PDL Reference Guide for the Xerox 4110

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Accessing Extended Features

Overview

This document enables you to access the extended features of the Xerox 4110 in environments that do not have a custom driver.

NOTE :   Some of the commands and syntax used in this documents requires some familiarity with either PostScript(PS) or Printer Command Language(PCL).

This document provides the Printer Description Language(PDL) commands and syntax for each feature. The following items are also included:

・ A PostScript tables that describes the PostScript features the Xerox 4110 supports and the syntax to use the feature.

・ A PCL tables that describes the PCL features the Xerox 4110 supports and the syntax to use the feature.

This document is not intended to be a complete PS or PCL reference manual:
It is a guide for using the PS and PCL commands with Xerox 4110.
Refer to these additional reference materials PostScript Language Reference Manual, Third Edition, ISBN 0-201-38922-8, PCL5 Printer Language Technical Reference Manual, Hewlett-Packard Manual and Printer Job Language Technical Reference Manual, Hewlett-Packard Manual.

Using this Guide

1. Search the Feature Table to determine whether the feature you wish to use is supported.

2. Verify that the feature is supported by the platform. For example, the Xerox 4110 must have the Finisher option installed to use stapling commands.

3. Following across the table to find the syntax listed for the PDL examples shown. Read the Dependencies/Caveats section.

PostScript

This Xerox 4110 supports PostScript3 commands that enable the features listed in the following table.

Feature	Description
Media Size	Physical paper (media) size. (Width & Height)
Media Direction	Feed direction of paper
Media Source	Feed tray
Media Source from SMH	Specify if you feed from SMH
Media Color	Media color
Media Weight	Media weight. Unit: (g/㎡) gram per square-meter
Media Class	Paper class (ex. High quality, thick, recycled)
Media Type	Media type
Media Selection	Specify if you apply the strict setpagedevice rule to media selection.
Resolution	Horizontal resolution & vertical resolution
Duplex	Delivers two-sided output. Landscape documents read like a calendar, and Portrait documents read like a book.
Tumble	Deliver two-sided output. (Use combine with Duplex) Landscape documents read like a book and Portrait documents read like a calendar.
Image Enhancement	Specify whether you apply edge-smoothing to output after rendering
Toner Save	Specify whether you lighten output density to save toner
Halftone Screen Selection	Screen type
Output Location	Output bin
Quantity	Number of copies (Max: 9999)
Collation	Collated or Uncollated
Jog	Offsetting
Stapling	Stapling. See details on StapleDetails.
Punch	Specify how you Punch
Booklet	Specify how you file
Fold	Specify how you Fold
Interleaving Paper	Insert blank sheet between OHP sheets.
Process Color Model	Select process color model (DeviceGray, DeviceRGB, DeviceCMYK,,,)
Separations	Specify if you multiple color separations will be generated for each page of output or not.

Feature	Description
Separation Color Names	Specify the process colorant name.
Separation Order	Specify the order of process colorant name.
Use CIE Color	Specify if you apply CIE-based color space through color conversion

PostScript Implementation

This section describes the PostScript commands required to access specific the Xerox 4110 features. This table lists each feature and the PostScript syntax that is required to use the feature. Following this table are some examples of how to use these commands and what the PostScript file looks like.

For more information about PostScript commands, refer to the PostScript Language Reference Manual, Third Edition, ISBN 0-201-37992-8.

PostScript Print Features/Implementation

* = default value

Feature	Implementation	Values
Media Size	<</PageSize [*width height*]>> setpagedevice	[*width* x *height*] in 1/72 inch(points) [842 1191] = A3 [595 842] = A4 [420 595] = A5 † [729 1032] = B4 [516 729] = B5 [792 1224] = 11 x 17 [612 1008] = Legal (8.5 x 14) [612 936] = Legal 13 (8.5 x 13) [612 792] = Letter (8.5 x 11) [576 720] = 8 x 10 [522 756] = Executive (7.25 x 10.5) † [396 612] = Statement (5.5 x 8.5) † [757 1100] = 8Kai † [765 1106] = 8Kai † [550 757] = 16Kai † [553 765] = 16Kai † †: Whether each paper is available depends on NV memory setting. The following paper sizes are only available with SMH. [297 420] = A6 [363 516] = B6 [936 1368] = 13 x 19 [936 1296] = 13 x 18 [907 1382] = 12.6 x 19.2 [907 1276] = SRA3 (12.6 x 17.7) [864 1296] = 12 x 18 [792 1080] = 11 x 15 [609 892] = 8.46 x 12.4 [283 420] = Hagaki [567 420] = Double Hagaki [288 432] = Postcard(4 x 6) [360 504] = Postcard(5 x 7) [432 648] = Postcard(6 x 9) [278 420] = Youkei 3 [929 1284] = Special A3 [640 878] = Special A4 [632 842] = A4 Cover [648 792] = Letter Cover

