PRESCRIBE Emulation P41g

Technical Reference

December 2012 **www.lexmark.com**

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740 West New Circle Road
Lexington, Kentucky 40550

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Introduction

PRESCRIBE emulation option for Lexmark laser printers is an extended version of the firmware that includes a PRESCRIBE language processor. It enables the printer to be an effective replacement for Kyocera printers in select large accounts where the PRESCRIBE printer language is used.

Since Kyocera does not offer a single standard version of PRESCRIBE across all of its products, the emulation compatibility of this version is based on testing with customer application test files and an extensive set of engineering command-level tests.

This technical reference manual describes the capabilities of the PRESCRIBE emulation option and highlights the key limitations, which customers must consider in their certification testing.

Supported devices

- Lexmark CX310n, CX310dn
- Lexmark CX410e, CX410de
- Lexmark CX510de
- Lexmark MX810
- Lexmark MX710
- Lexmark MX610
- Lexmark MX510, MX410, MX310
- Lexmark MS812, MS811, MS810
- Lexmark MS610de, MS610dn
- Lexmark MS510dn
- Lexmark CS510de, CS510e
- Lexmark CS410dn, CS410n

Installing the PRESCRIBE emulation option

Note: Installing the option may restore your printer to factory default settings. Before installing, print a Menu Settings page so that any non-default settings can be restored.

For more information on installing and uninstalling the PRESCRIBE emulation option, see the installation instructions that came with the option, or the printer *User's Guide*.

After installing the option, set up the PRESCRIBE FRPO (Firmware RePrOgram) defaults to match the Kyocera default setup on the applications. Many accounts use the Kyocera factory default settings and may not require further setup. For more information on the FRPO settings supported by the PRESCRIBE emulation option, see “FRPO: Firmware RePrOgram” on page 13.

To verify installation, print a Print Menus page from the printer control panel. Under the Printer Information section, there should be an entry for the PRESCRIBE emulation option (example: “P-Scribe = P41G”). The second page that prints is a PRESCRIBE emulation STAT page with the current FRPO permanent settings.

Flash memory and hard disk support

PRESCRIBE downloaded fonts (LDFC) and PRESCRIBE macros can be stored on either the flash memory or the printer hard disk. Programming is done using the Resource Save setting.

Note: The ICCD and WRED commands are not supported.

Memorex printer compatibility mode

The PRESCRIBE emulation option includes a custom extension to support an alternate font number table which is compatible with Memorex system printers. The font number mapping is as follows:

Memorex font number	Standard PRESCRIBE font number
1	1
2	6
3	10
4	15
5	2
6	17
7	23
8	29
9	34
10	19

The font number is the parameter used with the FONT command. This font number mapping is invoked by the Memorex Express start sequence, `(O&`, instead of `!R!`.

Print jobs that use the Memorex Express start sequence can often be automatically sensed as PostScript emulation. To prevent these print jobs from being processed as PostScript emulation, they must be wrapped with a PJL ENTER LANGUAGE sequence into PCL emulation, or the PostScript SmartSwitch must be turned off for the respective input port. The following is an example of how to wrap the print job with PJL:

```
UEL[1]
@PJL ENTER LANGUAGE = PCL5
ESC E[2]
(O&[3]
.......[4]
EXIT;[5]
UEL[6]
```

[1] Universal Exit Language: ESC%-12345X

[2] PCL reset command

[3] Memorex entry sequence

[4] PRESCRIBE commands

[5] Memorex exit sequence

[6] Ends the print job

Overview of limitations

Although the PRESCRIBE emulation option works in most environments, there are environments where the option is not applicable.

Incomplete command set

Most PRESCRIBE II commands are not supported. Some commands are partially supported. For example, the BARC (bar code) command is supported for only a subset of the possible bar code types.

One base emulation supported

Kyocera printers support a number of base emulations. The PRESCRIBE emulation option supports PCL 5e only. PCL 5e emulation is used for the entire print job, or the print job is formatted using PRESCRIBE commands.

Some print jobs depend on a default PRESCRIBE environment based on an emulation of IBM Proprinter. A Proprinter default environment setup is supported by the PRESCRIBE emulation option. See the FRPO section for details (under the P1 parameter section). Starting with the P30 release, the Line Printer setup is also supported.

Font substitution

Kyocera supports a large number of resident bitmap fonts. The PRESCRIBE emulation option supports many of these bitmap fonts by substituting a resident outline font. Hence, some of the fonts differ slightly in style and size, but the spacing of the substituted fonts match Kyocera.

