Edition B

02.2009

Programmer's Manual for EPL for Rice Lake Thermal Printers

RICE LAKE

Table of contents

Introduction

About GEPE

The GEPE is a high-level label definition and printer control language. Features of GEPE are as follows:

1. The data are stored to be processed and will not be printed out until the last printing instruction is received.
2. All the printing contents can be rotated.
3. Images can be downloaded and stored.

There are three types of commands in GEPE:

- **Setup commands** – It includes printer control instructions, configuration instructions or label setting.
- **Control commands** – It includes commands that can control the printer to take action immediately, such as cleaning memory, feeding label or cut the label.
- **Label Format commands** - Define the format of data that will be presented on the label, such as Line, Box shape, Barcode, Text and image.

Rules and syntax

GEPE commands include parameter strings organized with follows:

1. The syntax of commands contains a capital letters as the ID for each function.
2. The lower case letters in alphabetical order represent parameters.
3. The parameters in ( ) or { } are optional parameters, not always necessary to be filled.
4. The parameters that separated with "| " are mandatory choice items. Only one of them needs to be filled.

Example:

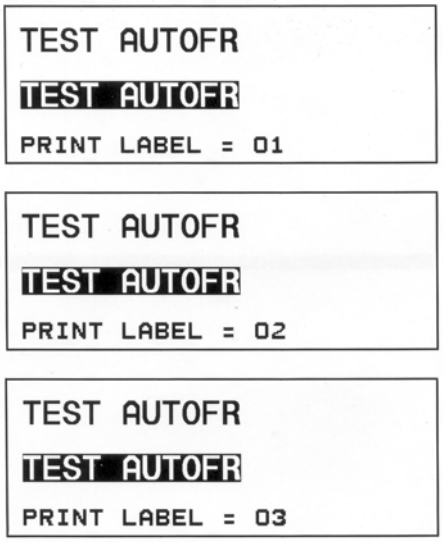
Aa,b,c,d,e,f,g,"data" is the command that used to print ASCII text. In this command, the capital letter "A" represents the command ID; the lower case letter a ~ g represent 7 parameters that are need to be filled.

【Note】

Each time the firmware is updated, please send the " ^default " command to printer first to reset the printer to factory default before doing any programming operation.

Setup Commands

AUTOFR - Automatic Form Printing

Syntax	**AUTOFR**	
Parameter	None	
Description	Store a label form named "AUTOFR" into the printer. The printer then can print the label in standalone mode when power on. *Note: before storing the "AUTOFR" form, please use "FK" to clear previous stored form from printer's memory. To learn more about label form storing, please refer to "FS", "FE" command descriptions.	
Example	↵ FK"AUTOFR"↵ FS"AUTOFR"↵ N↵ C0,4,L,+1,"Counter 1"↵ X10,10,4,790,300↵ A40,50,0,5,1,1,N,"TEST AUTOFR"↵ A40,150,0,5,1,1,R,"TEST AUTOFR"↵ A40,250,0,1,3,3,N,"PRINT LABEL = "C0↵ FE↵ 01↵ P3↵	

D - Print Darkness Setting

Syntax	**Da**	
Parameter	a = 0 ~ 15, default value = 10	
Description	Set the darkness of printing.	
Example	D9↵	Set the darkness of printing to 9.

eR - User-Defined Error/Status Character Control

Syntax	**eRa,b**	
Parameter	a = ASCII character, the acceptable range is 0 ~255 decimal (00 ~ FF hexadecimal) b = the mode setting for RS-232 error/status returning signal: 0 → standard (default setting) send a "XON" signal when error status occurred (17 decimal / 11 hexadecimal) send a "XOFF" signal when error status recovered (19 decimal / 13 hexadecimal) 1 → send the selected character only 2 → send the selected character and printer's default error/status code at the same time *Note: for more information about default error/status code, please refer to the description of "^ee" command.	
Description	Add user-defined character in error/status code.	
Example	eR#,2↵	Set the error/status returning mode to 2 and the user-defined character to "#". That will make the error/status returning signal change to "# + default error/status code".

f - Adjust the Cut Position

Syntax	**fa**
Parameter	a = cut position, acceptable value is 070 ~ 130 and the default value is 100 (unit: dots).
Description	Adjust the cut position when printing with cutter function. To make the cut position moving backward, please input value greater than 100; to make the cut position moving forward, please input value less than 100.

fB - Adjust the Feeding Position

Syntax	**fBa**
Parameter	a = adjust the feeding position of label, acceptable value is 0 ~ 255 and the default value is 0 (unit: dots).
Description	Adjust the feeding position of label to get the proper result when doing normal printing or printing with stripper and cutter.

