

Scangle SGT-88IV 80mm Thermal Printer

Command set



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1 command list

LF	Print and line feed	Print and feed command
CR	Print and carriage return	
ESC J	Print and feed n points	
ESC d	Print and feed n lines	
ESC 3	Set n points line spacing	character command
ESC 2	Select default line spacing	
ESC \$ nL nH	Set absolute print position	
GS L nL nH	Set left space	
GS P	Set horizontal and vertical movement unit	
ESC ! n	Select print mode(s)	
GS ! n	Select character size	
GS B n	Turn white/black reverse printing mode	
ESC - n	Turn underline mode on/off	
ESC V n	Turn 90 clockwise rotation mode on/off	
ESC a n	Select justification	
FS &	Select Chinese character mode	
FS .	Cancel Chinese character mode	
ESC % n	Select/cancel user-defined character set	
ESC &	Define user-defined characters	
ESC ? n	Cancel user-defined characters	
ESC R n	Select an international character set	
ESC t n	Select character code table	
DC2 V	Printer MSB Bitmap	bit image command
DC2 v	Printer LSB Bitmap	
ESC *	Select bit-image mode	
GS *	Define downloaded bit image	
GS / m	Print downloaded bit image	
FS q	Define NV bit image	
FS p n m	Print NV bit image	
HT	Horizontal tab	Tab command
ESC D	Set horizontal tab positions	
GS H	Select printing position for HRI characters	Bar code command
GS h	Select bar code height	
GS w	Set bar code width	
GS k	Print bar code	
GS (k pL pH cn fn n (fn=67)	Set the module type	QR code command
GS (k pL pH cn	Set the QR code error correction level	

fn n (fn=69)	error (ECC)	
GS (k pL pH cn fn m d1...dk (fn=80)	Set the QR code graphic data	
GS (k pL pH cn fn m (fn=81)	Print store QR codes graphics	
GS r n	Transmit status	STATUS command
DLE EOT n	Real-time transmission status	
GS a n	Enable/Disable Automatic Status Back (ASB)	
ESC @	Initialize printer	Other command
DC2 T	Printing test paper	
ESC p m	Produce a cash drawer impulse	
ESC 7	Set the print concentration	
GS V m n	Select Cutter Mode and Cut	
ESC i	Full cut	
ESC m	Half cut	

2 command detail

①print and feed command

Print and line feed

Name	Print and line feed
Format	ASCII : LF Decimal : 10 Hex : 0A
Description	Prints the data in the print buffer and feeds one line, based on the current line spacing.
Range	
Default	
Support model	All the printers
Note	
For Example	1B 40 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1b 4a 10 1B 40 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1b 4a 30 1B 40 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a

Print and carriage return

Name	Print and carriage return
Format	ASCII : CR Decimal : 13 Hex : 0D
Description	When automatic line feed is enabled, this command functions the same as LF ; when automatic line feed is disabled, this command is ignored.
Range	
Default	
Support model	All the printers
Note	This command line feed is ignored with a serial interface model. Sets the print starting position to the beginning of the line.
For Example	

Print and feed paper

Name	Print and feed paper
Format	ASCII : ESC J n

	Decimal : 27 74 n Hex : 1B 4A n
Description	Prints the data in the print buffer and feeds the paper [$n \times 0.125$ mm (0.0049")].
Range	$0 \leq n \leq 255$
Default	
Support modal	All the printers
Note	• After printing is completed, this command sets the print starting position to the beginning of the line. • The paper feed amount set by this command does not affect the values set by ESC 2 or ESC 3. • In standard mode, the printer uses the vertical motion unit (y).
For example	1b 40 30 31 32 1b 4a 10

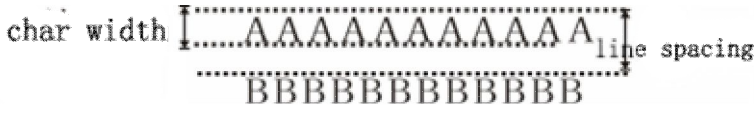
Print and feed n lines

Name	Print and feed n lines
Format	ASCII : ESC d n Decimal : 27 100 n Hex : 1B 64 n
Description	Prints the data in the print buffer and feeds n lines.
Range	$0 \leq n \leq 255$
Default	
Support modal	All the printers
Note	• This command sets the print starting position to the beginning of the line. • This command does not affect the line spacing set by ESC 2 or ESC 3. • The maximum paper feed amount is 1016 mm (40 inches). If the paper feed amount ($n \times$ line spacing) of more than 1016 mm (40 inches) is specified, the printer feeds the paper only 1016 mm (40 inches).
For example	1b 40 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 1b 64 01 1b 40 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 1b 64 02 1b 40 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 1b 64 00

②character command

Set line spacing

Name	Set line spacing
Format	ASCII : ESC 3 n Decimal : 27 51 n

	Hex : 1B 33 n
Description	Sets the line spacing to $[n \times 0.125 \text{ mm}]$.
Range	$0 \leq n \leq 255$
Default	$n = 33$
Support modal	All the printers
Note	 • If set the line spacing is less than the maximum character height in a line, so the bank line spacing is equal to the maximum character level. • The line spacing can be set default values, when appear ESC 2, ESC @, reset the printer and printer power • NOTE: page mode control board, The horizontal and vertical moving units (default) are 1/2 points, for example: the distance between the rows is set to 48 points, then $n = 0 \times 60$;
For example	<pre>1b 40 1b 33 30 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1b 32 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a</pre>

Select default line spacing

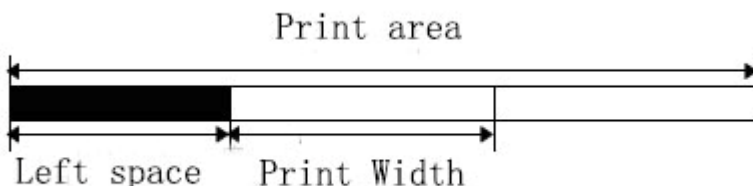
Name	Select default line spacing
Format	ASCII : ESC 2 Decimal : 27 50 Hex : 1B 32
Description	Selects 4.125mm ($33 \times 0.125 \text{ mm}$) line spacing.
Range	$0 \leq n \leq 255$
Default	33 Dots
Support modal	All the printers
Note	With reference to ESC 3 command. If set the line spacing is less than the maximum character height in a line, so the bank line spacing is equal to the maximum character level.
For example	

Set absolute print position

Name	Set absolute print position
Format	ASCII : ESC \$ nL nH Decimal : 27 36 nL nH

	Hex : 1B 24 nL nH
Description	The distance from the beginning of the line to the print position is[(nL + nH×256)×0.125 mm].
Range	$0 \leq nL \leq 255$, $0 \leq nH \leq 255$
Default	
Support modal	All the printers
Note	• Settings outside the specified printable area are ignored. • In standard mode, the horizontal motion unit (x) is used.
For example	1b 40 1b 24 20 00 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a

Set left space

Name	Set left space
Format	ASCII : GS L nL nH Decimal : 29 76 nL nH Hex : 1D 4C nL nH
Description	Set left space (nL + nH × 256) dots.
Range	$0 \leq nL \leq 255$, $0 \leq nH \leq 255$
Default	
Support modal	All the printers
Note	This command is only effective in a line of the starting position of the treatment. As shown in the figure:  If set outside the printable area, use the maximum printing unit.
For example	1b 40 1d 4c 50 00 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1C 26 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a

Set horizontal and vertical movement unit

Name	Set horizontal and vertical movement unit
Format	ASCII : GS P x y Decimal : 29 80 x y HEX : 1D 50 x y
Description	• Set approximation horizontal movement unit 25.4/ x mm (1/ x inch) ;

	set approximation vertical movement unit 25.4/ y mm (1/ y inch). •When x and y is 0,the x and y is set to default.
Range	$0 \leq x \leq 255, 0 \leq y \leq 255$
Default	x = 200, y = 380, a movement unit is the point of a print. The horizontal distance is about 1/8mm ; the vertical distance is about 1/15mm.
Support modal	80XXX
Note	
For example	1d 50 c8 c8 1B 4C 1B 57 30 00 00 00 78 00 30 00 1B 33 18 1B 57 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 0C

Select print mode(s)

Name	Select print mode(s)																																						
Format	ASCII : ESC ! n Decimal : 27 33 n Hex : 1B 21 n																																						
Description	Selects print mode(s) using n as follows: (Font、white/black reverse、Inversion、Bold、double-height、double-width、underline) <table><tr><th rowspan="2">bit</th><th rowspan="2">function</th><th colspan="2">value</th></tr><tr><th>0</th><th>1</th></tr><tr><td>0</td><td>font</td><td>normal</td><td>small</td></tr><tr><td>1</td><td>inverse</td><td>cancel</td><td>set</td></tr><tr><td>2</td><td>inversion</td><td>cancel</td><td>set</td></tr><tr><td>3</td><td>bold</td><td>cancel</td><td>set</td></tr><tr><td>4</td><td>double-height</td><td>cancel</td><td>set</td></tr><tr><td>5</td><td>double-width</td><td>cancel</td><td>set</td></tr><tr><td>6</td><td>underline</td><td>cancel</td><td>set</td></tr><tr><td>7</td><td>undefined</td><td></td><td></td></tr></table>	bit	function	value		0	1	0	font	normal	small	1	inverse	cancel	set	2	inversion	cancel	set	3	bold	cancel	set	4	double-height	cancel	set	5	double-width	cancel	set	6	underline	cancel	set	7	undefined		
bit	function			value																																			
		0	1																																				
0	font	normal	small																																				
1	inverse	cancel	set																																				
2	inversion	cancel	set																																				
3	bold	cancel	set																																				
4	double-height	cancel	set																																				
5	double-width	cancel	set																																				
6	underline	cancel	set																																				
7	undefined																																						
Range																																							
Default	n = 0																																						
Supprot modal	All the printers																																						
Note	The command for Chinese fonts and foreign fonts are effective ESC @,dump and restart,Reset the printer,This command setting failure																																						
For example	1B 40 1B 21 01 30 31 32 0D 0A 1B 40 1B 21 02 30 31 32 0D 0A 1B 40 1B 21 04 30 31 32 0D 0A 1B 40 1B 21 08 30 31 32 0D 0A																																						

	1B 40 1B 21 10 30 31 32 0D 0A 1B 40 1B 21 20 30 31 32 0D 0A 1B 40 1B 21 40 30 31 32 0D 0A 1B 40 1B 21 80 30 31 32 0D 0A
--	--

Select character size

Name	Select character size																																																											
Formal	ASCII : GS ! n Decimal : 29 33 n HEX : 1d 21 n																																																											
Description	1 ≤ vertical number of times ≤ 8, 1 ≤ horizontal number of times ≤ 8 Selects the character height using bits 0 to 2 and selects the character width using bits 4 to 7, as follows: Table 1 Set the width of character <table><thead><tr><th>HEX</th><th>Decim al</th><th>width</th></tr></thead><tbody><tr><td>00</td><td>0</td><td>1 (normal)</td></tr><tr><td>10</td><td>16</td><td>2 (double-wi dth)</td></tr><tr><td>20</td><td>32</td><td>Undefined</td></tr><tr><td>30</td><td>48</td><td>Undefined</td></tr><tr><td>40</td><td>64</td><td>Undefined</td></tr><tr><td>50</td><td>80</td><td>Undefined</td></tr><tr><td>60</td><td>96</td><td>Undefined</td></tr><tr><td>70</td><td>112</td><td>Undefined</td></tr></tbody></table> Table 2 Set the height of character <table><thead><tr><th>HEX</th><th>Decimal</th><th>width</th></tr></thead><tbody><tr><td>00</td><td>0</td><td>1 (normal)</td></tr><tr><td>01</td><td>1</td><td>2 (double-h eight)</td></tr><tr><td>02</td><td>2</td><td>Undefined</td></tr><tr><td>03</td><td>3</td><td>Undefined</td></tr><tr><td>04</td><td>4</td><td>Undefined</td></tr><tr><td>05</td><td>5</td><td>Undefined</td></tr><tr><td>06</td><td>6</td><td>Undefined</td></tr><tr><td>07</td><td>7</td><td>Undefined</td></tr></tbody></table>						HEX	Decim al	width	00	0	1 (normal)	10	16	2 (double-wi dth)	20	32	Undefined	30	48	Undefined	40	64	Undefined	50	80	Undefined	60	96	Undefined	70	112	Undefined	HEX	Decimal	width	00	0	1 (normal)	01	1	2 (double-h eight)	02	2	Undefined	03	3	Undefined	04	4	Undefined	05	5	Undefined	06	6	Undefined	07	7	Undefined
	HEX	Decim al	width																																																									
	00	0	1 (normal)																																																									
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Suuport modal	All the printers																																																											
Note	This command is effective for all characters (alphanumeric and Chinese), except for HRI characters. ESC @,dump and restart,Reset the printer,This command setting failure.																																																											
For example	1b 40 1c 26 1d 21 10 30 31 32 B0 AE CE D2 D6 D0 BB AA 0d 0a 1B 40 1c 26 1d 21 01 30 31 32 B0 AE CE D2 D6 D0 BB AA 0d 0a 1B 40 1c 26 1d 21 11																																																											

	30 31 32 B0 AE CE D2 D6 D0 BB AA 0d 0a
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Turn white/black reverse printing mode

Name	Turn white/black reverse printing mode
Format	ASCII : GS B n Decimal : 29 66 n HEX : 1d 42 n
Description	Turns on or off white/black reverse printing mode. - When the LSB of n is 0, white/black reverse mode is turned off. - When the LSB of n is 1, white/black reverse mode is turned on.
Range	
Default	n = 0
Support modal	All the printers
Note	- Only the lowest bit of n is valid. - This command is available for built-in characters and user-defined characters. - When white/black reverse printing mode is on, it also applies to character spacing set by ESC SP. - This command does not affect bit images, user-defined bit images, bar codes, HRI characters, and spacing skipped by HT, ESC \$. - This command does not affect the space between lines. - White/black reverse mode has a higher priority than underline mode. Even if underline mode is on, it is disabled (but not canceled) when white/black reverse mode is selected.
For example	1b 40 1c 26 1d 42 00 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1b 40 1c 26 1d 42 01 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a

Turn underline mode on/off

Name	Turn underline mode on/off								
Format	ASCII : ESC - n Decimal : 27 45 n HEX : 1B 2D n								
Description	Turns underline mode on or off, based on the following values n: <table border="1"> <thead> <tr> <th>n</th><th>Function</th></tr> </thead> <tbody> <tr> <td>0, 48</td><td>Turns off underline mode</td></tr> <tr> <td>1, 49</td><td>Turns on underline mode (1 dot thick)</td></tr> <tr> <td>2, 50</td><td>Turns on underline mode (2 dots thick)</td></tr> </tbody> </table>	n	Function	0, 48	Turns off underline mode	1, 49	Turns on underline mode (1 dot thick)	2, 50	Turns on underline mode (2 dots thick)
n	Function								
0, 48	Turns off underline mode								
1, 49	Turns on underline mode (1 dot thick)								
2, 50	Turns on underline mode (2 dots thick)								
Range	$0 \leq n \leq 2, 48 \leq n \leq 50$								
Default	n = 0								

