



User Manual

1145/1125+ 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.



The device and mains-socket must all times be easily accessible.

## 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.
- Maschinenlärminformationen – Verordnung – 3.GPSGV, der höchste Schalldruckpegel beträgt 70 dB(A) oder weniger gemäß EN ISO 7779.



Das Gerät und die Netzsteckdose müssen jeder Zeit leicht zugänglich sein.

## 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.



Le dispositif et la prise principale doivent toujours être accessibles facilement.

## 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.



Il dispositivo e la presa di corrente devono essere sempre facilmente accessibili.

## 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.



El dispositivo y la toma de corriente deben estar ubicados de forma que sea fácil acceder a ellos.

## 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.



Устройство и розетка должны быть всегда легко доступны.

## 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.



A impressora e a tomada devem ser facilmente em todos os momentos acessíveis.

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



Cihaz ve elektrik prizinin her zaman kolayca erişilebilir olması gerekir.

## TRADEMARK ACKNOWLEDGEMENTS

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## Approvals



This device fulfils the European standards requirements by complying with the Directive relating to electromagnetic compatibility and relating to low-voltage electrical equipment. Furthermore, it fulfils the requirements for RoHS and RED if applicable.

Conformity with the above-mentioned Directives is indicated by the CE symbol attached to the device.

Note: Conformity may be affected by:

- using interface cables not complying with the specifications
- non-observance of important instructions in the operator's manual
- installing components not approved for this device by the manufacturer
- unauthorized manipulation



Dieses Gerät erfüllt die Anforderungen der Europäischen Normen durch Einhaltung der Richtlinien bezüglich der Elektromagnetischen Verträglichkeit sowie bezüglich Elektrischer Betriebsmittel mit Niederspannung. Des Weiteren werden die Anforderungen bezüglich RoHS und falls anwendbar RED erfüllt.

Die Konformität zu den oben angeführten Richtlinien ist durch das am Gerät angebrachte CE-Zeichen gekennzeichnet.

Hinweis: Die Konformität kann beeinflusst werden durch:

- Benutzung von nicht spezifizierten Schnittstellen
- Nichtbeachtung wichtiger Hinweise der Bedienungsanleitung
- Ersetzen von Bauteilen, die nicht vom Hersteller für dieses Gerät freigegeben wurden
- Eingriffe durch Unbefugte



This device complies with the requirements of the United Kingdom (UK) legislation of Electrical Safety Regulations, Electromagnetic Compatibility Regulations, if applicable the Radio Regulations and the Restriction of the Hazardous Substances in Electrical and Electronic Equipment Regulations.

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## Symbol Description

The symbols in this manual are identified by their level of importance, as defined below. Read the following carefully before handling the product.



CAUTION: Provides information that must be observed to prevent damage to the equipment or data loss .



NOTE: Advises you of information that is essential to complete a task.



CAUTION: Keep your body away from moving part.



CAUTION: Hot ! Do not touch the parts till the printer has been switch off in half hour, otherwise it will hurt your fingers.



CAUTION: Sharp edges, do not touch.

## General Notes

The 1125+ and 1145 model are equivalent printers in case of functionality, excluding the firmware.

-The 1145 model is the standard version.

-The 1125+ model is a customer specific version.

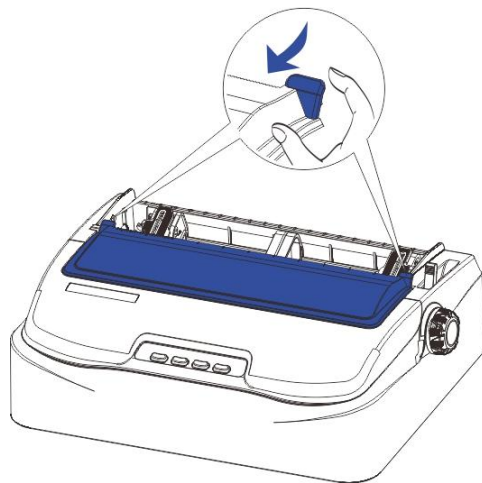
# 1 Unpacking Guide

## 1.1 Unpacking the Printer

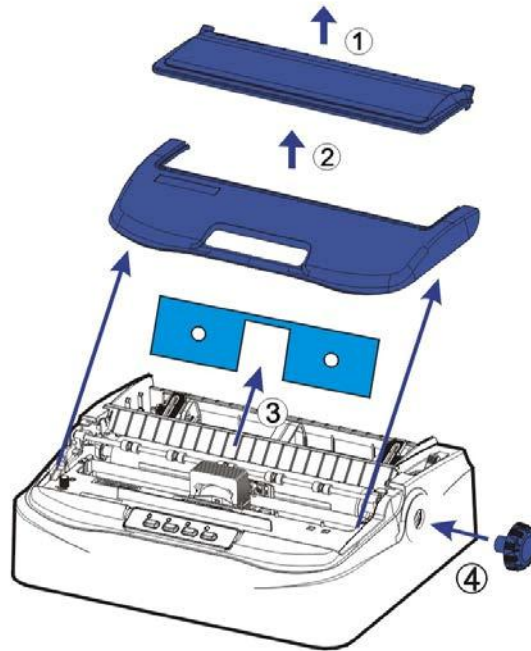
1. Place your packaged printer on a solid base.
2. Make sure that the “Up” symbols point in the correct direction.
3. Open the packaging, lift the printer out of the cardboard box and remove the remaining packaging material.
4. Check the printer for any visible transport damage and missing items. If you find any transport damage or if any accessories are missing, please contact your dealer. The following items are included:
  - Printer
  - Paper feed knob
  - Sheet feeder
  - Power cord
  - Ribbon cartridge
  - Installation Guide
  - USB cable

Remove the packaging materials from the printer as follows:

1. Open and remove the top covers of the printer following the below picture.



2. Remove the shipping cardboard from around the print head.



3. Install the paper feed knob. Rotate the paper feed knob to make it fix with the latch. And then press it to lock. (Step ④ of above picture)

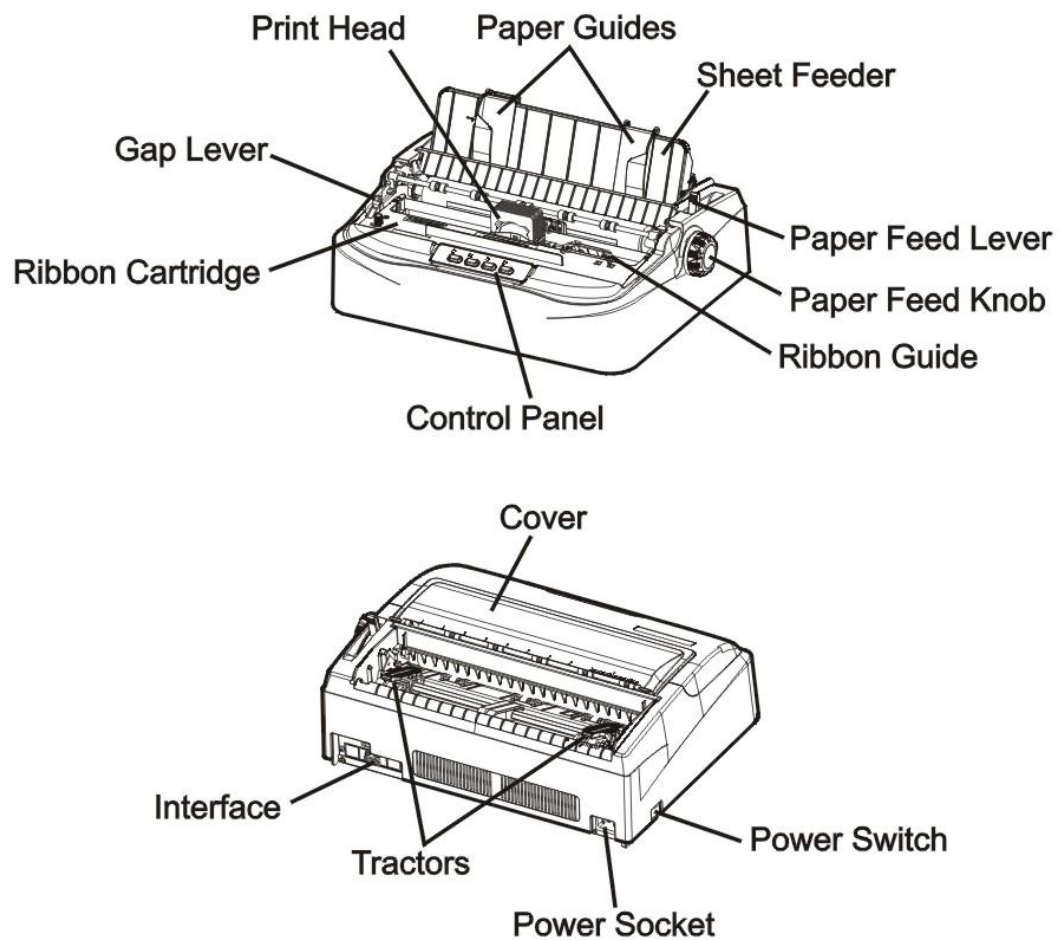
## 1.2 Placing the Printer

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

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

1. Never place the printer near to any flammable gas or explosive substances.
2. 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.
3. When connecting a computer to the printer, make sure the maximum recommended cable length is not exceeded.
4. Ensure sufficient distance between the printer and any heating devices/radiators.
5. Avoid exposing the printer to extreme temperature or air humidity fluctuations. Avoid exposure to dusty environments.
6. It is recommended the printer is installed in a position which reduces noise exposure to the work place during printing.
7. The power-outlet shall be installed near the equipment and shall be easily accessible.

## 1.3 Printer Components



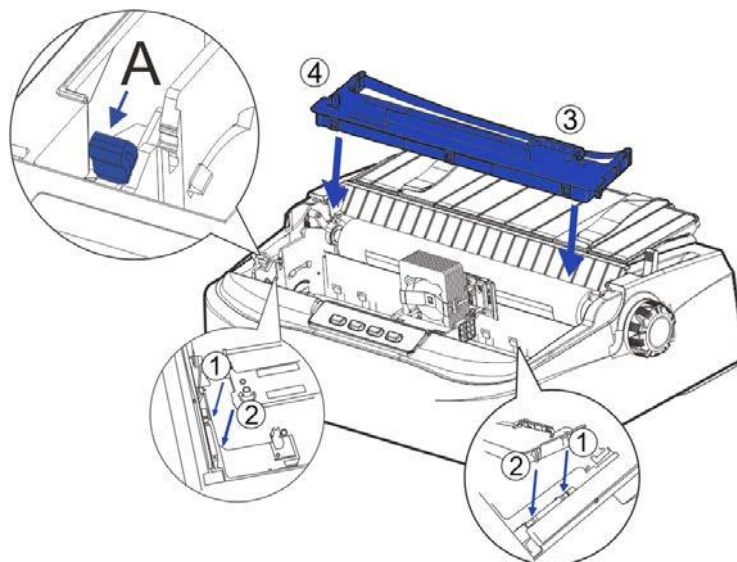
| Component        | Function                                                                                                                                                                                                                          |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gap Lever        | Adjusts the print gap lever according to the thickness of paper                                                                                                                                                                   |
| Paper Guides     | Adjusts positioning of single sheet paper                                                                                                                                                                                         |
| 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 Guide     | For guiding ribbon installation on print head                                                                                                                                                                                     |
| Tractors         | For feeding and adjustment of continuous forms                                                                                                                                                                                    |
| Power Socket     | Connects power cord to the printer                                                                                                                                                                                                |
| Interface        | Connects interface cables from the host                                                                                                                                                                                           |

## 2 Setting Up Printer

### 2.1 Install Ribbon

**i Take special caution: The print head may be hot!**

1. Ensure the power to the printer is off and the print gap lever "A" is set to the furthest open position. Move the carriage to the center of the print platen.
2. Install the recess positions ①-② 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. Ensure the print gap lever "A" is set to the original position.
6. Close the printer's cover. When printer is in operation, ensure the printer's 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 and remove the cover.
4. Set the gap lever to the most open position labeled "RIBBON".
5. 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.
6. Remove the ribbon frame from the print head.
7. Use fingers to take hold of the handle on the ribbon cartridge firmly, and lift the cartridge upwards to unlatch it. Some force may be needed to unlatch the cartridge.

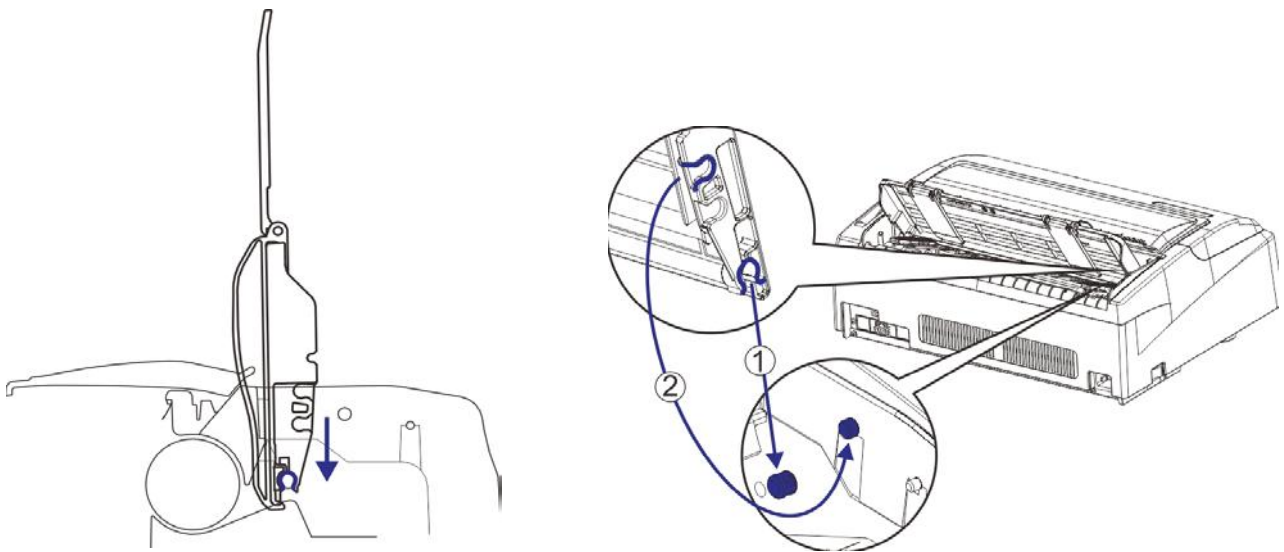
## 2.2 Install the Single Sheet Feeder

Install the single sheet feeder into the rear of the printer. If you intend to use this paper way, assure having removed the fanfold paper out of the rear tractor paper way by pressing

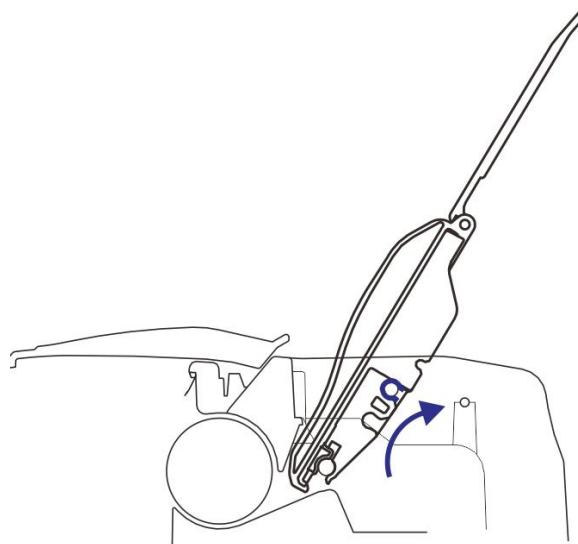
【Load/Eject】 Key.

Then switch the paper feed lever to Single.

1. As shown in the picture below, unfold the Paper Guides first. Then put the Single Sheet Feeder into its installation position and push it down to latch.



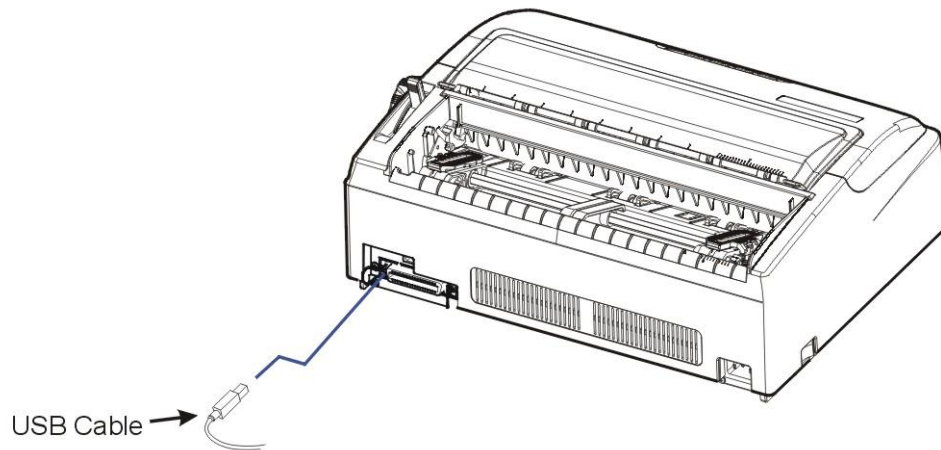
2. Push the Single Sheet Feeder backward to make it latch again.



## 2.3 Connecting the Interface Cable

The USB port is located at the rear 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.



The printer may also be purchased with an additional interface. The additional interface can be one of the followings: Parallel, Serial, Ethernet, WiFi or Bluetooth.

