



User Guide

1318 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 the printer and 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 imalatçınıza veya müşteri hizmetleri servisimize başvurun.

TRADEMARK ACKNOWLEDGEMENTS

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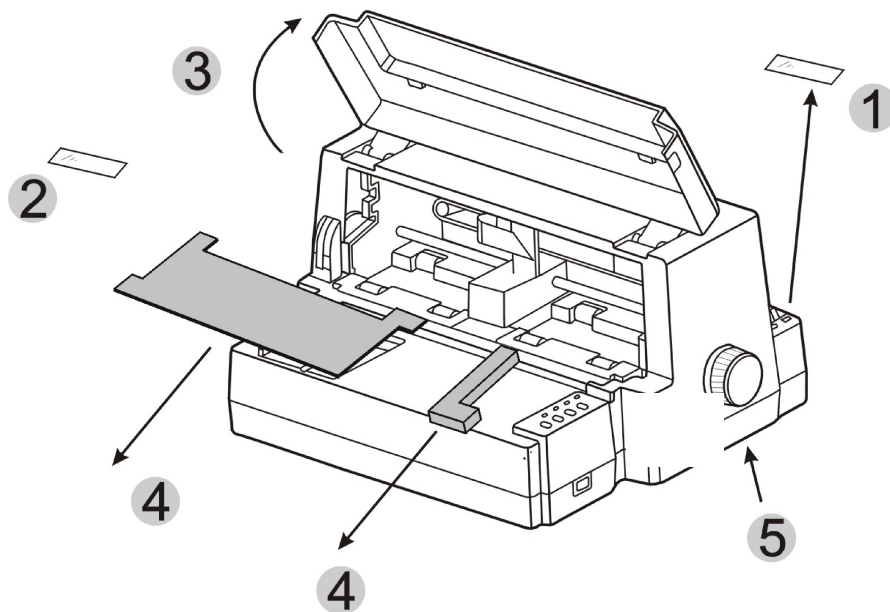
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1 Unpacking Guide

- Place your packaged printer on a solid base.
- Make sure that the "Up" symbols point in the correct direction.
- 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 if any accessories are missing, please contact your dealer. The following items should be included:
 - Printer
 - Paper feed knob
 - Ribbon cartridge
 - CD-ROM
 - Installation Guide

Remove the packaging materials from the printer as follows:

1. Remove the tape on the paper feed lever.
2. Remove other visible tape on the printer.
3. Open the front cover of the printer.
4. Remove the shipping cardboard from around the print head.
5. Install the platen knob.



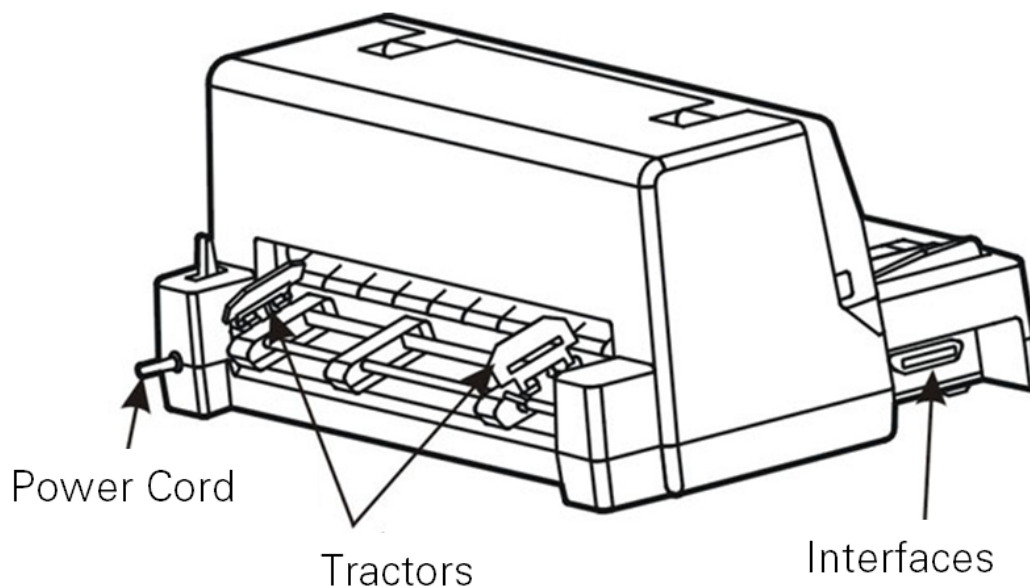
Placing the Printer

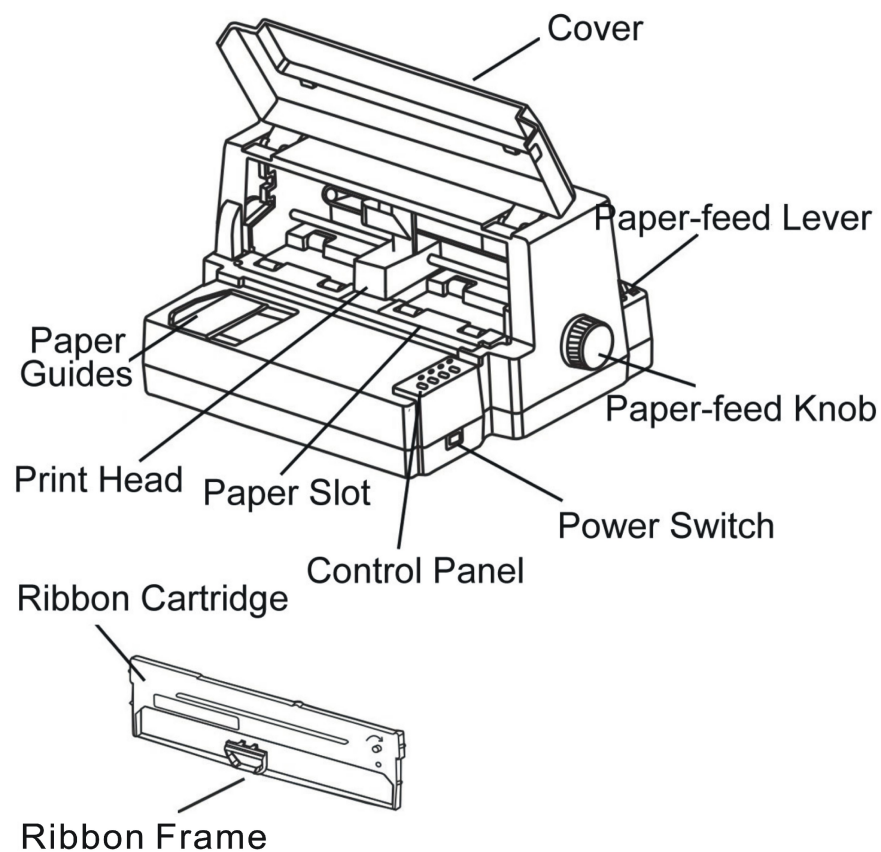
Place the printer on a solid, flat, stable surface; ensuring that the printer is positioned in such a way that it cannot move, and that there is easy access to the control panel and paper input devices. Also ensure that there is enough space for sufficient ventilation and for the printed output.



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/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.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

Printer Components



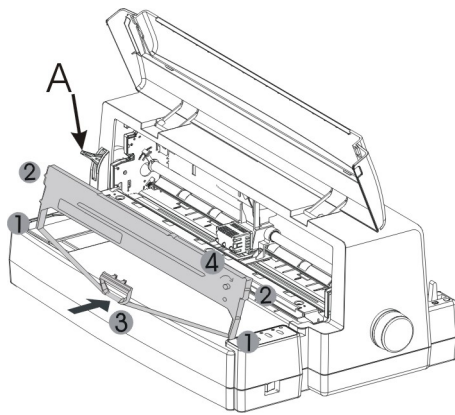


Component	Function
Paper Guide	Adjusts positioning of single sheet paper.
Paper Slot	For friction feed (forward)
Print Head	9-pin printing mechanism
Cover	Protects print head and other components inside, and reduce noise.
Control Panel	Shows printer status, for printer setup.
Paper Feed Lever	Two positions:  = continuous forms;  = single sheet paper
Paper Feed Knob	Manual feed or vertical positioning of paper
Power Switch	Power printer ON or OFF
Ribbon Cartridge	Install ribbon in the printer.
Ribbon Frame	For guiding ribbon installation on print head.
Tractors	For feeding and adjustment of continuous forms.
Power Cord	Connects power cord to the mains.
Interface	Connects interface cables from the host.

2 Setting Up Printer

Install Ribbon

1. Ensure the power to the printer is off. Move the carriage to the centre of the print platen.
2. Install the recess positions ① and ② on the ribbon cassette into the printer mounting.
3. Press the ribbon frame ③ onto the print head.
4. Turn the ribbon knob ④ in clockwise direction until the ribbon fabric is taut. Move the carriage left and right to ensure the carriage and ribbon fabric can move smoothly.
5. Close the printer's front cover. When printer is in operation, ensure the printer's front cover is closed to keep the noise level to a minimum.

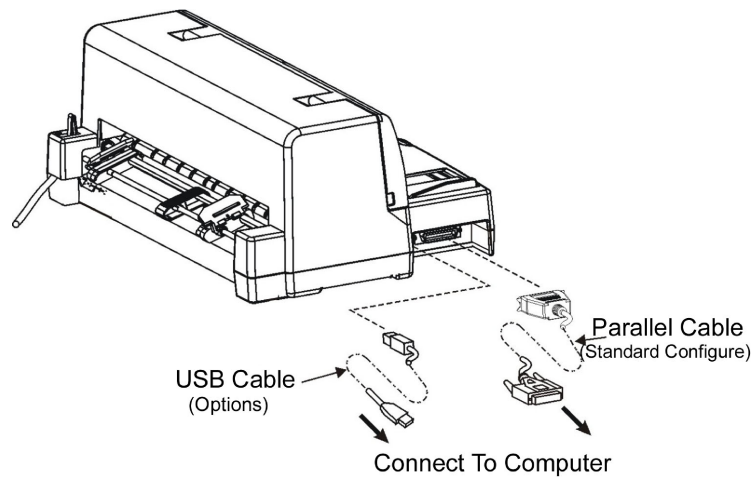


Notes on Ribbon Cartridge Removal:

1. Eject any paper loaded in the printer.
2. Turn off the printer power.
3. Open the front cover.
4. Move the carriage to the middle. Be careful not to touch the print head if printing had just been performed, as the print head may be hot.
5. Remove the blue ribbon frame from the print head.
6. Use fingers to take hold of the handle on the ribbon cartridge firmly, and pull the cartridge towards you to unlatch it. Some force may be needed to unlatch the cartridge.
7. Remove the ribbon fabric from the print head carefully without entangling it.

Connecting the Interface Cable

The 36-pin Centronics parallel and USB ports are located at the left side of the printer. **IMPORTANT:** Make sure the printer and the computer are switched off before connecting or disconnecting the interface cable to prevent electrical damage to the interface ports.



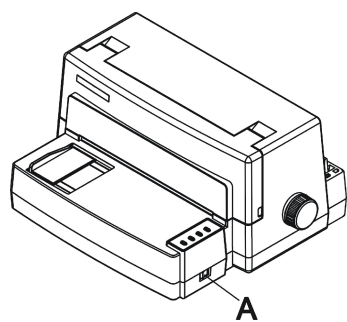
Connecting the Mains Power

Checking the printer voltage

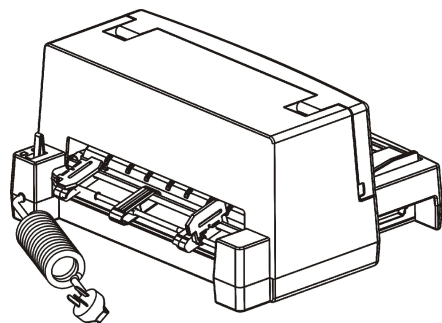
Make sure that the device has been set according to your country's power supply voltage. To do this, check the rating plate at the back of the printer. Contact your dealer if the setting is incorrect.



Never switch on the printer if the voltage setting is incorrect; this may result in electrical damage to the printer.



Make sure that the power switch "A", located to the right side of the printer, is in the **OFF** position.

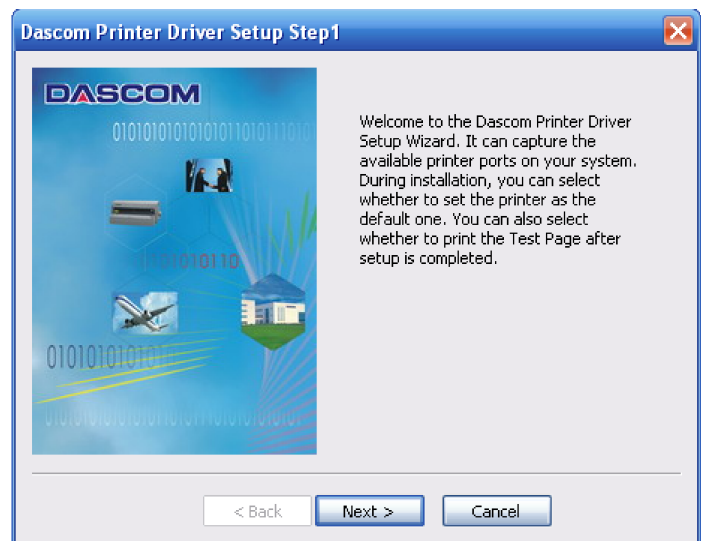


Connect the power cord plug to a mains socket. Switch on the printer.

Installing the Windows Driver

(Windows 2000/2003/2008 Server/XP/Vista/7)

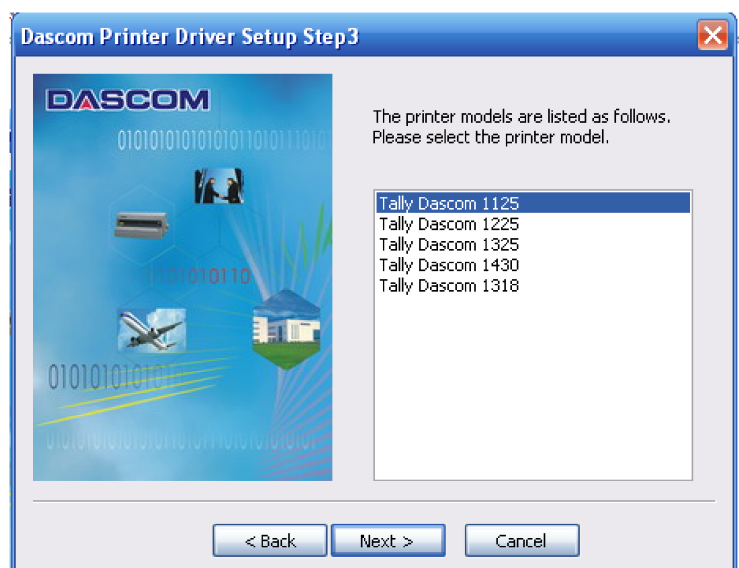
1. Your printer CDROM comes with Windows drivers. Go to the Drivers folder and run the Installer "DriverSetup.exe". You will see the screen on the right. Click "Next" to continue.



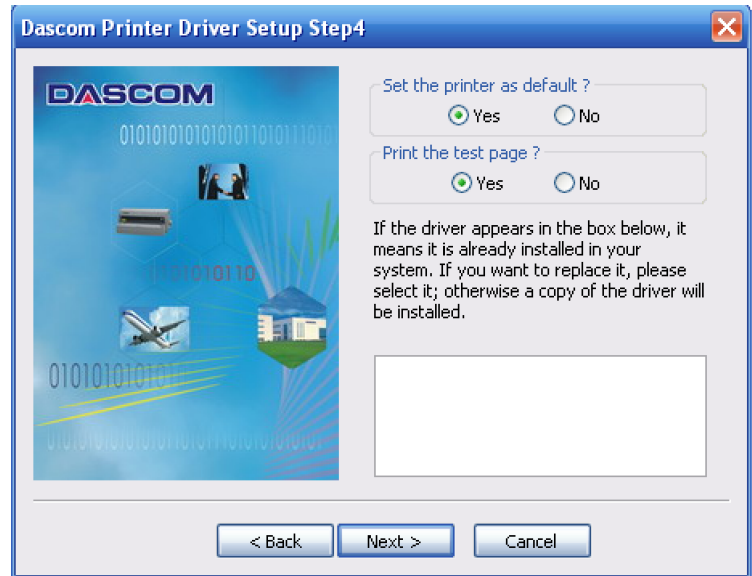
2. A list of ports available on your system will be displayed as shown on the right. Choose the desired port to use. Click "Next" to continue.



3. Select the desired printer model as shown on the right. Click "Next" to continue.



- Here you can choose whether to set the driver as the system default driver, and whether you want to print the Test Page after installation is completed. If the driver had been installed before, it would be listed in the white box on the right. Select the listed driver (if any) if you want to replace it; otherwise a copy of the driver will be installed. Click "Next" to continue.



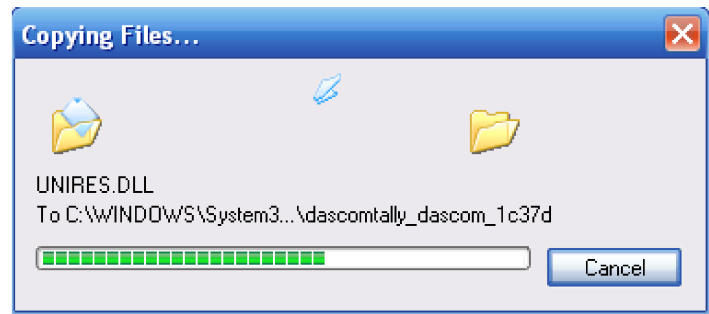
- Click "Finish" to start the installation process.



- If the driver is not yet Microsoft Certified, the message on the right would appear. Click "Continue Anyway". (As we continue to expand our product portfolio, not all of our drivers may be certified yet. Please check our website www.dascom.com for the latest certified drivers.)



7. Installation in progress.



8. After installation is completed successfully, you will see the message on the right.




3 Paper Installation Guide

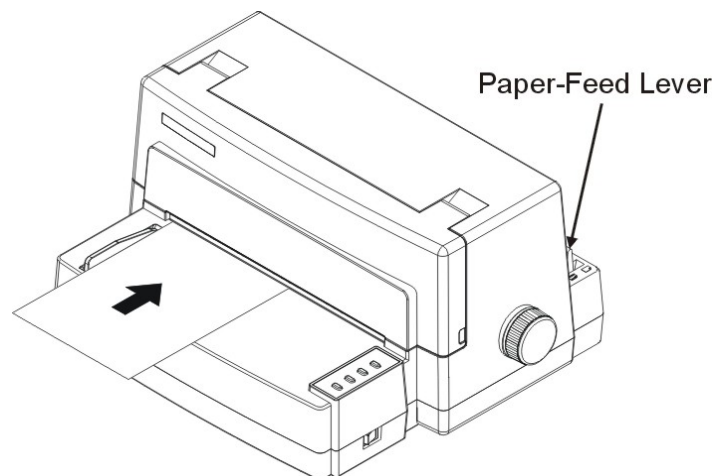
The printer can handle either single sheets or continuous forms. Single sheets, also called cut sheets, include envelopes and non-continuous, multipart forms. Continuous forms include labels and multipart forms fed into the printer using the forms tractors. The printer is able to print 1~5 plies multipart paper.

Do not load paper that has been folded or is damaged, wrinkled, or curled.


There are 2 paper feed modes: friction feed and tractor feed.

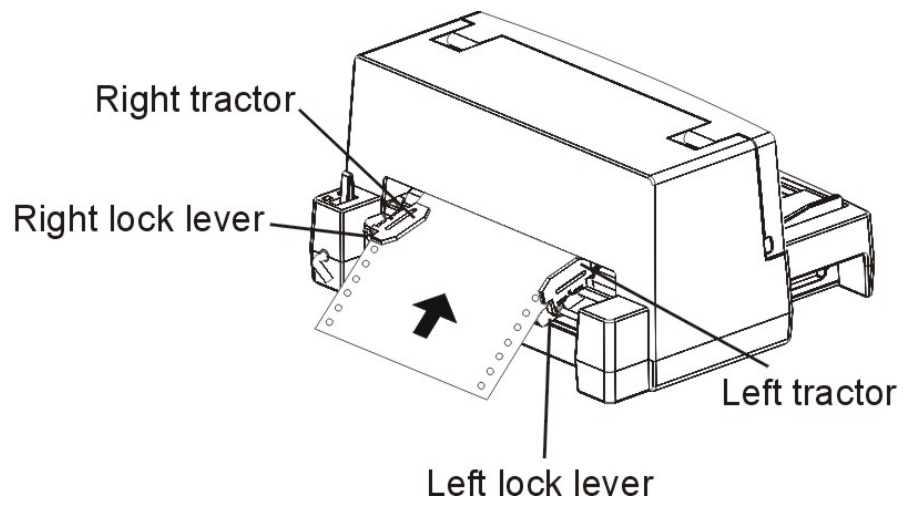
Friction Feed Handling

1. Move the paper-feed lever forward to "  " for friction feed mode.
2. Align the paper guide with the mark on the left of the single sheet feeder. Insert a sheet of paper. Make sure that the bottom edge of the paper engages snugly with the platen.
3. The paper should advance automatically to the print position. The printer is now ready to print in the online state.