Feature	Implementation	Values
Media Direction	<</LeadingEdge *int* >> setpagedevice	Where *int* is one of the following: 0 = Short Edge; top of canonical page 1 = Long Edge; right side of canonical page 2 = Short Edge; bottom of canonical page 3 = Long Edge; left side of canonical page null* = Auto
Media Source	<</MediaPosition *int*>> setpagedevice	Where *int* is one of the following: 0 = Tray1 1 = Tray2 2 = Tray3 3 = Tray4 4 = Tray6 5 = Tray7 null* = Auto
Media Source from SMH	<</ManualFeed *value*>> setpagedevice	Where *value* is one of the following: true = Feed paper from SMH false* = Feed paper from a tray other than SMH
Media Color	<</MediaColor (*string*) >> setpagedevice	Where *string* is any value.
Media Weight	<</MediaWeight *real* >> setpagedevice	Where *real* is in g/ m^2 (gram per square-meter) or null
Media Class	<</MediaClass (*string*)>> setpagedevice	Where *string* is one of the following: stationary = normal paper recycled = recycled paper user1 = user defined paper 1 user2 = user defined paper 2 user3 = user defined paper 3 user4 = user defined paper 4 user5 = user defined paper 5 thick1 = thick paper 1 thick2 = thick paper 2 transparency = OHP sheet used = backing paper label = label paper thin = thin paper holed = hole paper (holed paper) tabbed thick1 = Tab paper tabbed thick2 = Tab paper
Media Type	<</MediaType (*string*)>> setpagedevice	Where *string* is any value.
Media Selection	<</DeferredMediaSelection *value*>> setpagedevice	Where *value* is one of the following: true* = Deferred media selection by output device (more powerful and flexible media selection)

Feature	Implementation	Values
		false = Immediate media selection by strict setpagedevice operator
Resolution	<</HWResolution [*x y*]>> setpagedevice	Where *x* and *y* are one of the following: 600 600*(dpi) 1200 1200
Duplex	<</Duplex *value*>> setpagedevice	Where *value* is one of the following: true = Duplex false* = Simplex
Tumble	<</Tumble *value*>> setpagedevice	This feature is effective only in conjunction with that Duplex is true Where *value* is one of the following: true = Tumble (Short edge binding Duplex) false* = Duplex (Long edge binding Duplex)
Image Enhancement	<</PostRenderingEnhance true /PostRenderingEnhanceDetails << /Type 32 /REValue *int* >> >> setpagedevice	Where *int* is one of the following: 0 = No image enhancement 1* = Activate image enhancement
Toner Save	<</PostRenderingEnhance true /PostRenderingEnhanceDetails << /Type 32 /TonerSaver *int* >> >> setpagedevice	Where *int* is one of the following: 0* = No toner saving 1 = Lighten output density, toner saving
Halftone Screen Selection	<</PostRenderingEnhance true /PostRenderingEnhanceDetails << /Type 32 /EngineScreen *int* >> >> setpagedevice	Where *int* is one of the following: 0 = Low frequency screen 1* = High frequency screen 2 = Compatible screen with FX standard PDL's
Output Location	<</OutputType (*string*)>> setpagedevice	Where *string* is one of the following: CATCH TRAY: top tray FINISHER TRAY: finisher tray FOLDER TRAY: folder tray BOOKLET TRAY : booklet tray Null = Not specified
Quantity	<</NumCopies *value* >> setpagedevice	Where *value* is one of the following: integer from 1 to 9999: number of copies null: Not specified
Collation	<</Collate *value* >> setpagedevice	Where *value* is one of the following: true = collated false* = uncollated
Jog	<</Jog *int* >>setpagedevice	Where *int* is one of the following: 0* = Do not offset

Feature	Implementation	Values
		3 = Offset at the beginning of each page [set]

Stapling	<</Staple *int1*
	
	/StapleDetails << /Type 7
	
	   /Location *int2* >>
	
	>>
	
	setpagedevice
		Where *int1* is one of the following:
		
		  0* = Do not staple
		  3 = Staple at the end of each set
		Where *int2* is one of the following:
		
		  0* = top-left-single
		  1 = bottom-left-single
		  2 = top-right-single
		  3 = bottom-right-single
		  4 = top-double
		  5 = bottom-double
		  6 = left-double
		  7 = right-double

Punch	<</Punch *int1*
	
	/PunchDetails << /Type 5
	
	   /Position *int2*
	
	   /Numholes *int3* >>
	
	>>
	
	setpagedevice
		Where *int1* is one of the following:
		
		  0* = Do not punch
		  3 = Do punch by set unit.
		
		Where *int2* is one of the following:
		
		  0 = topside
		  1 = lower side
		  2 = left side
		  3 = right side
		
		Where *int3* is one of the following:
		
		  2* = 2 holes
		  3 = 3 holes
		  4 = 4 holes

Booklet	<</Booklet *value1*
	
	/BookletDetails << /Type 3
	
	   /StapleType *int*
	
	   /PrintInside *value2*>>
	
	>>
	
	   setpagedevice
		Where *value1* is one of the following:
		
		  true = Do Booklet Finishing.
		  false* = Do not Booklet Finishing.
		
		Where *int* is one of the following:
		
		  0 = No Staple
		  1 = Booklet Fold and Staple
		
		Where *value2* is one of the following:
		
		  true = Print Inside.
		  false = Print Outside.
		