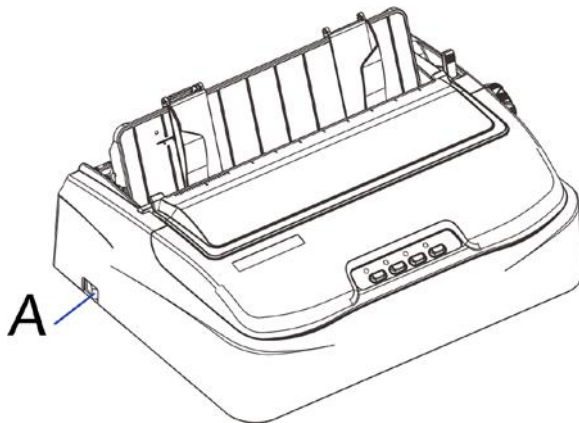
## 2.4 Connecting the Power Supply

### Checking the printer voltage

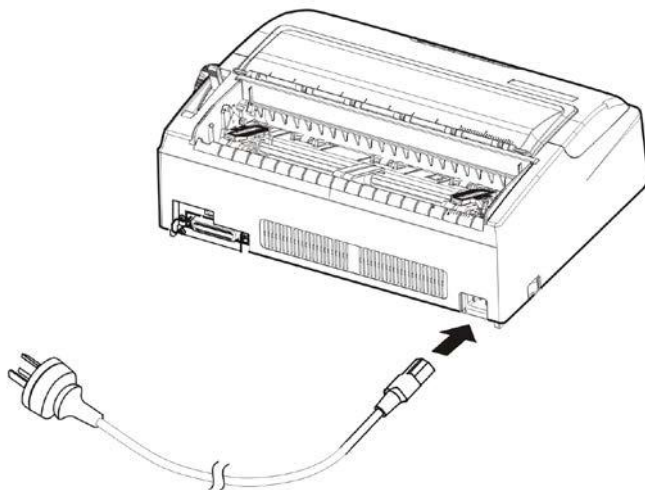
Make sure that the device has been set according to your country's power supply voltage. To do this, check the rating plate at the back of the printer. Contact your dealer if the setting is incorrect.



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 left side of the printer, is in the "O" (off) position.



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

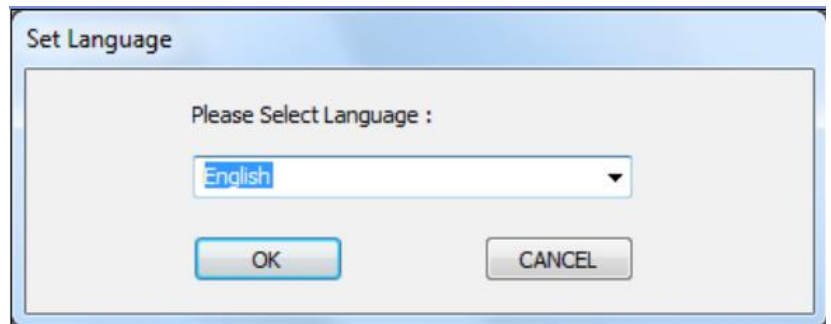
## 2.5 Installing the Windows Driver

The driver is the connection and transformation platform between the printer and the computer operating system to achieve the interactive processing of the information. User can set up relevant settings, get print status and etc. via driver.

The latest Windows printer drivers can be downloaded from our web:

<https://www.dascom.com/downloads.html>

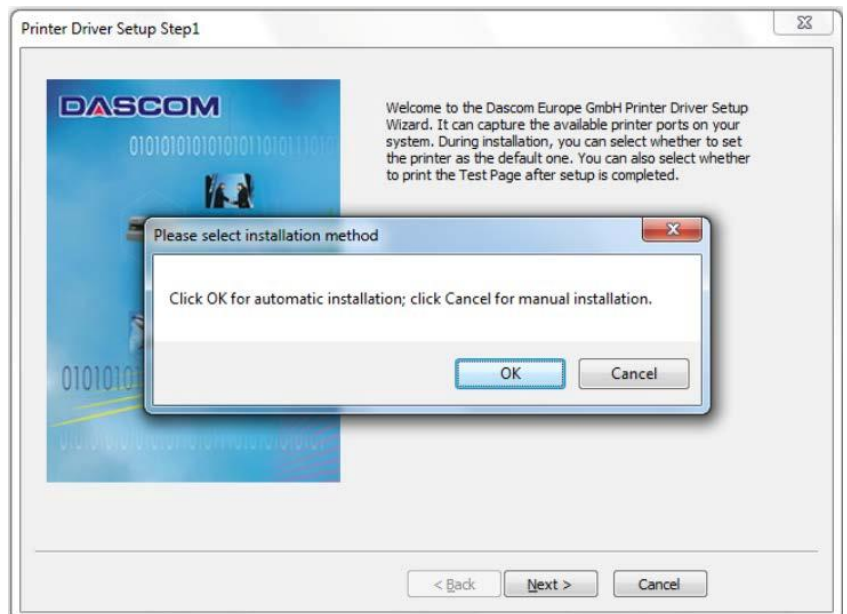
1. Go to the Drivers folder and run the Installer "DriverSetup.exe". You will see the screen on the right. Select language, and click "Next" to continue.



2. A picture shown on the right side appears. Click "Next" to continue.

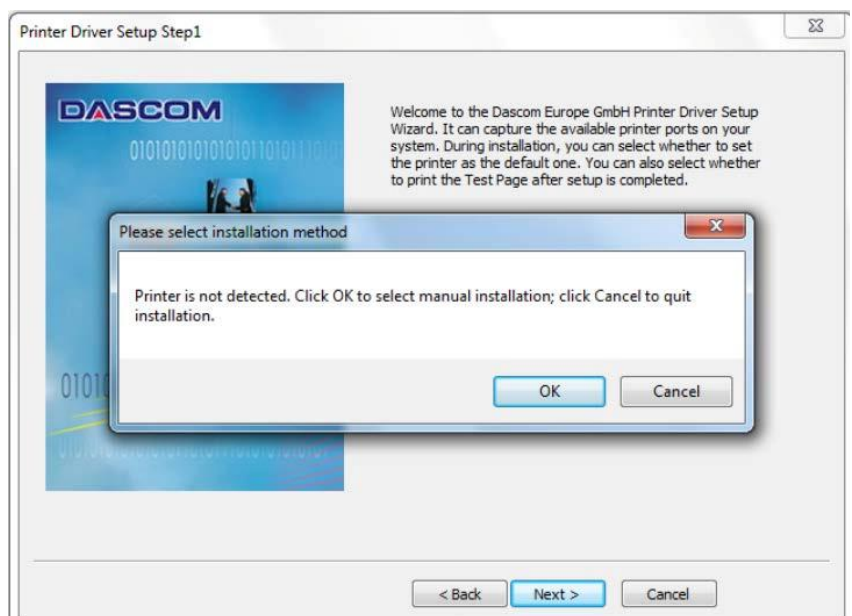


3. As shown in the picture on the right side, click “OK” to select automatic installation and click “Cancel” to select manual installation.

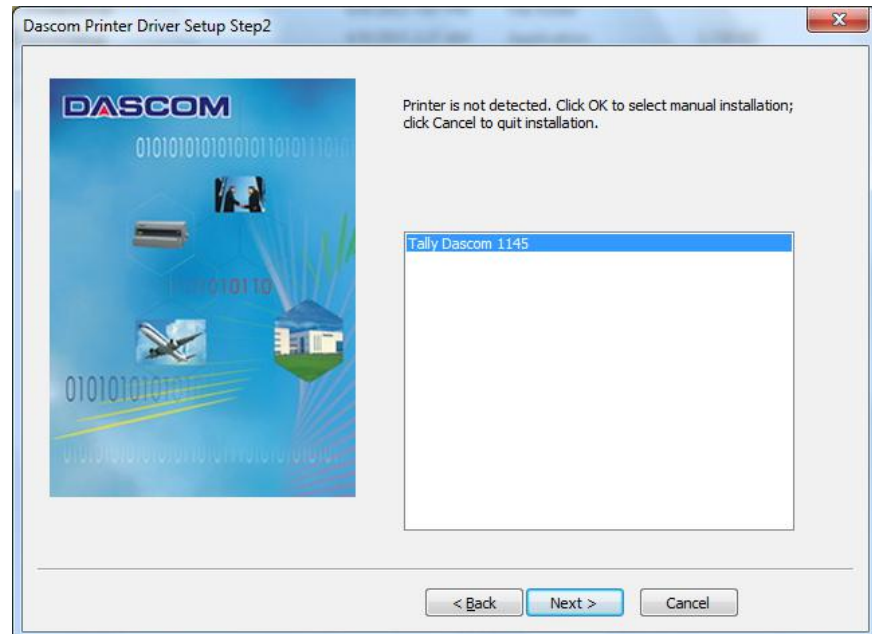


**i** If you have selected automatic installation in the third step, please refer to following three steps:

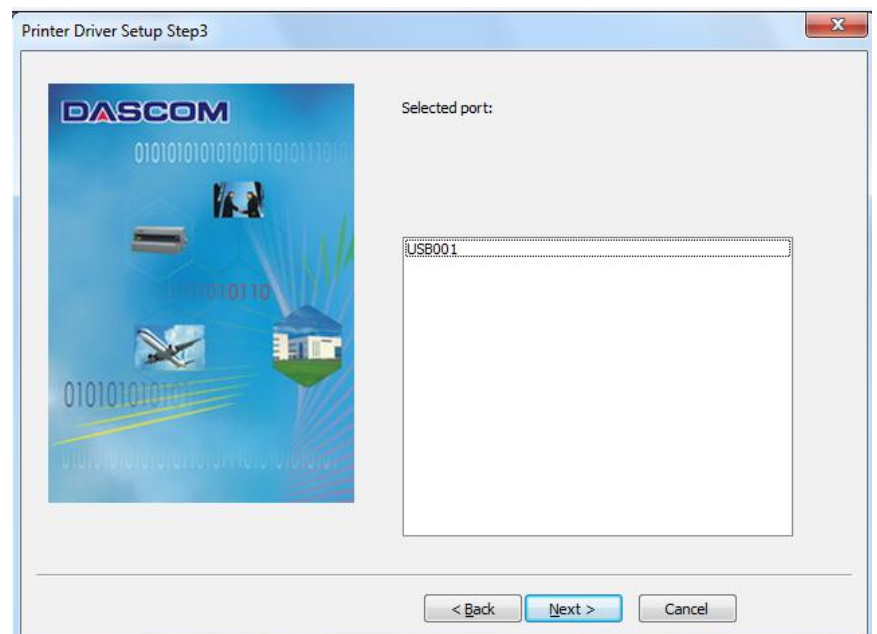
- 1) If you want to select automatic installation, make sure that the printer is connected with USB cable and power on. If the printer is not connected with USB cable or power off, a prompt on right side will appear if you select automatic installation. Click “OK” to select manual installation and click “Cancel” to cancel installation.



- 2) If automatic installation is selected and the printer is connected with USB cable and power on, the printer model will be detected automatically. As shown in picture on the right side, click “Next” to continue.

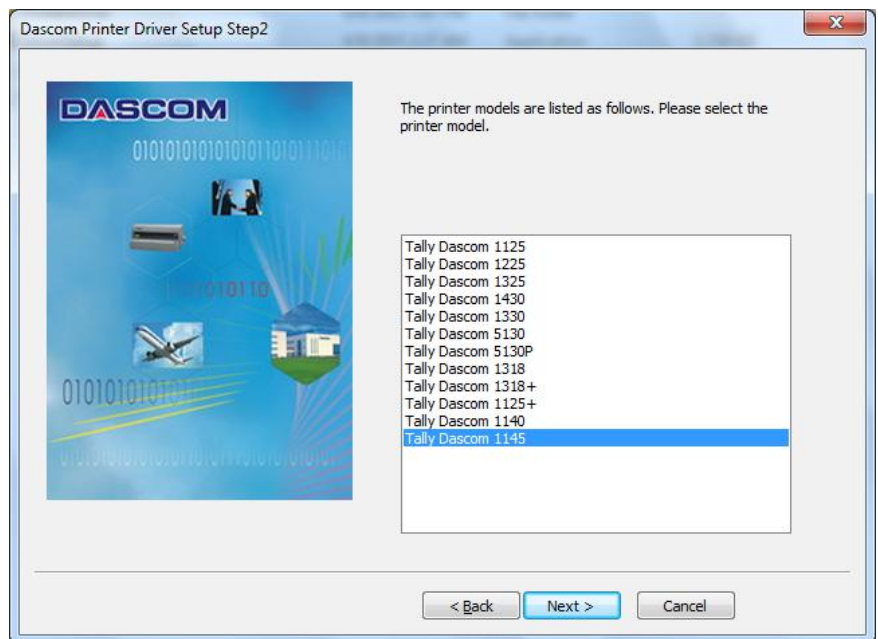


- 3) As shown in picture on right the side, USB port will be detected automatically. Click “Next” to continue.

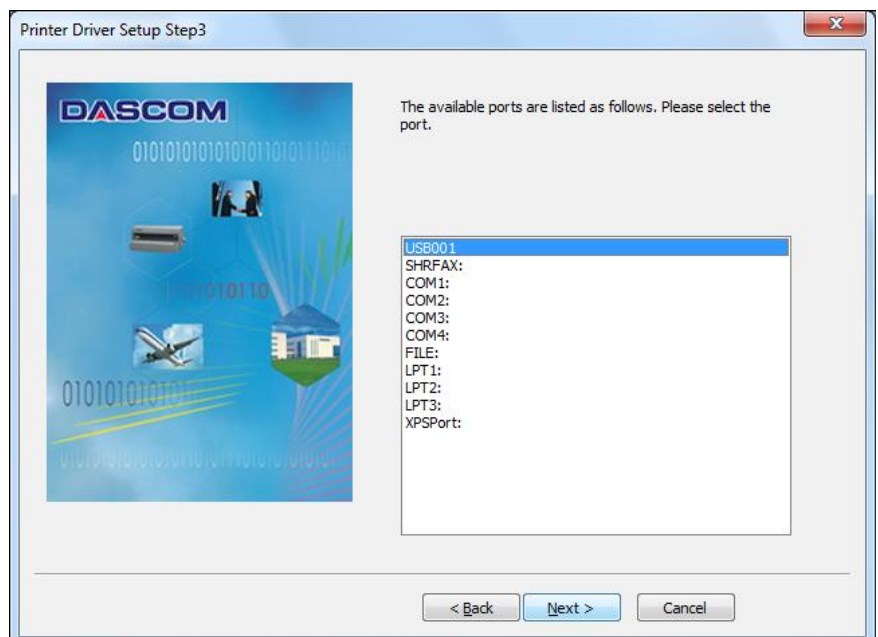


**i** If you have selected manual installation in the third step, please refer to following two steps:

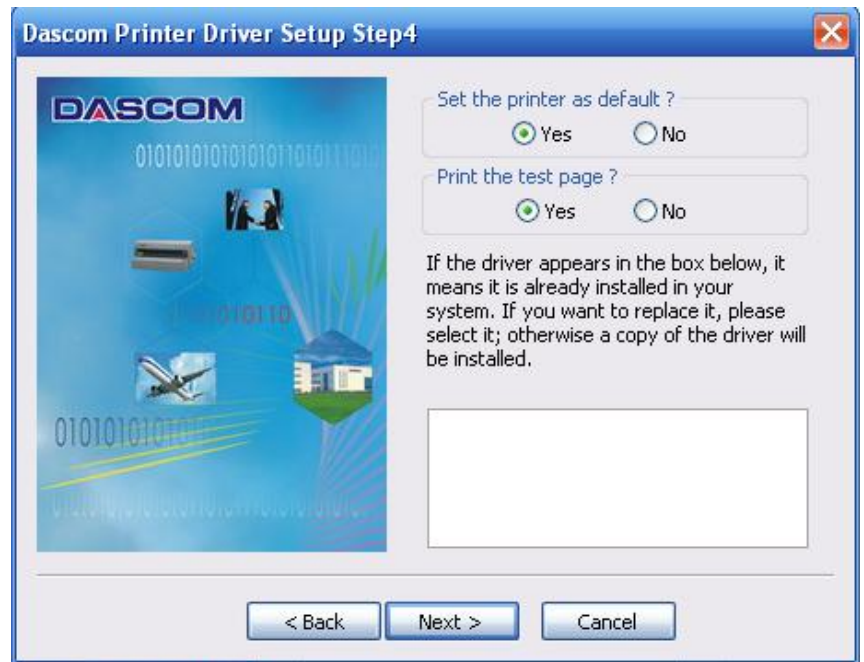
1) If manual installation is selected, picture on right side will appear after you click "Cancel". Select the desired printer model and click "Next" to continue.



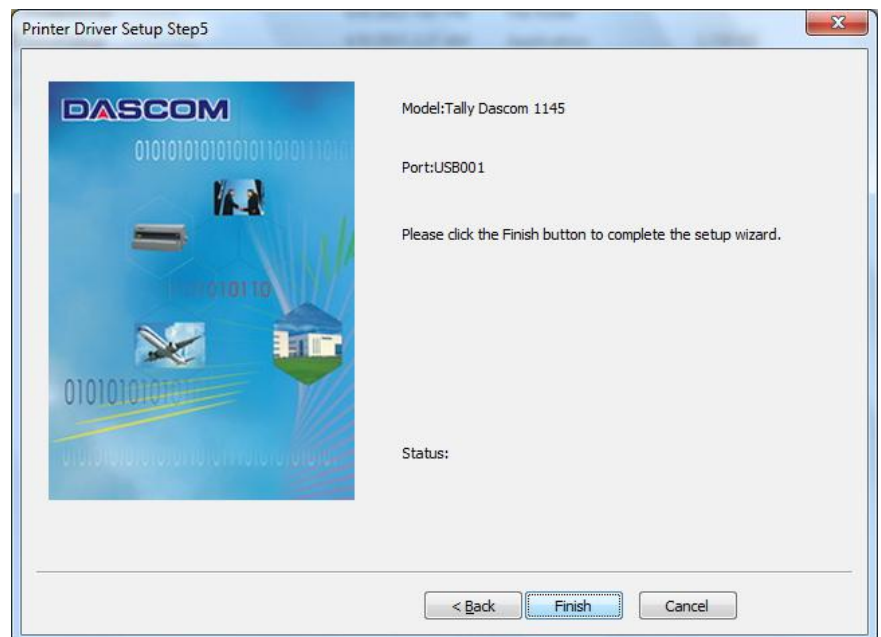
2) Picture on the right side will appear after you click "Next". Select installation port and click "Next" to continue.



4. 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. Click "Next" to continue.