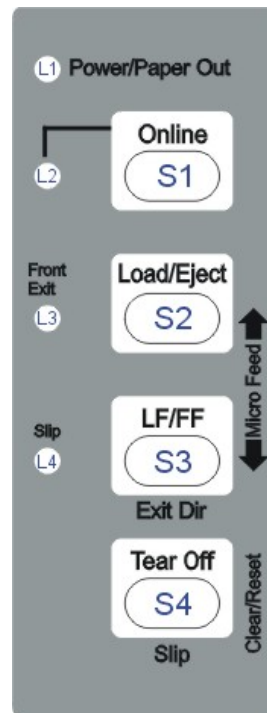


Tractor Feed Handling

1. Move the paper-feed lever backward to "  " for continuous paper position.
2. Raise the tractor doors and fit the first 3 paper holes onto the left tractor pins. Close the left tractor door. In the same way, install the paper on the right tractor.
3. Adjust the right tractor to the width of the paper until the paper is flat. Do not stretch the paper too taut. Push the right lock lever down to secure the right tractor in place.
4. Press the **【Load/Eject】** key to load the paper to the starting print position. The printer is now ready to print in the online state.



4 Control Panel Operation



There are 4 switches S1~S4 and 4 LEDs L1~L4. The meaning and application of each switch and LED are described below.

LED Indicators

“Power/Paper Out” LED:

On: Power on

Flashing: Paper out

Flashing + buzzer: Paper jam

“Online” LED:

On: The printer is in online state and ready to receive data from the computer.

Off: The printer is in offline state and cannot receive data.

“Front Exit” LED:

On: After printing, single sheet paper exits at the front.

Off: After printing, single sheet paper exits at the rear.

“Slip” LED:

On: Slip paper profile is selected.

Off: Slip paper profile is not selected.

(Note: “Slip” refers to a small paper form.)

Control Panel Keys

“Online” Key:

This key switches the printer between online and offline states. Printing is stopped when the printer is switched to offline state. When printer is switched to online state again, printing will resume.

“Load/Eject” Key:

When paper is loaded, pressing this key will eject the paper (single sheet mode) or park the paper (continuous paper mode). When paper is not loaded, pressing this key will load the paper to the starting print position.

“LF/FF” Key:

Pressing this key will feed paper one line forward. By holding down this key, the printer will initially feed a few lines, then perform a form feed (continuous paper mode) or eject the form (single sheet mode).

“Tear Off” Key:

When online, this key will move any loaded continuous paper to the tear-off position. When offline, this key is used to select the Slip paper profile.

Table 4.1

Switch	Label
S1	Online
S2	Load/Eject
S3	LF/FF
S4	Tear Off

Table 4.2

LED	Label
L1	Power/Paper Out
L2	Online
L3	Front exit
L4	Slip

Panel Operation

There are 3 states of operation: Online, Offline and Power On.

In the Online state, the keys provide the following functions: Go to Tear Off position, Line Feed/Form feed, Load/Eject, and switch to Offline state.

In the Offline state, the keys provide the following functions: Select Slip paper profile, select paper exit direction, Load/Eject, switch to Online state, micro feed, clear buffer and restore factory defaults.

To enter the Power On state, the user holds down a key or a combination of keys while powering up the printer. This state provides the following functions: Configure Slip paper profile, Main Menu setup, Hex-dump, print Main Menu, access Service Menu, adjust page margins, restore factory defaults, and firmware update.

The followings describe the 3 states in details.

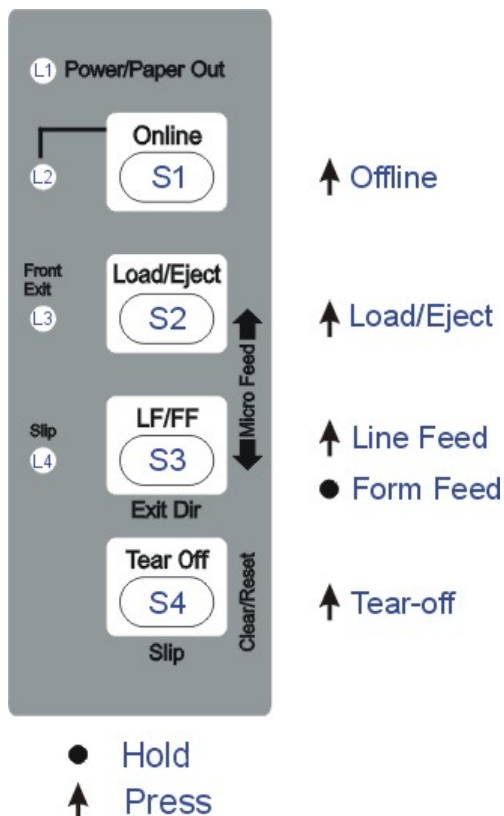
Legend:

[A] = press and hold switch A

{B} = press and then release switch B

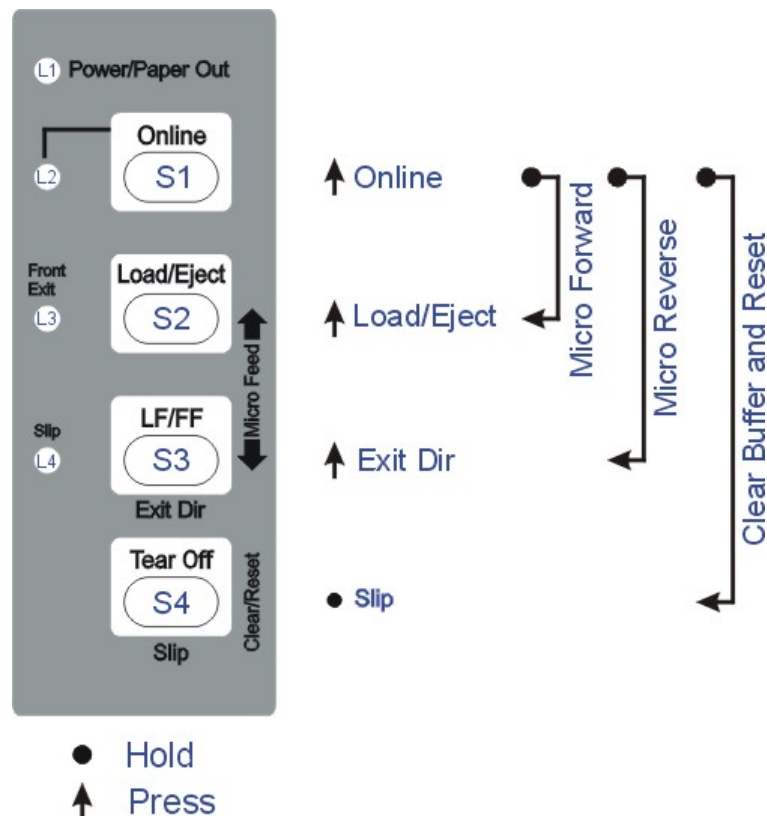
[A]+ {B} = press switch B while holding A

Online State



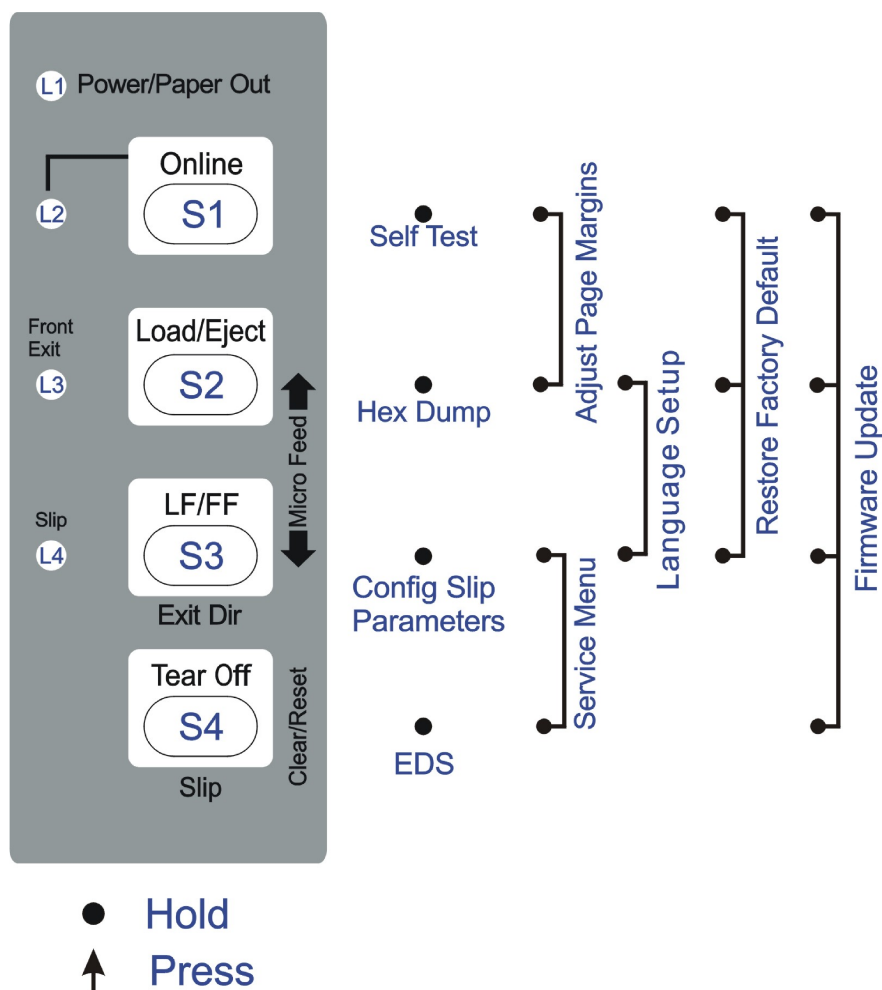
Function Name	Switch Operation	LED	Function Description
Tear Off	{S4}	-	This is valid for tractor mode only. It feeds the form to the tear-off position. After tearing off the form, printing starts on the next TOF by: <ul style="list-style-type: none"> • pressing S4 once, or • receiving print data from the host.
LF	{S3}	-	Feeds a line with every press of S3.
FF	[S3]	-	By holding S3, the printer initially feeds a few lines; then feeds the form to the next TOF for rear tractor or ejects the form for cut sheets.
Load/Eject	{S2}	-	<ul style="list-style-type: none"> • Load: Automatically loads the paper (according to path selection) when no paper is on the platen. • Eject: For rear tractor, it retracts the form from the platen to allow users to install cut sheets. (NOTE: Users have to toggle the path selection lever.) For cut sheets, it ejects the form on the platen.
Online	{S1}	L2	Toggles between Online and Offline states.

Offline State



Function Name	Switch Operation	LED	Function Description
Slip	{S4}	L4	<ul style="list-style-type: none"> Press and hold this key until printer beeps twice to activate the Slip profile mode. L4 will turn on. Press and hold this key until printer beeps twice to exit the Slip profile mode. L4 will turn off.
Exit Dir	{S3}	L3	This is valid for single sheet mode only. It controls the exit direction of the friction sheet paper.
Load/Eject	{S2}	-	<ul style="list-style-type: none"> Load: Automatically loads the paper (according to path selection) when no paper is on the platen. Eject: For rear tractor, it retracts the form from the platen to allow users to install cut sheets. (NOTE: Users have to toggle the path selection lever.) For cut sheets, it ejects the form on the platen.
Online	{S1}	L2	Toggles between Online and Offline states
Micro Forward	[S1]+ {S2}	-	While holding down S1, press S2 to micro feed paper up.
Micro Reverse	[S1] +{S3}	-	While holding down S1, press S3 to micro feed paper down.
Clear Buffer and Reset	{S4}+[S1]	-	<ul style="list-style-type: none"> Clears the print buffer. Beeps once upon completion. Pressing S4 longer initializes the printer to default settings. Beeps 3 times upon completion.

Power-On State



Function Name	Switch Operation	LED	Function Description
Menu Setup / EDS	[S4]	-	Allows for Main Menu setting changes. Please read the instructions printed on how to change settings when this mode is activated. (EDS: Electronic DIP Switch)
Slip Setup	[S3]	-	Configures the Slip paper profile such as top and left margins. Refer to Slip Setup section below for details.
Hex Dump	[S2]	-	Beeps once to indicate going into hex dump mode: <ul style="list-style-type: none"> Prints data from host in hexadecimal representation. Pressing S2 suspends the printing. When the hex dump has finished, pressing S2 forces the printing of the last line of data, as any line termination control code from host has no function. Switch off the power to terminate the hex dump.
Self Test / Status Page	[S1]	-	Prints the printer settings and self-test pattern.

Service Menu	[S3]+[S4]	-	Vertical Alignment, Change Pin Function and Endless Self Test
Adjust Page Margins	[S1]+[S2]	-	Includes Adjust Fanfold Top Margin, Adjust Single Top Margin, Adjust Fanfold Left Margin, Adjust Single Left Margin and Adjust Tear-Off position.
Restore Factory Defaults	[S1]+[S2]+[S3]	-	Restore settings to factory defaults except for Change Pin, Vertical Alignment and Adjust Page Margin Parameters.
Firmware Update	[S1]+[S2]+[S3]+[S4]	-	<ul style="list-style-type: none"> • Alternate flashing of L1 and L2 indicates ready for firmware update from host. • When new firmware is being received: L1 and L2 will flash together, then followed by L1 and L3 flashing together. • When downloading is completed, the carriage returns to home position. Printer initializes normally.
Language Setup	[S2]+[S3]		<ul style="list-style-type: none"> • Allows user to select one of the following languages: English, German, Russian, Italian, French, Spanish and Turkish. Factory default is English. Refer to Language Setup section below for details.

Language Setup

The panel menu can display the following languages: English, German, Russian, Italian, French, Spanish and Turkish. Factory default setting is English. To change it to another language, hold down the **[LF/FF]** and **[Load/Eject]** keys on the panel and power-on. Upon exiting the Language Setup Menu, a listing of the current configuration is printed, and this is followed by Main Menu Setup.

Below is an example of changing from English to German language:

```

Panel switches in Language setup:
[Load/Eject] = Next Language  [Online] = Save & Exit
Funktion der Tasten im Sprachen Setup:
[Load/Eject] = Nächste Sprache  [Online] = Speichern & Exit
функция клавиш в меню языков:
[Load/Eject] = Следующий язык  [Online] = Хранить & Выход
Pulsanti per impostazione Linguaggio
[Load/Eject] = Linguaggio Successivo  [Online] = Salva & Esci
Fonctions des touches dans Configuration Langue:
[Load/Eject] = Prochaine Langue  [Online] = Enregistrer & Quitter
Función de las teclas en el ajuste de Idioma
[Load/Eject] = Siguiente Idioma  [Online] = Guardar y Salvar
Kumanda Paneli Dil Ayarı Konumunda:
[Load/Eject] = Sonraki Dil  [Online] = Kaydet & Çık

  English  Deutsch

Deutsches Setup OK!

```

Slip Setup

Slip media refers customized forms specific to each application. Each slip may have its own unique top margin or left margin. This is called the slip profile. The Slip setting provides a convenient way to set the printer top and left margin settings to the slip profile at the press of a panel key without the need to manually change the top and left margins, whenever you want to do your slip printing. Likewise, should you decide to print on standard paper forms, you can exit from the slip profile easily at the press of a panel key.

To configure the slip top and left margin parameters, please do the followings:

1. Power up printer while pressing **【LF / FF】** key until the print head starts moving, then let go.
2. Load paper. The printer prints the few lines below.

Slip Setup

【LF / FF】 = OK 【Tear Off】 = Back 【Load / Eject】 = Next 【Online】 = Exit

Current Setting: Fanfold Top Margin

3. Press the **【Load / Eject】** key to scroll to the item you want to change. The available items are Fanfold Top Margin, Fanfold Left Margin, Single Top Margin and Single Left Margin. To select the item, press **【LF / FF】** key. In the above example, the printer will print out:

Fanfold Top Margin

【Tear Off】 Press: Previous Setting

Fanfold Top Margin 0mm

4. Press the **【Load / Eject】** key to increase by 1 mm, or press the **【Tear Off】** key to reduce 1 mm. The range is 0~65 mm.
5. Press the **【LF / FF】** key to confirm the current selection. To save selection into memory, press the **【LF / FF】** key. If you do not want to save, use the **【Load / Eject】** key to scroll to "No" before pressing the **【LF / FF】** key to confirm.
6. Press the **【Online】** key to exit from Slip Setup.

5. Printer Setting Changes

In order to meet individual print requirements, the printer configurations may be changed as follows: Hold down the Tear Off key while powering on the printer, release the Tear Off key when the print head starts to move. The printer will enter Main Menu setup state. Follow the instructions printed on how to make setting changes. When a new setting is saved, it is retained after the printer has been powered off.

The Main Menu is grouped into 5 sub-menus: System Setup, Page Setup, Print Setup, Interface Setup and Advanced Setup. A detailed description of the sub-menus is given below. The settings in bold and italic refer to the default settings.

System Setup

System Setup	Valid Settings	Function
Emulation	ESC/P , IBM 2380 Plus	Selects the printer emulation. This should be the same as the host printer driver.
Auto CR (IBM)	Yes, No	Yes: LF = LF+CR; No: LF = LF (Applies to IBM emulation only)
Auto LF	Yes, No	Yes: CR = CR+LF; No: CR = CR
Print Dir	Bi-Dir , Uni-Dir, Auto	Auto: Text & graphics in bi-direction; double height in uni-direction. Uni-Dir: Prints everything in uni-direction. Bi-dir: Prints everything in bi-direction. Note: Top position print direction may be affected by Top Print Dir setting.
Top Print Dir	Bi-Dir , Uni-Dir	Bi-dir: Prints top position according to Print Dir setting. Uni-dir: Prints top position in uni-direction regardless of Print Dir setting.

Print Setup

Print Setup	Valid Settings	Function
Font	DRAFT , COURIER, OCR-A, OCR-B, QUADRATO	
Pitch	10cpi , 12cpi, 15cpi, 17cpi, 20cpi, PS	Controls the characters per inch setting.
Zero	0 , Ø	Selects slashed or no-slash zero.
HS-Draft	On , Off	On: Prints High Speed Draft when Draft font is selected.
IBM Set 1/2	Set 1, Set 2	Selects the IBM character set. 1: Normal; 2: Extended

Int'l Char Set	USA , France, Germany, UK, Denmark, Sweden, Italy, Spain, Japan, Norway, Denmark II, Spain II, Latin AM, Korea, Legal	14+1 international character set selections.
Code Page	<ol style="list-style-type: none"> 1. CP 437 2. CP737 3. CP850 4. CP851 5. CP852 6. CP857 7. CP858 8. CP860 9. CP861 10. CP863 11. CP1252 12. CP1253 13. CP1254 14. 8859-1 15. 8859-1(SAP) 16. 8859-2 17. 8859-5 18. 8859-7 19. 8859-9 20. 8859-15 21. Kamenicky (MJK) 22. CP865 23. CP 866 24. CRO-ASCII 25. BRASCII 26. Mazovia 27. 856Bulgaria 28. CP1250 29. CP1251 30. Abicomp 	National code page selections.
Character Table	Graphic Table , Italic Table	Character table type selection.

Page Setup

Page Setup	Valid Settings	Function
Line Per Inch	1, 2, 3, 4, 5, 6 , 7, 8	Sets the line spacing
Fanfold Form Length	3", 3.5", 11/3", 4", 5", 5.5" 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"	Sets the page length for tractor mode

Fanfold Top Margin	0/60" ... 10/60" ...99/60"	Sets the top margin for tractor mode. Due to mechanical tolerance, 0/60" is not guaranteed.
Fanfold Bottom Margin	0/60"... 10/60" ...30/60"	Sets the bottom margin for tractor mode. Due to mechanical tolerance, 0/60" is not guaranteed.
Single Form Length	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"	Sets the page length for friction mode
Single Top Margin	0/60" ... 10/60" ...99/60"	Sets the top margin for friction mode. Due to mechanical tolerance, 0/60" is not guaranteed.
Single Bottom Margin	0/60"... 10/60" ...30/60"	Sets the bottom margin for friction mode. Due to mechanical tolerance, 0/60" is not guaranteed.
Perforation Skip	Yes, No	Skips printing on perforation area
Auto Tear	Manual , 0.5s, 1s, 2s, 3s, 4s, 5s View1s, View2s, View3s	Specifies the waiting time before feeding the page to tear-off position automatically. Manual: Auto tear mode is off. View1s, View2s, View3s: After printing is completed, the printer will feed the paper until the last printed line is at the tear-off position. (Applies to tractor mode only)
Exit Direction	Front , Rear	Selects eject direction for friction loaded papers.
Slip	Off , On	Selects the Slip profile mode.

Interface Setup

Interface Setup	Valid Settings	Function
Interface	Auto , Parallel, USB	For multi-host connection. Auto: First come first served; Parallel/USB: Serves the designated host only.
I-PRIME	Yes , No	Yes: Host I-Prime signal resets the printer.
Auto IF Delay	10s , 30s	Determines the waiting time before receiving data from another interface.
RAM Usage	User Font , Buffer	User Font: Part of RAM is used for user download characters; Buffer: Disables user character download function; uses RAM for buffer size up to 64KB.
CX Bid	Yes , No	Yes: Sets the parallel interface of the printer to bidirectional mode (IEEE 1284, Nibble mode), e.g. for Windows Plug & Play. No: Sets the interface to compatibility mode in order to ensure reliable operation with special external boxes.

