

IMPRESORA PARA BALANZAS, MODELO 5000
PRINTER FOR SCALES, MODEL 5000
IMPRIMANTE POUR BALANCES, MODÈLE 5000

REF. - CODE - RÉF. KBG008



Este manual es parte inseparable del aparato por lo que debe estar disponible a todos los usuarios del equipo. Le recomendamos leer atentamente el presente manual y seguir rigurosamente los procedimientos de uso para obtener las máximas prestaciones y una mayor duración del mismo.

This manual should be available for all users of these equipments. To get the best results and a higher duration of this equipment it is advisable to read carefully this manual and follow the processes of use.

Ce manuel est une partie indissociable de l'appareil et doit être mis à la disposition de tous les utilisateurs de l'équipement. Nous vous recommandons de lire attentivement ce manuel et de suivre scrupuleusement les procédures d'utilisation afin d'obtenir des performances maximales et une plus longue durée de vie de l'appareil.

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1. OVERVIEW

Model 5000 thermal printer adopts full close, easy paper loading structure, small size, big paper storage desktop printer. Paper roll diameter can be 50mm maximum. Fashion outlook, delicate, light weight, high speed printing, printing effect smooth and clear.

The printer is equipped with a high-quality printing mechanism and a 12V power adapter.

1.1 Main features

Printing performance	Model	5000
	Printing method	Thermal printing
	Printing speed	65 mm/s (MAX)
	Resolution	8 dot/mm, 384 dot/line
	Effective printing width	48 mm
	Feeding step	0,125 mm
	Western characters	1. Support standard ASCII characters (96): 5×7 2. Support extended ASCII characters (352): 6×8 3. Support standard ASCII characters (224): 12×24 4. Support standard ASCII characters (224): 8×16 ASCII Character 12x24,8X16,8X12 can be selected.
Detection method	Out of paper detection	Yes
	Pressure detection	Yes
Control system	Interface	Parallel interface:DB25 Pin Serial Port:DB9 socket 485 port: DB9 Socket USB Interface: USB square
	Buffer	2k/64K
	Command system	ESC/P Printing command Compatible with IBM/EPSON ESC/P
	Driver	WIN2000/NT/XP/WIN7
Power	Working voltage	DC12V
	Working current	2A
Reliability	Mechanism working life	50 km
Paper	Normal thermal paper	Dia ≤ 50mm
	Thermal label with gum	Outer dia≤ 50mm, label paper thickness ≤ 0.12mm
	Paper loading method	Easy paper loading structure
	Paper cutting method	Manual paper tearing
Other data	Operating temperature / humidity range	-10 - 55°C /10-80% RH
	Storage temperature / humidity range	-20 - 60°C /10-90% RH
	Weight (including printing paper)	About 185 g
	Dimension (mm)	145×109×73 (LxWxH)

1.2 Power connector

Equipped with 12V/2.6A power adapter, input voltage range is 110-240VAC, output voltage is 12VDC, plug adopts DC2.0 type.

1.3 Operation (single button operation)

1.3.1 Indicator

Power light

POWER indicator light: with the word 'POWER' under it. When power on the printer, the indicator light brightens (red) for long

Lack of paper indicator light: with the word 'PAPER' under it. When there is no paper in the paper storehouse, the light will flicker (green) to indicate the lack of paper.

1.3.2 Operation button

Paper feeding button

Press indicator button and make printer feed paper one line; keep pressing indicator light and continuous paper feeding.

1.3.3 Operation

■ **Self-test:** Connect the power adapter, keep and press the button, turn the left switch to "-", power on, about 2 seconds, the printer starts the self-test.

■ **Paper loading:**

- 1- Open printer cover.
- 2- Put the printing paper into the compartment, smooth side upside, come out around 2mm paper end.
- 3- Close paper cover, press the paper and paper change is finished.

■ **Paper feeding: press button under power up status.**

■ **Paper Identification Operation**

Thermal paper & label paper switch need following operation.

