



User Guide DM-210/220 Dot Matrix Printer



Important Safety Instructions (English)

Read the following instructions thoroughly before starting up your printer.

- Never carry out maintenance or repair work yourself. Always contact a qualified service technician.
- Keep this Operator's Manual in a place which is easily accessible at all times.
- Place the printer on a solid and even base so that it cannot fall.
- Never place the printer in the vicinity of inflammable gas or explosive substances.
- Ensure the printer is connected to a socket with the correct mains voltage.
- Always disconnect the printer from the mains before opening the device to perform maintenance work or remedy errors.
- Do not expose the printer to high temperatures, direct sunlight or dust.
- Keep all liquids away from the printer.
- Protect the printer from shock, impact and vibration.
- Make sure that both of the printer and the computer are switched off before connecting the data cable.
- The print head will become very hot during printing; avoid contact with the print head after printing has finished.
- Do not perform any operation or action in any way other than those provided in this manual. When in doubt, contact your dealer or your customer support.

Wichtige Sicherheitshinweise (German)

Lesen Sie bitte diese Sicherheitshinweise durch, bevor sie den Drucker in Betrieb nehmen.

- Führen Sie Wartungsarbeiten und Reparaturen keinesfalls selbst aus, sondern verständigen Sie immer einen qualifizierten Servicetechniker.
- Bewahren Sie diese Dokumentation an einem jederzeit zugänglichen Ort auf.
- Den Drucker auf stabilem und ebenem Untergrund so aufstellen, dass er nicht zu Boden fallen kann.
- Stellen Sie den Drucker keinesfalls in der Nähe von leicht entzündlichen Gasen oder explosiven Stoffen auf.
- Den Drucker nur an eine Steckdose mit der richtigen Spannung anschließen.
- Wenn Sie den Drucker vom Netz trennen wollen, den Drucker ausschalten und immer den Netzstecker an der Steckdose ziehen.
- Den Drucker weder hohen Temperaturen noch direktem Sonnenlicht und Staub aussetzen.
- Keine Flüssigkeiten mit dem Drucker in Berührung bringen.
- Den Drucker keinen Erschütterungen, Stößen oder Vibrationen aussetzen.
- Sicherstellen, dass der Drucker und der Computer ausgeschaltet sind, bevor das Datenkabel angeschlossen wird.
- Der Druckkopf wird während des Druckens heiß. Vor dem Berühren deshalb einige Zeit abkühlen lassen.
- Weichen Sie bei der Bedienung des Druckers nicht von den Anweisungen in der Dokumentation ab. Bei Unklarheiten wenden Sie sich bitte an Ihren Händler oder Ihren Kundendienst.

Consignes importantes de sécurité (French)

Lire attentivement les instructions suivantes avant de mettre l'imprimante en service.

- Ne jamais effectuer soi-même les travaux d'entretien et de réparations. Contacter toujours un dépanneur qualifié.
- Placer l'imprimante sur un support stable de façon à ce qu'elle ne puisse pas tomber.
- Ne jamais placer l'imprimante à proximité de sources de gaz aisément inflammables ou de substances explosives.
- Ne connecter l'imprimante à une prise que lorsque la tension est correcte.
- Pour déconnecter l'imprimante de l'alimentation principale, mettre l'imprimante hors tension et toujours débrancher le connecteur secteur de la prise murale.
- Ne pas exposer l'imprimante à des températures élevées, à la lumière directe du soleil ou à la poussière.
- Ne pas mettre l'imprimante en contact avec des liquides.
- Ne pas exposer l'imprimante à des chocs, impacts ou vibrations.
- S'assurer que l'imprimante et l'ordinateur sont hors tension avant de connecter le câble de données.
- La tête d'impression est brûlante pendant l'impression. C'est pourquoi laissez-la refroidir quelques instants avant d'y toucher.
- N'exécutez aucune opération ni action d'une autre manière que celle indiquée dans ce manuel. En cas de doute, veuillez contacter votre distributeur ou service après-vente.

Indicazioni di sicurezza importanti (Italian)

Prima di mettere in funzione la stampante, leggere attentamente le seguenti indicazioni.

- Non eseguire mai da sé gli interventi di manutenzione e riparazione, ma rivolgersi sempre a un tecnico di assistenza qualificato.
- Conservare le presenti istruzioni per l'uso in un luogo sempre accessibile.
- Collocare la stampante su una superficie stabile, per evitare che cada a terra.
- Non collocare la stampante in prossimità di gas facilmente infiammabili o di sostanze esplosive.
- Collegare la stampante a una presa di corrente con tensione adeguata.
- Per scollegare la stampante dalla rete di alimentazione, spegnere la stampante e disinserire sempre il connettore di rete dalla presa.
- Non esporre la stampante ad elevate temperature né alla luce solare diretta e alla polvere.
- Evitare il contatto della stampante con liquidi.
- Non esporre la stampante a colpi, scosse o vibrazioni.
- Verificare che la stampante e il computer siano spenti prima di collegare il cavo di trasmissione dati.
- Durante la stampa, la testina si surriscalda notevolmente. Prima di toccarla, se necessario opportuno quindi lasciarla raffreddare qualche istante.
- Non eseguire alcuna operazione o azione se non nella maniera descritta nel presente manuale. In caso di dubbio, contattare il rivenditore o dalla società incaricata dell'assistenza.

Instrucciones de seguridad importantes (Spanish)

Lea las siguientes instrucciones con esmero antes de poner la impresora en servicio.

- Nunca lleve a cabo trabajos de mantenimiento o reparación Ud. mismo, sino consulte a un técnico de servicio calificado.
- Guarde las presentes instrucciones de servicio en un lugar de fácil acceso en cualquier momento.
- Ponga la impresora sobre un base estable de manera que no pueda caer al suelo.
- Nunca coloque la impresora en la vecindad de gases de fácil inflamabilidad o sustancias explosivas.
- Asegure conectar la impresora sólo a un enchufe con un voltaje correcto.
- Cuando quiera desconectar la impresora de la red, apague la impresora y siempre tire la clavija de alimentación del enchufe.
- No exponga la impresora a temperaturas altas, a la luz solar directa y al polvo.
- No ponga la impresora en contacto con fluidos.
- Nunca exponga la impresora a sacudidas, choques o vibraciones.
- Asegúrese de que la impresora y el ordenador estén apagados antes de conectar el cable de datos.
- La cabeza de impresión se pone muy caliente durante la impresión. Por lo tanto, deje enfriarlo algún tiempo antes de tocarla.
- No permita que se realice cualquier operación o acción de una forma diferente a lo que se señala en el manual. En caso de duda, póngase en contacto con su comerciante o con su servicio post-venta.

Правила по технике безопасности. (Russian)

Прочитайте, пожалуйста, инструкцию по технике безопасности перед включением в работу принтера.