Advanced Setup

Advanced Setup	Valid Settings	Function
Auto Load	Manual, 0.5s , 1s, 1.5s, 2s	Specifies the waiting time before loading a cut sheet automatically. Manual: Auto load mode is off. (Applies to friction mode only)
Paper Jam Prevention	Yes , No	Flattens paper edges by carriage movement before printing starts.
Paper End Detect	Yes , No	Yes: Detects paper out and halts printing; otherwise, ignores paper out and continues printing.
Form Length Ctrl	Software , Ignore	Ignore: Ignores form length commands
Pitch Ctrl	Software , Ignore	Ignore: Ignores CPI commands
Font Ctrl	Software , Ignore	Ignore: Ignores font select commands
Quality Ctrl	Software , Ignore	Ignore: Ignores print quality commands
Buzzer	Yes , No	Yes: Sounds buzzer on all hardware errors

German (Deutsch)

System Setup	Valid Settings
Emulation	ESC/P , IBM 2380 Plus
Auto CR (IBM)	Ja, Nein
Auto LF	Ja, Nein
Druck Dir	Bi-Dir , Uni-Dir, Auto
Top Druck Dir	Bi-Dir , Uni-Dir

Druck Setup	Valid Settings
Font (Andere)	DRAFT , COURIER, OCR-A, OCR-B, QUADRATO
Zeichenteilung	10cpi , 12cpi, 15cpi, 17cpi, 20cpi, PS
Null	0 , Ø
HS-Draft	An , Aus
IBM Set ½	Set 1, Set 2
Land	USA , Frankreich, Deutschland, UK, Dänemark, Schweden, Italien, Spanien, Japan, Norwegen, Dänemark II, Spanien II, Latein-Amerika, Korea, Legal
Zeichensatz	CP 437 , CP 737...
Zeichentabelle	Graphik , Italic

Seiten Setup	Valid Settings
Zeilen Pro Zoll	1, 2, 3, 4, 5, 6 , 7, 8
Endlos Formularlänge	3", 3.5", 11/3", 4", 5", 5.5" 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Endlos Oberer Rand	0/60" ... 10/60" ...99/60"
Endlos Unterer Rand	0/60"... 10/60" ...30/60"
Einzel Formularlänge	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Einzel Oberer Rand	0/60" ... 10/60" ...99/60"
Einzel Unterer Rand	0/60"... 10/60" ...30/60"
Perforationssprung	Ja, Nein
Abreißen	Manuell , 0.5s, 1s, 2s, 3s, 4s, 5s, view1s, view 2s, view 3s
Auswurfrichtung	Vorne , Hinten
Beleg	Aus , An

Schnittstellen Setup	Valid Settings
Schnittstelle	Auto , Parallel, USB
I-PRIME	Ja , Nein
Auto IF Delay	10s , 30s
RAM Nutzung	Ladbarer Font , Puffer
CX Bid	Ja , Nein

Erweitertes Setup	Valid Settings
Auto Laden	Manuell, 0.5s , 1s, 1.5s, 2s
Papierstau Vorbeugung	Ja , Nein
Papierende Detekt	Ja , Nein
Formularlänge Strg	Software , Ignoriere
Zeichenteilung Strg	Software , Ignoriere
Font Strg	Software , Ignoriere
Qualität Strg	Software , Ignoriere
Summer	Ja , Nein

Russian (Россия)

Системные установки	Valid Settings
Эмуляция	ESC/P , IBM 2380 Plus
Авто CR (IBM)	Да, Нет
Авто LF	Да, Нет
Направление печати	Двунаправленная , Однонаправленная, Авто
Направление печати загл. букв	Двунаправленная , Однонаправленная

Настройка печати	Valid Settings
Дополнительный шрифт	DRAFT , COURIER, OCR-A, OCR-B, QUADRATO
знаков/дюйм	10cpi , 12cpi, 15cpi, 17cpi, 20cpi, PS
Перечеркнутый ноль	0 , Ø
Высокая скорость	Вкл , Выкл
Скорость графики	Нормальная , Быстрая, Очень быстрая
Символы IBM 1/2	Уст. 1, Уст. 2
Набор знаков	USA , France, Germany, UK, Д а н и я , Sweden, Italy, Spain, Japan, Н о р в е г и я , Д а н и я II, Spain II, Л а т и н с к а я Америка, Korea, Legal
Кодовая таблица	CP 437 , CP 737...
Таблица знаков	Графика , Курсив

Параметры страницы	Valid Settings
Строк на дюйм	1, 2, 3, 4, 5, 6 , 7, 8
Длина формы для непрерывной бумаги	3", 3.5", 11/3", 4", 5", 5.5" 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Отступ сверху для непрерывной бумаги	0/60" ... 10/60" ...99/60"

Отступ снизу для непрерывной бумаги	0/60" ... 10/60" ... 30/60"
Длина формы для отдельных листов	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Отступ сверху для отдельных листов	0/60" ... 10/60" ... 99/60"
Отступ снизу для отдельных листов	0/60" ... 10/60" ... 30/60"
Пропуск перфорации	Да, Нет
Авто прогон	Ручной , 0.5s, 1s, 2s, 3s, 4s, 5s, view1s, view 2s, view 3s
Выход бумаги	Перед , Зад
Спящий режим	Выкл , Вкл

Установки интерфейса	Valid Settings
Интерфейс	Авто , Паралел, USB
Паралел. порт	Да , Нет
Время ожидания	10s , 30s
Назначение RAM	Пользов. шрифт , Буфер
CX Bid	Да , Нет

Дополнительные установки	Valid Settings
Автозагрузка	Ручная, 0.5s , 1s, 1.5s, 2s
Датчик движ. бумаги	Да , Нет
Датчик конца бумаги	Да , Нет
Контроль длины формы	Програмный , Игнор.
Контроль знаков/дюйм	Програмный , Игнор.
Контроль шрифта	Програмный , Игнор.
Контроль качества	Програмный , Игнор.
Звук	Да , Нет

Italian (Italiano)

Menu Sistema	Valid Settings
Emulazione	ESC/P , IBM 2380 Plus
Auto CR (IBM)	Si, No
Auto LF	Si, No
Direz. Stampa	Bi-Dir , Uni-Dir, Auto
Top Print Dir	Bi-Dir , Uni-Dir

Menù Stampa	Valid Settings
Fonte (Altre)	DRAFT , COURIER, OCR-A, OCR-B, QUADRATO
Spaziatura	10cpi , 12cpi, 15cpi, 17cpi, 20cpi, PS

Zero	0,Ø
HS-Bozza	Si , No
IBM Set 1/2	Set 1, Set 2
Set Carat. Int.	USA , Francia, Germania, Regno Unito, Danimarca, Svezia, Italia, Spagna, Giappone, Norvegia, Danimarca II, Spagna II, America Latina, Korea, Legal
Code Page	CP 437 , CP 737...
Tab.Carattere	Tab. Grafica , Italico

Menù Pagina	Valid Settings
Interlinea	1, 2, 3, 4, 5, 6 , 7, 8
Lungh. Mod. Continuo	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Margine Sup. Continuo	0/60" ... 10/60" ...99/60"
Margine Inf. Continuo	0/60" ... 10/60" ...30/60"
Lunghezza Foglio	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Margine Sup. Foglio	0/60" ... 10/60" ...99/60"
Margine Infer. Foglio	0/60" ... 10/60" ...30/60"
Salto Perforazione	Si, No
Autostrappo	Manuale , 0.5s, 1s, 2s, 3s, 4s, 5s, view1s, view 2s, view 3s
Uscita Carta	Frontale , Posteriore
Scontrino	Si , No

Menù Interfacc.	Valid Settings
Interfaccia	Auto , Parallela, USB
I-PRIME	Si , No
Ritardo Auto IF	10s , 30s
Uso RAM	Fonti utente , Memoria
CX Bid	Si , No

Menù Avanzato	Valid Settings
Autocaricamento	Manuale, 0.5s , 1s, 1.5s, 2s
Previene Inceppamento	Si , No
Rileva Fine Carta	Si , No
Control. Lungh. Carta	Software , Ignora
Control. Spaziatura	Software , Ignora
Controllo Fonti	Software , Ignora
Controllo Qualità	Software , Ignora
Cicalino	Si , No

French (Français)

Setup système	Valid Settings
Emulation	ESC/P , IBM 2380 Plus
RC-Auto (IBM)	Oui, Non
SL-Auto	Oui, Non
Dir Impr.	Bidir , Unidir, Auto
Sup. Dir Impr.	Bidir , Unidir

Setup impression	Valid Settings
Polices (Autres)	DRAFT , COURIER, OCR-A, OCR-B, QUADRATO
Densités caract.	10cpi , 12cpi, 15cpi, 17cpi, 20cpi, PS
Zéro	0 , Ø
HS-Draft	Oui , Non
IBM Set 1/2	Set 1, Set 2
Pays	USA , France, Allemagne, Royaume-Uni, Denmark, Suède, Italie, Espagne, Japon, Norvège, Denmark II, Espagne II, Amerique latine, Korea, Legal
Jeu de caractèr.	CP 437 , CP 737...
Tabl.de caract.	Graphique , Italique

Setup page	Valid Settings
Lignes par pouce	1, 2, 3, 4, 5, 6 , 7, 8
Papier continu Longueur formulaire	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Papier continu Bord supérieure	0/60" ... 10/60" ...99/60"
Papier continu Bord inférieure	0/60" ... 10/60" ...30/60"
Feuille à feuille Longueur formulaire	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Feuille à feuille Bord supérieur	0/60" ... 10/60" ...99/60"
Feuille à feuille Bord inférieur	0/60" ... 10/60" ...30/60"
Sauter la perforation	Oui, Non
Coupe Auto	Manuel , 0.5s, 1s, 2s, 3s, 4s, 5s, view1s, view 2s, view 3s
Direction de sortie	Avant , Arrière
Slip	Arrêt , Marche

Setup interface	Valid Settings
Interface	Auto , Parallel, USB
I-PRIME	Oui , Non
Auto IF Delay	10s , 30s
Utilisation RAM	User Font , Buffer
CX Bid	Oui , Non

Setup élargi	Valid Settings
Chargem. Autom.	Manuel, 0.5s , 1s, 1.5s, 2s
Prévention bourrage	Qui , Non
Détec.fin de pap	Qui , Non
Long.formul.Strg	Software , Ignorer
Densi.caract.Strg	Software , Ignorer
Police Strg	Software , Ignorer
Qualité Strg	Software , Ignorer
Vibrateur	Qui , Non

Spanish (Español)

System Setup	Valid Settings
Emulación	ESC/P , IBM 2380 Plus
Auto CR(IBM)	Si, No
Auto LF	Si, No
ModoImpresión	Bi-Dir , Uni-Dir, Auto
ModoImp.Borde	Bi-Dir , Uni-Dir

Print Setup	Valid Settings
Fuente (Otros)	DRAFT , COURIER, OCR-A, OCR-B, QUADRATO
Tamaño Letra	10cpp , 12cpp, 15cpp, 17cpp, 20cpp, PS
Cero	0 , Ø
Alta Velocidad	Activado , Desactivado
IBM Juego 1/2	Juego 1, Juego 2
Carácter Local	USA , Francia, Alemania, Reino Unido, Dinamarca, Suecia, Italia, España, Japón, Noruega, Dinamarca II, España II, AméricaLatina, Corea, Legal
Tabla Carácter	CP 437 , CP 737...
Tipo Tabla	Tabla Gráfica , Italica

Page Setup	Valid Settings
Lineas Por Pulgada	1, 2, 3, 4, 5, 6 , 7, 8
Tamaño Papel Continuo	3", 3.5", 11/3", 4", 5", 5.5" 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Margen Sup. Pap Cont.	0/60" ... 10/60" ...99/60"
Margen Inf. Pap.Cont.	0/60" ... 10/60" ...30/60"
Tamaño Hojas Sueltas	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Margen Sup. Folios	0/60" ... 10/60" ...99/60"
Margen Inf. Folios	0/60" ... 10/60" ...30/60"
Salto perforación	Si, No
Mover a PosiciónCorte	Manual , 0.5s, 1s, 2s, 3s, 4s, 5s, view1s, view 2s, view 3s

Expulsión de papel	Delante , Atrás
Ajustes	Apagado , Encendido

Interface Setup	Valid Settings
Interface	Auto , Paralelo, USB
I-Prime	Si , No
Auto retraso	10s , 30s
Uso de RAM	Font Usuario , Buffer
CX Bid	Si , No

Advanced Setup	Valid Settings
Auto Carga	Manual, 0.5s , 1s, 1.5s, 2s
Prevención Atascos	Si , No
Detección Fin Papel	Si , No
Control Tamaño Papel	Software , Ignorar
Control Tamaño Letra	Software , Ignorar
Control Fuente	Software , Ignorar
Control Calidad	Software , Ignorar
Alarma	Si , No

Turkish (Türkçe)

Sistem Ayarı	Valid Settings
Benzetim/Emulation	ESC/P , IBM 2380 Plus
Otom. Satırbaşı (IBM)	Evet, Hayır
Otom. Satır besleme	Evet, Hayır
Yazdırma yönü	İki-Yöne , Tek-Yöne, Otom.
Üstte yazdırma yönü	İki-Yöne , Tek-Yöne

Yazdırma Ayarları	Valid Settings
Yazı Tipi (Diğer)	DRAFT , COURIER, OCR-A, OCR-B, QUADRATO
Karakter Sıklığı	10cpi , 12cpi, 15cpi, 17cpi, 20cpi, PS
Sıfır	0 , Ø
Yük.Hız-Taslak	On , Off
IBM Karakter Seti 1/2	Set 1, Set 2
Uluslararası Kar. Seti	Amerika Bir.Devleti , Fransa, Almanya, İngiltere, Danimarka, İsveç, İtalya, İspanya, Japonya, Norveç, Danimarka II, İspanya II, Latin Amerika, Korea, Legal
Kod Sayfası	CP 437 , CP 737...
Karakter Tablosu	Grafik Tablosu , İtalik

Sayfa Düzeni Ayarı	Valid Settings
İnç başına satır	1, 2, 3, 4, 5, 6 , 7, 8
Sürekli-kağıt Form Uzunluğu	3",3.5",11/3", 4", 5", 5.5" 6",7",8", 8.5", 11" , 70/6", 12", 14", 17"
Sürekli-kağıt Üst kenar boşluğu	0/60" ... 10/60" ...99/60"
Sürekli-kağıt Alt kenar boşluğu	0/60"... 10/60" ...30/60"
Tek-kağıt Form uzunluğu	3", 3.5", 11/3", 4", 5", 5.5", 6", 7", 8", 8.5", 11" , 70/6", 12", 14", 17"
Tek-kağıt Üst kenar boşluğu	0/60" ... 10/60" ...99/60"
Tek-kağıt Alt kenar boşluğu	0/60"... 10/60" ...30/60"
Delik atlama	Evet, Hayır
Otom. Koparma	Elle/Manuel , 0.5s, 1s, 2s, 3s, 4s, 5s, view1s, view 2s, view 3s
Çıkartma Yönü	Önden , Arkadan
Makbuz/Fiş	Kapalı , Açık

Arabirim Ayarları	Valid Settings
Arabirim	Otom. , Paralel, USB
I-Prime	Evet , Hayır
Otom. Arabirim gecikmesi	10s , 30s
RAM Kullanımı	Kullanıcı Yazı Tipi , Arabellek
CX Bid	Evet , Hayır

Geliştirilmiş Ayarlar	Valid Settings
Otom. Yükleme	Elle/Manuel , 0.5s , 1s, 1.5s, 2s
Kağıt Sıkışmasını Önleme	Evet , Hayır
Kağıt Sonunu Algılama	Evet , Hayır
Form Uzunl. Kont.	Yazılım , Yoksay
Karak.Sıkl. Kont.	Yazılım , Yoksay
Yazı Tipi Kont.	Yazılım , Yoksay
Kalite Kont.	Yazılım , Yoksay
Alarm Zili	Evet , Hayır

Vertical Alignment

The vertical alignment function is used to resolve any vertical line misalignments in bi-directional printing.

```
| This example shows how printing looks  
| when characters are vertically  
| misaligned. Note that the left  
| margin is not straight.
```

Adjust Vertical Alignment Procedure:

1. Enter the Service Menu by holding down the **【Tear/Off】** and **【LF/FF】** keys while powering up.
2. Load paper.
3. The printer will print as follows:

Service Menu

【LF/FF】 = OK 【Tear/Off】 = Back 【Load/Eject】 = Next 【Online】 = Exit

Current Setting: Vertical Alignment

4. Press **【LF/FF】** key to select the current setting. The printer will print as follows:

Vertical Alignment

【LF/FF】 = OK 【Tear/Off】 = Back 【Load/Eject】 = Next 【Online】 = Exit

Please select Paper Type: Single Ply

For single ply paper, press **【LF/FF】** key to select. For multipart paper, press **【Load/Eject】** key to go to "Multipart", then press **【LF/FF】** key to select.

5. If single ply is selected for paper type, the following will print:

Single Ply

Current Print Mode: LQ

Press **【Load/Eject】** key to scroll to other print modes if required.

6. If LQ is selected, the following will print:

LQ

【LF/FF】 = lower ½ to left 【Load/Eject】 = lower ½ to right 【Online】 = Exit

LQ -2:



Pressing **【LF/FF】** or **【Load/Eject】** key will allow you to adjust the alignment of the vertical lines

printed above.

7. Once the setting which gives the best alignment is found, press **【Online】** key to exit current level. Printer will print "Save settings? Yes". Press **【LF/FF】** key to save setting. Press **【Online】** key a few times until the printer exits the Service Menu.

Change Pin Function

When printer has been used for a long time or the print volume is high, the frequently used print head pins may fail. The Change Pin function enables the user to continue using the printer for a while without compromise in print quality until a suitable print head replacement is available. This function will reduce the print speed if activated.

Change Pin Procedure:

1. Enter the Service Menu by holding down the **【Tear/Off】** and **【LF/FF】** keys while powering up.
2. Load paper.
3. The printer will print as below:

Service Menu

【LF/FF】 = OK 【Tear/Off】 = Back 【Load/Eject】 = Next 【Online】 = Exit

Current Menu: Vertical Alignment

Press **【Load/Eject】** key to scroll to "**Change Pin**", then press **【LF/FF】** key to select. The status of each pin will be printed as follows:

Change Pin

1 ——— Is this pin OK? Yes / No
2 ——— Is this pin OK? Yes / No
3 ——— Is this pin OK? Yes / No
:
9 ——— Is this pin OK? Yes / No

Press **【Load/Eject】** key to choose whether the pin is **Yes** or **No**, then press **【LF/FF】** key to confirm selection.

4. When all the 9 pins are evaluated, press **【Online】**. The printer will print "**Save settings? Yes**". Press **【LF/FF】** key to confirm selection. Press **【Online】** key a few times until the printer exits the Service Menu.

Adjust Physical Margins

Adjust Page Margins allows for adjustments of physical left, top margins and tear-off position. Warning: Once these settings are changed, resetting the printer to factory defaults will not initialize these settings back to the original settings; so it is not advisable to perform this adjustment unless it is absolutely necessary.

Adjust Top Margin Procedure:

1. Enter the Adjust Page Margins function by holding down the **【Load/Eject】** and **【Online】** keys while powering up until the printer beeps twice.
2. Load paper.

3. The printer will print as below:

Adjust Page Margins:

【LF/FF】 = OK 【Tear/Off】 = Back 【Load/Eject】 = Next 【Online】 = Exit

Current Setting: Adjust Fanfold Top Margin

Press **【LF/FF】** key to confirm selection if the paper used is fanfold type. The printer will print as follows:

Procedure:

Install fanfold paper to tractors

【LF/FF】 = Add 【Load/Eject】 = Reduce 【Online】 = Exit

Each step is 0.5 mm

Function of keys:

【Load/Eject】 key: Decrease 0.5mm

【LF/FF】 key: Increase 0.5mm

4. Press **【Online】** key, printer will print **"Save settings? Yes"**. Press **【Load/Eject】** key to choose Yes or No, then press **【LF/FF】** key to confirm selection and exit "Adjust Page Margins" mode by pressing **【Online】**. The print head moves to the left side and the printer beeps twice, then the print head moves to the middle position.

Adjust Left Margin Procedure:

1. Enter the Adjust Page Margins function by holding down the **【Load/Eject】** and **【Online】** keys while powering up until the printer beeps twice.
2. Load paper.

3. The printer will print as below:

Adjust Page Margins:

【LF/FF】 = OK 【Tear/Off】 = Back 【Load/Eject】 = Next 【Online】 = Exit

Current Setting: Adjust Fanfold Top Margin

4. Press **【Load/Eject】** key until the current setting is "Adjust Fanfold Left Margin". Press **【LF/FF】** key to confirm selection if the paper used is fanfold type. The printer will print as follows:

Adjust Fanfold Left Margin 0

5. Press **【Tear Off】** or **【Load/Eject】** to reduce or increase the left margin, respectively, by one unit of 1/60 inch.
6. When satisfied with the left margin setting, press **【Online】** key, printer will print **"Save settings? Yes"**. Press **【Load/Eject】** key to choose Yes or No, then press **【LF/FF】** key to confirm selection and exit "Adjust Page Margins" mode by pressing **【Online】**. The print head moves to the left side and the printer beeps twice, then the print head moves to the middle position.