5. As shown in the picture on right side, click "Finish".

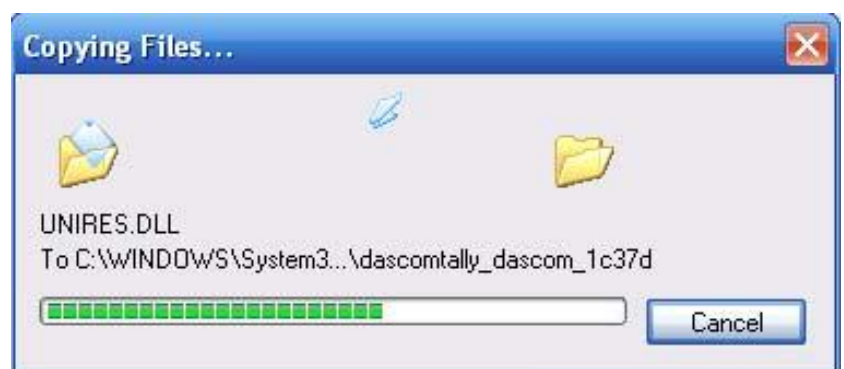


**i** For XP system, the following situation may appear after you click “Finish” in above step:

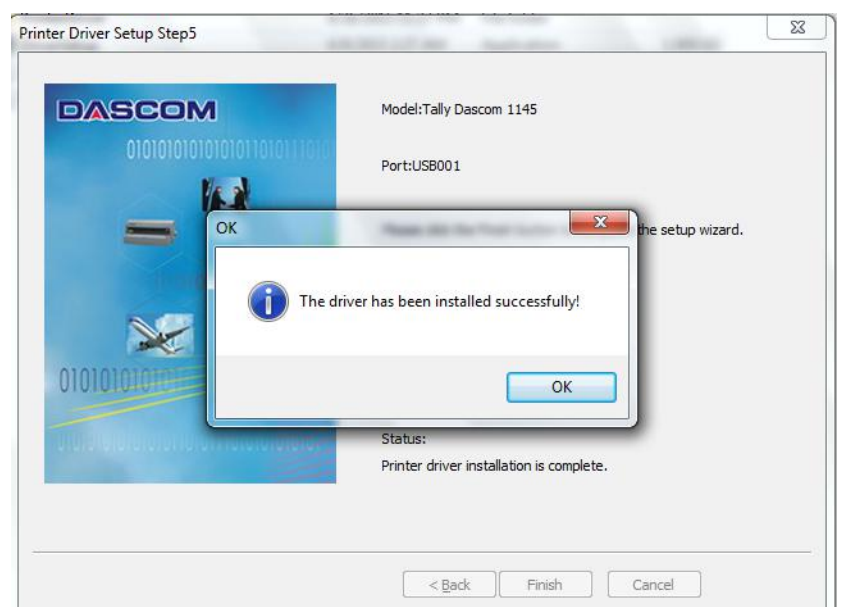
- 1) If the driver is not yet Microsoft Certified, the message on the right would appear. Click “Continue Anyway”. (As we continue to expand our product portfolio, not all of our drivers may be certified yet. Please check our website [www.dascom.com](http://www.dascom.com) for the latest certified drivers.)



- 2) Installation in progress.



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



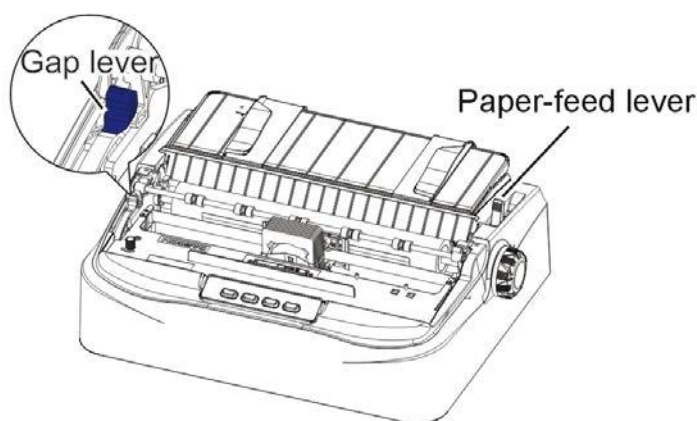
### 3 Paper Installation Guide

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.

**i Remove any paper clip or staple. Do not load paper that has been folded or damaged, wrinkled, or curled.**

#### 3.1 Adjusting the Print Gap Lever

The print gap lever is on the left side of the printer inside the top cover. Take care to adjust the print gap lever to a suitable position whenever you change the number of copies being printed. Using the wrong print gap may cause print head damage or paper jams.



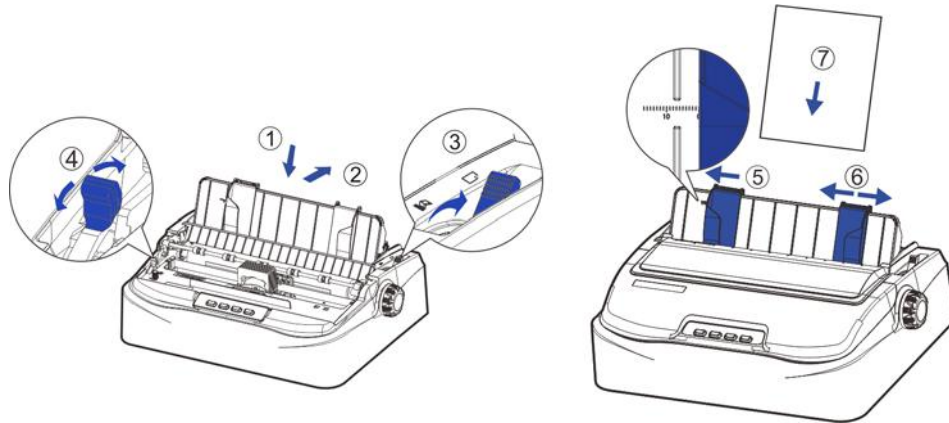
| Paper type    | Weight (g/m <sup>2</sup> ) / ply | Thickness (mm) | Gap lever position |
|---------------|----------------------------------|----------------|--------------------|
| Single sheet  | 52~100                           | 0.06~0.12      | 1P~2P              |
| 3-ply         | 40~52                            | 0.12~0.14      | 3P~4P              |
| 4-ply         | 40~52                            | 0.17~0.22      | 4P~5P              |
| 5-ply         | 40~52                            | 0.23~0.27      | 5P~6P              |
| 6-ply         | 40~52                            | 0.28~0.34      | 6P~7P              |
| 7-ply         | 40~52                            | 0.35~0.41      | 7P                 |
| Change ribbon | ---                              | Above 0.58     | RIBBON             |

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

#### 3.2 Friction Feed Handling

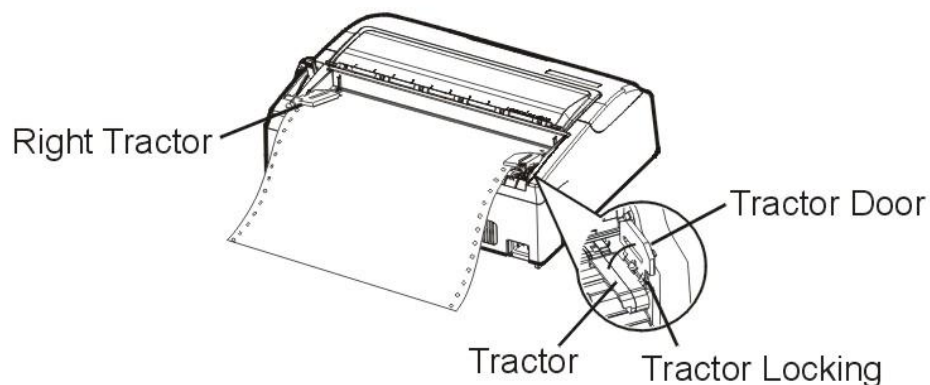
1. Raise the single sheet feeder until it locks into its mounting.
2. Move the paper-feed lever forward to “” for friction feed mode. Make sure that no paper is in the printer when you switch the paper path.
3. Adjust the print gap lever if necessary.

4. Align the left paper guide with the mark on the left of the single sheet feeder.
5. Adjust the right paper guide to the width of the paper used.
6. Insert a sheet of paper. Make sure that the bottom edge of the paper engages snugly with the platen. Please push the paper in manually if the paper does not feed in while the friction roller is running.
7. The paper should advance automatically to the print position. The printer is now ready to print in the online state.



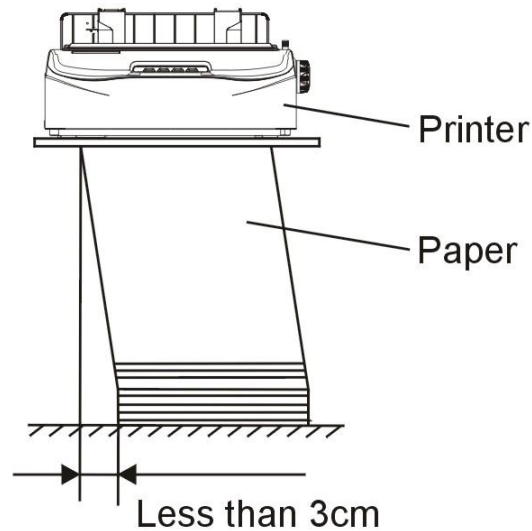
### 3.3 Tractor Feed Handling

1. Move the paper-feed lever backward to “” for continuous paper position.
2. Adjust the print gap lever if necessary.
3. 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.
4. 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.
5. 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.

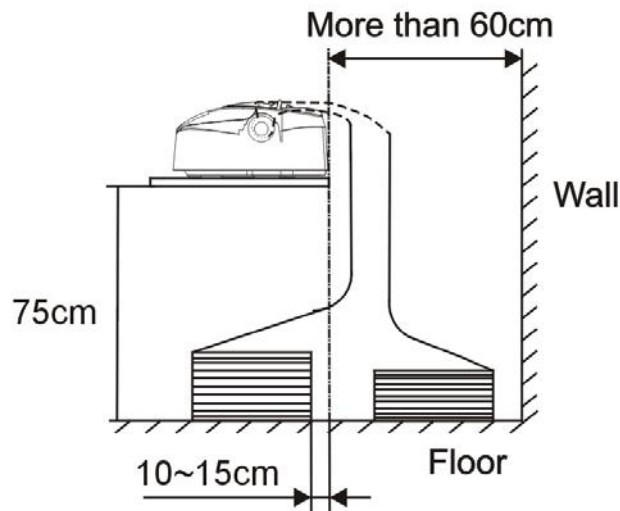


### 3.4 Continuous Paper Placement

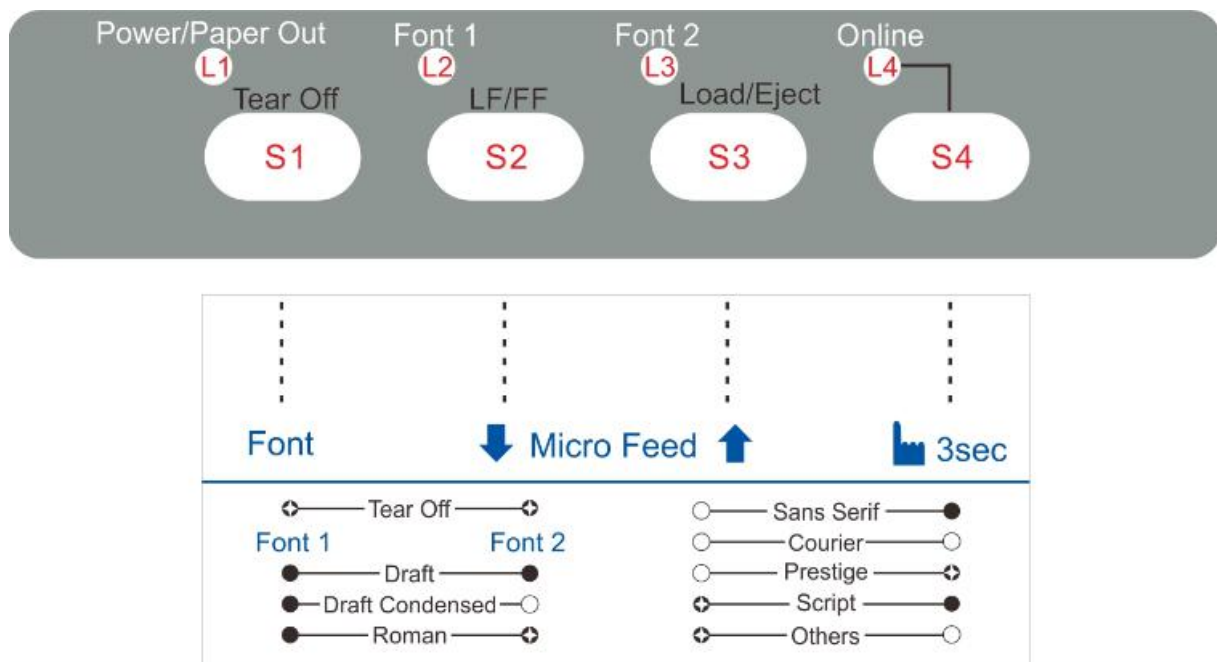
1. Place the printer on a solid base. The minimum suitable height of the solid base is 75 cm.
2. Left and right positioning: The direction of continuous paper should be parallel with the paper guide. The tolerance should be less than 3 cm.



3. Front and back positioning: The distance between the rear of printer and the wall should be more than 60cm. To avoid paper jam, the distance between the continuous paper and the edge of desk should be 10~15 cm.



## 4 Control Panel Operation



Note: A black filled circle means LED off; A white circle means LED on.

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

### 4.1 LED Indicators

“Power/Paper Out”

LED: On: Power

on

Flashing: Paper out

Flashing + buzzer: Paper jam

“Font 1 and Font 2” LED:

Flashing together: Indicates continuous paper is at tear-off position; otherwise it indicates the selected font. See table 4.1.

“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.

## 4.2 Control Panel Keys

“Tear Off” Key:

When online, this key will move any loaded continuous paper to the tear-off position. When in setup state, this key is used to select the desired font.

“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).

“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.

“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.

Table 4.1

| Font Selection Label         | L2 State | L3 State |
|------------------------------|----------|----------|
| Tear Off                     | Blink    | Blink    |
| Draft                        | Off      | Off      |
| Draft Condensed              | Off      | On       |
| Roman                        | Off      | Blink    |
| Sans Serif                   | On       | Off      |
| Courier                      | On       | On       |
| Prestige                     | On       | Blink    |
| Script                       | Blink    | Off      |
| Others<br>(see Menu setting) | Blink    | On       |

Table 4.2

| Switch | Label      |
|--------|------------|
| S1     | Tear off   |
| S2     | LF/FF      |
| S3     | Load/Eject |
| S4     | Online     |

Table 4.3

| LED | Function        |
|-----|-----------------|
| L1  | Power/Paper Out |
| L2  | Font1           |
| L3  | Font2           |
| L4  | Online          |

## 4.3 Panel Operation

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

In the Online state, the keys provide the following functions: Go to Tear Off position, Line Feed/Form Feed, Load/Eject, Clear Buffer and switch to offline state for accessing to Setup state.

In the Setup state, the keys provide font selection, and micro feed paper.

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: Hex-dump, Main Menu setup, print Main Menu, Customize Form, restore factory defaults, and firmware update.

The followings describe the 3 states in details.

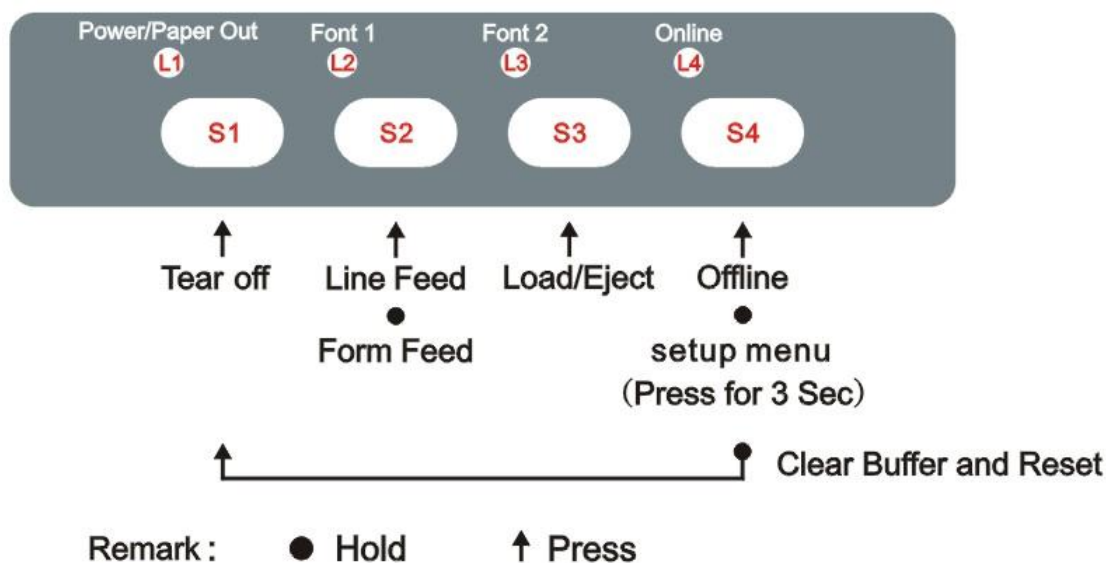
Legend:

[A] = press and hold switch A

{B} = press and then release switch B

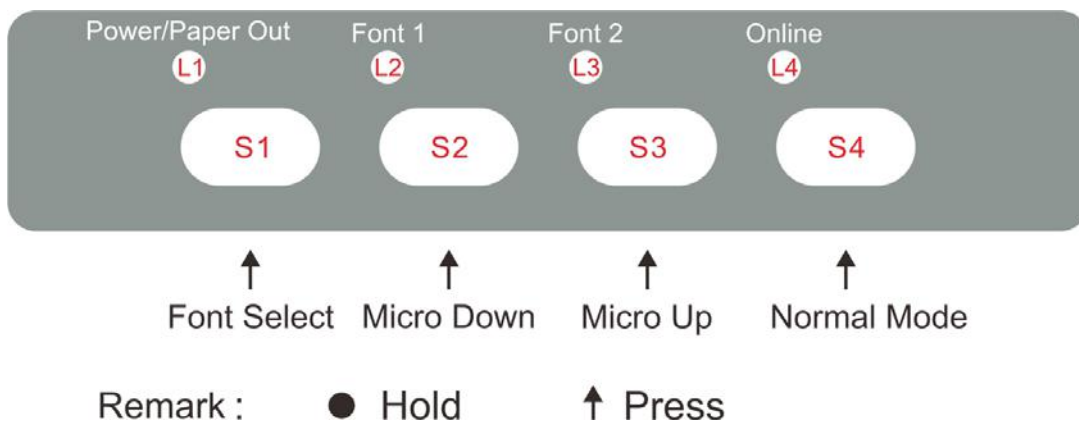
[A]+ {B} = press switch B while holding A