Support modal	All the printers
Note	• The printer can underline all characters (including right-side character spacing), but cannot underline the space set by HT. • The printer cannot underline 90° clockwise rotated characters and white/black inverted characters. • When underline mode is turned off by setting the value of n to 0 or 48, the following data is not underlined, and the underline thickness set before the mode is turned off does not change. The default underline thickness is 1 dot. • Changing the character size does not affect the current underline thickness. • Underline mode can also be turned on or off by using ESC !. Note,
For example	<pre>1b 40 1c 26 1b 2d 01 30 31 32 41 42 43 B0 AE CE D2 D6 D0 BB AA 0D 0A 1b 40 1c 26 1b 2d 02 30 31 32 41 42 43 B0 AE CE D2 D6 D0 BB AA 0D 0A 1b 40 1c 26 1b 2d 00 30 31 32 41 42 43 B0 AE CE D2 D6 D0 BB AA 0D 0A</pre>

Turn 90 clockwise rotation mode on/off

Name	Turn 90° clockwise rotation mode on/off						
Format	ASCII : ESC V n Decimal : 27 86 n HEX : 1B 56 n						
Description	Turns 90° clockwise rotation mode on/off n is used as follows: <table border="1"> <thead> <tr> <th>n</th><th>Function</th></tr> </thead> <tbody> <tr> <td>0,48</td><td>Turns off 90° clockwise rotation mode</td></tr> <tr> <td>1,49</td><td>Turns on 90° clockwise rotation mode</td></tr> </tbody> </table>	n	Function	0,48	Turns off 90° clockwise rotation mode	1,49	Turns on 90° clockwise rotation mode
n	Function						
0,48	Turns off 90° clockwise rotation mode						
1,49	Turns on 90° clockwise rotation mode						
Range	$0 \leq n \leq 1, \quad 48 \leq n \leq 49$						
Default	n = 0						
Support modal	All the printers						
Note	• This command affects printing in standard mode. However, the setting is always effective. • When underline mode is turned on, the printer does not underline 90° clockwise-rotated characters. • Double-width and double-height commands in 90° rotation mode enlarge characters in the opposite directions from double-height and double-width commands in normal mode.						
For example	<pre>1b 40 1c 26 1b 56 01 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a 1b 40 1c 26 1b 56 00 30 31 32 41 42 43 CFC3C3C5BFAAB4CFB5E7D7D3 0d 0a</pre>						

Select justification (Left justification、centering、Right justification)

Name	Select justification (left、center、right)								
Format	ASCII : ESC a n Decimal : 27 97 n HEX : 1B 61 n								
Description	Aligns all the data in one line to the specified position.n selects the justification as follows: <table border="1"> <thead> <tr> <th>n</th><th>Justification</th></tr> </thead> <tbody> <tr> <td>0, 48</td><td>Left justification</td></tr> <tr> <td>1, 49</td><td>Centering</td></tr> <tr> <td>2, 50</td><td>Right justification</td></tr> </tbody> </table>	n	Justification	0, 48	Left justification	1, 49	Centering	2, 50	Right justification
n	Justification								
0, 48	Left justification								
1, 49	Centering								
2, 50	Right justification								
Range	$0 \leq n \leq 2$ or $48 \leq n \leq 50$								
Default	n = 0								
Support modal	All the printers								
Note	ESC @,dump and restart,Reset the printer,This command setting failure.								
Example	1B 40 1B 61 02 30 31 32 0D 0A 1B 40 1B 61 01 30 31 32 0D 0A 1B 40 1B 61 00 30 31 32 0D 0A								

Select Chinese character mode

Name	Select Chinese character mode
Format	ASCII : FS & Decimal : 28 38 HEX : 1C 26
Description	Selects Chinese character mode.
Range	
Default	
Support modal	All the printers
Note	For Chinese model: • When the Chinese character mode is selected, the printer processes all Chinese code as two bytes each. • Chinese codes are processed in the order of the first byte and second byte. • Chinese character mode is not selected when the power is turned on.
For example	1b 40 1C 26 B0 AE C9 CF D7 D4 BC BA 0d 0a 1C 2E B0 AE C9 CF D7 D4 BC BA 0d 0a

Cancel Chinese character mode

Name	Cancel Chinese character mode
Format	ASCII : FS . Decimal : 28 46 HEX : 1C 2E
Description	Cancel Chinese character mode
Range	
Default	
Support modal	All the printers
Note	For Chinese model: • When the Chinese character mode is not selected, all character codes are processed one byte at a time as ASCII code. • Chinese character mode is not selected when the power is turned on.
For example	

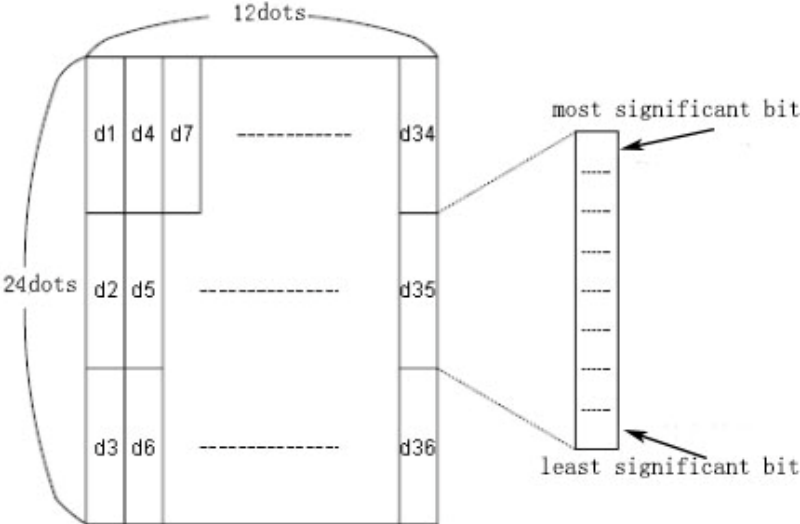
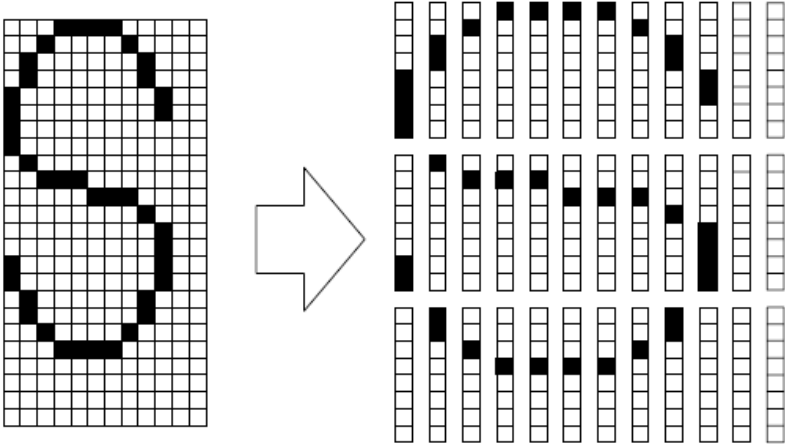
Select/cancel user-defined character set

Name	Select/cancel user-defined character set
Format	ASCII : ESC % n Decimal : 27 37 n HEX : 1B 25 n
Description	Selects or cancels the user-defined character set. • When the LSB of n is 0, the user-defined character set is canceled. • When the LSB of n is 1, the user-defined character set is selected.
Range	$0 \leq n \leq 255$
Default	0
Support modal	All the printers
Note	• When the user-defined character set is canceled, the built-in character set is automatically selected.
For example	1B 40 1b 26 03 20 20 0C 0F 03 00 30 80 00 40 40 20 80 40 10 80 40 10 80 20 10 80 20 10 40 20 20 30 10 C0 0C 00 00 00 00 00 00 00 00 1b 25 01 20 0D 0A 1b 3f 20 30 20 30 20 0d 0a

Define user-defined characters

Name	Define user-defined characters
Format	ASCII : ESC & y c1 c2 [x1 d1 ... d (yx1)] ... [xk d1 ... d(y x k)]

	Decimal : 27 38 y c1 c2 [x1 d1 ... d(yx1)] ...[xk d1 ... d(yxk)] HEX : 1B 26 y c1 c2 [x1 d1...d(y x1)]...[xk d1...d(yxk)]
Description	Defines user-defined characters. • y specifies the number of bytes in the vertical direction. • c1 specifies the beginning character code for the definition, and c2 specifies the final code. • x specifies the number of dots in the horizontal direction.
Range	y = 2 $0 \leq x \leq 6$ (when Font A (6×12) is selected) y = 3 $32 \leq c1 \leq c2 \leq 126$ $0 \leq x \leq 12$ (when Font A (12×24) is selected) $0 \leq d1 \dots d(y \times xk) \leq 255$
Default	
Support modal	All the printers
Note	• The allowable character code range is from ASCII code <20>H to <7E>H (95 characters). • It is possible to define multiple characters for consecutive character codes. If only one character is desired, use c1 = c2. • d is the dot data for the characters. The dot pattern is in the horizontal direction from the left side. Any remaining dots on the right side are blank. • The data to define user-defined characters is (y×x) bytes. • Set a corresponding bit to 1 to print a dot or 0 not to print a dot. • This command can define different user-defined character patterns for each font. To select a font, use ESC ! • User-defined characters and a downloaded bit image cannot be defined simultaneously. When this command is executed, the downloaded bit image is cleared. • The user-defined character definition is cleared when: 1) ESC @ is executed. 2) GS is executed. 3) ESC ? is executed. 4) The power is turned off. • When Font A (12× 24) is selected.

	  d1 = <0F>H d4 = <30>H d7 = <40>H d2 = <03>H d5 = <80>H d8 = <40>H d3 = <00>H d6 = <00>H d9 = <20>H
For example	①y = 2 1B 40 1b 26 02 20 20 06 FF FF FF FF FF FF FF FF FF FF 1b 25 01 20 20 0D 0A 1b 3f 20 30 20 30 20 0d 0a ②y = 3 1B 40 1b 26 03 20 20 0C 0F 03 00 30 80 00 40 40 20 80 40 10 80 40 10 80 20 10 80 20 10 40 20 20 30 10 C0 0C 00 00 00 00 00 00 00 00 00 1b 25 01 20 0D 0A 1b 3f 20

	30 20 30 20 0d 0a
--	-------------------

Cancel user-defined characters

Name	Cancel user-defined characters
Format	ASCII : ESC ? n Decimal : 27 63 n HEX : 1B 3F n
Description	Cancels user-defined characters.
Range	$32 \leq n \leq 126$
Default	
Support modal	All the printers
Note	• This command cancels the patterns defined for the character codes specified by n. After the user-defined characters are canceled, the corresponding patterns for the internal characters are printed. • This command deletes the pattern defined for the specified code in the font selected by ESC !. • If a user-defined characters have not been defined, the printer ignores this command.
For example	

Select an international character set

Name	Select an international character set																														
Format	ASCII : ESC R n Decimal : 27 82 n HEX : 1B 52 n																														
Description	Selects international character set n from the following table: <table border="1"> <thead> <tr> <th>n</th><th>Character set</th></tr> </thead> <tbody> <tr><td>0</td><td>U.S.A</td></tr> <tr><td>1</td><td>France</td></tr> <tr><td>2</td><td>Germany</td></tr> <tr><td>3</td><td>U.K</td></tr> <tr><td>4</td><td>Denmark I</td></tr> <tr><td>5</td><td>Sweden</td></tr> <tr><td>6</td><td>Italy</td></tr> <tr><td>7</td><td>Spain I</td></tr> <tr><td>8</td><td>Japan</td></tr> <tr><td>9</td><td>Norway</td></tr> <tr><td>10</td><td>Denmark II</td></tr> <tr><td>11</td><td>Spain II</td></tr> <tr><td>12</td><td>Latin America</td></tr> <tr><td>13</td><td>Korea</td></tr> </tbody> </table>	n	Character set	0	U.S.A	1	France	2	Germany	3	U.K	4	Denmark I	5	Sweden	6	Italy	7	Spain I	8	Japan	9	Norway	10	Denmark II	11	Spain II	12	Latin America	13	Korea
n	Character set																														
0	U.S.A																														
1	France																														
2	Germany																														
3	U.K																														
4	Denmark I																														
5	Sweden																														
6	Italy																														
7	Spain I																														
8	Japan																														
9	Norway																														
10	Denmark II																														
11	Spain II																														
12	Latin America																														
13	Korea																														

		14	Slovenia/Croatia	
		15	China	
Range	$0 \leq n \leq 15$			
Default	0			
Support modal	All the printers			
Note				
For example	1B 40 1C 26 c3 c0 b9 fa 0d 0a 1B 40 1B 52 00 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 B7 A8 B9 FA 0d 0a 1B 40 1B 52 01 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 B5 C2 B9 FA 0d 0a 1B 40 1B 52 02 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 D3 A2 B9 FA 0d 0a 1B 40 1B 52 03 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 B5 A4 C2 F3 0d 0a 1B 40 1B 52 04 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 C8 F0 B5 E4 0d 0a 1B 40 1B 52 05 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 D2 E2 B4 F3 C0 FB 0d 0a 1B 40 1B 52 06 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 CE F7 B0 E0 D1 C0 0d 0a 1B 40 1B 52 07 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 C8 D5 B1 BE 0d 0a 1B 40 1B 52 08 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 C5 B2 CD FE 0d 0a 1B 40 1B 52 09 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 B5 A4 C2 F3 32 0d 0a 1B 40 1B 52 0A 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 CE F7 B0 E0 D1 C0 32 0d 0a 1B 40 1B 52 0B 7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a 1B 40 1C 26 C0 AD B6 A1 C3 C0 D6 DE 0d 0a 1B 40 1B 52 0C			

	7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a
	1B 40 1C 26 BA AB B9 FA 0d 0a
	1B 40 1B 52 0D
	7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a
	1B 40 1C 26 CB B9 C2 E5 CE C4 C4 E1 D1 C7 0d 0a
	1B 40 1B 52 0E
	7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a
	1B 40 1C 26 D6 D0 B9 FA 0d 0a
	1B 40 1B 52 0F
	7b 23 24 40 5b 5c 5c 5d 5e 60 7b 7c 7d 7e 7d 0d 0a

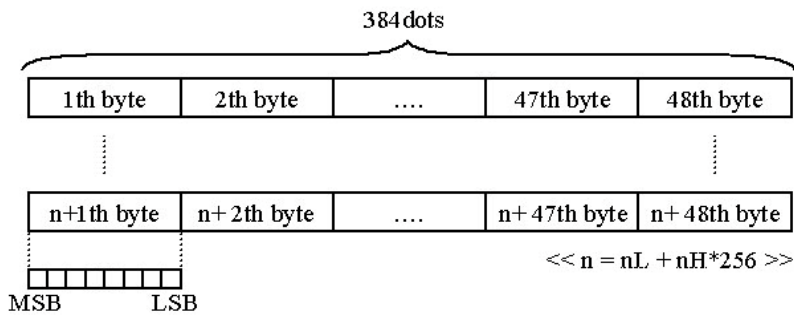
Select character code table

Name	Select character code table			
Format	ASCII : ESC t n Decimal : 27 116 n HEX : 1B 74 n			
Description	n :select code page.			
	N	Code Page	N	Code Page
	0	CP437 [U.S.A., Standard Europe]	26	Thai
	1	KataKana	27	CP720[Arabic]
	2	CP850 [Multilingual]	28	CP855
	3	CP860 [Portuguese]	29	CP857[Turkish]
	4	CP863 [Canadian-French]	30	WCP1250[Central Europe]
	5	CP865 [Nordic]	31	CP775
	6	WCP1251 [Cyrillic]	32	WCP1254[Turkish]
	7	CP866 Cyrillic #2	33	WCP1255[Hebrew]
	8	MIK[Cyrillic /Bulgarian]	34	WCP1256[Arabic]
	9	CP755 [East Europe, Latvian 2]	35	WCP1258[Vietnam]
	10	Iran	36	ISO-8859-2[Latin 2]
	11	reserve	37	ISO-8859-3[Latin 3]
	12	reserve	38	ISO-8859-4[Baltic]
	13	reserve	39	ISO-8859-5[Cyrillic]
	14	reserve	40	ISO-8859-6[Arabic]
	15	CP862 [Hebrew]	41	ISO-8859-7[Greek]
	16	WCP1252 Latin I	42	ISO-8859-8[Hebrew]
	17	WCP1253 [Greek]	43	ISO-8859-9[Turkish]
	18	CP852 [Latina 2]	44	ISO-8859-15 [Latin 3]
	19	CP858 Multilingual Latin I +Euro)	45	Thai2
	20	Iran II	46	CP856
	21	Latvian	47	Cp874
	22	CP864 [Arabic]	255	GBK2312