Adjust Tear-Off Position Procedure:

1. Enter the Adjust Page Margins function by holding down the **【Load/Eject】** and **【Online】** keys while powering up until the printer beeps twice.

2. Load fanfold paper

3. The printer will print as below:

Adjust Page Margins:

【LF/FF】 = OK 【Tear/Off】 = Back 【Load/Eject】 = Next 【Online】 = Exit

Current Setting: Adjust Fanfold Top Margin

4. Press **【Load/Eject】** key until the current setting is "Adjust Tear-Off Position". Press **【LF/FF】** key to confirm selection. The printer will print as follows:

Procedure:

Install fanfold paper to tractors

【LF/FF】 = Add 【Load/Eject】 = Reduce 【Online】 = Exit

Each step is 0.5 mm

Function of keys:

【Load/Eject】 key: Decrease 0.5mm

【LF/FF】 key: Increase 0.5mm

5. Press **【Online】** key, printer will print **"Save settings? Yes"**. Press **【Load/Eject】** key to choose Yes or No, then press **【LF/FF】** key to confirm selection and exit "Adjust Page Margins" mode by pressing **【Online】**. The print head moves to the left side and the printer beeps twice, then the print head moves to the middle position.

Dascom Printer Setup Tool

In the CDROM is a software utility called "Dascom Printer Setup". This application enables a convenient, simple and fast way to control your printer without touching any keys on the operation panel.

1. Start the tool installation by double clicking the "Dascom Printer Setup.exe".
2. Connect the printer to the system using USB cable
3. Power up the printer.
4. Load paper into the printer. (Note: The tool cannot get connected to the printer when the printer is offline.)
5. Run the tool from the Windows Start menu by selecting All Programs, then Dascom Printer Setup, and then Tally Dascom Printer Setup.
6. For more information on how to use the tool, go to the Help menu and select User Guide.

6 Maintenance

Your printer requires very little care. Occasional cleaning and replacement of the ribbon cartridge are all that is required. Cleaning is recommended approximately every 6 months or 300 hours of operation, whichever is sooner. Lubrication of the printer is not usually necessary. If the print head carriage does not move smoothly back and forth, clean the printer in the manner described in this chapter. If the problem continues, contact your dealer to determine whether lubrication may be necessary.



Switch printer off and unplug the power cord from the mains before doing any maintenance work.

Cleaning

The housing and the top cover of the printer help protect it against dust, dirt, and other contaminants. However, paper produces small particles that accumulate inside the printer. This section explains how to clean and vacuum the printer and how to clean the paper bail rollers. It is easier to clean the printer when the cover is open.

Cleaning and Vacuuming the Printer

If the print head carriage does not move smoothly back and forth or paper particles have accumulated in the printer, clean the printer.

To clean and vacuum the printer:

1. Remove any paper from the printer. *Make sure that the power is off, and then disconnect the printer power cord.*
2. Using a soft vacuum brush, vacuum the exterior of the printer. Also vacuum the cut sheet edge.
3. Use a soft, damp cloth to wipe the exterior of the printer, including the cover. A mild detergent may be used. *Do not use solvents, kerosene, or abrasive cleaning materials that may damage the printer.*
4. Open the cover of the printer and remove the ribbon cartridge. Using a soft vacuum brush, gently vacuum the platen, the print head carriage and shaft, and surrounding areas. You can easily slide the print head to the left or right when the power is off. Be careful not to press too hard on the flat head cable that extends from the print head carriage.
5. Re-install the ribbon cartridge.
6. Remove the single sheet feeder and clean the form tractors and the surrounding areas.
7. Re-install the single sheet feeder.

Cleaning the Paper Rollers

Clean the platen and paper bail rollers occasionally or when stains or smudges appear on the paper. Use a mild detergent as appropriate. *Do not use alcohol to clean the platen or the rollers. Alcohol may cause the rubber to harden.*

To clean the rollers and the platen:

1. Apply a small amount of water to a soft cloth. Avoid spilling liquid inside the printer.
2. Place the cloth against the platen and manually rotate the paper feed knob.
3. Repeat this procedure for each roller.

4. To dry the platen, place a dry cloth against the platen and the rollers and manually rotate the paper feed knob.

7 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 cannot resolve, contact your dealer or service partner for assistance.

Print Quality Problems and Solutions

Problem	Solution
Printing is too light or too dark.	<ul style="list-style-type: none">• Make sure that the ribbon cartridge is properly installed and that the ribbon feeds smoothly.• Replace the ribbon if necessary.
Smears and stains appear on the page.	<ul style="list-style-type: none">• Check for ribbon wear. Replace the ribbon if necessary.• Check whether the tip of the print head is dirty. Clean the head with a soft cloth if necessary.• The print head may need to be replaced.
Printing is erratic or the wrong characters are printed. Many “?” or unexpected characters are printed.	<ul style="list-style-type: none">• Make sure that the interface cable is securely connected to both the printer and computer.• Make sure that the printer driver selected in your software is the same as the emulation selected on the printer.• Check the length of the interface cable. (Maximum Parallel & USB: 2 meters)• Try another interface cable.
The page is blank.	<ul style="list-style-type: none">• Make sure that the ribbon cartridge is properly installed.
Printing is vertically misaligned (jagged).	Use the printer's vertical alignment function to check the vertical print alignment. If necessary, adjust the print alignment.
The top margin is wrong.	<ul style="list-style-type: none">• Check the application top margin setting.• Adjust the Top Margin setting in Page Setup menu if necessary.
Lines are double spaced instead of single spaced.	Change the Auto LF setting in the System Setup menu to No.
The printer overprints on the same line.	Change the Auto CR setting in the System Setup menu to No.
The next print line starts where the previous line ended instead of at the left margin.	Change the Auto CR setting in the System Setup menu to Yes.

Paper Handling Problems and Solutions

Problem	Solution
Paper cannot be loaded or fed.	<ul style="list-style-type: none">• Make sure that the paper select lever located on the top right of the printer is set correctly. Move the lever to the front for single sheets or to the rear for continuous forms.• Make sure that the paper covers the paper-out sensor.
Paper jams while loading.	<ul style="list-style-type: none">• Turn off the printer and remove the jammed paper. Remove any obstructions from the paper path.• Make sure that the paper is not folded, creased, or torn.• Make sure that the left and right tractors are set so that the continuous forms are stretched taut.
Paper jams while printing.	<ul style="list-style-type: none">• Turn off the printer and remove the jammed paper. Remove any obstructions from the paper path.• For continuous forms, make sure that the incoming and outgoing paper stacks are correctly placed. Paper should feed straight.
Paper slips off the forms tractors or the perforated holes of the paper tear during printing.	Make sure that the forms tractors are positioned correctly for the width of your paper and that the perforated holes of the paper fit directly over the tractor pins.

Operating Problems and Solutions

Problem	Solution
The power does not turn on.	<ul style="list-style-type: none">• Check whether the mains voltage is correct.• Make sure that the power cord is securely connected to both the printer and the mains power outlet.• Make sure that the power outlet is functional. If not so, use other outlet.• Turn the power off. Wait a minute and then turn the printer on again. If the printer still has no power, contact your dealer.
The printer is on but it will not print.	<ul style="list-style-type: none">• Make sure that the Online indicator is lit.• If you use the interface cable, make sure it is securely connected to both the printer and the computer.• Make sure paper is loaded.• Run the printer Status Page. If printing executes normally, the problem is caused by: the interface, the computer, incorrect printer settings, or incorrect software settings.• Make sure that the printer driver selected in your software is the same as the emulation selected on the printer.

Paper select lever error	If paper is loaded and the paper select lever is moved to the incorrect position, the printer turns offline, and the buzzer sounds continuously. Switch the paper select lever back to its correct position.
--------------------------	--

Printer Failures

A user cannot generally resolve a problem involving defective printer hardware. Power off and on again the printer to recover any fatal error. If the problem cannot be resolved, contact your dealer or service partner.

Error Indications on LEDs

Error Description	Operation Status	Paper Out LED	Online LED	Front Exit LED	Slip LED	Buzzer Sound
Paper jammed	Suspend	Flash	Off	No change	No change	Continuously
Friction feed /Tractor feed	Suspend	Flash	Flash	Off	Off	Continuously
Print head hot	Stop	No change	Flash	No change	No change	×
Carriage initial position	Stop	Flash	Off	Off	Flash	Once
EEPROM	Normal	Off	Flash	Flash	Flash	×

Diagnostic Functions

The printer diagnostic functions are Self-Test page, hex-dump mode and print alignment adjustment.

- Self-Test page: Tells you whether the printer hardware is functioning correctly. If the printer hardware is functional, any problems you are having are probably caused by incorrect printer settings, incorrect software settings, the interface, or the computer.
- HEX-DUMP MODE: Allows you to determine whether the computer is sending the correct commands to the printer, and whether the printer is executing the commands correctly. This function is useful to programmers or others who understand how to interpret hex dumps.
- PRINTING ALIGNMENT ADJUSTMENT: Allows you to check and, if necessary, correct the printer's vertical line print alignment in bi-directional mode.

For details on using these functions, please refer to chapters 4 and 5.

Firmware Update

Sometimes it is necessary update the firmware to solve a problem. The latest firmware file may be obtained from your dealer or downloaded from our website www.dascom.com. Before upgrading firmware, it is strongly recommended to print the Main Menu page to keep a record of the old settings.

Note: Firmware update should only be performed by an authorized service person. We disclaim any responsibility for any damage caused if it is performed by any other person.

To load new firmware, proceed as follows:

1. Switch off the printer. Connect your PC to the **parallel port** on the printer.
2. Press and hold down all 4 keys (S1, S2, S3, S4) while powering on the printer.
3. Alternate flashing of L1 and L2 LEDs indicates printer is ready for firmware update.
4. Go to the DOS prompt window. Copy the firmware file (with extension .MOT) to your printer as follows:

```
COPY /B <filename>.mot PRN
```

5. When new firmware is being received, L1 and L2 will flash together, then followed by L1 and L3 flashing together.

Note: Do not interrupt the downloading process to prevent possible flash memory corruption.

6. When downloading is completed, the carriage returns to home position. Printer initializes normally.

Alternatively, you can use the Firmware Flash Tool version 3.5 or higher which is available in the CDROM and our website as well. Upon starting up the tool, choose the correct file and press "*Update*".

8 General Specifications

Print System	Mono-chrome serial impact dot matrix				
Print Technology	Uni-/bi-directional logic seeking for text and graphics				
Print Speed	Pitch	HS Draft	Draft	LQ	(CPS)
	10 CPI	240	180	45	
	12 CPI	216	216	54	
	15 CPI	180	180	45	
	17.1 CPI	154	154	77	
	20 CPI	180	180	90	
Font Matrix	Pitch	HS Draft	Draft	LQ	(Matrix/DPI)
	10 CPI	9x9/90H	12x9/120H	24x18/240H	
	12 CPI	10x9/120H	10x9/120H	20x18/240H	
	15 CPI	12x9/120H	12x9/120H	24x18/240H	
	17.1 CPI	14x9/120H	14x9/120H	14x18/240H	
	20 CPI	12x9/120H	12x9/120H	12x18/240H	
	Proportional	Nx9/120H	Nx9/120H	Nx18/240H	
Print Head	Number of pins: 9 pins Firing frequency: Normal mode: 1080 Hz Pin diameter: 0.3 mm Life: 400 million strokes/pin @ Draft mode				
Graphics	8-bit mode: 8V x 60H, 72H, 80H, 90H, 120H, 144, 240H (DPI)				
Paper Feed Speed	Continuous feed: 5.0 IPS (inches per second)				
Resolution	240 x 144 DPI maximum				
Printable Columns	Characters per line (CPL) 10 CPI: 80 CPL 12 CPI: 96 CPL 15 CPI: 120 CPL 17 CPI: 137 CPL 20 CPI: 160 CPL				

Built-In Fonts	<p>Bitmap Fonts:</p> <ol style="list-style-type: none"> 1. Draft 10, 12, 15 , 17 CPI, 20 CPI, Proportional 2. Courier 10, 12, 15, 17, 20 CPI, Proportional 3. OCR-A 10, 12, 15, 17, 20 CPI 4. OCR-B 10, 12, 15, 17, 20 CPI 5. Quadrato 10, 12, 15, 17, 20 CPI, Proportional
Barcodes	<ol style="list-style-type: none"> 1. EAN-13 2. EAN-8 3. Interleaved 2 of 5 4. UPC-A 5. UPC-E 6. Code 39 7. Code 128 8. POSTNET 9. Codabar 10. Industrial 2 of 5
Code Pages	<ol style="list-style-type: none"> 1. CP 437 2. CP 737 3. CP 850 4. CP 851 5. CP 852 6. CP 857 7. CP 858 8. CP 860 9. CP 861 10. CP 863 11. CP 1252 12. CP 1253 13. CP 1254 14. 8859-1 15. 8859-1(SAP) 16. 8859-2 17. 8859-5 18. 8859-7 19. 8859-9 20. 8859-15 21. Kamenicky (MJK) 22. Mazovia 23. 856 Bulgaria 24. CP 1250 25. CP 1251 26. BRASCII

Code Pages	27. Abicomp 28. CP 865 29. CP 866 30. CRO-ASCII		
International Character Sets	1. USA 2. France 3. Germany 4. UK 5. Denmark I 6. Sweden 7. Italy 8. Spain I 9. Japan 10. Norway 11. Denmark II 12. Spain II 13. Latin America 14. Korea 15. Legal		
Line Spacing	1/6", 1/8", n/72", n/216", n/360"		
Paper Specifications	Cut Sheet	Fanfold Paper	
		Single ply	Multi-part
	Width: 76.2mm~269.2mm (3.0"~10.6") Length: 81.3mm~363.2mm (3.2"~14.3")	Width: 101.6mm ~254mm (4.0"~10") Length: 101.6mm min.	
	Weight: 52~90g/m ² Thickness: 0.0026"~0.0055" 0.065~0.14mm	Weight: 52~90 g/m ² Thickness: 0.0025"~0.015" 0.065~0.39mm	Weight: 40~58g/m ² Thickness: 0.0025"~0.015" 0.065~0.39mm
Paper Handling	Feeding method: Friction and Tractor Paper path: Cut sheets: Front in, front or rear out Fanfold: Rear in, front out		
Copy Capability	Original + 4 copies		
Emulation	ESC/P, IBM 2380 Plus		
Ribbon Type	Cartridge; Monochrome		

Ribbon Life	7 million characters (rolling Draft 10 CPI)
Input Data Buffer	Up to 64KB
Windows Drivers	Windows Server 2000/2003/2008 Windows Vista Windows XP Windows 98 Windows 7
Interface	Parallel (Bi-directional IEEE-1284 nibble mode) USB 2.0 (B type connector)
Operation Panel	Switches: 4 pcs LED indicators: 4 pcs
Noise Level	< 55 dBA in 10CPI draft ASCII (Conforming to ISO7779)
Ambient Conditions	Temperature Operating: +5 to +40 °C. Stand-by: -20 to +55 °C Humidity Operating: 10 to 80%RH (No condensation) Stand-by: 5 to 85%RH (No condensation)
Dimensions	420mm(W)×342mm (D)×202mm (H)
Weight	5.5 kg
Power Supply	Unit type: Switching mode power supply Power cord: Non-detachable Voltage rating: AC 230V (180V~264V), 50Hz to 60Hz AC 100V to 240V, 47Hz to 63Hz (factory option) Stand by: Less than 7.5W ESD: Comply with IEC801-2 Contact discharge: 4kV Air discharge: 8kV
Power consumption	24.8 W (Test pattern is specified in standard ISO/IEC 10561.)
MTTR	< 20 minutes
MTBF	10000 hours @ 25% duty cycle
Certification	CE, ES, ISTA, RoHS, WEEE, REACH, ChemVerbotsV, Microsoft Certified for Windows 7

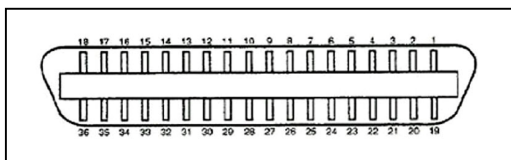
9 Interfaces

Parallel Interface

Parallel Interface Pin Assignment

Pin	Signal Name	Signal Transmission
1	STROBE	Printer ← Computer
2~9	DATA	Printer ← Computer
10	ACK	Printer → Computer
11	BUSY	Printer → Computer
12	PE	Printer → Computer
13	SELECT	Printer → Computer
14	AFXT	Printer ← Computer
15	Unused	Unused
16	GND	Printer ↔ Computer
17	F-GND	Printer ↔ Computer
18	+5V	Printer → Computer
19~30	GND	Printer ↔ Computer
31	INIT	Printer ← Computer
32	FAULT	Printer → Computer
33	GND	Printer ↔ Computer
34	Unused	Unused
35	FUSE	Printer → Computer
36	SLCTIN	Printer ← Computer

Parallel Interface Connector Diagram



Note: Any external devices connected to the parallel port should not draw current exceeding 200 mA from pin 18; otherwise it may affect the printer operation.

USB Interface

The USB interface conforms to the Universal Serial Bus 2.0 Specifications. It supports the Full Speed mode at 12 Mbps. It uses the “B” type USB connector.

10 Character sets & Code Pages

Character Sets

Standard Character Set 1

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL		SP	0	@	P	€	p	NUL		0	@	P	€	p	
1		DC1	!	1	A	Q	a	q		DC1	!	1	A	Q	a	q
2		DC2	"	2	B	R	b	r		DC2	"	2	B	R	b	r
3		DC3	#	3	C	S	c	s		DC3	#	3	C	S	c	s
4		DC4	\$	4	D	T	d	t		DC4	\$	4	D	T	d	t
5			%	5	E	U	e	u			%	5	E	U	e	u
6			&	6	F	V	f	v			&	6	F	V	f	v
7	BEL		'	7	G	W	g	w	BEL		'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x	BS	CAN	(	8	H	X	h	x
9	HT		)	9	I	Y	i	y	HT		)	9	I	Y	i	y
A	LF		*	:	J	Z	j	z	LF		*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	{	VT	ESC	+	;	K	[	k	{
C	FF	FS	,	<	L	\	l	|	FF	FS	,	<	L	\	l	|
D	CR		-	=	M	]	m	}	CR		-	=	M	]	m	}
E	SO		.	>	N	^	n	~	SO		.	>	N	^	n	~
F	SI		/	?	O	_	o	|	SI		/	?	O	_	o	DEL

Standard Character Set 2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL		SP	0	@	P	€	p	À	Š		0	@	P	€	p
1		DC1	!	1	A	Q	a	q	É	ß	!	1	A	Q	a	q
2		DC2	"	2	B	R	b	r	Ù	£	"	2	B	R	b	r
3		DC3	#	3	C	S	c	s	Ò	¤	#	3	C	S	c	s
4		DC4	\$	4	D	T	d	t	Í	Ø	\$	4	D	T	d	t
5			%	5	E	U	e	u	•	ª	%	5	E	U	e	u
6			&	6	F	V	f	v	£	™	&	6	F	V	f	v
7	BEL		'	7	G	W	g	w	Ì	ˆ	'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x	¿	Ø	(	8	H	X	h	x
9	HT		)	9	I	Y	i	y	ˆ	Ù	)	9	I	Y	i	y
A	LF		*	:	J	Z	j	z	ˆ	ˆ	*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	{	ˆ	ˆ	+	;	K	[	k	{
C	FF	FS	,	<	L	\	l	|	ˆ	ˆ	,	<	L	\	l	|
D	CR		-	=	M	]	m	}	ˆ	ˆ	-	=	M	]	m	}
E	SO		.	>	N	^	n	~	ˆ	ˆ	.	>	N	^	n	~
F	SI		/	?	O	_	o	|	ˆ	ˆ	/	?	O	_	o	DEL

IBM Character Set 1

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL		SP	0	@	P	'	p	NUL		á	⌘	⌘	⌘	α	=
1		DC1	!	1	A	Q	a	q		DC1	í	⌘	⌘	⌘	β	±
2		DC2	"	2	B	R	b	r		DC2	ó	⌘	⌘	⌘	Γ	≥
3		DC3	#	3	C	S	c	s		DC3	ú	⌘	⌘	⌘	π	≤
4		DC4	\$	4	D	T	d	t		DC4	ñ	⌘	⌘	⌘	Σ	ƒ
5			%	5	E	U	e	u			Ñ	⌘	⌘	⌘	σ	Ƶ
6			&	6	F	V	f	v			ä	⌘	⌘	⌘	μ	+
7	BEL		'	7	G	W	g	w	BEL		ö	⌘	⌘	⌘	τ	≈
8	BS	CAN	(	8	H	X	h	x	BS	CAN	¿	⌘	⌘	⌘	Φ	°
9	HT		)	9	I	Y	i	y	HT		ƒ	⌘	⌘	⌘	Θ	•
A	LF		*	:	J	Z	j	z	LF		¬	⌘	⌘	⌘	Ω	.
B	VT	ESC	+	;	K	[	k	{	VT	ESC	½	⌘	⌘	⌘	δ	√
C	FF	FS	,	<	L	\	l	|	FF	FS	¼	⌘	⌘	⌘	∞	∞
D	CR		-	=	M	]	m	}	CR		ı	⌘	⌘	⌘	Ø	₂
E	SO		.	>	N	^	n	~	SO		«	⌘	⌘	⌘	ε	■
F	SI		/	?	O	_	o	|	SI		»	⌘	⌘	⌘	∩	SP