- Не выполняйте технические работы и ремонт техники самостоятельно, но сообщайте о неисправностях квалифицированным сервисным техникам.
- Данная инструкция должна быть всегда доступна каждому пользователю.
- Установите принтер на ровном и стабильном месте так, чтобы он не смог упасть на пол.
- Ни в коем случае не ставьте принтер вблизи легко воспламеняющихся газов и взрывчатых веществ.
- Включайте принтер в розетку только с соответствующим напряжением.
- Если Вы хотите отключить принтер от напряжения, сначала выключите принтер сам и затем выньте штекер из розетки.
- Берегите принтер от нагревания, от попадания на него прямых солнечных лучей и пыли.
- Не допускайте попадания жидкости на принтер.
- Нельзя подвергать принтер тряске, ударам и вибрации.
- Убедитесь, что принтер и компьютер выключены, только после этого соедините принтер с компьютером.
- Печатающая головка нагревается во время работы принтера. Поэтому подождите какое-то время, прежде чем дотронуться до нее.
- Пользуйтесь принтером так, как это написано в документации. Если у Вас возникают неясности, обращайтесь с вопросами к Вашим продавцам или в сервисный центр.

Instruções Importantes sobre Segurança (Portuguese)

Leia as instruções de segurança antes de usar a impressora.

- Consulte sempre um técnico qualificado para executar uma reparação .
- Coloque a impressora sobre uma base sólida e nivelada, para que ela não sofra quedas.
- Jamais instale a impressora nas proximidades de lugares onde haja gás inflamável ou substâncias explosivas.
- Assegure-se de conectar a impressora à tomada elétrica com a voltagem apropriada.
- Quando desligar a impressora da rede, desligue sempre a impressora e retire o cabo da tomada.
- Não exponha a impressora a temperaturas altas ou luz solar direta.
- Não aproxime substâncias líquidas da impressora.
- Proteja a impressora de choques, impactos e vibrações.
- Desligue a impressora e o computador antes de conectar o cabo da rede.
- A cabeça da impressora pode ficar muito quente . Portanto, espere algum tempo antes de tocá-la.
- Não faça nenhuma operação ou ação além das recomendadas neste manual. Em caso de dúvida, contate seu revendedor ou companhia de serviço.

Önemli Güvenlik Talimatları (Turkish)

Lütfen, yazıcıyı işleme geçirmeden önce bu güvenlik talimatlarını bütünüyle dikkatle okuyun.

- Bakım ve tamir çalışmalarını kesinlikle ve hiçbir surette kendi başınıza yapmayın; her zaman kalifiye bir uzman servis-teknisyenine haber verin.
- Yazıcıyı, üzerinden yere düşmesi mümkün olmayacak sabit ve düz bir zemine yerleştirin.
- Yazıcıyı kesinlikle ve hiçbir surette kolayca yanabilecek gaz veya patlayıcı maddeler içeren nesnelerin yakınına koymayın.
- Yazıcı akım kablosunu sadece doğru gerilime sahip bir prize takın.
- Yazıcıyı şebeke ağından ayırmak istediğinizde, yazıcıyı kapatın ve ağ-fişini her zaman prizden çıkartın.
- Yazıcıyı ne yüksek ısı ne de doğrudan güneş ışığına ve toza mâruz kalan mekânlarda bulundurun.
- Yazıcı hiçbir sıvı maddeyle temasta olmamalıdır.
- Yazıcı hiçbir sarsıntıya, darbeye veya titreşime mâruz kalmamalıdır.
- Veri kablosu bağlanmadan önce hem yazıcının hem de bilgisayarın kapalı olduklarından emin olmalısınız.
- Yazıcının başı basma esnasında yüksek ısıya ulaşıyor. Bu yüzden lütfen dokunmadan önce kısa süre soğumasını bekleyin.
- Yazıcının işletimi ve kullanımında bu dokümantasyondaki talimatların hiç dışına çıkmayın. Sorunlu görünen hususlarda lütfen imâlatçınıza veya müşteri hizmetleri servisimize başvurun.

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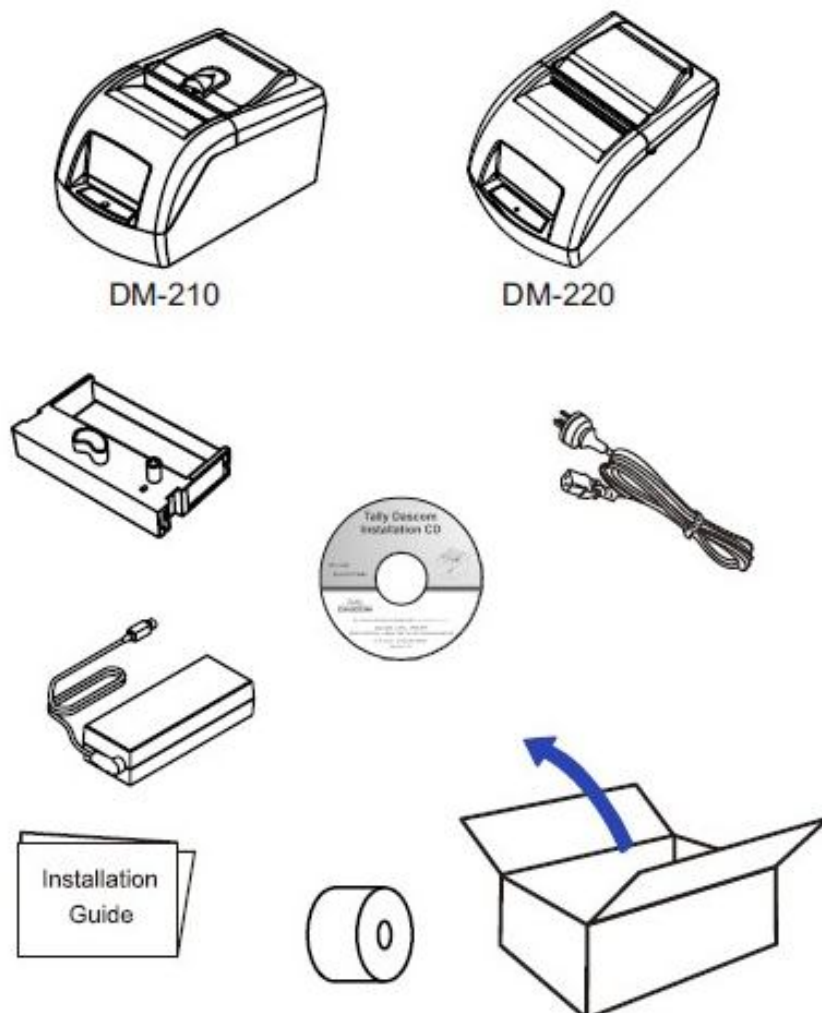
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1 Printer Installation Guide

1.1 Unpacking the Printer

Open the packaging, lift the printer out of the cardboard box and remove the remaining packaging material. Check the printer for any visible transport damage and missing items. If you find any transport damage or any accessories are missing, please contact your dealer for assistance.

i Please keep the packaging material for future transportation.
The shipping list varies with different customized order requirements.