No edge-to-edge printing

Many Kyocera printers allow printing to the physical edges of the paper, which is commonly referred to as edge-to-edge printing. The PRESCRIBE emulation option allows printing within 2 mm of the physical paper edge. See the FRPO section for details (under the L parameter section).

Certification test process

The PRESCRIBE emulation option must be thoroughly tested with the customer's applications to determine if it is usable before a customer makes a significant investment in this solution.

If problems are found that do not fall under the set of limitations in this document and need to be investigated further, then the following information must be available:

- A STAT page from one of the customer's Kyocera printers that prints the job as expected
- A soft copy of any FRPO setup files, fonts, or macros that are used in the print job
- A soft copy of the actual print job
- The model numbers of the Kyocera printers in use
- A description of the problem and a hard copy output from a Kyocera printer

Note: Customers must recertify new versions of the PRESCRIBE emulation option before purchasing it in large quantities.

PRESCRIBE commands

Command support for P41G

The following table is a list of PRESCRIBE language commands. It includes base level PRESCRIBE, level II extensions, and a few custom undocumented commands encountered during certification testing at select customer accounts. The codes in the Notes column are defined at the end of the table.

Command	Description	Supported
ALTF	change to ALTernate Font	Yes
AMCR	call Automatic MaCRo	Yes
ARC	draw filled-in ARC	Yes
BARC[1]	draw BARCode	Yes
BLK	draw filled-in BLocK	Yes
BOX	draw BOX	Yes
CALL	CALL macro	Yes
CASS[1]	select CASSette or manual mode	Yes
CIR	draw CIRcle	Yes
CLPR[2]	CLIP Rectangular area	Yes
CLSP[2]	CLoSe Path	Yes
CMNT	CoMmeNT	Yes
COPY	set number of COPIES	Yes
CPTH[2]	Character PaTH	Yes
CSET[2]	Change symbol SET by symbol-set ID	Yes
CSTK[3]	select Collator STacKer	No
CTXT	print Centered TeXT	Yes
DAF	Delete All Fonts	Yes
DAM	Delete All Macros	Yes
DAP	Draw to Absolute Position	Yes
DELF	Delete Font	Yes
DELM	Delete Macro	Yes
DPAT[2]	select Dash PATtern	Yes

[1] Partial support or extended support (see next section for details)

[2] PRESCRIBE II option

[3] Not applicable (for example, unsupported paper option or diagnostic command)

[4] Custom command extension, not part of standard PRESCRIBE language

Command	Description	Supported
DRP	Draw to Relative Position	Yes
DRPA	Draw to Relative Position specified by Angle	Yes
DUPX	select or deselect DUPleX mode	Yes
DXPG	select DupleX PaGe side	Yes
DZP	Draw to Zero-relative Position	Yes
ENDD[3]	END Dump	No
ENDM	END Macro	Yes
ENDR	END Raster data	Yes
EXIT	EXIT from PRESCRIBE mode	Yes
FILL[2]	FILL closed path	Yes
FLAT[2]	set FLATness	No
FLST[2]	print Font LiST	Yes
FONT	change current FONT	Yes
FPAT	generate Fill PATtern	Yes
FRPO[1]	Firmware RePrOgram	Yes
FRPO INIT	FRPO INITialize	Yes
FSET[2]	change current Font SETting by characteristic	Yes
FTMD	bitmap FonT MoDe	Yes
GENF[1]	GENerate Font	Yes
GPAT[2]	set Gray PATtern	Yes
ICCD[1, 2]	read/write IC - CarD	No
INTL	InterNaTionaL characters	Yes
LDFC	LoaD Font Character	Yes
MAP	Move to Absolute Position	Yes
MCRO	define MaCRO	Yes
MRP	Move to Relative Position	Yes
MRPA	Move to Relative Position specified by Angle	Yes
MZP	Move to Zero-relative Position	Yes
NEWP[2]	start NEW Path	Yes
PAGE	start new PAGE	Yes

[1] Partial support or extended support (see next section for details)

[2] PRESCRIBE II option

[3] Not applicable (for example, unsupported paper option or diagnostic command)

