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# **AK912\_CPCL PRINT INSTRUCTION SET**

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V1.0

**The instruction set applies to AK912 Printer**

**History Release:**

<b>Version</b>	<b>Details</b>	<b>Time</b>	<b>Comments</b>
V1.0	First version	2012-9-20	

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## Intruductions

- ✧ **AK912 support the CPCL instrucion set.**
- ✧ **It can reduce the communication data between printer and controller.**
- ✧ **This instruction set supports repeat print**
- ✧ **It supports ASCII code, Chinese, Box, barcode and 2-dimention code and so on.**
- ✧ **It can meet most label print requirements.**

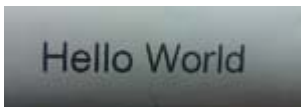
## Instruction List

Section	Instruction	description
<b>AK912_CPCL print instruction set</b>		
1	<!> {offset} <200> <200> {height} {qty}	Start cpcl page, setting page height ad number.
2	<PAGE-WIDTH> {width}	Setting page width
3	<PRINT>	Printing page and close cpcl page
4	< FORM >	Setting the position paper stopped after print
5	<;>	Comments, would not be print out
6	<TEXT > {font} {size} {x} {y} {data}	Add text
7	< COUNT > {numeric value}	Auto inc/dec number
8	<SETMAG > {w} {h}	Zoom in character
9	<BARCODE> {type} {width} {ratio} {height} {x} {y} {data}	Add barcode
10	<BARCODE> <PDF-417> {x} {y} [XD n] [YD n] [C n] [S n] {data} <ENDPDF>	Add 2-dimention code:PDF-417
11	<BARCODE> <QR> {x} {y} [M n] [U n] {data} <ENDQR>	Add 2-dimention code:QR
12	<BOX> {x0 } {y0 } {x1} {y1} {width}	Add box
13	<LINE > {x0 } {y0 } {x1} {y1} {width}	Add line
14	<INVERSE-LINE> {x0 } {y0 } {x1} {y1} {width}	Add inverse lin
15	<BAR-SENSE>	Right mark detect
16	<BAR-SENSE LEFT>	Left mark detect
17	<GAP- SENSE >	Detecting label gap
18	<b>LEFT</b>	Left align
19	<b>CENTER</b>	Center align
20	<b>RIGHT</b>	Right align
21	<b>END</b>	Executing the instructions before end
22	<b>ABORT</b>	Ignore the instructions before abort
23	<b>TEXT Concatenation</b>	Printing more style text in a line
24	<b>MULTILINE</b>	Printing multi-line text
25	<b>BARCODE-TEXT</b>	Printing barcode text
26	<b>GRAPHICS</b>	Printing graphic
27	<b>CONTRAST</b>	Setting contrast
28	<b>SPEED</b>	Setting print speed
29	<b>UNDERLINE</b>	Printing underline
30	<b>PREFEED</b>	Setting feed distance before print
31	<b>POSTFEED</b>	Setting feed distance after print

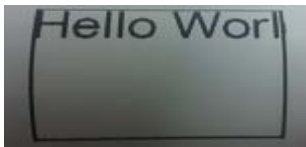
32	<b>SETBOLD</b>	Setting font bold
33	<b>PACE Command</b>	pressing the 'FEED' key once for each additional printout.
34	<b>WAIT Command</b>	introduce a delay after a label is printed.
35	<b>SETSP</b>	change spacing between text characters.

## AK912\_CPCL Print Control Instruction


### 1 Start CPCL page : <!> Commands

[Name]	Start CPCL page :
[Format]	<!> {offset} <200> <200> {height} {qty}
[Parameters]	<!>: Start cpcl page {offset}: horizontal offset,default 0 <200>: horizontal resolution ratio (dpi) <200>: vertical resolution ratio (dpi) {height}: label height, point number. ( 8dots/mm ) 。 {qty}: label number, must less than 1024
[Description]	Start a cpcl page, setting the height, dot density and number. This page will close by PRINT.
[Notice]	<ul style="list-style-type: none"> <li>This command must be used with 'PRINT'</li> </ul>
[Reference]	PRINT
[Example]	<pre>! 0 200 200 210 1 TEXT 4 0 30 40 Hello World PRINT</pre>
[result]	


### 2 Setting page width : <PAGE-WIDTH> {width}

[Name]	Setting page width
[Format]	{command} {width}
[Parameters]	{command}: PAGE-WIDTH or PW: setting page width {width}: dot number(8dots/mm )
[Description]	Changing the page width
[Notice]	<ul style="list-style-type: none"> <li>The width is from the leftmost dot of the printer to the right N dot.</li> <li>The data out of page width will be ignored.</li> </ul>
[Reference]	
[Example]	<pre>! 0 200 200 210 1 PAGE-WIDTH 200 BOX 1 1 199 150 0 TEXT 4 0 0 0 Hello World PRINT</pre>
[result]	