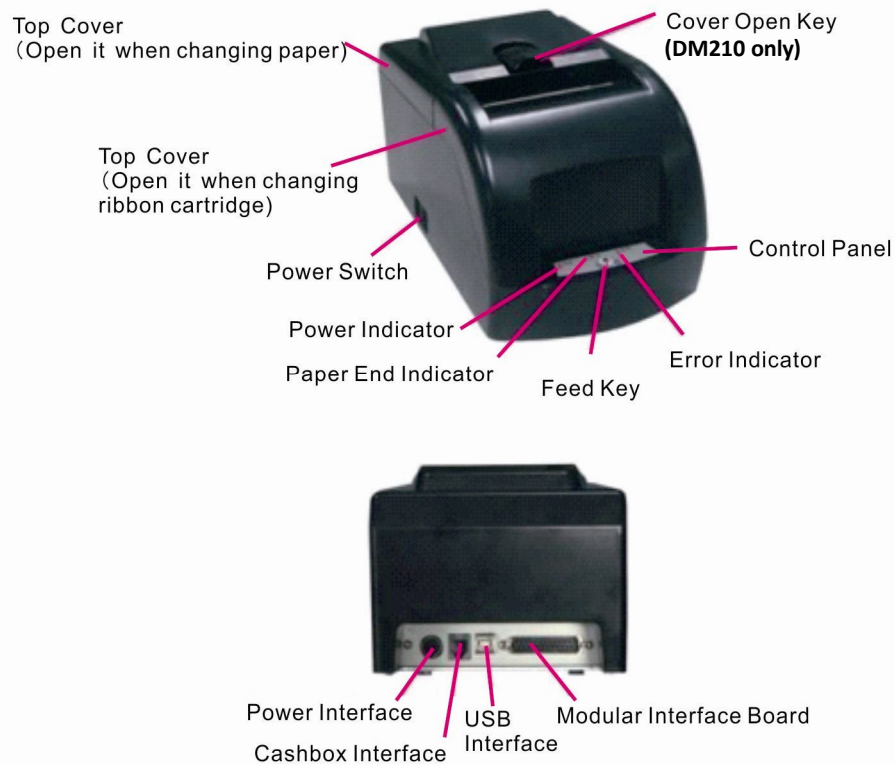
1.2 Placing the Printer

Place the printer on a solid, flat, stable surface; ensuring that the printer is positioned in such a way that it cannot move, and that there is easy access to the control panel and paper input devices. Also ensure that there is enough space for sufficient ventilation and for the printed output.

When selecting the printer location, observe the following additional instructions:

- Never place the printer near to any flammable gas or explosive substances.
- Do not expose the printer to direct sunlight. If you cannot avoid placing the printer near a window, protect it from the sunlight with a curtain.
- When connecting a computer to the printer, make sure the maximum recommended cable length is not exceeded.
- Ensure sufficient distance between the printer and any heating devices or radiators.
- Avoid exposing the printer to extreme temperature or air humidity fluctuations. Avoid exposure to dusty environments.
- It is recommended the printer is installed in a position which reduces noise exposure to the work place during printing.

1.3 Printer Components



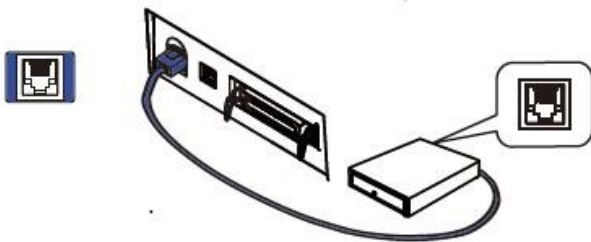
Components	Function
Cover Open Key	Open the Printer Cover (DM-210 only).
Top Cover	Open the cover when loading or reloading roll paper.
	Open the cover when ribbon cartridge
Power Switch	Powers printer ON or OFF.
Power Indicator	Shows printer power on or not.
Paper End Indicator	Shows roll paper out or not.
Feed Key	Press the key to feed paper.
Error Indicator	Shows error occurs or not.
Control Panel	Shows printer status.
Power supply Socket	Connects power cord to the printer.
Cashbox Interface	Connects Cashbox interface cable from the cashbox.
USB Interface	Connects USB interface cable from the host.
Modular Interface Board	Connects serial interface or parallel interface from the host.

1.4 Connecting the Interfaces

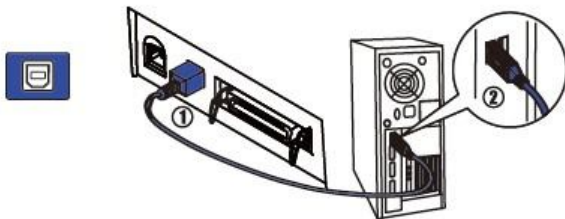
The USB, Cashbox, Serial/Parallel interface are located at the rear of the printer. Choose the interface which suits your system.

i Make sure the printer and the computer are switched off before connecting or disconnecting the interface cable to prevent electrical damage to the interfaces.

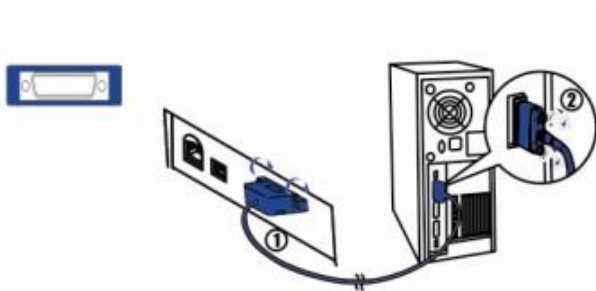
■ Connecting cashbox interface



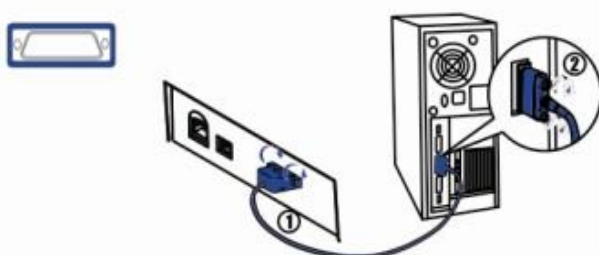
■ Connecting USB interface



■ Connecting parallel interface (modular, option)



■ Connecting serial interface (Modular, option)



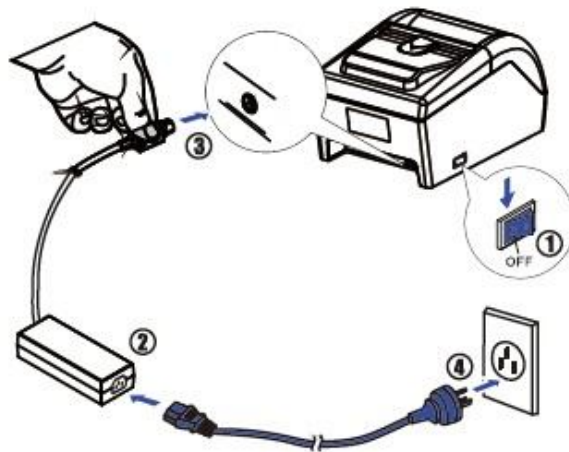
1.5 Connecting the Power



Checking the printer voltage

Make sure that the device has been set according to your country's power supply voltage. To do this, check the rating plate at the rear of the printer. Contact your dealer if the setting is incorrect.

1. Make sure the printer and the computer are powered off ①.
2. Connect the power cord to the power adapter ②, and connect the power adapter to the power supply socket at the rear of the printer ③. Ensure the power cord is securely connected. Finally, connect the power cord plug to a mains socket on the wall ④.