[4] Custom command extension, not part of standard PRESCRIBE language

Command	Description	Supported
PARC[2]	in Path, draw ARC	Yes
PAT	select fill PATtern	Yes
PCRP[2]	in Path, Curve to Relative Position	No
PCZP[2]	in Path, Curve to Zero-relative Position	No
PDIR[2]	set Print DIRection	Yes
PDRP[2]	in Path, Draw to Relative Position	Yes
PDZP[2]	in Path, Draw to Zero-relative Position	Yes
PIE	draw PIE chart	Yes
PMRA[2]	in Path, Move to Relative position specified by Angle	Yes
PMRP[2]	in Path, Move to Relative Position	Yes
PMZP[2]	in Path, Move to Zero-relative Position	Yes
!R!	PRESCRIBE start sequence	Yes
RDMP[3]	Received-data DuMP	No
RES	RESet	Yes
RPF	Return to Previous Font	Yes
RPG[2]	Return to Previous Graphics state	Yes
RPP	Return to Previous Position	Yes
RTXT	print Right-aligned TeXT	Yes
RVCD[2]	ReceiVe Compressed raster Data	No
RVRD	ReceiVe Raster Data	Yes
SBM	Set Bottom Margin	Yes
SCAP[2]	Set line CAP	Yes
SCF	Save Current Font	Yes
SCG[2]	Save Current Graphics state	Yes
SCP	Save Current Position	Yes
SCPI	Set Characters Per Inch	Yes
SCRC	Set Command Recognition Character	Yes
SCS	Set Character Spacing	Yes
SDP[2]	Store Dash Pattern	Yes
SEM[1]	Set Emulation Mode	Yes

[1] Partial support or extended support (see next section for details)

[2] PRESCRIBE II option

[3] Not applicable (for example, unsupported paper option or diagnostic command)

[4] Custom command extension, not part of standard PRESCRIBE language

Command	Description	Supported
SETF	SET alternate Font	Yes
SFA[1]	Set bitmap Font Attributes	Yes
SFNT[2]	Select current FoNT by typeface	Yes
SIMG[1, 2]	Set IMaGe model	Yes
SLJN[2]	Set Line JoiN	Yes
SLM	Set Left Margin	Yes
SLPI	Set Lines Per Inch	Yes
SLPP	Set Lines Per Page	Yes
SLS	Set Line Spacing	Yes
SMLT[2]	Set Miter LimiT	Yes
SPD	Set Pen Diameter	Yes
SPL	Set Page Length	Yes
SPLT[2]	SPLiT page	No
SPO	Set Page Orientation	Yes
SPSZ	Set Paper SiZe	Yes
SPW	Set Page Width	Yes
SRM	Set Right Margin	Yes
SRO[2]	Set Raster Options	Yes
SSTK[3]	select Sorter STacKer	No
STAK[3]	select paper STAcKer	No
STAT[1]	STATus	Yes
STM	Set Top Margin	Yes
STR	SeT dot Resolution	Yes
STRK[2]	STRoKe current path	Yes
SULP	Set UnderLine Parameters	Yes
TEXT	print TEXT	Yes
UNIT	set UNIT of measure	Yes
XPAT	generate eXpanded fill PATtern	Yes
WRED[2, 3]	WRite EnD	No
(O&[1, 4]	enter Memorex Printer Compatibility Mode	Yes

[1] Partial support or extended support (see next section for details)

[2] PRESCRIBE II option

[3] Not applicable (for example, unsupported paper option or diagnostic command)

[4] Custom command extension, not part of standard PRESCRIBE language

For more information on PRESCRIBE see the following:

- Kyocera PRESCRIBE Commands COMMAND REFERENCE, version 4.8
- Kyocera PRESCRIBE Commands TECHNICAL REFERENCE, version 4.8

Command explanations

BARC: draw BAR Code

The extent of PRESCRIBE bar code support in version 41G is summarized in the following table. The number specified is used to select the bar code using the BARC command. Unsupported numbers are ignored.

Bar code type	Number	Supported
UPC A	0	Yes
UPC A with two-digit supplement	1	No
UPC A with five-digit supplement	2	No
UPC D-1	3	No
UPC D-2	4	No
UPC D-3	5	No
UPC D-4	6	No
UPC D-5	7	No
UPC E	8	Yes
UPC E with two-digit supplement	9	No
UPC E with five-digit supplement	10	No
EAN-8	11	Yes
EAN-13	12	Yes
DUN-14 (Distribution Unit Number, EAN)	13	No
DUN-16 (Distribution Unit Number, EAN)	14	No
MSI with no check digit	15	No
MSI with single mod-10 check digit	16	No
MSI mod-10 followed by mod-10 check digit	17	No
MSI mod-11 followed by mod-10 check digit	18	No
Code 39 with no check digit (USD-3)	19	Yes
Code 39 with mod-43 check digit (USD-3)	20	Yes
Interleaved two of five (USD-1) with no check digit	21	Yes
Identicon two of five with no checksum	22	Yes
Code 128 (USD-6) “code-b”	23	Yes
Code 128 (USD-6)	24	Yes