		This feature is effective only in conjunction with that StapleType is 0.

Feature	Implementation	Values
	int /Custom /ProcSet findresource /setsignaturevolume get exec	Where *int* is one of the following: 0* = Single Fold (Bi-Fold Single Sheets) 1 = Single Fold (Bi-Fold Single Sheets) （Same as 0） 2 = Booklet Fold (Bi-Fold Multiple Sheets) This feature is effective only in conjunction with that Booklet StapleType is 0. This custom operator should be specified before 1st showpage operator execute.
Fold	<</Fold *int1* /FoldDetails << /Type 6 /FoldType *int2* /ImageRotation *int3* /PrintInside *value*>> >> setpagedevice	Where *int1* is one of the following: 0* = Do not fold 4 = Fold every page. Where *int2* is one of the following: 0 = Z Fold 1 = Letter Z Fold 2 = Letter C Fold Where *int3* is one of the following: 0 = No Rotation. 1 = 180 degrees Rotation. This feature is effective only in conjunction with that FoldType is 0. Where *value* is one of the following: true = Print on inside. false = Print on outside. This feature is effective only in conjunction with that FoldType is 1 or 2.
Interleaving Paper	<</SlipSheet *int1* /SlipSheetDetails << /Type 1 /AutoTraySelect *int2* /SheetTray *int3* /MediaClass (*string*) >> >> setpagedevice	Where *int1* is one of the following: 0* = Do not deliver interleaving paper. 4 = Deliver interleaving paper at the end of each page Where *int2* is one of the following: 0 = SheetTray is referred and feed interleaving paper from the SheetTray 1* = Feed interleaving paper from a tray following system setting. SheetTray is not referred. Where *int3* is one of the following: 0* = Feed interleaving paper from Tray1 1 = Tray2

Feature	Implementation	Values
		2 = Tray3 3 = Tray4 4 = Tray6 5 = Tray7 100 = SMH Where *string* is same as the "Media Class" feature. It means media class for the interleaving paper.
Process Color Model	<</ProcessColorModel *name* >> setpagedevice	Where *name* is one of the following: /DeviceGray /DeviceRGB (with Separations true) /DeviceCMYK (with Separations true) /DeviceCMY (with Separations true) /DeviceRGBK (with Separations true)
Separations	<</Separations *value* >> setpagedevice	Where *value* is one of the following: true = Multiple color separations will be generated for each page of output. false* = All colorants will be combined into a single composite page on a single sheet of physical medium.
Separation Color Names	<</SeparationColorNames *value*>> setpagedevice	Where *value* is an array. Legal element values are the process colorant names implied by the process color model. Valid colorant names for each process color model are like the following in case of separation DeviceCMYK = Cyan, Magenta, Yellow, Black DeviceCMY = Cyan, Magenta, Yellow DeviceRGB = Red, Green, Blue DeviceRGBK = Red, Green, Blue, Gray DeviceGray = Gray
Separation Order	<</SeparationOrder *value*>> setpagedevice	Where *value* is an array. Legal element values are the process colorant names implied by the process color model.
Use CIE Color	<</UseCIEColor *value*>> setpagedevice	Where *value* is one of the following: true = Re-map each color from device color space to device independent's CIE-based color space false* = Do not re-map color
Job Name Job Type	These features are same as 'PCL/PJL Implementation'. Please refer the section to leverage the features.	

Feature	Implementation	Values
Accounting		
Delay Print		

Sample PostScript Headers

Example 1 Header for Simple Print

```
%!PS
```

Example 2 Header for Finishing

(Letter paper, duplex, 10 copies with collation, stapling with left-upper single and stacker tray for output bin)

```
%!PS
<</PageSize [612 792]>>setpagedevice
<</Duplex true /Tumble false>>setpagedevice
<</OutputType (FINISHER TRAY)>>setpagedevice
<</Collate true>>setpagedevice
<</NumCopies 10>>setpagedevice
<</Staple 3 /StapleDetails << /Type 7 /Location 0 >> >>setpagedevice
```

PostScript Feature Dependencies/Caveats

・ All DSC comments are ignored and not interpreted.

・ The Xerox 4110 supports PostScript resolutions up to and including 1200 x 1200. Some PostScript jobs may not print if you use this resolution. If printing stops, reprint the same job at a lower resolution.

・ Valid media sizes for duplexing are between [253 x 360] and [841 x 1224] (point) except A6, B6, 13 x 19, 13 x 18, 12.6 x 19.2, SRA3, 12 x 18, 11 x 15, 8.46 x 12.4, Hagaki, Double Hagaki, Postcard(4 x 6), Postcard(5 x 7), Postcard(6 x 9), Youkei 3, Special A3, Special A4, A4 Cover and Letter Cover.

・ Valid media sizes for stapling include A3, A4, B4, B5, 8.5x11, 8.5x13, 8.5x14, 11x17, 8 x 10, 8Kai(TFX), 8Kai(GCO), 16Kai(TFX), 16Kai(GCO), Executive, A4 Cover and Letter Cover.

・ Do not duplex transparency and used paper job.