IBM Character Set 2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL		SP	0	@	P	'	p	Ç	É	á	⌘	⌘	⌘	α	≡
1		DC1	!	1	A	Q	a	q	ü	æ	í	⌘	⌘	⌘	β	±
2		DC2	"	2	B	R	b	r	é	Æ	ó	⌘	⌘	⌘	Γ	≥
3	♥	DC3	#	3	C	S	c	s	â	ø	ú	⌘	⌘	⌘	π	≤
4	♦	DC4	\$	4	D	T	d	t	ä	ö	ñ	⌘	⌘	⌘	Σ	ƒ
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	⌘	⌘	⌘	σ	Ƶ
6	♣		&	6	F	V	f	v	â	û	ä	⌘	⌘	⌘	μ	+
7	BEL		'	7	G	W	g	w	ç	ù	ö	⌘	⌘	⌘	τ	≈
8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	⌘	⌘	⌘	Φ	°
9	HT		)	9	I	Y	i	y	ë	Ö	ƒ	⌘	⌘	⌘	Θ	•
A	LF		*	:	J	Z	j	z	è	Ü	¬	⌘	⌘	⌘	Ω	.
B	VT	ESC	+	;	K	[	k	{	ï	ø	½	⌘	⌘	⌘	δ	√
C	FF	FS	,	<	L	\	l	|	î	£	¼	⌘	⌘	⌘	∞	∞
D	CR		-	=	M	]	m	}	ì	¥	ı	⌘	⌘	⌘	Ø	₂
E	SO		.	>	N	^	n	~	Ä	Pt	«	⌘	⌘	⌘	ε	■
F	SI		/	?	O	_	o	|	Å	f	»	⌘	⌘	⌘	∩	SP

International character sets

n	Set name	Dec Hex	35 23	36 24	64 40	91 5B	92 5C	93 5D	94 5E	96 60	123 7B	124 7C	125 7D	126 7E
0	USA		#	\$	@	[	\	\]	^	`	{	|	}	~
1	France		#	\$	à	°	ç	§	^	`	é	ù	è	¨
2	Germany		#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
3	UK		£	\$	@	[	\	\]	^	`	{	|	}	~
4	Denmark I		#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
5	Sweden		#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
6	Italy		#	\$	@	°	\	é	^	ù	à	ò	è	ì
7	Spain I	Pt	\$	@	í	Ñ	¿	^	`	¨	ñ	}	~	
8	Japan (Eng)		#	\$	@	[	¥	]	^	`	{	|	}	~
9	Norway		#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
10	Denmark II		#	\$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
11	Spain II		#	\$	á	í	Ñ	¿	é	`	í	ñ	ó	ú
12	Lat America		#	\$	á	í	Ñ	¿	é	ü	í	ñ	ó	ú
13	Korea		#	\$	@	[	₩	]	^	`	{	|	}	~
64	Legal		#	\$	§	°	'	"	¶	`	©	®	†	™

International Character Set Commands

Country	Command
USA	<ESC>"R"CHR\$ (0)
France	<ESC>"R"CHR\$ (1)
Germany	<ESC>"R"CHR\$ (2)
UK	<ESC>"R"CHR\$ (3)
Denmark1	<ESC>"R"CHR\$ (4)
Sweden	<ESC>"R"CHR\$ (5)
Italy	<ESC>"R"CHR\$ (6)
Spain1	<ESC>"R"CHR\$ (7)
Japan	<ESC>"R"CHR\$ (8)
Norway	<ESC>"R"CHR\$ (9)
Denmark2	<ESC>"R"CHR\$ (10)
Spain2	<ESC>"R"CHR\$ (11)
Lat America	<ESC>"R"CHR\$ (12)
Korea	<ESC>"R"CHR\$ (13)
Legal	<ESC>"R"CHR\$ (64)

Character Tables

Italic

	0	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
0				0	@	P	'	p			0	@	P	'	p	
1			!	1	A	Q	a	q			!	1	A	Q	a	q
2			"	2	B	R	b	r			"	2	B	R	b	r
3			#	3	C	S	c	s			#	3	C	S	c	s
4			\$	4	D	T	d	t			\$	4	D	T	d	t
5			%	5	E	U	e	u			%	5	E	U	e	u
6			&	6	F	V	f	v			&	6	F	V	f	v
7			'	7	G	W	g	w			'	7	G	W	g	w
8			(	8	H	X	h	x			(	8	H	X	h	x
9			)	9	I	Y	i	y			)	9	I	Y	i	y
A			*	:	J	Z	j	z			*	:	J	Z	j	z
B			+	:	K	[	k	{			+	:	K	[	k	{
C			,	<	L	\	l	;			,	<	L	\	l	;
D			-	=	M	]	m	}			-	=	M	]	m	}
E			.	>	N	^	n	~			.	>	N	^	n	~
F			/	?	O	-	o				/	?	O	-	o	

Graphic 1

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL			0	@	P	`	p	Ç	É	á	||	L	⌚	α	≡
1		DC1	!	1	A	Q	a	q	û	æ	í	|||	⊥	⌞	β	±
2		DC2	*	2	B	R	b	r	é	Æ	ó	|||	⌞	π	Γ	≥
3		DC3	#	3	C	S	c	s	à	ô	ú	|	⌞	⌚	π	≤
4		DC4	\$	4	D	T	d	t	ä	ö	ñ	⌞	—	⌞	Σ	∫
5			%	5	E	U	e	u	à	ò	Ñ	⌞	⌞	⌞	σ	∫
6			&	6	F	V	f	v	ä	û	æ	||	⌞	π	μ	÷
7	BEL		'	7	G	W	g	w	ç	ù	ø	π	||	||	τ	≈
8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	⌞	⌞	⌞	φ	°
9	HT	EM	)	9	I	Y	i	y	ë	Ö	¬	||	⌞	⌞	θ	•
A	LF		*	:	J	Z	j	z	è	Ü	¬	||	⌚	⌞	Ω	•
B	VT	ESC	+	;	K	[	k	{	ï	ø	½	⌞	⌞	⌚	δ	√
C	FF	FS	,	<	L	\	l	|	í	£	¼	⌚	||	⌚	∞	n
D	CR		-	=	M	]	m	}	ı	¥	ı	⌚	=	⌚	φ	²
E	SO		.	>	N	^	n	~	Ä	℞	«	⌞	||	⌚	ε	■
F	SI		/	?	O	_	o	DEL	À	f	*	⌞	⌚	⌚	∩	

Graphic 2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL			0	@	P	`	p	NUL		á	||	L	⌚	α	≡
1		DC1	!	1	A	Q	a	q		DC1	í	|||	⊥	⌞	β	±
2		DC2	*	2	B	R	b	r		DC2	ó	|||	⌞	π	Γ	≥
3		DC3	#	3	C	S	c	s		DC3	ú	|	⌞	⌚	π	≤
4		DC4	\$	4	D	T	d	t		DC4	ñ	⌞	—	⌞	Σ	∫
5			%	5	E	U	e	u			Ñ	⌞	⌞	⌞	σ	∫
6			&	6	F	V	f	v			æ	||	⌞	π	μ	÷
7	BEL		'	7	G	W	g	w	BEL		ø	π	||	||	τ	≈
8	BS	CAN	(	8	H	X	h	x	BS	CAN	¿	⌞	⌞	⌞	φ	°
9	HT	EM	)	9	I	Y	i	y	HT	EM	¬	||	⌞	⌞	θ	•
A	LF		*	:	J	Z	j	z	LF		¬	||	⌚	⌞	Ω	•
B	VT	ESC	+	;	K	[	k	{	VT	ESC	½	⌞	⌞	⌚	δ	√
C	FF	FS	,	<	L	\	l	|	FF	FS	¼	⌚	||	⌚	∞	n
D	CR		-	=	M	]	m	}	CR		ı	⌚	=	⌚	φ	²
E	SO		.	>	N	^	n	~	SO		«	⌞	||	⌚	ε	■
F	SI		/	?	O	_	o	DEL	SI		*	⌞	⌚	⌚	∩	

Code Page Commands

Note: Not all of the code pages listed below are available in this printer. Please refer to Chapter 8 Specifications to find out what are the available selections.

Code Page	ESC R Parameter
CRO-ASCII	3C
Arabic Farsi	96
Arabic Urdu	97
Greek DEC	46
Greek ELOT 928	6C
CP437 Latin US	80
CP737 Greek	93
CP850 Latin 1	82
CP851 Greek	88
CP852 Latin 2	87
CP857 Turkish	8D
CP858 (IBM with €)	9E
CP860 Portugal	84
CP861 Icelandic	94
CP863 French Canada	85
CP864 Arabic	8C
CP864 Arab. Extended	95
CP865 Nordic	86
CP866 Cyrillic	8E
CP866 Bulgaria	9D
Siemens Turkish	9B
DEC Turkish	9C
CP1250 Win Latin 2	70
CP1251 Win Cyrillic	71
CP1252 Win Latin 1	72
CP1253 Win Greek	73
CP1254 Win Turkish	74
8859-1 Latin 1	25
8859-1 Latin 1 (SAP)	2B
8859-2 Latin 2	26
8859-5 Cyrillic	2A
8859-7 Greek	2D
8859-9 Turkish	2E
8859-15 Latin 9 (Euro)	2F
BRASCII	6D

Abicomp	6E
Roman 8	4D
Coax/Twinax(Hebrew)	4F
New-437 (Hebrew)	81
New-DIG 850 (Hebr.)	83
Old-Code 860 (Hebr.)	98
Flarro 863 (Hebrew)	99
Table 865 (Hebrew)	9A
CP775 Baltic	A6
CP1257 Baltic	77
Mazovia (Poland)	92
Kamenicky (Czech)	91
CP866 Ukraine	8F
CP866 Kazakhstan	90

Code Page Tables

CP 437 (US)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Ç	É	Á	⌘	⌘	⌘	α	≡
1			!	1	A	Q	a	q	ü	æ	í	⌘	⌘	⌘	β	±
2			"	2	B	R	b	r	é	Æ	ó	⌘	⌘	⌘	Γ	≥
3			#	3	C	S	c	s	â	ô	ú	|	|	|	π	≤
4			\$	4	D	T	d	t	ä	ö	ñ	|	—	⌘	Σ	∫
5			%	5	E	U	e	u	à	ò	ñ	|	+	⌘	σ	∫
6			&	6	F	V	f	v	â	û	ä	|	|	⌘	μ	÷
7			'	7	G	W	g	w	ç	ù	ó	⌘	⌘	⌘	τ	≈
8			(	8	H	X	h	x	ê	ÿ	¿	|	⌘	⌘	Φ	°
9			)	9	I	Y	i	y	ë	ÿ	¿	|	⌘	⌘	Θ	•
a			*	:	J	Z	j	z	è	Ü	¿	|	⌘	⌘	Ω	•
b			+	;	K	[	k	{	ï	Φ	½	|	⌘	⌘	δ	√
c			,	<	L	\	l	|	î	£	¼	|	⌘	⌘	∞	n
d			-	=	M	]	m	}	ì	¥	;	|	=	⌘	ø	²
e			.	>	N	^	n	~	À	Ⓜ	«	|	⌘	⌘	ε	■
f			/	?	O	_	o		Å	ƒ	»	|	±	⌘	∅	

CP 737 Greek

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Α	Ρ	ι	⌘	⌘	⌘	ω	∅
1			!	1	A	Q	a	q	Β	Σ	κ	⌘	⌘	⌘	ά	±
2			"	2	B	R	b	r	Γ	Τ	η	⌘	⌘	⌘	έ	≥
3			#	3	C	S	c	s	Δ	Υ	μ	|	|	|	ή	≤
4			\$	4	D	T	d	t	Ε	Φ	ν	|	—	⌘	ϊ	∫
5			%	5	E	U	e	u	Ζ	Χ	ξ	|	+	⌘	ί	∫
6			&	6	F	V	f	v	Η	Ψ	ο	|	|	⌘	ό	÷
7			'	7	G	W	g	w	Θ	Ω	π	⌘	⌘	⌘	ύ	≈
8			(	8	H	X	h	x	Ι	α	ρ	|	⌘	⌘	ÿ	°
9			)	9	I	Y	i	y	Κ	β	σ	|	⌘	⌘	ώ	£
a			*	:	J	Z	j	z	Λ	χ	ς	|	⌘	⌘	Α	•
b			+	;	K	[	k	{	Μ	δ	τ	|	⌘	⌘	Ε	√
c			,	<	L	\	l	|	Ν	ε	υ	|	⌘	⌘	Η	n
d			-	=	M	]	m	}	Ξ	ζ	φ	|	=	⌘	Ι	²
e			.	>	N	^	n	~	Ο	η	ξ	|	⌘	⌘	∅	■
f			/	?	O	_	o		Π	θ	ψ	|	±	⌘	Υ	

CP 850 (Multilingual)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Ç	É	Á	⌘	Ł	ø	ó	-
1			!	1	A	Q	a	q	ü	æ	í	⌘	±	Ð	ß	±
2			"	2	B	R	b	r	é	Æ	ó	⌘	⌘	Ê	Ô	=
3			#	3	C	S	c	s	â	ô	ú	|	†	Ë	Ò	¾
4			\$	4	D	T	d	t	ä	ö	ñ	†	—	È	Ö	¶
5			%	5	E	U	e	u	à	ò	Ñ	Á	†	ı	Õ	§
6			&	6	F	V	f	v	ä	û	ä	Ä	ä	í	µ	÷
7			'	7	G	W	g	w	ç	ù	ó	À	Ä	î	þ	¸
8			(	8	H	X	h	x	ê	ÿ	ı	©	£	ï	Ɔ	°
9			)	9	I	Y	i	y	ë	ÿ	©	⌘	⌘	ı	Ú	ˆ
a			*	:	J	Z	j	z	è	Ü	ˆ	||	£	ı	Ů	˙
b			+	;	K	[	k	{	ı	ø	½	⌘	⌘	■	Ů	1
c			,	<	L	\	l	|	î	£	¼	⌘	⌘	■	ý	3
d			-	=	M	]	m	}	ì	Ø	ı	Φ	=	ı	Ÿ	2
e			.	>	N	^	n	~	À	x	«	¥	⌘	İ	—	■
f			/	?	O	_	o		Å	f	»	ı	¤	■	,	

CP 851

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Ç	İ	ı	⌘	Ł	Ť	Ç	-
1			!	1	A	Q	a	q	Ü	æ	ı	⌘	±	Ÿ	ŋ	±
2			"	2	B	R	b	r	é	Ŧ	ú	⌘	⌘	Φ	θ	υ
3			#	3	C	S	c	s	â	ô	Ü	|	†	X	ı	Φ
4			\$	4	D	T	d	t	ä	ö	À	†	—	Ψ	κ	x
5			%	5	E	U	e	u	ä	Ÿ	B	K	†	Ŧ	ŋ	§
6			&	6	F	V	f	v	À	Ů	Γ	Λ	Π	α	µ	ψ
7			'	7	G	W	g	w	ç	ù	Δ	M	P	β	ν	¸
8			(	8	H	X	h	x	ê	Ŧ	E	N	£	γ	ξ	°
9			)	9	I	Y	i	y	ë	Ŧ	Z	⌘	⌘	ı	ο	ˆ
a			*	:	J	Z	j	z	è	Ŧ	H	||	£	ı	π	ω
b			+	;	K	[	k	{	ı	á	½	⌘	⌘	■	ρ	Ů
c			,	<	L	\	l	|	ı	£	θ	⌘	⌘	■	σ	Ů
d			-	=	M	]	m	}	E	é	I	≡	=	ø	ς	ω
e			.	>	N	^	n	~	À	ή	«	Ŧ	⌘	ε	τ	■
f			/	?	O	_	o		H	ı	»	ı	Σ	■		

CP 852 (Eastern Europe)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Ç	É	Á	⌘	Ł	đ	Ó	-
1		!	1	A	Q	a	q	ü	Ł	í	⌘	⌘	Ł	Đ	ß	~
2		"	2	B	R	b	r	é	í	ó	⌘	⌘	Ł	Đ	Ö	„
3		#	3	C	S	c	s	â	ô	ú	|	|	Ł	Đ	Ń	~
4		\$	4	D	T	d	t	ä	ö	Ä	|	-	Ł	đ	ń	~
5		%	5	E	U	e	u	û	Ł	a	Á	+	Ł	Ń	ň	š
6		&	6	F	V	f	v	ć	ł	ž	Ā	Ā	Ł	í	š	÷
7		'	7	G	W	g	w	ç	š	ž	Ē	ă	Ł	ı	š	„
8		(	8	H	X	h	x	ł	ś	Ę	ş	Ł	Ł	ě	Ř	°
9		)	9	I	Y	i	y	ě	Ů	e	Ł	Ł	Ł	Ł	Ú	~
a		*	:	J	Z	j	z	ő	ű	Ł	Ł	Ł	Ł	Ł	ř	.
b		+	;	K	[	k	{	õ	ť	ž	Ł	Ł	Ł	Ł	Ů	Ů
c		,	<	L	\	l	|	ı	č	Ł	Ł	Ł	Ł	Ł	ý	Ř
d		-	=	M	]	m	}	ž	Ł	ş	ž	=	Ł	Y	ř	
e		.	>	N	^	n	~	Ā	x	«	ž	Ł	Ł	Ů	Ł	■
f		/	?	O	_	o		ć	č	»	Ł	Ł	Ł	Ł	'	

CP 857 (Turkish)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Ç	É	Á	⌘	Ł	đ	Ó	-
1		!	1	A	Q	a	q	ü	æ	í	⌘	⌘	Ł	đ	ß	±
2		"	2	B	R	b	r	é	Æ	ó	⌘	⌘	Ł	Đ	Ö	
3		#	3	C	S	c	s	â	ô	ú	|	|	Ł	Đ	Ö	¼
4		\$	4	D	T	d	t	ä	ö	ñ	|	-	Ł	đ	ö	¶
5		%	5	E	U	e	u	ä	ö	ñ	Á	+			Ö	š
6		&	6	F	V	f	v	ä	ü	ğ	Ā	ā	Ł	ı	µ	÷
7		'	7	G	W	g	w	ç	û	ğ	Ā	Ā	Ł	ı		„
8		(	8	H	X	h	x	ē	İ	ı	©	Ł	Ł	ı	x	°
9		)	9	I	Y	i	y	ē	Ů	©	Ł	Ł	Ł	Ł	Ú	~
a		*	:	J	Z	j	z	ē	Ü	Ł	Ł	Ł	Ł	Ł	Ů	.
b		+	;	K	[	k	{	ÿ	ø	Ł	Ł	Ł	Ł	Ł	Ů	ı
c		,	<	L	\	l	|	ı	£	Ł	Ł	Ł	Ł	Ł	ı	³
d		-	=	M	]	m	}	ı	Ø	ı	©	=	Ł	ı	y	²
e		.	>	N	^	n	~	Ā	ş	«	¥	Ł	Ł	İ	-	■
f		/	?	O	_	o		Ā	ş	»	Ł	Ł	Ł	Ł	'	

CP 858

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p				á	⌘	L	ó	ó	-
1			!	1	A	Q	a	q			í	⌘	⊥	Ð	β	±
2			"	2	B	R	b	r			ó	⌘	T	Ê	Ô	=
3			#	3	C	S	c	s			ú	|	⊥	Ë	Ò	¾
4			\$	4	D	T	d	t			ñ	⊥	-	È	õ	¶
5			%	5	E	U	e	u			ñ	Á	+	€	Ö	§
6			&	6	F	V	f	v			ä	Â	ä	í	μ	÷
7			'	7	G	W	g	w			ó	À	À	î	þ	¸
8			(	8	H	X	h	x			¿	©	⌘	Ï	Þ	°
9			)	9	I	Y	i	y			®	⌘	⌘	¸	Ú	¨
a			*	:	J	Z	j	z			¬	⌘	⌘	Γ	Ó	·
b			+	;	K	[	k	{			½	⌘	⌘	■	Ü	¹
c			,	<	L	\	l	|			¼	⌘	⌘	■	Ý	³
d			-	=	M	]	m	}			ı	¢	=	ı	Ÿ	²
e			.	>	N	^	n	~			«	¥	⌘	ı	—	■
f			/	?	O	_	o				»	⌘	¤	■	,	

