream can be found at:

<http://softwareimaging.com/products-services/sorcerer/index.asp>

**COMMAND LINE OPTIONS**

These are the options that can appear on the command line.

**-d** *basename*

Basename of .pbm file for saving decompressed planes.

**-r** *basename*

Basename of .jbg file for saving raw planes

**-h** Print hex file offsets.

**-o** Print file offsets.

**-D** *level*

Set Debug level [0].

**EXAMPLES**

Decode an SLX file created by foo2slx.

```
$ slxdecode < testpage.zm
SLX_MAGIC, 0x584c53a5 (SLX)
SLT_START_DOC, 12 items
    SLI_PAGECOUNT, 4294967295 (0xffffffff)
    SLI_DMDUPLEX, 0 (0x0)
    SLI_DMCOLLATE, 0 (0x0)
    SLI_0x3, 0 (0x0)
    SLI_DISPLAY, 0 (0x0)
    SLI_0x5, 0 (0x0)
    SLI_0x6, 0 (0x0)
    SLI_0x7, 1 (0x1)
    SLI_0x8, 0 (0x0)
    SLI_0x9, 0 (0x0)
    SLI_COUNT, 1 (0x1)
    SLI_DMCOLLATE, 0 (0x0)
SLT_START_PAGE, 16 items [Page 1]
    SLI_DMPAPER, 6 (0x6)
    SLI_CUSTOM_X, 0 (0x0)
    SLI_CUSTOM_Y, 0 (0x0)
    SLI_DMCOPIES, 1 (0x1)
    SLI_DMDEFAULTSOURCE, 0 (0x0)
    SLI_DMEDIATYPE, 0 (0x0)
    SLI_NBIE, 0 (0x0)
    SLI_RESOLUTION_X, 600 (0x258)
```

```

SLI_RESOLUTION_Y, 600 (0x258)
SLI_OFFSET_X, 102 (0x66)
SLI_OFFSET_Y, 102 (0x66)
SLI_RASTER_X, 4896 (0x1320)
SLI_RASTER_Y, 6392 (0x18f8)
SLI_0x10d, 4896 (0x1320)
SLI_0x10e, 6392 (0x18f8)
SLI_0x10f, 1 (0x1)
SLT_JBIG_BIH, 0 items
    Data: 20 bytes
        DL = 0, D = 0, P = 1, - = 0, XY = 4896 x 6392
        L0 = 128, MX = 0, MY = 0
        Order = 0
        Options = 8  TPBON
        50 stripes, 0 layers, 1 planes
SLT_JBIG_BID, 0 items
    Data: 116 bytes
SLT_END_JBIG, 0 items
SLT_END_PAGE, 0 items
SLT_END_DOC, 0 items

```

**FILES**

**/usr/local/bin/slxdecode**

**SEE ALSO**

**foo2slx-wrapper(1), foo2slx(1), jbg2pbm(1)**

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
<http://foo2slx.rkkda.com/>

**NAME**

rodecode – Decode a Raster Object (ro) stream into human readable form.

**SYNOPSIS**

**rodecode** [*options*] <*zjs-file*

**DESCRIPTION**

**rodecode** decodes a Raster Object (ro) stream into human readable form.

A Raster Object stream is the printer language used by some Konica Minolta printers, such as the KM magicolor 2480 MF.

**COMMAND LINE OPTIONS**

These are the options that can appear on the command line.

**-d** *basename*

*Basename* of .pbm file for saving decompressed planes.

**-h**      Print hex file offsets.

**-o**      Print file offsets.

**-D** *level*

    Set Debug level [0].

**EXAMPLES**

Decode an Raster Object stream file created by foo2ro.

```
$ rodecode -h < testpage.prn
0:      Event=StartOfJob;
11:     OSVersion=WindowsXP;
25:     DrvVersion=2.0.1410.0;
3b:     Resolution=1200x600;
4f:     RasterObject.Compression=JBIG;
6d:     Sides=OneSided;
7c:     MediaSize=custom_size_8.5x11in;
9b:     MediaType=plain;
ab:     MediaInputTrayCheck=top;
c3:     RasterObject.BitsPerPixel=1;
df:     RasterObject.Planes=00FFFF,0,0,0,0,0,0;
106:    RasterObject.Width=9792;
11e:    RasterObject.Height=6400;
137:    RasterObject.Data#20=

                                DL = 0, D = 0, P = 1, - = 0, XY = 9792 x 6400
                                L0 = 128, MX = 0, MY = 0
                                Order   = 3   ILEAVE SMID
                                Options  = 92   LRLTWO TPDON TPBON DPON
                                50 stripes, 0 layers, 1 planes
161:    RasterObject.Data#32768=
817a:   RasterObject.Data#32768=
10193:   RasterObject.Data#3168=
10e0b:   RasterObject.Planes=FF00FF,0,0,0,0,0,0;
10e32:   RasterObject.Width=9792;
10e4a:   RasterObject.Height=6400;
10e63:   RasterObject.Data#20=
```

```

DL = 0, D = 0, P = 1, - = 0, XY = 9792 x 6400
L0 = 128, MX = 0, MY = 0
Order   = 3   ILEAVE SMID
Options = 92   LRLTWO TPDON TPBON DPON
50 stripes, 0 layers, 1 planes
10e8d:   RasterObject.Data#32768=
18ea6:   RasterObject.Data#32768=
20ebf:   RasterObject.Data#19200=
259d8:   RasterObject.Planes=FFFF00,0,0,0,0,0,0;
259ff:   RasterObject.Width=9792;
25a17:   RasterObject.Height=6400;
25a30:   RasterObject.Data#20=

DL = 0, D = 0, P = 1, - = 0, XY = 9792 x 6400
L0 = 128, MX = 0, MY = 0
Order   = 3   ILEAVE SMID
Options = 92   LRLTWO TPDON TPBON DPON
50 stripes, 0 layers, 1 planes
25a5a:   RasterObject.Data#32768=
2da73:   RasterObject.Data#32768=
35a8c:   RasterObject.Data#32768=
3daa5:   RasterObject.Data#7056=
3f64d:   RasterObject.Planes=000000,0,0,0,0,0,0;
3f674:   RasterObject.Width=9792;
3f68c:   RasterObject.Height=6400;
3f6a5:   RasterObject.Data#20=

DL = 0, D = 0, P = 1, - = 0, XY = 9792 x 6400
L0 = 128, MX = 0, MY = 0
Order   = 3   ILEAVE SMID
Options = 92   LRLTWO TPDON TPBON DPON
50 stripes, 0 layers, 1 planes
3f6cf:   RasterObject.Data#32768=
476e8:   RasterObject.Data#17472=
4bb41:   Event=EndOfPage;
4bb51:   Event=EndOfJob;

```

**FILES**

/usr/local/bin/rodecode

**SEE ALSO**

foo2ro-wrapper(1), foo2ro(1)

**AUTHOR**

Rick Richardson <rick.richardson@comcast.net>  
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