- 1- Out of paper status, keep press the button around 2 seconds.
- 2- When indicator flash fast, put the paper into the printer, and cover it.
- 3- Then the printer will feed paper automatically to finish the paper test operation.

2. COMMUNICATION INTERFACE

2.1 Serial port

The model 5000 printer uses the standard DB-9 hole socket (Figure 3-1), which can directly connect with the device. The printer is equipped with six DIP switches at the same time (Figure 3-2) and through the combination of the DIP switches, the users can set the printer communication baud rate and flow control way etc.

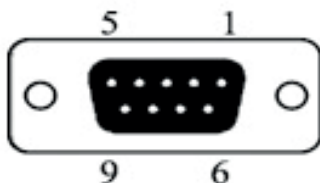


Figure 3-1



Figure 3-2

2.1.1 Data Interface

DB-9 Hole Socket	Signal	Signal source	Direction	Description
3	TXD	Mainframe	Input	The printer receives the data from the main computer (TRANSMIT DATA).
2	RXD	Printer	Output	When using the 'X-ON/X-OFF' Handshake Protocol, the printer sends control code 'X-ON/X-OFF' to the computer (RECEIVE DATA).
6,8	CTS	Printer	Output	When the signal is in a state of 'MARK', it means that the printer is busy and can't receive data. But when the signal is in a state of 'SPACE', it means that the printer is ready to receive data.
5	GND	-	-	Signal ground

Matters need attention:

- 1- Mainframe and printer in the column "Signal source" means the source of the signal sending out.
- 2- The signal logic level is RS232 level.

2.1.2 Baud rate selection bit

SW NO.	1200	2400	4800	9600	19200	38400	57600	115200
1	off	on	off	on	off	on	off	on
2	off	off	on	on	off	off	on	on
3	off	off	off	off	on	on	on	on

2.1.3 Handshake method selection bit

There are two kind of Handshake method select bit: One is the mark control mode; another is the X-ON/X-OFF Protocol method. It can be selected by DIP switch SW4. The mode is K4=OFF when out of factory. Two kind of handshake method is as follows:

SW4	Handshake method	Data direction	RS-232 interface signal
ON	Mark Control	Data can enter	The signal line '4' is in a state of 'SPACE'
		Data can't enter	The signal line '4' is in a state of 'MARK'
OFF	X-ON/X-OFF Control	Data can enter	The signal line '2' send out the X-ON code '11H'
		Data can't enter	The signal line '2' send out the X-OFF code '13H'

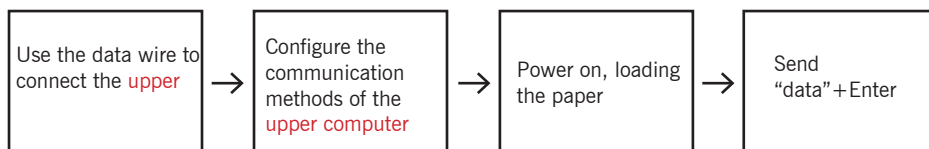
2.1.4 Parity bit selection

SW5	SW6	Description
ON	ON	8 data bits, No parity
ON	OFF	8 data bits, Odd parity Check
OFF	ON	8 data bits, Even parity check
OFF	OFF	7 data bits, Even parity check

