

## Network Printer Disk/Flash Command Formats

The following is a description of the syntax needed for downloading and deleting PCL fonts and macros to the non-volatile resource storage devices (i.e. 2MB or 4MB Flash SIMM or the 810MB Hard Drive) in the IBM Network Printers. It includes both syntax definitions and examples (and a few comments along the way that should make things a bit clearer.)

### Command General Syntax

```
<UEL> (where <UEL> is <ESC>%-12345X)
[Disk/Flash Command]
[Disk/Flash Command]
[Disk/Flash Command]
:
:
<UEL>
```

Note: It is always good to put the Disk/Flash commands within a pair of UEL commands as shown above. Each of the examples below is written as a stand alone file. You may concatenate several Disk/Flash command strings together within one pair of <UEL>'s

In the following command definitions

ESC stands for the character code x'1b'

SOH stands for the character code x'01'

STX stands for the character code x'02'

ETX stands for the character code x'03'

Note: All of the Disk/Flash commands will begin with: 1B0102  
and end with: 03

## Network Printer Disk/Flash **Download Macro** Command Format

<ESC>  
<SOH>  
<STX>  
MACRO ; the ASCII characters: MACRO  
L ; the ASCII character: L for Load  
<loc>, ; an ASCII D or S followed by a comma  
<macro\_id>, ; the ASCII number that you call the macro with plus a comma  
<len>, ; the ASCII length of the <macro\_data> (i.e. without the ETX) plus a comma  
<macro\_data> ; the actual PCL macro  
<ETX>

where

<L> := indicates a Macro Download  
<loc> := D | S

D specifies the disk drive.  
S specifies the SIMM memory device.

<macro\_id> := 0 <= macro\_id < 32768. This is the id  
by which the application references the macro.

<len> := length of the macro data in bytes; 0 <len < 2\*\*32-1.  
The length does not include the <ETX> following the  
macro data.

<macro\_data> := the macro text. This text does not include  
the start macro definition command (<esc>&f0X)  
or the stop macro definition command (<esc>&f1X).

## Macro Download Example:

Note: This is an example of a file that when sent to the printer over any of its ASCII data attachments (i.e. Parallel, Serial, Token-Ring, Ethernet or Coax/Twinax with ASCII transparency commands) will store the 495 byte macro contained with a macro ID of 4 to the disk drive. In the following example, the words: FILE: MACRO4 FOR HARD DISK will print on the paper when this file is sent to the printer.

Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	Dec	0123456789012345
0	1B25	2D31	3233	3435	581B	0102	4D41	4352									0	.%-12345X...MACR
10	4F4C	442C	342C	3439	352C	4649	4C45	3A20									16	OLD,4,495,FILE:
20	4D41	4352	4F34	2046	4F52	2048	4152	4420									32	MACRO4 FOR HARD
30	4449	534B	1B25	3042	494E	3B53	5031	3B0D									48	DISK.%0BIN;SP1;.
40	0A53	4431	2C32	312C	322C	312C	342C	3530									64	.SD1,21,2,1,4,50
50	2C35	2C30	2C36	2C33	2C37	2C34	3134	383B									80	,5,0,6,3,7,4148;
60	5353	3B0D	0A50	4132	3830	2C39	3339	303B									96	SS;..PA280,9390;
70	4454	2A3B	0D0A	4346	312C	313B	4C42	502A									112	DT*;..CF1,1;LBP*
80	3B50	5231	3030	2C30	3B0D	0A43	4631	2C31									128	;PR100,0;..CF1,1
90	3B4C	4245	2A3B	5052	3130	302C	303B	0D0A									144	;LBE*;PR100,0;..
A0	4346	312C	313B	4C42	452A	3B50	5231	3030									160	CF1,1;LBE*;PR100
B0	2C30	3B0D	0A43	4631	2C31	3B4C	4252	2A3B									176	,0;..CF1,1;LBR*;
C0	5052	3130	302C	303B	0D0A	4346	312C	313B									192	PR100,0;..CF1,1;
D0	4C42	4C2A	3B50	5231	3030	2C30	3B0D	0A43									208	LBL*;PR100,0;..C
E0	4631	2C31	3B4C	4245	2A3B	5052	3130	302C									224	F1,1;LBE*;PR100,
F0	303B	0D0A	4346	312C	313B	4C42	532A	3B50									240	0;..CF1,1;LBS*;P
100	5231	3030	2C30	3B0D	0A43	4631	2C31	3B4C									256	R100,0;..CF1,1;L
110	4253	2A3B	0D0A	5343	302C	3135	302C	302C									272	BS*;..SC0,150,0,
120	3135	302C	313B	0D0A	5041	302E	352C	3135									288	150,1;..PA0.5,15
130	333B	0D0A	4541	3833	2E35	2C31	3635	433B									304	3;..EA83.5,165C;
140	0D0A	1B25	3041	0D0A	0D0A	0D0A	1B26	6C34									320	...%0A.....&l4
150	441B	2838	551B	2873	3170	3976	3073	3062									336	D.(8U.(slp9v0s0b
160	3431	3438	541B	2664	3044	0D0A	0D0A	5468									352	4148T.&d0D....Th
170	6973	2061	2074	6573	7420	6F66	2074	6865									368	is a test of the
180	4D61	6372	6F20	646F	776E	6C6F	6164	2066									384	Macro download f
190	696C	652E	0A0D	5468	6973	2063	616E	2062									400	ile...This can b
1A0	6520	6361	6C6C	6564	2061	6E79	7768	6572									416	e called anywher
1B0	6520	696E	0D0A	6120	5043	4C20	6461	7461									432	e in..a PCL data
1C0	7374	6561	6D2E	0A0D	5365	6520	6966	2079									448	steam...See if y
1D0	6F75	2063	616E	206D	616B	6520	6F6E	6520									464	ou can make one
1E0	7468	6174	206C	6F6F	6B73	206C	696B	6520									480	that looks like
1F0	7468	6973	2E0A	0D49	2062	6574	2079	6F75									496	this...I bet you
200	2063	616E	2E2E	2E2E	2E03	2E25	2D31	3233									512	can.....%-123
210	3435	58**	****	****	****	****	****	****									528	45X*****

## Network Printer **Delete Macro** Command Format

<ESC>  
<SOH>  
<STX>  
MACRO ; the ASCII characters: MACRO  
D ; the ASCII character: D for Delete  
<loc>, ; an ASCII character: D or S for Disk or Simm plus a comma  
<macro\_id>  
<ETX>

where

D := indicates Delete a Downloaded Macro

<loc> := D | S

D specifies the disk driver

S specifies the SIMM memory device.

<macro\_id> := 0 <= macro\_id < 32768. This is the id  
by which the application references the macro.

Example:

Note: This is an example of a file that when sent to the printer over any of its ASCII data attachments (i.e. Parallel, Serial, Token-Ring, Ethernet or Coax/Twinax with ASCII transparency commands) will delete the macro that was stored in the Flash SIMM with a macro ID of 24. The file will do nothing if there is no macro ID of 24 in the Flash SIMM.

Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	Dec	0	1	2	3	4	5						
	0	1B25	2D31	3233	3435	581B	0102	4D41	4352								0	.	%	-	1	2	3	4	5	X	..	.	MACR
	10	4F44	532C	3234	031B	252D	3132	3334	3558								16	ODS,	24	..	%	-	1	2	3	4	5	X	

## Network Printer **Purge All Macros** Command Format

<ESC>  
<SOH>  
<STX>  
MACRO ; the ASCII characters: MACRO  
P ; the ASCII character: P for Purge  
<loc> ; an ASCII character: D or S for Disk or Simm  
<ETX>

where

P := indicates Purge all downloaded Macros

<loc> := D | S

D specifies the disk drive.

S specifies the SIMM memory device.

Example:

Note: This is an example of a file that when sent to the printer over any of its ASCII data attachments (i.e. Parallel, Serial, Token-Ring, Ethernet or Coax/Twinax with ASCII transparency commands) will delete all macros that were stored on the disk drive.

Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	Dec	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
	0	1B25	2D31	3233	3435	581B	0102	4D41	4352								0	.	%	-	1	2	3	4	5	X	.	.	.	MACR			
	10	4F50	4403	1B25	2D31	3233	3435	58**	****								16	O	P	D	.	.	.	%	-	1	2	3	4	5	X	***	

## Network Printer **Download HP Softfont** Command Format

<ESC>  
<SOH>  
<STX>  
FONT ; the ASCII characters: FONT  
L ; the ASCII character: L for Load font  
2 ; the ASCII character: 2  
<loc>, ; the ASCII character: D or S for Disk or Simm plus a comma  
<hp\_font\_id>, ; the ASCII TFM font ID plus a comma  
<len>, ; the length of all the font data (excluding the ETX at the end) plus a comma  
<HP softfont data> ; HP soft font data as defined in the PCL Technical reference  
<ETX>

where

L := indicates a Font Download

<loc> := D | S

D specifies the disk drive.

S specifies the SIMM memory device.

<hp\_font\_id> := 0 <= hp\_font\_id < 32768.

This integer identifies the font to the TFM. Applications do not reference the font by its TFM id.

These fonts are always selected by characteristics.

<len> := length of the font data in bytes;  $0 < \text{len} < 2^{32}-1$ .

The length does not include the <ETX> following the font data.

<HP softfont data> := the HP soft font data including the

<ESC>#W, <ESC>\*c#E and <ESC>\*c#E PCL commands.

Example:

Note: This is an example of a file that when sent to the printer over any of its ASCII data attachments (i.e. Parallel, Serial, Token-Ring, Ethernet or Coax/Twinax with ASCII transparency commands) will download the included soft font file (which has TFM ID 4 and length 38,558 bytes) to the Flash SIMM. The introductory UEL command, although encouraged, or not included here.

Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	Dec	0	1	2	3	4	5
	0	1B01	0246	4F4E	544C	3253	2C34	2C33	3835								0	...	FONTL2S,4,385				
	10	3538	2C1B	2973	3437	3936	5700	480F	0100								16	58,.)s4796W.H...					
	20	0000	0009	5609	AE00	0101	1502	3D00	0002								32	....V.....=...					
	30	.....															48	.....					
96B0		3E03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	38576	>.	*****	*****	*****	*****	

## Network Printer **Delete Font** Command Format

<ESC>  
<SOH>  
<STX>  
FONT ; the ASCII characters: FONT  
D ; the ASCII character: D for Delete font  
2 ; the ASCII character: 2  
<loc>, ; the ASCII character: D or S for Disk or Simm plus a comma  
<hp\_font\_id>, ; the ASCII TFM font ID plus a comma  
<ETX>

where

D := indicates Delete a Downloaded Font

<loc> := D | S

D specifies the disk drive.

S specifies the SIMM memory device.

<hp\_font\_id> := 0 <= hp\_font\_id < 32768. This is the id  
by which the TFM references the font.

Example:

Note: This is an example of a file that when sent to the printer over any of its ASCII data attachments (i.e. Parallel, Serial, Token-Ring, Ethernet or Coax/Twinax with ASCII transparency commands) will delete the soft font file which has TFM ID 88 from the disk drive. The introductory and trailing UEL command, although encouraged, are not included here.

Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	Dec	0	1	2	3	4	5
	0	1B01	0246	4F4E	5444	3244	2C38	382C	03**								0	...	FONTD2D,88,.*				

## Network Printer **Purge All Downloaded** Fonts Command Format

<ESC>  
<SOH>  
<STX>  
FONT ; the ASCII characters: FONT  
P ; the ASCII character: P for Purge  
2 ; the ASCII character: 2  
<loc> ; an ASCII character: D or S for Disk or Simm  
<ETX>

where

P := indicates Purge all downloaded Fonts

<loc> := D | S

D specifies the disk drive.

S specifies the SIMM memory device.

Example:

Note: This is an example of a file that when sent to the printer over any of its ASCII data attachments (i.e. Parallel, Serial, Token-Ring, Ethernet or Coax/Twinax with ASCII transparency commands) will delete all fonts that are stored on the Flash SIMM.

Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	Dec	0	1	2	3	4	5											
	0	1B25	2D31	3233	3435	581B	0102	464F	4E54								0	.	%	-	1	2	3	4	5	X	.	.	.	F	O	N	T	
	10	5032	5303	1B25	2D31	3233	3435	58**	****								16	P	2	S	.	%	-	1	2	3	4	5	X	****				