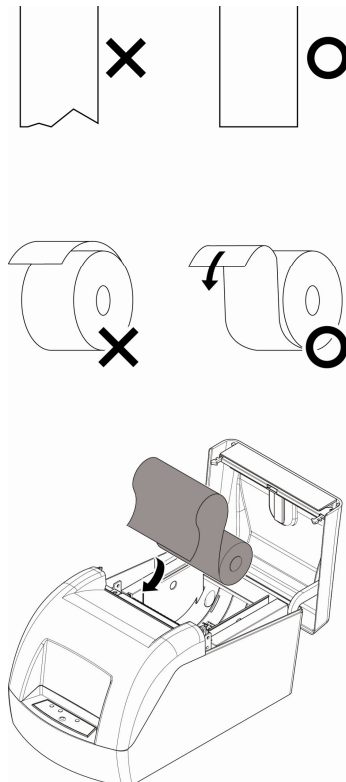
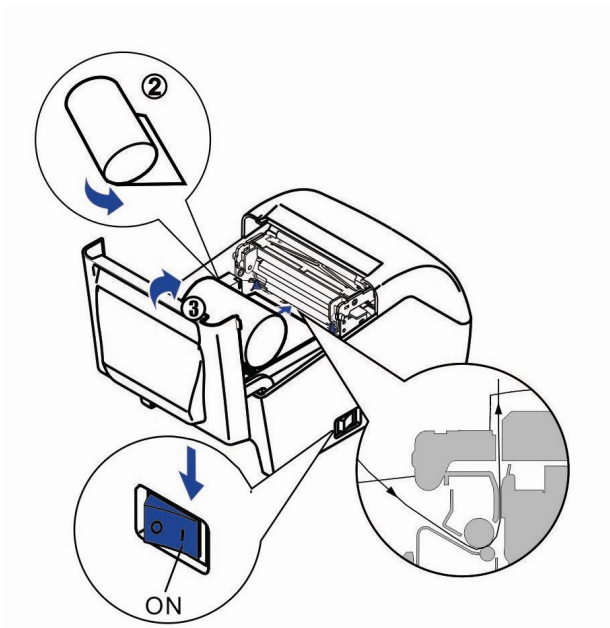


Power on and power off

1. Press the power switch to the "I" position to turn on the printer. Upon power-on, the Power LED indicator light up.
2. Press the power switch to the "O" position to turn off the printer.

1.6 Loading Paper

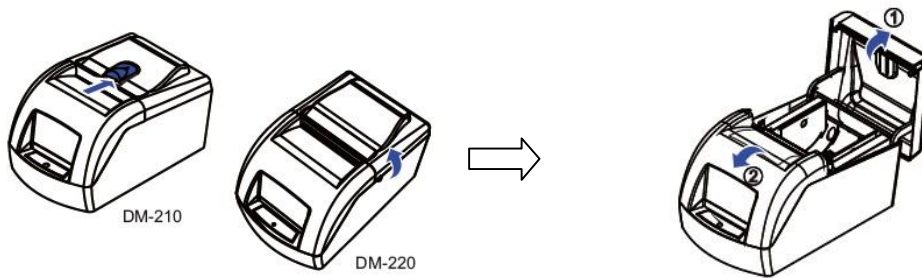
1. Keep power on and open the top cover.
2. Insert the end of paper into the entry of paper path, then sent it in with even force until the feeder motor drives to feed in the paper automatically.
3. Close the top cover



- The end of paper should be cut regularly and inserted into the entry of paper path, then sent it in with even force until the feeder motor drives to feed in the paper automatically.
- If paper jams results, pull out the paper when the automatic feeder motor stops. Cut off the fold side of the paper and reload it.
- If black mark is valid, the paper will be fed to the printing initial position.

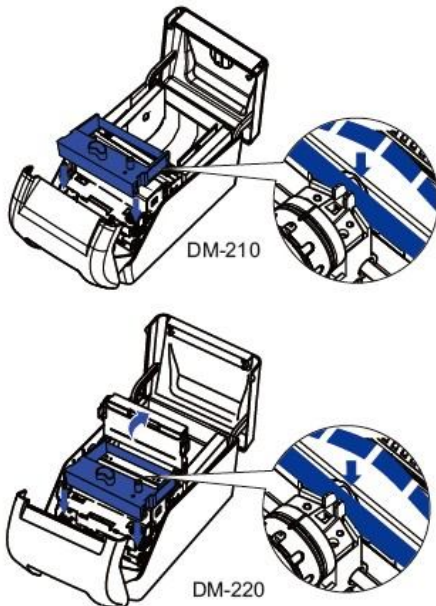
1.7 Installing Ribbon Cartridge

1. Open top covers to show up the printhead.



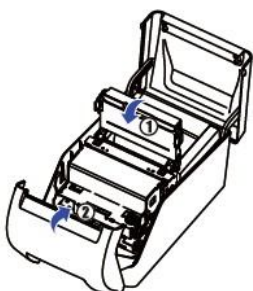
2. Turn the ribbon knob on the right side in the direction indicated by the arrow on the cartridge to remove any slack.

3. Insert the ribbon between the print head and the platen, and press it in until it clicks into place.



4. Turn the knob again to remove any slack.

5. Close the cover.



1.8 Installing the Printer Driver

Installing the Windows Driver (Compatible with Windows)

 **Switch off the printer before running the printer driver setup.**

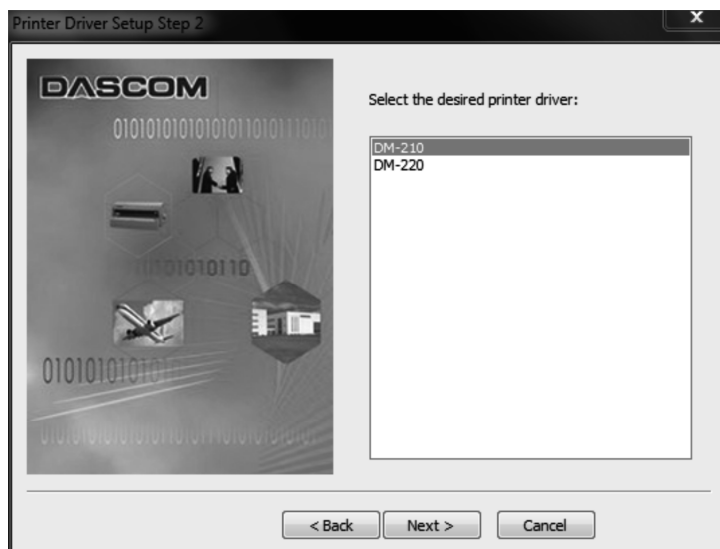
Your printer CD-ROM comes with Windows drivers. Go to the Drivers folder and run the installer “DriverSetup.exe”.