## 4.4 Online State



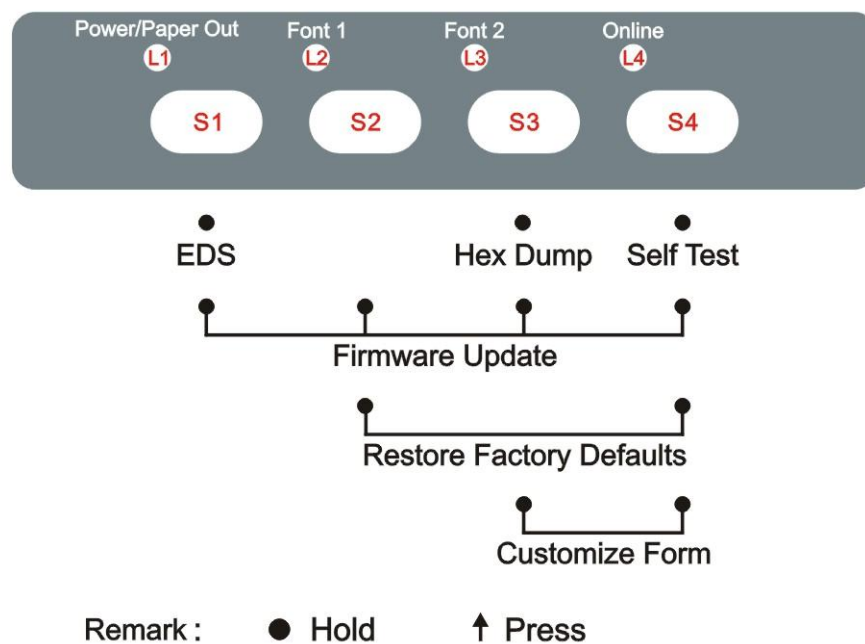
| Function Name          | Switch Operation | LED          | Function Description                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tear Off               | {S1}             | L2, L3 flash | 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 pressing any key or receiving print data from the host.                                                                                                                                                                   |
| LF                     | {S2}             | -            | Feeds one line with every press of S2                                                                                                                                                                                                                                                                                                                                     |
| FF                     | [S2]             | -            | 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).                                                                                                                                                        |
| Load/Eject             | {S3}             | -            | <ul style="list-style-type: none"> <li>Load: Automatically loads the paper (according to path selection) when no paper is on the platen.</li> <li>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.</li> </ul> |
| Online                 | {S4}             | L4           | Toggles between Online and Offline states.                                                                                                                                                                                                                                                                                                                                |
| Setup State            | [S4]             | L4           | Hold the S4 key for 3 seconds. Toggles to 3s Setup state. Indicated by flashing L4.                                                                                                                                                                                                                                                                                       |
| Clear Buffer and Reset | [S4]+{S1}        | --           | <ul style="list-style-type: none"> <li>Clears the print buffer. Beeps once upon completion.</li> <li>Pressing S1 longer initializes the printer to default settings. Beeps 3 times upon completion.</li> </ul>                                                                                                                                                            |

## 4.5 Setup State



| Function Name | Switch Operation | LED    | Function Description                                                                                                                                                                         |
|---------------|------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Online state  | {S4}             | L4     | Toggling to the Online state will cause the printer to go into a ready-to-print state. Any changes made in Setup state will be saved permanently. Lighting up L4 indicates the Online state. |
| Micro UP      | {S3}             | --     | Press S3 to micro feed paper up.                                                                                                                                                             |
| Micro Down    | {S2}             | --     | Press S2 to micro feed paper down.                                                                                                                                                           |
| Font Select   | {S1}             | L2, L3 | Refer to Table 4.1 for details.                                                                                                                                                              |

## 4.6 Power-On State



| Function Name            | Switch Operation          | LED    | Function Description                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------|---------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hex Dump                 | [S3]                      | -      | <p>Beeps once to indicate going into hex dump mode:</p> <ul style="list-style-type: none"> <li>• Prints data from host in hexadecimal representation.</li> <li>• Pressing S4 suspends the printing.</li> <li>• When the hex dump has finished, pressing S4 forces the printing of the last line of data, as any line termination control code from host has no function.</li> <li>• Switch off the power to terminate the hex dump.</li> </ul> |
| Menu Setup / EDS         | [S1]                      | -      | 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)                                                                                                                                                                                                                                                                                 |
| Self Test / Status Page  | [S4]                      | -      | Prints the printer settings and self-test pattern.                                                                                                                                                                                                                                                                                                                                                                                             |
| Firmware Update          | [S1]+[S2]+<br>[S3] + [S4] | L3, L4 | <ul style="list-style-type: none"> <li>• Alternate flashing of L3 and L4 indicates ready for firmware update from host.</li> <li>• When new firmware is being received: L3 and L4 flash together, while L1 and L2 LEDs are constantly on.</li> </ul> <p>When downloading is completed, the carriage returns to home position. Printer initializes normally.</p>                                                                                |
| Restore Factory Defaults | [S2] + [S4]               | -      | <p>Restore all settings to factory defaults.</p> <p>The carriage initializes and the printer beeps once after restoration.</p>                                                                                                                                                                                                                                                                                                                 |
| Customize Form           | [S3] + [S4]               |        | To customize the margins and tear-off position, please refer Chapter 6 for details.                                                                                                                                                                                                                                                                                                                                                            |

## 5 Printer Setting Changes

In order to meet specific print requirements, the printer configurations may be changed as follows: Hold down the **【Tear off】** key while powering on the printer and then release the 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 Printer Settings menu contains 8 sub-menus: System Setup, Paper Setup, Interface Setup, Character Setup, Other Setup, Bi-directional Alignment, BlackMark Mode, Restore Factory Defaults.

### 5.1 System Setup

| System setup     | Valid Settings                                                                   | Function                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Language         | <b>English</b> , Deutsch, Россия, Italiano, Français, Español, Türkçe, Português | Allows user to select one of the following languages: English, German, Russian, Italian, French, Spanish and Turkish, Portuguese                                                                                                                                                                                                                                                                           |
| Emulation        | <b>ESC/P2</b> , IBM                                                              | Selects the printer emulation. This should be the same as the host printer driver.                                                                                                                                                                                                                                                                                                                         |
| Auto CR (ESC/P2) | No, <b>Yes</b>                                                                   | Yes: LF = LF+CR; No: LF = LF<br>(Applies to ESC/P2 emulation only)                                                                                                                                                                                                                                                                                                                                         |
| Auto CR (IBM)    | <b>No</b> , Yes                                                                  | Yes: LF = LF+CR; No: LF = LF<br>(Applies to IBM emulation only)                                                                                                                                                                                                                                                                                                                                            |
| Auto LF          | <b>No</b> , Yes                                                                  | Yes: CR = CR+LF; No: CR = CR                                                                                                                                                                                                                                                                                                                                                                               |
| Print Dir        | <b>Bi-Dir</b> , Uni-Dir                                                          | Bi-Dir: Graphics and text are printed in both directions, resulting in faster printing speed.<br>Uni-Dir: Graphics and text are printed from left to right, resulting in higher precision.                                                                                                                                                                                                                 |
| Form Line        | Disable, <b>Enabled</b> , Dashed, NoPrint                                        | Disable: Grids in block graphics are disjoint, but grids by graphics commands or slanted grids (block graphics) are not affected.<br>Enabled: Vertical grids are continuous in all line spacing.<br>Dashed: Horizontal grids are printed in dotted lines and vertical grids are not affected.<br>NoPrint: Grids are not printed. But nested grids (by graphical commands) above 2 levels deep are printed. |
| Zero             | <b>0</b> , Ø                                                                     | 0: No-slashed Zero 0.<br>Ø: Slashed Zero Ø.                                                                                                                                                                                                                                                                                                                                                                |

| System setup    | Valid Settings                                                                                    | Function                                                                                                                                                                                                                                                                                                                  |
|-----------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LQ Text Quality | <b>LQ</b> , NLQ                                                                                   | <p>The “LQ Text Quality” parameter is invalid when Font is set to Draft.</p> <p>When Font is set to another font other Draft, the “LQ Text Quality” parameter will determine whether to print in NLQ mode or LQ mode.</p>                                                                                                 |
| Change Pin#1:   | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 | <p>Defines the first broken / worn out pin. This pin will be substituted by an adjacent pin in the second pass printing.</p> <p>No: Not to substitution of the worn out pin.</p>                                                                                                                                          |
| Change Pin #2   | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 | <p>Defines the first broken / worn out pin. This pin will be substituted by an adjacent pin in the second pass printing.</p> <p>No: Not to substitution of the worn out pin.</p>                                                                                                                                          |
| Power-Saving    | OFF, 1min, 2min, <b>5min</b> , 10min                                                              | <p>Defines the idle period before the printer gets into Save-energy Mode.</p> <p>OFF: The printer never goes into Save-energy Mode.</p>                                                                                                                                                                                   |
| MultiPaper      | Disable, <b>Standard</b> , Enhance                                                                | <p>Disable: The printer ignores the determination of paper thickness sensor; it keeps the impact force and the print speed unchanged.</p> <p>Standard: The printer increases the impact force and reduces the print speed.</p> <p>Enhance: The printer prints with even stronger impact force and slower print speed.</p> |
| Impact          | <b>Normal</b> , Heavy                                                                             | <p>Normal: The print speed is faster causing head hot easily and the impact force is weaker.</p> <p>Heavy: The print speed is reduced, resulting better thermal performance and copy capability.</p>                                                                                                                      |
| Graphic Speed   | <b>Normal</b> , Fast, Ultra                                                                       | Selects different print quality and print speed for graphic.                                                                                                                                                                                                                                                              |

## 5.2 Paper Setup

| Paper Setup               | Valid Settings                                                                            | Function                                                                                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Single FormLen            | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Customize | Sets the page length for single paper                                                                                                                                    |
| Single Top                | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Define                                        | Defines the separation in inches from the top edge of a single paper to the first print line.                                                                            |
| Single Bottom             | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Define                                        | Defines the separation in inches from the bottom edge of a single paper to the last print line.                                                                          |
| Single Left Mrg (1.00mm)  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Define                        | Compensation value added to Single Left Mrg.                                                                                                                             |
| Single Top Mrg (0.01")    | -7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7                                        | Compensation value added to Single Top.                                                                                                                                  |
| Single Auto Load          | Disable, <b>0.5sec</b> , 1sec, 1.5sec, 2sec                                               | Defines the settling time before a single sheet is loaded.<br>Disable: Press the <b>【Load/Eject】</b> key manually to load a single sheet.                                |
| Fanfold FormLen           | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Define    | Sets the Page Length for fanfold.                                                                                                                                        |
| Fanfold Top               | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Define                                        | Defines the separation in inches from the top edge of a fanfold to the first print line.                                                                                 |
| Fanfold Bottom            | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Define                                        | Define the separation in inches from the bottom edge of a fanfold to the last print line.                                                                                |
| Fanfold Left Mrg (1.00mm) | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Define                        | Compensation value added to Fanfold Left Mrg.                                                                                                                            |
| Fanfold Top Mrg (0.01")   | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                | Compensation value added to Fanfold Top.                                                                                                                                 |
| Fanfold Auto Load         | No, <b>Yes</b>                                                                            | Yes: The printer loads paper to the first printing position automatically when using fanfold.<br>No: Press the <b>【Load/Eject】</b> key to load paper when using fanfold. |
| Skip                      | <b>No</b> , Yes                                                                           | Skips printing on perforation area.<br>Only valid to fanfold.<br>Yes: Blank lines between 2 pages. No: No blank lines between 2 pages.                                   |

| Paper Setup      | Valid Settings                              | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tear             | <b>Auto</b> , Manual, View, Auto@FF         | <p>Auto: Form Feed command from the host causes the printer to advance the paper to the tear-off position. Printing resumes on the TOF on next page.</p> <p>Manual: After the completion of a print job, press a panel key to advance the paper to the tear-off position.</p> <p>View: No incoming print data in 1~2 seconds after printing completed causes the printer to advance the paper by 2 lines. Printing resumes 2 lines below the torn edge.</p> <p>Auto@FF: a formfeed command is necessary to auto feed the form to tear position.</p>                                             |
| Paper End Detect | No, <b>Yes</b>                              | <p>Yes: The printer stops printing if out of paper.</p> <p>No: The printer continues printing even out of paper.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Compress         | <b>Disable</b> , 11:8, 13.6:8, Auto         | <p>Disable: No compression on the print line exceeding the printable width.</p> <p>Auto: The print squeezes an over-width print line (not exceeding 22" in contents) to the printable width.</p> <p>Other Compression Ratio: For example, a ratio of 11: 8 commands the printer to take this line compression ratio.</p> <p><b>**Remark:</b> The compression is disabled after printer reset or loading a new page.</p>                                                                                                                                                                         |
| PaperCheck       | Invalid, Anti-jam, <b>Anti-skew</b> , Valid | <p>Determines if the cut sheet is jammed or skew.</p> <p>Invalid: Disables the detection of both.</p> <p>Anti-jam: Detect paper jam only.</p> <p>Anti-Skew: Detect paper skew only.</p> <p>Valid: Enables the detection of both.</p>                                                                                                                                                                                                                                                                                                                                                            |
| Buzzer           | No, <b>Yes</b>                              | <p>No: Buzzer does not sound if out of paper.</p> <p>Yes: Buzzer sounds if out of paper.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Tear Position    | Invalid, Detect, <b>Record</b>              | <p>This printer saves the tear-off position before switched off. After switched on, the printer if any change in the tear-off position and determines the start printing position.</p> <p>Invalid: Printing starts from previously switched off position.</p> <p>Detect: If the tear-off position is unchanged or smaller, printing starts from TOF position. If larger, printing starts from previously switched off position.</p> <p>Record: If the tear-off position is unchanged, printing starts from TOF position. If changed, printing starts from previously switched off position.</p> |

| Paper Setup                      | Valid Settings                                                                                                                                                                 | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APW (Auto Paper Width detection) | <b>No</b> , Yes                                                                                                                                                                | <p>Yes: Measures the width of the paper automatically after loading the paper.</p> <p>No: Disables page width measurement. NOTE:</p> <p>The printer is equipped with a page width sensor called "APW".</p> <p>If the sensor is defective, the "APW" setting will not appear in the menu; The <b>【Power】</b> LED blinks, <b>【Font 1】</b> and <b>【Font 2】</b> have no change, <b>【Online】</b> LED is off.</p>                                                                                                                                                                                                       |
| BlackMark                        | <b>No</b> , Yes                                                                                                                                                                | <p>No: Disables black mark sensor.</p> <p>Yes: Enables black mark sensor.</p> <p>When "Yes" and online, pressing the <b>【Tear Off】</b> key advances the paper to the tear-off position.</p> <p><b>BlackMark</b> commands: (also see section 5.7)</p> <ul style="list-style-type: none"> <li>1D 0C:<br/>Feeds paper to the print position designated by the black mark. Advance the paper to the tear-off position after printing.</li> <li>1C 28 4C 03 00 42 m:<br/>m = 0: feeds paper to the print position designated by the black mark.<br/>m = 1: feeds paper to the black mark tear-off position.</li> </ul> |
| Width                            | <b>8.0inch</b> , PaperWidth                                                                                                                                                    | <p>8.0inch: The maximum print width is 80 columns of 10cpi PICA characters.</p> <p>Paper Width: Sets the detected page width as print width. Enabling APW is required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FormLen<br>MicroAdj              | -20 -19 -18 -17 -16 -<br>15 -14 -13 -12 -11 -<br>10 -9 -8 -7 -6 -5 -4 -<br>3 -2 -1 <b>0</b> +1 +2 +3<br>+4 +5 +6 +7 +8 +9<br>+10 +11 +12 +13<br>+14 +15 +16 +17<br>+18 +19 +20 | <p>Fine tunes the form-length by n/360" (0.07mm) based on the default value. (Valid for single papers and fanfolds.)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Paper Setup | Valid Settings                     | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bail mode   | Invalid, <b>Standard</b> , Special | <p>The bail mode presses the paper against the print platen during printing, but it is released for paper loading.</p> <p>Invalid: If you uninstall the lever or want to disable the function, set this setting to “invalid”.</p> <p>Standard: Release the lever for paper loading and lower the lever to press the paper against the platen during printing.</p> <p>Special: When the paper is in tear-off position, after the printer received printing data, the printer will judge whether tear-off was implemented first. If tear-off was implemented and printing position is in lever area, then the printer will press the lever; If tear-off was not implemented, the printer will not press the lever.</p> |
| Roll Paper  | <b>No</b> , Yes                    | In friction mode, <b>【LF/FF】</b> will not eject the paper and feed to next page. (Assume roll paper)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

### 5.3 Interface Setup

| Interface setup | Valid Settings  | Function                                                                     |
|-----------------|-----------------|------------------------------------------------------------------------------|
| PnP             | No, <b>Yes</b>  | <p>No: Disables plug and play for USB</p> <p>Yes: Enables plug and play.</p> |
| USB ID          | <b>No</b> , Yes | <p>No: Disables USB ID.</p> <p>Yes: Enables USB ID</p>                       |