**3 Print the cpcl page : <PRINT>**

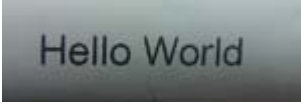
[Name]	Printing and closing the page
[Format]	{command}
[Parameters]	{command}: PRINT
[Description]	Printing the contents and closing the cpcl page.
[Notice]	<ul style="list-style-type: none"> <li>• Add a 'CR' behind the 'PRINT'</li> <li>• Must used with &lt;!&gt; Command</li> </ul>
[Reference]	<!> Commands
[Example]	<pre>! 0 200 200 210 1 TEXT 4 0 30 40 Hello World PRINT</pre>
[result]	

**4 Position : <FORM >**


[Name]	position
[Format]	{command}
[Parameters]	{command}: FORM
[Description]	Setting the position paper stopped after print
[Notice]	<ul style="list-style-type: none"> <li>• Must used with &lt;BAR-SENSE&gt;/&lt;GAP-SENSE&gt;</li> </ul>
[Reference]	<BAR-SENSE>/<GAP-SENSE>
[Example]	<pre>! 0 200 200 210 1 PAGE-WIDTH 350 BAR-SENSE BOX 50 1 349 150 0 TEXT 4 0 52 10 Hello World FORM PRINT</pre>
[result]	




**5 Comments** : <;> {contents}

[Name]	comments
[Format]	{ <i>command</i> } {contents}
[Parameters]	{command}: ; Some description
[Description]	The comments would not be print out.
[Notice]	<ul style="list-style-type: none"><li>• Between &lt;!&gt; Commands and PRINT</li></ul>
[Reference]	
[Example]	<b>! 0 200 200 210 1</b> <b>;the next command will print “Hello World”</b> <b>TEXT 4 0 30 40 Hello World</b> <b>PRINT</b>
[result]	

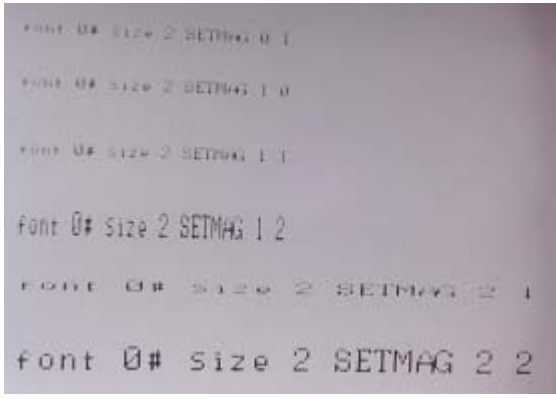
**6 Add Text** : <TEXT > {font} {size} {x} {y} {data}

[Name]	Add text
[Format]	{command} {font} {size} {x} {y} {data}
[Parameters]	<p>{command}:</p> <p>TEXT (or T) horizontal text</p> <p>VTEXT (or VT) text rotated 90 degree, CCW</p> <p>TEXT90 (or T90) same with VT</p> <p>TEXT180 (or T180) text rotated 180 degree, CCW</p> <p>TEXT270 (or T270) text rotated 270 degree, CCW</p> <p>{font}: font id , 0 1 2 4 5 6 7 are ASCII code font , 55 16dots Chinese font, otherwise is24dots Chinese font.</p> <p>{size} : font size</p> <p>{x}: x-coordinate start position</p> <p>{y}: y-coordinate start position</p> <p>{data}: The data need be printed out.</p>
[Description]	Add text
[Notice]	<ul style="list-style-type: none"> <li>Zoom in Chinese font with SEMAG</li> </ul>
[Reference]	<SETMAG > {w} {h}
[Example]	<pre>! 0 200 200 400 1 PAGE-WIDTH 576 TEXT 0 0 10 10 0#TEXT T 1 0 10 60 1#T TEST VTEXT 2 0 250 300 2#VTEXT VT 4 0 300 300 4#VT TEST TEXT90 5 0 350 300 5#TEXT90 T90 6 0 400 300 6#T90 TEST TEXT180 7 0 220 200 7#TEXT180 T180 55 0 220 250 55#font test ; print 16 dots font TEXT270 10 0 500 10 10#Font Test T270 12 2 550 10 12 Font ;The last 2 instructions print 24dots font PRINT</pre>
[result]	