I - Set the Code Page of Character

Syntax: **Ia,b,c**

Parameter:

a = data bits, accepted value "7" is for 7 bits and "8" for 8 bits.

b = the representative code of code page, the list of code page is as follows:

8 bits			7 bits	
b	**Code page**	**Language**	**b**	**Language**
0	DOS 437	English - US	0	USA
1	DOS 850	Latin 1	1	British
2	DOS 852	Latin 2(Cyrillic II/Slavic)	2	German
3	DOS 860	Portuguese	3	French
4	DOS 863	French Canadian	4	Danish
5	DOS 865	Nordic	5	Italian
6	DOS 857	Turkish	6	Spanish
7	DOS 861	Icelandic	7	Swedish
8	DOS 862	Hebrew	8	Swiss
9	DOS 855	Cyrillic		
10	DOS 866	Cyrillic CIS 1		
11	DOS 737	Greek		
12	DOS 851	Greek 1		
13	DOS 869	Greek 2		
A	Windows 1252	Latin 1		
B	Windows 1250	Latin 2		
C	Windows 1251	Cyrillic		
D	Windows 1253	Greek		
E	Windows 1254	Turkish		
F	Windows 1255	Hebrew		

c = the country code of keyboard mode

001	U.S.A.	033	France	044	U.K.
031	Netherlands	034	Spain	049	Germany
032	Belgium	039	Italy	358	Finland

Description: Set the code page of character for printing and displaying.

i - Asian Character Spacing

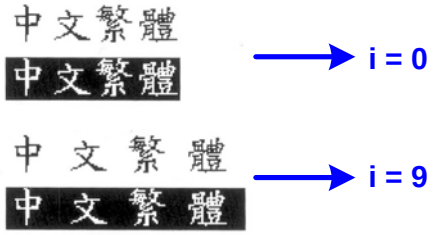
Syntax	**ia**
Parameter	a = the space between Asia characters, acceptable value is 0 ~ 9 and the default value is 0 (unit: dots).
Description	Adjust the space between Asia characters.

Example:

```
Q32,0
N
ZT

i0
A60,50,0,8,2,2,N,"中文繁體"
A60,110,0,8,2,2,R,"中文繁體"

i9
A60,170,0,8,2,2,N,"中文繁體"
A60,230,0,8,2,2,R,"中文繁體"
P1
```



JB - Disable Top of Form Function (when printing multiple labels)

Syntax	**JB**
Parameter	None
Description	Disable the Top of Form function when printing multiple labels. The Top of Form function will be enabled once the printer is restarted.

JC - Disable Top of Form Function

Syntax	**JC**
Parameter	None
Description	Disable the Top of Form function for all operations. Need the "JF" command to enable the Top of Form function again.

JF - Enable Top of Form Function

Syntax	**JF**
Parameter	None
Description	Enable the Top of Form function.

M - CF Card/Flash switch

Syntax	**Ma**
Parameter	a = 0, set the default memory to flash memory = 1, set CF Card as default memory = 2, format the CF card
Description	Set the default memory to internal flash memory or CF card. The CF card can also be formatted with this command.

N - Clear Image Buffer

Syntax	**N**	
Parameter	None	
Description	Clear all the data that stored in image buffer. Please complete all printer configuration commands before sending "N" command to printer.	
Example	↵ N↵	Clear the data in image Buffer

O - Hardware Configuration Setting

Syntax	**O{C(a)}(,D)(,P)(,L)(,S)(,Fb)**
Parameter	C(a) = enable the cutter function. If (a) is set with the number 1 ~ 255, the printer will print out the specified number of labels then cut. If (a) is set with the character "b", the printer will perform "batch print and cut" function. The function then can be controlled by "P" command. D = set the printer to Direct Thermal Mode(DT) P = enable label taken sensor for the stripper function L = enable the "Tap to Print" function when printing with stripper. The printer will print one label each time the FEED key is pressed. S = reverse the Transmissive (Gap) Sensor operation. Fb = change the type of FEED key function. The value of b can be set as follows: f → default setting, feed once after the FEED key is pressed. r → print the last label after the FEED key is pressed. i → disable the FEED key function.
Description	Change the hardware configuration of the printer. There is a series of hardware configuration commands that includes "OC", "OD", "OP", "OL", "OS" and "OF". These commands can be sent together at the same command line or sent individually.

OC - Enable the cutter function

Syntax	**OC(a)**
Parameter	Enable the cutter function. There are two additional settings for cutter function: a = 1 ~ 255, the printer will print the specified number of labels and then cut. a = b, the printer will perform "batch print and cut" function. The cutter operation then can be

	controlled by "P" command.
Description	This command will enable cut function if printer is equipped with the cutter module.

OD - Set to Direct Thermal Mode

Syntax	**OD**
Parameter	None
Description	Set the printer to Direct Thermal Mode when printing with direct thermal media in a thermal transfer printer.

OP - Enable Label Taken Sensor

Syntax	**OP**
Parameter	None
Description	Enable Label Taken Sensor if the printer has built-in or optional stripper module.

OL - Enable Tap to Print Function in Stripper Mode

Syntax	**OL**
Parameter	None
Description	Enable the "Tap to Print" function when printing with stripper. Each time the FEED key is pressed, the printer will print one label.

OS - Reverse the Gap Sensor Operation

Syntax	**OS**
Parameter	None
Description	Reverse the Transmissive (Gap) Sensor operation.

OF - Change the Type of FEED Key Function

Syntax	**OFa**
Parameter	Change the type of FEED key function. The value of a can be set as follows: a = f, default setting, feed once after the FEED key is pressed. a = r, print the last label after the FEED key is pressed. a = i, disable the FEED key function.
Description	Change different types of FEED key function.

oR - Character Substitution

Syntax	**oR(a)(,b)**
Parameter	a = E, if "b" parameter is not provided, then the Euro character will be presented with 213 decimal or D5 hexadecimal position for all codepages. = 0, set the number 0 to slashed zero b = user-defined character to replace the Euro character, acceptable value is 0 ~ 255 decimal position for all codepages. *If none of above parameters is provided, the setting is reset to default.
Description	Substitute the Euro currency character with user-defined character.

oB - Cancel the Auto Optimization of Bar Code

Syntax	**oB**
Parameter	None
Description	Disable the auto optimization function when the bar code is set to rotate 90° or 270°. The auto optimization function will be enabled again after the printer is restarted. It also can be cleared by "o" command.

