

Font Load 8.11H01 - Summary

(Page 1 of 1)

Font811H01.xls, v03 4/21/05

This font load is the same as font load 8.10H02 (found in the Lexmark T63x), with the following difference:
The Times New Roman and Arial font families now have Cyrillic and Greek language support.

PCL Fonts

In the PCL emulation, this font load supports a total of 91 resident fonts:

- 89 scalable fonts
- 2 bitmapped fonts

The table in the section "PCL Fonts List" lists all the resident PCL fonts and their selection characteristics. The section "Notes on PCL Fonts" gives more details on and some history of the resident PCL fonts.

PCL Symbol Sets

The PCL fonts in this font load support 88 resident PCL symbol sets, to provide support for a large number of languages defined by the character sets:

Latin 1, Latin 2, Latin 5, Latin 6, Cyrillic and Greek.

(Not all fonts support all symbol sets.)

The table in the section "PCL Symbol Sets List" lists all the resident PCL symbol sets and their selection characteristics.

The table in the section "PCL Font-SymSet Support Matrix" shows which resident PCL symbol sets are supported by each resident PCL font.

The section "Notes on PCL Symbol Set Support" gives more details on the interaction between the resident PCL fonts and the resident PCL symbol sets.

PS Fonts

In the PostScript emulation, this font load supports a total of 158 resident fonts:

All 158 fonts are scalable.

This set of fonts is often referred to as our "PostScript 3 Full" font load.

There are resident encodings for the 6 character sets:

Latin 1, Latin 2, Latin 5, Latin 6, Cyrillic and Greek.

(Not all fonts support all character sets.)

The table in the section "PS Fonts List" lists all the resident PostScript fonts and the character sets they support.

The section "Notes on PS Fonts" gives more details on the resident PostScript fonts.

PPDS Fonts

In the PPDS emulation, this font load supports a total of 44 resident fonts:

- 39 scalable fonts
- 5 bitmapped fonts

There are 8 code pages available in PPDS supporting the Latin 1 character set plus the Symbol and Zapf Dingbat fonts.

(Not all fonts support all code pages.)

The table in the section "PPDS Fonts List" lists all the resident PPDS fonts and the code pages they support.

The section "Notes on PPDS Fonts" gives more details on the resident PPDS fonts and code pages.

Other Font Information

The section "OCR and C39 Information" gives details on the OCR and C39 bar code specialty fonts in PCL 5.


The section "Unicode and UTF-8 Printing" gives details on printing characters in PCL using their Unicode values.

Font Load 8.11H01 - PCL Fonts List

(Page 1 of 3)

The following table lists the resident PCL fonts in this font load, and shows various characteristics of each font.

PCL 5 selection values that are different in forward and backward compatibility modes are **bolded**.

 Shading indicates this font is not supported in this mode.

	Font Name	PCL XL Font Name	Panel Display Name	Forward Compatibility Mode				Backward Compatibility Mode				Bitmap / Scalable	45 Scalable Fonts in HP LJ 5Si	30 Cross Emul. Fonts in Optra S	80 Scalable Fonts in HP LJ 4500	39 "Type 1" Fonts		
				Position	PCL 5 Selection				Position	PCL 5 Selection								
					# P	# S	# B	Typeface Family		# P	# S						# B	Typeface Family
Standard Fonts	Courier	Courier	Courier	R0	0	0	0	4099	R0	0	0	0	4099	S	✓		✓	
	Courier Italic	Courier It	Courier It	R40	0	1	0	4099	R40	0	1	0	4099	S	✓		✓	
	Courier Bold	Courier Bd	Courier Bd	R39	0	0	3	4099	R39	0	0	3	4099	S	✓		✓	
	Courier Bold Italic	Courier BdIt	Courier BdIt	R41	0	1	3	4099	R41	0	1	3	4099	S	✓		✓	
	CG Times	CG Times	CG Times	R1	1	0	0	4101	R1	1	0	0	4101	S	✓		✓	
	CG Times Italic	CG Times It	CG Times It	R3	1	1	0	4101	R3	1	1	0	4101	S	✓		✓	
	CG Times Bold	CG Times Bd	CG Times Bd	R2	1	0	3	4101	R2	1	0	3	4101	S	✓		✓	
	CG Times Bold Italic	CG Times BdIt	CG Times BdIt	R4	1	1	3	4101	R4	1	1	3	4101	S	✓		✓	
	Univers Medium	Univers Md	Univers Medium	R11	1	0	0	4148	R11	1	0	0	4148	S	✓		✓	
	Univers Medium Italic	Univers MdIt	Univers MediumIt	R13	1	1	0	4148	R13	1	1	0	4148	S	✓		✓	
	Univers Bold	Univers Bd	Univers Bd	R12	1	0	3	4148	R12	1	0	3	4148	S	✓		✓	
	Univers Bold Italic	Univers BdIt	Univers BdIt	R14	1	1	3	4148	R14	1	1	3	4148	S	✓		✓	
	Times New Roman	TimesNewRmn	Times New	R33	1	0	0	16901	R33	1	0	0	16901	S	✓		✓	
	Times New Roman Italic	TimesNewRmn It	Times New It	R35	1	1	0	16901	R35	1	1	0	16901	S	✓		✓	
	Times New Roman Bold	TimesNewRmn Bd	Times New Bd	R34	1	0	3	16901	R34	1	0	3	16901	S	✓		✓	
	Times New Roman Bold Italic	TimesNewRmn BdIt	Times New BdIt	R36	1	1	3	16901	R36	1	1	3	16901	S	✓		✓	
	Arial	Arial	Arial	R29	1	0	0	16602	R29	1	0	0	16602	S	✓		✓	
	Arial Italic	Arial It	Arial It	R31	1	1	0	16602	R31	1	1	0	16602	S	✓		✓	
	Arial Bold	Arial Bd	Arial Bd	R30	1	0	3	16602	R30	1	0	3	16602	S	✓		✓	
	Arial Bold Italic	Arial BdIt	Arial BdIt	R32	1	1	3	16602	R32	1	1	3	16602	S	✓		✓	
	Letter Gothic	LetterGothic	Ltr Gothic	R42	0	0	0	4102	R42	0	0	0	4102	S	✓		✓	
	Letter Gothic Italic	LetterGothic It	Ltr Gothic It	R44	0	1	0	4102	R44	0	1	0	4102	S	✓		✓	
	Letter Gothic Bold	LetterGothic Bd	Ltr Gothic Bd	R43	0	0	3	4102	R43	0	0	3	4102	S	✓		✓	
	Univers Condensed Medium	Univers CdMd	Univers MediumCd	R15	1	4	0	4148	R15	1	4	0	4148	S	✓		✓	
	Univers Condensed Medium Italic	Univers CdMdIt	Univers MediumCdIt	R17	1	5	0	4148	R17	1	5	0	4148	S	✓		✓	
	Univers Condensed Bold	Univers CdBd	Univers BdCd	R16	1	4	3	4148	R16	1	4	3	4148	S	✓		✓	
	Univers Condensed Bold Italic	Univers CdBdIt	Univers BdCdIt	R18	1	5	3	4148	R18	1	5	3	4148	S	✓		✓	
	Garamond Antiqua	Garamond Antiqua	Garamond Antiqua	R22	1	0	0	4197	R22	1	0	0	4197	S	✓		✓	
Garamond Kursiv	Garamond Krsv	Garamond Kursiv	R24	1	1	0	4197	R24	1	1	0	4197	S	✓		✓		
Garamond Halbfett	Garamond Hlb	Garamond Halbfett	R23	1	0	3	4197	R23	1	0	3	4197	S	✓		✓		

Font Load 8.11H01 - PCL Fonts List

(Page 2 of 3)

PCL 5 selection values that are different in forward and backward compatibility modes are **bolded**.

 Shading indicates this font is not supported in this mode.