・ Do not staple any job with all paper class except stationary, recycled and used (backing) paper.

PostScript Fonts

The following PostScript fonts are resident with Adobe interpreter.

Albertus	Helvetica
Albertus Italic	Helvetica Oblique
Albertus Light	Helvetica Bold
Antique Olive Roman	Helvetica Bold Oblique
Antique Olive Italic	Helvetica Narrow
Antique Olive Bold	Helvetica Narrow Oblique
Antique Olive Compact	Helvetica Narrow Bold
Apple Chancery	Helvetica Narrow Bold Oblique
Arial	Helvetica Condensed
Arial Italic	Helvetica Condensed Oblique
Arial Bold	Helvetica Condensed Bold
Arial Bold Italic	Helvetica Condensed Bold Oblique
ITC Avant Garde Gothic Book	Hoefler Text
ITC Avant Garde Gothic Book Oblique	Hoefler Text Italic
ITC Avant Garde Gothic Demi	Hoefler Text Black
ITC Avant Garde Gothic Demi Oblique	Hoefler Text Black Italic
Bodoni Roman	Hoefler Ornaments
Bodoni Italic	Joanna
Bodoni Bold	Joanna Italic
Bodoni Bold Italic	Joanna Bold
Bodoni Poster	Joanna Bold Italic
Bodoni Poster Compressed	Letter Gothic
ITC Bookman Light	Letter Gothic Slanted
ITC Bookman Light Italic	Letter Gothic Bold
ITC Bookman Demi	Letter Gothic Bold Slanted
ITC Bookman Demi Italic	ITC Lubalin Graph Book
Carta	ITC Lubalin Graph Book Oblique
Chicago	ITC Lubalin Graph Demi
Clarendon Roman	ITC Lubalin Graph Demi Oblique
Clarendon Bold	Marigold
Clarendon Light	Monaco
Cooper Black	ITC Mona Lisa Recut
Cooper Black Italic	New Century Schoolbook Roman
Copperplate Gothic 32BC	New Century Schoolbook Italic
Copperplate Gothic 33BC	New Century Schoolbook Bold
Coronet	New Century Schoolbook Bold Italic
Courier	NewYork
Courier Oblique	OCR-B Letterpress M
Courier Bold	Optima Roman
Courier Bold Oblique	Optima Italic
Eurostile Medium	Optima Bold
Eurostile Bold	Optima Bold Italic
Eurostile Extended No. 2	Oxford
Eurostile Bold Extended No. 2	Palatino Roman
Geneva	Palatino Italic
Gill Sans	Palatino Bold
Gill Sans Italic	Palatino Bold Italic
Gill Sans Bold	Stempel Garamond Roman
Gill Sans Bold Italic	Stempel Garamond Italic
Gill Sans Light	Stempel Garamond Bold
Gill Sans Light Italic	Stempel Garamond Bold Italic
Gill Sans Extra Bold	Symbol
Gill Sans Condensed	Tekton Regular
Gill Sans Condensed Bold	Times Roman
Goudy Oldstyle	Times Italic
Goudy Oldstyle Italic	Times Bold
Goudy Bold	Times Bold Italic
Goudy Bold Italic	Times New Roman
Goudy Extra Bold	Times New Roman Italic

Times New Roman Bold
Times New Roman Bold Italic
Univers 45 Light
Univers 45 Light Oblique
Univers 55
Univers 55 Oblique
Univers 65 Bold
Univers 65 Bold Oblique
Univers 57 Condensed
Univers 57 Condensed Oblique

Univers 67 Condensed Bold
Univers 67 Condensed Bold Oblique
Univers 53 Extended
Univers 53 Extended Oblique
Univers 63 Extended Bold
Univers 63 Extended Bold Oblique
Wingdings
ITC Zapf Chancery Medium Italic
ITC Zapf Dingbat

PCL

This Xerox 4110 supports PCL5e and PCL XL Color emulations that enable the features listed in the following table.

Feature	Description
Job Name	Job Name
Custom Paper Size – available only for PCL	Customer designated Paper Size
Media Size	Media Size
Media Source	Feed Tray
Output Location	Output Bin
Gray Correction	Gray Correction Text or Graphics
Stapling	Staple
Punch	Punch
Booklet	Booklet
Fold	Fold
Collation	Collated. Collated creates a set that includes 1 copy of each page. Uncollated creates a stack of multiple copies of the same page.
Resolution	Resolution to used to image a job
Quantity	Number of copies
Simplex	Deliver one-sided output
Duplex	Deliver two-sided output
Orientation	Landscape or Portrait
Force Short Edge Feeding	Short Edge Feed or Long Edge Feed
Job Mode	Specify Job Mode
Job Type	You can specify Confidential Print or Proof Print
Interleaving Paper	Insert blank sheet between OHP sheets.
Accounting	You can enter user-account string to track printer usage
Delay Print	You can specify the time to print a job.

PCL/PJL Implementation

This section describes the PCL commands for specific features. This table lists each feature and the PCL syntax that is required to use the feature. Following this table are examples of how to use these commands and what the PCL file looks like.