Q - Label Length Setting

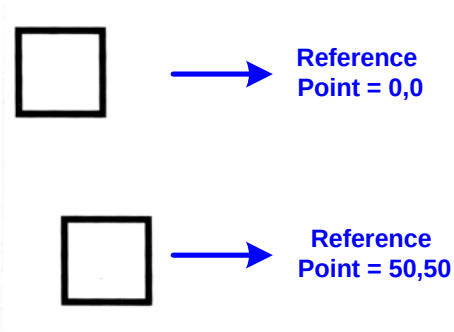
Syntax	**Qa,b(±c)**
Parameter	a = label length setting, the maximum value is 65535 (unit: dots). b = the gap length or thickness of black line, acceptable value is 16 ~ 240 for 203dpi printer; 18 ~ 240 for 300dpi printer (unit: dots). B → if the parameter is set to "B + setting value", the printer will be set to Black Line Mode. In this case, the setting value is defined as the thickness of Black Line. 0 → if the parameter is set to 0, the printer will be set to Continuous Media Mode.

	c = set the offset length (unit: dots).
Description	Set the label length.
Example	See the example of "i" command.

q - Label Width Setting

Syntax	**qa**
Parameter	a = set the width of label (unit: dots).
Description	Set the label width.

R - Reference Point Setting

Syntax	**Ra,b**	
Parameter	a = horizontal (left) margin (unit: dots). b = vertical (top) margin (unit: dots).	
Description	Change the reference point setting. The setting affects all other commands that related with axes	
Example	Q32,0↵ R0,0↵ N↵ D10↵ ZT↵ X20,20,8,120,120↵ P1↵ R50,50↵ N↵ D10↵ ZT↵ X20,20,8,120,120↵ P1↵	

S - Speed Setting

Syntax	**Sa**
Parameter	a = print speed, acceptable value is 0 ~ 6.
Description	Set the print speed of printer.

UA - Disable Label Count Function

Syntax	**UA**
Parameter	None
Description	When the Label Count Function is disabled, if "Paper jam", "Paper out" and "Ribbon out" errors occur during a print job, the unfinished part of the print job will be canceled and cannot be recovered after the error is eliminated. Cycling the power or issuing the "UB" command can reset the Label Count Function.

UB - Reset Label Count Function

Syntax	**UB**
Parameter	None
Description	This command is used to clear the "UA" command and reset the Label Count Function.

TD - Set the Date Format Layout

Syntax	**TDa(/b)(/c)**	
Parameter	At least one parameter must be provided among three parameters. Each of them can be accepted with below values: y2 = year displayed with 2 digits number y4 = year displayed with 4 digits number me = month displayed with 3 letters mn = month displayed with 2 digits number dd = day displayed with 2 digits number / = separator character, acceptable value is ASCII character between 032 ~ 063.	
Description	Set the Date Format Layout. The layout and date information can be called as "TD" value by other commands.	
Example	TDmn-dd-y4↵ TTh:m:s+↵ TS01,01,08,12,00,00↵ N↵ A50,000,0,4,2,2,N,TD↵ A50,100,0,4,2,2,N,TT↵ P1↵	01-01-2008 12:00:00 PM

TS - Set the Date and Time of RTC

Syntax	**TSa,b,c,d,e,f**
Parameter	a = month, acceptable value is 01 ~ 12. b = day, acceptable value is 01 ~ 31 c = year in 2 digits, acceptable value is the last 2 digits of year. d = hour in 24 hour format, acceptable value is 00 ~ 23 e = minutes, acceptable value is 00 ~ 59 f = seconds, acceptable value is 00 ~ 59
Description	Set the date and time for the printer model that equipped with RTC.
Example	See the example of "TD".

TT - Set the Time Format Layout

Syntax	**TTa(/b)(/c)(+)**
Parameter	a, b, c parameters could be any of the values of hour, minute and second. At least one parameter must be provided. The default setting is h:m:s. + = enable 12 hour format, the "AM" or "PM" will be added automatically. / = separator character, acceptable value is ASCII character between 032 ~ 063.
Description	Set the Time Format Layout. The layout and time information can be called as "TT" value by other commands.
Example	See the example of "TD".

UN - Disable Error Reporting

Syntax	**UN**
Parameter	None
Description	Disable the error reporting function.

US - Enable Error Reporting

Syntax	**USa**
Parameter	If set a = 1, the printer will echo after each label is successfully printed.
Description	The error reporting is disabled as default. This command can enable the error reporting function.

Y - Serial Port Setup

Syntax	**Ya,b,c,d**
Parameter	a = Baud rate setting, 48=4800bps, 96=9600bps, 19=19200bps, 38=38400bps, 57=57600bps, 11=115200bps. b = Parity setting, N=none parity, O=odd parity, E=even parity c = Data bits setting, acceptable value is 7 and 8. d = Stop bits setting, acceptable value is 1 and 2.
Description	Setting the serial port.

^@ - Reset Printer

Syntax	**^@**↵
Parameter	None
Description	The command is used to reset the printer.