■ Installation guide for USB, serial and parallel driver program

1. Double click the “DriverSetup”. You will see the screen as below. Click “Next” to continue.

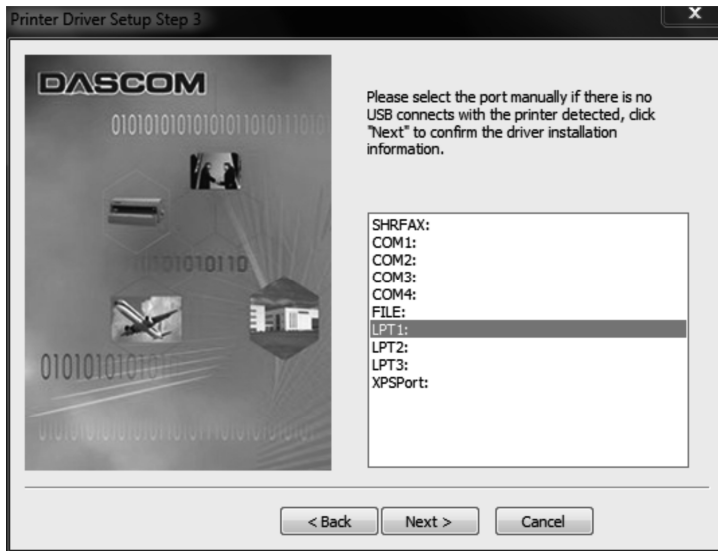


2. You might see the screen as below. Select the desired printer driver, and then click “Next” to continue.



Tally Dascom DM-210/220

3. Choose the desired port to use, and then click “Next” to continue.



4. Click “Finish” to finish the installation process successfully.



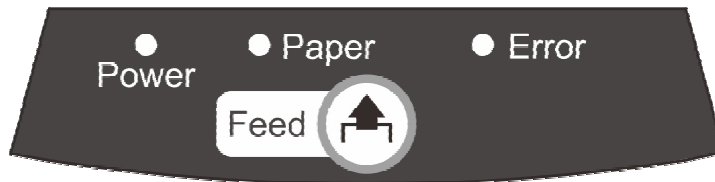
5. You will see the screen as below. Click “OK” to install the printer driver successfully.



2 Control Panel Operation

There are power indicator, paper end indicator, error indicator and feed key in the printer.

When pressing the Feed key, if the black mark detection is off, paper will be fed until Feed key is released; otherwise, the paper will be fed to the next black mark and stop.



Indicator Illustration

That the green indicator is on indicates that the power is on. Here are the illustrations for error indicators:

Error indicator	Paper end indicator	Indications	Disposal
Blink	On	Memory Error	Check the SRAM chip, data bus, address line and selected signal, etc.
Blink	Off	The print head is over-heated	Recover automatically until the temperature drops down.
Blink	Blink	The position of the carriage is wrong	Check the stepper motor of the carriage, transmission mechanism, initial position sensor and drive circuit, etc.
On	Blink	Paper end	Load paper.

Self-test Printing and Hexadecimal Dumping

Turn off the printer after the ribbon cartridge and roller paper are installed, hold the feed key while power on, and then the printer will print out the self-test page.

After the self-test completed, if there feed key is pressed, the printer will enter bidirectional printing adjustment state. If receiving data without pressing feed key, the printer will enter hexadecimal printing state.

If you do not need to implement the alignment or hexadecimal printing, please switch off the printer and restart the printer for printer normal operation.

Bidirectional Printing Adjustment

When typefaces are blurred or vertically misaligned, it is necessary to do the bidirectional printing quality adjustment.

After self-test completed, the alignment parameter for bidirectional printing will change circularly along with pressing feed key and the printer will print out the reference typeface.

When the printing quality becomes best, in other words, both the upper and lower rows of “H” are best aligned, you can turn off the power and the printer will save the parameters automatically.

3 Troubleshooting

Your printer is extremely reliable, but occasionally problems may occur. This chapter provides information on some of the common problems you may encounter and how you may solve them. If you encounter problems that you can not resolve, please contact your dealer for assistance.

Read the following instructions before maintenance and avoid operating beyond your capacity, so as to prevent injury to you and damage to the printer.

3.1 Processing Indicator Error

Phenomenon	Potential Problem	Solution
No indicators on	Incorrect power supply cable connections and power outlet	Check the power supply cable connections and the power outlet and correct them
	The printer does not switch on.	Switch on the printer
	PCB damaged	Contact your dealer for assistance
Error Indicator always on and Paper End Indicator flashes	Paper end	Reload the roll paper
Error Indicator flashes	Print Head overheated	Reprint until it cools

3.2 Processing Printing Error

Phenomenon	Potential Problem	Solution
Blurred printing or spot	Incorrect roll paper installation	Check if the roll paper is installed correctly
	Unqualified roll paper	Use recommended roll paper
Paper can not be fed.	Paper stucked	Open the printer cover, check the paper path and remove jammed paper
	The printer does not switch on.	Switch on the printer
Horizon print words missing	Printhead pin damaged	Contact your dealer for assistance

3.3 Removing Jammed Paper



Printhead may be hot, please move the printhead by moving the carriage.

- Turn the printer off and open the top cover.
- Open the printer cover and remove the jammed paper.

4 Specifications

4.1 Data Sheet

Print Parameter	Print method	9 pin dot matrix (Pin ϕ 0.30mm)
	Print direction	bidirectional logic-seeking
	Resolution	max 160dpiH x 144dpiV
	Print speed	4.3lps(4.3 line / sec at 42 columns)
	Paper feed speed	max 5.51ips (14cm/s)
	Print width	42cpl @ 16.7cpi (7x8 matrix)
	Interface	Cashbox: DC 24V, 1A, 6 line RJ-11 connector USB 2.0: Full Speed, standard type B Connector Serial RS232C: 25-pin Sub-D (f) connector; supports DTR or XON/XOFF handshaking protocol; baud rate 4800~38400BPS; data Format 1 initial bit + 8 data bit + 1 or 2 stop bits, no Parity. Parallel CENTRONICS: 25-pin Sub-D (m) connector, 8-bit parallel; supports BUSY/ACK handshaking protocol.
Power Sleep	Yes	
Cartridge Ribbon		NH37701 (Purple), Lifetime: 3000,000 characters (Compatible to ERC-39) NH37703 (Black), Lifetime: 1000,000 characters
Copies		1+1 (Thickness: 0.05~0.08mm/page; Total thickness: \leq 0.16mm)
Paper Feed		Friction feed
Memory	RAM	Max. 32Kbytes data buffer
Fonts	Chinese	GB18030_2000 16x16
	Alphanumeric	7x8 and 9x8 ASCII font
	Code page	PC437/PC850/PC860/PC863/PC865/PC858
Detect Function	Black Mark Detection	In the direction of paper feed: Mark height 5mm; Mark width min 12mm; Mark reflectivity < 10%; Non-mark reflectivity > 75%; Mark to initial print position: 27mm; Mark to tear position 47mm; Factory default: Mark detection on the right for receipt face; Can be changed to left using mark control commands.
Key and LED Indicator	Key	Feed key
	Power indicator	Green LED
	Paper indicator	Red LED
	Error indicator	Red LED
Power Supply		External power adapter
	Input	AC 100V-240V 50-60Hz
	Output	DC 24V \pm 5%, 2.1A, A-1009-3P interface
Paper Handle	Paper type	Good quality normal white roll paper or carbonized roll paper
	Paper width	76.2 \pm 0.5mm (3 inch)
	Paper thickness	0.06~0.085mm for single paper
	Paper roll diameter	Max. OD ϕ 83mm ID ϕ 10+2/-0mm
	Paper load	Upward cover open and Easy paper loading
	Paper cut	DM-210: Manual tear; DM-220: Auto-cutter; support full cut and partial cut. Full cut (Cuts the paper completely)