**7 Auto inc/dec number : < COUNT > { numeric value }**

[Name]	Auto inc/dec number
[Format]	<i>{command} {numeric value}</i>
[Parameters]	{command}: COUNT {numeric value}: [-65535, 65535]
[Description]	Auto inc/dec number
[Notice]	<ul style="list-style-type: none"> <li>Only used for numeric</li> </ul>
[Reference]	
[Example]	<pre>! 0 200 200 150 3 ; Print 3 labels CENTER TEXT 4 0 0 10 TESTING 001 COUNT 1 TEXT 7 0 0 50 Barcode Value is 123456789 COUNT -10 BARCODE 128 1 1 50 0 80 12345689 COUNT -10 PRINT</pre>
[result]	


**8 Character zoom in : <SETMAG > {w} {h}**

[Name]	Character zoom in
[Format]	<i>{command}</i> {w} {h}
[Parameters]	{command}: SETMAG {w}: zoom in the character width , [1-16] {h}: zoom in the character height, [1-16]
[Description]	Zoom in the characters
[Notice]	<ul style="list-style-type: none"> <li>• After using the SETMAG, only zoom in the basic font.</li> <li>• If w = 0 or h = 0, the character width or height will return the original size.</li> </ul>
[Reference]	
[Example]	<pre>! 0 200 200 300 1 SETMAG 0 1 T 0 2 10 10 font 0# size 2 SETMAG 0 1 SETMAG 1 0 T 0 2 10 50 font 0# size 2 SETMAG 1 0 SETMAG 1 1 T 0 2 10 100 font 0# size 2 SETMAG 1 1 SETMAG 1 2 T 0 2 10 150 font 0# size 2 SETMAG 1 2 SETMAG 2 1 T 0 2 10 200 font 0# size 2 SETMAG 2 1 SETMAG 2 2 T 0 2 10 250 font 0# size 2 SETMAG 2 2 SETMAG 0 0 PRINT</pre>
[result]	


9 barcode : <BARCODE> {type} {width} {ratio} {height} {x} {y} {data}

[Name]	barcode																																						
[Format]	{command} {type} {width} {ratio} {height} {x} {y} {data}																																						
[Parameters]	<p>{command}:                  BARCODE(or B): horizontal barcode                  VBARCODE (or VB) vertical barcode</p> <p>{type}:  <table border="1" data-bbox="572 427 1262 857"> <thead> <tr> <th>barcode</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>UPC-A</td> <td>UPCA</td> </tr> <tr> <td>UPC-E</td> <td>UPCE</td> </tr> <tr> <td>EAN13</td> <td>EAN13</td> </tr> <tr> <td>EAN8</td> <td>EAN8</td> </tr> <tr> <td>Code 39</td> <td>39</td> </tr> <tr> <td>Code 93</td> <td>93</td> </tr> <tr> <td>Interleaved 2 of 5</td> <td>I2OF5</td> </tr> <tr> <td>Code 128 (Auto)</td> <td>128</td> </tr> <tr> <td>Codabar</td> <td>CODABAR,</td> </tr> </tbody> </table> </p> <p>{width}: Thin line width [point]                  {ratio}: The ratio of Thick line and thin line  <table border="1" data-bbox="611 943 1398 1200"> <tbody> <tr> <td>0 = 1.5 : 1</td> <td>20 = 2.0:1</td> <td>26 = 2.6:1</td> </tr> <tr> <td>1 = 2.0 : 1</td> <td>21 = 2.1:1</td> <td>27 = 2.7:1</td> </tr> <tr> <td>2 = 2.5 : 1</td> <td>22 = 2.2:1</td> <td>28 = 2.8:1</td> </tr> <tr> <td>3 = 3.0 : 1</td> <td>23 = 2.3:1</td> <td>29 = 2.9:1</td> </tr> <tr> <td>4 = 3.5 : 1</td> <td>24 = 2.4:1</td> <td>30 = 3.0:1</td> </tr> <tr> <td></td> <td>25 = 2.5:1</td> <td></td> </tr> </tbody> </table> </p> <p>{height}: barcode height – point number ( 8dots/mm )                  {x}: The start position x-coordinate                  {y}: The start position y-coordinate                  {data}: the data of barcode</p>	barcode	Type	UPC-A	UPCA	UPC-E	UPCE	EAN13	EAN13	EAN8	EAN8	Code 39	39	Code 93	93	Interleaved 2 of 5	I2OF5	Code 128 (Auto)	128	Codabar	CODABAR,	0 = 1.5 : 1	20 = 2.0:1	26 = 2.6:1	1 = 2.0 : 1	21 = 2.1:1	27 = 2.7:1	2 = 2.5 : 1	22 = 2.2:1	28 = 2.8:1	3 = 3.0 : 1	23 = 2.3:1	29 = 2.9:1	4 = 3.5 : 1	24 = 2.4:1	30 = 3.0:1		25 = 2.5:1	
barcode	Type																																						
UPC-A	UPCA																																						
UPC-E	UPCE																																						
EAN13	EAN13																																						
EAN8	EAN8																																						
Code 39	39																																						
Code 93	93																																						
Interleaved 2 of 5	I2OF5																																						
Code 128 (Auto)	128																																						
Codabar	CODABAR,																																						
0 = 1.5 : 1	20 = 2.0:1	26 = 2.6:1																																					
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4 = 3.5 : 1	24 = 2.4:1	30 = 3.0:1																																					
	25 = 2.5:1																																						
[Description]	Printing the barcode																																						
[Notice]																																							
[Reference]																																							
[Example]	<p><b>! 0 200 200 210 1</b>  <b>BARCODE 128 1 1 50 150 10 HORIZ.</b>  <b>TEXT 7 0 210 60 HORIZ.</b>  <b>VBARCODE 128 1 1 50 10 200 VERT.</b>  <b>VTEXT 7 0 60 140 VERT.</b>  <b>PRINT</b></p>																																						
[result]																																							