CP 860 (Portugal)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	É	Á	⌘	L	⌘	α	≡	
1			!	1	A	Q	a	q	ü	À	í	⌘	⊥	⌘	β	±
2			"	2	B	R	b	r	é	Ê	ó	⌘	T	π	Γ	≥
3			#	3	C	S	c	s	â	ô	ú	|	⊥	⌘	π	≤
4			\$	4	D	T	d	t	ã	õ	ñ	⊥	-	⌘	Σ	|
5			%	5	E	U	e	u	à	ò	ñ	⊥	+	⌘	σ	∫
6			&	6	F	V	f	v	Á	Ó	ä	⌘	⊥	⌘	μ	÷
7			'	7	G	W	g	w	ç	ù	ó	⌘	⌘	⌘	τ	≈
8			(	8	H	X	h	x	ê	ï	¿	⌘	⌘	⌘	Φ	°
9			)	9	I	Y	i	y	ê	ö	ò	⌘	⌘	⌘	Θ	·
a			*	:	J	Z	j	z	è	Û	¬	⌘	⌘	⌘	Ω	·
b			+	;	K	[	k	{	í	¢	½	⌘	⌘	■	δ	∫
c			,	<	L	\	l	|	ô	£	¼	⌘	⌘	■	∞	n
d			-	=	M	]	m	}	ì	ù	ı	⌘	=	■	ø	z
e			.	>	N	^	n	~	Ã	¤	«	⌘	⌘	■	ε	■
f			/	?	O	_	o		Â	ó	»	⌘	⌘	■	ñ	

CP 861 (Iceland)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	É	Á	☒	⊥	⊥	α	≡	
1		!	1	A	Q	a	q	ü	æ	í	☒	⊥	⊥	β	±	
2		"	2	B	R	b	r	é	Æ	ó	☒	⊥	⊥	Γ	≥	
3		#	3	C	S	c	s	â	ô	ú	|	|	|	π	≤	
4		\$	4	D	T	d	t	ä	ö	Á	⊥	—	⊥	Σ	|	
5		%	5	E	U	e	u	à	þ	f	⊥	⊥	⊥	σ	↓	
6		&	6	F	V	f	v	å	û	Ó	⊥	⊥	⊥	μ	÷	
7		'	7	G	W	g	w	ç	Ý	Ú	⊥	⊥	⊥	τ	≈	
8		(	8	H	X	h	x	ê	ý	í	⊥	⊥	⊥	Φ	°	
9		)	9	I	Y	i	y	ë	Ö	í	⊥	⊥	⊥	θ	.	
a		*	:	J	Z	j	z	è	Ü	í	⊥	⊥	⊥	Ω	.	
b		+	;	K	[	k	{	Ð	ø	½	⊥	⊥	⊥	δ	√	
c		,	<	L	\	l	|	ð	£	¼	⊥	⊥	⊥	∞	n	
d		-	=	M	]	m	}	Þ	Ø	;	⊥	=	⊥	∅	²	
e		.	>	N	^	n	~	À	℥	«	⊥	⊥	⊥	ε	■	
f		/	?	O	_	o		Å	f	»	⊥	⊥	⊥	∩		

CP 863 (French-Canadian)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	É	!	☒	⊥	⊥	α	≡	
1		!	1	A	Q	a	q	ü	È	'	☒	⊥	⊥	β	±	
2		"	2	B	R	b	r	é	Ê	ó	☒	⊥	⊥	Γ	≥	
3		#	3	C	S	c	s	â	ô	ú	|	|	|	π	≤	
4		\$	4	D	T	d	t	Â	Ë	"	⊥	—	⊥	Σ	|	
5		%	5	E	U	e	u	à	ï	.	⊥	⊥	⊥	σ	↓	
6		&	6	F	V	f	v	¶	û	³	⊥	⊥	⊥	μ	÷	
7		'	7	G	W	g	w	ç	ù	—	⊥	⊥	⊥	τ	≈	
8		(	8	H	X	h	x	ê	¶	î	⊥	⊥	⊥	Φ	°	
9		)	9	I	Y	i	y	ë	Ô	í	⊥	⊥	⊥	θ	.	
a		*	:	J	Z	j	z	è	Ü	í	⊥	⊥	⊥	Ω	.	
b		+	;	K	[	k	{	ï	¶	½	⊥	⊥	⊥	δ	√	
c		,	<	L	\	l	|	î	£	¼	⊥	⊥	⊥	∞	n	
d		-	=	M	]	m	}	—	Û	¾	⊥	=	⊥	∅	²	
e		.	>	N	^	n	~	À	Ô	«	⊥	⊥	⊥	ε	■	
f		/	?	O	_	o		§	f	»	⊥	⊥	⊥	∩		

CP 864 Arabic

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	9	3		.	4	>	-	=
1			!	1	A	Q	a	q	.	∞	-	l	z	ج	ب	"
2			"	2	B	R	b	r	.	φ	1	Γ	1	ج	ب	ع
3			#	3	C	S	c	s	√	±	£	Γ	1	ج	ب	د
4			\$	4	D	T	d	t	⌘	½	¤	E	9	ج	ب	4
5			%	5	E	U	e	u	-	‡	1	0	8	د	و	6
6			&	6	F	V	f	v	|	≈		7	ج	ب	ل	5
7			'	7	G	W	g	w	+	«		U	l	ب	ا	ك
8			(	8	H	X	h	x	†	»	1	Π	→	ب	9	3
9			)	9	I	Y	i	y	T	9	†	9	ب	ك	6	8
a			*	:	J	Z	j	z	‡	9	ج	ب	ل	ك	†	9
b			+	;	K	[	k	{	⊥		ج	ب	ل	ل	ب	ج
c			,	<	L	\	l	!	7		.	ج	ب	ل	ك	د
d			-	=	M	]	m	}	Γ	9	2	ج	ب	ل	÷	8
e			.	>	N	^	n	~	1	9	2	ج	ب	ل	x	9
f			/	?	O	_	o		1	1	2	ج	ب	ل	5	4

CP 864 Arabic Extended

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	°	±		.	9	>	-	=
1			!	1	A	Q	a	q	£	∞	-	l	z	ج	ب	"
2			"	2	B	R	b	r	9	→	1	Γ	1	ج	ب	ع
3			#	3	C	S	c	s	9	°	£	Γ	1	ج	ب	د
4			\$	4	D	T	d	t	⌘	½	¤	E	9	ج	ب	4
5			%	5	E	U	e	u	✓	∞	1	0	8	د	و	6
6			&	6	F	V	f	v	⊥	°		7	ج	ب	ل	5
7			'	7	G	W	g	w	°	«		U	l	ب	ا	ك
8			(	8	H	X	h	x	⌘	»	1	Π	→	ب	9	3
9			)	9	I	Y	i	y	✓	9	†	9	ب	ك	6	8
a			*	:	J	Z	j	z	°	9	ج	ب	ل	ك	†	9
b			+	;	K	[	k	{	✓	9	ج	ب	ل	ل	ب	ج
c			,	<	L	\	l	!	7	9	.	ج	ب	ل	ك	د
d			-	=	M	]	m	}	°	9	2	ج	ب	ل	÷	8
e			.	>	N	^	n	~	°	9	2	ج	ب	ل	x	9
f			/	?	O	_	o		°	1	2	ج	ب	ل	5	4

CP 865 (Norway)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Ç	É	á	☼	Ł	„	α	≡
1		!	1	A	Q	a	q	ü	æ	í	í	☼	Ł	ŧ	β	±
2		"	2	B	R	b	r	é	Æ	ó	ó	☼	Ł	Π	Γ	≥
3		#	3	C	S	c	s	â	ô	ú	ú	|	Ł	„	π	≤
4		\$	4	D	T	d	t	ä	ö	ñ	ñ	Ł	—	Ł	Σ	∫
5		%	5	E	U	e	u	à	ò	Ñ	Ñ	Ł	+	Ł	σ	∫
6		&	6	F	V	f	v	å	û	æ	æ	Ł	Ł	Π	μ	÷
7		'	7	G	W	g	w	ç	ù	ø	ø	Π	Ł	Ł	τ	≈
8		(	8	H	X	h	x	ê	ÿ	¿	¿	Ł	Ł	Ł	Φ	°
9		)	9	I	Y	i	y	ë	ö	ŗ	ŗ	Ł	Ł	Ł	θ	•
a		*	:	J	Z	j	z	è	Û	ŗ	ŗ	Ł	Ł	Ł	Ω	·
b		+	;	K	[	k	{	ï	ø	½	½	Ł	Ł	☐	δ	√
c		,	<	L	\	l	|	î	æ	¾	¾	Ł	Ł	☐	ω	∞
d		-	=	M	]	m	}	ì	Ø	:	:	Ł	=	☐	∅	²
e		.	>	N	^	n	~	Å	æ	«	«	Ł	Ł	☐	ε	■
f		/	?	O	_	o		Ä	f	»	»	Ł	Ł	☐	∅	

CP 866 (Cyrillic)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	A	P	a	☼	Ł	„	p	Ё
1		!	1	A	Q	a	q	Б	С	б	б	☼	Ł	ŧ	с	ё
2		"	2	B	R	b	r	В	Т	в	в	☼	Ł	Π	т	ё
3		#	3	C	S	c	s	Г	У	г	г	|	Ł	„	у	е
4		\$	4	D	T	d	t	Д	Ф	д	д	Ł	—	Ł	ф	ї
5		%	5	E	U	e	u	Е	Х	е	е	Ł	+	Ł	х	у
6		&	6	F	V	f	v	Ж	Ц	ж	ж	Ł	Ł	Π	ц	ѳ
7		'	7	G	W	g	w	З	Ч	з	з	Π	Ł	Ł	ч	ѳ
8		(	8	H	X	h	x	И	Ш	и	и	Ł	Ł	Ł	ш	•
9		)	9	I	Y	i	y	Й	Щ	й	й	Ł	Ł	Ł	щ	•
a		*	:	J	Z	j	z	К	Ъ	к	к	Ł	Ł	Ł	ъ	·
b		+	;	K	[	k	{	Л	Ы	л	л	Ł	Ł	☐	ы	ѳ
c		,	<	L	\	l	|	М	Ь	м	м	Ł	Ł	☐	ь	№
d		-	=	M	]	m	}	Н	Э	н	н	Ł	=	☐	э	□
e		.	>	N	^	n	~	О	Ю	о	о	Ł	Ł	☐	ю	■
f		/	?	O	_	o		П	Я	п	п	Ł	Ł	☐	я	

CP 866 Bulgaria

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	A	P	a	p	L	⌘	α	≡	
1		!	1	A	Q	a	q	Б	С	б	с	⊥	⌘	β	±	
2		"	2	B	R	b	r	В	Т	в	т	⌘	⌘	Г	≥	
3		#	3	C	S	c	s	Г	У	г	у	⌘	⌘	π	≤	
4		\$	4	D	T	d	t	Д	Ф	д	ф	—	⌘	Σ	∫	
5		%	5	E	U	e	u	Е	Х	е	х	⌘	№	σ	∫	
6		&	6	F	V	f	v	Ж	Ц	ж	ц	⌘	§	μ	+	
7		'	7	G	W	g	w	З	Ч	з	ч	⌘	⌘	τ	≈	
8		(	8	H	X	h	x	И	Ш	и	ш	⌘	⌘	Ф	•	
9		)	9	I	Y	i	y	Й	Щ	й	щ	⌘	⌘	Θ	•	
a		*	:	J	Z	j	z	К	Ъ	к	ъ	⌘	⌘	Ω	•	
b		+	;	K	[	k	{	Л	Ы	л	ы	⌘	⌘	ō	∫	
c		,	<	L	\	l	|	М	Ь	м	ь	⌘	⌘	ω	π	
d		-	=	M	]	m	}	Н	Э	н	э	=	⌘	∅	²	
e		.	>	N	^	n	~	О	Ю	о	ю	⌘	⌘	Є	■	
f		/	?	O	_	o		П	Я	п	я	⌘	⌘	Π		

CP 1250 Win Latin 2

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	€			°	℞	Ⓔ	ℓ	ℓ	ℓ
1		!	1	A	Q	a	q			ˆ	±	Á	Ñ	á	ñ	
2		"	2	B	R	b	r	,	'	ˆ	ˆ	Â	Ŋ	â	ñ	
3		#	3	C	S	c	s		"	ˆ	ˆ	Ã	Ó	ã	ó	
4		\$	4	D	T	d	t	„	"	ˆ	ˆ	Ä	Ö	ä	ö	
5		%	5	E	U	e	u	„	•	Ä	μ	Ł	Ø	í	ö	
6		&	6	F	V	f	v	†	—	ˆ	ˆ	Ⓢ	ó	ö	ó	ö
7		'	7	G	W	g	w	‡	—	§	•	ç	×	ç	÷	
8		(	8	H	X	h	x		"	ˆ	ˆ	Ċ	Ř	č	ř	
9		)	9	I	Y	i	y	‰	™	©	q	É	Ō	é	ô	
a		*	:	J	Z	j	z	Š	š	Š	š	Ê	Ú	ê	ú	
b		+	;	K	[	k	{	<	>	«	»	Ë	Ū	ë	ū	
c		,	<	L	\	l	|	Š	š	ˆ	ˆ	Ě	Ů	ě	ů	
d		-	=	M	]	m	}	†	†	—	ˆ	ı	Ÿ	ı	Ÿ	
e		.	>	N	^	n	~	Ž	ž	®	ŕ	ı	Ţ	ı	Ţ	
f		/	?	O	_	o		Ž	ž	Ž	ž	Đ	ß	đ	•	

CP 1251 Win Cyrillic

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	h	h		°	A	P	a	p
1			!	1	A	Q	a	q	f	'	ŷ	±	Б	С	б	с
2			"	2	B	R	b	r	,	'	ŷ	I	В	Т	в	т
3			#	3	C	S	c	s	f	"	J	i	Г	У	г	у
4			\$	4	D	T	d	t	„	"	и	г	Д	Ф	д	ф
5			%	5	E	U	e	u	-	•	г	μ	Е	Х	е	х
6			&	6	F	V	f	v	†	-	!	¶	Ж	Ц	ж	ц
7			'	7	G	W	g	w	‡	-	§	•	З	Ч	э	ч
8			(	8	H	X	h	x	€		€	ё	И	Ш	и	ш
9			)	9	I	Y	i	y	‰	™	©	№	Й	Щ	й	щ
a			*	:	J	Z	j	z	љ	љ	Є	е	К	Ь	к	ь
b			+	;	K	[	k	{	<	>	«	»	Л	Ы	л	ы
c			,	<	L	\	l	|	ћ	ћ	~	j	М	Ъ	м	ъ
d			-	=	M	]	m	}	К	ќ	-	S	Н	Э	н	э
e			.	>	N	^	n	~	ћ	ћ	©	s	О	Ю	о	ю
f			/	?	O	_	o		Ѓ	Ѓ	Ѓ	Ѓ	П	Я	п	я

CP 1252 Win Latin 1

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	€			°	À	Д	à	δ
1			!	1	A	Q	a	q		'	i	±	Á	Ñ	á	ñ
2			"	2	B	R	b	r	,	'	φ	²	Â	Ò	â	ò
3			#	3	C	S	c	s	f	"	£	³	Ã	Ó	ã	ó
4			\$	4	D	T	d	t	„	"	и	'	Ä	Ô	ä	ô
5			%	5	E	U	e	u	-	•	ŷ	μ	Å	Ö	å	ö
6			&	6	F	V	f	v	†	-	!	¶	Æ	Ø	æ	ø
7			'	7	G	W	g	w	‡	-	§	•	Ç	×	ç	÷
8			(	8	H	X	h	x	^	~	"	„	È	Ø	è	ø
9			)	9	I	Y	i	y	‰	™	©	¹	É	Ù	é	ù
a			*	:	J	Z	j	z	Š	š	„	º	Ê	Ú	ê	ú
b			+	;	K	[	k	{	<	>	«	»	Ë	Û	ë	û
c			,	<	L	\	l	|	Œ	œ	~	¼	Ì	Ü	ì	ü
d			-	=	M	]	m	}			-	½	Í	Ý	í	ý
e			.	>	N	^	n	~			©	¾	Î	Þ	î	þ
f			/	?	O	_	o				Ÿ	—	¿	İ	ß	ÿ

CP 1253 Win Greek

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p				°	τ	π	ū	π
1			!	1	A	Q	a	q		'	™	±	Α	Ρ	α	ρ
2			"	2	B	R	b	r	,	'	Α	²	Β		β	σ
3			#	3	C	S	c	s	f	*	£	³	Γ	Σ	γ	ς
4			\$	4	D	T	d	t	„	*	¤	'	Δ	Τ	δ	τ
5			%	5	E	U	e	u	-	*	¥	μ	Ε	Υ	ε	υ
6			&	6	F	V	f	v	†	-	|	¶	Ζ	Φ	ζ	φ
7			'	7	G	W	g	w	‡	-	§	*	Η	Χ	η	χ
8			(	8	H	X	h	x			™	Ε	Θ	Ψ	θ	ψ
9			)	9	I	Y	i	y	‰	™	©	Η	Ι	Ω	ι	ω
a			*	:	J	Z	j	z			™	Ι	Κ	Ϊ	κ	ϊ
b			+	;	K	[	k	{	<	>	«	»	Λ	Υ	λ	ύ
c			,	<	L	\	l	|			™	Ό	Μ	ά	μ	ό
d			-	=	M	]	m	}			-	½	Ν	έ	ν	ύ
e			.	>	N	^	n	~			®	Υ	Ξ	ή	ξ	ώ
f			/	?	O	_	o				-	Ω	Ο	ί	ο	

CP 1254 Win Turkish

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	€			°	À	Ö	ä	ğ
1			!	1	A	Q	a	q		'	ı	±	Á	Ñ	á	ñ
2			"	2	B	R	b	r	,	'	Φ	²	Â	Ô	â	ò
3			#	3	C	S	c	s	f	*	£	³	Ã	Ó	ã	ó
4			\$	4	D	T	d	t	„	*	¤	'	Ä	Ö	ä	ö
5			%	5	E	U	e	u	-	*	¥	μ	Å	Ö	å	ö
6			&	6	F	V	f	v	†	-	|	¶	Æ	Ü	æ	ö
7			'	7	G	W	g	w	‡	-	§	*	Ç	×	ç	+
8			(8	H	X	h	x	^	~	™	ı	È	Ø	è	ø
9)	9	I	Y	i	y	‰	™	©	ı	É	Ù	é	ù
a			*	:	J	Z	j	z	Š	š	â	ô	Ê	Ú	ê	ú
b			+	;	K	[k	{	<	>	«	»	Ë	Ó	ë	û
c			,	<	L	\	l		Œ	œ	™	¼	İ	Ü	ı	ü
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e			.	>	N	^	n	~			®	¼	İ	Ş	î	ş
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8859-1 Latin 1

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	É		*	À	Ð	à	ð	
1			!	1	A	Q	a	q	ü	æ	ı	±	Á	Ñ	á	ñ
2			"	2	B	R	b	r	é	Æ	¢	²	Â	Ò	â	ò
3			#	3	C	S	c	s	â	ô	£	³	Ã	Ó	ã	ó
4			\$	4	D	T	d	t	ä	ö	¤	´	Ä	Ö	ä	ö
5			%	5	E	U	e	u	à	ò	¥	µ	Å	Õ	å	õ
6			&	6	F	V	f	v	ã	û	¦	¶	Æ	Ö	æ	ö
7			'	7	G	W	g	w	ç	ù	§	·	Ç	×	ç	÷
8			(	8	H	X	h	x	ê	ÿ	¨	¸	È	Ø	è	ø
9			)	9	I	Y	i	y	ë	ÿ	©	¹	É	Ù	é	ù
a			*	:	J	Z	j	z	è	Ü	ª	º	Ê	Ú	ê	ú
b			+	;	K	[	k	{	ï	¢	«	»	Ë	Û	ë	û
c			,	<	L	\	l	|	î	£	¬	¼	Ì	Ü	ì	ü
d			-	=	M	]	m	}	ï	¥	-	½	Í	Ý	í	ý
e			.	>	N	^	n	~	À	¤	®	¾	Î	Þ	î	þ
f			/	?	O	_	o		Å	f	—	¿	Ï	ß	ï	ÿ

8859-1 Latin 1 (SAP)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	†		*	À	Ð	à	ð	
1			!	1	A	Q	a	q	ü	—	ı	±	Á	Ñ	á	ñ
2			"	2	B	R	b	r	é	|	¢	²	Â	Ò	â	ò
3			#	3	C	S	c	s	â	┐	£	³	Ã	Ó	ã	ó
4			\$	4	D	T	d	t	ä	┘	¤	´	Ä	Ö	ä	ö
5			%	5	E	U	e	u	à	┘	¥	µ	Å	Õ	å	õ
6			&	6	F	V	f	v	ã	┘	¦	¶	Æ	Ö	æ	ö
7			'	7	G	W	g	w	ç	┘	§	·	Ç	×	ç	÷
8			(	8	H	X	h	x	ê	┘	¨	¸	È	Ø	è	ø
9			)	9	I	Y	i	y	ë	┘	©	¹	É	Ù	é	ù
a			*	:	J	Z	j	z	è	┘	ª	º	Ê	Ú	ê	ú
b			+	;	K	[	k	{	ï		«	»	Ë	Û	ë	û
c			,	<	L	\	l	|	î		¬	¼	Ì	Ü	ì	ü
d			-	=	M	]	m	}	ï		-	½	Í	Ý	í	ý
e			.	>	N	^	n	~	À		®	¾	Î	Þ	î	þ
f			/	?	O	_	o		Å		—	¿	Ï	ß	ï	ÿ