## 5.4 Character Setup

| Character setup | Valid Settings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Function                                                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Character Table | Italic, <b>Graphic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Italic: Selects standard character sets. Please refer to UG for details.<br>Graphic: Selects IBM character sets. Please refer to UG for details. |
| Character Group | Group 1, <b>Group 2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The interpretation of ASCII codes between 0x80~0x9F:<br>Group 1: as control codes.                                                               |
| Int'l Char Set  | <b>USA</b> , France, Germany, UK, DenmarkI, Sweden, Italy, SpainI, Japan, Norway, DenmarkII, Spain II, LatinAm, Denmark, China                                                                                                                                                                                                                                                                                                                                                                                                                    | International character set selections                                                                                                           |
| HS-Draft        | No, <b>Yes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Yes: Prints High Speed Draft when Draft font is selected.                                                                                        |
| Font            | Daft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCR A, Orator, Gothic, Souvenir                                                                                                                                                                                                                                                                                                                                                                                                                                     | Selects the font.                                                                                                                                |
| Pitch (cpi)     | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Controls the characters per inch setting.                                                                                                        |
| Code Page       | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCII, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC, EL0T928, UK_ASCII, US_ASCII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish | Code page selections                                                                                                                             |
| 15cpi Style     | <b>Small</b> , Normal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Sets the height for 15CPI character.<br>Small: prints in 1/8" height<br>Normal: prints in full height                                            |
| AGM (IBM)       | <b>No</b> , Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Activates or deactivates the AGM (Alternative Graphics Mode) mode in IBM emulation                                                               |

## 5.5 Other Setup

| Other setup      | Valid Settings  | Function                                                                                                                                              |
|------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Form Length Ctrl | No, <b>Yes</b>  | No: Form length commands are invalid in neither of the emulation.<br>Yes: Form length commands are valid in either of the emulations.                 |
| Print Speed Ctrl | No, <b>Yes</b>  | No: Print speed commands are invalid in neither of the emulation.<br>Yes: Print speed commands are valid in either of the emulations.                 |
| Pitch Ctrl       | No, <b>Yes</b>  | No: Ignores CPI commands<br>Yes: CPI commands are valid                                                                                               |
| Font Ctrl        | No, <b>Yes</b>  | No: Ignores font select commands<br>Yes: font select commands are valid                                                                               |
| Uni-Dir Ctrl     | <b>No</b> , Yes | No: Uni-Direction print commands are invalid in neither of the emulation.<br>Yes: Uni-Direction print commands are valid in either of the emulations. |

### 5.5.1 German (Deutsch)

| Systemeinstellung   | Gültige Werte                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------|
| Sprache             | <b>English</b> , deutsch, Россия, Italiano, Français, Español, Türkçe, Português                  |
| Emulation           | <b>ESC/P2</b> , IBM                                                                               |
| Auto CR (ESC/P2)    | Nein, <b>Ja</b>                                                                                   |
| Auto CR (IBM)       | <b>Nein</b> , Ja                                                                                  |
| Auto LF             | <b>Nein</b> , Ja                                                                                  |
| Druck Dir           | <b>Bi-Dir</b> , Uni-Dir                                                                           |
| Tabellenlinien      | Gestrichelt, <b>Verbunden</b> , Gepunktet, Deaktiviert                                            |
| Null                | <b>0</b> , Ø                                                                                      |
| Textqualität        | <b>LQ</b> , NLQ                                                                                   |
| Ersetze 1. Nadel    | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Ersetze 2. Nadel    | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Energiesparmodus    | Aus, 1min, 2min, <b>5min</b> , 10min                                                              |
| Mehrlagiges Drucken | Ungültig, <b>Standard</b> , Verstärkt                                                             |
| Impact Mode         | <b>Normal</b> , Stark                                                                             |
| Graphikgeschw.      | <b>Normal</b> , Schnell, Ultra                                                                    |

| Papier Setup        | Gültige Werte                                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Einzel Länge        | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definiert                                             |
| Einzel Ob Rand      | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definiert                                                                                 |
| Einzel Unt Rand     | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definiert                                                                                 |
| Einzel Li Rand      | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definiert                                                                 |
| Einzel Ob Rand Fein | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                            |
| Einzel Auto laden   | Ungültig, <b>0.5sec</b> , 1sec, 1.5sec, 2sec                                                                                          |
| Endlos Form länge   | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definiert                                             |
| Endlos Ob Rand      | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definiert                                                                                 |
| Endlos Unt Rand     | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definiert                                                                                 |
| Endlos Li Rand      | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definiert                                                                 |
| Endlos Ob Rand Fein | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                            |
| Endlos Auto Laden   | Nein, <b>Ja</b>                                                                                                                       |
| Perforationssprung  | <b>Nein</b> , Ja                                                                                                                      |
| Abreißen            | <b>Auto</b> , Manuelles, Kurz, Auto@FF                                                                                                |
| Papierendeerkennung | Nein, <b>Ja</b>                                                                                                                       |
| Komprimieren        | <b>Ungültig</b> , 11: 8, 13.6: 8, Auto                                                                                                |
| Papierhandhabung    | Aus, Anti-Stau, <b>Anti-Schräg</b> , Ein                                                                                              |
| Summer              | Nein, <b>Ja</b>                                                                                                                       |
| Abreißposition      | Nein, Erkennen, <b>Speichern</b>                                                                                                      |
| APW                 | <b>Nein</b> , Ja                                                                                                                      |
| BlackMark           | <b>Nein</b> , Ja                                                                                                                      |
| Druckbreite         | <b>8.0inch</b> , Papierbreite                                                                                                         |
| FormLäng Fein       | -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1<br><b>0</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 |
| Andruckbügelmodus   | Ungültig, <b>Standard</b> , Spezial                                                                                                   |
| Rollenpapier        | <b>Nein</b> , Ja                                                                                                                      |

| Schnittstellen Setup | Gültige Werte    |
|----------------------|------------------|
| PnP                  | Nein, <b>Ja</b>  |
| USB ID               | <b>Nein</b> , Ja |

| Zeicheneinstellung | Gültige Werte                                                                                                                     |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Zeichentabelle     | Italic, <b>Graphic</b>                                                                                                            |
| PC-Zeichensatz     | Gruppe 1, <b>Gruppe 2</b>                                                                                                         |
| Land               | <b>USA</b> , Frankreich, Deutschland, U.K., Dänemark I , Schweden, Italien, Spanien I , Japan, Norwegen, Dänemark II, Spanien II, |
| HS-Draft           | Nein, <b>Ja</b>                                                                                                                   |
| Schriftart         | Draft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCR A, Orator, Gothic, Souvenir                    |
| Laufweite (cpi)    | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                        |

| Zeicheneinstellung | Gültige Werte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zeichensatz        | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCI, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC, ELOT928, UK_ASCII, US_ASCII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish |
| 15cpi Stil         | <b>Schmal</b> , Normal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AGM (IBM)          | <b>Nein</b> , Ja                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Erweitertes Setup    | Gültige Werte    |
|----------------------|------------------|
| Formularlänge Strg   | Nein, <b>Ja</b>  |
| Geschwindigkeit Strg | Nein, <b>Ja</b>  |
| Laufweite Strg       | Nein, <b>Ja</b>  |
| Font Strg            | Nein, <b>Ja</b>  |
| Uni-dir Strg         | <b>Nein</b> , Ja |

### 5.5.2 Russian (Россия)

| обновление системы  | Правильные значения                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------|
| язык                | English, Deutsch, <b>Россия</b> , Italiano, Français, Español, Türkçe, Português                 |
| Эмуляция            | <b>ESC/P2</b> , IBM                                                                              |
| Авто CR (ESC/P2)    | НЕТ, <b>ДА</b>                                                                                   |
| Авто CR (IBM)       | <b>НЕТ</b> , ДА                                                                                  |
| Авто LF             | <b>НЕТ</b> , ДА                                                                                  |
| Направление печати  | <b>однапрВ</b> , дВунапрВ                                                                        |
| Контурная линия     | отключен, <b>Подключен</b> , лунктирная, безпечати                                               |
| Ноль                | <b>0</b> , Ø                                                                                     |
| Текст качества      | <b>LQ</b> , NLQ                                                                                  |
| Замена 1. иглы      | <b>№</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Замена 2. иглы      | <b>№</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Экономный режим     | выключено, 1мин, 2мин, <b>5мин</b> , 10мин                                                       |
| Многослойная печать | недейств, <b>Обычный</b> , усилен                                                                |
| воздействия         | <b>Нортально</b> , сильно                                                                        |
| Скорость печати     | <b>Норталь</b> , быстро, ультра                                                                  |

| Настройка страницы   | Правильные значения                                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Длина форм лист      | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, определен                                             |
| Сверху отступ Лист   | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, определен                                                                                 |
| Снизу отступ Лист    | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, определен                                                                                 |
| Слева отступ Лист    | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, определен                                                                 |
| Верх отс. Л. Тонко   | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                            |
| Автом Загруз Лист    | недейств, <b>0.5sec</b> , 1sec, 1.5sec, 2sec                                                                                          |
| Длина форм Непрер    | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, определен                                             |
| Сверху отступ Непрер | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, определен                                                                                 |
| Снизу отступ Непрер  | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, определен                                                                                 |
| Слева отступ Непрер  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, определен                                                                 |
| Верх отс. Тонко Непр | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                            |
| Автом загруз Непрер  | НЕТ, <b>ДА</b>                                                                                                                        |
| Пропуск перфорации   | <b>НЕТ</b> , ДА                                                                                                                       |
| Отрыв бумаги         | <b>Авто</b> , ручной, короткий, Авто@FF                                                                                               |
| Определ конец бумаг  | НЕТ, <b>ДА</b>                                                                                                                        |
| Сжатие               | <b>Недействие</b> , 11: 8, 13.6: 8, Auto                                                                                              |
| Обращение с бумагой  | Подключен, Анти-застой, Анти-склон, отключен                                                                                          |
| Сигнал               | НЕТ, <b>ДА</b>                                                                                                                        |
| Позиции отрыва       | Подключен, определение, <b>запись</b>                                                                                                 |
| Опред ширины бумаги  | <b>НЕТ</b> , ДА                                                                                                                       |
| черной метки         | <b>НЕТ</b> , ДА                                                                                                                       |
| Ширина печати        | <b>8.0inch</b> , Ширина бумаги                                                                                                        |
| Микродлинформ бумаг  | -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1<br><b>0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20</b> |
| Мод.лрижимн.Скоба    | Недолустимо, стандарт, Специально                                                                                                     |
| Рулонная бумага      | <b>НЕТ</b> , ДА                                                                                                                       |

| Настройка интерфейс | Правильные значения |
|---------------------|---------------------|
| PnP                 | НЕТ, <b>Да</b>      |
| USB ID              | <b>НЕТ</b> , Да     |

| Настройка знаков    | Правильные значения                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Таблица знаков      | Italic, <b>Graphic</b>                                                                                                           |
| Группа символов     | Группа 1, <b>группа 2</b>                                                                                                        |
| Набор знаков        | США, франция, Германия, U.K., Дания, Швеция, итапия, испания, япония, Норвегия, Дания II, испания II, Лат Америка, Данияя, Китай |
| Vbl с оЗад ркорость | НЕТ, <b>Да</b>                                                                                                                   |

| Настройка знаков     | Правильные значения                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Шрифт                | Draft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCR A, Orator, Gothic, Souvenir                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Шаг (cpi)            | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Кодовая страница     | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCII, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC, ELOT928, UK_ASCII, US_ASCII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish |
| Способ печатс 15 cpi | <b>Мелкий</b> , Обычный                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AGM (IBM)            | <b>НЕТ</b> , Да                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Другие настройки    | Правильные значения |
|---------------------|---------------------|
| длина формуляр Ctrl | НЕТ, <b>Да</b>      |
| скорости Ctrl       | НЕТ, <b>Да</b>      |
| Шаг Ctrl            | НЕТ, <b>Да</b>      |
| Шрифт Ctrl          | НЕТ, <b>Да</b>      |
| однаправленной Ctrl | <b>НЕТ</b> , Да     |

### 5.5.3 Italian (Italiano)

| Setup sistema     | Impostazioni<br><i>Valide</i>                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------|
| Linguaggio        | <b>English</b> , Deutsch, Россия, Italiano, Français, Español, Türkçe, Português                  |
| Emulazione        | <b>ESC/P2</b> , IBM                                                                               |
| Auto CR (ESC/P2)  | No, <b>Si</b>                                                                                     |
| Auto CR (IBM)     | <b>No</b> , Si                                                                                    |
| Auto LF           | <b>No</b> , Si                                                                                    |
| Direz. Stampa     | <b>Bi-Dir</b> , Uni-Dir                                                                           |
| Linee Formato     | Disconnessa, <b>Connessa</b> , riga aghi, Non stampa                                              |
| Zero              | <b>0</b> , Ø                                                                                      |
| Qualità di testo  | <b>LQ</b> , NLQ                                                                                   |
| Primo ago rotto   | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Secondo ago rotto | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Risparmio Energia | OFF, 1min, 2min, <b>5min</b> , 10min                                                              |
| Stampa multicopia | Non valido, <b>Copia STD</b> , più impatto                                                        |
| Modo Impatto      | <b>Normale</b> , Pesante                                                                          |
| Veloc. Grafica    | <b>Normale</b> , Veloce, Ultra                                                                    |

| Imposta carta         | Impostazioni                                                                                                                                                 |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lunghezza Foglio      | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definito                                                                     |
| Margine Sup. Foglio   | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definito                                                                                                         |
| Margine Infer. Foglio | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definito                                                                                                         |
| Regola foglio a SX    | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definito                                                                                         |
| Regola Sup. Foglio    | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Autocarica foglio     | Non valido, <b>0.5sec</b> , 1sec, 1.5sec, 2sec                                                                                                               |
| Lungh. Mod. Continuo  | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definito                                                                     |
| Margine Superiore     | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definito                                                                                                         |
| Mar. Inf. Continuo    | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definito                                                                                                         |
| Regola a SX continuo  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definito                                                                                         |
| Regola Sup. continuo  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Autocarica continuo   | No, <b>Si</b>                                                                                                                                                |
| Salto Perforazione    | <b>No</b> , Si                                                                                                                                               |
| Strappo               | <b>Auto STP</b> , STP manuale, STP corto, Auto@FF                                                                                                            |
| Vede fine carta       | No, <b>Si</b>                                                                                                                                                |
| Comprime              | <b>Non valido</b> , 11:8., 13.6:8, Auto                                                                                                                      |
| Gestione carta        | Invalido, Non inceppa, <b>Antiscivolo</b> , Valido, ,                                                                                                        |
| Cicalino              | No, <b>Si</b>                                                                                                                                                |
| Posizione STP         | Invalido, Rileva, <b>Registra</b>                                                                                                                            |
| APW                   | <b>No</b> , Si                                                                                                                                               |
| Segno nero riferim    | <b>No</b> , Si                                                                                                                                               |
| Larghezza stampa      | <b>8.0inch</b> , Larghezza carta                                                                                                                             |
| Regola lung. Carta    | -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3<br>-2 -1 <b>0</b> +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12 +13 +14 +15<br>+16 +17 +18 +19 +20 |
| Barra rullini         | Non valido, <b>Standard</b> , Speciale                                                                                                                       |
| Rullo Carta           | <b>No</b> , Si                                                                                                                                               |

| Setup IF | Impostazioni Valide |
|----------|---------------------|
| PnP      | No, <b>Si</b>       |
| ID USB   | <b>No</b> , Si      |

| Imposta caratteri | Impostazioni Valide                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tabella Caratteri | Italico, <b>Grafica</b>                                                                                                                                |
| Gruppo Carattere  | Groupo 1, <b>Group 2</b>                                                                                                                               |
| Set Carat. Int.   | <b>USA</b> , Francia, Germania, Regno Unito, Danimarca I, Svezia, Italia, Spagna I, Giappone, Norvegia, Danimarca II, Spagna II, Danimarca, Porcellana |
| HS-Bozza          | No, <b>Si</b>                                                                                                                                          |
| Fonte             | Draft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCRA, Orator, Gothic, Souvenir                                          |
| Spaziatura (cpi)  | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                                             |

| Imposta caratteri | Impostazioni Valide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Code Page         | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCII, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC, ELOT928, UK_ASCII, US_ASCII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish |
| Stile 15 CPI      | <b>Piccolo</b> , Normale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| AGM (IBM)         | <b>No</b> , Si                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Altri Setup         | Impostazioni Valide |
|---------------------|---------------------|
| Comando lunghezza   | No, <b>Si</b>       |
| Comando velocità    | No, <b>Si</b>       |
| Comando Spaziatura  | No, <b>Si</b>       |
| Comando Fonte       | No, <b>Si</b>       |
| Comando stampa mono | <b>No</b> , Si      |