	23	ISO-8859-1 [West Europe]	
	24	CP737 [Greek]	
	25	WCP1257 [Baltic]	
Range	0 ≤ n ≤ 255		
Default	0		
Support modal	All the printers		
Note			
For example	1B 40 1C 2E 1B 74 00 80 81 82 83 84 85 86 87 88 89 8A 8B 8C 8D 8E 8F 90 91 92 93 94 95 96 97 98 9A 9B 9C 9D 9E 9F A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB EC ED EE EF F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE FF 0D 0A		

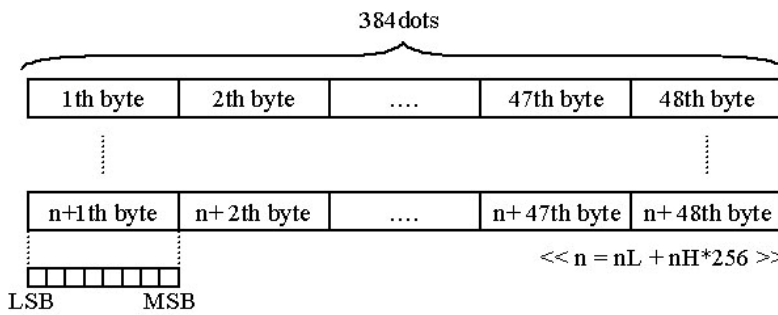
③bit image command

Print MSB BITMAP

Name	Print MSB Bitmap
Format	ASCII : DC2 V nL nH [d1 ... d48] Hex : 12 56 nL nH [d1 ... d48] Decimal : 18 86 nL nH [d1 ... d48]
Description	This command use to print MSB format bitmap, The width of bitmap must the same as the printer mechanism Bitmap height: $nL + nH * 256$ Bitmap format:  << $n = nL + nH * 256$ >>
Range	
Default	
Support modal	All the printers

Note	
For example	12 56 01 00 FF

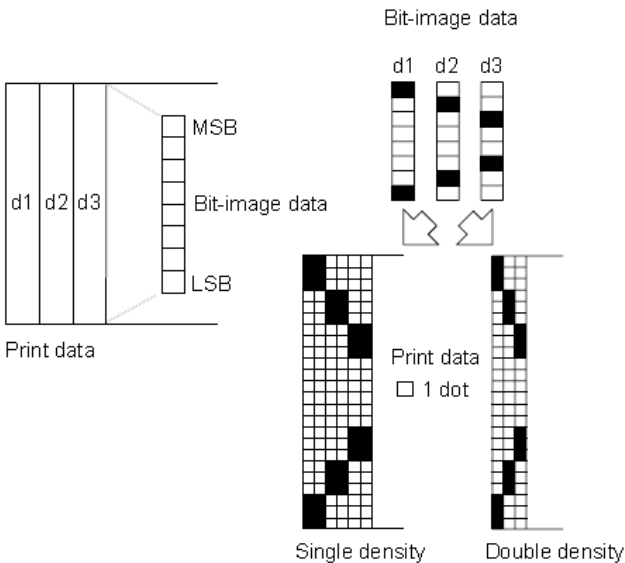
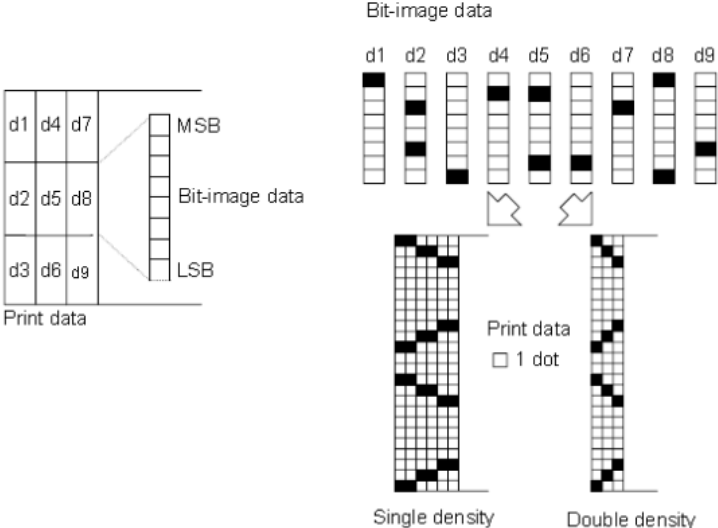
Print LSB bitmap

Name	Print LSB Bitmap
Format	ASCII : DC2 v nL nH [d1 ... d48] Hex : 12 76 nL nH [d1 ... d48] Decimal : 18 118 nL nH [d1 ... d48]
Description	This command use to print LSB format bitmap, The width of bitmap must the same as the printer mechanism Bitmap height: $nL + nH * 256$ Bitmap format:  $\ll n = nL + nH * 256 \gg$
Range	
Default	
Support modal	All the printers
Note	
For example	

Select bit-image mode

Name	Select bit-image mode																				
Format	ASCII : ESC * m Hl Hh [d]k Decimal : 27 42 m Hl Hh [d]k HEX : 1B 2A m Hl Hh [d]k																				
Description	Selects a bit-image mode using m for the number of dots specified by nL and nH, as follows: <table><tr><td>m</td><td>mode</td><td>Horizontal Scale</td><td>Vertical Scale</td></tr><tr><td>0</td><td>8-dot single-density</td><td>×2</td><td>×3</td></tr><tr><td>1</td><td>8-dot double-density</td><td>×1</td><td>×3</td></tr><tr><td>32</td><td>24-dot single-density</td><td>×2</td><td>×1</td></tr><tr><td>33</td><td>24-dot double-density</td><td>×1</td><td>×1</td></tr></table>	m	mode	Horizontal Scale	Vertical Scale	0	8-dot single-density	×2	×3	1	8-dot double-density	×1	×3	32	24-dot single-density	×2	×1	33	24-dot double-density	×1	×1
m	mode	Horizontal Scale	Vertical Scale																		
0	8-dot single-density	×2	×3																		
1	8-dot double-density	×1	×3																		
32	24-dot single-density	×2	×1																		
33	24-dot double-density	×1	×1																		

	Hl、Hh specifies the number of dots in the horizontal direction. $(Hl + 256 \times Hh)$ [d]k is bit-image mode datas
Range	XX58: $m = 0、1、32、33$ $1 \leq Hl + Hh \times 256 \leq 384$ $0 \leq d \leq 255$ $k = Hl + Hh \times 256$ (当 $m = 0、1$) $k = (Hl + Hh \times 256) \times 3$ (当 $m = 32、33$) XX80: $m = 0、1、32、33$ $1 \leq Hl + Hh \times 256 \leq 576$ $0 \leq d \leq 255$ $k = Hl + Hh \times 256$ (当 $m = 0、1$) $k = (Hl + Hh \times 256) \times 3$ (当 $m = 32、33$)
Default	
Support modal	All the printers
Note	If the value of m is out of the specified range, nL and nH the data following are processed as normal data. The nL and nH indicate the number of dots in the bit image in the horizontal direction. The number of dots is calculated by $nL + nH - 256$. If the bit-image data input exceeds the number of dots to be printed on a line, the excess data is ignored. d indicates the bit-image data. Set a corresponding bit to 1 to print a dot or to 0 not to print a dot. After printing a bit image, the printer returns to normal data processing mode. This command is not affected by print modes (emphasized, double-strike, underline, character size, or white/black reverse printing), except upside-down printing mode. The relationship between the image data and the dots to be printed is described in Figure 3.11.3. When 8-dot bit image is selected:

	 3.11.3 When 24-dot bit image is selected:  3.11.3
For example	1B 40 1b 2a 00 0C 00 FF FF FF FF FF FF FF FF FF FF FF 1B 33 00 0A

Define downloaded bit image

Name	Define downloaded bit image
Format	ASCII : GS * x y d1...d(x×y×8) Decimal : 29 42 x y d1 ...d(x×y×8) HEX : 1D 2A x y d1...d(x×y×8)

Description	Defines a downloaded bit image using the number of dots specified by x and y. • x specifies the number of dots in the horizontal direction. • y specifies the number of dots in the vertical direction.
Range	$1 \leq x \leq 255$ $1 \leq y \leq 48$ $x \times y \leq 1536$ $0 \leq d \leq 255$
Default	
Support modal	All the printers
Note	• If $x \times y$ is out of the specified range, this command is disabled. • The d indicates bit-image data. Data (d) specifies a bit printed as 1 and not printed as 0. • The downloaded bit image definition is cleared when: 1) ESC @ is executed. 2) ESC & is executed. 3) Printer is reset or the power is turned off. • The following figure shows the relationship between the downloaded bit image and the printed data. The diagram illustrates the relationship between the downloaded bit image and the printed data. It shows a grid of dots (x x 8 dots) and a corresponding data stream (y x 8 点). The data stream is divided into segments labeled d1, d2, ..., dy, and the grid is labeled dx x y x 8. A detailed view shows the most significant bit and least significant bit of the data stream.
For example	<pre>1B 40 1D 2A 0a 08 ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 ff 00 00 00 00 00 ff ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00</pre>

	00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 ff ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff 00 00 00 00 00 00 00 ff 00 00 00 00 00 00 ff
	1D 2F 03

Print downloaded bit image

Name	Print downloaded bit image										
Format	ASCII : GS / m Decimal : 29 47 m HEX : 1D 2F m										
Description	Prints a downloaded bit image using the mode specified by m. m selects a mode from the table below: <table><tr><th>n</th><th>Mode</th></tr><tr><td>0, 48</td><td>Normal</td></tr><tr><td>1, 49</td><td>Double-width</td></tr><tr><td>2, 50</td><td>Double-height</td></tr><tr><td>3, 51</td><td>Quadruple</td></tr></table>	n	Mode	0, 48	Normal	1, 49	Double-width	2, 50	Double-height	3, 51	Quadruple
n	Mode										
0, 48	Normal										
1, 49	Double-width										
2, 50	Double-height										
3, 51	Quadruple										
Range	$0 \leq m \leq 3$ $48 \leq m \leq 51$										
Default											
Support modal	All the printers										
Note	• This command is ignored if a downloaded bit image has not been defined. • In standard mode, this command is effective only when there is no data in the print buffer.										

	• This command has no effect in the print modes (emphasized, double-strike, underline, character size, or white/black reverse printing), except for upsidedown printing mode. • If the downloaded bit-image to be printed exceeds the printable area, the excess data is not printed.
For example	

Define NV bit image

Name	Define NV bit image
Format	ASCII : FS q n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n Decimal : 28 113 n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n HEX : 1C 71 n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n
Description	Define the NV bit image specified by n. • n specifies the number of the defined NV bit image. • xL, xH specifies $(xL + xH \times 256) \times 8$ dots in the horizontal direction for the NV bit image you are defining. • yL, yH specifies $(yL + yH \times 256) \times 8$ dots in the vertical direction for the NV bit image you are defining.
Range	$1 \leq n \leq 255$ $0 \leq xL \leq 255$ $0 \leq xH \leq 3$ $(1 \leq (xL + xH \times 256) \leq 1023)$ $0 \leq yL \leq 255$ $0 \leq yH \leq 1$ $(1 \leq (yL + yH \times 256) \leq 288)$ $0 \leq d \leq 255$ $k = (xL + xH \times 256) \times (yL + yH \times 256) \times 8$ Total defined data area = 64K Bytes
Default	
Support modal	All the printers
Note	Frequent write command executions may damage the NV memory. Therefore, it is recommended to write the NV memory 10 times or less a day. The printer performs a hardware reset after the procedure to place the image into the NV memory. Therefore, user-defined characters, downloaded bit images should be defined only after completing this command. The printer clears the receive and print buffers and resets the mode to the mode that was in effect at power on. (this version is not support hardware reset) This command cancels all NV bit images that have already been defined by this command. From the beginning of the processing of this command till the finish of hardware reset, mechanical operations (including initializing the position of

the print head when the cover is open, paper feeding using the FEED button, etc.) cannot be performed.

During processing of this command, the printer is BUSY when writing data to the user NV memory and stops receiving data. Therefore it is prohibited to transmit the data, including real-time commands, during the execution of this command.

NV bit image is a bit image defined in non-volatile memory by FS q and printed by FS p.

In standard mode, this command is effective only when processed at the beginning of the line.

This command is effective when 7 bytes <FS yH> of the command are processed normally.

When the amount of data exceeds the capacity left in the range defined by xL, xH, yL, yH, the printer processes xL, xH, yL, yH out of the defined range.

In the first group of NV bit images, when any of the parameters xL, xH, yL, yH is out of the definition range, this command is disabled.

In groups of NV bit images other than the first one, when the printer encounters xL, xH, yL, yH out of the defined range, it stops processing this command and starts writing into the NV images. At this time, NV bit images that haven't been defined are disabled (undefined), but any NV bit images before that are enabled.

The d indicates the definition data. In data (d) a 1 bit specifies a dot to be printed and a 0 bit specifies a dot not to be printed.

This command defines n as the number of a NV bit image. Numbers rise in order from NV bit image 01H. Therefore, the first data group [xL xH yL yH d1...dk] is NV bit image 01H, and the last data group [xL xH yL yH d1...dk] is NV bit image n. The total agrees with the number of NV bit images specified by the command FS p.

The definition data for an NV bit image consists of [xL xH yL yH d1...dk]. Therefore, when only one NV bit image is defined n=1, the printer processes a data group [xL xH yL yH d1...dk] once. The printer uses ([data: (xL xH× 256)×(yL yH× 256)×8] [header :4]) bytes of NV memory.

The definition area in this printer is a maximum of 192K bytes. This command can define several NV bit images, but cannot define bit image data whose total capacity [bit image data header] exceeds 192K bytes.

The printer does not transmit ASB status or perform status detection during processing of this command even when ASB is specified.

Once an NV bit image is defined, it is not erased by performing ESC @, reset, and power off.