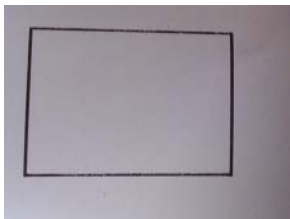
**11 PDF-417 2-dimension code** : <BARCODE> <PDF-417> {x} {y} [XD n] [YD n] [C n] [S n] {data} <ENDPDF>

[Name]	PDF-417 2-dimension code
[Format]	{command} {type} {x} {y} [XD n] [YD n] [C n] [S n] {data} <ENDPDF>
[Parameters]	{command}: <p style="margin-left: 40px;">BARCODE(or B):       horizontal code  VBARCODE (or VB)   vertical code</p> {type}: PDF-417 {x}:   The start position x-coordinate {y}:   The start position y-coordinate [XD n]: width, [1-32] ,   default is 2 [YD n]: height [1-32] ,   default is 6 [C n]: code number per line, [1-30] ,   default is 3 [S n]: ECC level,   [0-8] , default is 1 {data} :   PDF-417 data <ENDPDF>: end PDF-417.
[Description]	Printing 2-dimension code: PDF-417
[Notice]	<ul style="list-style-type: none"> <li>● Must use a 'CR' between [S n] and [data]</li> <li>● Must use a 'CR' between [data] and &lt;ENDPDF&gt;</li> </ul>
[Reference]	
[Example]	<b>! 0 200 200 210 1</b> <b>B PDF-417 10 20 XD 3 YD 12 C 3 S 2</b> <b>PDF Data</b> <b>ABCDE12345</b> <b>ENDPDF</b> <b>T 4 0 10 120 PDF Data</b> <b>T 4 0 10 170 ABCDE12345</b> <b>PRINT</b>
[result]	


**11 QR 2-dimension code** : <BARCODE> <QR> {x} {y} [M n] [U n] {data} <ENDQR>

[Name]	QR 2-dimension code
[Format]	{command} {type} {x} {y} [M n] [U n] {data} <ENDQR>
[Parameters]	<p>{command}:</p> <p style="padding-left: 40px;">BARCODE(or B):      horizontal code</p> <p style="padding-left: 40px;">VBARCODE (or VB)    vertical code</p> <p>{type}: QR</p> <p>{x}: The start position x-coordinate</p> <p>{y}: The start position y-coordinate</p> <p>[M n]: QR code number , [1-2] , default is 2</p> <p>[U n]: height/width dots of module , [1-32] , default is 6</p> <p>{data} : QR data, there are some mode seletion include in data.</p> <p style="padding-left: 40px;">&lt; Error Correction Level&gt; : H(Ultra high reliability leve),Q ( high reliability level ) ,M ( standard level ) ,L ( high density level )</p> <p style="padding-left: 40px;">&lt;Mask no.&gt; None ( auto ) 0-7 ( according code ) 8 ( no )</p> <p style="padding-left: 40px;">&lt;Data input mode&gt; A(auto) M( N( numeric )A( text &amp; number )BXXX(binary )K( Japanese Kanji ) )</p> <p style="padding-left: 40px;">&lt;string&gt;</p> <p>&lt;ENDQR&gt;: End QR</p>
[Description]	Printing 2-dimension code: QR
[Notice]	<ul style="list-style-type: none"> <li>• Must add a 'CR'between [U n] and [data]</li> <li>• Must add a 'CR'between [data] and &lt; ENDQR&gt;</li> </ul>
[Reference]	
[Example]	<pre>! 0 200 200 500 1 B QR 10 100 M 2 U 10 MA,QR code ABC123 ENDQR T 4 0 10 400 QR code ABC123 FORM PRINT</pre>
[result]	