	Font Name	PCL XL Font Name	Panel Display Name	Forward Compatibility Mode				Backward Compatibility Mode				Bitmap / Scalable	45 Scalable Fonts in HP LJ 5Si	30 Cross Emul. Fonts in Optra S	80 Scalable Fonts in HP LJ 4500	39 "Type 1" Fonts		
				Position	PCL 5 Selection				Position	PCL 5 Selection								
					# P	# S	# B	Typeface Family		# P	# S						# B	Typeface Family
	Garamond Kursiv Halbfett	Garamond KrsvHlb	Garamond KursivHalbfett	R25	1	1	3	4197	R25	1	1	3	4197	S	✓	✓	✓	
4	CG Omega	CG Omega	CG Omega	R5	1	0	0	4113	R5	1	0	0	4113	S	✓	✓	✓	
	CG Omega Italic	CG Omega It	CG Omega It	R7	1	1	0	4113	R7	1	1	0	4113	S	✓	✓	✓	
	CG Omega Bold	CG Omega Bd	CG Omega Bd	R6	1	0	3	4113	R6	1	0	3	4113	S	✓	✓	✓	
	CG Omega Bold Italic	CG Omega BdIt	CG Omega BdIt	R8	1	1	3	4113	R8	1	1	3	4113	S	✓	✓	✓	
	Antique Olive	AntiqOlive	AntiqueOlv	R19	1	0	0	4168	R19	1	0	0	4168	S	✓	✓	✓	
3	Antique Olive Italic	AntiqOlive It	AntiqueOlv It	R21	1	1	0	4168	R21	1	1	0	4168	S	✓	✓	✓	
	Antique Olive Bold	AntiqOlive Bd	AntiqueOlv Bd	R20	1	0	3	4168	R20	1	0	3	4168	S	✓	✓	✓	
	Albertus Medium	Albertus Md	Albertus Medium	R27	1	0	1	4362	R27	1	0	1	4362	S	✓	✓	✓	
2	Albertus Extra Bold	Albertus Xb	Albertus Extra Bold	R28	1	0	4	4362	R28	1	0	4	4362	S	✓	✓	✓	
1	Clarendon Condensed Bold	Clarendon CdBd	Clarendon Cd	R10	1	4	3	4140	R10	1	4	3	4140	S	✓	✓	✓	
1	Marigold	Marigold	Marigold	R26	1	0	0	4297	R26	1	0	0	4297	S	✓	✓	✓	
1	Coronet	Coronet	Coronet	R9	1	1	0	4116	R9	1	1	0	4116	S	✓	✓	✓	
ulation Fonts	Helvetica	Helvetica	Helvetica	R63	1	0	0	24580	R59	1	0	0	61444	S	✓	✓	✓	
	Helvetica Italic	Helvetica Ob	Helvetica It	R64	1	1	0	24580	R60	1	1	0	61444	S	✓	✓	✓	
	Helvetica Bold	Helvetica Bd	Helvetica Bd	R65	1	0	3	24580	R61	1	0	3	61444	S	✓	✓	✓	
	Helvetica Bold Italic	Helvetica BdOb	Helvetica BdIt	R66	1	1	3	24580	R62	1	1	3	61444	S	✓	✓	✓	
	Helvetica Narrow	Helvetica Nr	Helvetica Narrow	R67	1	4	0	24580	R63	1	4	0	61444	S	✓	✓	✓	
	Helvetica Narrow Italic	Helvetica NrOb	Helvetica Narrow It	R68	1	5	0	24580	R64	1	5	0	61444	S	✓	✓	✓	
	Helvetica Narrow Bold	Helvetica NrBd	Helvetica Narrow Bd	R69	1	4	3	24580	R65	1	4	3	61444	S	✓	✓	✓	
	Helvetica Narrow Bold Italic	Helvetica NrBdOb	Helvetica Narrow BdIt	R70	1	5	3	24580	R66	1	5	3	61444	S	✓	✓	✓	
	4	Palatino Roman	Palatino Rmn	Palatino	R75	1	0	0	24591	R71	1	0	0	61455	S	✓	✓	✓
		Palatino Italic	Palatino It	Palatino It	R76	1	1	0	24591	R72	1	1	0	61455	S	✓	✓	✓
		Palatino Bold	Palatino Bd	Palatino Bd	R77	1	0	3	24591	R73	1	0	3	61455	S	✓	✓	✓
		Palatino Bold Italic	Palatino BdIt	Palatino BdIt	R78	1	1	3	24591	R74	1	1	3	61455	S	✓	✓	✓
	4	ITC Bookman Light	ITCBookman Lt	Bookman Light	R51	1	0	-3	24623	R51	1	0	-3	61487	S	✓	✓	✓
		ITC Bookman Light Italic	ITCBookman LtIt	Bookman LightIt	R52	1	1	-3	24623	R52	1	1	-3	61487	S	✓	✓	✓
		ITC Bookman Demi	ITCBookman Db	Bookman Demi	R53	1	0	2	24623	R53	1	0	2	61487	S	✓	✓	✓
		ITC Bookman Demi Italic	ITCBookman DbIt	Bookman DemiIt	R54	1	1	2	24623	R54	1	1	2	61487	S	✓	✓	✓
4	ITC Avant Garde Book	ITCAvantGard Bk	AvantGarde Book	R47	1	0	0	24607	R47	1	0	0	61471	S	✓	✓	✓	
	ITC Avant Garde Book Oblique	ITCAvantGardBkOb	AvantGarde BookOblique	R48	1	1	0	24607	R48	1	1	0	61471	S	✓	✓	✓	
	ITC Avant Garde Demi	ITCAvantGard Db	AvantGarde Demi	R49	1	0	2	24607	R49	1	0	3	61471	S	✓	✓	✓	

Font Load 8.11H01 - PCL Fonts List

(Page 3 of 3)

PCL 5 selection values that are different in forward and backward compatibility modes are **bolded**.

Shading indicates this font is not supported in this mode.

	Font Name	PCL XL Font Name	Panel Display Name	Forward Compatibility Mode				Backward Compatibility Mode				Bitmap / Scalable	45 Scalable Fonts in HP LJ 5Si	30 Cross Emul. Fonts in Optra S	80 Scalable Fonts in HP LJ 4500	39 "Type 1" Fonts		
				Position	PCL 5 Selection				Position	PCL 5 Selection								
					# P	# S	# B	# T		# P	# S						# B	# T
Cross Em	ITC Avant Garde Demi Oblique	ITCAvantGardDbOb	AvantGarde DemiOblique	R50	1	1	2	24607	R50	1	1	3	61471	S		✓	✓	✓
	Century Schoolbook Roman	NwCentSchlbk Rmn	CenturySbk	R55	1	0	0	24703	R55	1	0	0	61463	S		✓	✓	✓
	Century Schoolbook Italic	NwCentSchlbk It	CenturySbk It	R56	1	1	0	24703	R56	1	1	0	61463	S		✓	✓	✓
	Century Schoolbook Bold	NwCentSchlbk Bd	CenturySbk Bd	R57	1	0	3	24703	R57	1	0	3	61463	S		✓	✓	✓
	Century Schoolbook Bold Italic	NwCentSchlbkBdIt	CenturySbk BdIt	R58	1	1	3	24703	R58	1	1	3	61463	S		✓	✓	✓
	1 ITC Zapf Chancery Medium Italic	ZapfChanceryMdIt	ZapfChancery	R83	1	1	0	45099	R75	1	1	0	61483	S		✓	✓	✓
	CourierPS	CourierPS	CourierPS	R59	0	0	0	24579						S			✓	✓
	4 CourierPS Oblique	CourierPS Ob	CourierPS Oblique	R60	0	1	0	24579						S			✓	✓
	CourierPS Bold	CourierPS Bd	CourierPS Bd	R61	0	0	3	24579						S			✓	✓
	CourierPS Bold Oblique	CourierPS BdOb	CourierPS BdOblique	R62	0	1	3	24579						S			✓	✓
	Times Roman	Times Rmn	Times Roman	R79	1	0	0	25093						S			✓	✓
	4 Times Italic	Times It	Times It	R80	1	1	0	25093						S			✓	✓
	Times Bold	Times Bd	Times Bd	R81	1	0	3	25093						S			✓	✓
	Times Bold Italic	Times BdIt	Times BdIt	R82	1	1	3	25093						S			✓	✓
	4 Helvetica Light	Helvetica Lt	Helvetica Light	R71	1	0	-3	24580	R67	1	0	-3	61444	S		✓		✓
	Helvetica Light Oblique	Helvetica LtOb	Helvetica Light Oblique	R72	1	1	-3	24580	R68	1	1	-3	61444	S		✓		✓
Helvetica Black	Helvetica Blk	Helvetica Black	R73	1	0	5	24580	R69	1	0	5	61444	S		✓		✓	
Helvetica Black Oblique	Helvetica BlkOb	Helvetica Black Oblique	R74	1	1	5	24580	R70	1	1	5	61444	S		✓		✓	
1 Line Printer 16	Line Printer xxx	LinePrinter16	R45	0	0	0	0	R45	0	0	0	0	B					
1 POSTNET Barcode	POSTNET BARCODE	POSTNET Barcode	R46	1	0	0	0	R46	1	0	0	0	B					
3	C39 Narrow		C39 Narrow	R86	1	0	0	32774	R77	1	0	0	32774	S				
	C39 Regular		C39 Regular	R87	1	0	0	32772	R78	1	0	0	32772	S				
	C39 Wide		C39 Wide	R88	1	0	0	32777	R79	1	0	0	32777	S				
1 OCR-A		OCR-A	R89	0	0	0	23584	R80	0	0	0	23584	S					
1 OCR-B		OCR-B	R90	0	0	0	23590	R81	0	0	0	23590	S					
1 Wingdings	Wingdings	Wingdings	R38	1	0	0	31402	R38	1	0	0	31402	S	✓		✓		
1 Symbol	Symbol	Symbol	R37	1	0	0	16686	R37	1	0	0	16686	S	✓		✓		
1 SymbolPS	SymbolPS	SymbolPS	R85	1	0	0	45358						S			✓	✓	
1 ITC Zapf Dingbats	ZapfDingbats	ZapfDingbats	R84	1	0	0	45101	R76	1	0	0	61485	S		✓	✓	✓	

Font Load 8.11H01 - Notes on PCL Fonts

(Page 1 of 2)

Font Selection in PCL XL vs. PCL 5

A font is selected in PCL XL using the PCL XL Font Name, which is case sensitive and must be spelled exactly as shown in the PCL Fonts List, including embedded and trailing spaces - the name is always a 16-byte string.

A font is typically selected in PCL 5 by characteristic, using the Spacing, Style, Stroke Weight, and Typeface Family commands.

A font can also be selected in PCL 5 by position, but this is not recommended.

Fonts not supported in PCL XL

The following fonts are supported only in PCL 5, **not** in PCL XL:

C39 Narrow

C39 Regular

C39 Wide

OCR-A

OCR-B

Forward vs. Backward Compatibility

See "History of PCL Fonts" below for an explanation of forward vs. backward compatibility modes.

The PJI LPARM:PCL environment variable LFONTCOMPATIBILITY is used to select the compatibility mode:

To select forward compatibility mode, use: LFONTCOMPATIBILITY = PCL6 (factory default)

To select backward compatibility mode, use: LFONTCOMPATIBILITY = PCL5

Panel Display Names

The Panel Display Names shown in the PCL Fonts List are the strings that are used when displaying on an operator panel the fonts that are available for selection as the default font in PCL 5.

The actual appearance of these names on a given operator panel, in terms of where the strings are positioned on the available lines of the panel, will differ based on the panel design.

The Panel Display Names used in this font load were originally designed for a 2-line x 16-character operator panel.

"Type 1" Fonts

The 39 "Type 1" fonts can be disabled for best compatibility with the original 45 scalable fonts in PCL.

The PJI environment variable LTYPE1FONTS is used to enable or disable the "Type 1" fonts:

To enable the "Type 1" fonts, use: LTYPE1FONTS = ON (factory default)

To disable the "Type 1" fonts, use: LTYPE1FONTS = OFF

These fonts are also known as "Cross Emulation Type 1" fonts because they originally came from the PostScript emulation.

Line Printer in PCL XL

The PCL XL Font Name for Line Printer includes xxx, where xxx is the symbol set identifier (right justified), e.g.:

For symbol set 8U, use (note spaces): Line Printer 8U

For symbol set 12U, use (note spaces): Line Printer 12U

PCL Fonts Test Pages

The PJI command LPRINTPCLFONTS prints the PCL Fonts test pages, which include the font selection information shown in the PCL Fonts List, as well as print samples of each font.

