

1. Features and Specifications

- 1-1 . Printing method : Impact dot –matrix printing.
- 1-2 . Copy Ability : 1 original + 1 non-carbon duplicate.
- 1-3 . Paper : Plain Paper Roll Width - 57.5mm.
 - Outer Diameter - 50mm.
 - Inner Diameter - 12.5mm.
 - Weight – 53~64g/m².
- 1-4 . Ribbon : Cassett,Purple,0.25 million characters.
- 1-5 . Printing Characters : Font size * English(8x11).
 - * K orean(16x11).
 - * Number of Characters - 44/Lines.
- 1-6. Interface : Serial RS-232C * Handshake – DTR or XON/XOFF.
 - Parallel Interface(8-bit parallel port compatible for printer).
- 1-7. Power Supply : DC5V/3A.
- 1-8. Printer outline : Dimention : 122(width) x 90(depth) x 129(height)mm.
- 1-9. Printer Weight : Approx 350g(without paper roll).
- 1-10. Working Enviroment : Operating Temperature – 0c to +40c
 - Relative Temperature : 5 to 85%

2. Defaut Setting

- 1. BPS : 9600 bps
- 2. Start bit : 1 bit
- 3. Stop bit : 1 bit
- 4. Data bit : 8 bit
- 5. Print mode : English/Korean
- 6. Data buffer : 1 kbyte

3. Cable connection

3-1. PCB Layout(Component side)

3-2. Pin connections.

Power(J2)

Pin NO	Signal	Description
1	+5V	
2	GND	

Serial(J7)

Pin NO	Signal	Description
1	RxD	Printer receives data from host computer
2	NC	No connection
3	DTR	Indicate the printer is ON-LINE
4	GND	

Parallel(J5)

Pin NO	Signal	In/Out	Description
1	STB	IN	Strobe pulse to read data in
2	DATA 0	IN	These Signals represent Information of the 0 th to 7 th bits Of parallel data respectively.Each signal is at “High” level When data is logical “1” and “Low” when logical “0”.
3	DATA 1	IN	
4	DATA 2	IN	
5	DATA 3	IN	
6	DATA 4	IN	
7	DATA 5	IN	
8	DATA 6	IN	
9	DATA 7	IN	
10	ACK	OUT	Acknowledge pulse. “Low” indicates that data Has been received and printer is ready to accept next data.
11	BUSY	OUT	HIGHT level signal indicates the printer is busy and can not receive data.
12	NC		No connection
13	GND		
14	GND		
15	ERROR	OUT	Pull up to hight logical level by a resister.
16	GND		

Parallel(J4)

Pin NO	Signal	IN/OUT	Description
1	STB	IN	Strobe pulse to read data In.
2	DATA 0	IN	These signals represent the 0 th bit to 7 th bit of the parallel data respectively.Each signal is at High level When data is logical 1 and Low when logical 0.
3	DATA 1	IN	
4	DATA 2	IN	
5	DATA 3	IN	
6	DATA 4	IN	
7	DATA 5	IN	
8	DATA 6	IN	
9	DATA 7	IN	
10	ACK	OUT	Aknowledge pulse.Low indicates that data has been Received and the printer is ready to accept next data.
11	BUSY	OUT	High level signal indicates that the printer is busy and can not receive data.
12	NC		No connection
13	NC		No connection
14	NC		No connection
15	ERROR	OUT	Pull up to High logical level by a resistor.
16	NC		No connection
17	NC		No connection
18	GND		
19	GND		
20	GND		
21	GND		
22	GND		
23	GND		
24	GND		
25	GND		
26	NC		No connection

Print command

CR Carriage Return

Format : ASCII : CR
Decimal : 13
Hexadecimal : 0D

Explanation : Prints current line and feeds line.If CR and LF is sent,The LF is ignored to avoid a double feed. On the receipt of the last printable character,Printer will autotomatically print the data in the buffer. If CR anf LF are sent after this condition they will be ignored.

LF Line Feed

Format : ASCII : LF
Decimal : 10
Hexadecimal : 0A

Explanation : Print data of current line in the buffer and feed one line.Only feed one line if data buffer is Empty.