^default - Set the Printer to Factory Default

Syntax	**^default**
Parameter	None
Description	Set the printer's configuration back to factory default.

^ee - Immediate Error Report

Syntax	**^ee**			
Parameter	None			
Description	Get the printer's error or status report immediately through RS-232. The descriptions of Error/Status code are as follow:			
	Code	**Error/Status description**	**Code**	**Error/Status description**
	00	No error	09	File name is not found
	01	Syntax error	10	Not in data entry mode
	02	Object exceeded label border	11	Print head is up
	03	Bar code data length error	12	Pause
	04	Insufficient memory	50	Print job is processing
	05	Memory configuration error	81*	Cutter jammed or not installed
	06	RS-232 port error	82*	Auto sensing or sensor failure
	07	Paper/Ribbon out	83*	Illegal interrupt occurred
	08	Duplicate file name	84*	Excessive media feeding
	* Need to press the FEED key or reset the printer			

Control Commands

C - Cut Immediate

Syntax	**C**
Parameter	None
Description	Cut the label immediately. The printer must have cutter installed.

dump - dump Mode

Syntax	**dump**
Parameter	None
Description	Set the printer to dump mode. When printer is In dump mode, the received commands will no be processed, only printing out the contents of commands. This will confirm whether the commands were received correctly.

EI - List Downloaded Fonts

Syntax	**EI**
Parameter	None
Description	Print a list of downloaded fonts that are stored in memory.

EK - Delete Downloaded Fonts

Syntax	**EK"name"| "*"**
Parameter	"name" = font name. The font name is the name that is given when storing the font. * = delete all downloaded fonts from memory.
Description	Delete stored fonts from printer's memory.

ES - Store the Download Font

Syntax	**ES"name"abcd$_1$e$_1$f$_1$"Data$_1$" d$_2$e$_2$f$_2$"Data$_2$"... d$_n$e$_n$f$_n$"Data$_n$"**
Parameter	"name" = set a name for the downloaded font, acceptable value is a ~ z (lower case), the maximum number of characters is 256. a = the number of characters that will be download, acceptable value is 00 ~ FF hexadecimal (that is 0 ~ 255 decimal). b = character rotation. 00 hexadecimal → 0° or 180° 01 hexadecimal → 90° or 270° 02 hexadecimal → both 0° and 180° pair and the 90° and 270° pair c = the height of font, acceptable value is 00 ~ FF hexadecimal (unit: dots). d = the map position to store the downloaded font, acceptable value is 00 ~ FF hexadecimal. e = the space between character, acceptable value is 00 ~ FF hexadecimal (unit: dots). f = the width of font, acceptable value is 00 ~ FF hexadecimal (unit: dots). "data" = character bitmap data in bytes. *Note: multiple sets of characters can be downloaded at the same time if all necessary parameters are filled.
Description	Download and store the font in memory.

FE - End the Sequence of Downloading Form

Syntax	**FE**
Parameter	None
Description	The command is used to end the sequence of downloading form.
Example	See the example of "FS".

FI - Print Label Form Information

Syntax	**FI**
Parameter	None
Description	Print a list of label forms that are stored in memory.

FK - Delete Label Form

Syntax	**FK"name"| "*"**
Parameter	"name" = form name. The form name is the name that is given when storing the form. * = delete all label forms from memory.
Description	Delete stored label forms from printer's memory.
Example	See the example of "FS".

FR - Retrieve Label Form

Syntax	**FR"name"**
Parameter	"name" = form name. The form name is the name that is given when storing the form.
Description	Retrieve the label form that has been stored in memory.
Example	See the example of "FS".

FS - Store the Label Form

Syntax	**FS"name"**	
Parameter	"name" = set a name for the label form, the maximum number of characters is 8, case sensitive.	
Description	Start the label form storing sequence.	
Example	FK"TEST1"↵ FS"TEST1"↵ N↵ X0,0,4,500,150↵ A50,20,0,5,1,1,N,"TEST LABEL"↵ A50,100,0,4,1,1,N,"FK,FS,FE,FR command test"↵ FE↵ FR"TEST1"↵ P1↵	

GI - Print Graphics Information

Syntax	**GI**
Parameter	None
Description	Print a list of graphs that are stored in memory.