Refer to these reference materials: PCL5 Printer Language Technical Reference Manual and Printer Job Language Technical Reference Manual, Hewlett-Packard Manual.

PCL Print Features/Implementation

Feature	Implementation	Values
Job Name	@PJL SET JOBNAME = "*jobname-string*"	Where *jobname-string* is a maximum of 32 characters Exclude 「"」(22H) character
Custom Paper Size – available only for PCL	Not in PJL command. You have to specify by PCL : <ESC>&l 101A	Width of Custom Paper is specified by <ESC>*c#X where # = decipoints for (100 - 305)mm. Length of Custom Paper is specified by <ESC>*c#Y where # = decipoints for (140 - 482)mm. For instance: 4.25-inch x 5.5-inch will give <ESC>*c3060x3960Y by 4.25-inch x 720 decipoints/inch = 3060 and 5.5-inch x 720 decipoints/inch = 3960.

Media Size	@PJL SET PAPER = *value*	Where *value* is one of the following:
		  B4
		  B5
		  LETTER = 8.5x11
		  LEGAL = 8.5x14
		  A4
		  JISEXEC
		  LEDGER = 11x17
		  A3
		  CUSTOM = Custom paper
		  A5
		  ROC8 = 8Kai
		  KROK16K = 16Kai

	<ESC>&l *int* A	Where *int* is one of the following:
		  2 = Letter (8.5 x 11)
		  3 = Legal (8.5 x 14)
		  6 = Ledger (11x17)
		  25 = A5

Feature	Implementation	Values
		26 = A4 27 = A3 45 = B5 (JIS) 46 = B4 (JIS) 74 = 8Kai 131 = 16Kai
Media Source	@PJL SET MEDIASOURCE = *value*	Where *value* is one of the following: TRAY1 = Feed from paper tray1 TRAY2 = Tray2 TRAY3 = Tray3 TRAY4 = Tray4 TRAY5 = SMH TRAY6 = Tray6 TRAY7 = Tray7
	<ESC>&l *int* H	Where *int* is one of the following: 0 = Feed paper from default tray 4 = Tray1 1 = Tray2 5 = Tray3 8 = Tray4 20 = Auto 21 = Tray6 22 = Tray7 30 = Tray5 (It is not manual feed tray; the 5th tray with 5 tray model.) 39 = Interposer 2 or 3 = SMH
Output Location	@PJL SET OUTBIN = *value*	Where *value* is one of the following: UPPER = Main tray MAINTRAY = Main tray CENTERTRAY = Main tray MAINTRAY3 = Top tray(C-Finisher) OUTBIN101 = Finisher tray BOOKLETTRAY = Booklet tray (C-Finisher)
	<ESC>&l *int* G	Where *int* is one of the following: 0 = Auto 1 = Center tray (Main tray) 6 = Finisher tray
Stapling	@PJL SET STAPLE = *value*	Where *value* is one of the following: TOPDUAL TOPLEFT TOPRIGHT BOTTOMDUAL BOTTOMLEFT BOTTOMRIGHT LEFTDUAL RIGHTDUAL SADDLE NONE

Feature	Implementation	Values
Punch	@PJL SET PUNCH = *value1*	Where *value1* is one of the following: TOP RIGHT LEFT BOTTOM NONE
	@PJL SET JOBATTR = "@PNHN = *value2*"	Where *value2* is one of the following: TWO = 2 holes THREE = 3 holes FOUR = 4 holes
Booklet	@PJL SET JOBATTR = "@BKLT = *value1*"	Where *value1* is one of the following: NONEDIVIDE = Compile a booklet as long as the number of sheet does not exceed the limit AUTODIVIDE = Divide sheets into sets automatically in case of exceeding the limit number of sheets. MANUALDIVIDE = Divide sheets based on the specified limit manually OFF = Do not compile a booklet
	@PJL SET JOBATTR = "@BKSG = *value2*"	Where *value2* is one of the following: RIGHT = Right to left page order binding LEFT = Left to right page order binding
	@PJL SET JOBATTR = "@BKDN = *int1*"	Where *int1* is: 1~9999 = Booklet dividing number for each set
	@PJL SET JOBATTR = "@BKTP = *int2*"	Where *int2* is: 1~9999 = Booklet total pages of document
Fold	@PJL SET JOBATTR = "@FOLD = *value*"	Where *value* is one of the following: BIFOLDINSIDE BIFOLDOUTSIDE ZFOLDRIGHT ZFOLDLEFT LETTERZFOLDINSIDE LETTERZFOLDOUTSIDE LETTERCFOLDINSIDE LETTERCFOLDOUTSIDE OFF