This command performs only definition of an NV bit image and does not perform printing. Printing of the NV bit image is performed by the FS

[illegible]

	ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 00 00 ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 ff ff ff ff 00 00 00 00 00 00 ff
	1C 70 01 00

Print NV bit image

Name	Print NV bit image										
Format	ASCII : FS p n m Decimal : 28 112 n m HEX : 1C 70 n m										
Description	Prints NV bit image n using the mode specified by m. <table><tr><td>m</td><td>Mode</td></tr><tr><td>0, 48</td><td>Normal</td></tr><tr><td>1, 49</td><td>Double-width</td></tr><tr><td>2, 50</td><td>Double-height</td></tr><tr><td>3, 51</td><td>Quadruple</td></tr></table>	m	Mode	0, 48	Normal	1, 49	Double-width	2, 50	Double-height	3, 51	Quadruple
m	Mode										
0, 48	Normal										
1, 49	Double-width										
2, 50	Double-height										
3, 51	Quadruple										
Range	$0 \leq m \leq 3$ $48 \leq m \leq 51$ $1 \leq n \leq 255$										
Default											
Support modal	All the printers										
Note	- NV bit image is a bit image defined in non-volatile memory by FS q and printed by FS p. - This command is not effective when the specified NV bit image has not been defined.										

	• In standard mode, this command is effective only when there is no data in the print buffer. • This command is not affected by print modes (emphasized, underline, character size, white/black reverse printing, or 90° rotated characters, etc.), except upside-down printing mode. • If the downloaded bit-image to be printed exceeds one line, the excess data is not printed. • This command feeds dots (for the height n of the NV bit image) in normal and double-width modes, and (for the height $n \times 2$ of the NV bit image) in doubleheight and quadruple modes, regardless of the line spacing specified by ESC 2 or ESC 3. • After printing the bit image, this command sets the print position to the beginning of the line and processes the data that follows as normal data.
For example	

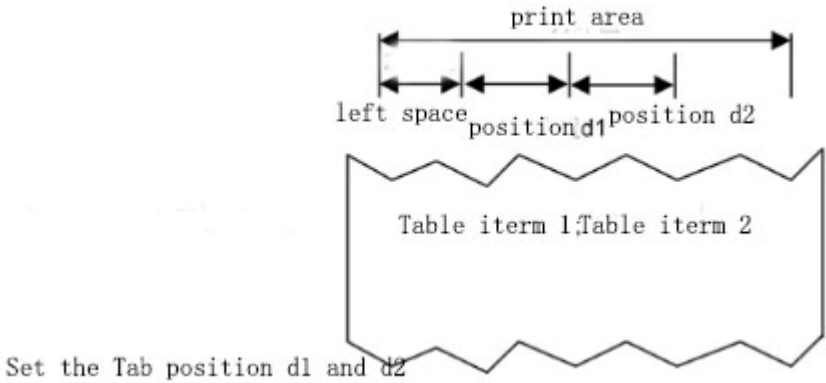
④Tab command

Horizontal tab

Name	Horizontal tab
Format	ASCII : HT Decimal : 9 HEX : 09
Description	Moves the print position to the next horizontal tab position.
Range	
Default	
Support modal	All the printers
Note	This command is ignored unless the next horizontal tab position has been set. If the next horizontal tab position exceeds the printing area, the printer sets the printing position to [printing area width + 1]. Horizontal tab positions are set with ESC D. If this command is received when the printing position is at [printing area width + 1], the printer executes print buffer-full printing of the current line and horizontal tab processing from the beginning of the next line.
For example	

Set horizontal tab positions

Name	Set horizontal tab positions
Format	ASCII : ESC D [d]k NUL Decimal : 27 68 [d]k 0 HEX : 1B 44 [d]k 00
Description	Sets horizontal tab positions. • d[k] specifies the column number for setting a horizontal tab position from the beginning of the line. • k indicates the total number of horizontal tab positions to be set. • NULL is end mark.
	XX58: $1 \leq d \leq 46$ ($d_1 < d_2 < \dots < d_k$, $1 \leq k \leq 16$) XX80: $1 \leq d \leq 70$ ($d_1 < d_2 < \dots < d_k$, $1 \leq k \leq 16$)
Default	[d]k = 0
Support modal	All the printers
Note	Set the Tab position:

	 Set the Tab position d1 and d2 The horizontal tab position is stored as a value of [character width n] measured from the beginning of the line. The character width includes the right-side character spacing, and double-width characters are set with twice the width of normal characters. This command cancels the previous horizontal tab settings. When setting n = 8, the print position is moved to column 9 by sending HT. Up to 16 tab positions (k = 16) can be set. Data exceeding 16 tab positions is processed as normal data. Transmit [n]k in ascending order and place a NUL code 0 at the end. When [n]k is less than or equal to the preceding value [n]k-1, tab setting is finished and the following data is processed as normal data. ESC D NUL cancels all horizontal tab positions. The previously specified horizontal tab positions do not change, even if the character width changes. The character width is memorized for each standard mode.
For example	1B 40 1C 26 1B 44 10 18 00 B1 E0 BA C5 09 C3 FB B3 C6 09 BC DB B8 F1 28 D4 AA 29 0D 0A 1B 44 10 18 00 31 09 B0 D7 B2 CB 09 31 2E 35 0D 0A 1B 44 10 18 00 32 09 C7 D1 D7 D3 09 32 0D 0A 1B 44 10 18 00 33 09 B6 B9 D1 BF 09 31 0D 0A

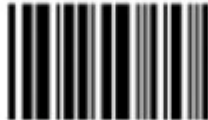
⑤bar code command

Select printing position for HRI characters

Name	Select printing position for HRI characters
Format	ASCII : GS H n Decimal : 29 72 n

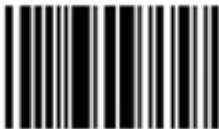
	HEX : 1D 48 n										
Description	Selects the printing position of HRI characters when printing a bar code. n selects the printing position as follows: <table border="1"> <thead> <tr> <th>n</th><th>Printing position</th></tr> </thead> <tbody> <tr> <td>0, 48</td><td>Not printed</td></tr> <tr> <td>1, 49</td><td>Above the bar code</td></tr> <tr> <td>2, 50</td><td>Below the bar code</td></tr> <tr> <td>3, 51</td><td>Both above and below the bar code</td></tr> </tbody> </table>	n	Printing position	0, 48	Not printed	1, 49	Above the bar code	2, 50	Below the bar code	3, 51	Both above and below the bar code
n	Printing position										
0, 48	Not printed										
1, 49	Above the bar code										
2, 50	Below the bar code										
3, 51	Both above and below the bar code										
Range	$0 \leq n \leq 3$ or $48 \leq n \leq 51$										
Default	n = 0										
Support modal	All the printers										
Note	ESC @,dump and restart,Reset the printer,This command setting failure.										
For example											

Select bar code height

Name	Select bar code height
Format	ASCII : GS h n Decimal : 29 104 n HEX : 1D 68 n
Description	Selects the height of the bar code. n specifies the number of dots in the vertical direction.  height:50  height:100
Range	$1 \leq n \leq 255$
Default	n = 64
Support modal	All the printers
Note	ESC @,dump and restart,Reset the printer,This command setting failure.
For example	

Set bar code width

Name	Set bar code width
Format	ASCII : GS w n Decimal : 29 119 n HEX : 1D 77 n
Description	Set bar code width unit to n, Parameters n meaning as follow:

	 width:3  width:4
Range	$1 \leq n \leq 6$
Default	$n = 2$
Support modal	All the printers
Note	ESC @,dump and restart,Reset the printer,This command setting failure.
For example	

Print bar code

Name	Print bar code																																															
Format	(A) ASCII : GS k m [d]k NUL Decimal : 29 107 m [d]k NUL HEX : 1D 6B m [d]k NUL (B) ASCII : GS k m n [d]k Decimal : 29 107 m n [d]k HEX : 1D 6B m n [d]k																																															
Description	Selects a bar code system and prints the bar code. m selects a bar code system as follows: <table><tr><th colspan="2">m</th><th>Bar Code System</th><th>Number of Characters</th><th>Remarks</th></tr><tr><td rowspan="7">①</td><td>0</td><td>UPC-A</td><td>$11 \leq k \leq 12$</td><td>$48 \leq d \leq 57$</td></tr><tr><td>1</td><td>UPC-E</td><td>$11 \leq k \leq 12$</td><td>$48 \leq d \leq 57$</td></tr><tr><td>2</td><td>JAN13 (EAN13)</td><td>$12 \leq k \leq 13$</td><td>$48 \leq d \leq 57$</td></tr><tr><td>3</td><td>JAN 8 (EAN8)</td><td>$7 \leq k \leq 8$</td><td>$48 \leq d \leq 57$</td></tr><tr><td>4</td><td>CODE39</td><td>$1 \leq k'$</td><td>$48 \leq d \leq 57, 65 \leq d \leq 90, 32, 36, 37, 43, 45, 46, 47$</td></tr><tr><td>5</td><td>ITF</td><td>$1 \leq k$ (even number)</td><td>$48 \leq d \leq 57$</td></tr><tr><td>6</td><td>CODABAR</td><td>$1 \leq k'$</td><td>$48 \leq d \leq 57, 65 \leq d \leq 68, 36, 43, 45, 46, 47, 58$</td></tr><tr><td rowspan="3">②</td><td>65</td><td>UPC-A</td><td>$11 \leq n \leq 12$</td><td>$48 \leq d \leq 57$</td></tr><tr><td>66</td><td>UPC-E</td><td>$11 \leq n \leq 12$</td><td>$48 \leq d \leq 57$</td></tr><tr><td>67</td><td>JAN13</td><td>$12 \leq n \leq 13$</td><td>$48 \leq d \leq 57$</td></tr></table>	m		Bar Code System	Number of Characters	Remarks	①	0	UPC-A	$11 \leq k \leq 12$	$48 \leq d \leq 57$	1	UPC-E	$11 \leq k \leq 12$	$48 \leq d \leq 57$	2	JAN13 (EAN13)	$12 \leq k \leq 13$	$48 \leq d \leq 57$	3	JAN 8 (EAN8)	$7 \leq k \leq 8$	$48 \leq d \leq 57$	4	CODE39	$1 \leq k'$	$48 \leq d \leq 57, 65 \leq d \leq 90, 32, 36, 37, 43, 45, 46, 47$	5	ITF	$1 \leq k$ (even number)	$48 \leq d \leq 57$	6	CODABAR	$1 \leq k'$	$48 \leq d \leq 57, 65 \leq d \leq 68, 36, 43, 45, 46, 47, 58$	②	65	UPC-A	$11 \leq n \leq 12$	$48 \leq d \leq 57$	66	UPC-E	$11 \leq n \leq 12$	$48 \leq d \leq 57$	67	JAN13	$12 \leq n \leq 13$	$48 \leq d \leq 57$
m		Bar Code System	Number of Characters	Remarks																																												
①	0	UPC-A	$11 \leq k \leq 12$	$48 \leq d \leq 57$																																												
	1	UPC-E	$11 \leq k \leq 12$	$48 \leq d \leq 57$																																												
	2	JAN13 (EAN13)	$12 \leq k \leq 13$	$48 \leq d \leq 57$																																												
	3	JAN 8 (EAN8)	$7 \leq k \leq 8$	$48 \leq d \leq 57$																																												
	4	CODE39	$1 \leq k'$	$48 \leq d \leq 57, 65 \leq d \leq 90, 32, 36, 37, 43, 45, 46, 47$																																												
	5	ITF	$1 \leq k$ (even number)	$48 \leq d \leq 57$																																												
	6	CODABAR	$1 \leq k'$	$48 \leq d \leq 57, 65 \leq d \leq 68, 36, 43, 45, 46, 47, 58$																																												
②	65	UPC-A	$11 \leq n \leq 12$	$48 \leq d \leq 57$																																												
	66	UPC-E	$11 \leq n \leq 12$	$48 \leq d \leq 57$																																												
	67	JAN13	$12 \leq n \leq 13$	$48 \leq d \leq 57$																																												

	(EAN13)		
68	JAN 8 (EAN8)	$7 \leq n \leq 8$	$48 \leq d \leq 57$
69	CODE39	$1 \leq n \leq 255$	$48 \leq d \leq 57, 65 \leq d \leq 90, 32, 36, 37, 43, 45, 46, 47$
70	ITF	$1 \leq n \leq 255$ (even number)	$48 \leq d \leq 57$
71	CODABAR	$1 \leq n \leq 255$	$48 \leq d \leq 57, 65 \leq d \leq 68, 36, 43, 45, 46, 47, 58$
72	CODE93	$1 \leq n \leq 255$	$0 \leq d \leq 127$
73	CODE128	$2 \leq n \leq 255$	$0 \leq d \leq 127$

[Notes for ①]

This command ends with a NUL code.

When the bar code system used is UPC-A or UPC-E, the printer prints the bar code data after receiving 12 bytes of bar code data and processes the following data as normal data.

When the bar code system used is JAN13 (EAN13), the printer prints the bar code after receiving 13 bytes of bar code data and processes the following data as normal data.

When the bar code system used is JAN8 (EAN8), the printer prints the bar code after receiving 8 bytes of bar code data and processes the following data as normal data.

The number of data for the ITF bar code must be even numbers. When an odd number of bytes of data is input, the printer ignores the last received data.

[Notes for ②]

n indicates the number of bar code data bytes, and the printer processes n bytes from the next character data as bar code data.

If n is outside the specified range, the printer stops command processing and processes the following data as normal data.

[Notes in standard mode]

If d is outside the specified range, the printer only feeds paper and processes the following data as normal data.

If the horizontal size exceeds printing area, the printer only feeds the paper.

This command feeds as much paper as is required to print the bar code, regardless of the line spacing specified by ESC 2 or ESC 3.

This command is enabled only when no data exists in the print buffer. When data exists in the print buffer, the printer processes the data following m as normal data.

After printing the bar code, this command sets the print position to the beginning of the line.

This command is not affected by print modes (emphasized, double-strike, underline, character size, white/black reverse printing, or 90° rotated character, etc.), except for upside-down printing mode.

[Example] Printing GS k 72 7 67 111 100 101 13 57 51

Control character			HRI character	Control character			HRI character
ASCII	Hex	Decimal		ASCII	Hex	Decimal	
NUL	00	0	■U	DEL	10	16	■P
SOH	01	1	■A	DC1	11	17	■Q
STX	02	2	■B	DC2	12	18	■R
ETX	03	3	■C	DC3	13	19	■S
EOT	04	4	■D	DC4	14	20	■T
ENQ	05	5	■E	NAK	15	21	■U
ACK	06	6	■F	SYN	16	22	■V
BEL	07	7	■G	ETB	17	23	■W
BS	08	8	■H	CAN	18	24	■X
HT	09	9	■I	EM	19	25	■Y
LF	0A	10	■J	SUB	1A	26	■Z
VT	0B	11	■K	ESC	1B	27	■A
FF	0C	12	■L	FS	1C	28	■B
CR	0D	13	■M	GS	1D	29	■C
SO	0E	14	■N	RS	1E	30	■D
SI	0F	15	■O	US	1F	31	■E
				DEL	7F	127	■T



When CODE128 (m = 73) is used:

When using CODE128 in this printer, take the following points into account for data transmission:

- ① The top of the bar code data string must be the code set selection character (CODE A, CODE B, or CODE C), which selects the first code set.
- ② Special characters are defined by combining two characters "{" and one character. The ASCII character "{" is defined by transmitting "{" twice consecutively.