GL/2 Fonts

The GL/2 emulation within PCL 5 supports all the resident PCL 5 fonts, plus two additional vector or line fonts exclusive to GL/2: the Stick and Arc fonts.

The Stick font is the default font for GL/2 labels.

The selection parameter values for these GL/2 fonts are shown in the following table:

Font Load 8.11H01 - Notes on PCL Fonts

(Page 2 of 2)

Font Name	Spacing	Style	Stroke Weight	Typeface Family
Stick	0	0	0	48
Arc	1	0	0	48

History of PCL Fonts

In early LaserJet's, HP had 45 standard scalable fonts and 1 bitmapped font.

In the Optra S, Lexmark had the 45 standard scalable fonts and 2 bitmapped fonts:

Lexmark emulated all of the HP fonts with the same font selection commands.

Lexmark added the POSTNET Barcode font.

In the Optra S, Lexmark also added 30 cross emulation fonts (fonts that were originally in the PostScript emulation), and defined reasonable font selection commands for these new fonts.

In the LaserJet 4500, HP added 35 cross emulation fonts:

In HP's implementation, 26 of the fonts were equivalent to Lexmark's cross emulation fonts, but all had different font selection commands.

In HP's implementation, 9 of the fonts were new (they were duplicates of very similar fonts in the standard PCL fonts).

In the Optra T, Lexmark added the 9 new cross emulation fonts from the LaserJet 4500.

In the Optra T, Lexmark also added a forward/backward compatibility mode switch to do the following:

In the backward compatibility mode, we match the Optra S fonts and selection commands.

In the forward compatibility mode, we match the HP LaserJet 4500 fonts and selection commands.

The forward compatibility mode was chosen as the default so we are plug compatible with the HP LaserJet.

Lexmark PCL drivers switch to the backward compatibility mode so our new printers remain compatible with our previous printers.

Beginning with the Lexmark E323 and T420 (Font Load 8.10M01), we added five new fonts to PCL 5:

Three Code 3 of 9 bar code fonts

OCR-A and OCR-B

Font Load 8.11H01 - PCL Symbol Sets List

(Page 1 of 2)

The following table lists the resident PCL symbol sets in this font load, and shows various characteristics of each symbol set.

		PCL 5 Symbol Set ID	PCL 5 Symbol Set ID (decimal)	Panel Display Name - String 1	Panel Display Name - String 2	PJL SYMSET Name	2-Character Symbol Set ID	38 Symbol Sets in HP LJ 4500	
Symbol Set Name									
Latin 1	24	Legal	1U	53	1U Legal		LEGAL	LG	✓
		Windows 3.0 Latin 1	9U	309	9U Windows 3.0	Western	WIN30	WO	✓
		Windows 98 Latin 1	19U	629	19U Windows L1	Western	WINL1	W1	✓
		ISO 8859-1 Latin 1 (ECMA-94)	0N	14	0N ISO 8859-1	Latin 1	ISOL1	E1	✓
		ISO 8859-15 Latin 9	9N	302	9N ISO 8859-15	Latin 9		E9	✓
		PC-8 Code Page 437	10U	341	10U PC-8		PC8	PC	✓
		PC-8 Danish/Norwegian (437N)	11U	373	11U PC-8 Danish	Norwegian	PC8DN	PD	✓
		PC-850 Multilingual	12U	405	12U PC-850		PC850	PM	✓
		PC-858 Multilingual Euro	13U	437	13U PC-858			P9	
		PC-860 Portugal	20U	661	20U PC-860	Portugal		PP	
		PC-861 Iceland	21U	693	21U PC-861	Iceland		IC	
		PC-863 Canadian French	23U	757	23U PC-863	Canadian-French		CN	
		PC-865 Nordic	25U	821	25U PC-865	Norway		NW	
		PC-1004 OS/2	9J	298	9J PC-1004	OS/2 L1		PU	✓
		ABICOMP Brazil/Portugal	13P	432	13P ABICOMP	Brazil/Portugal		P1	
		ABICOMP International	14P	464	14P ABICOMP	International		P2	
		Roman-8	8U	277	8U Roman-8		ROMAN8	R8	✓
		Roman-9	4U	149	4U Roman-9			R9	
		Roman Extension	0E	5	0E Roman	Extension		RE	✓
		PS Text	10J	330	10J PS Text		PSTEXT	TS	✓
		Macintosh Text	12J	394	12J MC Text			MC	✓
		DeskTop	7J	234	7J DeskTop		DESKTOP	DT	✓
		Ventura International	13J	426	13J Ventura	International	VNINTL	VI	
		Ventura US	14J	458	14J Ventura US		VNUS	VU	
Latin 2	5	Windows 98 Latin 2	9E	293	9E Windows L2	Central Europe	WINL2	WE	✓
		ISO 8859-2 Latin 2	2N	78	2N ISO 8859-2	Latin 2	ISOL2	E2	✓
		PC-852 Latin 2	17U	565	17U PC-852	Latin 2	PC852	PE	✓
		PC-8 Polish Mazovia	24Q	785	24Q PC-8	Polish Mazovia		PL	
		PC-8 PC Nova	27Q	881	27Q PC-8	PC Nova		PY	
Latin 5	6	Windows 98 Latin 5	5T	180	5T Windows L5	Turkish	WINL5	WT	✓
		ISO 8859-9 Latin 5	5N	174	5N ISO 8859-9	Latin 5	ISOL5	E5	✓
		PC-857 Latin 5 (Turkish)	16U	533	16U PC-857	Turkish/Latin 5		P5	
		PC-853 Latin 3 (Turkish)	18U	597	18U PC-853	Turkish/Latin 3		P3	
		PC-8 Turkish (437T)	9T	308	9T PC-8	Turkish	PC8TK	PT	✓
		Turkish-8	8T	276	8T Turkish-8			TK	
Latin 6	3	Windows 98 Latin 6 (Baltic)	19L	620	19L Windows L6	Baltic		WL	✓
		ISO 8859-10 Latin 6	6N	206	6N ISO 8859-10	Latin 6		E6	✓
		PC-775 Baltic (PC-8 Latin 6)	26U	853	26U PC-775	Baltic		PV	✓
Cyrillic	7	Windows 98 Cyrillic	9R	306	9R Windows	Cyrillic		WR	
		ISO 8859-5 Latin/Cyrillic	10N	334	10N ISO 8859-5	Latin/Cyrillic		ER	
		PC-866 Cyrillic	3R	114	3R PC Cyrillic			CP	
		PC-855 Cyrillic	10R	338	10R PC-855	Cyrillic/Serbia		PK	
		Russian-GOST	12R	402	12R USSR-GOST			RG	
		PC-8 Bulgarian	13R	434	13R PC-8	Bulgarian		BG	

Font Load 8.11H01 - PCL Symbol Sets List

(Page 2 of 2)

	Symbol Set Name	PCL 5 Symbol Set ID	PCL 5 Symbol Set ID (decimal)	Panel Display Name - String 1	Panel Display Name - String 2	PJL SYMSET Name	2-Character Symbol Set ID	38 Symbol Sets in HP LJ 4500
	Ukrainian	14R	466	14R PC	Ukrainian		CU	
Greek	Windows 98 Greek	9G	295	9G Windows	Greek		WG	
	ISO 8859-7 Latin/Greek	12N	398	12N ISO 8859-7	Latin/Greek		EG	
	PC-869 Greece	11G	359	11G PC-869	Latin/Greek		IG	
	PC-851 Greece	10G	327	10G PC-851	Latin/Greek		PG	
	PC-8 Latin/Greek	12G	391	12G PC-8 Greek			GK	
	PC-8 Greek Alternate (437G)	14G	455	14G Greek	Alternate 437G		GE	
	Greek-8	8G	263	8G Greek-8			G8	
Specials	Ventura Math	6M	205	6M Ventura	Math	VNMATH	VM	
	PS Math	5M	173	5M PS Math		PSMATH	MS	✓
	Math-8	8M	269	8M Math-8		MATH8	M8	✓
	Pi Font	15U	501	15U PI Font		PIFONT	PI	✓
	Microsoft Publishing	6J	202	6J Microsoft	Publishing	MSPUBL	PB	✓
	PC-911 Katakana	3K	107	3K PC-911	Katakana		PJ	
	POSTNET Barcode	15Y	505	15Y POSTNET	Barcode			
	OCR-A	0O	15	0O OCR-A				
	OCR-B	1O	47	1O OCR-B				
	C39 Bar Code (Upper Case)	9Y	313	9Y Barcode				
	C39 Bar Code (plus Lower Case)	109Y	3513	109Y Barcode				
	C39 Bar Code (plus Human Readable)	209Y	6713	209Y Barcode				
	Symbol	19M	621	19M Symbol			SY	✓
	Wingdings	579L	18540	579L Wingdings			WD	✓
	Ventura ITC Zapf Dingbats	9L	300	9L Ventura Zapf	Dingbats	VNDING	DV	
	PS ITC Zapf Dingbats	10L	332	10L PS ITC Zapf	Dingbats	PSDING	DS	
	PCL ITC Zapf Dingbats	14L	460	14L PCL Zapf	Dingbats		L\$	✓
7-bit ISO	ISO 4: United Kingdom	1E	37	1E ISO-4 UK		ISO4	UK	✓
	ISO 6: ASCII	0U	21	0U ISO-6 ASCII		ISO6	US	✓
	ISO 11: Swedish for Names	0S	19	0S ISO-11	Swedish	ISO11	SW	✓
	ISO 15: Italian	0I	9	0I ISO-15	Italian	ISO15	IT	✓
	ISO 17: Spanish	2S	83	2S ISO-17	Spanish	ISO17	SP	✓
	ISO 21: German	1G	39	1G ISO-21	German	ISO21	GR	✓
	ISO 60: Norwegian version 1	0D	4	0D ISO-60	Norwegian	ISO60	DN	✓
	ISO 69: French	1F	38	1F ISO-69	French	ISO69	FR	✓
	ISO 2: IRV (Int'l Ref Version)	2U	85	2U ISO-2 IRV			2U	
	ISO 25: French	0F	6	0F ISO-25	French		0F	
	ISO : German	0G	7	0G German			0G	
	ISO 14: JIS ASCII	0K	11	0K ISO-14 JIS	ASCII		0K	
	ISO 57: Chinese	2K	75	2K ISO-57	Chinese		2K	
	ISO 10: Swedish	3S	115	3S ISO-10	Swedish		3S	
	ISO : Spanish	1S	51	1S Spanish			1S	
	ISO 85: Spanish	6S	211	6S ISO-85	Spanish		6S	
	ISO 16: Portuguese	4S	147	4S ISO-16	Portuguese		4S	
	ISO 84: Portuguese	5S	179	5S ISO-84	Portuguese		5S	
	ISO 61: Norwegian version 2	1D	36	1D ISO-61	Norwegian		1D	

Font Load 8.11H01 - Notes on PCL Symbol Set Support

(Page 1 of 1)

Bound vs. Unbound Fonts

The following fonts are bound bitmapped fonts:

- Line Printer 16 (bound separately to each of the different symbol sets it supports)
- POSTNET Barcode (bound to 15Y POSTNET Barcode)

The following fonts are bound scalable fonts:

- Wingdings (bound to 579L Wingdings)
- Symbol (bound to 19M Symbol)
- Symbol PS (bound to 19M Symbol)

All the rest of the resident PCL fonts are unbound scalable fonts that use Unicode values for their symbol sets.