Bar code type	Number	Supported
Code 11 with only “c” checksum (USD-8)	25	No
Code 11 with both “c” and “k” checksums (USD-8)	26	No
Code 93 with both “c” and “k” checksums (USD-7)	27	No
CODABAR with no check digits (USD-4)	28	No
Matrix two of five with no checksum	29	Yes
Datalogic two of five with no checksum	30	Yes
Industrial two of five with no checksum	31	Yes
Ames with no checksum	32	No
Delta distance “a” (IBM) with no checksum	33	No
Delta distance “a” (IBM) with checksum	34	No
EAN 8 with two-digit supplement	35	No
EAN 8 with five-digit supplement	36	No
EAN 13 with two-digit supplement	37	No
EAN 13 with five-digit supplement	38	No
POSTNET (USPS)	39	Yes
FIM (USPS)	40	No
Interleave two of five (USD-1) with checksum	41	Yes
UCC/EAN 128	42	Yes
Customer	43	No
Wide gap CODABAR	44	No
Intelligent Mail bar code (IMBC)	49	Yes

CASS: CASSette

The CASS command has been extended to support the optional paper sources. The CASS command is mapped as follows:

CASS command	Tray Selected
CASS 0;	Manual
CASS 1;	Tray 1
CASS 2;	Tray 2
CASS 3;	Tray 3
CASS 4;	Envelope
CASS 8;	Multipurpose
CASS 20;	Tray 4
CASS 21;	Tray 5

FRPO: Firmware RePrOgram

Kyocera printers support a large set of permanent defaults which can be set using the FRPO command. The PRESCRIBE emulation option supports a subset of the more significant settings. The FRPO INIT command is supported and only affects the settings in the following table, with the exception of the L parameters. These FRPO settings cannot be set differently per input port.

Parameter	Description	Factory default	Notes
A1,A2	Top margin	0,0	
A3,A4	Left margin	0,0	
A5,A6	Page length	15,0	Inches
A7,A8	Page width	9,0	Inches
C1	Page orientation	0	
C3	Default font	0	
L1,L2	Top-edge limit	0,20	
L3,L4	Left-edge limit	0,20	
L5,L6	Bottom-edge limit	10,60	
L7,L8	Right-edge limit	8,10	
N4	Duplex binding	0	
P1	Default emulation	6	0 = Line Printer 1 = Proprinter 6 = PCL
P2	Carriage return	1	
P3	Line feed	1	
R3	Use FRPO edge limits and margins	0	PCL-only setting
U0	Line spacing	6	Lines per inch (integer value)
U1	Line spacing	0	Lines per inch (fraction value)
U6	Country code	255	255 = Use panel setting
LA	Character centering	1 (Center)	Lexmark-only setting
LB	Memorex font group	0	Lexmark-only setting
LC	Use bitmaps if available	0	Lexmark-only setting
LE	Paper source for LF/LG offsets	0	Lexmark-only setting
LF	Top offset for LE source	0	Lexmark-only setting
LG	Left offset for LE source	0	Lexmark-only setting

A1–A8: Margins

FRPO margin settings are always acknowledged in Proprinter and Line Printer emulations. They are only acknowledged in PCL emulation if parameter R3 is set to 1.

The odd-numbered parameters (A1, A3, A5, and A7) specify a whole-inch value. The even-numbered parameters (A2, A4, A6, and A8) specify a fraction in 100ths of an inch. Page Length and Page Width settings that are larger than the default margin limits are ignored. The factory defaults are set to be longer and wider than the largest possible size; thus, default bottom and right margins are used. The margins are always positioned with respect to the default edge limits.

C1: Page orientation

This parameter designates the logical page position with respect to the physical page.

C1 value	Description
0	Portrait orientation
1	Landscape orientation

C3: Default font

The C3 parameter sets the default font. C3 can be set to one of three modes:

C3 value	Font selection
0	Font 1 for PCL emulation. Font 8 for Proprinter and Line Printer emulations.
1–79	Sets the default font to the specified font number.
255	Sets the default font to the front panel default or the PJL setting.