Specific character	Transmit data		
	ASCII	Hex	Decimal
SHIFT	{S	7B, 53	123,83

	CODE A	{A	7B, 41	123,65
	CODE B	{B	7B,42	123,66
	CODE C	{C	7B,43	123,67
	FNC1	{1	7B,31	123,49
	FNC2	{2	7B,32	123,50
	FNC3	{3	7B,33	123,51
	FNC4	{4	7B,34	123,52
	"{"	{{	7B,7B	123,123
[Example] Example data for printing "No. 123456" In this example, the printer first prints "No." using CODE B, then prints the following numbers using CODE C. GS k 73 10 123 66 78 111 46 123 67 12 34 56 CODE 128: 1b 40 1d 48 02 1d 68 64 1d 77 03 1d 6b 49 0A 7B 42 4E 6F 2E 7B 43 0C 22 38 If the top of the bar code data is not the code set selection character, the printer stops command processing and processes the following data as normal data. If the combination of "{" and the following character does not apply any special character, the printer stops command processing and processes the following data as normal data. If the printer receives characters that cannot be used in the special code set, the printer stops command processing and processes the following data as normal data. The printer does not print HRI characters that correspond to the shift characters or code set selection characters. HRI character for the function character is space. HRI characters for the control character (<00>H to <1F>H and <7F>H) are space.				
Range	(A) $0 \leq m \leq 6$ (B) $65 \leq m \leq 74$			
Default				
Support modal	All the printers			
Note				
For example	1b 40 1d 48 02 1d 68 64 1d 77 03 30 0D 0A			

	1d 6b 00 30 31 32 33 34 35 36 37 38 39 31 00 31 0D 0A 1d 6b 01 30 31 32 33 34 35 36 37 38 39 31 00 32 0D0A 1d 6b 02 30 31 32 33 34 35 36 37 38 39 31 32 00 33 0D 0A 1d 6b 03 30 31 32 33 34 35 36 37 00 34 0D 0A 1D 6B 04 30 31 32 41 42 20 24 25 2B 2D 2E 2F 00 35 0D 0A 1d 6b 05 30 31 32 33 34 35 36 37 38 39 31 32 00 36 0D 0A 1d 6b 06 2D 31 32 42 24 2B 2D 2E 00 1d 6b 06 43 31 32 33 34 35 36 34 38 39 00 36 35 0D 0A 1d 6b 41 0c 31 32 33 34 35 36 37 38 39 30 31 32 36 36 0D 0A 1d 6b 42 0c 30 32 33 34 35 36 30 30 30 30 38 39 36 37 0D 0A 1d 6b 43 0c 30 32 33 34 35 36 30 30 30 30 38 39 36 38 0D 0A 1d 6b 44 08 30 32 33 34 35 36 30 30 36 39 20 20 4e 4f 20 24 25 2b 2d 2e 2f 31 32 33 34 35 36 30 30 0D 0A 1d 6b 45 11 4e 4f 20 24 25 2b 2d 2e 2f 31 32 33 34 35 36 30 30 37 30 20 20 20 30 32 33 34 35 36 30 30 C5 BC CA FD 0D 0A 1d 6b 46 09 30 31 32 33 34 35 36 30 30 37 31 0d 0a 1d 6b 47 05 32 33 34 35 36 37 32 0d 0a 1d 6b 48 0b 32 33 34 35 36 41 42 2e 2f 2b 2c 37 33 0d0a 1d 6b 49 0A 7B 42 4E 6F 2E 7B 43 0C 22 38
--	--

⑥QR CODE COMMAND

Set the model type

Name	Set the model type
Format	ASCII : GS (k pL pH cn fn n Decimal : 29 40 107 pL pH cn fn n HEX : 1D 28 6b pL pH cn fn n

Description	Set the model type
Range	pL=3, pH=0 cn=49 fn=67 $0 \leq n \leq 16$
Default	n=3
Support modal	All the printers
Note	Set the QR code size of the smallest unit of graphics module[n dots× n dots].
For example	

Set the QR code error correction level error (ECC)

Name	Set the QR code error correction level error (ECC)		
Format	ASCII : GS (k pL pH cn fn n Decimal : 29 40 107 pL pH cn fn n HEX : 1D 28 6b pL pH cn fn n		
Description	Set the QR code error correction level error		
Range	pL=3, pH=0 cn=49 fn=69 $48 \leq n \leq 51$		
Default	n=48		
Support modal	All the printers		
Note	Set the QR code error correction level error		
	n	function	The general proportion of recovery (%)
	48	Error correction level L	7
	49	Error correction level m	15
	50	Error correction level q	25
	51	Error correction level h	30
For example			

Set the QR code graphic data

Name	Set the QR code graphic data
Format	ASCII : GS (k pL pH cn fn m d1...dk Decimal : 29 40 107 pL pH cn fn m d1...dk HEX : 1D 28 6b pL pH cn fn m d1...dk
Description	Set the QR code graphic data.
Range	$4 \leq (pL + pH \times 256) \leq 7092$ ($0 \leq pL \leq 255$, $0 \leq pH \leq 28$) cn=49 fn=80

	$m=48$ $0 \leq d \leq 255$ $k = (pL + pH \times 256) - 3$
Default	
Support modal	All the printers
Note	Set the QR code graphic data(d1...dk)to QR code buffer. (d1...dk) ((pL + pH×256)-3) Byte as a graphic data is processed.
For example	

Print store QR codes graphics

Name	Print store QR codes graphics
Format	ASCII : GS (k pL pH cn fn m Decimal : 29 40 107 pL pH cn fn m HEX : 1D 28 6b pL pH cn fn m
Description	Print store QR codes graphics
Range	pL=3, pH=0 cn=49 fn=81 m=48
Default	
Support modal	All the printers
Note	Print store QR codes graphics. The user must consider QR code graphic space (QR code graphics about spacing and the spacing of up and down) .
For example	1b 40 1d 28 6b 03 00 31 43 03 1d 28 6b 03 00 31 45 30 1d 28 6b 06 00 31 50 30 41 42 43 1b 61 01 1d 28 6b 03 00 31 52 30 1d 28 6b 03 00 31 51 30

⑦page mode command

Print and return to standard mode (In page mode)

Name	Print and return to standard mode (In page mode)
Format	ASCII : FF Decimal : 12 HEX : 0C
Description	In the page mode,print data in the buffer and return to standard mode.

Range	
Default	
Support modal	80XXX
Note	• After printing,remove the data in the buffer. • By the ESC W set print area is reset to the default Settings. • The printer does not perform paper cutting. • This command to set the print position for the line star point. • The command is valid only in page mode.
For example	<pre> 1b 40 1B 4C 1b 54 00 1b 57 d8 00 00 00 90 00 10 01 CFC3C3C5BFAAB4CFB5E7D7D3D3D0CFDEB9ABCBBE 0d0a 41 42 43 44 45 0d 0a CFC3C3C5CAD0CDACB0B2C7F8C3C0C8CBC9BDC2B7 0d0a 1b 0c 1b 40 1b 64 02 1B 4C 1b 54 01 1b 57 d8 00 00 00 90 00 10 01 CFC3C3C5BFAAB4CFB5E7D7D3D3D0CFDEB9ABCBBE 0d0a 41 42 43 44 45 0d 0a CFC3C3C5CAD0CDACB0B2C7F8C3C0C8CBC9BDC2B7 0d0a 1b 0c 1b 40 1b 64 02 1B 4C 1b 54 02 1b 57 d8 00 00 00 90 00 10 01 CFC3C3C5BFAAB4CFB5E7D7D3D3D0CFDEB9ABCBBE 0d0a 41 42 43 44 45 0d 0a CFC3C3C5CAD0CDACB0B2C7F8C3C0C8CBC9BDC2B7 0d0a 1b 0c 1b 40 1b 64 02 1B 4C 1b 54 03 1b 57 d8 00 00 00 90 00 10 01 CFC3C3C5BFAAB4CFB5E7D7D3D3D0CFDEB9ABCBBE 0d0a 41 42 43 44 45 0d 0a CFC3C3C5CAD0CDACB0B2C7F8C3C0C8CBC9BDC2B7 0d0a 1b 0c </pre>

Cancel the print data in the page code

Name	Cancel the print data in page mode
Format	ASCII : CAN Decimal : 24 HEX : 18
Description	Delete all print data in the current print area in page mode.

Range	
Default	
Support modal	80XXX
Note	• The command is valid only in page mode. • If the previous set area overlap with the current area, overlap are also deleted.
For example	1B 4C 30 31 32 0C

Page mode to print

Name	Page mode to print
Format	ASCII : ESC FF Decimal : 27 12 HEX : 1B 0C
Description	In page mode, print buffer content.
Range	
Default	
Support modal	80XXX
Note	• The command is valid only in page mode.
For example	1B 4C 30 31 32 1B 0C

Select page mode

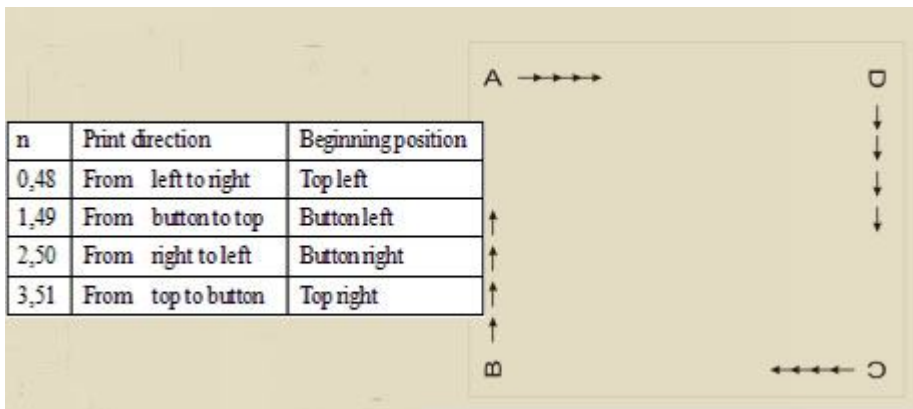
Name	Select page mode
Format	ASCII : ESC L Decimal : 27 76 HEX : 1B 4C
Description	From the standard mode transition to the page mode
Range	
Default	
Support modal	80XXX
Note	
For example	1B 4C 30 31 32 0C

Select standard mode

Name	Select standard mode
------	----------------------

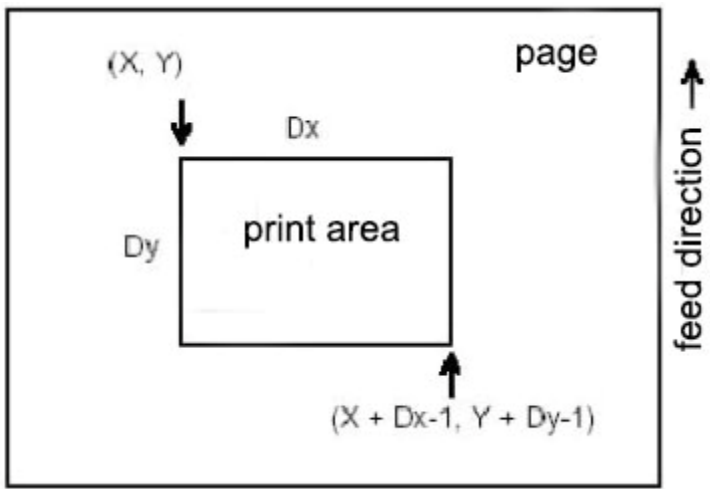
Format	ASCII : ESC S Decimal : 27 83 HEX : 1B 53
Description	Set standard mode
Range	
Default	
Support modal	80XXX
Note	
For example	1B 4C 30 31 32 1B 53 0D 0A

Select print area direction in page code

Name	Select print area direction in page mode															
Format	ASCII : ESC T n Decimal : 27 84 n HEX : 1B 54 n															
Description	Select print area direction and beginning position in page mode. n print area direction and beginning position : <table><thead><tr><th>n</th><th>Print direction</th><th>Beginning position</th></tr></thead><tbody><tr><td>0,48</td><td>From left to right</td><td>Top left</td></tr><tr><td>1,49</td><td>From button to top</td><td>Button left</td></tr><tr><td>2,50</td><td>From right to left</td><td>Button right</td></tr><tr><td>3,51</td><td>From top to button</td><td>Top right</td></tr></tbody></table>	n	Print direction	Beginning position	0,48	From left to right	Top left	1,49	From button to top	Button left	2,50	From right to left	Button right	3,51	From top to button	Top right
n	Print direction	Beginning position														
0,48	From left to right	Top left														
1,49	From button to top	Button left														
2,50	From right to left	Button right														
3,51	From top to button	Top right														
Range	0 ≤ n ≤ 3,48 ≤ n ≤ 51															
Default	n=0															
Support modal	80XXX															
Note																
For example	2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a 1B 4C 1B 54 00 30 31 32 0C 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a 1B 4C 1B 54 01 30 31 32 0C 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a															

	1B 4C 1B 54 02 30 31 32 0C 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a 1B 4C 1B 54 03 30 31 32 0C 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 2a 0d 0a
--	--

Select print area in page code

Name	Select print area in page mode
Format	ASCII : ESC W xL xH yL yH dxL dxH dyL dyH Decimal : 27 87 xL xH yL yH dxL dxH dyL dyH HEX : 1B 57 xL xH yL yH dxL dxH dyL dyH
Description	As follows to set regional horizontal starting position、Longitudinal starting position、 width and height: horizontal starting position: $x0 = [(xL + xH \times 256) \times \text{horizontal movement unit}]$ Longitudinal starting position: $y0 = [(yL + yH \times 256) \times \text{longitudinal movement unit}]$ Print area width : $dx = [dxL + dxH \times 256] \times \text{horizontal movement unit}$ Print area height : $dy = [dyL + dyH \times 256] \times \text{longitudinal movement unit}$
Range	$0 \leq (xL + xH \times 256) \leq 65535$ ($0 \leq xL \leq 255, 0 \leq xH \leq 255$) $0 \leq (yL + yH \times 256) \leq 65535$ ($0 \leq yL \leq 255, 0 \leq yH \leq 255$) $1 \leq (dxL + dxH \times 256) \leq 65535$ ($0 \leq dxL \leq 255, 0 \leq dxH \leq 255$) $1 \leq (dyL + dyH \times 256) \leq 65535$ ($0 \leq dyL \leq 255, 0 \leq dyH \leq 255$)
Default	$xL = xH = yL = yH = 0$ $dxL = 64, dxH = 2, dyL = 176, dyH = 4$
Support modal	80XXX
Note	suppose horizontal starting position、 longitudinal starting position、 print area width and height :X,Y,Dx,Dy . as follow: 
For example	1d 50 c8 c8 1B 4C

	1B 57 30 00 00 00 78 00 30 00 1B 33 18 1B 57 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 0C
--	---

Set the longitudinal absolute position in page mode

Name	Set the longitudinal absolute position in page mode
Format	ASCII : GS \$ nL nH Decimal : 29 36 nL nH HEX : 1D 24 nL nH
Description	•Set the longitudinal absolute position in page mode •This command set absolute position in[(nL + nH × 256) × (longitudinal/horizontal movement unit)] inches。
Range	$0 \leq nL \leq 255, 0 \leq nH \leq 255$
Default	-
Support modal	80XXX
Note	
For example	1d 50 c8 c8 1B 4C 1B 57 30 00 00 00 78 00 30 00 1B 33 18 1D 24 0C 00 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 0C

Set the horizontal absolute position in the page mode

Name	Set the horizontal absolute position in the page mode
Format	ASCII : GS \ nL nH Decimal : 29 92 nL nH HEX : 1D 5C nL nH
Description	• Set the horizontal absolute position in the page mode •This command set absolute position in [(nL + nH × 256) × longitudinal/horizontal movement unit] inches.
Range	$0 \leq nL \leq 255, 0 \leq nH \leq 255$
Default	-
Support modal	80XXX
Note	
For example	1d 50 c8 c8 1B 4C

	1B 57 30 00 00 00 78 00 60 00
	1B 33 18
	30 31 32 0D 0A
	1D 5C 18 00
	30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32
	30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32
	0C

⑧STATUS COMMAND

Transmit status

Name	Transmit status				
Format	ASCII : GS r n Decimal : 29 114 n HEX : 1D 72 n				
Description	Transmits the status specified by n as follows:				
	n		Function		
	1,49		Transmits paper sensor status		
Range	n = 1, 49				
Default					
Support modal	All the printers				
Note	- When using a serial interface When DTR/DSR control is selected, the printer transmits only 1 byte after confirming the host is ready to receive data (DSR signal is SPACE). If the host computer is not ready to receive data (DSR signal is MARK), the printer waits until the host is ready. When XON/XOFF control is selected, the printer transmits only 1 byte without confirming the condition of the DSR signal. - This command is executed when the data in the receive buffer is developed. Therefore, there may be a time lag between receiving this command and transmitting the status, depending on the receive buffer status. - When Auto Status Back (ASB) is enabled using GS a, the status transmitted by GS r and the ASB status must be differentiated using. - The status types to be transmitted are shown below:				
	Bit	Off/On	Hex	Decimal	Status for ASB
	0,1	-	-	-	Undefined.
	2,3	Off	00	0	Paper roll end sensor: paper adequate.