All unbound fonts support the UTF-8 Text Parsing Method (1008).

Non-Standard Unicode Assignments

The OCR-A and C39 bar code fonts have some non-standard Unicode assignments.

The ITC Zapf Dingbats font has all non-standard Unicode assignments.

OCR Fonts

OCR-A is enabled to work with Latin 1 symbol sets even though only a limited subset of characters are available.

OCR-B is enabled to work with Latin 1 and Latin 2 symbol sets.

OCR-B has additional characters not included in the OCR-B specification that may not be machine readable.

These characters are included to partially support some Latin 1 and Latin 2 symbol sets.

7-bit ISO Symbol Sets

Any unbound font that supports 8U Roman-8 will support the 7-bit ISO symbol sets.

PCL XL Font-Symbol Set Support

All the symbol set support shown in the PCL Font-SymSet Support Matrix applies to both PCL XL and PCL 5, with the following exceptions:

In PCL XL, LinePrinter 16 does **not** support symbol set 3K PC-911 Katakana.

In PCL XL, all unbound fonts support the additional symbol set 18N (decimal value 590), which provides a direct mapping to all single and double byte Unicode values.

In PCL XL, there are no fonts that officially support the C39 symbol sets 9Y, 109Y, and 209Y,

In PCL XL, there are no fonts that officially support the OCR symbol sets 0O and 1O.

GL/2 Font-Symbol Set Support

The GL/2 line fonts Stick and Arc only support symbol sets 8U Roman-8 and 0E Roman-Extension.

Panel Display Names

The Panel Display Names shown in the PCL Symbol Sets List are the strings that are used when displaying on an operator panel the symbol sets that are available for selection as the default symbol set in PCL 5.

The actual appearance of these names on a given operator panel, in terms of where the strings are positioned on the available lines of the panel, will differ based on the panel design.

The Panel Display Names used in this font load were designed for a 2-line x 16-character operator panel.

Font Load 8.11H01 - PS Fonts List

(Page 1 of 4)

The following table lists the resident PostScript fonts in this font load, and shows various characteristics of each font.

PostScript Font Names that are different in forward and backward compatibility modes are **bolded**.

Character Set Abbreviations: L1 = Latin 1; L2 = Latin 2; L5 = Latin 5; L6 = Latin 6; Cyr = Cyrillic; Grk = Greek.

	Forward Compatibility Mode	Backward Compatibility Mode	Other Compatibility Mode Differences	Character Sets Supported	Alternate Font Name 1	Alternate Font Name 2	Alternate Font Name (CE)
	PostScript Font Name	PostScript Font Name					
3	AlbertusMT	AlbertusMT		L1			
	AlbertusMT-Italic	AlbertusMT-Italic		L1			
	AlbertusMT-Light	AlbertusMT-Light		L1			
4	AntiqueOlive-Roman	AntiqueOlive	Metrics changed	L1, L2, L5, L6	AntiqueOlive		AntiqueOliveCE-Roman
	AntiqueOlive-Italic	AntiqueOlive-Italic	Metrics changed	L1, L2, L5, L6			AntiqueOliveCE-Italic
	AntiqueOlive-Bold	AntiqueOlive-Bold	Metrics changed	L1, L2, L5, L6			AntiqueOliveCE-Bold
	AntiqueOlive-Compact	AntiqueOlive-Compact		L1, L2, L5, L6			AntiqueOliveCE-Compact
1	Apple-Chancery	Apple-Chancery		L1, L2, L5, L6			Apple-ChanceryCE
4	ArialMT	ArialMT		L1, L2, L5, L6, Cyr, Grk	Arial		ArialCE
	Arial-ItalicMT	Arial-ItalicMT		L1, L2, L5, L6, Cyr, Grk	Arial-Italic		ArialCE-Italic
	Arial-BoldMT	Arial-BoldMT		L1, L2, L5, L6, Cyr, Grk	Arial-Bold		ArialCE-Bold
	Arial-BoldItalicMT	Arial-BoldItalicMT		L1, L2, L5, L6, Cyr, Grk	Arial-BoldItalic		ArialCE-BoldItalic
4	AvantGarde-Book	AvantGarde-Book		L1, L2, L5, L6			AvantGardeCE-Book
	AvantGarde-BookOblique	AvantGarde-BookOblique		L1, L2, L5, L6			AvantGardeCE-BookOblique
	AvantGarde-Demi	AvantGarde-Demi		L1, L2, L5, L6			AvantGardeCE-Demi
	AvantGarde-DemiOblique	AvantGarde-DemiOblique		L1, L2, L5, L6			AvantGardeCE-DemiOblique
6	Bodoni	Bodoni		L1, L2, L5, L6			BodoniCE
	Bodoni-Italic	Bodoni-Italic		L1, L2, L5, L6			BodoniCE-Italic
	Bodoni-Bold	Bodoni-Bold		L1, L2, L5, L6			BodoniCE-Bold
	Bodoni-BoldItalic	Bodoni-BoldItalic		L1, L2, L5, L6			BodoniCE-BoldItalic
	Bodoni-Poster	Bodoni-Poster		L1, L2, L5, L6			BodoniCE-Poster
	Bodoni-PosterCompressed	Bodoni-PosterCompressed		L1, L2, L5, L6			BodoniCE-PosterCompressed
	Bookman-Light	Bookman-Light		L1, L2, L5, L6			BookmanCE-Light
4	Bookman-LightItalic	Bookman-LightItalic		L1, L2, L5, L6			BookmanCE-LightItalic
	Bookman-Demi	Bookman-Demi		L1, L2, L5, L6			BookmanCE-Demi
	Bookman-DemItalic	Bookman-DemItalic		L1, L2, L5, L6			BookmanCE-DemItalic
1	Candid	Candid		non-text font	Carta		
1	Chicago	Chicago		L1, L2, L5, L6			ChicagoCE
3	Clarendon	Clarendon		L1, L2, L5, L6			ClarendonCE
	Clarendon-Light	Clarendon-Light		L1, L2, L5, L6			ClarendonCE-Light
	Clarendon-Bold	Clarendon-Bold		L1, L2, L5, L6			ClarendonCE-Bold
2	CooperBlack	CooperBlack		L1			
	CooperBlack-Italic	CooperBlack-Italic		L1			
2	Copperplate-ThirtyTwoBC	Copperplate-ThirtyTwoBC		L1			
	Copperplate-ThirtyThreeBC	Copperplate-ThirtyThreeBC		L1			
1	Coronet-Regular	Coronet-Regular		L1, L2, L5, L6			CoronetCE-Regular
4	Courier	Courier		L1, L2, L5, L6			CourierCE
	Courier-Oblique	Courier-Oblique		L1, L2, L5, L6			CourierCE-Oblique
	Courier-Bold	Courier-Bold		L1, L2, L5, L6			CourierCE-Bold
	Courier-BoldOblique	Courier-BoldOblique		L1, L2, L5, L6			CourierCE-BoldOblique
	Eurostile	Eurostile		L1, L2, L5, L6			EurostileCE

Font Load 8.11H01 - PS Fonts List

(Page 2 of 4)

PostScript Font Names that are different in forward and backward compatibility modes are **bolded**.

Character Set Abbreviations: L1 = Latin 1; L2 = Latin 2; L5 = Latin 5; L6 = Latin 6; Cyr = Cyrillic; Grk = Greek.