ISO 8859-2 (ISO Latin 2)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Q	E		°	R	D	ř	d
1			!	1	A	Q	a	q	Ů	æ	Å	å	Á	Ñ	á	ñ
2			"	2	B	R	b	r	é	Æ	˘	ˆ	Â	Ň	â	ň
3			#	3	C	S	c	s	â	ô	Ł	ł	Ǻ	Ó	ǻ	ó
4			\$	4	D	T	d	t	ä	ö	¤	'	Ǻ	Ö	ä	ö
5			%	5	E	U	e	u	à	ò	Ł	ł	Ł	Ő	í	ő
6			&	6	F	V	f	v	ā	ū	Š	š	Č	Ů	č	ö
7			'	7	G	W	g	w	ç	ù	Š	˘	Ç	x	ç	÷
8			(	8	H	X	h	x	ê	ý	ˆ	ˆ	Č	Ř	č	ř
9)	9	I	Y	i	y	ë	õ	Š	š	É	Ů	é	ű
a		*	:	J	Z	j	z	è	ü	Š	š	É	Ů	é	ű	
b		+	;	K	[k	{	ÿ	ƒ	ť	č	Ě	Ů	ě	ű	
c		,	<	L	\	l		ı	£	ž	ž	Ě	Ů	ě	ű	
d		-	=	M]	m	}	ı	¥	-	ˆ	ı	Y	ı	ı	
e		.	>	N	^	n	~	Ǻ	ŕ	ž	ž	ı	ı	ı	ı	
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ISO 8859-5 Cyrillic

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Q	E			А	Р	а	р	№
1			!	1	A	Q	a	q	Ů	æ	Ђ	Б	С	б	с	ё
2			"	2	B	R	b	r	é	Æ	Ђ	В	Т	в	т	ђ
3			#	3	C	S	c	s	â	ô	Г	Г	У	г	у	ѓ
4			\$	4	D	T	d	t	ä	ö	Є	Д	Ф	д	ф	є
5			%	5	E	U	e	u	à	ò	С	Е	Х	е	х	ѕ
6			&	6	F	V	f	v	ā	ū	І	Ж	Ц	ж	ц	і
7			'	7	G	W	g	w	ç	ù	І	З	Ч	з	ч	у
8			(	8	H	X	h	x	ê	ý	Ј	И	Ш	и	ш	ј
9			)	9	I	Y	i	y	ë	õ	Љ	Й	Щ	й	щ	љ
a		*	:	J	Z	j	z	è	ü	Љ	К	Ъ	к	ъ	њ	
b		+	;	K	[	k	{	ÿ	ƒ	Ђ	Л	Ы	л	ы	ђ	
c		,	<	L	\	l	|	ı	£	К	М	Ь	м	ь	ќ	
d		-	=	M	]	m	}	ı	¥	-	Н	Э	н	э	ѕ	
e		.	>	N	^	n	~	Ǻ	ŕ	У	О	Ю	о	ю	у	
f		/	?	O	_	o		Ǻ	f	Ц	П	Я	п	я	у	

ISO 8859-7 (Latin/Greek)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	É			°	ı	Π	ϖ	π
1		!	1	À	Q	à	q	Û	æ	'	±	À	Ɔ	Α	ρ	ρ
2		"	2	Β	Ɔ	β	Ɔ	é	Æ	'	²	Β		Β	σ	σ
3		#	3	Ɔ	Ɔ	c	s	â	ô	£	³	Ɔ	Σ	χ	ς	ς
4		\$	4	Ɔ	Ɔ	d	t	ä	ö		'	Δ	Ɔ	δ	τ	τ
5		%	5	Ɔ	Ɔ	e	u	â	ö		»	Ɔ	Ɔ	ε	υ	υ
6		&	6	Ɔ	Ɔ	f	v	â	ü	ı	À	Ɔ	Φ	ζ	φ	φ
7		'	7	Ɔ	Ɔ	g	w	ç	ü	ß	•	Ɔ	Χ	η	ξ	ξ
8		(	8	Ɔ	Ɔ	h	x	ê	ÿ	"	Ɔ	Θ	Ψ	θ	ψ	ψ
9		)	9	Ɔ	Ɔ	i	y	ë	ÿ	©	Ɔ	Ɔ	Ω	ι	ω	ω
a		*	:	Ɔ	Ɔ	j	z	è	ü		Ɔ	Ɔ	Ɔ	κ	ι	ι
b		+	;	Ɔ	Ɔ	[	{	ı	¢	«	»	Λ	Ɔ	λ	υ	υ
c		,	<	Ɔ	Ɔ	\	|	ı	£	ı	Ɔ	Ɔ	Ɔ	μ	ο	ο
d		-	=	Ɔ	Ɔ	]	}	ı	¥	-	½	Ɔ	Ɔ	ν	υ	υ
e		.	>	Ɔ	Ɔ	^	~	À	Ɔ		Ɔ	Ɔ	Ɔ	ξ	ω	ω
f		/	?	Ɔ	Ɔ	_	o		À	Ɔ	-	Ɔ	Ɔ	ı	o	o

ISO 8859-9 (Turkish)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	É			°	À	Ö	à	ğ
1		!	1	À	Q	à	q	Û	æ	ı	±	À	Ɔ	À	ñ	ñ
2		"	2	Β	Ɔ	β	Ɔ	é	Æ	¢	²	À	Ö	À	ö	ö
3		#	3	Ɔ	Ɔ	c	s	â	ô	£	³	À	Ö	À	ö	ö
4		\$	4	Ɔ	Ɔ	d	t	ä	ö	¤	'	À	Ö	À	ö	ö
5		%	5	Ɔ	Ɔ	e	u	â	ö	¥	μ	À	Ö	À	ö	ö
6		&	6	Ɔ	Ɔ	f	v	â	ü	ı	¶	À	Ö	æ	ö	ö
7		'	7	Ɔ	Ɔ	g	w	ç	ü	ß	•	Ç	×	Ç	÷	÷
8		(	8	Ɔ	Ɔ	h	x	ê	ÿ	"	Ɔ	Ɔ	Ɔ	ø	ø	ø
9		)	9	Ɔ	Ɔ	i	y	ë	ÿ	©	'	Ɔ	Ɔ	ü	ü	ü
a		*	:	Ɔ	Ɔ	j	z	è	ü	ª	º	Ɔ	Ɔ	ü	ü	ü
b		+	;	Ɔ	Ɔ	[	{	ı	¢	«	»	Ɔ	Ɔ	ü	ü	ü
c		,	<	Ɔ	Ɔ	\	|	ı	£	ı	½	Ɔ	Ɔ	ı	ü	ü
d		-	=	Ɔ	Ɔ	]	}	ı	¥	-	½	Ɔ	Ɔ	ı	ı	ı
e		.	>	Ɔ	Ɔ	^	~	À	Ɔ	©	½	Ɔ	Ɔ	ı	ı	ı
f		/	?	Ɔ	Ɔ	_	o		À	Ɔ	-	Ɔ	Ɔ	ı	ı	ı

ISO 8859-15 Euro (Code Page 923)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	Ç	É			°	À	Ð	à	ð
1		!	1	A	Q	a	q	ü	æ	;	±	Á	Ñ	á	ñ	
2		"	2	B	R	b	r	é	Æ	¢	²	Â	Ò	â	ò	
3		#	3	C	S	c	s	â	ô	£	³	Ã	Ó	ã	ó	
4		\$	4	D	T	d	t	ä	ö	€	´	Ä	Ö	ä	ö	
5		%	5	E	U	e	u	à	ò	¥	µ	Å	Ø	å	ø	
6		&	6	F	V	f	v	å	û	Š	¶	Æ	Ö	æ	ö	
7		'	7	G	W	g	w	ç	ù	§	·	Ç	×	ç	÷	
8		(	8	H	X	h	x	ê	ý	š	ž	È	Ø	è	ø	
9		)	9	I	Y	i	y	ë	ö	©	¹	É	Ù	é	ù	
a		*	:	J	Z	j	z	è	Ü	ª	º	Ê	Ú	ê	ú	
b		+	;	K	[	k	{	ï	φ	«	»	Ë	Û	ë	û	
c		,	<	L	\	l	|	î	£	¬	œ	Ì	Ü	ì	ü	
d		-	=	M	]	m	}	ï	¥	-	æ	Í	Ý	í	ý	
e		.	>	N	^	n	~	À	Æ	®	Ý	Î	Þ	î	þ	
f		/	?	O	_	o		Á	ƒ	—	¿	İ	ß	ı	ÿ	

BRASCI

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p					°	À	Ð	à	ð
1		!	1	A	Q	a	q				;	±	Á	Ñ	á	ñ
2		"	2	B	R	b	r				¢	²	Â	Ò	â	ò
3		#	3	C	S	c	s				£	³	Ã	Ó	ã	ó
4		\$	4	D	T	d	t				¤	´	Ä	Ö	ä	ö
5		%	5	E	U	e	u				¥	µ	Å	Ø	å	ø
6		&	6	F	V	f	v				¦	¶	Æ	Ö	æ	ö
7		'	7	G	W	g	w				§	·	Ç	Ø	ç	œ
8		(8	H	X	h	x				¨	¸	È	Ø	è	ø
9)	9	I	Y	i	y				©	¹	É	Ù	é	ù
a		*	:	J	Z	j	z				ª	º	Ê	Ú	ê	ú
b		+	;	K	[k	{				«	»	Ë	Û	ë	û
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Abicomp

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p					ò	ì	ò	
1			!	1	A	Q	a	q			À	Ó	à	ó		
2			"	2	B	R	b	r			Á	Ô	á	ô		
3			#	3	C	S	c	s			Â	Õ	â	õ		
4			\$	4	D	T	d	t			Ã	Ö	ã	ö		
5			%	5	E	U	e	u			Ä	Ø	ä	ø		
6			&	6	F	V	f	v			Ç	Ù	ç	ù		
7			'	7	G	W	g	w			È	Ú	è	ú		
8			(	8	H	X	h	x			É	Û	é	û		
9			)	9	I	Y	i	y			Ê	Ü	ê	ü		
a			*	:	J	Z	j	z			Ë	Ý	ë	ý		
b			+	;	K	[	k	{			Ì	''	ì	ß		
c			,	<	L	\	l	|			Í	£	í	æ		
d			-	=	M	]	m	}			Î	•	î	o		
e			.	>	N	^	n	~			Ï	§	ï	¿		
f			/	?	O	_	o				Ñ	°	ñ	±		

Roman 8

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p					—	â	À	À
1			!	1	A	Q	a	q			À	Ÿ	ê	î	À	P
2			"	2	B	R	b	r			Â	ý	ô	Ø	ã	•
3			#	3	C	S	c	s			È	°	û	Æ	D	µ
4			\$	4	D	T	d	t			Ê	Ç	á	â	ð	¶
5			%	5	E	U	e	u			Ë	ç	é	í	í	¾
6			&	6	F	V	f	v			Î	Ñ	ó	ø	ì	—
7			'	7	G	W	g	w			Ï	ñ	ú	æ	Ó	¼
8			(	8	H	X	h	x			'	:	à	À	Ò	½
9			)	9	I	Y	i	y			'	¿	è	ì	Õ	¾
a			*	:	J	Z	j	z			^	¤	ò	Ö	õ	o
b			+	;	K	[	k	{			''	£	ù	Û	š	«
c			,	<	L	\	l	|			~	¥	ä	é	š	■
d			-	=	M	]	m	}			Ù	§	ë	í	Ú	»
e			.	>	N	^	n	~			Ü	f	ö	ß	Ý	±
f			/	?	O	_	o				£	¢	ü	Ô	ÿ	

Coax/Twinax (Hebrew)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	N	J	4	⦿	L	⌚	⌚	⌚	⌚
1		!	1	A	Q	a	q	⌚	⌚	í	⦿	⌚	⌚	⌚	⌚	⌚
2		"	2	B	R	b	r	λ	γ	ó	⦿	⌚	⌚	⌚	⌚	⌚
3		#	3	C	S	c	s	⌚	⌚	ú	|	⌚	⌚	⌚	⌚	⌚
4		\$	4	D	T	d	t	⌚	⌚	ñ	⌚	⌚	⌚	⌚	⌚	⌚
5		%	5	E	U	e	u	⌚	⌚	Ñ	⌚	⌚	⌚	⌚	⌚	⌚
6		&	6	F	V	f	v	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
7		'	7	G	W	g	w	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
8		(	8	H	X	h	x	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
9		)	9	I	Y	i	y	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
a	*	:	J	Z	j	z	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
b	+	;	K	[	k	{	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
c	,	<	L	\	l	!	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
d	-	=	M	]	m	}	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
e	.	>	N	^	n	~	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
f	/	?	O	_	o				⌚	f	»	⌚	⌚	⌚	⌚	⌚

New-437 (Hebrew)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	N	J	4	⦿	L	⌚	⌚	⌚	⌚
1		!	1	A	Q	a	q	⌚	⌚	í	⦿	⌚	⌚	⌚	⌚	⌚
2		"	2	B	R	b	r	λ	γ	ó	⦿	⌚	⌚	⌚	⌚	⌚
3		#	3	C	S	c	s	⌚	⌚	ú	|	⌚	⌚	⌚	⌚	⌚
4		\$	4	D	T	d	t	⌚	⌚	ñ	⌚	⌚	⌚	⌚	⌚	⌚
5		%	5	E	U	e	u	⌚	⌚	Ñ	⌚	⌚	⌚	⌚	⌚	⌚
6		&	6	F	V	f	v	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
7		'	7	G	W	g	w	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
8		(	8	H	X	h	x	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
9		)	9	I	Y	i	y	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
a	*	:	J	Z	j	z	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
b	+	;	K	[	k	{	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
c	,	<	L	\	l	!	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
d	-	=	M	]	m	}	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
e	.	>	N	^	n	~	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
f	/	?	O	_	o				⌚	f	»	⌚	⌚	⌚	⌚	⌚

New-Dig 850 (Hebrew)

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	W	J	á	☼	⌚	ø	W	J	
1		!	1	A	Q	a	q	U	U	í	☼	⌚	±	Đ	U	U
2		"	2	B	R	b	r	λ	υ	ó	☼	⌚	⌚	Ê	λ	υ
3		#	3	C	S	c	s	⌚	⌚	ú	|	⌚	⌚	Ë	⌚	⌚
4		\$	4	D	T	d	t	⌚	⌚	ñ	⌚	⌚	⌚	È	⌚	⌚
5		%	5	E	U	e	u	⌚	⌚	ñ	⌚	⌚	⌚	É	⌚	⌚
6		&	6	F	V	f	v	⌚	⌚	â	⌚	⌚	⌚	Í	⌚	⌚
7		'	7	G	W	g	w	⌚	⌚	ó	⌚	⌚	⌚	Î	⌚	⌚
8		(	8	H	X	h	x	⌚	⌚	¿	⌚	⌚	⌚	Ï	⌚	⌚
9		)	9	I	Y	i	y	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
a		*	:	J	Z	j	z	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
b		+	;	K	[	k	{	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
c		,	<	L	\	l	|	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
d		-	=	M	]	m	}	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
e		.	>	N	^	n	~	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
f		/	?	O	_	o		⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚

Old-Code 860 (Hebrew)

רוט	0	1	2	3	4	5	6	7	8	9	ב	ג	ד	ה	ו	ז
תורה	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	W	W	W	W	á	☼	⌚	⌚	⌚	⌚	⌚
1		!	1	A	Q	U	U	U	λ	í	☼	⌚	⌚	⌚	⌚	⌚
2		"	2	B	R	λ	υ	λ	È	ó	☼	⌚	⌚	⌚	⌚	⌚
3		#	3	C	S	⌚	⌚	⌚	⌚	ú	|	⌚	⌚	⌚	⌚	⌚
4		\$	4	D	T	⌚	⌚	⌚	⌚	ñ	⌚	⌚	⌚	⌚	⌚	⌚
5		%	5	E	U	⌚	⌚	⌚	⌚	ñ	⌚	⌚	⌚	⌚	⌚	⌚
6		&	6	F	V	⌚	⌚	⌚	⌚	â	⌚	⌚	⌚	⌚	⌚	⌚
7		'	7	G	W	⌚	⌚	⌚	⌚	ó	⌚	⌚	⌚	⌚	⌚	⌚
8		(	8	H	X	⌚	⌚	⌚	⌚	¿	⌚	⌚	⌚	⌚	⌚	⌚
9		)	9	I	Y	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
ב		*	:	J	Z	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
ג		+	;	K	[⌚	{	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
ד		,	<	L	\	⌚	|	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
ה		-	=	M]	⌚	}	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
ו		.	>	N	^	⌚	~	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚
ז		/	?	O	_	⌚		⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚

Flarro 863 (Hebrew)

רוט תוה	0	1	2	3	4	5	6	7	8	9	ב	ג	ד	ה	ו	ז
תוה	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	נ	א	ב	א	ב	!	⊞	⊞	⊞	α	≡
1		!	1	ב	ט	ב	ט	ב	ט	⊞	'	⊞	⊞	⊞	β	±
2		"	2	ג	ע	ג	ע	ג	ע	⊞	ó	⊞	⊞	⊞	Γ	≥
3		#	3	ד	ף	ד	ף	ד	ף	ú	|	⊞	⊞	⊞	π	≤
4		\$	4	ה	פ	ה	פ	⊞	⊞	⊞	"	⊞	⊞	⊞	Σ	∫
5		%	5	ו	ץ	ו	ץ	ו	ץ	⊞	⊞	⊞	⊞	⊞	σ	∫
6		⊞	6	ז	צ	ז	צ	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
7		'	7	ח	ק	ח	ק	ח	ק	⊞	⊞	⊞	⊞	⊞	⊞	⊞
8		(	8	ט	ר	ט	ר	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
9		)	9	י	ש	י	ש	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
ב		*	:	ך	ת	ך	ת	ך	ת	⊞	⊞	⊞	⊞	⊞	⊞	⊞
ג		+	;	כ	[	כ	{	כ	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
ד		,	<	ל	\	ל	|	ל	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
ה		-	=	ם	]	ם	}	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
ו		.	>	נ	^	נ	~	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
ז		/	?	ן	_	ן		⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞

865 Hebrew

hex dez	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	א	ב	⊞	⊞	⊞	⊞	α	≡
1		!	1	A	Q	a	q	ב	ט	⊞	⊞	⊞	⊞	⊞	β	±
2		"	2	B	R	b	r	ג	ע	⊞	⊞	⊞	⊞	⊞	Γ	≥
3		#	3	C	S	c	s	ד	ף	ú	|	⊞	⊞	⊞	π	≤
4		\$	4	D	T	d	t	ה	פ	⊞	⊞	⊞	⊞	⊞	Σ	∫
5		%	5	E	U	e	u	ו	ץ	⊞	⊞	⊞	⊞	⊞	σ	∫
6		&	6	F	V	f	v	ז	צ	⊞	⊞	⊞	⊞	⊞	⊞	⊞
7		'	7	G	W	g	w	ח	ק	⊞	⊞	⊞	⊞	⊞	⊞	⊞
8		(	8	H	X	h	x	ט	ר	⊞	⊞	⊞	⊞	⊞	⊞	⊞
9		)	9	I	Y	i	y	י	ש	⊞	⊞	⊞	⊞	⊞	⊞	⊞
a		*	:	J	Z	j	z	ך	ת	⊞	⊞	⊞	⊞	⊞	⊞	⊞
b		+	;	K	[	k	{	כ	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
c		,	<	L	\	ל	|	ל	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
d		-	=	M	]	m	}	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
e		.	>	N	^	n	~	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
f		/	?	O	_	o		ן	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞

CP 1257

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	`	p	€			°	À	Š	à	š
1			!	1	À	Q	a	q	`			±	ı	Ń	ı	ń
2			"	2	B	R	b	r	,	'	¢	²	Ā	Ŋ	ā	ŋ
3			#	3	C	S	c	s		"	£	³	Ć	Ó	ć	ó
4			\$	4	D	T	d	t	„	”	¤		Ä	Ö	ä	ö
5			%	5	E	U	e	u	...	·		μ	Å	Õ	å	õ
6			&	6	F	V	f	v	†	–	!	¶	Ł	Ö	ę	ö
7			'	7	G	W	g	w	#	–	§	·	Ē	×	ē	÷
8			(	8	H	X	h	x			ø	ø	Č	U	č	u
9			)	9	I	Y	i	y	%	™	©	¹	É	Ł	é	ł
a			*	:	J	Z	j	z			®	ˆ	Ž	Ś	ž	ś
b			+	;	K	[	k	{	<	>	«	»	É	Ū	é	ū
c			,	<	L	\	l	|			¬	¼	Ğ	Ü	ğ	ü
d			-	=	M	]	m	}			–	½	Ɔ	Ž	Ɔ	ž
e			.	>	N	^	n	~			®	¾	İ	Ž	ı	ž
f			/	?	O	_	o				®	æ	Ł	B]	