		On	(0C)	(12)	Paper roll end sensor: paper near end.
	4	Off	00	0	Not used. Fixed to Off.
	5,6	-	-	-	Undefined.
	7	Off	00	0	Not used. Fixed to Off.
	Paper sensor status (n = 1, 49): Bits 2 and 3: When the paper end sensor detects a paper end, the printer goes offline and does not execute this command. Therefore, bits 2 and 3 do not transmit the status of paper end.				
For example					

Real-time transmission status

Name	Real-time transmission status
Format	ASCII : DLE EOT n Decimal : 16 4 n HEX : 10 04 n
Description	n = 1: printer status n = 2: send offline status n = 3: Transmission error status n = 4: Transmission paper sensor status
Range	$1 \leq n \leq 4$
Default	
Support modal	All the printers

Note	n=1: printer status				
	bit	0/1	HEX	Decimal	Function
	0	0	00	0	0
	1	1	02	2	1
	2	0	00	0	Open one or two cash drawer (No cash drawer is fixed to 0)
		1	04	4	Close cash drawer
	3	0	00	0	On-line
		1	08	8	Off-line
	4	1	10	16	1
	5, 6		--	--	Undefined
	7	0	00	00	The paper has been torn away
		1	80	96	Paper not to tear away
	n=2: send offline status				
	位	0/1	HEX	Decimal	function
	0	0	00	0	0
	1	1	02	2	1
	2	0	00	0	Close paper warehouse
		1	04	4	Open paper warehouse
	3	0	00	0	Not push Feed button
		1	08	8	Push feed button
	4	1	10	16	1
	5	0	00	0	Paper normal
		1	20	32	Paper out
	6	0	00	00	Normal status
		1	40	64	Error status
	7	0	00	0	0
	n=3: Transmission error status				
	bit	0/1	HEX	Decimal	function
	0	0	00	0	0
	1	1	02	2	1
	2		--	--	Undefined
	3	0	00	0	cutter normal
		1	08	8	Cutter error
	4	1	10	16	1
	5	0	00	0	Unrecoverable Error
		1	20	32	Unrecoverable Error
	6	0	00	00	Print head temperature and voltage are normal

		1	40	64	Print head temperature and voltage are over range.
	7	0	00	0	0
	n=4: Transmission paper sensor status				
	bit	0/1	HEX	Decimal	Function
	0	0	00	0	0
	1	1	02	2	1
	2	0	00	0	normal status
	, 3	1	0C	12	paper will out
	4	1	10	16	1
	5	0	00	0	normal status
	, 6	1	60	96	Paper out
	7	0	00	0	0
For example	10 04 01 10 04 02 10 04 03 10 04 04				

Enable/Disable Automatic Status Back (ASB)

Name	Enable/Disable Automatic Status Back (ASB)				
Format	ASCII : GS a n Decimal : 29 97 n HEX : 1d 61 n				
Description	When ASB is enabled, the printer will send the changed status to PC automatically.				
	bit	off/on	HEX	Decimal	ASB status
	0	-	-	-	Undefined
	1	-	-	-	Undefined
	2	off	00	0	error status prohibition

		on	04	4	Error status allows
	3	off	00	0	Paper sensor status prohibition
		on	08	8	Paper sensor status allows
	4-7	-	-	-	Undefined
Range	0≤n≤255				
Default					
Support modal	All the printers				
Note					
For example	1D 61 08				

⑨Other command

Initialize printer

Name	Initialize printer
Format	ASCII : ESC @ Decimal : 27 64 HEX : 1B 40
Description	Clears the data in the print buffer and resets the printer mode to the mode that was in effect when the power was turned on.
Range	
Default	
Support modal	All the printers
Note	
For example	

Printing test paper

Name	Printing test paper
Format	ASCII : DC2 T Decimal : 18 94 HEX : 12 54
Description	Printing test page
Range	
Default	
Support modal	All the printers
Note	
For example	1B 40 12 54

Produce a cash drawer impulse (Only For Drawer)

Name	Produce a cash drawer impulse						
Format	ASCII : ESC p m t1 t2 Decimal : 27 112 m t1 t2 HEX : 1B 70 m t1 t2						
Description	Output pulse to the specified pin						
Range	m=0,1,48,49 $0 \leq t1 \leq 255$ $0 \leq t2 \leq 255$						
Default							
Support modal	All the printers						
Note	1、Cash drawer pin designated by m <table border="1" data-bbox="477 763 1326 902"> <thead> <tr> <th>m</th><th>function</th></tr> </thead> <tbody> <tr> <td>0,48</td><td>Off / On signal (Connected to pin 2)</td></tr> <tr> <td>1,49</td><td>Off / On signal (Connected to pin 5)</td></tr> </tbody> </table> 2、Open the cash drawer [t1×2ms], Close the cash drawer [t2×2ms]。 3、If t2 < t1, Close the cash drawer [t1×2ms]。	m	function	0,48	Off / On signal (Connected to pin 2)	1,49	Off / On signal (Connected to pin 5)
m	function						
0,48	Off / On signal (Connected to pin 2)						
1,49	Off / On signal (Connected to pin 5)						
For example	1B 40 1B 70 00 60 60 1B 70 01 60 60						

Select Cutter Mode and Cut

Name	Select Cutter Mode and Cut								
Format	① ASCII : GS V m Decimal : 29 86 m HEX : 1D 56 m ② ASCII : GS V m n Decimal : 29 86 m n HEX : 1D 56 m n								
Description	Select one mode and cut the paper. the value of m can be: <table border="1" data-bbox="458 1771 1329 1957"> <thead> <tr> <th>m</th><th>Print Mode</th></tr> </thead> <tbody> <tr> <td>0, 48</td><td>Full cut</td></tr> <tr> <td>1, 49</td><td>Half cut</td></tr> <tr> <td>66</td><td>Feed (Cutter Position + [n * 0.125 mm]) and cut</td></tr> </tbody> </table> [Detail of ① and ②]	m	Print Mode	0, 48	Full cut	1, 49	Half cut	66	Feed (Cutter Position + [n * 0.125 mm]) and cut
m	Print Mode								
0, 48	Full cut								
1, 49	Half cut								
66	Feed (Cutter Position + [n * 0.125 mm]) and cut								

	Cutter Mode are different from The Cutter. The command are only effect at the front of line. [Detail for ①] Only Half Cut [Detail for ②] if n = 0, Feed to the Cutter position and cut paper. if n ≠ 0, Feed (Cutter Position + [n * 0.125 mm]) and cut.
Range	① m = 0, 48, 1, 49 ② m = 66, 0 ≤ n ≤ 255
Default	
Support modal	All the printers
Note	
For example	1B 40 30 30 30 0D 0A 1D 56 00 30 30 30 0D 0A 1D 56 01 30 30 30 0D 0A 1D 56 42 00

Full cut (OnlyForCut)

Name	Full cut
Format	ASCII : ESC i Decimal : 27 105 HEX : 1B 69
Description	Select cut mode and full cut
Range	
Default	
Support modal	All the printers
Note	
For example	1B 40 30 30 30 0D 0A 1B 69

Half cut (OnlyForCut)

Name	Half cut
Format	ASCII : ESC m Decimal : 27 109 HEX : 1B 6D
Description	Select cut mode and half cut.
Range	
Default	
Support modal	All the printers
Note	

For example	1B 40 30 30 30 0D 0A 1B 6D
-------------	----------------------------------

Set the print concentration

Name	Set the print concentration
Format	ASCII : ESC 7 n1 n2 n3 Decimal : 27 55 n1 n2 n3 HEX : 1B 37 n1 n2 n3
Description	Set “max heating dots”, “heating time”, “heating interval” ; • n1 = 0-255 Max printing dots, Unit(8dots), Default:9(80 dots); • n2 = 3-255 Heating time, Unit(10us),Default:80(800us); • n3 = 0-255 Heating interval,Unit(10us), Default:2(20us); The more max heating dots, the more peak current will cost when printing, the faster printing speed. The max heating dots is $8*(n1+1)$; The more heating time, the more density , but the slower printing speed. If heating time is too short, blank page may occur. The more heating interval, the more clear, but the slower printing speed.
Range	
Default	
Support modal	All the printers
Note	‘heating time’ 、 ‘heating interval’ PCB will automatically adjust according to the input voltage
For example	Heating dots: 80dots, heating time: 800us, heating interval: 200us。 1B 40 1B 37 09 50 02 12 54 Heating dots: 80dot, heating time: 1600us, heating interval: 200us。 1B 40 1B 37 09 A0 02 12 54 It is observed that the more heating time,the more printing dark.

Character set

CODE A

字符	发送数据		字符	发送数据		字符	发送数据	
	Hex	Decimal		Hex	Decimal		Hex	Decimal
NULL	00	0	(	28	40	P	50	80
SOH	01	1	)	29	41	Q	51	81
STX	02	2	*	2A	42	R	52	82
ETX	03	3	+	2B	43	S	53	83
EOT	04	4	,	2C	44	T	54	84
ENQ	05	5	-	2D	45	U	55	85
ACK	06	6	.	2E	46	V	56	86
BEL	07	7	/	2F	47	W	57	87
BS	08	8	0	30	48	X	58	88
HT	09	9	1	31	49	Y	59	89
LF	0A	10	2	32	50	Z	5A	90
VT	0B	11	3	33	51	[	5B	91
FF	0C	12	4	34	52	\	5C	92
CR	0D	13	5	35	53	]	5D	93
SO	0E	14	6	36	54	^	5E	94
SI	0F	15	7	37	55	_	5F	95

DLE	10	16	8	38	56	FNC1	7B,31	123,49
DC1	11	17	9	39	57	FNC2	7B,32	123,50
DC2	12	18	:	3A	58	FNC3	7B,33	123,51
DC3	13	19	;	3B	59	FNC4	7B,34	123,52
DC4	14	20	<	3C	60	SHIFT	7B,53	123,83
NAK	15	21	=	3D	61	CODEB	7B,42	123,66
SYN	16	22	>	3E	62	CODEC	7B,43	123,67
ETB	17	23	?	3F	63			
CAN	18	24	@	40	64			
EM	19	25	A	41	65			
SUB	1A	26	B	42	66			
ESC	1B	27	C	43	67			
FS	1C	28	D	44	68			
GS	1D	29	E	45	69			
RS	1E	30	F	46	70			
US	1F	31	G	47	71			
SP	20	32	H	48	72			
!	21	33	I	49	73			
"	22	34	J	4A	74			
#	23	35	K	4B	75			
\$	24	36	L	4C	76			
%	25	37	M	4D	77			
&	26	38	N	4E	78			
'	27	39	O	4F	79			

CODE B

字符	发送数据		字符	发送数据		字符	发送数据	
	Hex	Decimal		Hex	Decimal		Hex	Decimal
SP	20	32	H	48	72	p	70	112
!	21	33	I	49	73	q	71	113
"	22	34	J	4A	74	r	72	114
#	23	35	K	4B	75	s	73	115
\$	24	36	L	4C	76	t	74	116
%	25	37	M	4D	77	u	75	117
&	26	38	N	4E	78	v	76	118
'	27	39	O	4F	79	w	77	119
(	28	40	P	50	80	x	78	120
)	29	41	Q	51	81	y	79	121
*	2A	42	R	52	82	z	7A	122
+	2B	43	S	53	83	{	7B,7B	123,123
,	2C	44	T	54	84		7C	124
-	2D	45	U	55	85	}	7D	125
.	2E	46	V	56	86	—	7E	126
/	2F	47	W	57	87	DEL	7F	127
0	30	48	X	58	88	FNC1	7B,31	123,49
1	31	49	Y	59	89	FNC2	7B,32	123,50
2	32	50	Z	5A	90	FNC3	7B,33	123,51
3	33	51	[	5B	91	FNC4	7B,34	123,52
4	34	52	\	5C	92	SHIFT	7B,53	123,83
5	35	53	]	5D	93	CODEA	7B,41	123,65
6	36	54	^	5E	94	CODEC	7B,43	123,67
7	37	55	—	5F	95			
8	38	56	`	60	96			
9	39	57	a	61	97			
:	3A	58	b	62	98			
;	3B	59	c	63	99			
<	3C	60	d	64	100			
=	3D	61	e	65	101			
>	3E	62	f	66	102			
?	3F	63	g	67	103			
@	40	64	h	68	104			
A	41	65	i	69	105			
B	42	66	j	6A	106			
C	43	67	k	6B	107			
D	44	68	l	6C	108			
E	45	69	m	6D	109			
F	46	70	n	6E	110			
G	47	71	o	6F	111			

CODE C

字符	发送数据		字符	发送数据		字符	发送数据	
	Hex	Decimal		Hex	Decimal		Hex	Decimal
0	00	0	40	28	40	80	50	80
1	01	1	41	29	41	81	51	81
2	02	2	42	2A	42	82	52	82
3	03	3	43	2B	43	83	53	83
4	04	4	44	2C	44	84	54	84
5	05	5	45	2D	45	85	55	85
6	06	6	46	2E	46	86	56	86
7	07	7	47	2F	47	87	57	87
8	08	8	48	30	48	88	58	88
9	09	9	49	31	49	89	59	89
10	0A	10	50	32	50	90	5A	90
11	0B	11	51	33	51	91	5B	91
12	0C	12	52	34	52	92	5C	92
13	0D	13	53	35	53	93	5D	93
14	0E	14	54	36	54	94	5E	94
15	0F	15	55	37	55	95	5F	95
16	10	16	56	38	56	96	60	96
17	11	17	57	39	57	97	61	97
18	12	18	58	3A	58	98	62	98
19	13	19	59	3B	59	99	63	99
20	14	20	60	3C	60	FNC1	7B,31	123,49
21	15	21	61	3D	61	CODEA	7B,41	123,65
22	16	22	62	3E	62	CODEB	7B,42	123,66
23	17	23	63	3F	63			
24	18	24	64	40	64			
25	19	25	65	41	65			
26	1A	26	66	42	66			
27	1B	27	67	43	67			
28	1C	28	68	44	68			
29	1D	29	69	45	69			
30	1E	30	70	46	70			
31	1F	31	71	47	71			
32	20	32	72	48	72			
33	21	33	73	49	73			
34	22	34	74	4A	74			
35	23	35	75	4B	75			
36	24	36	76	4C	76			
37	25	37	77	4D	77			
38	26	38	78	4E	78			
39	27	39	79	4F	79			

Appendix B.