	Forward Compatibility Mode	Backward Compatibility Mode	Other Compatibility Mode Differences	Character Sets Supported	Alternate Font Name 1	Alternate Font Name 2	Alternate Font Name (CE)
	PostScript Font Name	PostScript Font Name					
4	Eurostile-Bold	Eurostile-Bold		L1, L2, L5, L6			EurostileCE-Bold
	Eurostile-ExtendedTwo	Eurostile-ExtendedTwo		L1, L2, L5, L6			EurostileCE-ExtendedTwo
	Eurostile-BoldExtendedTwo	Eurostile-BoldExtendedTwo		L1, L2, L5, L6			EurostileCE-BoldExtendedTwo
4	Garamond-Antiqua	Garamond-Antiqua		L1, L2, L5, L6			
	Garamond-Kursiv	Garamond-Kursiv		L1, L2, L5, L6			
	Garamond-Halbfett	Garamond-Halbfett		L1, L2, L5, L6			
	Garamond-KursivHalbfett	Garamond-KursivHalbfett		L1, L2, L5, L6			
1	Geneva	Geneva		L1, L2, L5, L6			GenevaCE
9	GillSans	GillSans		L1, L2, L5, L6			GillSansCE-Roman
	GillSans-Italic	GillSans-Italic		L1, L2, L5, L6			GillSansCE-Italic
	GillSans-Bold	GillSans-Bold		L1, L2, L5, L6			GillSansCE-Bold
	GillSans-BoldItalic	GillSans-BoldItalic		L1, L2, L5, L6			GillSansCE-BoldItalic
	GillSans-Light	GillSans-Light		L1, L2, L5, L6			GillSansCE-Light
	GillSans-LightItalic	GillSans-LightItalic		L1, L2, L5, L6			GillSansCE-LightItalic
	GillSans-ExtraBold	GillSans-ExtraBold		L1, L2, L5, L6			GillSansCE-ExtraBold
	GillSans-Condensed	GillSans-Condensed		L1, L2, L5, L6			GillSansCE-Condensed
	GillSans-BoldCondensed	GillSans-BoldCondensed		L1, L2, L5, L6			GillSansCE-BoldCondensed
2	GoldSansMM	GoldSansMM		L1	AdobeSansMM		
	GoldSerifMM	GoldSerifMM		L1	AdobeSerifMM		
5	Goudy	Goudy		L1			
	Goudy-Italic	Goudy-Italic		L1			
	Goudy-Bold	Goudy-Bold		L1			
	Goudy-BoldItalic	Goudy-BoldItalic		L1			
	Goudy-ExtraBold	Goudy-ExtraBold		L1			
4	Helvetica	Helvetica		L1, L2, L5, L6			HelveticaCE
	Helvetica-Oblique	Helvetica-Oblique		L1, L2, L5, L6	Helvetica-Italic		HelveticaCE-Oblique
	Helvetica-Bold	Helvetica-Bold		L1, L2, L5, L6			HelveticaCE-Bold
	Helvetica-BoldOblique	Helvetica-BoldOblique		L1, L2, L5, L6	Helvetica-BoldItalic		HelveticaCE-BoldOblique
4	Helvetica-Condensed	Helvetica-Condensed		L1, L2, L5, L6			HelveticaCE-Cond
	Helvetica-Condensed-Oblique	Helvetica-Condensed-Oblique		L1, L2, L5, L6			HelveticaCE-CondObl
	Helvetica-Condensed-Bold	Helvetica-Condensed-Bold		L1, L2, L5, L6			HelveticaCE-CondBold
	Helvetica-Condensed-BoldObl	Helvetica-Condensed-BoldObl		L1, L2, L5, L6			HelveticaCE-CondBoldObl
	Helvetica-Light	Helvetica-Light		L1			HelveticaCE-Light
4	Helvetica-LightOblique	Helvetica-LightOblique		L1			HelveticaCE-LightOblique
	Helvetica-Black	Helvetica-Black		L1			HelveticaCE-Black
	Helvetica-BlackOblique	Helvetica-BlackOblique		L1			HelveticaCE-BlackOblique
	Helvetica-Narrow	Helvetica-Narrow		L1, L2, L5, L6			HelveticaCE-Narrow
4	Helvetica-Narrow-Oblique	Helvetica-Narrow-Oblique		L1, L2, L5, L6	Helvetica-Narrow-Italic		HelveticaCE-NarrowOblique
	Helvetica-Narrow-Bold	Helvetica-Narrow-Bold		L1, L2, L5, L6			HelveticaCE-NarrowBold
	Helvetica-Narrow-BoldOblique	Helvetica-Narrow-BoldOblique		L1, L2, L5, L6	Helvetica-Narrow-BoldItalic		HelveticaCE-NarrowBoldOblique
5	HoeflerText-Regular	HoeflerText-Regular		L1, L2, L5, L6			HoeflerTextCE-Regular
	HoeflerText-Italic	HoeflerText-Italic		L1, L2, L5, L6			HoeflerTextCE-Italic
	HoeflerText-Black	HoeflerText-Black		L1, L2, L5, L6			HoeflerTextCE-Black

Font Load 8.11H01 - PS Fonts List

(Page 3 of 4)

PostScript Font Names that are different in forward and backward compatibility modes are **bolded**.

Character Set Abbreviations: L1 = Latin 1; L2 = Latin 2; L5 = Latin 5; L6 = Latin 6; Cyr = Cyrillic; Grk = Greek.

	Forward Compatibility Mode	Backward Compatibility Mode	Other Compatibility Mode Differences	Character Sets Supported	Alternate Font Name 1	Alternate Font Name 2	Alternate Font Name (CE)
	PostScript Font Name	PostScript Font Name					
	HoeflerText-BlackItalic	HoeflerText-BlackItalic		L1, L2, L5, L6			HoeflerTextCE-BlackItalic
	HoeflerText-Ornaments	HoeflerText-Ornaments		non-text font			
4	Intl-CG-Times	Intl-CG-Times		L1, L2, L5, L6, Cyr, Grk	CGTimes	CG-Times	
	Intl-CG-Times-Italic	Intl-CG-Times-Italic		L1, L2, L5, L6, Cyr, Grk	CGTimes-Italic	CG-Times-Italic	
	Intl-CG-Times-Bold	Intl-CG-Times-Bold		L1, L2, L5, L6, Cyr, Grk	CGTimes-Bold	CG-Times-Bold	
	Intl-CG-Times-BoldItalic	Intl-CG-Times-BoldItalic		L1, L2, L5, L6, Cyr, Grk	CGTimes-BoldItalic	CG-Times-BoldItalic	
4	Intl-Courier	Intl-Courier		L1, L2, L5, L6, Cyr, Grk	CourierHP	CourierTT	
	Intl-Courier-Oblique	Intl-Courier-Oblique		L1, L2, L5, L6, Cyr, Grk	CourierHP-Italic	Courier-ItalicTT	
	Intl-Courier-Bold	Intl-Courier-Bold		L1, L2, L5, L6, Cyr, Grk	CourierHP-Bold	Courier-BoldTT	
	Intl-Courier-BoldOblique	Intl-Courier-BoldOblique		L1, L2, L5, L6, Cyr, Grk	CourierHP-BoldItalic	Courier-BoldItalicTT	
4	Intl-Univers-Medium	Intl-Univers-Medium		L1, L2, L5, L6, Cyr, Grk	Univers-Medium		
	Intl-Univers-MediumItalic	Intl-Univers-MediumItalic		L1, L2, L5, L6, Cyr, Grk	Univers-MediumItalic		
	Intl-Univers-Bold	Intl-Univers-Bold		L1, L2, L5, L6, Cyr, Grk			
	Intl-Univers-BoldItalic	Intl-Univers-BoldItalic		L1, L2, L5, L6, Cyr, Grk	Univers-BoldItalic		
4	JoannaMT	JoannaMT		L1, L2, L5, L6			JoannaMTCE
	JoannaMT-Italic	JoannaMT-Italic		L1, L2, L5, L6			JoannaMTCE-Italic
	JoannaMT-Bold	JoannaMT-Bold		L1, L2, L5, L6			JoannaMTCE-Bold
	JoannaMT-BoldItalic	JoannaMT-BoldItalic		L1, L2, L5, L6			JoannaMTCE-BoldItalic
4	LetterGothic	LetterGothic	Metrics changed	L1, L2, L5, L6			LetterGothicCE
	LetterGothic-Slanted	LetterGothic-Italic	Metrics changed	L1, L2, L5, L6	LetterGothic-Italic		LetterGothicCE-Slanted
	LetterGothic-Bold	LetterGothic-Bold	Metrics changed	L1, L2, L5, L6			LetterGothicCE-Bold
	LetterGothic-BoldSlanted	LetterGothic-BoldSlanted		L1, L2, L5, L6			LetterGothicCE-BoldSlanted
4	LubalinGraph-Book	LubalinGraph-Book		L1, L2, L5, L6			LubalinGraphCE-Book
	LubalinGraph-BookOblique	LubalinGraph-BookOblique		L1, L2, L5, L6			LubalinGraphCE-BookOblique
	LubalinGraph-Demi	LubalinGraph-Demi		L1, L2, L5, L6			LubalinGraphCE-Demi
	LubalinGraph-DemiOblique	LubalinGraph-DemiOblique		L1, L2, L5, L6			LubalinGraphCE-DemiOblique
1	Marigold	Marigold	Metrics changed	L1			
1	MonaLisa-Recut	MonaLisa-Recut		L1			
1	Monaco	Monaco		L1, L2, L5, L6			MonacoCE
4	NewCenturySchlbk-Roman	NewCenturySchlbk-Roman		L1, L2, L5, L6	CenturySchlbk-Roman		NewCenturySchlbkCE-Roman
	NewCenturySchlbk-Italic	NewCenturySchlbk-Italic		L1, L2, L5, L6	CenturySchlbk-Italic		NewCenturySchlbkCE-Italic
	NewCenturySchlbk-Bold	NewCenturySchlbk-Bold		L1, L2, L5, L6	CenturySchlbk-Bold		NewCenturySchlbkCE-Bold
	NewCenturySchlbk-BoldItalic	NewCenturySchlbk-BoldItalic		L1, L2, L5, L6	CenturySchlbk-BoldItalic		NewCenturySchlbkCE-BoldItalic
1	NewYork	NewYork		L1, L2, L5, L6			NewYorkCE
4	Optima	Optima		L1, L2, L5, L6			OptimaCE-Roman
	Optima-Italic	Optima-Italic		L1, L2, L5, L6			OptimaCE-Italic
	Optima-Bold	Optima-Bold		L1, L2, L5, L6			OptimaCE-Bold
	Optima-BoldItalic	Optima-BoldItalic		L1, L2, L5, L6			OptimaCE-BoldItalic
1	Oxford	Oxford		L1			
4	Palatino-Roman	Palatino-Roman		L1, L2, L5, L6			PalatinoCE-Roman
	Palatino-Italic	Palatino-Italic		L1, L2, L5, L6			PalatinoCE-Italic
	Palatino-Bold	Palatino-Bold		L1, L2, L5, L6			PalatinoCE-Bold
	Palatino-BoldItalic	Palatino-BoldItalic		L1, L2, L5, L6			PalatinoCE-BoldItalic

Font Load 8.11H01 - PS Fonts List

(Page 4 of 4)

PostScript Font Names that are different in forward and backward compatibility modes are **bolded**.