GK - Delete Graphics

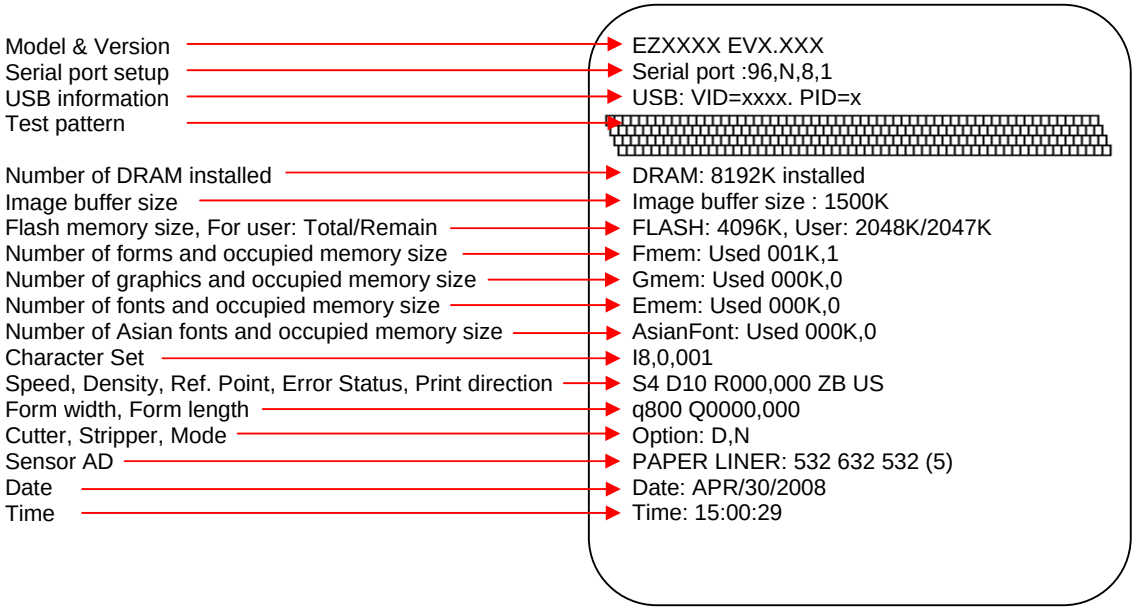
Syntax	**GK"name"| "*"**
Parameter	"name" = graphic name. The graphic name is the name that is given when storing the graphic. * = delete all graphics from memory.
Description	Delete stored graphics from printer's memory.

GM - Store the Graphics in Memory

Syntax	**GM"name"a**↵ **"data"**
Parameter	"name" = set a name for the graphic, the maximum number of characters is 8, case sensitive. a = the file size of graphic file "data" = graphic data in 1-bit(black & white) PCX format.
Description	Store the PCX graphic files in memory.

U - Print Configuration

Syntax	**U**
Parameter	None
Description	Print a label that lists printer's entire configuration.



UE - Downloaded Font Information Inquiry

Syntax	**UE**
Parameter	None
Description	Send the information of downloaded fonts that are stored in memory to host via RS-232 port.

UF - Label Form Information Inquiry

Syntax	**UF**
Parameter	None
Description	Send the information of label forms that are stored in memory to host via RS-232 port.

UG - Graphics Information Inquiry

Syntax	**UG**
Parameter	None
Description	Send the information of graphics that are stored in memory to host via RS-232 port.

UI - Enable Code Page Inquiry

Syntax	**UI**
Parameter	None
Description	Send the information of currently selected code page to host via RS-232 port in **UIa,b,c** format. a = data bits b = Code page c = Country code

UM - Code Page & Memory Inquiry

Syntax	**UM**
Parameter	None
Description	Send the information about currently selected code page and memory status to host via RS-232 port in **UMa,b,c,d,e,f,g,h** format. a = image buffer size in KBytes. b = the allocated memory size for label forms in KBytes. c = the free memory size for label forms in KBytes. d = the allocated memory size for graphics in KBytes. e = the free memory size for graphics in KBytes. f = the allocated memory size for fonts in KBytes. g = the free memory size for fonts in KBytes. h = the same content that returned with "UI" command.

UP - Code Page & Memory Inquiry/Print

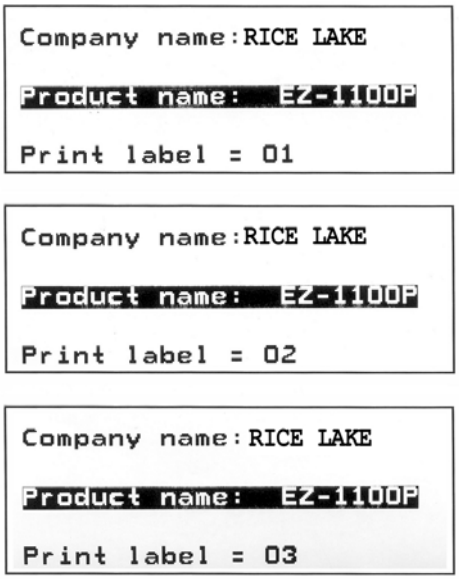
Syntax	**UP**
Parameter	None
Description	Print and send the information about currently selected code page and memory status to host via RS-232 port in **UPa,b,c,d,e,f,g,h** format. a = image buffer size in KBytes. b = the allocated memory size for label forms in KBytes. c = the free memory size for label forms in KBytes. d = the allocated memory size for graphics in KBytes. e = the free memory size for graphics in KBytes. f = the allocated memory size for fonts in KBytes. g = the free memory size for fonts in KBytes. h = the same content that returned with "UI" command.

UQ - Configuration Inquiry

Syntax	**UQ**
Parameter	None
Description	Send the information of printer's configuration to host via RS-232 port. The content that sent to host is the same as "U" command.

V - Define Variable

Syntax	**Va,b,c,"(-)prompt"**
Parameter	a = the code name of variable, acceptable value is 00 ~ 99. b = the maximum number of characters, acceptable value is 1 ~ 99. c = field justification: L → left R → right C → center N → no justification "prompt" = an ASCII text field that ask for value to be entered for the variable. Add the "-" prior can make the prompt to display only once.
Description	Define the variables. The defined variables can be called and used by other commands.
Example	FK"TEST1"↲ FS"TEST1"↲ N↲ V00,10,L,"Enter company name"↲ V01,10,R,"Enter product name"↲ C0,4,L,+1,"Counter 1"↲ X10,10,4,790,300↲ A40,50,0,1,3,3,N,"Company name:"V00↲ A40,150,0,1,3,3,R,"Product name:"V01↲ A40,250,0,1,3,3,N,"Print label = "C0↲ FE↲ FR"TEST1"↲ ?↲ RICELAKE↲ EZ-1100P↲ 01↲ P3↲



xa - Auto Sensing

Syntax	**xa**
Parameter	None
Description	Use this command to have the printer detect the label and gap length.