1.code page table

Page0 PC437

Code page 437																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
9_	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	¥	Ð	ƒ
A_	á	í	ó	ú	ñ	Ñ	ª	º	¿	¬	¬	½	¼	¿	«	»
B_					¡	¡	¡	¡	¡	¡	¡	¡	¡	¡	¡	¡
C_	L	⊥	⊥	⊥	—	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥
D_	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥
E_	α	β	Γ	Π	Σ	σ	μ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
F_	≡	±	≥	≤	∫	∫	÷	≈	°	·	·	√	n	²		

Page1 Katakana

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+
⊥	⊥	⊥	⊥	⊥	—	—	—	—	—	—	—	—	—	—	—
」	。	「	」	、	・	ヲ	ア	イ	ウ	エ	オ	ヤ	ユ	ヨ	ツ
—	ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ	サ	シ	ス	セ	ソ
タ	チ	ツ	テ	ト	ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	マ
ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	レ	ロ	ワ	ン	ゝ	。
＝	⊥	≡	≡	▲	▲	▼	▼	♠	♥	♦	♣	●	○	/	\
×	円	年	月	日	時	分	秒	〒	市	区	町	村	人	敷	

	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+
9	⊥	⊥	⊥	⊥	?	—	—	?	—	—	—	—	—	—	—	—
A		。	「	」	、	・	ヲ	ア	イ	ウ	エ	オ	ヤ	ユ	ヨ	ツ
B	—	ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ	サ	シ	ス	セ	ソ
C	タ	チ	ツ	テ	ト	ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	マ
D	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	レ	ロ	ワ	ン	ゝ	。
E	＝	⊥			▲	▲	▼	▼	♠	♥	♦	♣				
F	×	円	年	月	日	時	分	秒	〒	市	区	町	村	人	敷	

Page2 PC850[Multilingual]

Code page 850																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
9_	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	f
A_	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
B_					¡	Â	À	©	¶		¶	¶	¶	ø	¥	¶
C_	Ł	Ł	Ł	Ł	—	Ł	ã	Ã	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł
D_	ø	Ð	Ê	Ë	È	ı	Í	Î	Ï	Ĵ	Ĵ	■	■	ı	İ	■
E_	Ó	Ɔ	Ô	Ò	Õ	Õ	μ	Ɔ	Ɔ	Ú	Û	Ù	ý	Ý	—	´
F_	—	±	—	¾	¶	§	÷	¸	°	¨	.	¹	³	²	■	

Page3 PC860[Portuguese]

Code page 860																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	Ç	ü	é	â	ã	à	Á	ç	ê	Ê	è	Í	Ô	ì	Ã	Â
9_	É	À	È	ô	õ	ò	Ú	ù	Ì	Õ	Ü	ø	£	Ù	Ð	Ó
A_	á	í	ó	ú	ñ	Ñ	ª	º	¿	Ò	¬	½	¼	;	«	»
B_					┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘
C_	L	⊥	⊤	┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘	┌
D_	⊥	⊤	⊥	⊤	⊥	⊤	⊥	⊤	⊥	⊤	⊥	⊤	⊥	⊤	⊥	⊤
E_	α	β	Γ	π	Σ	σ	μ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
F_	≡	±	≥	≤	∫	∫	÷	≈	°	·	·	√	n	2		

Page4 PC863[Canadian-French]

Code page 863																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	Ç	ü	é	â	Â	à	¶	ç	ê	ë	è	ï	î	=	À	§
9_	É	È	Ê	ô	Ë	ï	û	ù	œ	Ô	Ü	ø	£	Ù	Û	f
A_		´	ó	ú	¨	¸	³	—	Î	ƒ	¬	½	¼	¾	«	»
B_					┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘
C_	L	⊥	⊤	┆	—	+	┆		ℓ	ℓ	⊥	⊤		=	⊥	⊥
D_	⊥	⊤	⊤	ℓ	ℓ	ℓ	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥
E_	α	β	Γ	π	Σ	σ	μ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
F_	≡	±	≥	≤	∫	∫	÷	≈	°	·	·	√	n	²		

Page5 pc865[Nordic]

Code page 865																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
9_	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	Ɔ	ƒ
A_	á	í	ó	ú	ñ	Ñ	ª	º	¿	¬	¬	½	¼	¿	«	»
B_	⌘	⌘	⌘		┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
C_	⌘	⌘	⌘	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
D_	⌘	⌘	⌘	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
E_	α	β	Γ	π	Σ	σ	μ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
F_	≡	±	≥	≤	∫	∫	÷	≈	°	·	·	√	n	²	■	

Page6 pc1251 [Cyrillic]

Code page 1251																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	ћ	ѓ	,	ѓ	„	…	†	‡	€	%	љ	<	њ	ќ	ћ	џ
9_	ћ	‘	’	“	”	•	-	—		™	љ	>	њ	ќ	ћ	џ
A_		ђ	ђ	Ј	Ѡ	Ѓ	Ї	§	Ё	©	Є	«	¬	-	®	Ї
B_	°	±	І	і	Г	μ	¶	·	ё	№	є	»	ј	Ѕ	ѕ	ї
C_	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
D_	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
E_	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
F_	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я

Page7 pc866 Cyrillic #2

Code page 866																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
9_	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	
A_	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
B_					┌	┐	└	┘	┙	┚	┛	├	┤	┥	┦	┧
C_	⌒	⌑	⌐	⌏	—	⌕	⌔	⌓	⌒	⌑	⌐	⌏	⌎	⌍	⌌	⌋
D_	⌊	⌋	⌌	⌍	⌎	⌏	⌐	⌑	⌒	⌓	⌔	⌕	⌖	⌗	⌘	⌙
E_	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
F_	Ё	ё	€	€	Ї	ї	Ў	ў	°	·	·	√	No.	⊗	■	

Page8 MIK[Cyrillic /Bulgarian]

Code page MIK																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
9_	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
A_	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
B_	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
C_	⌒	⊥	⊥	⊥	—	+	≡		⌒	⌒	⊥	⊥	⊥	≡	+	⌒
D_	▤	▥	▦		└	№	§	⌒	⌒	└	⌒	■	▬	▬	▬	■
E_	α	β	Γ	π	Σ	σ	μ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
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Page9 CP755

Code page 755																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
9_	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
A_	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
B_					┌	Ā		т	ѐ	ђ		т	ђ	ђ	ђ	т
C_	Ł	└	┘	┐	—	+	ā		└	┘	┐	┘	┘	┘	┘	┘
D_	Š	т	č	č	Ł	г	ğ	Ī	ī	┘	г	■	■	ū	ū	■
E_	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
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Page10 Iran

Code page Iran																
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9_	ا	ل	ب	ـ	پ	پ	ت	ت	ث	ث	ج	ج*	چ _{C*}	چ	ح	ح
A_	خ	خ	د	ذ	ر	ز	ژ	س	س	ش	ش	ص	ص	ض	ض	ط
B_					├	┤	├	├	├	├	├	├	├	├	├	├
C_	└	└	└	└	—	+	└	└	└	└	└	└	└	└	└	└
D_	└	└	└	└	└	└	└	└	└	└	└	└	└	└	└	└
E_	ظ	ع	ع	ع	ع	غ	غ	غ	غ	ف	ف	ق	ق	ک	ک	گ
F_	گ	ل	لا	ل	م	م	ن	ن	و	ه	ه	ه	ی	ی	ی	

Page15 CP862 [Hebrew]

Code page 862																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	א	ב	ג	ד	ה	ו	ז	ח	ט	י	כ	ל	מ	נ	ס	ע
9_	פ	צ	ק	ר	ש	ת	י	י	י	י	י	י	י	י	י	י
A_	á	í	ó	ú	ñ	Ñ	ä	ö	¿	¬	¬	½	¼	¡	«	»
B_	␣	␣	␣		├	┤	┥	┦	┧	┨	┩	┪	┫	┬	┭	┮
C_	┯	┰	┱	┲	┳	┴	┵	┶	┷	┸	┹	┺	┻	┼	┽	┾
D_	┿	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	■	■	■	■	■
E_	α	β	Γ	Π	Σ	σ	μ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
F_	≡	±	≥	≤	∫	∫	÷	≈	°	·	·	√	n	2	■	

Page16 PC1252 Latin 1

Code page 1252																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	€		,	f	„	...	†	‡	^	‰	Š	<	Œ		Ž	
9_		‘	’	“	”	•	—	—	~	™	š	>	œ		ž	ÿ
A_		ı	ø	£	¤	¥	¦	§	¨	©	ª	«	¬	–	®	¯
B_	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C_	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D_	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E_	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F_	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Page17 WCP1253 [Greek]

Code page 1253																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	€		,	ƒ	„	…	†	‡		%		<				
9_		‘	’	“	”	•	—	—		™		>				
A_		”	À	£	¤	¥	¦	§	¨	©		«	¬	-	®	—
B_	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	Ω
C_	İ	Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ	Λ	Μ	Ν	Ξ	Ο
D_	Π	Ρ		Σ	Τ	Υ	Φ	Χ	Ψ	Ω	Ϊ	Ϋ	ά	έ	ή	ί
E_	Û	α	β	γ	δ	ε	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο
F_	π	ρ	ς	σ	τ	υ	φ	χ	ψ	ω	ϊ	ϋ	ό	ύ	ώ	

Page18 PC852

Code page 852																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8	Ç	ü	é	â	ä	û	ć	ç	ı	ë	ő	ó	î	ž	Ä	Ć
9	É	Í	Í	ô	ö	Ľ	ı	Ś	ś	Ö	Ü	ř	ř	Ł	×	Č
A	á	í	ó	ú	Ą	ą	Ž	ž	Ę	ę		ż	Č	ş	«	»
B						Á	Â	Ě	Ş					Ž	ž	ı
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E	Ó	ß	ô	ń	ń	ň	š	š	Ř	Ú	ř	Ů	ý	Ý	ı	'
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Page19 PC858 (Multilingual Latin I +Euro)

Code page 858																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
9_	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	f
A_	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
B_					¡	Â	À	©	¶		¶	¶	¶	ø	¥	¶
C_	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł	Ł
D_	Œ	Ɔ	Ê	Ë	È	€	Í	Î	Ï	Ɔ	Ɔ	■	■	¡	Ï	■
E_	Ó	Ɔ	Ô	Ò	Õ	Õ	µ	Ɔ	Ɔ	Ú	Û	Ù	ý	Ý	—	´
F_	—	±	==	¾	¶	§	÷	„	°	..	.	1	3	2	■	

Page20 Iran II

Code page Iran II																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	۰	۱	۲	۳	۴	۵	۶	۷	۸	۹	،	—	؟	آ	ئ	ء
9_	ا	ل	ب	ب	پ	پ	ت	ت	ث	ث	ج	ج	چ	چ	ح	ح
A_	خ	خ	د	ذ	ر	ز	ژ	س	س	ش	ش	ص	ص	ض	ض	ط
B_					┌	┐	└	┘	┌	┐	└	┘		┌	┐	└
C_	┐	┐	┐	┐	—	+	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
D_	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	■	■	■	■	■
E_	ظ	ع	ع	ع	ع	غ	غ	غ	غ	ف	ف	ق	ق	ک	ک	گ
F_	گ	ل	لا	ل	م	م	ن	ن	و	ه	ه	ه	ی	ی	ی	

Page21 Latvian

Code page Latvian																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
9_	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
A_	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
B_						А		п						Ō		
C_							ā									
D_	Š		č	Č	ī	ī								ū	Ū	
E_	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
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Page22 CP864 [Arabic]

Code page 864																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	°	·	·	√	▒	—		+	+	+	+	+	+	+	+	+
9_	β	∞	φ	±	½	¼	≈	«	»	لأ	لأ			لا	لا	
A_			ل	£	¤	ل			ل	ب	ت	ث	،	ج	ح	خ
B_	·	١	٢	٣	٤	٥	٦	٧	٨	٩	ف	؛	س	ش	ص	؟
C_	¢	ء	آ	أ	ؤ	ع	ئ	ا	ب	ة	ت	ث	ج	ح	خ	د
D_	ذ	ر	ز	س	ش	ص	ض	ط	ظ	ع	غ	ا	ا	÷	×	ع
E_	—	ف	ق	ك	ل	م	ن	ه	و	ي	ي	ض	ع	غ	غ	م
F_		س	ن	ه	ه	ي	ي	غ	ق	لآ	لآ	ل	ك	ي	■	

Page23 ISO-8859-1 [West Europe]

Code page 8859-1																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	€		II	III	IV		↑	↓		‰	Š	<	Œ			
9_						V	VI				Š	>	œ			ÿ
A_		ı	ø	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯
B_	°	±	²	³	”	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C_	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D_	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E_	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F_	ø	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Page24 CP737 [Greek]

Code page 737																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	A	B	Γ	Δ	E	Z	H	Θ	I	K	Λ	M	N	Ξ	Ο	Π
9_	Ρ	Σ	Τ	Υ	Φ	Χ	Ψ	Ω	α	β	γ	δ	ε	ζ	η	θ
A_	ι	κ	λ	μ	ν	ξ	ο	π	ρ	σ	ς	τ	υ	φ	χ	ψ
B_					┌	┐	└	┘	┙	┚	┛	├	┤	┥	┦	┧
C_	L	┐	└	┌	—	+	┐	┘	┙	┚	┛	├	┤	=	┐	┑
D_	┘	┙	┚	┛	├	┤	┥	┦	┧	┨	┩	■	■	■	■	■
E_	ω	α	ε	η	ι	ι	ο	υ	υ	ω	Α	Ε	Η	Ι	Ο	Υ
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Page25 WCP1257 [Baltic]

Code page 1257																
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9_		‘	’	“	”	•	—	—		™		>		—	˘	
A_			ø	£	¤		¦	§	Ø	©	℞	«	¬	-	®	Æ
B_	°	±	²	³	´	µ	¶	·	ø	¹	ℓ	»	¼	½	¾	æ
C_	Ą	Į	Ā	Ć	Ä	Å	Ę	Ē	Č	É	Ž	È	Ğ	Ķ	Ī	Ļ
D_	Š	Ń	Ņ	Ó	Ō	Õ	Ö	×	Ų	Ł	Ś	Ū	Ü	Ż	Ž	Ɓ
E_	ą	į	ā	ć	ä	å	ę	ē	č	é	ž	è	ğ	ķ	ī	ļ
F_	š	ń	ņ	ó	ō	õ	ö	÷	ų	ł	ś	ū	ü	ż	ž	˙