ESC J Perform n dot-line Feed

Format : ASCII : ESC J n
Decimal : 27 74 n
Hexadecimal : 1B 4A n

Explanation : Line feed n dot-line forward.The value of n is among 1 and 255

ESC D Set horizontal tabs

Format : ASCII : ESC D n1 n2.....NUL
Decimal : 27 68 n1 n2.....0
Hexadecimal : 1B 44 n1 n2.....00

Explanation : The tab positions are entered as n1,n2 and so on. These n1,n2... are within the line width of the printer.n1 n2...are number of columns to set posion of horizontal tabs(1-16).

DC 4 Cancel double-width

Format : ASCII : DC4
Decimal : 24
Hexadecimal : 18

Explanation : Cancel the double-width printing in one line selected by SO command. This command does not cancel enlarging mode selected by ESC U and ESC W command..

ESC I Turn reverse printing on/off

Format : ASCII : ESC i n
Decimal : 27 105 n
Hexadecimal : 1B 69 n

Explanation : If N=1,Then turn on the reverse printing. If n=0 turn off it. Reverse printing is white on black,As in a photographic negative.

ESC * Bit image printing

Format : ASCII : ESC * n data
Decimal : 27 42 n data
Hexadecimal : 1B 2A n data

Explanation : The command prints a n1 x 8 dot-matrix image. The 8 dots in each column can be Indicated by an 8-bit byte.
Max.value of the n is 144

ESC @ Initialized printer

Format : ASCII : ESC @
Decimal : 27 64
Hexadecimal : 1B 40

Explanation : The command initializes printer with following actions :

- Clear printer buffer
- Restore default values
- Erase user-defined characters

CAN Cancel line

Format : ASCII : CAN
Decimal : 24
Hexadecimal : 18

Explanation : Cancels all text to be printed in the print line buffer preceding this code back to the previous carriage return.

HT Horizontal tab

Format : ASCII : HT
Decimal : 9
Hexadecimal : 09

Explanation : Printing continues to the position of next horizontal tab set by ESC D.
If no horizontal tab setting or if the current printing position equals or exceeds the last horizontal tab, HT command does not execute.

ESC U Enlarge width

Format : ASCII : ESC U n
Decimal : 27 85 n
Hexadecimal : 1B 55 n

Explanation : The width of character or graphics will be n times wider than normal one. The value of n should range among 1 and 4. The default value is n=1, that is, normal width without enlarging.

ESC V Enlarge height

Format : ASCII : ESC W n
Decimal : 27 87 n
Hexadecimal : 1B 57 n

Explanation : The height of character or graphic will be n times higher than normal one.
The value of n should range among 1 and 4. The default value is n=1, that is, normal height without enlarging.

ESC W **Enlarge width & height**

Format : ASCII : ESC W n
Decimal : 27 87 n
Hexadecimal : 1B 57 n

Explanation : The printing width and height will be n times bigger than normal one.
The value of n should range among 1 and 4. The default value is n=1, that is, normal width and height without enlarging.

ESC - **Turn Underline on/off**

Format : ASCII : ESC - n
Decimal : 27 45 n
Hexadecimal : 1B 2D n

Explanation : Underline is turned on if n=1 and turned off if n=0
All characters including blank ones are underscored except meet the command of turning off underline.

ESC 6 **Select font 1**

Format : ASCII : ESC 6
Decimal : 27 54
Hexadecimal : 1B 36

Explanation : There is two sets of font available in this printer. Font 1 is for English.

ESC 7 **Select font 2**

Format : ASCII : ESC 7
Decimal : 27 55
Hexadecimal : 1B 37

Explanation : Select English font and Korean font.

SO Select double-width printing

Format : ASCII : DC 4
Decimal : 20
Hexadecimal : 14

Explanation : All characters will be printed with double-width as normal one at inside of one line after Issuing the command. Carriage return or DC4 commands can deactivate SO command.

DEL Delete character

Format : ASCII : DEL
Decimal : 127
Hexadecimal : 7F

Explanation : The command deletes one character preceding this code in the printing line buffer except the character has been printed. The command does not delete control code.