**12 Box :** <BOX> {x0 } {y0 } {x1} {y1} {width}


[Name]	Box
[Format]	<i>{command} {x0 } {y0 } {x1} {y1} {width}</i>
[Parameters]	{command}: BOX {x0 }: left-up x-coordinate {y0 }: left-up y-coordinate {x1}: right-down x-coordinate {y1}: right-down y-coordinate {width}: width of line
[Description]	Draw a box
[Notice]	
[Reference]	
[Example]	<b>! 0 200 200 210 1</b> <b>BOX 20 20 200 150 2</b> <b>PRINT</b>
[result]	

**13 Line :** <LINE > {x0 } {y0 } {x1} {y1} {width}

[Name]	Line
[Format]	<i>{command} {x0 } {y0 } {x1} {y1} {width}</i>
[Parameters]	{command}: LINE (or L) {x0 }: left-up x-coordinate {y0 }: left-up y-coordinate {x1}: right-down x-coordinate {y1}: right-down y-coordinate {width}: width of line
[Description]	Draw a line
[Notice]	
[Reference]	
[Example]	<b>! 0 200 200 210 1</b> <b>LINE 10 10 200 10 1</b> <b>LINE 10 10 200 200 2</b> <b>LINE 10 10 10 200 3</b> <b>PRINT</b>
[result]	



**14 Inverse line** : <INVERSE-LINE> {x0 } {y0 } {x1} {y1} {width}

[Name]	Inverse line
[Format]	<i>{command} {x0 } {y0 } {x1} {y1} {width}</i>
[Parameters]	{command}: INVERSE-LINE (or IL): {x0 } : left-up x-coordinate {y0 } : left-up y-coordinate {x1}: right-up x-coordinate of horizontal line or left-down x-coordinate of vertical line. {y1}: right-up y-coordinate of horizontal line or left-down y-coordinate of vertical line. {width}: Inverse line
[Description]	Draw a line, the text in line inverse.
[Notice]	
[Reference]	
[Example]	<b>! 0 200 200 210 1</b> <b>CENTER</b> <b>TEXT 4 0 0 45 SAVE</b> <b>TEXT 4 0 0 95 MORE</b> <b>INVERSE-LINE 0 45 145 45 45</b> <b>INVERSE-LINE 0 95 145 95 45</b> <b>PRINT</b>
[result]	

**15 Right Mark** : <BAR-SENSE>

[Name]	Right Mark
[Format]	<i>{command}</i>
[Parameters]	{command}: <BAR-SENSE>
[Description]	Setting the printer detect the right mark , used with FORM. After print, feed paper to the right mark.
[Notice]	<ul style="list-style-type: none"> <li>• Must used with FORM</li> </ul>
[Reference]	FORM
[Example]	<b>See FORM example</b>
[result]	


**16 Left mark : <BAR-SENSE LEFT>**

[Name]	Left mark
[Format]	{command}
[Parameters]	{command}: <BAR-SENSE LEFT>
[Description]	Setting the printer detect the left mark , used with FORM. After print, feed paper to the left mark.
[Notice]	<ul style="list-style-type: none"><li>• Must used with FORM</li></ul>
[Reference]	FORM
[Example]	<b>! 0 200 200 210 1</b> <b>PAGE-WIDTH 350</b> <b>BAR-SENSE LEFT</b> <b>BOX 50 1 349 150 0</b> <b>TEXT 4 0 52 10 Hello World</b> <b>FORM</b> <b>PRINT</b>

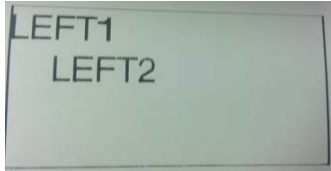
[result]



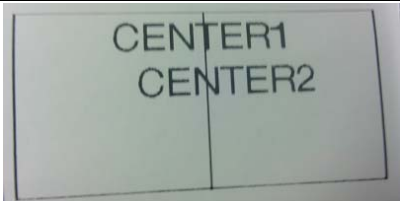
**17 Label : <GAP-SENSE>**

[Name]	Label
[Format]	{command}
[Parameters]	{command}: <GAP-SENSE>
[Description]	Setting the printer detect the label gap , used with FORM. After print, feed paper to the lable gap.
[Notice]	<ul style="list-style-type: none"> <li>• Must used with FORM</li> </ul>
[Reference]	FORM
[Example]	<pre>! 0 200 200 210 1 PAGE-WIDTH 350 GAP-SENSE BOX 1 1 349 150 0 TEXT 4 0 10 10 Hello World FORM PRINT</pre>
[result]	