L1–L8: Edge limits

The L parameters are used to vary the size of the logical page and to position it with respect to the physical paper. The L parameters are always acknowledged in Proprinter and Line Printer emulations.

Parameters L1–L4 are always acknowledged in PCL emulation. Parameters L5–L8 are used in PCL emulation only if the FRPO parameter R3 is set to 1. The default edge limits are as follows (all pel dimensions are 300 dpi):

Edge limit	PCL (R3=0)	PCL (R3=1) or Proprinter
Top	1/6", 4 mm, 50 pels	1/5", 5 mm, 60 pels
Left	1/4", 6 mm, 71 pels	1/5", 5 mm, 60 pels
Bottom	1/6", 4 mm, 50 pels	1/5", 5 mm, 60 pels
Right	1/4", 6 mm, 71 pels	1/5", 5 mm, 60 pels

The top- and left-edge limits determine the position of the logical page. The bottom- and right-edge limits determine the size of the logical page. L1–L4 FRPO parameters are always interpreted with respect to the top and left edges of the physical page. L5–L8 FRPO parameters are always interpreted with respect to a letter-size sheet of paper, with default top- and left-edge limits (0.20”).

For example, to set edge limits of approximately 2 mm (24 pels @ 300 dpi) on all four sides of any-size paper, the following FRPO commands are used:

FRPO L1, 0; FRPO L2, 8;
FRPO L3, 0; FRPO L4, 8;
FRPO L5, 10; FRPO L6, 72;cmnt 11" - .2" - 10.72" = .08" = 24 pels;
FRPO L7, 8; FRPO L8, 22;cmnt 8.5"- .2" - 8.22" = .08" = 24 pels;

Even though the L parameter values are programmed with respect to letter-size paper, the edge limits are applied in the same manner regardless of the actual paper size. The following formulas can also be used to derive the appropriate L values:

L1, L2 = top_edge_in_pels/300

L3, L4 = left_edge_in_pels/300

L5, L6 = (3240 - bottom_edge_in_pels)/300

L7, L8 = (2490 - right_edge_in_pels)/300

Where L1, L3, L5, and L7 are the whole-inch values, and L2, L4, L6, and L8 are the fractional values in 100ths of an inch.

Notes:

- Each Kyocera model has different values stored for the top-edge limit (L1, L2) and the left-edge limit (L3, L4) even though the actual edge limit distances, with respect to the edge of the page, are the same for each printer. This makes it necessary to generate separate FRPO initialization files for each model of Kyocera printer in those accounts that need edge limits other than those that came with the printer. The corresponding L1–L4 values need to be derived for the PRESCRIBE emulation option for those who need edge limits other than the defaults. Any existing FRPO commands that set the bottom- or right-edge limits should be compatible, and should not have to be recomputed for Lexmark printers.
- The unprintable areas (no-print regions) for most Lexmark laser printers are 1/6 inch (or 50/ 300 pels) from the respective edges of the paper (except for A4, which has 40-pel left and right areas). Even though edge limits are outside of these unprintable areas the no-print regions are fixed and clipping may occur. The no-print clipping regions are automatically reduced when the L parameters are sent to reduce the edge limits. The minimum no-print size is 24/300 pels or approximately 2 mm (for all 4 sides).
- The FRPO INIT command does not reset the L parameters.
- The L2 parameter can be negative. (for example, `!R! FRPO L2, -33; exit;`)

N4: Duplex binding

This parameter specifies whether a print job id printed on one side (simplex mode) or on both sides (duplex mode) of the paper.

N4 value	Description
0	Duplex off
1	Duplex on (short-edge binding)
2	Duplex on (long-edge binding)

P1: Default emulation

The factory default printer emulation is PCL. This PRESCRIBE emulation option supports a level of PCL 5e that is compatible with the HP LaserJet family of laser printers. Although the PRESCRIBE emulation option supports only one base emulation, support for IBM Proprinter (P1=1) and Line Printer (P1=0) were added for applications that rely only on the Proprinter margins and default environment settings. They never actually use any Proprinter escape sequences (the application only exits PRESCRIBE to print text, line feeds, carriage returns, or form feeds). P1 can be set to only 6 (PCL), 1 (Proprinter), or 0 (Line Printer).

The default environment setting differences between PCL, Proprinter, and Line Printer include the following:

Setting	PCL	Proprinter	Line Printer
Top and Bottom Margins	1/2 inch	Set to edge limits	Set to edge limits
Default Font	1	8	8
Font Mode	13	0	15
CR on FF	PCL setting	Yes	Yes
Character Wrap at Right Margin	PCL setting	Always wrap	Always wrap

Note: Setting the default emulation to Proprinter or Line Printer may affect native PCL 5e print jobs.