Character Set Abbreviations: L1 = Latin 1; L2 = Latin 2; L5 = Latin 5; L6 = Latin 6; Cyr = Cyrillic; Grk = Greek.

	Forward Compatibility Mode	Backward Compatibility Mode	Other Compatibility Mode Differences	Character Sets Supported	Alternate Font Name 1	Alternate Font Name 2	Alternate Font Name (CE)
	PostScript Font Name	PostScript Font Name					
4	StempelGaramond-Roman	StempelGaramond-Roman		L1, L2, L5, L6			StempelGaramondCE-Roman
	StempelGaramond-Italic	StempelGaramond-Italic		L1, L2, L5, L6			StempelGaramondCE-Italic
	StempelGaramond-Bold	StempelGaramond-Bold		L1, L2, L5, L6			StempelGaramondCE-Bold
	StempelGaramond-BoldItalic	StempelGaramond-BoldItalic		L1, L2, L5, L6			StempelGaramondCE-BoldItalic
1	Symbol	Symbol		non-text font	SymbolSet		
1	Taffy	Taffy		L1	Tekton		
4	Times-Roman	Times-Roman		L1, L2, L5, L6	TimesNewRoman		TimesCE-Roman
	Times-Italic	Times-Italic		L1, L2, L5, L6	TimesNewRoman-Italic		TimesCE-Italic
	Times-Bold	Times-Bold		L1, L2, L5, L6	TimesNewRoman-Bold		TimesCE-Bold
	Times-BoldItalic	Times-BoldItalic		L1, L2, L5, L6	TimesNewRoman-BoldItalic		TimesCE-BoldItalic
4	TimesNewRomanPSMT	TimesNewRomanPSMT		L1, L2, L5, L6, Cyr, Grk	TimesNewRomanTT		TimesNewRomanCE
	TimesNewRomanPS-ItalicMT	TimesNewRomanPS-ItalicMT		L1, L2, L5, L6, Cyr, Grk	TimesNewRoman-ItalicTT		TimesNewRomanCE-Italic
	TimesNewRomanPS-BoldMT	TimesNewRomanPS-BoldMT		L1, L2, L5, L6, Cyr, Grk	TimesNewRoman-BoldTT		TimesNewRomanCE-Bold
	TimesNewRomanPS-BoldItalicMT	TimesNewRomanPS-BoldItalicMT		L1, L2, L5, L6, Cyr, Grk	TimesNewRoman-BoldItalicTT		TimesNewRomanCE-BoldItalic
6	Univers	Univers		L1, L2, L5, L6			UniversCE-Medium
	Univers-Oblique	Univers-Oblique		L1, L2, L5, L6			UniversCE-Oblique
	Univers-Bold	Univers-Bold	Metrics changed	L1, L2, L5, L6			UniversCE-Bold
	Univers-BoldOblique	Univers-BoldOblique		L1, L2, L5, L6			UniversCE-BoldOblique
	Univers-Light	Univers-Light		L1, L2, L5, L6			UniversCE-Light
	Univers-LightOblique	Univers-LightOblique		L1, L2, L5, L6			UniversCE-LightOblique
4	Univers-Condensed	Univers-Condensed		L1, L2, L5, L6			UniversCE-Condensed
	Univers-CondensedOblique	Univers-CondensedOblique		L1, L2, L5, L6			UniversCE-CondensedOblique
	Univers-CondensedBold	Univers-CondensedBold		L1, L2, L5, L6			UniversCE-CondensedBold
	Univers-CondensedBoldOblique	Univers-CondensedBoldOblique		L1, L2, L5, L6			UniversCE-CondensedBoldOblique
4	Univers-Extended	Univers-Extended		L1, L2, L5, L6			UniversCE-Extended
	Univers-ExtendedObl	Univers-ExtendedObl		L1, L2, L5, L6			UniversCE-ExtendedObl
	Univers-BoldExt	Univers-BoldExt		L1, L2, L5, L6			UniversCE-BoldExt
	Univers-BoldExtObl	Univers-BoldExtObl		L1, L2, L5, L6			UniversCE-BoldExtObl
1	Wingdings-Regular	Wingdings-Regular		non-text font	Wingdings		
1	ZapfChancery-MediumItalic	ZapfChancery-MediumItalic		L1, L2, L5, L6			ZapfChanceryCE-MediumItalic
1	ZapfDingbats	ZapfDingbats		non-text font			

Font Load 8.11H01 - Notes on PS Fonts

(Page 1 of 1)

PS Font Selection

A font is selected in PostScript using the PostScript Font Name, which is case sensitive and must be spelled exactly as shown in the PS Fonts List.

Note that no spaces exist in any PostScript Font Name, but that hyphens are sometimes used.

Forward vs. Backward Compatibility

In forward compatibility mode, the resident PostScript fonts match the equivalent Adobe PS3 fonts.

In backward compatibility mode, the resident PostScript fonts match the original Lexmark PostScript fonts (PostScript Level 2).

The PostScript emulation defaults to the forward compatibility mode.

Lexmark PostScript drivers use the forward compatibility mode.

To select forward compatibility mode, use one of the following PostScript commands:

```
statusdict begin PS3fonts end (temporary, changes the PostScript job only)
<</UseOldfonts false>> setsystemparams (permanent, changes the default in NVRAM)
```

To select backward compatibility mode, use one of the following PostScript commands:

```
statusdict begin PS2fonts end (temporary, changes the PostScript job only)
<</UseOldfonts true>> setsystemparams (permanent, changes the default in NVRAM)
```

PS Fonts Test Pages

The PjL command LPRINTPSFONTS prints the PostScript Fonts test pages, which include print samples of each font.

Hidden PS Fonts

The following fonts are a set of hidden fonts that are available for selection in PostScript just like the resident fonts, but that are not considered to be an official part of the font load.

	PostScript Font Name	Alternate Font Name
2	AlbertusMT-Medium	Albertus-Medium
	AlbertusMT-ExtraBold	Albertus-ExtraBold
4	CG-Omega	CGOmega
	CG-Omega-Italic	CGOmega-Italic
	CG-Omega-Bold	CGOmega-Bold
	CG-Omega-BoldItalic	CGOmega-BoldItalic
1	Clarendon-Condensed-Bold	
1	Coronet	
4	Intl-Univers-Condensed-Medium	Univers-Condensed-Medium
	Intl-Univers-Condensed-MediumItalic	Univers-Condensed-MediumItalic
	Intl-Univers-Condensed-Bold	Univers-Condensed-Bold
	Intl-Univers-Condensed-BoldItalic	Univers-Condensed-BoldItalic
1	SymbolExtension	
1	SymbolMT	SymbolTT

Font Load 8.11H01 - PPDS Fonts List

(Page 1 of 1)

The following table lists the resident PPDS fonts in this font load, and shows various characteristics of each font.

	Font Name	Code Pages Supported	Position(s)	FGID		Bitmap / Scalable	Font Family
				Decimal	Hex		
4	Courier 10	437, 850, 858	1, 5, 11	11	x000B	B	
	Courier 12	437, 850, 858	2, 6, 12	85	x0055	B	
	Courier 17.1	437, 850, 858	3, 7, 13	254	x00FE	B	
	Courier 10 Bold	437, 850, 858	9, 10, 15	46	x002E	B	
1	Boldface PS	437, 850, 858	4, 8, 14	159	x009F	B	
4	Courier	437, 850, 858, 819, 863, 1004	16	416	x01A0	S	Courier
	Courier-Oblique	437, 850, 858, 819, 863, 1004	17	424	x01A8	S	Courier
	Courier-Bold	437, 850, 858, 819, 863, 1004	18	420	x01A4	S	Courier
	Courier-BoldOblique	437, 850, 858, 819, 863, 1004	19	428	x01AC	S	Courier
4	TimesNewRoman	437, 850, 858, 819, 863, 1004	20	2308	x0904	S	Times New Roman
	TimesNewRoman-Italic	437, 850, 858, 819, 863, 1004	21	2310	x0906	S	Times New Roman
	TimesNewRoman-Bold	437, 850, 858, 819, 863, 1004	22	2309	x0905	S	Times New Roman
	TimesNewRoman-BoldItalic	437, 850, 858, 819, 863, 1004	23	2311	x0907	S	Times New Roman
4	Helvetica	437, 850, 858, 819, 863, 1004	24	2304	x0900	S	Helvetica
	Helvetica-Italic	437, 850, 858, 819, 863, 1004	25	2306	x0902	S	Helvetica
	Helvetica-Bold	437, 850, 858, 819, 863, 1004	26	2305	x0901	S	Helvetica
	Helvetica-BoldItalic	437, 850, 858, 819, 863, 1004	27	2307	x0903	S	Helvetica
4	Helvetica-Narrow	437, 850, 858, 819, 863, 1004	28	34101	x8535	S	Helvetica
	Helvetica-Narrow-Italic	437, 850, 858, 819, 863, 1004	29	34229	x85B5	S	Helvetica
	Helvetica-Narrow-Bold	437, 850, 858, 819, 863, 1004	30	34121	x8549	S	Helvetica
	Helvetica-Narrow-BoldItalic	437, 850, 858, 819, 863, 1004	31	34249	x85C9	S	Helvetica
1	SymbolSet	899	53	49975	xC337	S	Symbol
4	Helvetica-Light	437, 850, 858, 819, 863, 1004	40	34083	x8523	S	Helvetica
	Helvetica-LightOblique	437, 850, 858, 819, 863, 1004	41	34211	x85A3	S	Helvetica
	Helvetica-Black	437, 850, 858, 819, 863, 1004	42	34143	x855F	S	Helvetica
	Helvetica-BlackOblique	437, 850, 858, 819, 863, 1004	43	34271	x85DF	S	Helvetica
4	AvantGarde-Book	437, 850, 858, 819, 863, 1004	32	33837	x842D	S	ITC Avant Garde Gothic
	AvantGarde-BookOblique	437, 850, 858, 819, 863, 1004	33	33965	x84AD	S	ITC Avant Garde Gothic
	AvantGarde-Demi	437, 850, 858, 819, 863, 1004	34	33857	x8441	S	ITC Avant Garde Gothic
	AvantGarde-DemiOblique	437, 850, 858, 819, 863, 1004	35	33985	x84C1	S	ITC Avant Garde Gothic
4	Bookman-Light	437, 850, 858, 819, 863, 1004	36	6435	x1923	S	ITC Bookman
	Bookman-LightItalic	437, 850, 858, 819, 863, 1004	37	6563	x19A3	S	ITC Bookman
	Bookman-Demi	437, 850, 858, 819, 863, 1004	38	6465	x1941	S	ITC Bookman
	Bookman-DemiItalic	437, 850, 858, 819, 863, 1004	39	6593	x19C1	S	ITC Bookman
1	ZapfChancery-MediumItalic	437, 850, 858, 819, 863, 1004	52	43447	xA9B7	S	ITC Zapf Chancery
4	CenturySchlbk-Roman	437, 850, 858, 819, 863, 1004	44	16951	x4237	S	New Century Schoolbook
	CenturySchlbk-Italic	437, 850, 858, 819, 863, 1004	46	17079	x42B7	S	New Century Schoolbook
	CenturySchlbk-Bold	437, 850, 858, 819, 863, 1004	47	16971	x424B	S	New Century Schoolbook
	CenturySchlbk-BoldItalic	437, 850, 858, 819, 863, 1004	45	17099	x42CB	S	New Century Schoolbook
4	Palatino-Roman	437, 850, 858, 819, 863, 1004	51	5175	x1437	S	Palatino
	Palatino-Italic	437, 850, 858, 819, 863, 1004	50	5303	x14B7	S	Palatino
	Palatino-Bold	437, 850, 858, 819, 863, 1004	48	5195	x144B	S	Palatino
	Palatino-BoldItalic	437, 850, 858, 819, 863, 1004	49	5323	x14CB	S	Palatino
1	ZapfDingbats	1035	53	51255	xC837	S	ITC Zapf Dingbats