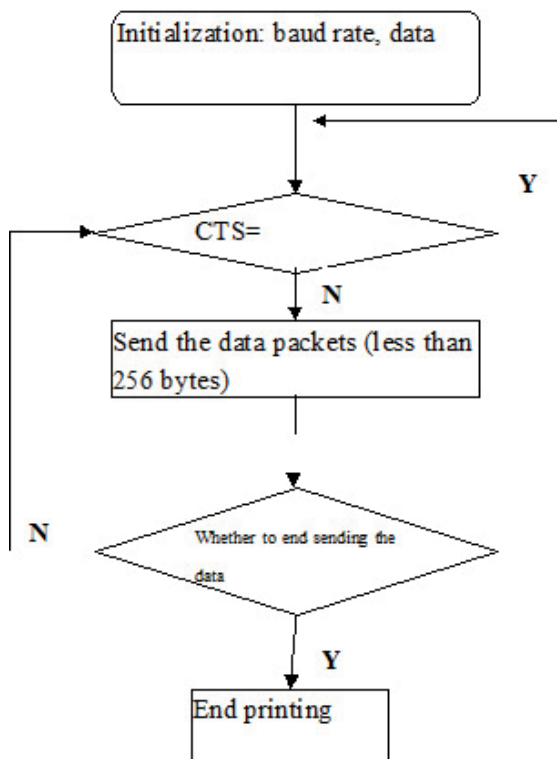
2.1.5 Data transmission method of serial interface

The receiving buffer of the printer is 32K

■ When the number of sending data once is less than 2K, the data can be directly sent. And the sending method is as follows:

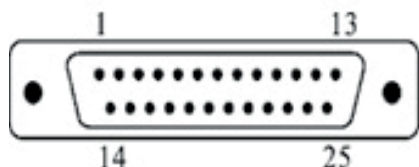


■ If large amounts of data once are sent, need to judge the mark 'CTS' when sending the data. When the mark is '1', the data can't be sent. When the mark is '0', the data can be sent. Data can be sent in the form of packets or byte. When the data is sent in the form of packets, each data packet can't exceed 256 bytes, and the sending flowchart is as follows:



2.2 Parallel interface

The parallel interface printer uses **DB-25pin needle socket** as the communication interface



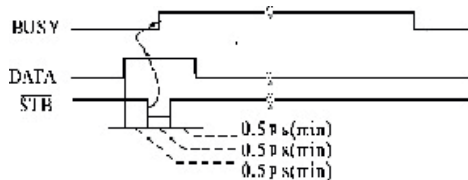
2.2.1 Data interface

DB-25pin socket (pin NO.)	Signal name	Signal direction	Description	DB25 parallel interface wire on the PC (pin NO.)
1	STB/	In	Data gate trigger pulse, read in data	1
2	DATA1	In	8 data pins, the logic '0' indicates low, '1' indicates high	2
3	DATA2	In		3
4	DATA3	In		4
5	DATA4	In		5
6	DATA5	In		6
7	DATA6	In		7
8	DATA7	In		8
9	DATA8	In		9
10	ACK/	Out	Answer pulse, and "Low" level indicates that the data has been accepted	10
11	BUSY	Out	"High" level indicates that the printer is busy and can't receive data	11
12	PE	--	Grounding (ERROR)	--
13	SEL	Out	High level indicates that printer is online	13
15	ERR/	Out	High level indicates that no fault	15
14, 16, 17	NC	--	No connection	--
18-25	GND	--	Signal ground	12, 25

Note: 1- The signal logic level is EIA level.

2.2.2 Parallel interface data transmission method

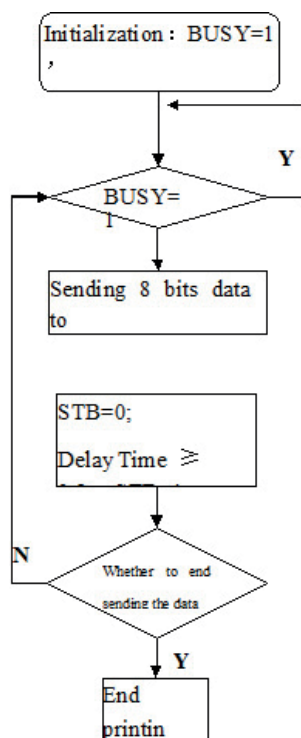
Using parallel interface to send data is relatively more trouble than using serial interface, because using parallel interface to send data needs the cooperation of the 'STB', 'BUSY' and 'DATA' data wires. The following diagram is a timing diagram about using parallel interface to send one byte.