Tally Dascom DM-210/220

		Partial cut (one point left uncut) Note: The point length is 2% of the paper width.
Emulation		ESC/POS Compatible command set
Noise		The noise level is less than 50 dBA (to be measured following ISO 7779 and ISO 9296).
Physical Spec.	Operating condition	0~40°C/40~90%RH
	Storage condition	-40~55°C/≤93%RH
	Dimensions	156×260×130 (L×W×H mm)
	Color	Black
	Weight	Approx. 1.85kg (excluding roll paper)
Reliability	Printhead lifetime	150,000,000 characters
	MTBF	100,000 hours
	Cutter lifetime (DM-220 Only)	500,000 cuts Conditions: Paper thickness < 0.16mm Max frequency: 20 cuts/min
	MCBF	10,000,000 lines
Software Function	Driver program	32bit: Windows (Win 7/Vista/XP/2000) 64bit: Windows (Win 7/Vista/XP/2000) Compatible to the EPSON POS Application (ESC/POS OS)
	Utilities	Setup tool (The printer parameter can be uploaded and downloaded, and the firmware version updating is supported.)
Certification		CCC, CE-Mark(CB, EMV, EMC), UL, FCC, REACH, WEEE/RoHS, GCPO, Labeling/Packaging and Energy Star

4.2 Interfaces

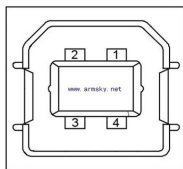
Power Supply interface, USB interface and cashbox interface are standard interfaces for the printer. Serial interface and Parallel interface are optional interfaces for the printer. The interface pin assignment is listed below.

4.2.1 USB interface

USB interface pin assignment

PIN No.	Description	Classic wire color
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black

USB interface connector diagram

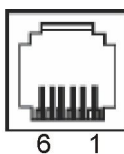


4.2.2 Cashbox interface

Cashbox interface pin assignment

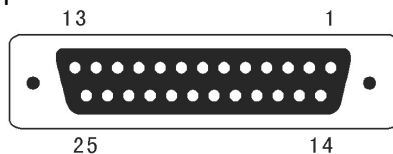
Pin No.	Description	Direction
1	Structure GND	---
2	Cashbox drive signal	Output
3	NC	Empty
4	DC +24V	Output
5	Cashbox drive signal	Output
6	Signal GND	---

Cashbox interface connector diagram



4.2.3 Serial interface

The serial interface of this printer is compatible with RS-232C, use DB25 hole type socket, support hardware handshaking protocol, the default baud rate and data format are 9600BPS, 8 data bit, no parity, and 1 stop bit. Below is the pin No of the serial interface socket.



Pin signal definition of serial interface

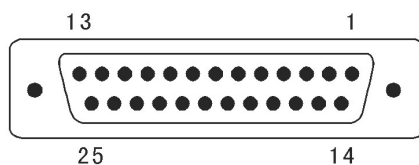
Pin No	Signal Name	Direction	Illumination
2	TXD	From printer to PC	Send data from printer to PC
3	RXD	From PC to printer	Printer receive data from PC
20	DTR	From printer to PC	When the signal is “negative”, it means that the printer is “busy” and can not receive data; While the signal is “positive”, it means that the printer is “ready” and can receive the data.
1,7	GND	---	GND

i The default baud rate is 9600 BPS and the baud rate can be changed by sending 16 Hex. command 1C AA 22 XX.
 XX: 00 indicates 1200 BPS, 01 indicates 2400 BPS, 02 indicates 4800 BPS,
 03 indicates 9600 BPS, 04 indicates 19200 BPS, 05 indicates 38400 BPS.

4.2.4 Parallel interface

The parallel interface of this printer is compatible with CENTRONICS, support BUSY /ACK handshaking protocol, use DB25 pin type interface.

Pin No. of DB25 pin interface as below



Parallel Interface Pin No.25 Below is the pin signal definition of parallel interface socket:

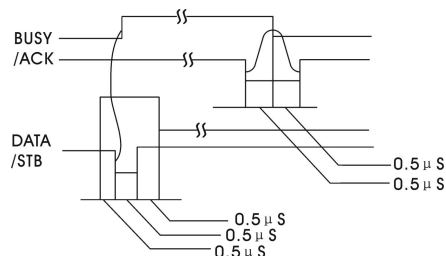
Pin No	Signal Name	Direction	Illumination
1	/STB	Input	Select trigger, input data when the signal is at falling edge.
2	DATA1	Input	These signals indicate the parallel data

3	DATA2	Input	information from the first to eighth bits. For each signal, when the logic is “1” indicates “high level”, when the logic is “0” indicates “low level”.
4	DATA3	Input	
5	DATA4	Input	
6	DATA5	Input	
7	DATA6	Input	
8	DATA7	Input	
9	DATA8	Input	
10	/ACK	Output	
11	BUSY	Output	“High” level indicates that the printer is “busy” and can not accept data now. “Low” level indicates “idle”.
12	PE	Output	Drop down to “Low” level with resistance, “High” level indicates paper end.
13	SEL	Output	Full up to “High” level with resistance and the “High” level indicates the printer is online.
15	/ERR	Output	Full up to “High” level with resistance and the “High” level indicates no error.
14	/AUTOFD	Input	Auto paper feed
16	/INIT	Input	Initialize the printer
17	/SELIN	Input	online
18— 25	GND	---	GND, logic “0” level



(1) “Input” indicates inputting signals to printer; “Output” indicates outputting signals from printer.

(2) The average logic level of signal is TTL level. Signal Timing Diagram for parallel interface as shown below:



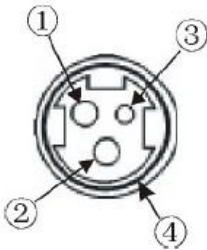
4.3 Power Supply

The external power supply of this printer is 24VDC, 2.1A. The type of power socket is A-1009-3P.

Power supply socket pin assignment

Pin Number	Signal Name
1	+24 V
2	GND
3	N.C
4	F.G.

Power supply connector diagram



5 Character Code Pages

■ 5.1 Common to all pages (International Character Set: USA)

HEX	0	1	2	3	4	5	6	7
0	NUL 00	DLE 16	SP 32	0 48	@ 64	P 80	` 96	p 112
1		XON 17	! 33	1 49	A 65	Q 81	a 97	q 113
2			" 34	2 50	B 66	R 82	b 98	r 114
3		XOFF 19	# 35	3 51	C 67	S 83	c 99	s 115
4	EOT 04	DC4 20	\$ 36	4 52	D 68	T 84	d 100	t 116
5	ENQ 05	NAK 21	% 37	5 53	E 69	U 85	e 101	u 117
6	ACK 06		& 38	6 54	F 70	V 86	f 102	v 118
7			' 39	7 55	G 71	W 87	g 103	w 119
8		CAN 24	(40	8 56	H 72	X 88	h 104	x 120
9	HT 09) 41	9 57	I 73	Y 89	i 105	y 121
A	LF 10		* 42	: 58	J 74	Z 90	j 106	z 122
B		ESC 27	+ 43	; 59	K 75	[91	k 107	{ 123
C	FF 12	FS 28	, 44	< 60	L 76	\ 92	l 108	 124
D	CR 13	GS 29	- 45	= 61	M 77] 93	m 109	} 125
E		RS 30	. 46	> 62	N 78	^ 94	n 110	~ 126
F			/ 47	? 63	O 79	_ 95	o 111	SP 127