Page26 Thai

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ก	ข	ฃ	ค	ค	ฅ	ฆ	ง	จ	ฉ	ช	ฌ	จ	ฉ	ช	ซ
ฐ	ฑ	ฒ	ณ	ด	ต	ถ	ท	ธ	น	บ	ป	ผ	ฝ	พ	ฟ
ภ	ม	ย	ร	ล	ว	ศ	ษ	ส	ห	ฬ	อ	ฮ	๑	๒	๓
๔	๕	๖	๗	๘	๙	๐	๑	๒	๓	๔	๕	๖	๗	๘	๙
๐	๑	๒	๓	๔	๕	๖	๗	๘	๙	๐	๑	๒	๓	๔	๕
๖	๗	๘	๙	๐	๑	๒	๓	๔	๕	๖	๗	๘	๙	๐	๑

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9_	?	?														๕
A_		ก	ข	ฃ	ค	ค	ฅ	ฆ	ง	จ	ฉ	ช	ฌ	จ	ฉ	ช
B_	ฐ	ฑ	ฒ	ณ	ด	ต	ถ	ท	ธ	น	บ	ป	ผ	ฝ	พ	ฟ
C_	ภ	ม	ย	ร	ล	ว	ศ	ษ	ส	ห	ฬ	อ	ฮ	๑	๒	๓
D_	๔	๕	๖	๗	๘	๙	๐	๑	๒	๓	๔	๕	๖	๗	๘	๙
E_	๐	๑	๒	๓	๔	๕	๖	๗	๘	๙	๐	๑	๒	๓	๔	๕
F_	๖	๗	๘	๙	๐	๑	๒	๓	๔	๕	๖	๗	๘	๙	๐	๑

Page27 CP720[Arabic]

Code page 720																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
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9_		س	°	ô	¤	—	û	ù	ء	آ	أ	ؤ	£	!	ئ	ا
A_	ب	ة	ت	ث	ج	ح	خ	د	ذ	ر	ز	س	ش	ص	«	»
B_					┌	┐	└	┘	┙	┚	┛	├	┤	┥	┦	┧
C_	L	┐	└	┌	—	┐	└	┘	┙	┚	┛	├	┤	=	┐	└
D_	┐	└	┘	┙	┚	┛	├	┤	┥	┦	┧					
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Page28 CP855

Code page 855																
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9_	љ	Љ	њ	Њ	ћ	Ћ	ќ	Ќ	ђ	Ђ	џ	Џ	ю	Ю	ъ	Ъ
A_	а	А	б	Б	ц	Ц	д	Д	е	Е	ф	Ф	г	Г	«	»
B_					†	х	Х	и	И	‡		т	Љ	й	Й	г
C_	ℓ	⊥	т	†	—	†	к	К	ℓ	г	⊥	т	‡	=	‡	⊗
D_	л	Л	м	М	н	Н	о	О	п	Ј	г			П	я	
E_	Я	Р	р	с	С	т	Т	у	У	ж	Ж	в	В	ь	Ь	№
F_	—	ы	Ы	з	З	ш	Ш	э	Э	щ	Щ	ч	Ч	§		

Page29 PC857[Turkish]

Code page 857																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8_	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ı	Ä	Å
9_	É	æ	Æ	ô	ö	ò	û	ù	İ	Ö	Ü	ø	£	Ø	Ş	ş
A_	á	í	ó	ú	ñ	Ñ	Ğ	ğ	ı	®	¬	½	¼	ı	«	»
B_					†	Á	Â	À	©	¶		¶	¶	œ	¥	¶
C_	Ł	Ł	Ł	Ł	—	+	ã	Ã	Ł	Ł	Ł	Ł	Ł	=	Ł	œ
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Page30 WCP1250[Central Eurpoe]

Code page-1250																
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A_		˘	˘	Ł	Ø	Ą	ı	§	¨	©	Ş	«	¬	-	®	Ž
B_	°	±	˙	ł	´	μ	¶	·	˘	ą	ş	»	Ł	˝	Ÿ	ž
c_	Ř	Á	Â	Ǻ	Ä	Í	Ć	Ç	Č	É	Ę	Ě	Ě	Í	Î	Ď
D_	Ð	Ń	Ň	Ó	Ô	Õ	Ö	×	Ř	Ů	Ú	Ů	Ü	Ý	Ť	ß
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Page31 CP775

Code page 775																
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9_	É	æ	Æ	ō	ö	Ġ	ø	Ś	ś	Ö	Ü	ø	£	Ø	×	α
A_	Ā	Ī	Ó	Ž	ž	Ž	”		©	®	¬	½	¼	Ł	«	»
B_					†	Ą	Č	Ę	Ê	‡		ŋ	ƚ	İ	Š	Ŧ
C_	Ł	⊥	⊥	†	—	†	Ů	Ů	Ł	Ŕ	⊥	⊥	‡	=	‡	Ž
D_	ą	č	ę	è	ì	š	ų	ū	ž	Ź	ŕ					
E_	Ó	β	Ō	Ń	õ	õ	μ	ń	Ɔ	Ɔ	Ł	ł	ŋ	Ē	Ņ	'
F_	—	±	“	¾	¶	§	÷	„	°	•	•	1	3	2		

Page32 WCP1254[Turkish]

Code page-1254																
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9_		‘	’	“	”	•	—	—	~	™	š	>	œ			ÿ
A_		ı	ç	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯
B_	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
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D_	Ğ	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	İ	Ş	ß
E_	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F_	ğ	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ı	ş	ÿ

Page33 WCP1255[Hebrew]

Code page-1255																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
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9_		‘	’	“	”	•	—	—	~	™		>				
A_		ı	ø	£	₪	¥	¦	§	¨	©	×	«	¬	—	®	—
B_	°	±	²	³	´	µ	¶	·	¸	¹	÷	»	¼	½	¾	¿
C_	◊	◊	◊	◊	◊	◊	◊	◊	◊	·		◊	◊	◊	—	◊
D_		◊	◊	:				‘	”							
E_	א	ב	ג	ד	ה	ו	ז	ח	ט	י	כ	כ	ל	מ	נ	ס
F_	ע	פ	צ	ק	ר	ש	ת									

Page34 WCP1256[Arabic]

Code page-1256																
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9_	گ	‘	’	“	”	•	—	—	ک	™	ڑ	>	œ			ں
A_		،	ø	£	¤	¥		§	”	©	ھ	«	¬	-	®	-
B_	°	±	²	³	´	µ	¶	·	¸	¹	؛	»	¼	½	¾	¿
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D_	ذ	ر	ز	س	ش	ص	ض	×	ط	ظ	ع	غ	—	ف	ق	ك
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Page35 WCP1258[Vietnam]

Code page-1258																
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9_		‘	’	“	”	•	-	—	~	™		>	œ			ÿ
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Page36 ISO-8859-2[Latin 2]

Code page-8859-2																
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A_		À	Á	Â	Ã	Ä	Å	Ā	Š	Ŝ	Ť	Ž	-	Ž	Ž	
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C_	Ć	Á	Â	Ă	Ä	Í	Ć	Ç	Č	É	Ę	Ě	Ě	Í	Î	Ď
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Page37 ISO-8859-3[Latin 3]

Code page-8859-3																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
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A_		Ħ	˘	£	¤		Ĥ	§	¨	İ	Ş	Ğ	Ĵ	–		Ž
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D_		Ñ	Ò	Ó	Ô	Ġ	Ö	×	Ĝ	Ù	Ú	Û	Ü	Ů	Ŝ	ß
E_	à	á	â		ä	č	ĉ	ç	è	é	ê	ë	ì	í	î	ï
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Page38 ISO-8859-4[Baltic]

Code page-8859-4																
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A_		Ā	ķ	ŗ	ȳ	ĩ	ļ	š	ˆ	š	ē	ġ	ƒ	-	ž	—
B_	°	ą	ˆ	ŗ	ˆ	ĩ	ł	ˆ	ˆ	š	ē	ġ	€	ŋ	ž	ŋ
C_	Ā	Á	Â	Ã	Ä	Å	Æ	ı	Č	É	Ę	Ě	Ė	Í	Î	Ī
D_	Đ	Ń	Ō	Ĳ	Ô	Õ	Ö	×	Ø	Ų	Ú	Û	Ü	Ũ	Ū	ß
E_	ā	á	â	ã	ä	å	æ	ı	č	é	ę	ě	ė	í	î	ī
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Page39 ISO-8859-5[Cyrillic]

Code page-8859-5																
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9_																
A_		Ё	Ђ	Ѓ	Є	Ѕ	І	Ї	Ј	Љ	Њ	Ћ	Ќ	–	Ў	Џ
B_	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
C_	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
D_	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
E_	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
F_	№	ё	ђ	ѓ	є	ѕ	і	ї	ј	љ	њ	ћ	ќ	§	ў	џ

Page40 ISO-8859-6[Arabic]

Code page-8859-6																
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A_					ٱ								،	—		
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D_	ذ	ر	ز	س	ش	ص	ض	ط	ظ	ع	غ					،
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Page41 ISO-8859-7[Greek]

Code page-8859-7																
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A_		‘	’	£			ı	§	¨	©	¸	«	¬	–		—
B_	°	±	²	³	´	˘	À	·	È	Ì	Í	»	Ò	½	Υ	Ω
c_	ï	Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ	Λ	Μ	Ν	Ξ	Ο
D_	Π	Ρ		Σ	Τ	Υ	Φ	Χ	Ψ	Ω	İ	ÿ	ά	έ	ή	ί
E_	Û	α	β	γ	δ	ε	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο
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Page42 ISO-8859-8[Hebrew]

Code page-8859-8																
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8_																
9_																
A_			¢	£	¤	¥	¦	§	¨	©	×	«	¬	–	®	—
B_	°	±	²	³	´	µ	¶	·	¸	¹	÷	»	¼	½	¾	
C_																
D_																=
E_	א	ב	ג	ד	ה	ו	ז	ח	ט	י	כ	ל	מ	נ	ס	ע
F_	פ	צ	ק	ר	ש	ת										

Page43 ISO-8859-9[Turkish]

Code page-8859-9																
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8_																
9_																
A_		ı	ç	£	¤	¥	¦	§	¨	©	ª	«	¬	–	®	—
B_	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C_	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D_	Ğ	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	İ	Ş	ß
E_	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
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Page44 ISO-8859-15 [Latin 3]

Code page-8859-15																
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9_																
A_		ı	ø	£	€	¥	Š	§	š	©	ª	«	¬	–	®	—
B_	°	±	²	³	Ž	μ	¶	·	ž	¹	º	»	ƒ	œ	Ÿ	¿
C_	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D_	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E_	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F_	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Page45 Thai2

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ฐ	ฑ	ฒ	ฒ	ด	ด	ถ	ท	ธ	น	บ	ป	ผ	ผ	พ	ฟ	ฬ
ภ	ม	ย	ร	ร	ล	ภ	ว	ศ	ษ	ส	ห	ฬ	อ	ฮ	ฯ	๒
ะ	อ	า	า	า	า	า	า	า	า	า	า	า	า	า	า	๒
เ	แ	อ	อ	อ	า	า	า	า	า	า	า	า	า	า	า	๒
๐	๑	๒	๓	๔	๕	๖	๗	๘	๙	๐	๑	๒	๓	๔	๕	

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A_		ก	ข	ฃ	ค	ค	ฅ	ง	จ	ฉ	ช	ฌ	ญ	ฎ	ฏ	ฐ
B_	ฐ	ฑ	ฒ	ฒ	ด	ด	ถ	ท	ธ	น	บ	ป	ผ	ผ	พ	ฬ
C_	ภ	ม	ย	ร	ร	ล	ภ	ว	ศ	ษ	ส	ห	ฬ	อ	ฮ	ฯ
D_	ะ	อ	า	า	า	า	า	า	า	า	า	า	า	า	า	๒
E_	เ	แ	?	?	?	า	า	า	า	า	า	า	า	า	า	๒
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Page46 CP856()

Code page 856																
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8_	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
9_	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
A_	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
B_	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
C_	⌒	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥
D_	░	▒	▓		└	№	§	┐	┐	┐	┐	■	■	■	■	■
E_	α	β	Γ	π	Σ	σ	μ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
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Page47 Cp874

Code page 874																
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9_		‘	’	“	”	•	—	—								
A_		ก	ข	ช	ค	ค	ฃ	ง	จ	ฉ	ช	ช	ฅ	ญ	ฎ	ฏ
B_	ฐ	ฑ	ฒ	ณ	ด	ด	ถ	ท	ธ	น	บ	ป	ผ	ฝ	พ	ฟ
C_	ภ	ม	ย	ร	ฤ	ล	ภ	ว	ศ	ษ	ส	ห	ฬ	อ	ฮ	ฯ
D_	ะ	ั	า	ำ	ิ	ี	ื	ื	ุ	ู	ุ					฿
E_	เ	แ	โ	ใ	ไ	า	า	ื	ุ	ุ	ุ	ุ	ุ	ุ	ุ	ุ
F_	อ	ด	ต	ท	ธ	น	บ	ป	ผ	ฝ	พ	ฟ				

Page48 TCVN3

TCVN3																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8																
9																
A		Ă	Â	Ê	Ô	Ớ	Ư	Đ	ă	â	ê	ô	ơ	ư	đ	
B		,				à	ả	ã	á	ạ		ằ	ẳ	ẵ	ẵ	
C							ặ	à	ả	ẵ	á	ạ	è		ẻ	ẽ
D	é	ẹ	ề	ê	ễ	ế	ệ	ì	ỉ				ĩ	í	ị	ò
E		ỏ	õ	ó	ọ	ồ	ỗ	ỗ	ố	ộ	ờ	ở	ỡ	ớ	ợ	ù
F		ủ	ũ	ú	ụ	ừ	ử	ữ	ứ	ự	ỳ	ỷ	ỹ	ý	ỵ	

Page49 VISCII

VISCII																
	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
8																
9																
A	Õ															
B					Ơ									ơ		Ư
C	À	Á	Â	Ã	Ä	Å	Ǻ	ǻ	È	É	Ê	Ë	Ì	Í	Î	ÿ
D	Đ	úr	Ò	Ó	Ô	ạ	ỷ	ừ	ử	Ù	Ú	ỹ	ỵ	Ý	ơ	ư
E	à	á	â	ã	ä	å	ǻ	ǿ	è	é	ê	ë	ì	í	î	ï
F	đ	ư	ò	ó	ô	õ	ỏ	ọ	ụ	ù	ú	ũ	ủ	ý	ợ	Û

2 National character set

Country	ASCII Code(Hex)											
	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
U.S.A.	#	\$	@	[	\	]	^	`	{		}	~
France	#	\$	à	°	ç	§	^	`	é	ù	è	¨
Germany	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
U.K.	£	\$	@	[	\	]	^	`	{		}	~
Denmark I	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	\$	@	°	\	é	^	ù	à	ò	è	ì
Spain I	Pt	\$	@	¡	Ñ	¿	^	`	í	ñ	}	~
Japan	#	\$	@	[	¥	]	^	`	{		}	~
Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Denmark II	#	\$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Spain II	#	\$	á	¡	Ñ	¿	é	`	í	ñ	ó	ú
Latin	#	\$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ú
Korea	#	\$	@	[	₩	]	^	`	{		}	~
Slovenia/Croatia	#	\$	Ž	Š	Đ	Ć	Č	ž	š	đ	ć	č
China	#	¥	@	[	\	]	^	`	{		}	~