**Sending steps:**

Step1: Using the appropriate data wire connect the printer to PC

Step2: Power on the printer and load the printing paper

Step3: Begin to transmit data; the flow chart is as follows:



2.3 USB interface

USB is an external bus standard for the specification of computer and external device connectivity and communications. USB interface support equipment features plug-and-play and hot-swappable.

The USB printer does not need to install the interface driver. After connecting the printer's USB port, generate an USB printer device on the "Universal Serial Bus" of the "Device Manager", and generate a "USB001" USB port in the system. Then, select the port in the program for printing control.

2.4 Bluetooth interface

Bluetooth interface of the printer is a radio technology to support for short distance (usually within 10m) communication between devices. Information can be exchanged between many devices such as the mobile phone, PDAs, wireless headsets, laptops, peripherals and other related external equipment. Bluetooth standard is IEEE802.15, and operates in the 2.4GHz frequency band, and the bandwidth is 1Mb / s.

Before using the Bluetooth interface to print, the printer needs to match with the mainframe. And the pairing process is initiated by the mainframe.

Setting method is as follows:

- 1- Bluetooth printer can be searched and found when the printer is in the boot state. After 10 minutes the printer enters the standby state. Search again and need to re- open the printer.
- 2- When the mainframe is searching for external Bluetooth devices, the device is a Bluetooth printer if finding a 'RDTSB' Bluetooth device.
- 3- Select the 'RDTSB' printer.
- 4- Input the password "0000"
- 5- Complete the pairing.

After completing the pairing, the user can operate the printer according to the port, which is mapped in the mainframe by the current Bluetooth devices.

If using a laptop, SMARTPHONE, POCKET PC and other mainframe having virtual Bluetooth serial port, you can send the printing data to the TR2 printer through the virtual Bluetooth serial port.

2.5 Power interface

The plug is round socket, voltage is DC12V, current equal to or greater than 2A



3. MAINTENANCE AND TROUBLESHOOTING

1. If the printer is not working properly, please turn off the printer's power.
2. Power supply must meet the requirements, or it is unfavorable for the printing head, and even damages the printing head.
3. When replacing the paper roll, please note whether there are the paper scraps and dust on the

printing head. If having paper scraps and dust, please gently remove. Note the thermal paper's obverse and reverse side, and if the reverse side is uncoated, the printer can't print out the handwriting.

4. When the printer is printing or feeding paper, you can't tear the paper.
5. Keep the printer control panel clean.
6. When thermal printer prints unclearly, we can use the clean cotton ball soaked some alcohol to gently wipe the surface dirt on the print head chip heating element.
7. When you connect the printer to the host, you should connect the printer data cable, and then power on the printer.
8. To choose a good quality paper when we select the paper for the thermal printer can not only improve the printing quality, but also reduce the abrasion for thermal film.

APPENDIX:

A. Character set 1, 2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2	!	"	#	\$	%	&	'	()	*	+	,	-	.	/	
3	0	1	2	3	4	5	6	7	8	9	:	<	=	>	?	
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	°
8	0	-	二	三	四	五	六	七	八	九	十	百	千	万	元	角
9	分	上	入	十	-	0	2	3	4	5	6	7	8	9	0	1
A	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7
B	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3
C	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
D	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
E	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
F	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2	百	千	万	元	角	分	上	入	十	-	0	2	3	4	5	6
3	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2
4	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8
5	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4
6	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
7	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
8	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2
9	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3
A	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2
B	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
C	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
D	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
E	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8
F	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7

B. International Standard ASCII

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2	!	"	#	\$	%	&	'	()	*	+	,	-	.	/	
3	0	1	2	3	4	5	6	7	8	9	:	<	=	>	?	
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	°
8	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
9	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
A	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
B	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
C	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8
D	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7
E	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
F	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5