Z - Print Direction

Syntax	**Za**
Parameter	a = printing direction: T → start to print from the top of image buffer, default setting. B → start to print from the bottom of image buffer.
Description	Set the printing direction.

? - Download Variables

Syntax	**?**↲ DATA
Parameter	DATA = the value to fill in the variables, must be matched exactly the order and total number of variables.
Description	Ask and fill in the value of variables.

; - Code Comment

Syntax	; comment
Parameter	None

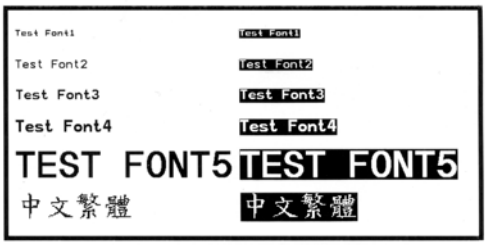
Description	This is used to write the comment between codes. All the contents that follow the ";" will not be treated as commands.

Label formatting commands

A - Print ASCII Text

<table>
<tr><td>Syntax</td><td colspan="2">Aa,b,c,d,e,f,g,"data"</td></tr>
<tr><td>Parameter</td><td colspan="2">a = horizontal start position (X), unit: dots.
b = vertical start position (Y), unit: dots.
c = the rotation of text:
0 → 0°☐ 1 → 90°☐ 2 → 180°☐ 3 → 270°
d = font setting:
<table>
<tr><td rowspan="2">Value</td><td colspan="2">Font</td></tr>
<tr><td>203dpi</td><td>300dpi</td></tr>
<tr><td>1</td><td>8 x 12 dots</td><td>12 x 20 dots</td></tr>
<tr><td>2</td><td>10 x 16 dots</td><td>16 x 28 dots</td></tr>
<tr><td>3</td><td>12 x 20 dots</td><td>20 x 36 dots</td></tr>
<tr><td>4</td><td>14 x 24 dots</td><td>24 x 44 dots</td></tr>
<tr><td>5</td><td>32 x 48 dots</td><td>48 x 80 dots</td></tr>
<tr><td>6</td><td colspan="2">Numeric Only (14 x 19 dots)</td></tr>
<tr><td>7</td><td colspan="2">Numeric Only (14 x 19 dots)</td></tr>
<tr><td>8</td><td colspan="2" rowspan="2">Stored Asia fonts</td></tr>
<tr><td>9</td></tr>
<tr><td>a~z</td><td colspan="2">Downloaded font</td></tr>
</table>
e = horizontal multiplier, acceptable value is 1 ~ 8.
f = vertical multiplier, acceptable value is 1 ~ 9.
g = N for normal; R for reverse image.

"data" = data string, acceptable value are constant, variable (00 ~ 99), date (TD), time (TT) and counter (Cn).</td></tr>
<tr><td>Description</td><td colspan="2">Print an ASCII text string.</td></tr>
<tr><td>Example</td><td>Q32,0↲
N↲
ZT↲

A030,50,0,1,1,1,N,"Test Font1"↲
A400,50,0,1,1,1,R,"Test Font1"↲
A030,100,0,2,1,1,N,"Test Font2"↲
A400,100,0,2,1,1,R,"Test Font2"↲
A030,150,0,3,1,1,N,"Test Font3"↲
A400,150,0,3,1,1,R,"Test Font3"↲
A030,200,0,4,1,1,N,"Test Font4"↲
A400,200,0,4,1,1,R,"Test Font4"↲
A030,250,0,5,1,1,N,"TEST FONT5"↲
A400,250,0,5,1,1,R,"TEST FONT5"↲
A030,320,0,8,2,2,N,"中文繁體"↲
A400,320,0,8,2,2,R,"中文繁體"↲
X10,10,8,799,400↲
P1↲</td><td>  </td></tr>
</table>

A - Print True Type Font

Syntax	**Aa,b,c,Td,e,f,g,"data"**	
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = the rotation of text: 0 → 0°☐ 1 → 90°☐ 2 → 180°☐ 3 → 270° d = font setting: 0 → built-in True Type Font A~Z → downloaded True Type Font e = the width of font, acceptable value is 8 ~ 200 (unit: dots). f = the height of font, acceptable value is 8 ~ 200 (unit: dots). g = N for normal; R for reverse image. "data" = data string, acceptable value are constant, variable (00 ~ 99), date (TD), time (TT) and counter (Cn).	
Description	Print a True Type Font string.	
Example	Q32,0↵ N↵ ZT↵ A30,050,0,Ta,50,50,N,"Test True Type Font"↵ A30,100,0,Ta,50,50,R,"Test True Type Font"↵ P1↵	