■ 5.2 [PC437: USA, Standard Europe]

HEX	8	9	A	B	C	D	E	F
0	Ç 128	É 144	á 160	☐ 176	Ł 192	⌌ 208	α 224	≡ 240
1	Û 129	æ 145	í 161	☐ 177	⊥ 193	⌌ 209	β 225	± 241
2	é 130	Æ 146	ó 162	☐ 178	⊥ 194	⌌ 210	Γ 226	≥ 242
3	â 131	ô 147	ú 163	 179	⊥ 195	⌌ 211	π 227	≤ 243
4	ä 132	ö 148	ñ 164	⊥ 180	— 196	⌌ 212	Σ 228	 244
5	à 133	ò 149	Ñ 165	⊥ 181	⊥ 197	⌌ 213	σ 229	 245
6	â 134	û 150	ª 166	⌌ 182	⊥ 198	⌌ 214	μ 230	÷ 246
7	ç 135	ù 151	º 167	⌌ 183	⌌ 199	⌌ 215	τ 231	≈ 247
8	ê 136	ÿ 152	¿ 168	⊥ 184	⌌ 200	⊥ 216	Φ 232	° 248
9	ë 137	Ö 153	Г 169	⌌ 185	⌌ 201	⌌ 217	Θ 233	• 249
A	è 138	Ü 154	Г 170	⌌ 186	⌌ 202	⌌ 218	Ω 234	• 250
B	ÿ 139	ø 155	½ 171	⌌ 187	⌌ 203	■ 219	δ 235	√ 251
C	î 140	£ 156	¼ 172	⌌ 188	⌌ 204	■ 220	∞ 236	ⁿ 252
D	ì 141	¥ 157	¡ 173	⌌ 189	= 205	■ 221	Φ 237	² 253
E	Ä 142	Pt 158	« 174	⌌ 190	⌌ 206	■ 222	ε 238	■ 254
F	À 143	f 159	» 175	⌌ 191	⌌ 207	■ 223	∩ 239	SP 255

■ 5.3 [PC850: Multilingual]

HEX	8	9	A	B	C	D	E	F
0	Ç 128	É 144	á 160	☐ 176	L 192	ð 208	Ó 224	- 240
1	ü 129	æ 145	í 161	☐ 177	⊥ 193	Ð 209	β 225	± 241
2	é 130	Æ 146	ó 162	☐ 178	⊥ 194	Ê 210	Ô 226	= 242
3	â 131	ô 147	ú 163	 179	† 195	Ë 211	Ò 227	¾ 243
4	ä 132	ö 148	ñ 164	† 180	- 196	È 212	ö 228	¶ 244
5	à 133	ò 149	Ñ 165	Á 181	† 197	ı 213	Õ 229	§ 245
6	â 134	û 150	ä 166	Â 182	ã 198	Í 214	μ 230	÷ 246
7	ç 135	ù 151	å 167	À 183	Ã 199	Î 215	þ 231	· 247
8	ê 136	ÿ 152	ç 168	© 184	ℒ 200	Ï 216	þ 232	° 248
9	ë 137	Ö 153	® 169	¶ 185	℞ 201	Ɔ 217	Ú 233	¨ 249
A	è 138	Ü 154	¬ 170	 186	⊥ 202	Ɔ 218	Û 234	· 250
B	ï 139	ø 155	½ 171	¶ 187	⊥ 203	■ 219	Ü 235	¹ 251
C	î 140	£ 156	¼ 172	¶ 188	℞ 204	■ 220	Ý 236	³ 252
D	ì 141	Ø 157	ı 173	¢ 189	= 205	ı 221	Ý 237	² 253
E	Ä 142	x 158	« 174	¥ 190	¶ 206	Ï 222	- 238	■ 254
F	Å 143	f 159	» 175	Ɔ 191	□ 207	■ 223	' 239	SP 255







■ 5.4 [PC860: Portuguese]

HEX	8	9	A	B	C	D	E	F
0	Ç 128	É 144	á 160	 176	L 192	⌌ 208	α 224	≡ 240
1	ü 129	À 145	í 161	 177	⊥ 193	⌌ 209	β 225	± 241
2	é 130	È 146	ó 162	 178	⊥ 194	⌌ 210	Γ 226	≥ 242
3	â 131	ô 147	ú 163	 179	⊥ 195	⌌ 211	π 227	≤ 243
4	ã 132	õ 148	ñ 164	⊥ 180	— 196	⌌ 212	Σ 228	 244
5	à 133	ò 149	Ñ 165	⊥ 181	⊥ 197	⌌ 213	σ 229	 245
6	Á 134	Ú 150	ª 166	⊥ 182	⊥ 198	⌌ 214	μ 230	÷ 246
7	ç 135	ù 151	º 167	⌌ 183	⌌ 199	⌌ 215	τ 231	≈ 247
8	ê 136	î 152	¿ 168	⌌ 184	⌌ 200	⌌ 216	Φ 232	° 248
9	Ê 137	Ï 153	Ò 169	⌌ 185	⌌ 201	⌌ 217	Θ 233	• 249
A	è 138	Ü 154	¬ 170	⌌ 186	⌌ 202	⌌ 218	Ω 234	• 250
B	Í 139	ϕ 155	½ 171	⌌ 187	⌌ 203	■ 219	δ 235	√ 251
C	Ô 140	£ 156	¼ 172	⌌ 188	⌌ 204	■ 220	∞ 236	ⁿ 252
D	ì 141	Ù 157	ì 173	⌌ 189	= 205	■ 221	Φ 237	² 253
E	Ã 142	Pt 158	« 174	⌌ 190	⌌ 206	■ 222	ε 238	■ 254
F	Â 143	Ó 159	» 175	⌌ 191	⌌ 207	■ 223	∩ 239	SP 255







■ 5.5 [PC863: Canadian-French]

HEX	8	9	A	B	C	D	E	F
0	Ç 128	É 144	Ì 160	⋮ 176	Ł 192	⋈ 208	α 224	≡ 240
1	Û 129	È 145	´ 161	⋮ 177	⌊ 193	⌋ 209	β 225	± 241
2	é 130	Ê 146	Ó 162	⋮ 178	⌈ 194	⌌ 210	Γ 226	≥ 242
3	â 131	ô 147	ú 163	 179	† 195	ℒ 211	π 227	≤ 243
4	Â 132	Ë 148	¨ 164	‡ 180	— 196	ℓ 212	Σ 228	∫ 244
5	à 133	Ï 149	˙ 165	‡ 181	† 197	ƒ 213	σ 229	∫ 245
6	¶ 134	û 150	³ 166	‡ 182	‡ 198	π 214	μ 230	÷ 246
7	ç 135	ù 151	— 167	π 183	‡ 199	‡ 215	τ 231	≈ 247
8	ê 136	⌘ 152	î 168	‡ 184	ℒ 200	‡ 216	Φ 232	° 248
9	ë 137	Ô 153	ƒ 169	‡ 185	ƒ 201	∫ 217	Θ 233	• 249
A	è 138	Ü 154	ƒ 170	‡ 186	⋈ 202	ƒ 218	Ω 234	• 250
B	ï 139	ç 155	½ 171	‡ 187	⌋ 203	■ 219	δ 235	√ 251
C	î 140	£ 156	¼ 172	‡ 188	‡ 204	■ 220	∞ 236	ⁿ 252
D	= 141	Ù 157	¾ 173	‡ 189	= 205	■ 221	Φ 237	² 253
E	À 142	Û 158	« 174	‡ 190	‡ 206	■ 222	ε 238	■ 254
F	§ 143	f 159	» 175	‡ 191	± 207	■ 223	∩ 239	SP 255