### 5.5.4 French (Français)

| Configuration System | Paramètres Valides                                                                                |
|----------------------|---------------------------------------------------------------------------------------------------|
| Language             | <b>English</b> , Deutsch, Россия, Italiano, Français, Español, Türkçe, Português                  |
| Emulation            | <b>ESC/P2</b> , IBM                                                                               |
| RC-Auto (ESC/P2)     | Non, <b>Oui</b>                                                                                   |
| RC-Auto (IBM)        | <b>Non</b> , Oui                                                                                  |
| SL-Auto              | <b>Non</b> , Oui                                                                                  |
| Dir Impr             | <b>Bidir</b> , Unidir                                                                             |
| Ligne formée         | Discontinue, <b>Continue</b> , Pointillé, Non imprime                                             |
| Zéro                 | <b>0</b> , Ø                                                                                      |
| Qualité du texte     | <b>LQ</b> , NLQ                                                                                   |
| Changer aiguille 1   | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Changer aiguille 2   | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Economie Energie     | Non, 1mn, 2mn, <b>5mn</b> , 10mn                                                                  |
| Impr. multi-copies   | Non, <b>Standard</b> , Renforcé                                                                   |
| Mode Impact          | <b>Normal</b> , Fort                                                                              |
| Vitesse graphiq      | <b>Normal</b> , Rapide, Ultra                                                                     |

| Réglage papier       | Paramètres Valides                                                                                                                    |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Feuille LongPage     | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Définie                                               |
| Bord Sup. Feuille    | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Définie                                                                                   |
| Bord Inf. Feuille    | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Définie                                                                                   |
| Marge Gauche Feuille | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, c                                                                         |
| Marge Haute Feuille  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                            |
| Charg. Auto Feuille  | Non, <b>0.5sec</b> , 1sec, 1.5sec, 2sec                                                                                               |
| Listing LongPage     | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Définie                                               |
| Listing Bord Sup.    | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Définie                                                                                   |
| Listing Bord infér.  | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Définie                                                                                   |
| Listing Marge Gauche | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Définie                                                                   |
| Listing Marge Haute  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                            |
| Listing Charg. Auto  | Non, <b>Oui</b>                                                                                                                       |
| Saut perforation     | <b>Non</b> , Oui                                                                                                                      |
| Coupe                | <b>Auto</b> , Manuelle, Courte, Auto@FF                                                                                               |
| Délect. Fin Papier   | Non, <b>Oui</b>                                                                                                                       |
| Condense             | <b>Non</b> , 11:8, 13.6:8, Auto                                                                                                       |
| Gestion Papier       | Non, Bourrage, <b>Anti-biais</b> , Oui,                                                                                               |
| Alarma               | Non, <b>Oui</b>                                                                                                                       |
| Position de Coupe    | Non, Détecter, <b>Enregistrer</b>                                                                                                     |
| APW                  | <b>Non</b> , Oui                                                                                                                      |
| Mode Repère Noir     | <b>Non</b> , Oui                                                                                                                      |
| Largeur Impression   | <b>8.0inch</b> , Larg.Papier                                                                                                          |
| LongPag Micro-ajust  | -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5<br>-4 -3 -2 -1 <b>0</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 |
| Mode entraînement    | Non Valid, <b>Standard</b> , Spécial                                                                                                  |
| Papier du rouleau    | <b>Non</b> , Oui                                                                                                                      |

| Config Interface | Paramètres Valides |
|------------------|--------------------|
| PnP              | Non, <b>Oui</b>    |
| USB ID           | Non, <b>Oui</b>    |

| Parametrage Caractère | Valid Settings                                                                                                                                      |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Table Caractère       | Italic, <b>Graphic</b>                                                                                                                              |
| Groupe Caractères     | Groupe 1, <b>Groupe 2</b>                                                                                                                           |
| Pays                  | <b>USA</b> , France, Allemagne, Royaume-Uni, Denmark I, Suède, Italie, Espagne, Japon, Norvège, Denmark II, Espagne II, Ameriquelat, Denmark, Chine |
| HS-Draft              | Non, <b>Oui</b>                                                                                                                                     |
| Fonte                 | Draft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCRA, Orator, Gothic, Souvenir                                       |
| Espacement (cpi)      | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                                          |

| Parametrage<br>Caracter | Valid Settings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Code Page               | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCII, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC, ELOT928, UK_ASCII, US_ASCII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish |
| Style15cpi              | <b>Petit</b> , Normal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AGM (IBM)               | <b>Non</b> , Oui                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Autre réglage      | Paramètres Valides |
|--------------------|--------------------|
| Ctrl LongPage      | Non, <b>Oui</b>    |
| Ctrl Vitesse Impr. | Non, <b>Oui</b>    |
| Ctrl Espacement    | Non, <b>Oui</b>    |
| Ctrl Fonte         | Non, <b>Oui</b>    |
| Ctrl Impr. Uni-Dir | <b>Non</b> , Oui   |

### 5.5.5 Spanish (Español)

| Menu. Sistema       | Ajustes validos                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------|
| Language            | <b>English</b> , Deutsch, Россия, Italiano, Français, Español, Türkçe, Português                  |
| Emulación           | ESC/P2, <b>IBM</b>                                                                                |
| Auto CR (ESC/P2)    | No, <b>Si</b>                                                                                     |
| Auto CR (IBM)       | <b>No</b> , Si                                                                                    |
| Auto LF             | <b>No</b> , Si                                                                                    |
| Direccion Imp       | <b>Bi-Dir</b> , Uni-Dir                                                                           |
| Linea del Formato   | Desconect, <b>Conectado</b> , Línea Punto, Sin Impr.                                              |
| Cero con barra      | <b>0</b> , Ø                                                                                      |
| Sust. 1er pin roto  | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Sust. 2do pin roto  | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Modo Ahorro Energía | OFF, 1min, 2min, <b>5min</b> , 10min                                                              |
| Impr. Multi-Copias  | Inválido, <b>Cop. Normal</b> , Cop. Fuerte                                                        |
| Modo de Impacto     | <b>Normal</b> , Fuerte                                                                            |
| Imp.Grafica         | <b>Normal</b> , Rapido, Ultra                                                                     |

| Config. Papel         | Ajustes validos                                                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tam. Hojas Sueltas    | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definido                                                                     |
| Margen Sup.Hoja S.    | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Margen Inf.Hoja S.    | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Margen Izq. Hoja S.   | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definido                                                                                         |
| Margen. Sup. Hoja S.  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Carga Auto. Hoja S.   | Invalido, <b>0.5seg</b> , <b>1seg</b> , <b>1.5seg</b> , <b>2seg</b>                                                                                          |
| Tam. Papel Continuo   | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definido                                                                     |
| Mar. Sup. Pap. Con.   | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Mar. Inf. Pap.Cont.   | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Marg. Iz. Pap. Cont.  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definido                                                                                         |
| Marg. Sup. Pap. Cont. | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Carga Auto. Hoja Su.  | No, <b>Si</b>                                                                                                                                                |
| Salto perforación     | <b>No</b> , Si                                                                                                                                               |
| Corte                 | <b>Automatico</b> , Manual, Corto, Auto@FF                                                                                                                   |
| Detec. Fin de Papel   | No, <b>Si</b>                                                                                                                                                |
| Condensado            | <b>Inválido</b> , 11:8, 13.6:8, Auto                                                                                                                         |
| Manejo de Papel       | Inválido, Anti-atasco, <b>Anti-desvío</b> , Válido,                                                                                                          |
| Alarma                | No, <b>Si</b>                                                                                                                                                |
| Posición de Corte     | Inválido, Detectar, <b>Registrar</b>                                                                                                                         |
| Det. Ancho de Papel   | <b>No</b> , Si                                                                                                                                               |
| Modo Marca Negra      | <b>No</b> , Si                                                                                                                                               |
| Ancho de Impresión    | <b>8.0inch</b> , Ancho de Papel                                                                                                                              |
| Micro-Aju. Tam. Hoja  | -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3<br>-2 -1 <b>0</b> +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12 +13 +14 +15<br>+16 +17 +18 +19 +20 |
| Modo barra            | Inválido, <b>Estandar</b> , Especial                                                                                                                         |
| Rollo de Papel        | <b>No</b> , Si                                                                                                                                               |

| Conf. Interface | Ajustes validos |
|-----------------|-----------------|
| PnP             | No, <b>Si</b>   |
| USB ID          | <b>No</b> , Si  |

| Menu. Carácter      | Ajustes validos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tabla de Carácter   | Italico, <b>Graficos</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Grupo de Carácter   | Grupo 1, <b>Grupo 2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Juego Carácter Int. | <b>EEUU</b> , Francia, Alemania, Reino Unido, Dinamarca I , Suecia, Italia, España, Japón, Noruega, Dinamarca II, España II, AméricaLat, Dinamarca, China                                                                                                                                                                                                                                                                                                                                                                                         |
| Alta Velocidad      | No, <b>Si</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Fuente              | Draft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCR A, Orator, Gothic, Souvenir                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Tamaño Letra (cpi)  | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Pagina Codigos      | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCII, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC, ELOT928, UK_ASCII, US_ASCII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish |
| Estilo15cpi         | <b>Pequeno</b> , Normal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AGM (IBM)           | <b>No</b> , Si                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Config. Otros       | Ajustes validos |
|---------------------|-----------------|
| Cmd. Long. de Hoja  | No, <b>Si</b>   |
| Cmd. Vel. Impresión | No, <b>Si</b>   |
| Cmd. Tamaño Letra   | No, <b>Si</b>   |
| Cmd.Fuente          | No, <b>Si</b>   |
| Cmd. Imp. Uni-dir   | <b>No</b> , Si  |

### 5.5.6 Turkish (Türkçe)

| Sistem Ayar Durumu       | Valid Settings                                                                   |
|--------------------------|----------------------------------------------------------------------------------|
| Lisan                    | <b>English</b> , Deutsch, Россия, Italiano, Français, Español, Türkçe, Português |
| Emülasyon                | <b>ESC/P2</b> , IBM                                                              |
| Otom. Satırbaşı (ESC/P2) | Hayır, <b>Evet</b>                                                               |
| Otom. Satırbaşı (IBM)    | <b>Hayır</b> , Evet                                                              |
| Otom. Satır besleme      | <b>Hayır</b> , Evet                                                              |
| Baskı Yönü               | <b>Yki-Yöne</b> , Tek-Yöne                                                       |
| Kağıt satırı             | Bağlı değil, <b>Bağlandı</b> , Nokta satır, Baskı yok                            |
| Sıfır Sayısı             | <b>0</b> , Ø                                                                     |
| metin Kalite             | <b>LQ</b> , NLQ                                                                  |

| Sistem Ayar Durumu   | Valid Settings                                                                                       |
|----------------------|------------------------------------------------------------------------------------------------------|
| Arızalı 1. iğne yed. | <b>Hayır</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Arızalı 2. iğne yed. | <b>Hayır</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
| Enerji tutumu modu   | OFF, 1min, 2min, <b>5min</b> , 10min                                                                 |
| Çok katmanlı baskı   | Geçersiz, <b>Normal</b> , Güçlü                                                                      |
| Vuruf modu           | <b>Normal</b> , Güçlü                                                                                |
| Grafik Hızı          | <b>Normal</b> , Hızlı, Ultra                                                                         |

| Kağıt Ayarı          | Geçerli ölçüler                                                                                                                                              |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tek-kağıt Form uzun  | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Oto. Tanım.                                                                  |
| Tek-kağıt Üst boşluk | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Oto. Tanım.                                                                                                      |
| Tek-kağıt Altkenar   | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Oto. Tanım.                                                                                                      |
| Tek-kağıt Sol ayar   | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Oto. Tanım.                                                                                      |
| Tek-kağıt Üst ayar   | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Tek-kağıt oto kağıt  | Geçersiz, <b>0.5sec</b> , 1sec, 1.5sec, 2sec                                                                                                                 |
| Sür. Form Kğt Uz.    | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Oto. Tanım.                                                                  |
| Sür. Form Kğt Üst    | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Oto. Tanım.                                                                                                      |
| Sür. Form Kğt Alt    | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Oto. Tanım.                                                                                                      |
| Sür. Form Kğt Sol    | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Oto. Tanım.                                                                                      |
| Sür. Form Kğt üst    | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Sür. Form Oto Kğt    | Hayır, <b>Evet</b>                                                                                                                                           |
| Delik atlama         | <b>Hayır</b> , Evet                                                                                                                                          |
| Kağıt kesme          | <b>Oto. kesim</b> , Elle kesim, Kısa kesim, Auto@FF                                                                                                          |
| Sayfa sonu algı      | Hayır, <b>Evet</b>                                                                                                                                           |
| Gnş Baskı sıkıştırma | <b>Geçersiz</b> , 11:8, 13.6:8, Auto                                                                                                                         |
| Eğrilik önleme       | Sıkışıklık, engel, <b>Geçerli</b> , Geçersiz                                                                                                                 |
| lkaz                 | Hayır, <b>Evet</b>                                                                                                                                           |
| Kğt Kesme Poz.Sakla  | Geçersiz, Algılama, <b>Hafıza kayıt</b> ,                                                                                                                    |
| Kağıt gen.algı       | <b>Hayır</b> , Evet                                                                                                                                          |
| Siyah Çizgi algı     | <b>Hayır</b> , Evet                                                                                                                                          |
| Baskı Genişliği      | <b>8.0inch</b> , Kağıt genişliği                                                                                                                             |
| Kğt uznlk ince ayar  | -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3<br>-2 -1 <b>0</b> +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12 +13 +14 +15<br>+16 +17 +18 +19 +20 |
| Basınç yay modu      | Geçersiz, <b>Standart</b> , Özel                                                                                                                             |
| Rulo kağıt           | <b>Hayır</b> , Evet                                                                                                                                          |

| Arabirim Ayarı | Geçerli ölçüler     |
|----------------|---------------------|
| PnP            | Hayır, <b>Evet</b>  |
| USB Tanımı     | <b>Hayır</b> , Evet |

| Karakter Ayarı        | Geçerli ölçüler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Karakter Tablosu      | Italic, <b>Graphic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Karakter Grubu        | Grup 1, <b>Grup 2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Karakter setleri      | <b>Amerika</b> , Fransa, Almanya, İngiltere, Danimarka I, İsveç, İtalya, İspanya, Japonya, Norveç, Danimarka II, İspanya II, Ltn Amerika, Danimarka, Çin                                                                                                                                                                                                                                                                                                                                                                                          |
| YBk.HHz-Tasiak        | Hayır, <b>Evet</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Yazı Tipi             | Draft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCR A, Orator, Gothic, Souvenir                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Karakter Aralık (cpi) | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Kod Sayfası           | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCII, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC, ELOT928, UK_ASCII, US_ASCII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish |
| 15cpi Biçimi          | <b>Küçük</b> , Normal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AGM (IBM)             | <b>Hayır</b> , Evet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Diğer Ayarlar      | Geçerli ölçüler     |
|--------------------|---------------------|
| Kgt Uzunluk Komutu | Hayır, <b>Evet</b>  |
| Baskı Hızı Komutu  | Hayır, <b>Evet</b>  |
| Karak.Aralık Kont. | Hayır, <b>Evet</b>  |
| YazıTipi Komutu    | Hayır, <b>Evet</b>  |
| Tekyön bask Komutu | <b>Hayır</b> , Evet |

### 5.5.7 Portuguese (Português)

| Config. Sistema     | Valores válidos                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------|
| Linguagem           | <b>English</b> , Deutsch, Россия, Italiano, Français, Español, Türkçe, Português                  |
| Emulação            | <b>ESC/P2</b> , IBM                                                                               |
| Auto CR (ESC/P2)    | Não, <b>Sim</b>                                                                                   |
| Auto CR (IBM)       | <b>Não</b> , Sim                                                                                  |
| Auto LF             | <b>Não</b> , Sim                                                                                  |
| Direção Imp.        | <b>Bi-Dir</b> , Uni-Dir                                                                           |
| Linha forma         | Desativar, <b>Ativar</b> , Tracejada, No Imprimir                                                 |
| Zero                | <b>0</b> , Ø                                                                                      |
| Calidad del texto   | <b>LQ</b> , NLQ                                                                                   |
| Substituição Pino 1 | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |

|                     |                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------|
| Substituição Pino 2 | <b>No</b> , 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 |
|---------------------|---------------------------------------------------------------------------------------------------|

| Config. Sistema   | Valores válidos                         |
|-------------------|-----------------------------------------|
| Poupança Energia  | OFF, 1min, 2min, <b>5min</b> , 10min    |
| Impr.Multi-Copias | Desativo, <b>Cop.Normal</b> , Cop.Forte |
| Modo de Impacto   | <b>Normal</b> , Forte                   |
| Imp. Grafica      | <b>Normal</b> , Rápido, Ultra           |

| Config. Papel          | Valores válidos                                                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tam.Folha Solta        | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definido                                                                     |
| Margem Topo Folha      | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Margem Inf. Folha      | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Margem Esq. Folha      | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definido                                                                                         |
| Margem Dir. Folha      | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Carreg. Auto Folha     | Desativo, <b>0.5sec</b> , 1sec, 1.5sec, 2sec                                                                                                                 |
| Tam. Form. Cont.       | 2.5, 11/4, 3, 3.5, 11/3, 4, 5, 5.5, 6, 7, 8, 9, 10, <b>11</b> , 12, 14, A4, B4, Definido                                                                     |
| Mar. Topo Form. Cont.  | 0, 1/6, 1/4, <b>1/3</b> , 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Mar. Inf. Form. Cont.  | <b>0</b> , 1/6, 1/4, 1/3, 1/2, 2/3, 3/4, 1, Definido                                                                                                         |
| Mar. Esq. Form. Cont.  | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7, Definido                                                                                         |
| Marg. Topo Form. Cont. | -7, -6, -5, -4, -3, -2, -1, <b>0</b> , 1, 2, 3, 4, 5, 6, 7                                                                                                   |
| Carreg. Auto Form      | Não, <b>Sim</b>                                                                                                                                              |
| Salte perfuração       | <b>Não</b> , Sim                                                                                                                                             |
| Corte                  | <b>Automático</b> , Manual, Corto, Auto@FF                                                                                                                   |
| Detec. Fim de Papel    | Não, <b>Sim</b>                                                                                                                                              |
| Condensado             | <b>Desativo</b> , 11:8, 13.6:8, Auto                                                                                                                         |
| Manuseio de Papel      | Inválido, Anti-atola, Anti-desvio, Válido                                                                                                                    |
| Cigarra                | Não, <b>Sim</b>                                                                                                                                              |
| Posição de corte       | Inválido, Detectar, <b>Registrar</b>                                                                                                                         |
| Det. Largura Papel     | Não, <b>Sim</b>                                                                                                                                              |
| Modo Marca Preta       | <b>Não</b> , Sim                                                                                                                                             |
| Largura impressão      | <b>8.0inch</b> , largura do papel                                                                                                                            |
| Mic. -Aju. Tam. Hoja   | -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3<br>-2 -1 <b>0</b> +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12 +13 +14 +15<br>+16 +17 +18 +19 +20 |
| Modo de pressão        | Invalido, <b>Norma</b> , Especial                                                                                                                            |
| Rollo de Papel         | <b>Não</b> , Sim                                                                                                                                             |

| Conf. Interface | Valores válidos  |
|-----------------|------------------|
| PnP             | Não, <b>Sim</b>  |
| ID USB          | <b>Não</b> , Sim |

| Config. Caráter      | Valores válidos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tabela de caracteres | Itálic, <b>Gráfico</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Grupo de Carateres   | Group 1, <b>Group 2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Conj. Carateres Int. | <b>EUA</b> , França, Alemanha, Reino Unido, Dinamarca I, Suécia, Itália, Espanha, Japão, Noruega, Dinamarca II, Espanha II, América Lat, Dinamarca, China                                                                                                                                                                                                                                                                                                                                                                                     |
| Alta Velocidad       | Não, <b>Sim</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Fonte                | Draft, DraftCond, <b>Roman</b> , Sans Serif, Courier, Prestige, Script, OCR B, OCR A, Orator, Gothic, Souvenir                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Passo (cpi)          | <b>10</b> , 12, 15, 16.6, 17.1, 20, 24, PS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Página de Código     | <b>CP437</b> , CP737, CP850, CP851, CP852, CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865, CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254, 8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15, BRASCI, Abicomp, Roman8, CoaxTwinax, New437, NewDig850, OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866, Kamenicky, Mazovia, Baltic775, CROASCI, Farsi, Urdu, GreekDEC, ELOT928, UK_ASII, US_ASII, Swedish, German, Portuguese, French, Italian, Norwegian, Spanish, SiemensTurk, DECTurkish |
| Estilo 15cpp         | <b>Pequeno</b> , Normal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| AGM (IBM)            | <b>Não</b> , Sim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Config. Outros     | Valores válidos  |
|--------------------|------------------|
| Cmd. Tam. de Folha | Não, <b>Sim</b>  |
| Cmd. Vel. Impresso | Não, <b>Sim</b>  |
| Cmd. Passo         | Não, <b>Sim</b>  |
| Cmd. Fonte         | Não, <b>Sim</b>  |
| Cmd. Imp. Uni- dir | <b>Não</b> , Sim |

## 5.6 Black Mark Parameters

This printer uses tractors to load fanfold forms with pre-printed black marks. The printer requires 3 parameters to print on paper with black marks:

1. Horizontal offset of black mark from the edge of page (called Black Mark Physical Horizontal Position); later on, this value facilitates the printer to locate its scanner preparing for identifying the black marks.
2. Vertical offset of the first print line from the black mark (called Distance Offset From BlackMark To Print Position); later on, the print makes use of this value to print the first line relative to the black mark.
3. Vertical offset of the tear-off edge from the black mark (called Distance Offset From BlackMark To Tear Position); this value informs the printer the tear-off position of the page.