Feature	Implementation	Values
Collation	@PJL SET QTY = *int*	Where *int* is: 1～999 (If you use this parameter, it also indicate use collate mode automatically.)
Resolution	@PJL SET RESOLUTION = *value*	Where *value* is one of the following: 600 1200
Quantity	@PJL SET COPIES = *int*	Where *int* is: 1～999 (This parameter used for uncollated mode.)
	<ESC>&l *int* X	Where *int* is: 1～999
Simplex	@PJL SET DUPLEX = *value1*	Where *value1* is one the following: OFF---simplex
	<ESC>&l *int* S	Where *int* is one of the following: 0 = simplex
Duplex	@PJL SET DUPLEX = *value1* @PJL SET BINDING = *value2*	Where *value1* is one of the following: ON ---- duplex Where *value2* is one of the following: LONGEDGE SHORTEDGE (*value2* is used combined with value1=ON)
	<ESC>&l *int* S	Where *int* is one of the following: 1 = Duplex Long Edge Binding 2 = Duplex Short Edge Binding
Orientation	@PJL SET ORIENTATION = *value*	Where *value* is one of the following: PORTRAIT LANDSCAPE
	<ESC>&l *int* 0	Where *int* is one of the following: 0 = Portrait 1 = Landscape 2 = Reverse Portrait 3 = Reverse Landscape
Force short edge feeding	@PJL SET PAPERDIRECTION = *value*	Where *value* is one of the following: SEF --- Short Edge Feed LEF --- Long Edge Feed
Job Mode	@PJL JOB MODE = *value*	Where *value* is one of the following: PRINTER --------- for Printer

Feature	Implementation	Values

Job Type	@PJL SET HOLD = *value1*
	
	See Example 3
	
	@PJL SET HOLDTYPE = *value2*
	
	@PJL SET HOLDKEY =" *four-digit string*"
	
	See Example 4
		Where *value1* is one of the following:
		    PROOF------------- proof print
		    STORE ------------- confidential print
		    BOXSTORE ------- box accumulation
		
		Where *value2* is one of the following:
		    PRIVATE------------- need password
		    PUBLIC --------- don't need password
		
		The HOLDKEY variable acts as a password to protect a held job.
		Four-digit string can be any four-digit value from 0000 to 9999. The default value is "".

Interleaving Paper	@PJL SET SLIPSHEET = *value*	Where *value* is one of the following:
		    OFF ----- no slipsheet
		    BLANK --- blank slipsheet
		    COPY ---- imaged slipsheet

Accounting	@PJL SET JOBATTR = "@JOAU = *string*"	Where *string* is a maximum of 32 character (Capital character & small character is distinguished)

Delay Print	@PJL SET JOBATTR = "@PRTM = *YYYY:MM:DD:hh:mm*"	*YYYY:MM:DD:hh:mm*
		  YYYY : year(AD 2000～2099)
		  MM : month (1～12)
		  DD : day (1～31)
		  hh : hour(0～23)
		  mm : minute(0～59)

PCL Template

This section illustrates a standard PCL template that is used to access general print features as well as Xerox 4110 Product specific features. This template lists each feature and the syntax, both PCL commands and PJL, required to use these features. The next section of this document contains other examples of how to use these commands.

Section 1 (Opening Command, Required for all files)

<ESC>%-12345X@PJL JOB MODE=PRINTER

Section 2 (PJL Set Commands)

@PJL SET RESOLUTION=600
@PJL SET COPIES=1

Section 3 (PCL Code used to invoke PCL Language)

@PJL ENTER LANGUAGE=PCL

Section 4 (PCL Data Stream or ASCII Document inserted here for Options such as selection Different Fonts, Simplex, Duplex, etc.)

,,,,,,,,,,

Section 5 (Closing Command, Required at end of Document)

<ESC>%-12345X@PJL EOJ

Sample PCL Headers

Example 1 Header for Simple Print

```
<ESC>%-12345X@PJL JOB MODE=PRINTER<CR><LF>
@PJL COMMENT Beginning PCL Job<CR><LF>
@PJL SET OUTBIN=MAINTRAY<CR><LF>
@PJL SET QTY=1<CR><LF>
@PJL SET RESOLUTION=600<CR><LF>
@PJL SET JOBATTR="@JOAU=Nagaoka" <CR><LF>
@PJL ENTER LANGUAGE=PCL<CR><LF>
 PCL DATA ……….
<ESC>%-12345X@PJL EOJ <CR><LF>
```

Example 2 Header for Finishing Options

```
<ESC>%-12345X@PJL JOB MODE=PRINTER<CR><LF>
@PJL COMMENT Beginning PCL Job<CR><LF>
@PJL SET OUTBIN=OUTBIN101<CR><LF>
@PJL SET FINISH=ON<CR><LF>
@PJL SET STAPLE=TOPLEFT<CR><LF>
@PJL ENTER LANGUAGE=PCL<CR><LF>
 PCL DATA ……….
<ESC>%-12345X@PJL EOJ <CR><LF>
```

Example 3 Header for Proof Print

```
<ESC>%-12345X@PJL JOB MODE=PRINTER<CR><LF>
@PJL COMMENT Beginning PCL Job<CR><LF>
@PJL SET OUTBIN=MAINTRAY<CR><LF>
@PJL SET QTY=2<CR><LF>
@PJL SET RESOLUTION=600<CR><LF>
@PJL SET HOLD=PROOF <CR><LF>
@PJL SET USERNAME="Nagaoka" <CR><LF>
@PJL SET JOBNAME="Job1" <CR><LF>
@PJL ENTER LANGUAGE=PCLXL<CR><LF>
 PCL DATA ……….
<ESC>%-12345X@PJL EOJ <CR><LF>
```