P2: Carriage return

This controls the way the printer interprets the carriage return (CR) control code.

P2 value	Description
0	Ignore 0x0d
1	Carriage return
2	Carriage return plus line feed

P3: Line feed

This controls the way the printer interprets the line feed (LF) control code.

P3 value	Description
0	Ignore 0x0d
1	Line feed
2	Line feed plus carriage return

R3: Use FRPO edge limits and margins

By default, FRPO edge limit settings (L5–L8) and FRPO margin settings (A1–A8) are ignored when the base emulation is PCL. To activate these FRPO settings for PCL, the R3 parameter must be set to 1. Note that the R3 parameter applies only to PCL emulation. FRPO edge limit and margin limit settings are always acknowledged when the base emulation is Proprinter or Line Printer.

U0–U1: Line spacing

This sets the number of lines printed per inch. U0 and U1 represent the integer part and the fraction part of the line spacing value, respectively. If U0 is set to 5 and U1 is set to 63, then line spacing is 5.63 lines per inch.

U6: Country code

U6 is used to set the default symbol set. The factory default value for U6 in the PRESCRIBE emulation is set to 255. This forces the U6 parameter to be ignored and the symbol set to be initialized according to the printer control panel setting for symbol set. If a specific symbol set other than the default is required, then U6 should be set accordingly.

LA: Character centering

This setting emulates certain Kyocera machines that center characters within the spacing. The factory default value is 1 (centering enabled).

To disable character-centering use: **`!R! FRPO LA,0; RES; EXIT;`**

If the placement of text appears to be wrong, then try changing this switch.

LB: Memorex font group

This setting allows the Memorex font group to be set.

The font groups are selected as follows:

FRPO LB parameter	Font group
0	Original
1	A/B
2	C/D
3	E/F
4	G/H
5	I/J
6	K/L

For example, to select font group E/F, use: **`!R! FRPO LB,3; EXIT;`**

LC: Use bitmap fonts instead of outlines

This setting overrides the simulation of bitmap fonts if an actual bitmap version is resident. Currently, there are bitmap versions for font 9 and font 28. Setting LC to 1 forces the printer to print font 9 and font 28 using the bitmap version. The default setting of 0 forces font 9 and font 28 to be simulated with a scalable font.

LE: Paper source to apply LF/LG offsets

This allows offsetting of the logical page for pages that print from a particular paper source.

Notes:

- Do not use this setting if all paper sources need the same offset. Instead, use the FRPO L1-L8, R3, or A1-A8 parameters.
- This setting is useful for odd-sized papers.
- The LF and LG parameters designate the offset to be used. Only one source can be selected.

The sources are selected by setting the LE parameter as follows:

FRPO LE parameter	Paper source
0	No source
1	Tray 1
2	Manual
3	Manual env

FRPO LE parameter	Paper source
4	Tray 2
5	Tray 3
8	Multipurpose tray
20	Tray 4
21	Tray 5

LF/LG: X and Y offsets for LE source

These settings specify the X and Y offsets for shifting pages printed from the LE source. The offset is ignored if LE is set to 0. The offsets are designated in units of 1/300 of an inch. Negative values are allowed.

For example, to set up an X offset of 1 inch and a Y offset of -0.5 inches for all pages that print from the multipurpose tray, use the following FRPO commands:

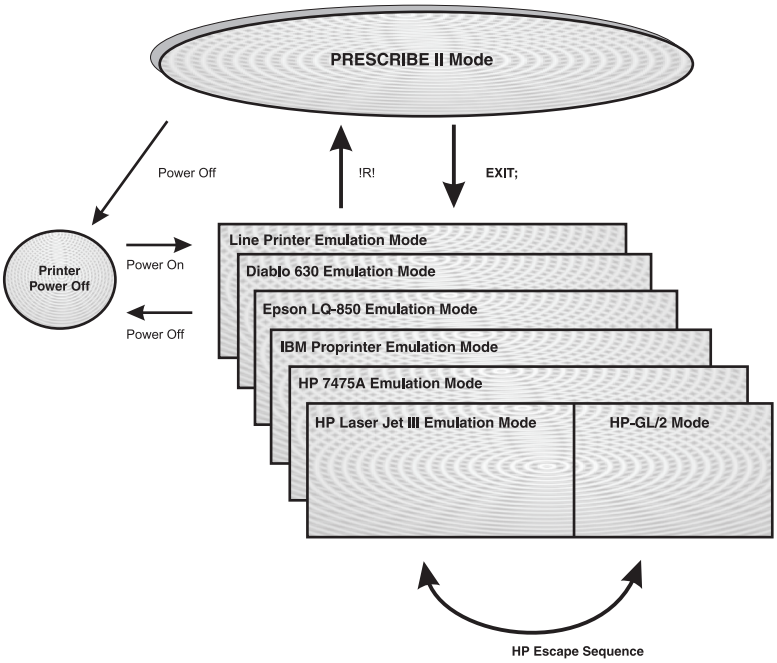
```
!R! FRPO LE, 8; FRPO LF, 300; FRPO LG, -150; EXIT;
```