■ 5.6 [PC865: Nordic]

HEX	8	9	A	B	C	D	E	F
0	Ç 128	É 144	á 160	 176	L 192	⌌ 208	α 224	≡ 240
1	ü 129	æ 145	í 161	 177	⌒ 193	⌑ 209	β 225	± 241
2	é 130	Æ 146	ó 162	 178	⌑ 194	⌒ 210	Γ 226	≥ 242
3	â 131	ô 147	ú 163	 179	⌑ 195	⌌ 211	π 227	≤ 243
4	ä 132	ö 148	ñ 164	⌑ 180	— 196	⌑ 212	Σ 228	 244
5	à 133	ò 149	Ñ 165	⌑ 181	⌑ 197	⌑ 213	σ 229	 245
6	â 134	û 150	ä 166	⌑ 182	⌑ 198	⌑ 214	μ 230	÷ 246
7	ç 135	ù 151	ó 167	⌑ 183	⌑ 199	⌑ 215	τ 231	≈ 247
8	ê 136	ÿ 152	ı 168	⌑ 184	⌑ 200	⌑ 216	Φ 232	° 248
9	ë 137	Ö 153	ƒ 169	⌑ 185	⌑ 201	⌑ 217	Θ 233	• 249
A	è 138	Ü 154	ƒ 170	⌑ 186	⌑ 202	⌑ 218	Ω 234	• 250
B	ï 139	ø 155	½ 171	⌑ 187	⌑ 203	 219	δ 235	√ 251
C	î 140	£ 156	¼ 172	⌑ 188	⌑ 204	 220	∞ 236	ⁿ 252
D	ì 141	Ø 157	ı 173	⌑ 189	= 205	⌑ 221	Φ 237	² 253
E	Ä 142	Pt 158	« 174	⌑ 190	⌑ 206	⌑ 222	ε 238	■ 254
F	Å 143	f 159	α 175	⌑ 191	⌑ 207	 223	∩ 239	SP 255

■ 5.7 [PC858: Euro]

HEX	8	9	A	B	C	D	E	F
0	Ç 128	É 144	á 160	 176	Ł 192	ð 208	Ó 224	- 240
1	Û 129	æ 145	í 161	 177	Ł 193	Ð 209	β 225	± 241
2	é 130	Æ 146	ó 162	 178	Τ 194	Ê 210	Ô 226	= 242
3	â 131	ô 147	ú 163	 179	† 195	Ë 211	Ò 227	¾ 243
4	ä 132	ö 148	ñ 164	† 180	- 196	È 212	ø 228	¶ 244
5	à 133	ò 149	Ñ 165	À 181	† 197	€ 213	Õ 229	§ 245
6	â 134	û 150	ª 166	Â 182	ã 198	Í 214	μ 230	÷ 246
7	ç 135	ù 151	º 167	À 183	Ã 199	Î 215	þ 231	· 247
8	ê 136	ÿ 152	¿ 168	© 184	Ł 200	Ï 216	þ 232	° 248
9	ë 137	Ö 153	® 169	¶ 185	ƒ 201	Ɔ 217	Ú 233	“ 249
A	è 138	Ü 154	¬ 170	 186	Ł 202	ƒ 218	Û 234	· 250
B	ï 139	ø 155	½ 171	¶ 187	ƒ 203	 219	Ü 235	¹ 251
C	î 140	£ 156	¼ 172	¶ 188	ƒ 204	 220	Ý 236	³ 252
D	ì 141	Ø 157	ì 173	¢ 189	= 205	ì 221	Ý 237	² 253
E	Ä 142	× 158	« 174	¥ 190	¶ 206	Ï 222	- 238	■ 254
F	Á 143	f 159	» 175	ƒ 191	¤ 207	 223	' 239	SP 255

6 Printing Control Command Sets

· Be compatible with ESC/POS command set.

List of Commands

ASCII Code	Hex	Function Illumination
HT	09	Moves the print head to the next horizontal tab position
LF	0A	Causes the data in the line buffer to be printed and advances the paper one line.
CR	0D	Causes the line of data to be printed and returns the current print position to the left margin.
ESC SP n	1B 20 n	Set the space between characters to n/160 inch
ESC ! n	1B 21 n	Set character printing mode
ESC % n	1B 25 n	Allow/Prohibit user-defined character
ESC &	1B 26	Set user-defined character
ESC *	1B 2A	Set graphic dot matrix
ESC 2	1B 32	Select the line space to 1/6 inch
ESC 3 n	1B 33 n	Select the line space to 1/144 inch
ESC <	1B 3C	bring the print head back to the left margin
ESC ? n	1B 3F n	Cancel user-defined character
ESC @	1B 40	Initialize the printer
ESC D n NULL	1B 44 n 0	Set/Clear all horizontal tab position
ESC J n	1B 4A n	Causes the line of data to be printed and advances the paper n/144 inch
ESC K n	1B 4B n	Causes the line of data to be printed and advances the paper n/144 inch reversely
ESC R n	1B 52 n	Select an International Character Set
ESC U n	1B 55 n	Set/Cancel unidirectional printing
ESC c 3 n	1B 63 33 n	Select paper end sensor
ESC c 4 n	1B 63 34 n	Set to stop printing when paper end
ESC c 5 n	1B 63 35 n	Allow/Prohibit feeder key
ESC d n	1B 64 n	Causes the line of data to be printed and advances the paper n line.
ESC e n	1B 65 n	Causes the line of data to be printed and advances n line reversely
ESC p	1B 70	Produce cashbox drive pulse
ESC t n	1B 74 n	Select Character Set
FS ! n	1C 21 n	Set Chinese printing mode
FS ? c1 c2	1C 3F c1 c2	Cancel User-defined Chinese
FS S n1 n2	1C 53 n1 n2	Set Chinese character space
FS W n	1C 57 n	Set/Cancel Four double angle Chinese mode
GS FF	1D 0C	Send the black mark paper to the printing initial position
ESC C n	1B 43 n	Set the page length to n line space
GS (F pL pH a m nL nH	1D 28	Set the orientation offset of black mark
FS (L	1C 28 4C	Feed the paper to the cut/tear position
GS V m	1D 56 m	Select the cut/tear mode and cut/tear paper
	1D 56 m n	
ESC i	1B 69	Cut the paper completely
ESC m	1B 6D	Cut the paper partially

FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- a) This device may not cause harmful interference.
- b) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orientate or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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