Example 4 Header for Confidential Print

```
<ESC>%-12345X@PJL JOB MODE=PRINTER<CR><LF>
@PJL COMMENT Beginning PCL Job<CR><LF>
```

```
@PJL SET OUTBIN=MAINTRAY<CR><LF>
@PJL SET QTY=1<CR><LF>
@PJL SET RESOLUTION=600<CR><LF>
@PJL SET HOLD=STORE <CR><LF>
@PJL SET HOLDTYPE=PRIVATE <CR><LF>
@PJL SET HOLDKEY="1234"<CR><LF>
@PJL SET USERNAME="Nagaoka" <CR><LF>
@PJL SET JOBNAME="Job1" <CR><LF>
@PJL ENTER LANGUAGE=PCLXL<CR><LF>
 PCL DATA ……….
<ESC>%-12345X@PJL EOJ <CR><LF>
```

PCL Feature Dependencies/Caveats

- All PCL commands must be in the first 2,500 bytes of the job.
- To combine printer escape commands (not including PJL commands):

  The first two characters after the <esc> MUST be the same.

  All alpha characters MUST be lowercase, except the final terminating character.

  The commands are read left to right. Combine commands in the order you wish them to execute.

  For example, combine print 5 copies (<ESC>&|5X) and use letter size (<ESC>&|2A) as <ESC>&|5x2A.

- In case of duplicate commands, the last one requested takes precedence.

- The @PJL SET COPIES takes precedence over the PCL Escape Command (<ESC>& | int X>) to set copies. In general, a PJL command takes precedence over a PCL command.

- Do not duplex any job with these media sizes: A6, B6. A request to duplex these media sizes is ignored.

- Do not staple any job with these media sizes: A6, B6, A5, 5.5 x 8.5. A request to staple these media sizes is ignored.

- Do not duplex any job with transparencies, labels, envelopes or tab-stock The duplex print request is ignored if you use any of these media types.

- Use one of the methods described in the following list to specify media selection:

  Describe the media attributes with size and type and allow the device to select the correct source tray. If you describe the media leave source tray information out of the request or set to Auto. Otherwise , the tray selection defeats the auto tray selection capabilities of the device.

  Indicate the media feed tray to use. In doing so, you allow the device to select media feed trays base on paper type defined by SYSTEM DEFAULT unless specified otherwise. This method prevents inadvertent use of special paper types. To override a paper type definition, include a paper type specification of UNSPECIFIED in the job.

PCL Fonts

The following PCL fonts are resident.

Each of these commands references a 12-point font. If you wish to use any other point size, change the 12v to the desired size (.25 – 999.75).

The commands listed use the default symbol set, Roman-8. To change the symbol set, you include the alternate symbol set after the first <ESC> and before the second <ESC>. Use the line printer examples as a reference.

Font Name	PCL Escape Command
Albertus Medium	<esc>(<esc>(s1p12v0s1b4362T
Albertus Extra Bold	<esc>(<esc>(s1p12v0s4b4362T
Antique Olive	<esc>(<esc>(s1p12v0s0b4168T
Antique Olive Bold	<esc>(<esc>(s1p12v0s3b4168T
Antique Olive Italic	<esc>(<esc>(s1p12v1s0b4168T
Arial	<esc>(<esc>(s1p12v0s0b16602T
Arial Bold	<esc>(<esc>(s1p12v0s3b16602T
Arial Italic	<esc>(<esc>(s1p12v1s0b16602T
Arial Bold Italic	<esc>(<esc>(s1p12v1s3b16602T
CG Times	<esc>(<esc>(s1p12v0s0b4101T
CG Times Bold	<esc>(<esc>(s1p12v0s3b4101T
CG Times Italic	<esc>(<esc>(s1p12v1s0b4101T
CG Times Bold Italic	<esc>(<esc>(s1p12v1s3b4101T
CG Omega	<esc>(<esc>(s1p12v0s0b4113T
CG Omega Bold	<esc>(<esc>(s1p12v0s3b4113T
CG Omega Italic	<esc>(<esc>(s1p12v1s0b4113T
CG Omega Bold Italic	<esc>(<esc>(s1p12v1s3b4113T
Clarendon Condensed	<esc>(<esc>(s1p12v4s3b4140T
Coronet	<esc>(<esc>(s1p12v1s0b4116T
Courier	<esc>(<esc>(s1p12v0s0b4099T
Courier Bold	<esc>(<esc>(s1p12v0s3b4099T
Courier Italic	<esc>(<esc>(s1p12v1s0b4099T
Courier Bold Italic	<esc>(<esc>(s1p12v1s3b4099T
Garamond Antiqua	<esc>(<esc>(s1p12v0s0b4197T
Garamond Halbfett	<esc>(<esc>(s1p12v0s3b4197T
Garamond Kursiv	<esc>(<esc>(s1p12v1s0b4197T
Garamond Kursiv Halbfett	<esc>(<esc>(s1p12v1s1b4197T
Line Printer (Roman-8)	<esc>(8U<esc>(s0p16.67h8.5v0s0b0T
Line Printer (Latin-1)	<esc>(0U<esc>(s0p16.67h8.5v0s0b0T
Line Printer (PC-8)	<esc>(10U<esc>(s0p16.67h8.5v0s0b0T
Line Printer (PC-8 D/N)	<esc>(11U<esc>(s0p16.67h8.5v0s0b0T
Line Printer (PC-850)	<esc>(12U<esc>(s0p16.67h8.5v0s0b0T
Line Printer (Legal)	<esc>(1U<esc>(s0p16.67h8.5v0s0b0T
Marigold	<esc>(<esc>(s1p12v0s0b4297T
Times New	<esc>(<esc>(s1p12v0s0b16901T
Times New Bold	<esc>(<esc>(s1p12v0s3b16901T
Times New Italic	<esc>(<esc>(s1p12v1s0b16901T
Times New Bold Italic	<esc>(<esc>(s1p12v1s3b16901T