GENF: GENerate Font

The fonts generated by the PRESCRIBE emulation option with this command may differ in size and style from Kyocera. The font spacings of GENF fonts may also differ. Differences found with GENF fonts that are unacceptable may be corrected by adjusting the GENF parameters or by changing the application to use a resident scalable font instead.

SEM: Set Emulation Mode

Kyocera printers support a list of printer emulation modes in addition to PRESCRIBE as shown:



The SEM command is used to temporarily switch the printer emulation mode. It also resets the margins and other parameters.

Proprinter and Line Printer environments are supported, but native Proprinter commands are not supported.

SEM 0 = Line Printer
SEM 1 = IBM Proprinter X-24E
SEM 2 = Diablo 630
SEM 5 = Epson LQ-850
SEM 6 = HP LaserJet III PCL 5e
SEM 7 = HP 7475A (Plotter)

In Kyocera printers, the FRPO P1 parameter is used to select the printer default emulation when the printer is first turned on. A particular page of a print job can be a mixture of the selected emulation data stream and PRESCRIBE.

Notes:

- The PRESCRIBE emulation option only supports PCL 5e, although the PRESCRIBE print environment may be initialized for Proprinter or Line Printer by using the SEM or FRPO commands. For more information, see “P1: Default emulation” on page 15.
- PCL 5e emulation for the PRESCRIBE emulation option is designed to be compatible with HP PCL 5e, not necessarily the Kyocera PCL 5e implementation.

SFA: Set bitmap Font Attributes

The supported executable parameters of this command include: hmi, vmi, and spacing type. The nonexecutable parameters (rotation, symbol set, height, italic, weight, typeface, and font type) are not supported. The nonexecutable parameters may affect best-fit font selections, and could result in the PRESCRIBE emulation option selecting a different font than Kyocera.

SIMG: Set IMaGe model

This command controls the transparency and opaqueness of images and patterns. Six different operating modes are defined. The PRESCRIBE emulation option supports modes 3, 4, 5, and 6. Modes 1 and 2 are not supported.

STAT: STATus

This command can verify if the PRESCRIBE emulation option is properly installed to match the Kyocera setup of the account. The STAT page only displays the FRPO settings that are supported by the PRESCRIBE emulation option.

To print a STAT page, send this: **`!R! STAT; EXIT;`**

A STAT page is also printed when a Menu Settings test page is printed.

Fonts

Bitmap font simulation

The following table lists the Kyocera resident bitmap fonts, and the PRESCRIBE emulation best-fit fonts which are used from the standard set of PCL resident scalable fonts. Selection of any of these fonts results in a compatible match with respect to character spacing and alignment.

Notes:

- Some of the substituted fonts differ slightly in character style and size.
- Customer certification testing is required to determine if font substitutions are compatible with their applications.