**Not to skip or change the order of setting the above 3 parameters.**

The procedures to set the parameters:

1. Hold down the **【Tear off】** key while powering on the printer and then release the key when the print head starts to move. After loading paper, the printer prompts the Printer Settings

### Printer Settings

[LF]=Next, [TEAR]=Back, [LOAD/EJECT]=OK, [ONLINE]=Exit, [ONLINE]+[LOAD/EJECT]= Save and restart the printer.

#### System Setup

2. Press the **Next** or **Back** keys to scroll forward or backward the sub-menus till the printer shows:

#### BlackMark Mode

3. Press **OK** to go into the BlackMark menu. The printer prompts:

[Black Mark Adjustment Mode]

[LF]= Next, [TEAR]= Back, [LOAD/EJECT]=OK, [ONLINE]=Exit,  
[ONLINE]+[LOAD/EJECT]= Save and restart the printer.

#### Black Mark Physical Horizontal Position

Press any key to eject the paper, and load paper with black mark in the Fanfold Path.

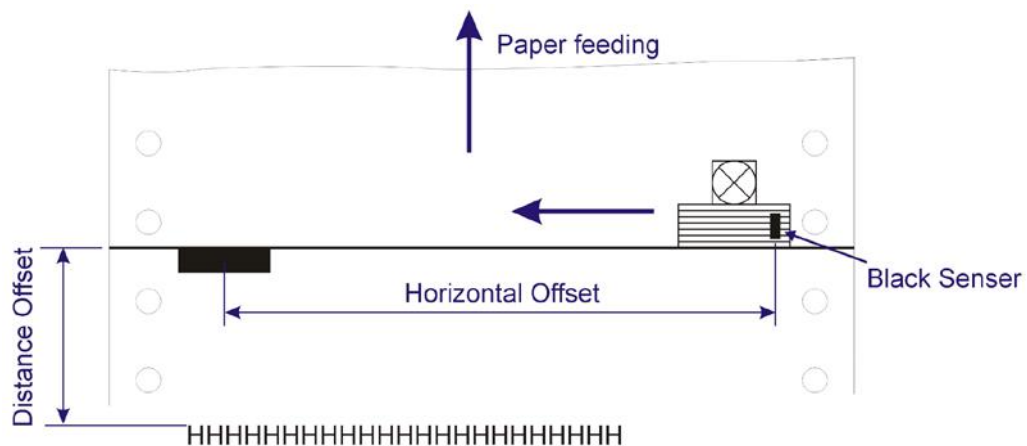
4. The last prompt above advises you to press any key to unload the dialog form. Then load a fanfold form with black mark.

5. Ensure to place the lever at  position. Then press the **Load/Eject** key to load the black marked form. The top edge of the form will then align with the printer's tear-off blade. Press **Next** or **Back** until you see the black mark marginally exposed out of the tear-off blade. Then press **OK** to allow the printer to scan the horizontal offset of the black mark relative to the left edge of the page. (Meanwhile, the vertical position of the black mark is measured and recorded.)

When the printer fails to scan the horizontal offset (see the below picture), it prompts you to repeat the above procedures. If scanning is successful, it prompts:

Successfully setup black mark parameters.

Distance Offset From Black Mark To Print Position



6. The last prompt above invites you to set the next parameter --- vertical offset of the first print line from the black mark. Like other setting dialogs, you have options:
- 1) to bypass this setting (by pressing **Next** or **Back**), (**WARNING**: Not to skip or change the order in Black Mark Setting.)
  - 2) to accept the Distance Offset (by pressing **OK**),
  - 3) to leave the subsequent settings (by press **Exit**),
  - 4) to terminate the session and save modified parameter(s) (by pressing **Save and Restart**).
7. When you respond with "**OK**" to set the vertical offset, the printer prompts you to reload a black marked fanfold form:

Press any key to eject the paper, and load paper with black mark in the Fanfold Path.

The top edge of the form will then align with the printer's tear-off blade. Press **Next** or **Back** to feed or reverse-feed the paper till the desired first print line position is reached. (With the above measured vertical position, the printer will convert the next paper feeding to the TOF relative to the black mark.) Press **OK** to confirm the vertical offset. Then the print prompts the invitation for setting the tear-off position relative to the black mark:

Successfully setup black mark parameters.

Distance Offset From Black Mark To Tear Position

8. When you respond with **OK** to set the tear-off position, the printer prompts you to reload a black marked fanfold form:

Press any key to eject the paper, and load paper with black mark in the Fanfold Path.

The printer reloads the form. By default the form stops 5.5 inches away from the printer's tear-off blade. Press **Next** or **Back** to feed or reverse-feed the paper till the desired tear-off position is reached. (With the above measured vertical position, the printer will

convert the net paper feeding to the tear-off position relative to the black mark.)

Press

OK to confirm the tear-off offset relative to the black mark. Finally, press

**Save and**

**Restart** to save new settings and terminate the session.

## 5.7 Bidirectional Alignment

When wiggling vertical grids appears in tabular reports, you should adjust the Bidirectional Alignment. The procedures to adjust bi-directional alignment across adjacent line grids:

1. Hold down the **【Tear off】** key while powering on the printer and then release the key when the print head starts to move. After loading paper, the printer prompts the Printer Settings.

### Printer Settings

[LF]=Next, [TEAR]=Back, [LOAD/EJECT]=OK, [ONLINE]=Exit, [ONLINE]+[LOAD/EJECT]=Save and restart the printer.

#### System Setup

2. Press the **Next** or **Back** keys to scroll forward or backward the sub-menus till the printer shows:

#### Bi-directional Alignment

3. Press OK to go into the Bi-directional Test menu. The printer prompts:

[Bi-direction Alignment]

[TEAR]=-1, [LF]=+1, [LOAD/EJECT]=OK, [ONLINE]=Back,  
[ONLINE]+[LOAD/EJECT]=Save and restart the printer

20



4. Every press on **+1** or **-1** shifts the second line to the right or left, respectively, relative

to the top line by 1 fine step. After pressing **+1** twice and then **OK**, the printer prompts:

22



5. Repeat the adjustment till two grid lines align satisfactory as "|". Press "OK" again. The printer asks if you want to save the correction:

Save the parameter settings ([LOAD/EJECT] or [ONLINE] = OK, [LF] = Next)?  
Yes

At this stage, you have the options to save or give up the correction by pressing **OK** or **Next**, respectively. If you respond with **OK**, an asterisk "\*" appends to "Yes" to confirm saving change. If you intend to give up the correction by pressing **Next**, the printer prompts a "No" Then a confirmative response of **OK** appends an asterisk "\*" to the "No" prompt.

The printer then exits the Bi-directional Test and proceeds with the next setup menu.

## 5.8 Restore Factory Default

The procedures to restore factory default settings:

1. Hold down the **【Tear off】** key while powering on the printer and then release the key when the print head starts to move. After loading paper, the printer prompts the Printer Settings

### Printer Settings

[LF]=Next, [TEAR]=Back, [LOAD/EJECT]=OK, [ONLINE]=Exit, [ONLINE]+[LOAD/EJECT]=  
Save and restart the printer.

#### System Setup

2. Press the Next or Back keys to scroll forward or backward the sub-menus till the printer shows:

#### Restore Factory Defaults

3. Press OK to go into restore factory default dialog. The printer prompts:

[Restore Factory Defaults]

Restore factory settings ([LOAD/EJECT]=OK, [ONLINE]=Exit)?

Yes

4. At this stage you have the option of OK to restore default setting or Exit to discard the restoration.
5. If input OK, the printer prints an asterisk "\*" appending the "Yes" and prompts successful restoration:

Restore factory settings successfully

6. The printer beeps once to indicate successful restoration.

## 5.9 Tally Dascom Printer Config Tool

“Tally Dascom Printer Config Tool” can be downloaded from our web:

<https://www.dascom.com/downloads.html>

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 “Tally Dascom Printer Config Tool Setup.msi”.
2. Connect the printer to the system using USB cable
3. Power up the printer.
4. Run the tool from the Windows Start menu by selecting All Programs, then Dascom Printer Setup, and then Tally Dascom Printer Setup.
5. For more information on how to use the tool, go to the Help menu and select User Guide.

## 6 Customized Form

This printer allows the customization on the form length, **TOF**, bottom margin and left margin for single sheets and fanfold. Restore Factory Defaults can recover these default values.

Selecting the Define value(s) in section 5.2 (Paper Setup menu) allows the printer to take up the customized page formatting value(s).

The parameter setting procedures involve:

1. The printer prompts the dialogs and you follow the prompts.
2. Before every measurement or change, the print instructs you to unload the conversation form from the printer.
3. With the exception of measuring the form length for cut sheets, always set the lever to the tractors position .
4. For form length measurement, insert the customized form from the proper paper path. The other six settings are actually done on general fanfold forms --- not the actual customized form. Fanfold paper gives direct visual results on the TOF, bottom and left margins even though cut sheets will be used in actual application.

### 6.1 Customize Cut Sheet Form Length

1. Hold down both the **【Online】** and **【Load/Eject】** keys while powering on the printer and then release the keys when the carriage initializes and beeps once. After loading a form the printer prompts:

Customize  
Form

[LF]=Next, [TEAR]=Back, [LOAD/EJECT]=OK, [ONLINE]=Exit, [ONLINE]+[LOAD/EJECT]=  
Save and restart the printer.

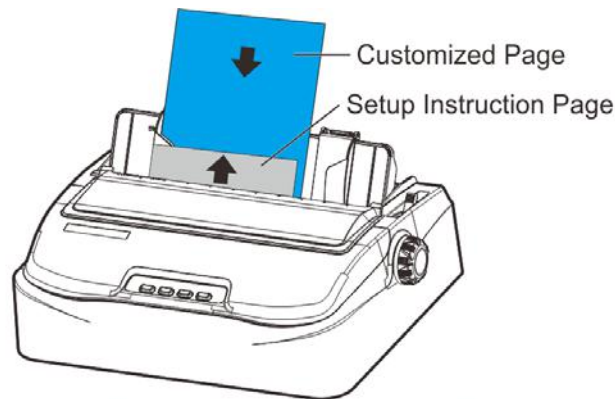
Single sheet

2. Press **“OK”** to start customizing all or part of 4 parameters for single sheet. The printer prompts:  
[Single sheet]  
Form Length

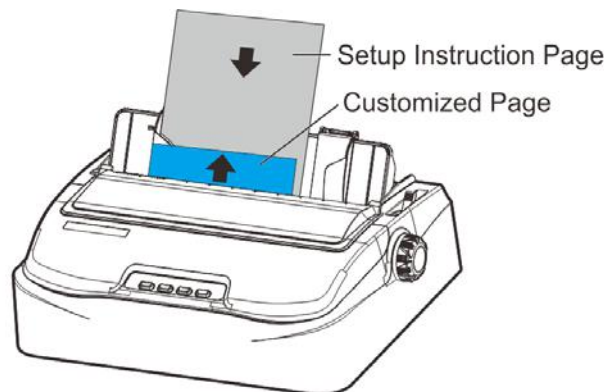
3. You may skip to other customized settings by pressing **"Next"** or **"Back"**. Once you press **"OK"** to continue with form length measurement, the printer prompts:

1. Press any key to clear the Setup Instructions Page from the printer. Insert the Customized Page into the corresponding paper path. Press [LOAD/EJECT] to load and measure the page length.
2. The printer rolls over the entire Customized Page to measure its length. After measurement, press [LOAD/EJECT] to load a blank Setup Instructions Page to report the measured value.
3. Press [LOAD/EJECT] to save the measured value. Repeat the above steps if the printed value is dissatisfactory.

Illustrations for above step 1 and step 2.



Remove Setup Instructions Page and insert Customized Page.



Insert a blank Setup Instructions Page to print out measured value.

4. Follow the given prompt to unload the conversation form. Load the customized form to

allow the printer to scan the page length. After the measurement, load another conversation form to let the printer print out the measured length.

The measured form length is: 11.0Inch, approximately equal to 279mm, accuracy of plus or minus 0.1 inches.

The measured value has been saved. Remeasure ( [LOAD/EJECT]=OK, [ONLINE] =Exit)?

Yes

## 5. At this stage:

If **【Load/Eject】** is pressed, an asterisk “\*” is appended to “Yes” and you should repeat the procedures for form length measurement as mentioned. Or, If you input “**Exit**”, the printer saves the measurement value and proceeds with the next customized setting.

## 6.2 Customize Cut Sheet TOF

1. After you follow through all the steps in 6.1 or you input “**Next**” in step 3 in 6.1, the printer prompts:

Top Margin

2. You may skip to other customized settings by pressing “**Next**” or “**Back**”. Once you press

“**OK**” to continue with customization of cut sheet TOF, the printer prompts:

Press any key to eject current page, load paper in the Fanfold paper path, and then

proceed as follows:

[TEAR] = -(1/72) inch, [LF] = +(1/72) inch, [LOAD/EJECT] = OK, [ONLINE] = Exit, [ONLINE] + [LOAD/EJECT] = Save and restart the printer.

3. Follow the given prompt to unload the conversation form. Ensure the lever is at  position. Then press the **【Load/Eject】** key to load fanfold paper from tractors. The top edge of the form initially aligns with the printer’s tear-off blade. You may input +/- **1/72**” to adjust the TOF position. When you get the desirable TOF, press **OK** or **Exit**. The printer prompts the customized TOF value:

The defined position is: 4.2 mm.

Save the parameter settings ([LOAD/EJECT] or [ONLINE]=OK, [LF]=Next)?

Yes

4. At this stage:

If **【Load/Eject】** is pressed, an asterisk “\*” is appended to “Yes” and you should repeat the procedures for form length measurement as mentioned. Or, If you input “**Exit**”, the printer saves the measurement value and proceeds with the next customized setting.

## 6.3 Customize Cut Sheet Bottom Margin

1. After you follow through all the steps in 6.2 or you input “**Next**” twice in step 3 in 6.1, the printer prompts:

Bottom Margin

2. The remaining operations are nearly the same as described in section 6.2. The only difference is to input +/- **1/72**” till you get the desirable bottom margin.

## 6.4 Customize Cut Sheet Left Margin

1. After you follow through all the steps in 6.3 or you input “**Next**” three times in step 3 in

6.1, the printer prompts:

Left Margin

2. The remaining operations are nearly the same as described in section 6.2. The only difference is to input **+/- 1/72**” till you get the desirable left margin.

## 6.5 Customize Fanfold Page Formatting Parameters

The customizations of the form length, TOF, bottom and left margins for fanfold are exactly the same as describe. All you need is to bypass the Single Sheet menu under Customize Form. Follow step 1 in section 6.1:

### Customize Form

[LF]=Next, [[TEAR]=Back, [LOAD/EJECT]=OK, [ONLINE]=Exit, [ONLINE]+[LOAD/EJECT]=

Save and restart the printer.

Single sheet

Then hit “Next” instead to get into the fanfold parameter menus:

[Tractor Paper]

Form Length

Refer section 6.1 to 6.4 for details on customizing the form length, TOF, bottom margin, and left margin for fanfold.