B - Standard Bar Codes

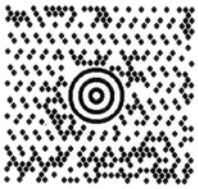
Syntax	**Ba,b,c,d,e,f,g,h,"data"**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = the rotation of bar code: 0 → 0°☐ 1 → 90°☐ 2 → 180°☐ 3 → 270° d = set the type of bar code (refer to below table) e = narrow bar width in dots (refer to below table) f = wide bar width in dots, acceptable value is 2 ~ 30. g = the height of bar code (unit: dots). h = human readable setting: B → yes N → no "data" = data string, acceptable value are constant, variable (00 ~ 99), date (TD), time (TT) and counter (Cn).
Description	Print standard bar codes.
Example	N↵ B20,050,0,3,2,6,80,B,"CODE 39"↵ B20,180,0,3,2,6,80,N,"CODE 39"↵ P1↵

* Bar codes

Barcode	"d" value	"e" value
Code 39 std. or extended	3	1 ~ 10
Code 39 with check digit	3C	1 ~ 10
Code 93	9	1 ~ 10
Code 128 UCC Serial Shipping Container Code	0	1 ~ 10
Code 128 auto A, B, C modes	1	1 ~ 10
Code 128 mode A	1A	1 ~ 10
Code 128 mode B	1B	1 ~ 10
Code 128 mode C	1C	1 ~ 10
Codabar	K	1 ~ 10
EAN8	E80	2 ~ 4
EAN8 2 digit add-on	E82	2 ~ 4
EAN8 5 digit add-on	E85	2 ~ 4
EAN13	E30	2 ~ 4
EAN13 2 digit add-on	E32	2 ~ 4
EAN13 5 digit add-on	E35	2 ~ 4
Interleaved 2 of 5	2	1 ~ 10
Interleaved 2 of 5 with mod 10 check digit	2C	1 ~ 10
Interleaved 2 of 5 with human readable check digit	2D	1 ~ 10
Postnet 5, 9, 11 & 13 digit1	P	N/A
Planet 11 & 13 digit1	PL	
UCC/EAN 1282	1E	1 ~ 10
UPC A	UA0	2 ~ 4
UPC A 2 digit add-on	UA2	2 ~ 4
UPC A 5 digit add-on	UA5	2 ~ 4
UPC E	UE0	2 ~ 4
UPC E 2 digit add-on	UE2	2 ~ 4
UPC E 5 digit add-on	UE5	2 ~ 4
UPC Interleaved 2 of 5	2U	1 ~ 10

b - Print 2D Bar Code, MaxiCode

Syntax	**ba,b,M(,c)(,d),"data"**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. M = constant identifier, must always be "M" which represent MaxiCode. c = mode setting: m2 → Mode 2 m3 → Mode 3 m4 → Mode 4 m6 → Mode 6 The default setting is Mode 2 or Mode 3 if the parameter is not provided, d = x,y. the default setting is not used, acceptable value for both x and y is 1 ~8. x → symbol number y → total number of associated symbols "data" = there could be different data format for different Mode: Mode 2 & Mode 3 → "class,ccode,zip,message" Mode 4 & Mode 6 → "message" class = Class Code (3 digits) ccode = Country Code (3 digits) Mode 2 → number characters Mode 3 → international characters (up to 6 characters) zip = zip code Mode 2 → 5 or 9 characters, for less than 9 characters, the printer will pad the field with 0's. Mode 3 → up to 6 characters. message = the data content, up to 84 characters.
Description	Print the 2D bar code MaxiCode.
Example	N↵ b10,10,M,"123,123,12345,1234567890"↵ P1↵



b - Print 2D Bar Code, PDF417

Syntax	**ba,b,P(,c)(,d)(,e)(,f)(,g)(,h)(,i)(,j)(,k)(,l)(,m)(,n),"data"**	
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. P = constant identifier, must always be "P" which represent PDF417. c = maximum print width, unit: dots. d = maximum print height, unit: dots. e = Error Correction codewords, acceptable value is S1 ~ S8 f = set the method of data compression, acceptable value is c0 & c1: c0 → Auto-encoding c1 → Binary mode g = (pxxx,yyy,mm), print human readable content. p = parameter identifier; xxx = horizontal start location; yyy = vertical start location; mm = maximum characters per line. h = the original point of bar code, acceptable value is f0 & f1: f0 → center of bar code f1 → upper left coner of bar code i = the width of module, acceptable value is x2 ~ x9(dots), default setting is 6. j = the height of barcode, acceptable value is y2 ~ y9(dots), default setting is 4 times of the width of module. k = the maximum row count l = the maximum column count m = truncated flag, acceptable value is 0 → not truncated & 1 → truncated n = set the rotation: 0 → 0°☐ 1 → 90°☐ 2 → 180°☐ 3 → 270° "data" = ASCII or Binary data. *Note: for more specification about PDF417, please refer to related standard documentation.	
Description	Print the 2D bar code PDF417.	
Example	N↲ b10,10,P,700,700,s0,c0,f0,x6,y4,r100,l100,t0,o0,"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz"↲ P1↲	

b - Print 2D Bar Code, Data Matrix

Syntax	**ba,b,D(,c)(,d),"data"**	
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. D = constant identifier, must always be "D" which represent Data Matrix. c = set the minimum data capacity, acceptable value is 1 ~ 40, default setting is 5 "data" = ASCII or Binary data.	
Description	Print the 2D bar code Data Matrix.	
Example	N↲ b10,10,D,5,"1234567890ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz"↲ P1↲	

b - Print 2D Bar Code, QR Code

Syntax	**ba,b,Q(,c)(,d)(,e)(,f)(,g),"data"**	
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. Q = constant identifier, must always be "Q" which represent QR Code. c = Code Model setting, the default setting is Model 2. 1 → Model 1 2 → Model 2 d = scale factor, acceptable value is 1 ~ 99, default setting is 3 e = error correction level: L → lower error correction, most data M → default Q → optimize for error correction over data H → highest error correction, least data f = data input mode, the default setting is A. A → automatic data select M → manual data mode g = Append Symbol "data" = data content	
Description	Print the 2D bar code QR code.	
Example	N↵ b10,10,Q,sM,x1,"1234567890ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz"↵ P1↵	