Resident bitmap font substitution table					
Kyocera font name	Best-fit font name	Font # Port.	Font # Land.	Height (points)	Pitch (cpi)
CourierBM12-Roman	Courier (scalable)	1	17	12	10
CourierBM12-Italic	Courier Italic (scalable)	37	18	12	10
CourierBM12-Bold	Courier Bold (scalable)	38	67	12	10
CourierBM12-BoldItalic	Courier Bold Italic (scalable)	39	68	12	10
Dutch801BM10-Roman	CG Times (scalable)	2	19	10	Prop.
Dutch801BM10-Italic	CG Times Italic (scalable)	3	20	10	Prop.
Dutch801BM10-Bold	CG Times Bold (scalable)	4	21	10	Prop.
Dutch801BM10-BoldItalic	CG Times Bold Italic (scalable)	40	69	10	Prop.
Dutch801BM8-Roman	CG Times (scalable)	5	22	8	Prop.
Dutch801BM8-Italic	CG Times Italic (scalable)	41	-	8	Prop.
Dutch801BM8-Bold	CG Times Bold (scalable)	42	70	8	Prop.
Dutch801BM8-BoldItalic	CG Times Bold Italic (scalable)	43	-	8	Prop.
PrestigeEliteBM10-Roman	Courier (scalable)	6	23	10	12
PrestigeEliteBM10-Italic	Courier Italic (scalable)	44	24	10	12
PrestigeEliteBM10-Bold	Courier Bold (scalable)	45	71	10	12
PrestigeEliteBM10-BoldItalic	Courier Bold Italic (scalable)	46	72	10	12
PrestigeEliteBM7.2-Roman	Courier (scalable)	7	25	7.2	16.6
PrestigeEliteBM7.2-Italic	Courier Italic (scalable)	47	-	7.2	16.6

Notes:

- Some of the bitmap fonts are resident in the PRESCRIBE emulation option and are not necessarily substituted with a scalable font. For more information, see “C3: Default font” on page 14.
- Resident scalable font list for the PRESCRIBE emulation option may not match those of a Kyocera printer.

Resident bitmap font substitution table					
Kyocera font name	Best-fit font name	Font # Port.	Font # Land.	Height (points)	Pitch (cpi)
PrestigeEliteBM7.2-Bold	Courier Bold (scalable)	48	73	7.2	16.6
PrestigeEliteBM7.2-BoldItalic	Courier Bold Italic (scalable)	49	-	7.2	16.6
LetterGothicBM12-Roman	Letter Gothic (scalable)	8	26	12	12
LetterGothicBM12-Italic	Letter Gothic Italic (scalable)	50	27	12	12
LetterGothicBM12-Bold	Letter Gothic Bold (scalable)	9	28	12	12
LetterGothicBM12-BoldItalic	Courier Bold Italic (scalable)	51	79	12	12
Swiss721BM14.4-Bold	Univers (scalable)	10	29	14.4	Prop.
Swiss721BM14.4-BoldItalic	Univers Bold Italic (scalable)	52	-	14.4	Prop.
Swiss721BM12-Bold	Univers (scalable)	11	30	12	Prop.
Swiss721BM12-BoldItalic	Univers Bold Italic (scalable)	53	-	12	Prop.
Swiss721BM10-Bold	Univers (scalable)	12	31	10	Prop.
Swiss721BM10-BoldItalic	Univers Bold Italic (scalable)	54	-	10	Prop.
Swiss721BM8-Roman	Univers (scalable)	13	32	8	Prop.
Swiss721BM8-Italic	Univers Italic (scalable)	55	-	8	Prop.
Swiss721BM8-Bold	Univers Bold (scalable)	56	74	8	Prop.
Swiss721BM8-BoldItalic	Univers Bold Italic (scalable)	57	-	8	Prop.
Swiss721BM6-Roman	Univers (scalable)	14	33	6	Prop.
Swiss721BM6-Italic	Univers Italic (scalable)	58	-	6	Prop.
Swiss721BM6-Bold	Univers Bold (scalable)	59	75	6	Prop.
Swiss721BM6-BoldItalic	Univers Bold Italic (scalable)	60	-	6	Prop.
LinePrinterBM9-Roman	Letter Gothic (scalable)	15	34	9	16.6
LinePrinterBM9-Italic	Letter Gothic Italic (scalable)	61	35	9	16.6
LinePrinterBM9-Bold	Letter Gothic Bold (scalable)	62	76	9	16.6
LinePrinterBM9-BoldItalic	Courier Bold Italic (scalable)	63	77	9	16.6
LinePrinterBM7-Roman	Letter Gothic (scalable)	16	36	7	21.4
LinePrinterBM7-Italic	Letter Gothic Italic (scalable)	64	-	7	21.4
LinePrinterBM7-Bold	Letter Gothic Bold (scalable)	65	78	7	21.4
LinePrinterBM7-BoldItalic	Courier Bold Italic (scalable)	66	-	7	21.4

Notes:

- Some of the bitmap fonts are resident in the PRESCRIBE emulation option and are not necessarily substituted with a scalable font. For more information, see “C3: Default font” on page 14.
- Resident scalable font list for the PRESCRIBE emulation option may not match those of a Kyocera printer.

Notices

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December 2012

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