Font Load 8.11H01 - Notes on PPDS Fonts

(Page 1 of 1)

Enabling PPDS

The PPDS emulation is disabled in the factory default mode.

The PJI environment variable LPPDS is used to enable or disable the PPDS emulation:

To enable the PPDS emulation, use: LPPDS = ON

To disable the PPDS emulation, use: LPPDS = OFF (factory default)

PPDS Font Selection

Fonts can be selected in PPDS in several ways:

The PPDS command that uses the Font Global ID (FGID) is recommended: Esc [Z.

Fonts can also be selected by position with the command: Esc I n.

PPDS Print Fonts Test

The PPDS Print Fonts test can be printed from the operator panel (for printers that have op panels) or by using the two-byte PPDS command: Esc } (x1B7D).

Code Page Support

The PPDS Fonts List shows the code pages supported by each resident PPDS font.

The code pages support different language requirements and non-text fonts, and are described as follows:

- 437 = US English
- 850 = Multilingual
- 858 = Multilingual with euro
- 819 = Windows 3.0
- 863 = Canadian French
- 1004 = OS/2
- 899 = Symbol
- 1035 = ZapfDingbats

SymbolExtension

In addition to the resident fonts, PPDS has an additional hidden font called SymbolExtension.

SymbolExtension is called a Design Independent font because it supplies many of the standard symbol and line drawing characters needed by IBM code pages.

All other fonts will share the characters of the Design Independent font if a requested character is not available.

Font Load 8.11H01 - OCR and C39 Information

(Page 1 of 4)

This font load includes these five fonts:

OCR-A	(Optical Character Recognition font)
OCR-B	(Optical Character Recognition font)
C39 Narrow	(Code 3 of 9 Bar Code font - Narrow aspect ratio)
C39 Regular	(Code 3 of 9 Bar Code font - Regular aspect ratio)
C39 Wide	(Code 3 of 9 Bar Code font - Wide aspect ratio)

These specialty fonts are only officially supported in the PCL 5 emulation and have limited support:

No PCL 5 driver support

No PostScript support

OCR Fonts

OCR (Optical Character Recognition) fonts are used for several purposes where automated systems need a standard character shape defined to properly scan numbers and text without the use of bar codes. The OCR-A and OCR-B fonts have character shapes that can be accurately read by OCR scanning equipment. Some examples of OCR implementations include bank checks, passports, serial labels and postal mail.

The OCR-A font prints the industry standard character set. The OCR-B font has been extended beyond the industry standard character set to include Latin 1 and Latin 2 support. This allows documents to be printed in the U.S. as well as Eastern and Western European countries.

Both OCR fonts are scalable and monospaced, so the size of the font is controlled by varying the pitch value and not the point size. (Smaller pitch = larger characters.)

OCR-A Specs

Character Designs: ANSI X3.17-1981 standard

Size: At 10 pitch approximately ANSI size I.

NOT scalable to exactly ANSI size III (requires non-uniform scale factors)

NOT scalable to exactly ANSI size IV (requires non-uniform scale factors)

Character Set: ANSI X3.17-1981 standard (no extra characters)

PCL font selection sequence: «esc»(«symset»«esc»)(s0p«pitch»h0s0b23584T

Standard OCR-A symbol set: 0O (zero + uppercase 'O')

OCR-B Specs

Character Designs: ANSI X3.49-1982 standard

Size: At 10 pitch approximately ANSI size I (actually 0.007" taller)

At 6.67 pitch approximately ANSI size IV.

NOT scalable exactly to ANSI size III (requires non-uniform scale factors)

Character Set: ANSI X3.49-1982 standard plus some extra characters:

Latin 1 and 2 accented characters

Symbol characters needed on Windows Latin 1 and 2 code pages

Symbol characters needed by IBM Latin 1 and 2 code pages

PCL font selection sequence: «esc»(«symset»«esc»)(s0p«pitch»h0s0b23590T

Standard OCR-B symbol set: 1O (one + uppercase 'O')

C39 Bar Code Fonts

Bar codes are a popular method of printing information that will be read by machines. By printing patterns of bars and spaces with various widths, the accuracy of reading the information can be very high. The specific patterns of bars and

Font Load 8.11H01 - OCR and C39 Information

(Page 2 of 4)

spaces used to represent characters is called a bar code symbology. The 3 of 9 bar code symbology was the first alphanumeric symbology to be developed and is the most popular type of bar code used today. It is a simple bar code with 44 different alphabetic, numeric and special characters. It encodes the numbers (0-9), upper case letters (A-Z), and eight other characters (space, *\$%+-./). It is often referred to as Code 39.

The asterisk (*) character is reserved for use as the start/stop code. You must start and end the bar code data with an asterisk and not use the asterisk within the data being coded.

It is required to have some space preceding and following the bar code (known as a "quiet zone"). These bar code fonts have reserved the space character on your keyboard as a spacing character to insert or increase the quiet zone. The "bar code space character" is printed by placing an underscore (_) in the data.

The Code 39 fonts work with three different PCL symbol sets. The most common symbol set, 9Y, encodes the standard 44 characters. The standard definition for Code 39 only includes the upper case letters (A-Z). However, when typing, people sometimes enter Code 39 data using lower case. To address this common error we have included additional symbol sets 109Y and 209Y that duplicate the upper case bar code characters at the lower case character positions. Symbol set 209Y also includes human readable characters under the bars of the bar code.

Symbol Set	Description
9Y	Standard Code 39 encoding - lower case letters are not valid (print blanks)
109Y	Standard Code 39 encoding plus lower case letters are allowed (print equivalent upper case bar codes)
209Y	Standard Code 39 encoding plus lower case letters are allowed (print equivalent upper case bar codes), and includes human readable characters under the bars

The three 3 of 9 bar code fonts are scalable fonts with different aspect ratios (width/height). Each font will print bars one inch high when selected at 72 point. The height of the bars will be scaled linearly so selecting 36 point will print bars 1/2 inch high. We provide fonts with three different aspect ratios (Narrow, Regular and Wide) so once the desired height of the bars is selected you can choose from one of the three available widths. The aspect ratio and typical uses for the three bar code fonts are:

Font	Aspect ratio	Typical use
C39 Narrow	0.273	Used when printing bar codes that are very tall (such as for box labeling)
C39 Regular	0.454	Average use
C39 Wide	0.730	Used when printing bar codes that are very short (keeps the bars wider)

When printing the bars of the 3 of 9 bar code fonts, 2/3 of the height of each bar is printed above the base line, and 1/3 is printed below the base line. When using symbol set 209Y, each human-readable character under the bars is printed with its base line positioned at a distance of 2/3 of the height of the bars below the main base line.

Compatibility Issues - C39 Fonts

The three C39 bar code fonts are functional equivalents of three HP fonts in the HP "Code 3 of 9 TrueType Font DIMM". However we assigned typeface ID's to the Lexmark fonts that were different from the HP typeface ID's to allow us the option of doing a more exact font match in the future. Compatibility between the Lexmark and HP typeface ID's is achieved because the Lexmark typeface ID's are each 4096 greater than the corresponding HP typeface ID and therefore have the same base ID value. The PCL best fit algorithm views fonts with the same base ID value as the same if all other higher priority font selection parameters are matching, and an exact typeface ID match is not found.

The following table compares the Lexmark and HP C39 fonts, and illustrates the base ID equivalence:

Font Load 8.11H01 - OCR and C39 Information

(Page 3 of 4)

Font	Lexmark Fonts			HP Equivalent Fonts		
	Typeface ID	Base ID	Symbol Sets	Typeface ID	Base ID	Symbol Sets
C39 Narrow	32774 (x8006)	6	9Y, 109Y, 209Y	28678 (x7006)	6	9Y
C39 Regular	32772 (x8004)	4	9Y, 109Y, 209Y	28676 (x7004)	4	9Y
C39 Wide	32777 (x8009)	9	9Y, 109Y, 209Y	28681 (x7009)	9	9Y

The corresponding C39 fonts from Lexmark and HP have identical font selection parameters, other than those shown above: typeface ID and symbol set. In normal PCL text parsing mode, symbol set has the highest priority in font selection, so that if the datastream requests symbol set 109Y or 209Y, regardless of the presence of the HP fonts, one of the Lexmark C39 fonts will be selected. This is because these two symbol sets are unique to the Lexmark C39 fonts. The issue of base ID equivalence only arises when symbol set 9Y is specified, and the rest of the font selection parameters other than typeface ID are specified correctly. In that situation, there are three possibilities:

Case 1

If the datastream is requesting the typeface ID of one of the HP fonts and only the Lexmark fonts are present, the best fit algorithm will be entered because no exact match is found. In this case the best fit algorithm will select the correct Lexmark font because all the higher priority font selection parameters will match, and the Lexmark font has the same base ID as the requested font. Even if there are other fonts installed with the same base ID, they will not be designed to support symbol set 9Y, so they will be excluded from the font matching process.