**18 Left align : LEFT**

[Name]	Left align
[Format]	{command}
[Parameters]	{command}: LEFT
[Description]	Setting the printer justification: Left align
[Notice]	<ul style="list-style-type: none"> <li>• X-coordinate from left to right</li> </ul>
[Reference]	RIGHT, CENTER
[Example]	<pre>! 0 200 200 200 1 PAGE-WIDTH 400 BOX 0 0 398 198 2 LEFT T 4 0 0 10 LEFT1 T 4 0 50 60 LEFT2 PRINT</pre>
[result]	

**19 Center align : CENTER**

[Name]	Center align
[Format]	{command}
[Parameters]	{command}: CENTER
[Description]	Setting the printer justification: center align
[Notice]	<ul style="list-style-type: none"> <li>• Just used for text, number and barcode</li> </ul>
[Reference]	RIGHT, CENTER
[Example]	<pre>! 0 200 200 200 1 PAGE-WIDTH 400 LINE 200 0 200 198 1 BOX 0 0 398 198 2 CENTER T 4 0 0 10 CENTER1 T 4 0 50 60 CENTER2 PRINT</pre>
[result]	

**20 Right align : RIGHT**

[Name]	Right align
[Format]	{command}
[Parameters]	{command}: RIGHT
[Description]	Setting the printer justification: right align
[Notice]	<ul style="list-style-type: none"> <li>• Printing text align at the right side</li> </ul>
[Reference]	RIGHT, CENTER
[Example]	<pre>! 0 200 200 200 1 PAGE-WIDTH 400 LINE 100 0 100 198 1 BOX 0 0 398 198 2 RIGHT T 4 0 0 10 RIGHT1 T 4 0 50 60 RIGHT2 PRINT</pre>
[result]	

**21 End : END**

[Name]	End
[Format]	{command}
[Parameters]	{command}:    END
[Description]	End the instruction and print the instructions before END
[Notice]	
[Reference]	PRINT、 ABORT
[Example]	<b>! 0 200 200 240 1</b> <b>PAGE-WIDTH 500</b> <b>BOX 0 0 200 200 2</b> <b>BOX 50 50 220 220 2</b> <b>END</b> <b>PRINT</b>
[result]	Cancel Printing

**22 Abort : ABORT**

[Name]	abort
[Format]	{command}
[Parameters]	{command}:    ABORT
[Description]	Ignore the instructions before ABORT
[Notice]	
[Reference]	PRINT、 END
[Example]	<b>! 0 200 200 240 1</b> <b>PAGE-WIDTH 240</b> <b>BOX 0 0 200 200 2</b> <b>BOX 50 50 220 220 2</b> <b>ABORT</b> <b>PRINT</b>
[result]	Cancel Printing


**23 Text concatenation : TEXT Concatenation**

[Name]	Text concatenation
[Format]	<i>{command} {x} {y} {font} {size} {offset} {data}" {font} {size} {offset} {data} &lt;ENDCONCAT&gt;</i>
[Parameters]	{command}: CONCAT: horizontal text concatenated VCONCAT: vertical text concatenated {x}: X-coordinate, start point {y}: Y-coordinate, start point {font}: font id {size}: font size {offset}: the offset of start point 8dots/mm {data}: text <ENDCONCAT>: end this instruction
[Description]	Printing several fonts text in a line
[Notice]	
[Reference]	MULTILINE
[Example]	<pre>! 0 200 200 210 1 CONCAT 75 75 4 2 5 \$ 5 2 0 12 4 2 5 34 ENDCONCAT PRINT</pre>
[result]	<b>\$12<sup>3</sup>4</b>

**24 Multi-line : MULTILINE**

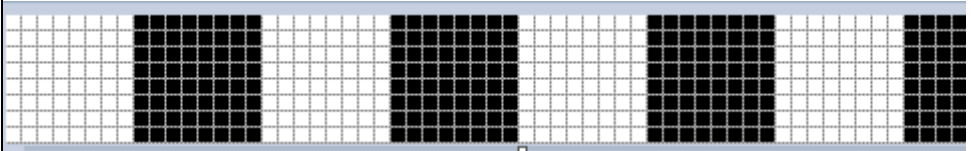
[Name]	Multi-line
[Format]	<pre> {command} {height} {text} {font} {size} {x} {y} {data} “ {data} &lt;ENDMULTILINE&gt; </pre>
[Parameters]	<pre> {command}: MULTILINE (or ML) printing multi-line text {height}: height of per line {text}: Text instructions (TEXT, VTEXT ... ) {font}: font id {size}: font size {x}: X-coordinate, start point {y}: Y-coordinate, start point {data}: text &lt;ENDMULTILINE&gt; (or ENDML): end this command </pre>
[Description]	Printing multi-line text with same font and height
[Notice]	
[Reference]	TEXT Concatenation
[Example]	<pre> ! 0 200 200 210 1 ML 47 TEXT 4 0 10 20 1st line of text 2nd line of text : Nth line of text ENDML PRINT </pre>
[result]	<pre> 1st line of text 2nd line of text : Nth line of text </pre>