866 Ukraine

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	A	P	a	⌘	Ł	ш	p	ë
1			!	1	A	Q	a	q	Б	С	б	⌘	Ł	т	с	ё
2			"	2	B	R	b	r	В	Т	в	⌘	Т	т	т	г
3			#	3	C	S	c	s	Г	У	г	|	Т	т	у	г
4			\$	4	D	T	d	t	Д	Ф	д	†	–	ѣ	ф	є
5			%	5	E	U	e	u	Е	Х	е	†	†	ѣ	х	є
6			&	6	F	V	f	v	Ж	Ц	ж	†	†	ѣ	ц	ї
7			'	7	G	W	g	w	З	Ч	з	т	†	†	ч	і
8			(	8	H	X	h	x	И	Ш	и	†	ѣ	†	ш	ї
9			)	9	I	Y	i	y	Й	Щ	й	†	†	Ј	щ	ї
a			*	:	J	Z	j	z	К	Ь	к	||	ѣ	г	ь	·
b			+	;	K	[	k	{	Л	Ы	л	†	†	■	ы	ѣ
c			,	<	L	\	l	|	М	Ь	м	†	†	■	ь	№
d			-	=	M	]	m	}	Н	Э	н	†	=	■	э	□
e			.	>	N	^	n	~	О	Ю	о	†	†	■	ю	■
f			/	?	O	_	o		П	Я	п	†	±	■	я	

866 Kazakhstan

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	A	P	a	⌘	L	⌘	p	ə
1			!	1	A	Q	a	q	Б	С	б	⌘	⌘	⌘	с	Б
2			"	2	B	R	b	r	В	Т	в	⌘	Т	⌘	т	К
3			#	3	C	S	c	s	Г	У	г	|	└	└	у	Н
4			\$	4	D	T	d	t	Д	Ф	д	└	—	└	ф	Ө
5			%	5	E	U	e	u	Е	Х	е	└	└	└	х	У
6			&	6	F	V	f	v	Ж	Ц	ж	└	└	└	ц	У
7			'	7	G	W	g	w	З	Ч	з	└	└	└	ч	h
8			(	8	H	X	h	x	И	Ш	и	└	└	└	ш	ə
9			)	9	I	Y	i	y	Й	Щ	й	└	└	└	щ	Б
a			*	:	J	Z	j	z	К	Ь	к	└	└	└	ь	К
b			+	;	K	[	k	{	Л	Ы	л	└	└	└	ы	Н
c			,	<	L	\	l	;	М	Ь	м	└	└	└	ь	ө
d			-	=	M	]	m	}	Н	Э	н	└	=	└	э	У
e			.	>	N	^	n	~	О	Ю	о	└	└	└	ю	У
f			/	?	O	_	o		П	Я	п	└	└	└	я	

Kamenicky

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Č	É	á	⌘	L	⌘	α	≡
1			!	1	A	Q	a	q	ü	ž	í	⌘	⌘	⌘	β	±
2			"	2	B	R	b	r	é	ž	ó	⌘	Т	⌘	Г	≥
3			#	3	C	S	c	s	ď	ō	ú	|	└	└	π	≤
4			\$	4	D	T	d	t	ä	ö	ñ	└	—	└	Σ	└
5			%	5	E	U	e	u	Ď	ó	ñ	└	└	└	σ	└
6			&	6	F	V	f	v	ř	ô	ô	└	└	└	μ	÷
7			'	7	G	W	g	w	č	Ů	Ů	└	└	└	τ	≈
8			(	8	H	X	h	x	ě	ý	ě	└	└	└	φ	*
9			)	9	I	Y	i	y	ě	ř	ř	└	└	└	θ	.
a			*	:	J	Z	j	z	Ľ	Ů	ý	└	└	└	Ω	.
b			+	;	K	[	k	{	í	š	ř	└	└	└	δ	└
c			,	<	L	\	l	;	í	Ľ	ž	└	└	└	∞	n
d			-	=	M	]	m	}	ř	ý	š	└	=	└	∅	²
e			.	>	N	^	n	~	Ǻ	ř	«	└	└	└	ε	■
f			/	?	O	_	o		Ǻ	č	»	└	└	└	∩	

Mazovia

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Q	E	Z	☒	L	u	α	≡
1			!	1	A	Q	a	q	ü	e	ž	☒	⊥	⊥	β	±
2			"	2	B	R	b	r	é	ı	ó	☒	T	π	Γ	≥
3			#	3	C	S	c	s	â	õ	Ó	|	⊥	u	π	≤
4			\$	4	D	T	d	t	ä	ö	ń	⊥	—	Ł	Σ	∫
5			%	5	E	U	e	u	à	ô	Ń	⊥	+	F	σ	J
6			&	6	F	V	f	v	ą	ū	ž	||	⊥	π	μ	÷
7			'	7	G	W	g	w	ç	û	ž	π	||	†	τ	≈
8			(	8	H	X	h	x	ê	š	ı	⊥	Ł	†	Φ	°
9			)	9	I	Y	i	y	ë	ö	ŕ	||	π	J	Θ	•
a			*	:	J	Z	j	z	è	Ü	ŕ	||	u	Γ	Ω	•
b			+	;	K	[	k	{	ÿ	Φ	ž	π	π	■	ō	√
c			,	<	L	\	l	|	ı	Ł	ž	u	⊥	■	ω	ⁿ
d			-	=	M	]	m	}	ć	¥	i	u	=	■	ø	²
e			.	>	N	^	n	~	Ǻ	š	«	⊥	⊥	■	ε	■
f			/	?	O	_	o		Ą	f	»	⊥	±	■	∩	

CP 775

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	`	p	Ó	É	Ā	☒	L	ą	ó	—
1			!	1	A	Q	a	q	ü	æ	Ī	☒	⊥	č	β	±
2			"	2	B	R	b	r	é	Æ	ó	☒	T	e	ō	"
3			#	3	C	S	c	s	ā	ō	ž	|	⊥	è	Ń	¼
4			\$	4	D	T	d	t	ä	ö	ž	⊥	—	i	ō	¶
5			%	5	E	U	e	u	g	G	ž	Ą	+	š	Ō	5
6			&	6	F	V	f	v	ā	φ	"	Č	U	u	μ	÷
7			'	7	G	W	g	w	ć	š	ı	Ę	Ū	ū	ń	„
8			(	8	H	X	h	x	ı	š	ø	i	Ł	ž	κ	°
9			)	9	I	Y	i	y	ē	Ö	ø	||	π	J	κ	•
a			*	:	J	Z	j	z	Ř	Ü	ŕ	||	u	Γ	Ł	•
b			+	;	K	[	k	{	ŕ	ø	½	π	π	■	l	1
c			,	<	L	\	l	|	ı	£	¼	u	⊥	■	∅	3
d			-	=	M	]	m	}	ž	ø	Ł	ı	=	■	Ē	2
e			.	>	N	^	n	~	Ǻ	x	«	š	⊥	■	N	■
f			/	?	O	_	o		Ā	κ	»	ı	ž	■	,	

CRO-ASCII

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	2	P	z	p	Ç	É	á	⌘	⌘	⌘	⌘	⌘	⌘
1			!	1	A	Q	a	q	ü	æ	í	⌘	⌘	⌘	⌘	⌘
2			"	2	B	R	b	r	é	Æ	ó	⌘	⌘	⌘	⌘	⌘
3			#	3	C	S	c	s	â	ô	ú	⌘	⌘	⌘	⌘	⌘
4			\$	4	D	T	d	t	ä	ö	ñ	⌘	⌘	⌘	⌘	⌘
5			%	5	E	U	e	u	à	ò	ñ	⌘	⌘	⌘	⌘	⌘
6			&	6	F	V	f	v	ä	ü	æ	⌘	⌘	⌘	⌘	⌘
7			'	7	G	W	g	w	ç	ü	ö	⌘	⌘	⌘	⌘	⌘
8			(	8	H	X	h	x	ê	ý	¿	⌘	⌘	⌘	⌘	⌘
9			)	9	I	Y	i	y	ë	ð	¸	⌘	⌘	⌘	⌘	⌘
a			*	:	J	Z	j	z	è	ü	¸	⌘	⌘	⌘	⌘	⌘
b			+	;	K	Š	k	š	ÿ	¢	½	⌘	⌘	⌘	⌘	⌘
c			,	<	L	D	l	d	í	£	¼	⌘	⌘	⌘	⌘	⌘
d			-	=	M	Č	m	č	ï	¥	¼	⌘	⌘	⌘	⌘	⌘
e			.	>	N	Č	n	č	Ä	Pl	«	⌘	⌘	⌘	⌘	⌘
f			/	?	O	—	o		Ä	f	»	⌘	⌘	⌘	⌘	⌘

Arabic Farsi

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0			0	@	P	'	p	~	⌘							
1			!	1	A	Q	a	q	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
2			"	2	B	R	b	r	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
3			#	3	C	S	c	s	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
4			\$	4	D	T	d	t	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
5			%	5	E	U	e	u	'	⌘	⌘	⌘	⌘	⌘	⌘	⌘
6			&	6	F	V	f	v	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
7			'	7	G	W	g	w	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
8			(	8	H	X	h	x	'	⌘	⌘	⌘	⌘	⌘	⌘	⌘
9			)	9	I	Y	i	y	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
a			*	:	J	Z	j	z	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
b			+	;	K	[	k	{	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
c			,	<	L	\	l	|	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
d			-	=	M	]	m	}	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
e			.	>	N	^	n	~	⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘
f			/	?	O	—	o		⌘	⌘	⌘	⌘	⌘	⌘	⌘	⌘

Arabic Urdu

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	~	⊕		•	ƒ	>	—	⋮
1			!	1	A	Q	a	q	ل	⊗	-	l	±	ج	د	'
2			"	2	B	R	b	r	/	د	ل	ر	۱	و	ب	و
3			#	3	C	S	c	s	ل	و	ف	ر	۱	د	د	و
4			\$	4	D	T	d	t	⊗	و	ر	E	و	د	ل	و
5			%	5	E	U	e	u	'	د	ل	0	و	د	و	و
6			&	6	F	V	f	v	ل	ل	E	ل	و	د	ل	و
7			'	7	G	W	g	w	/	«	و	U	۱	د	د	و
8			(	8	H	X	h	x	'	»	ل	n	۱	د	و	و
9			)	9	I	Y	i	y	ل	و	۱	۹	د	و	و	و
a			*	:	J	Z	j	z	/	و	و	د	و	و	۱	و
b			+	;	K	[	k	{	۱	و	و	۱	و	۱	و	و
c			,	<	L	\	l	;	۱	و	۱	۹	د	۱	و	و
d			-	=	M	]	m	}	۱	و	و	۹	د	و	و	و
e			.	>	N	^	n	~	۱	و	و	۹	د	و	و	■
f			/	?	O	_	o		د	۱	و	۱	و	و	و	و

Greek DEC

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p	Α	Ε	ά	•	Υ		Ϝ	
1			!	1	A	Q	a	q	Ε	æ	ί	±	Α	Π	α	π
2			"	2	B	R	b	r	Η	Æ	ό	²	Β	Ρ	β	ρ
3			#	3	C	S	c	s	Ι	ō	ύ	³	Γ	Σ	γ	σ
4			\$	4	D	T	d	t	Δ	ö	ñ	‡	Δ	Τ	δ	τ
5			%	5	E	U	e	u	Δ	ö	¥	‡	E	Υ	ε	υ
6			&	6	F	V	f	v	Δ	ü	ı	‡	Z	Φ	ζ	φ
7			'	7	G	W	g	w	ϕ	ü	ß	π	H	X	η	x
8			(	8	H	X	h	x	ê	ü	ı	‡	Θ	Ψ	θ	ψ
9			)	9	I	Y	i	y	ë	Υ	⊗	‡	Ι	Ω	ι	ω
a			*	:	J	Z	j	z	è	Ω	⊗	‡	K	ά	κ	ς
b			+	;	K	[	k	{	Υ	ϕ	«	»	Λ	έ	π	ύ
c			,	<	L	\	l	|	Υ	£	‡	‡	M	ή	μ	ώ
d			-	=	M	]	m	}	ī	¥	ı	‡	N	ί	ν	²
e			.	>	N	^	n	~	Α	Π	«	‡	Ξ		ξ	■
f			/	?	O	_	o		Α	φ	»	‡	Ο	ό	ο	

Greek ELOT 928

hex	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
dez	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
0				0	@	P	'	p				*		Π	0	π
1			!	1	A	Q	a	q			"	±	A	P	α	ρ
2			"	2	B	R	b	r				²	B		β	σ
3			#	3	C	S	c	s				³	Γ	Σ	γ	ς
4			\$	4	D	T	d	t			Ω	'	Δ	T	δ	τ
5			%	5	E	U	e	u			¥		E	Υ	ε	υ
6			&	6	F	V	f	v			!	Α	Z	Φ	ζ	φ
7			'	7	G	W	g	w			§		H	X	η	x
8			(	8	H	X	h	x			"	E	Θ	Ψ	θ	ψ
9			)	9	I	Υ	i	y			@	H	I	Ω	ι	ω
a			*	:	J	Z	j	z			@	I	K	Υ	κ	ι
b			+	;	K	[	k	{			«	»	Λ	Υ	λ	υ
c			,	<	L	\	l	|				0	M	ά	μ	ό
d			-	=	M	]	m	}				½	N	€	ν	ύ
e			.	>	N	^	n	~				Υ	Ξ	ή	ξ	ώ
f			/	?	O	_	o					0	0	ί	ο	

11 Control Codes Summary

Epson Emulation Command List

Command Sequence	Function
BEL	Beeper
BS	Backspace
HT	Tab horizontally
LF	Line feed
VT	Tab vertically
FF	Form feed
CR	Carriage return
SO	Select double-width printing (one line)
SI	Select condensed printing
DC1	Select printer
DC2	Cancel condensed printing
DC3	Deselect printer
DC4	Cancel double-width printing (one line)
CAN	Cancel line
DEL	Delete last character in buffer
ESC SO	Select double-width printing (one line)
ESC SI	Select condensed printing
ESC SP n	Set intercharacter space
ESC EM n	Control paper loading/ejecting
ESC ! n	Master select
ESC \$ n1 n2	Set absolute horizontal print position
ESC % n	Select user-defined set
ESC & NUL n m	Define user-defined characters
ESC * m n1 n2...	Select bit image
ESC ^ m n1 n2 d1...	Select 60/120-dpi, 9-pin graphics
ESC - n	Turn underline on/off
ESC / n	Select vertical tab channel
ESC 0	Select 1/8-inch line spacing
ESC 1	Select 7/72-inch line spacing
ESC 2	Select 1/6-inch line spacing
ESC 3 n	Set n/180-inch line spacing
ESC 4	Select italic font
ESC 5	Cancel italic font
ESC 6	Enable printing of upper control codes
ESC 7	Enable upper control codes
ESC 8	Disable paper-out sensor
ESC 9	Enable paper-out sensor
ESC :	Copy ROM to RAM
ESC <	Unidirectional mode (one line)
ESC >	Set MSB to 1
ESC =	Set MSB to 0
ESC #	Cancel MSB control
ESC ? n m	Reassign bit-image mode
ESC @	Initialize printer
ESC \ n1 n2	Set relative horizontal print position
ESC A n	Set n/60-inch line spacing
ESC B...NUL	Set vertical tabs
ESC C n	Set page length in lines

ESC C Nul n	Set page length in inches
ESC D...NUL	Set horizontal tabs
ESC E	Select bold font
ESC F	Cancel bold font
ESC G	Select double-strike printing
ESC H	Cancel double-strike printing
ESC I n	Control code selection
ESC J n	Advance print position
ESC K n1 n2 ...	Select 60-dpi graphics
ESC L n1 n2 ...	Select 120-dpi graphics
ESC M	Select 12-cpi
ESC N n	Set bottom margin
ESC O	Cancel bottom margin
ESC P	Select 10-cpi
ESC Q n	Set right margin
ESC R n	Select an international character set
ESC S n	Select superscript/subscript printing
ESCT	Cancel superscript/subscript printing
ESC U n	Turn unidirectional mode on/off
ESC W n	Turn double-width printing on/off
ESC Y n1 n2 ...	Select 120-dpi, double-speed graphics
ESC Z n1 n2 ...	Select 240-dpi graphics
ESC a n	Select justification
ESC b n	Set vertical tabs in VFU channels
ESC e m n	Set fixed tab increment
ESC f m n	Horizontal/vertical skip
ESC g	Select 15-cpi
ESC j n	Reverse paper feed
ESC l n	Select immediate print mode
ESC k n	Select typeface
ESC I n	Set left margin
ESC m n	Select printing of upper control codes
ESC p n	Turn proportional mode on/off
ESC r n	Select printing color
ESC s n	Select low-speed mode
ESC t n	Select character table
ESC (t nL nH d1 d2 d3	Assign character table
ESC w n	Turn double-height printing on/off
ESC x n	Select LQ or draft
ESC y n	Select Draft/Super Draft
ESC (B n1 n2 k m s v1 v2 c	Bar code setup and print

IBM Emulation Command List

Command Sequence	Function
BEL	Beeper
BS	Backspace
HT	Horizontal Tab
LF	Line Feed
VT	Vertical Tab
FF	Form Feed
CR	Carriage Return
SO	Double-Wide Printing by Line
SI	Condensed Printing
DC1	Select Printer
DC2	Select 10-cpi
DC3	Deselect Printer
DC4	Cancel Double-Wide Printing by Line
CAN	Cancel Data
ESC BEL	Beeper
ESC BS	Backspace
ESC HT	Horizontal Tab
ESC CR	Carriage Return
ESC LF	Line Feed
ESC SO	Double-Wide Printing by Line
ESC SI	Condensed Printing
ESC DC1	Select Printer
ESC DC2	Select 10-cpi
ESC DC3	Deselect Printer
ESC DC4	Cancel Double-Wide Printing by Line
ESC CAN	Cancel Data
ESC FF	Form Feed
ESC ! n	Select International Character Set (ML)
ESC # 0	HSD Print Mode On (ML)
ESC % G	Italics On (ML)
ESC % H	Italics Off (ML)
ESC - n	Continuous Underscore
ESC DLE @ Pn a1 a2 P1 P2 P3 P4	Set multiple print position
ESC % B n1 n3 n3 n4	Set 4 Column Tabulation (ML)
ESC EM n	Set Auto Sheet Feeder Mode
ESC :	Select 12-cpi
ESC VT	Vertical Tab
ESC % 5 n	Perform n/144-inch Line Feed (ML)
ESC % 9 n	Select 7/144-inch Line Spacing (ML)
ESC 0	Select 1/8-inch Line Spacing
ESC 1	Select 7/72-inch Line Spacing
ESC 2	Start Text Line Spacing
ESC 3 n	Set Graphics Line Spacing
ESC 4	Set Top of Form
ESC 5 n	Automatic Line Feed
ESC 6	Select Character Set 2
ESC 7	Select Character Set 1
ESC 8	Paper Out Sensor Off (EP)
ESC 9	Paper Out Sensor On (EP)
ESC \$	Copy ROM Character Set to RAM Character Set (ML)
ESC =	Character Font Image Download
ESC \ n m	Print Continuously from All Character Chart

ESC ^ n	Print Single Character from All Character Chart
ESC A n	Set Text Line Spacing
ESC B n	Set Vertical Tabs
ESC C n	Set Form Length in Lines
ESC C NUL n	Set Form Length in Inches
ESC D n1 n2..n28	Set Horizontal Tabs
ESC E	Select Emphasized Mode
ESC F	Cancel Emphasized Mode
ESC G	Select Double Strike Mode
ESC H	Cancel Double Strike Mode
ESC I n	Select Print Mode
ESC J n	Graphics Variable Line Spacing
ESC K n1 n2 V1 V2..Vn	Normal Density Bit Image Graphics
ESC L n1 n2 V1 V2..Vn	Dual Density Bit Image Graphics
ESC N n	Set Automatic Perforation Skip
ESC O	Cancel Automatic Perforation Skip
ESC P n	Proportional Space Mode
ESC Q n	Deselect Printer
ESC R	Set All Tabs to Power On Settings
ESC S n	Start Subscript or Superscript Printing
ESC T	Cancel Subscript or Superscript Printing
ESC U n	Set Print Direction
ESC V n	Set Intercharacter Spacing (ML)
ESC W n	Continuous Double-Wide Printing
ESC X n m	Set Horizontal Margins
ESC Y n1 n2 V1 V2..Vn	Dual Density Bit Image Graphics
ESC Z n1 n2 V1 V2..Vn	High Density Bit Image Graphics
ESC | n Ln Hn	Set Relative Dot Position (ML)
ESC | @ n1 n2 m1 m2 m3 m4	Set Presentation Highlight
ESC | I n1 n2 Hf Ls Hs Lf Sm NUL Hc Lc	Set Font Global
ESC | K n1 n2 init id parm1 parm2..parmn	Set Initial Condition
ESC | T n1 n2 n3 n4 Hc Lc	Set Code Page
ESC | d n1 n2 m	Set Print Quality
ESC DLE A m n1 n2 ...n8	Select Barcode Type and Size (ML)
ESC DLE B n [data]	Print Barcode Data (ML)
ESC DLE C P1[data]	Print Post-net Barcode Data (ML)
ESC [f n1 n2 k m s v1 v2c	Setup Barcode Parameter
ESC [p n1 n2 data1..datai	Set Barcode Data
ESC]	Reverse Line Feed
ESC _ n	Continuous Over Score
ESC i n	Select Immediate Print Mode (EP)
ESC j	Stop Printing
ESC { n	Change Emulation (ML)
ESC }	Software I-Prime (ML)

If you need more details regarding the emulation commands, please contact us.

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.

NOTE: 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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