Case 2

If the datastream is requesting the typeface ID of one of the HP fonts and both the HP fonts and the Lexmark fonts are present, the HP font will be selected because the font selection will be an exact match.

Case 3

If the datastream is requesting the typeface of one of the Lexmark fonts and both the HP fonts and the Lexmark fonts are present, the Lexmark font will be selected because the font selection will be an exact match.

Compatibility Issues - OCR Fonts

The OCR fonts have a simpler compatibility solution.

Font	Lexmark Fonts			HP Equivalent Fonts		
	Typeface ID	Base ID	Symbol Sets	Typeface ID	Base ID	Symbol Sets
OCR-A	23584 (x5C20)	3104	00	104 (x0068)	104	00
OCR-B	23590 (x5C26)	3110	10, etc.	110 (x006E)	110	10

For the OCR fonts we also assigned different typeface ID's than the equivalent HP font. However, for the OCR fonts, our typeface ID's have different base ID's than the equivalent HP font. In this case, the symbol sets (00 for OCR-A or 10 for OCR-B) dominate the font selection criteria and select the appropriate Lexmark font if an HP font is requested and not installed.

If a bitmapped OCR-A (symbol set 00) or OCR-B (symbol set 10) font is installed and needed, the font selection command should exactly match the bitmapped font's selection values on the Print PCL Fonts test pages to avoid having the printer best fit to the resident scalable OCR fonts.

Readability Disclaimer

In all cases, bar codes and OCR characters can be printed that cannot be automatically machine read for a variety of reasons. We will include a readability disclaimer similar to the one provided with the Bar Code Option as shown below.

Font Load 8.11H01 - OCR and C39 Information

(Page 4 of 4)

Readability Disclaimer:

Many factors can affect the machine readability of bar codes and OCR characters, including printer settings such as Print Resolution, Toner Darkness, and Print Darkness. In addition, choice of print materials can significantly affect the readability of bar codes. Refer to your printer User's Guide for information on printer settings and print material considerations to help optimize the readability of printed bar codes and OCR characters. For more information about card stock and labels, refer to the Card Stock and Labels Guide located on the Drivers, MarkVision, and printer CD that is shipped with the printer. Visit the www.lexmark.com for more information.

Before investing in and implementing any specific solutions, print a sample of the bar codes or OCR on your materials and verify readability with the actual devices that will be used to read them. Lexmark does not warrant that a specific bar code reader will be able to read the bar code images as printed, or that a specific OCR reader will be able to read the OCR characters as printed.

Font Load 8.11H01 - Unicode and UTF-8 Printing

(Page 1 of 2)

Lexmark printers support printing characters based on their Unicode character identification. Unicode is a widely used computer industry standard that assigns two byte values to identify characters. Unicode values can vary from x0000 to xFFFF. Within this range there can be many instances where either of the two bytes match ASCII control characters (i.e. "Form Feed", "Line Feed", "Escape", etc.). This can cause problems in the PCL 5 or PostScript emulators.

To address this problem, UTF-8 coding was developed. Unicode values can be easily converted into UTF-8 codes that have no conflicts with the ASCII control characters. With this font load, Lexmark printers can print using UTF-8 coding.

In the PCL 5 emulation, a new text parsing method was defined to accept UTF-8 coded characters. The printer normally uses one byte text parsing. The following PCL 5 commands are used to switch to and from UTF-8 text parsing:

«esc»&t1008P	UTF-8 text parsing
«esc»&t0P	Normal one byte text parsing

The UTF-8 text parsing method only works with Unicode encoded fonts. This includes all the resident unbound fonts (including the Courier family) and all downloadable unbound TrueType fonts.

Conversion of Unicode into UTF-8

When Unicode values are converted into UTF-8 codes, the two byte values become one, two or three byte codes based on the following ranges:

Unicode Range		
Start	End	UTF-8
x0000	x007F	One byte
x0080	x07FF	Two byte
x0800	xFFFF	Three byte

The following table shows how the bytes are converted. The a's, b's, c's, d's, e's, and f's represent blocks of bits.

Unicode Value	UTF-8 Values		
	Three byte	Two byte	One byte
0000 0000	0aaa aaaa		0aaa aaaa
0000 0bbb	bbcc cccc	110b bbbb	10cc cccc
dddd eeee	eeff ffff	1110 dddd	10ee eeee

An interesting feature of UTF-8 coding is that ASCII values in the Unicode range (the one byte range) are exactly the same as the second byte of the Unicode value. This can be seen from the first line in the preceding table.

Algorithmic Bolding and Obliquing

Fonts to support Chinese, Japanese and Korean are called double byte character set fonts (DBCS). These fonts are very large because of the large number of characters used by these languages. This makes it impractical to provide bold and italic versions of the fonts. To address the need for bold and italic printing in DBCS fonts, Lexmark printers with this font load support algorithmic bolding and obliquing. Since Unicode is a double byte encoding by definition we included algorithmic bolding and obliquing in the UTF-8 printing solution.

When doing UTF-8 printing, if a font is selected with a bold value greater than the font's bold value the printer will algorithmically bold the font. The quality of the bolded font can vary widely and unacceptable results can occur. If algorithmic bolding is used, test the results using a variety of bolding values.

Font Load 8.11H01 - Unicode and UTF-8 Printing

(Page 2 of 2)

Likewise, when doing UTF-8 printing, if an upright font is selected with the italic style parameter the printer will algorithmically oblique the font. As with algorithmic bolding there are quality issues with algorithmic obliquing that can be unacceptable.

Although algorithmic bolding and obliquing will work with any font using the UTF-8 text parsing method, it is important to note the intent was only to support the DBCS languages.

The character width metrics will not be changed by either algorithmic bolding or obliquing.

Font Best Fit in UTF-8 Text Parsing

Symbol sets are not important to UTF-8. UTF-8 provides direct access to all of the characters in a unbound font. For font selection purposes, any symbol set that is supported by the font can be specified.

UTF-8 will always honor a font selection command that is an exact match. If there is no exact match the following best fit priority is used:

1. Spacing is the highest priority. Only fonts with the correct spacing will be considered.
2. Typeface is the second highest priority. When multiple fonts support the same typeface (a font family) the first font with that typeface listed on PCL Print Fonts is evaluated for possible algorithmic bolding and obliquing.
3. Style:
 - 3A. If that font style matches the requested style then stroke weight is considered (see rule #4 below).
 - 3B. If that font style is Upright (0) and the requested style is Italic (1) then the font will be obliqued.
 - 3C. If that font style is Condensed (4) and the requested style is Condensed Italic (5) then the font will be obliqued.
 - 3D. If that font style is Italic (1) or Condensed Italic (5) and the requested font is Upright (0) or Condensed (4) then the typeface is ignored and a new best fit is done ignoring the typeface value and only using spacing, style and stroke weight.
4. Stroke Weight:
 - 4A. If that font stroke weight matches the requested stroke weight then that font is used.
 - 4B. If that font stroke weight is darker then the requested stroke weight then that font is used.
 - 4C. If that font stroke weight is lighter the requested stroke weight then that font will be algorithmically bolded.

Also note that for algorithmic bolding, the stroke weight difference provides less than half the apparent font weight change than may be normally expected.

Font Load 8.11H01 - Trademark Citations

(Page 1 of 1)

“Albertus,” “Arial,” “Gill Sans,” “Joanna,” and “Times New Roman,” are trademarks of The Monotype Corporation registered U.S. Pat. & Tm. Off. and certain other jurisdictions.

“Candid” and “Taffy” are trademarks of Agfa Monotype Corporation.

“Hoefler” is a trademark of Jonathan Hoefler Type Foundry.

“Avant Garde,” “Bookman,” “Lubalin Graph,” “Mona Lisa,” “Zapf Chancery,” and “Zapf Dingbats” are trademarks of International Typeface Corporation.

“Helvetica,” “Optima,” “Palatino,” and “Univers” are trademarks of Heidelberger Druckmaschinen AG registered U.S. Pat. & Tm. Off. and certain other jurisdictions. “Clarendon” and “Stempel Garamond” are trademarks of Heidelberger Druckmaschinen AG. “Times” and “Times Roman” are trademarks of Heidelberger Druckmaschinen AG used under license from The Monotype Corporation and are registered U.S. Pat. & Tm. Off. and certain other jurisdictions.

“Eurostile” is a trademark of Nebiolo.

“Coronet” is a trademark of Ludlow Type Foundry.

“Antique Olive” is a trademark of the Estate of Marcel Olive.

“Marigold” and “Oxford” are trademarks of Arthur Baker.

“Apple,” “Chicago,” “Geneva,” “Monaco,” and “New York” are trademarks of Apple Computer, Inc. registered U.S. Pat. & Tm. Off. and certain other jurisdictions.

“Wingdings” is a trademark of Microsoft Corporation registered U.S. Pat. & Tm. Off. and certain other jurisdictions.

TrueType is a (TM) trademark of Apple Computer, Inc.

All other product names are the property of the respective owners.

Font Load 8.11H01 - Change History

(Page 1 of 1)

Date	Archive File Name	Notes
08/09/04	Font811H01-v01.xls	Created by copying Font811M02-v01.xls Added PS3 full fonts to PostScript font list, Trademarks page
12/06/04	Font811H01-v02.xls	Added Math and Microsoft Publishing symbol set support to the Arial and Times New Roman families, for both forward and backward compatibility modes in PCL
04/21/05	Font811H01-v03.xls	Removed extra spaces from PCL Panel Display Names that were added originally for non-GUI-driven 2x16 displays Removed PCL Panel Display Names for backward compatibility mode - now same as forward compatibility mode