**25 barcode text : BARCODE-TEXT**

[Name]	Barcode text
[Format]	<i>{command} {font number} {font size} {offset}</i>
[Parameters]	{command}: BARCODE-TEXT (or BT) {font number}: barcode text font id {font size}: barcode text font size {offset}: offset point number 8dots/mm
[Description]	Printing barcode text under the barcode
[Notice]	
[Reference]	BARCODE
[Example]	<b>! 0 200 200 400 1</b> <b>CENTER</b> <b>BARCODE-TEXT 7 0 5</b> <b>BARCODE 128 1 1 50 0 20 123456789</b> <b>VBARCODE 128 1 1 50 40 400 112233445</b> <b>BARCODE-TEXT OFF</b> <b>PRINT</b>
[result]	



**26 Draw graphic : GRAPHICS**

[Name]	Draw graphic
[Format]	<i>{command} {width} {height} {x} {y} {data}</i>
[Parameters]	<p>{command}:  EXPANDED-GRAPHICS (or EG): horizontal print graphic, 16B data  VEXPANDED-GRAPHICS (or VEG): vertical print graphic, 16B data  COMPRESSED-GRAPHICS (or CG): horizontal print graphic, 8B data  VCOMPRESSED-GRAPHICS (or VCG): vertical print graphic, 8B data</p> <p>{width}: width of graphic(byte)  {height} height of graphic(point)  {x}: x-coordinate, start point of graphic  {y}: y-coordinate, start point of graphic  {data}: data of graphic</p>
[Description]	Printing graphic
[Notice]	
[Reference]	BOX
[Example]	<pre>! 0 200 200 20 1 CG 8 8 0 10 0F PRINT</pre>
[result]	

**27 Setting contrast : CONTRAST**

[Name]	Setting contrast
[Format]	<i>{command} {level}</i>
[Parameters]	<p>{command}: CONTRAST</p> <p>{level}:  0 = default  1 = middle level  2 = dark  3 = very dark</p>
[Description]	High level and slow print speed.
[Notice]	<ul style="list-style-type: none"> <li>There must have a contrast instruction in a cpcl page.</li> </ul>
[Reference]	
[Example]	<pre>! 0 200 200 50 1 CONTRAST 3 TEXT 5 1 0 0 CONTRAST 3 PRINT</pre>
[result]	

**28 Setting speed : SPEED**

[Name]	Setting speed
[Format]	<i>{command}</i> <i>{speed level}</i>
[Parameters]	{command}: SPEED {speed level}: 0-5 , 0 is the slowest.
[Description]	Setting the print speed
[Notice]	<ul style="list-style-type: none"> <li>• Low speed, high print quality</li> <li>• There must have a SPEED instruction in a cpl page.</li> <li>• This instruction is effective just in the cpl page.</li> </ul>
[Reference]	
[Example]	<b>! 0 200 200 300 1</b> <b>SPEED 3</b> <b>TEXT 5 0 0 20 PRINTS AT SPEED 3...</b> <b>PRINT</b>
[result]	

**29 Setting underline : UNDERLINE**

[Name]	Setting underline
[Format]	<i>{command}</i> <i>{mode}</i>
[Parameters]	{command}: UNDERLINE {mode}: “ON” : Enable underline “OFF” : Disable underline
[Description]	Enable/Disable underline
[Notice]	
[Reference]	
[Example]	<b>! 0 200 200 200 1</b> <b>UNDERLINE OFF</b> <b>TEXT 55 0 20 30 CHINA</b> <b>TEXT 10 0 20 60 CHINA</b> <b>UNDERLINE ON</b> <b>TEXT 55 0 20 90 CHINA</b> <b>TEXT 5 0 20 120 CHINA</b> <b>PRINT</b>
[result]	CHINA CHINA <u>CHINA</u> <u>CHINA</u>

**30 feed before print : PREFEED**

[Name]	Feed before print
[Format]	<i>{command} {length}</i>
[Parameters]	{command}:     PREFEED {length}:        feed distance, point number [8dots/mm]
[Description]	Setting the feed distance before print
[Notice]	
[Reference]	POSTFEED
[Example]	<b>! 0 200 200 100 1</b> <b>PREFEED 100</b> <b>TEXT 7 0 0 20 PREFEED EXAMPLE</b> <b>PRINT</b>
[result]	