Font Name	PCL Escape Command
Symbol	<esc>(19M<esc>(s1p12v0s0b16686T
Wingdings	<esc>(579L<esc>(s1p12v0s1b31402T
Univers Bold	<esc>(<esc>(s1p12v0s3b4148T
Univers Bold Italic	<esc>(<esc>(s1p12v1s3b4148T
Univers Bold Condensed	<esc>(<esc>(s1p12v4s3b4148T
Univers Bold Condensed Italic	<esc>(<esc>(s1p12v5s3b4148T
Univers Medium	<esc>(<esc>(s1p12v0s0b4148T
Univers Medium Italic	<esc>(<esc>(s1p12v1s0b4148T
Univers Medium Condensed	<esc>(<esc>(s1p12v4s0b4148T
Univers Medium Condensed Italic	<esc>(<esc>(s1p12v5s0b4148T
Letter Gothic	<esc>(<esc>(s1p12h0s0b4102T
Letter Gothic Italic	<esc>(<esc>(s1p12h1s0b4102T
Letter Gothic Bold	<esc>(<esc>(s1p12h0s3b4102T
Times Roman	<esc>(<esc>(s1p12h0s3b4102T
Times Italic	<esc>(<esc>(s1p12h0s3b4102T
Times Bold	<esc>(<esc>(s1p12h0s3b4102T
Times Bold Italic	<esc>(<esc>(s1p12h0s3b4102T
Helvetica	<esc>(<esc>(s1p12v0s0b24580T
Helvetica Oblique	<esc>(<esc>(s1p12v1s0b24580T
Helvetica Bold	<esc>(<esc>(s1p12v0s3b24580T
Helvetica Bold Oblique	<esc>(<esc>(s1p12v1s3b24580T
CourierPS	<esc>(<esc>(s0p12h0s0b24579T
CourierPS Oblique	<esc>(<esc>(s0p12h1s0b24579T
CourierPS Bold	<esc>(<esc>(s0p12h0s3b24579T
CourierPS Bold Oblique	<esc>(<esc>(s0p12h1s3b24579T
SymbolPS	<esc>(19M<esc>(s1p12v0s0b45358T
Palatino Roman	<esc>(<esc>(s1p12v0s0b24591T
Palatino Italic	<esc>(<esc>(s1p12v0s0b24591T
Palatino Bold	<esc>(<esc>(s1p12v0s0b24591T
Palatino Bold Italic	<esc>(<esc>(s1p12v0s0b24591T
ITC Bookman Light	<esc>(<esc>(s1p12v0s-3b24623T
ITC Bookman Light Italic	<esc>(<esc>(s1p12v1s-3b24623T
ITC Bookman Demi	<esc>(<esc>(s1p12v0s2b24623T
ITC Bookman Demi Italic	<esc>(<esc>(s1p12v1s2b24623T
Helvetica Narrow	<esc>(<esc>(s1p12v4s0b24580T
Helvetica Narrow Oblique	<esc>(<esc>(s1p12v5s0b24580T
Helvetica Narrow Bold	<esc>(<esc>(s1p12v4s3b24580T
Helvetica Narrow Bold Oblique	<esc>(<esc>(s1p12v5s3b24580T
New Century Schoolbook Roman	<esc>(<esc>(s1p12v0s0b24703T
New Century Schoolbook Italic	<esc>(<esc>(s1p12v1s0b24703T
New Century Schoolbook Bold	<esc>(<esc>(s1p12v0s3b24703T
New Century Schoolbook Bold Italic	<esc>(<esc>(s1p12v1s3b24703T
ITC Avant Garde Book	<esc>(<esc>(s1p12v0s0b24607T
ITC Avant Garde Book Oblique	<esc>(<esc>(s1p12v1s0b24607T
ITC Avant Garde Demi	<esc>(<esc>(s1p12v0s2b24607T
ITC Avant Garde Demi Oblique	<esc>(<esc>(s1p12v1s2b24607T
ITC Zapf Chancery Medium Italic	<esc>(<esc>(s1p12v1s0b45099T
ITC Zapf Dingbats	<esc>(<esc>(s1p12v0s0b45101T