C - Counter

Syntax	**Ca,b,c,d"(-)prompt"**
Parameter	a = the code number of counter, acceptable value is 0 ~ 9. It should be set in sequence. b = the maximum number of digits of counter, acceptable value is 1 ~ 29. c = field justification: L → left R → right C → center N → no justification d = step value, the format should be "+n" or "-n", n=1~9。 "prompt" = an ASCII text field that ask for value to set as starting counter value. Add the "-" prior can make the prompt to display only once.
Description	Define one of 10 automatic counters.
Example	See the example of "V".

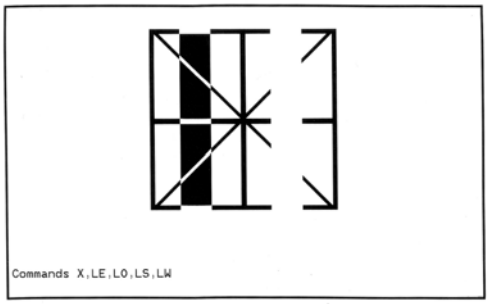
GG - Print Graphics

Syntax	**GGa,b,"name"｜ variable**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. "name" = the graphic name that is given when storing the graphic. variable = the code name of variable, acceptable value is V00 ~ V99.
Description	Print a PCX format graphic data that previously stored in memory.

GW - Direct Graphic Write

Syntax	**GWa,b,c,dDATA**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = the width of graphic, unit: bytes (8 dots = 1 byte) d = the length of graphic, unit: dots or print lines. DATA = Raw binary data of graphics in bytes.
Description	Load the binary data into image buffer and print immediately.

LE - Line Draw (Exclusive OR)

Syntax	**LEa,b,c,d**	
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = horizontal length, unit: dots. d = vertical length, unit: dots.	
Description	Draw a line with an "Exclusive OR" function. When lines intersect or overlay each other, the "Exclusive OR" rule will be adopted to decide whether the crossed area is black or white.	
Example	N↵ D8↵ ZT↵ X10,10,4,800,500↵ X250,50,8,558,350↵ LO400,50,8,300↵ LO250,200,300,8↵ LS250,50,8,550,350↵ LS550,50,8,250,350↵ LE300,50,50,300↵ LW450,50,50,300↵ A20,450,0,2,1,1,N,"Commands↵ X,LE,LO,LS,LW"↵ P1↵	

LO - Line Draw (Black)

Syntax	**LOa,b,c,d**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = horizontal length, unit: dots. d = vertical length, unit: dots.
Description	Draw a black line, The line will overwrite previous drawn lines.
Example	See the example of "LE".

LS - Line Draw (Diagonal)

Syntax	**LSa,b,c,d,e**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = line thickness, unit: dots. d = horizontal end position (X), unit: dots. e = vertical end position (Y), unit: dots.
Description	Draw a diagonal black line.
Example	See the example of "LE".

LW - Line Draw (White)

Syntax	**LWa,b,c,d**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = horizontal length, unit: dots. d = vertical length, unit: dots.
Description	Draw a white line. The new line will erase previous drawn lines.
Example	See the example of "LE".

P - Print

Syntax	**Pa(,b)**
Parameter	a = set the number of printing labels, acceptable value is 1 ~ 65535. b = set the number of copies for each label, acceptable value is 1 ~ 65535.
Description	Print the contents of the image buffer.

PA - Automatic Printing

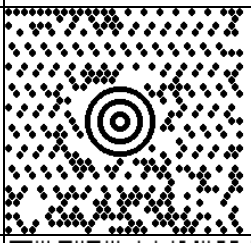
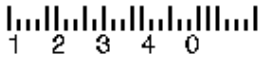
Syntax	**PAa(,b)**
Parameter	a = set number of printing labels, acceptable value is 1 ~ 9999 or variable data. b = set the number of copies of the same label, acceptable value is 1 ~ 9999 or variable data.
Description	Use this command in a stored form sequence to print the form automatically.

X - Draw Box

Syntax	**Xa,b,c,d,e**
Parameter	a = horizontal start position (X), unit: dots. b = vertical start position (Y), unit: dots. c = line thickness, unit: dots. d = horizontal end position (X), unit: dots. e = vertical end position (Y), unit: dots.
Description	Draw a box shape.
Example	See the example of "LE".

Appendix

Barcode samples

CODE	SAMPLE	CODE	SAMPLE
Code 39		UPC E Add on 2	
EAN 8		UPC E Add on 5	
EAN 8 Add on 2		I 2 of 5	
EAN 8 Add on 5		CODABAR	
EAN 13		Code 93	
EAN 13 Add on 2		Code 128	
EAN 13 Add on 5		EAN 128	
UPC A		MAXICODE	
UPC A Add on 2		PDF 417	
UPC A Add on 5		UPC E	
DataMatrix Code		QR Code	
UCC128		DUN 14	
POST NET		RPS128