**31 feed after print : POSTFEED**

[Name]	Feed after print
[Format]	<i>{command} {length}</i>
[Parameters]	{command}:     POSTFEED {length}:        feed distance, point number . 8dots/mm
[Description]	Setting the feed distance after print
[Notice]	
[Reference]	PREFEED
[Example]	<b>! 0 200 200 100 1</b> <b>POSTFEED 160</b> <b>TEXT 7 0 0 20 POSTFEED EXAMPLE</b> <b>PRINT</b>
[result]	

**32 Bold : SETBOLD**

[Name]	Bold
[Format]	{Command} {level}
[Parameters]	{command}: SETBOLD {level} 0 Disable bold {level} >1 Enable bold
[Description]	Enable/Disable the character bold
[Notice]	
[Reference]	CONTRAST
[Example]	! 0 200 200 300 1 SETBOLD 2 T 5 1 10 10 abcdefghABCDEFGH T 5 1 10 70 0123456789 T 55 0 10 140 Same dream , Same heart T 24 0 10 180 Same dream , Same heart SETBOLD 0 PRINT
[result]	

**33 PACE Command**

[Name]	Batch Printing
[Format]	{command}
[Parameters]	{command}: Pace
[Description]	When PACE is activated, the user must depress the printer's "FEED" key to print additional labels until the batch quantity is exhausted. By default, pacing is disabled on power up.
[Notice]	
[Reference]	
[Example]	<pre>! 0 200 200 210 3 <b>PACE</b> <b>CENTER</b> <b>TEXT 4 1 0 10 Print 3 labels</b> <b>TEXT 4 1 0 90 Using PACE</b> <b>PRINT</b></pre>
[result]	

**34 WAIT Command**

[Name]	Introduce a delay after a label is printed.
[Format]	{command} {delay-time}
[Parameters]	{command}: WAIT {delay-time}: Delay time in 1/8 seconds.
[Description]	This command is used to introduce a delay after a label is printed.
[Notice]	
[Reference]	
[Example]	<pre>! 0 200 200 150 5 <b>WAIT 80</b> <b>TEXT 5 0 0 20 DELAY 10 SECONDS</b> <b>FORM</b> <b>PRINT</b></pre>
[result]	The printer will pause 10 seconds ( $10 * 8 = 80$ ) after printing each label.

**35 SETSP Command**

[Name]	Change spacing between text characters.
[Format]	{command} {spacing}
[Parameters]	{command}: SETSP {spacing}: Unit measurement between characters. The default for spacing is zero. Note that this command is affected by the UNITS command setting.
[Description]	The SETSP command is used to change spacing between text characters.
[Notice]	
[Reference]	
[Example]	<b>! 0 200 200 210 1</b> <b>T 4 0 0 10 Normal Spacing</b> <b>SETSP 5</b> <b>T 4 0 0 50 Spread Spacing</b> <b>SETSP 0</b> <b>T 4 0 0 90 Normal Spacing</b> <b>FORM</b>
[result]	— <b>Normal Spacing</b> <b>Spread Spacing</b> <b>Normal Spacing</b>

**Appendix I : font info**

## 1、Font name :

font	id
Standard	0
Freestyle Script	1
OCR-A	2
Helvetica Neue LT Pro	4
Times New Roman	5
MICR	6
ter-u24b	7
Simple Chinese 16	55
Big 5	The others

## 2、Font height

Font id/SIZE	0	1	2	3	4	5	6	7
0	9	9	18	18	16	36	36	
1	48							
2	12	24						
4	47	94	45	90	180	270	360	450
5	24	48	46	92				
6	27							

7	24	48						
55	16							
The others	24							

## 3、Font width

Font id/SIZE	0	1	2	3	4	5	6	7
0	8	16	8	16	32	16	32	
1	variable							
2	20	20						
4	variable							
5	variable							
6	28							
7	12	12						
55	ASCII 8, Chinese 16							
The others	ASCII 12, Chinese 24							

**Appendix II : barcode info**

barcode	length	Input code	Ratio of think/thin	Thin line points	checksum
UPC-A	11 or 12	0-9	2:1	2	Mod 10
UPC-E	7or8	0-9	2:1	2	Mod 10
EAN-13	12or13	0-9	2:1	2	Mod 10
EAN-8	6 , 7or8	0-9	2:1	2	Mod 10
CODE 39		0-9,A-Z,- . \$ / + % full ascII(\$ / + %)	2.5:1	2	None
CODE 93	variable	128 ASCII	1.5:1	1	two mod 47
Interleaved 2 of 5	variable	0-9	2.5:1	2	modulo 10
Code 128 /A/B/C/Auto	variable	Standard ASCII	N/A	2	mod 103
Codabar	variable	0-9,A-D	2.5:1	2	None