## 7 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 main before doing any maintenance work.**

### 7.1 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.

### 7.2 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.

## 7.3 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.

## 8 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.

### 8.1 Print Quality Problems and Solutions

| Problem                                                                                                 | Solution                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Printing is too light or too dark.                                                                      | <ul style="list-style-type: none"> <li>● Make sure that the ribbon cartridge is properly installed and that the ribbon feeds smoothly.</li> <li>● Replace the ribbon if necessary.</li> <li>● Make sure that the print gap lever is set for the thickness of your paper.</li> </ul>                                                                                                                                               |
| Smears and stains appear on the page.                                                                   | <ul style="list-style-type: none"> <li>● Make sure that the print gap lever is set for the thickness of your paper.</li> <li>● Check for ribbon wear. Replace the ribbon if necessary.</li> <li>● Check whether the tip of the print head is dirty. Clean the head with a soft cloth if necessary.</li> <li>● The print head may need to be replaced.</li> </ul>                                                                  |
| Printing is erratic or the wrong characters are printed. Many “?” or unexpected characters are printed. | <ul style="list-style-type: none"> <li>● Make sure that the interface cable is securely connected to both the printer and computer.</li> <li>● Make sure that the printer driver selected in your software is the same as the emulation selected on the printer.</li> <li>● Check the length of the interface cable. (Maximum Parallel &amp; USB: 2 meters, Serial: 15 meters)</li> <li>● Try another interface cable.</li> </ul> |
| The page is blank.                                                                                      | <ul style="list-style-type: none"> <li>● Make sure that the ribbon cartridge is properly installed.</li> <li>● Make sure the gap lever is set correctly.</li> </ul>                                                                                                                                                                                                                                                               |
| 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"> <li>● Check the application top margin setting.</li> <li>● Adjust the Top Margin setting in Page Setup menu if necessary.</li> </ul>                                                                                                                                                                                                                                                           |
| Lines are double spaced instead of single spaced.                                                       | <ul style="list-style-type: none"> <li>● Change the Auto LF setting in the System Setup menu to No.</li> </ul>                                                                                                                                                                                                                                                                                                                    |
| The printer overprints on the same line.                                                                | <ul style="list-style-type: none"> <li>● Change the Auto CR setting in the System Setup menu to No.</li> </ul>                                                                                                                                                                                                                                                                                                                    |
| The next print line starts where the previous line ended instead of at the left margin.                 | <ul style="list-style-type: none"> <li>● Change the Auto CR setting in the System Setup menu to Yes.</li> </ul>                                                                                                                                                                                                                                                                                                                   |

## 8.2 Paper Handling Problems and Solutions

| Problem                                                                                       | Solution                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Paper cannot be loaded or fed.                                                                | <ul style="list-style-type: none"> <li>● 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.</li> <li>● Make sure that the paper covers the paper-out sensor.</li> </ul>                                                                                                                      |
| Paper jams while loading.                                                                     | <ul style="list-style-type: none"> <li>● Turn off the printer and remove the jammed paper. Remove any obstructions from the paper path.</li> <li>● Make sure that the Print Gap lever is set for the thickness of your paper.</li> <li>● Make sure that the paper is not folded, creased, or torn.</li> <li>● Make sure that the left and right tractors are set so that the continuous forms are stretched taut.</li> </ul> |
| Paper jams while printing.                                                                    | <ul style="list-style-type: none"> <li>● Turn off the printer and remove the jammed paper. Remove any obstructions from the paper path.</li> <li>● Make sure that the Print Gap lever is set for the thickness of your paper.</li> <li>● For continuous forms, make sure that the incoming and outgoing paper stacks are correctly placed. Paper should feed straight.</li> </ul>                                            |
| 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.                                                                                                                                                                                                                                                        |

## 8.3 Operating Problems and Solutions

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

## 8.4 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.

## 8.5 Error Indications on LEDs

| Error Description                 | Power LED | Font1 LED | Font2 LED | Online LED | Buzzer Sound |
|-----------------------------------|-----------|-----------|-----------|------------|--------------|
| Print head too hot                | Flashing  | No change | No change | Flashing   | None         |
| Paper path switching problem      | Flashing  | No change | No change | Flashing   | Continuous   |
| Paper jam                         | Flashing  | No change | No change | On         | Once         |
| Paper End                         | Flashing  | No change | No change | Off        | Once         |
| Carriage initial position         | Off       | Off       | Flashing  | Flashing   | Continuous   |
| Code Stripe problem               | Off       | Off       | Flashing  | Flashing   | Continuous   |
| Paper sensor failure              | Flashing  | No change | No change | Off        | Once         |
| Paper width problem               | Flashing  | No change | No change | Off        | None         |
| Print head thermal sensor failure | Off       | Off       | Off       | Flashing   | None         |

## 8.6 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.

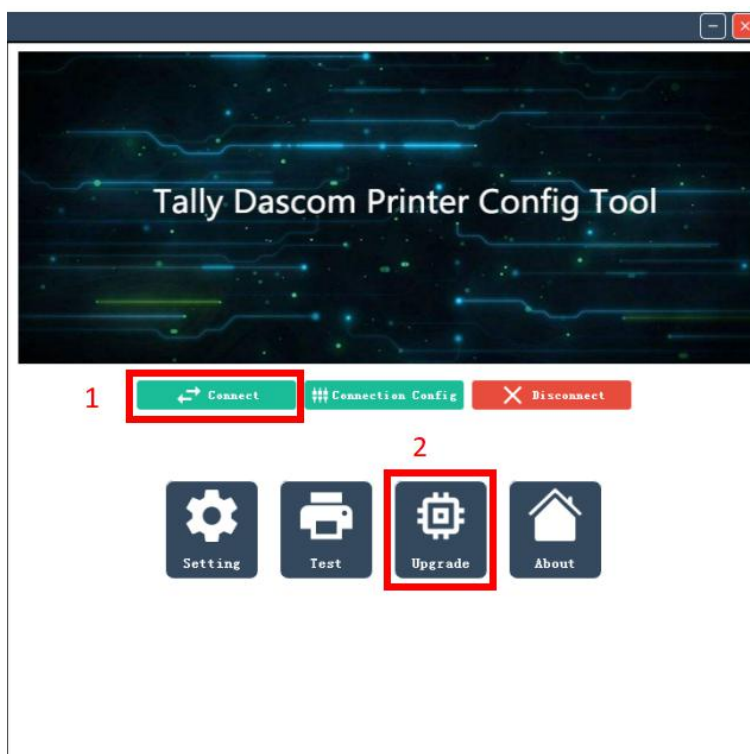
## 8.7 Firmware Update

Sometimes it is necessary to 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](http://www.dascom.com). Before updating 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 USB port on the printer.
2. Link Configuration Tool and then click "Update" as shown in below picture:



### 3. Locate the firmware file by clicking Browse.

Notification:  
Printer is about to enter the firmware download mode.  
Please ensure power is not disrupted.  
Make sure the interface cable is correctly connected between the computer and the printer.  
During the update, do not power off the printer.  
During the update, please stop all the printing tasks.  
During the update, please wait patiently, until the download progress reaches 100%.  
Note: Do not close page during download!

Firmware Update

printer firmware update X:/XXXX/XXX/XXXXXXXXXXXXX.mot **Browse**

Start

### 4. Click Start. A message box pops up to ask for confirmation; click Confirm.

Notification:  
Printer is about to enter the firmware download mode.  
Please ensure power is not disrupted.  
Make sure the interface cable is correctly connected between the computer and the printer.  
During the update, do not power off the printer.  
During the update, please stop all the printing tasks.  
During the update, please wait patiently, until the download progress reaches 100%.  
Note: Do not close page during download!

Firmware Update

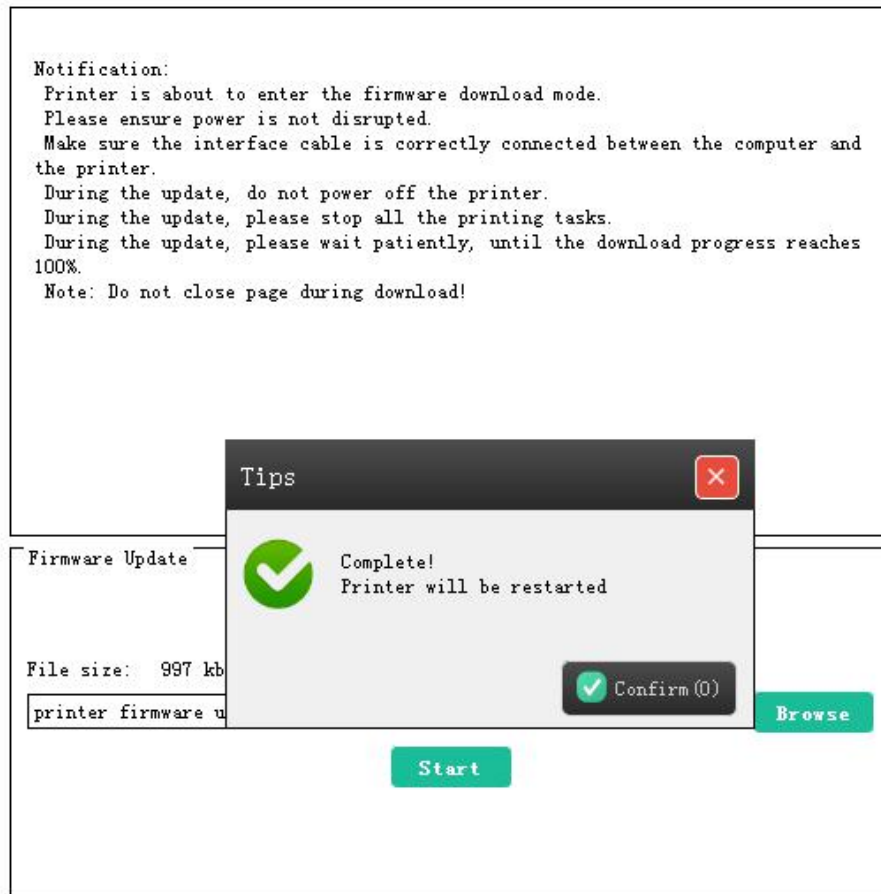
printer firmware update X:/XXXX/XXX/XXXXXXXXXXXXX.mot **Browse**

Start

**Tips** Do you want to update firmware ?

Confirm (O) Cancel (C)

5. When the progress bar reaches 100%, the upgrade process is completed and the printer will be restarted.



## 9 General Specifications

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |             |             |                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-----------------|
| <b>Print System</b>      | Mono-chrome serial impact dot matrix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |             |             |                 |
| <b>Print Technology</b>  | Uni-/bi-directional logic seeking for text and graphics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |             |             |                 |
| <b>Print Speed</b>       | Pitch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HS-Draft    | Draft       | NLQ         | LQ (CPS/DPI)    |
|                          | 10 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 450/80H     | 300/120H    | 200/180H    | 100/360 H       |
|                          | 12 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 360/120H    | 360/120H    | 240/180H    | 120/360H        |
|                          | 15 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 450/120H    | 450/120H    | 300/180H    | 150/360H        |
|                          | 17.1 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 340/180H    | 340/180H    | 340/180H    | 170/360H        |
|                          | 20 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 400/180H    | 400/180H    | 400/180H    | 200/360H        |
| <b>Font Matrix</b>       | Pitch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HS-Draft    | Draft       | NLQ         | LQ (Matrix/DPI) |
|                          | 10 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 8H*24V/80   | 12H*24V/120 | 18H*24V/180 | 36H*24V/360     |
|                          | 12 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 10H*24V/120 | 10H*24V/120 | 15H*24V/180 | 30H*24V/360     |
|                          | 15 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 8H*24V/120  | 8H*24V/120  | 12H*24V/180 | 24H*24V/360     |
|                          | 17.1 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 11H*24V/180 | 11H*24V/180 | 11H*24V/180 | 21H*24V/360     |
|                          | 20 CPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 9H*24V/180  | 9H*24V/180  | 9H*24V/180  | 18H*24V/360     |
|                          | Proportional nH*24V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |             |             |                 |
| <b>Print Head</b>        | Number of pins: 24 pins<br>Firing frequency: Normal mode: 1800 Hz<br>Pin diameter: 0.2 mm<br>Life: 400 million strokes/pin @ Draft mode                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |             |             |                 |
| <b>Graphics</b>          | 8-bit mode: 8V x 60H, 80H, 90H, 120H, 240H (DPI)<br>24-bit mode: 24V x 60H, 90H, 120H, 180H, 360H (DPI)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |             |             |                 |
| <b>Paper Feed Speed</b>  | Continuous feed: 4.0 IPS (inches per second)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |             |             |                 |
| <b>Resolution</b>        | 360x 360 DPI maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |             |             |                 |
| <b>Printable Columns</b> | Characters per line (CPL)<br>10 CPI: 80 CPL<br>12 CPI: 96 CPL<br>15 CPI: 120 CPL<br>17.1 CPI: 136 CPL<br>20 CPI: 160 CPL                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |             |             |                 |
| <b>Built-In Fonts</b>    | Bitmap Fonts:<br>1. Roman 10, 12, 15, 17.1, 20 CPI, Proportional<br>2. Sans Serif 10, 12, 15, 16.6, 17.1, 20 CPI, Proportional<br>3. Courier 10, 12, 15, 16.6, 17.1, 20 CPI, Proportional<br>4. Prestige 10, 12, 15, 16.6, 17.1, 20 CPI<br>5. OCR-B 10, 12, 16.6, 17.1, 20 CPI<br>6. OCR-A 10, 12, 16.6, 17.1, 20 CPI<br>7. Orator 10, 12, 15, 16.6, 17.1, 20 CPI<br>8. SOUVENIR 10, 12, 15, 16.6, 17.1, 20 CPI<br>9. GOTHIC 10, 12, 15, 16.6, 17.1, 20 CPI<br>10. Script 10, 12, 15, 16.6, 17.1, 20 CPI<br>11. Draft 10, 12, 15, 16.6, 17.1, 20, 24CPI<br>12. HS-Draft 10CPI |             |             |             |                 |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                    |                                                                          |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Barcodes</b>                     | 1. EAN-13<br>2. EAN-8<br>3. Interleaved 2 of 5<br>4. UPC-A<br>5. UPC-E<br>6. Code 39<br>7. Code 128<br>8. POSTNET                                                                                                                                                                                                                                                                                                                                                                     |                                                                                    |                                                                          |
| <b>Code Pages</b>                   | CP437, CP737, CP850, CP851, CP852,<br>CP857, CP858, CP860, CP861, CP863, CP864, Extend864, CP865,<br>CP866, Bulgaria866, CP1250, CP1251, CP1252, CP1253, CP1254,<br>8859_1, 8859_1SAP, 8859_2, 8859_5, 8859_7, 8859_9, 8859_15,<br>BRASCII, Abicomp, Roman8, CoaxTwinax, New437, NewDig850,<br>OldCode860, Flarro863, Hebrew865, CP1257, Ukraine866, Kazakhst866,<br>Kamenicky, Mazovia, Baltic775, CROASCII, Farsi, Urdu, GreekDEC,<br>ELOT928, UK_ASCII, US_ASCII, Swedish, German, |                                                                                    |                                                                          |
| <b>International Character Sets</b> | USA, France, Germany, UK, Denmark I, Sweden, Italy, Spain I, Japan,<br>Norway, Denmark II, Spain II, Latin America, Danmark/ Norway, China                                                                                                                                                                                                                                                                                                                                            |                                                                                    |                                                                          |
| <b>Line Spacing</b>                 | 1/6", 1/8", n/60", n/180", n/360"                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                    |                                                                          |
| <b>Paper Specifications</b>         | Cut Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Fanfold Paper                                                                      |                                                                          |
|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Single ply                                                                         | Multi-part                                                               |
|                                     | Width: 95mm~267mm<br>(3.75"~10.5")<br><br>Length: 114.3mm~363.2mm<br>(4.5"~14.3")                                                                                                                                                                                                                                                                                                                                                                                                     | Width: 95mm~267mm (3.75"~10.5")<br><br>Length: 114.3mm~558.8mm (4.5"~22.0")        |                                                                          |
|                                     | Weight: 52~100g/m <sup>2</sup><br>Thickness:<br>0.065~0.14mm<br>(0.0026"~0.0055")                                                                                                                                                                                                                                                                                                                                                                                                     | Weight: 52~100 g/m <sup>2</sup><br>Thickness:<br>0.065~0.14mm<br>(0.0026"~0.0055") | Weight: 40~56g/m <sup>2</sup><br>Thickness: 0.52 mm<br>max (0.0204" max) |
| <b>Paper Handling</b>               | Feeding method: Friction/Push tractor/Roll paper<br>Paper path: Cut sheets: Rear in and top out<br>Fanfold: Rear in and top out                                                                                                                                                                                                                                                                                                                                                       |                                                                                    |                                                                          |
| <b>Copy Capability</b>              | Original + 6 copies                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                    |                                                                          |
| <b>Emulation</b>                    | ESC/P2, IBM 2390+                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                    |                                                                          |
| <b>Ribbon Type</b>                  | Cartridge; Monochrome                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |                                                                          |
| <b>Ribbon Life</b>                  | 9 million characters (rolling Draft 10 CPI)                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                    |                                                                          |
| <b>InputData Buffer</b>             | Up to 256KB                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                    |                                                                          |

|                           |                                                                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Windows Drivers</b>    | Windows Server 2000/2003/2008<br>Windows Vista<br>Windows XP<br>Windows 98<br>Windows 7<br>Windows 8.1<br>Windows Server 2012                               |
| <b>Interface</b>          | Standard: USB<br>Options: Parallel, Serial, Ethernet, WiFi, Bluetooth.                                                                                      |
| <b>Operation Panel</b>    | Switches: 4 pcs<br>LED indicators: 4 pcs                                                                                                                    |
| <b>Noise Level</b>        | Approx. 57 dB (A)                                                                                                                                           |
| <b>Ambient Conditions</b> | Temperature Operating : +5 to +35 °C<br>Stand-by : -20 to + 55°C<br>Humidity Operating : 10 to 80% RH ( No condensation)<br>Stand-by : 5 to 85% RH          |
| <b>Dimensions</b>         | 369 mm (width) × 283.3 mm (depth) × 130 mm (height)                                                                                                         |
| <b>Weight</b>             | approx. 5.5 kg                                                                                                                                              |
| <b>Power Supply</b>       | Unit type: Switching mode power supply<br>Power cord: Detachable<br>Voltage rating: AC 100V-120V, 50Hz / 60Hz<br>AC 200V-240V, 50Hz / 60Hz (factory option) |
| <b>Power consumption</b>  | Power consumption: 34 W (Test pattern is specified in standard ISO/IEC 10561.)<br>Power consumption of sleep mode: 1.4W                                     |
| <b>MTTR</b>               | < 20 minutes                                                                                                                                                |
| <b>MTBF</b>               | 12,000 hours                                                                                                                                                |
| <b>MVBF</b>               | 24 mil lines                                                                                                                                                |
| <b>Certification</b>      | CE, UL, FCC, ES2.0, ISTA, RoHS, WEEE, REACH, ChemVerbotsV,<br>Microsoft Certified for Windows 7, Windows 8.1,<br>Windows Server 2012R2                      |

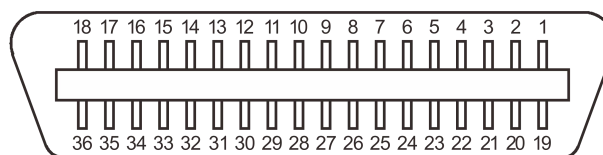
## 10 Interfaces

### 10.1 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.

## 10.2 USB Interface

The USB interface conforms to the Universal Serial Bus 2.0 Specifications. It supports the Full

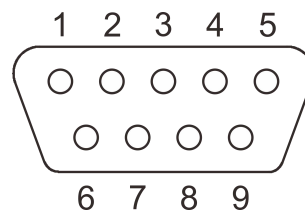
Speed mode at 12 Mbps. It uses the “B” type USB connector.

## 10.3 Serial interface

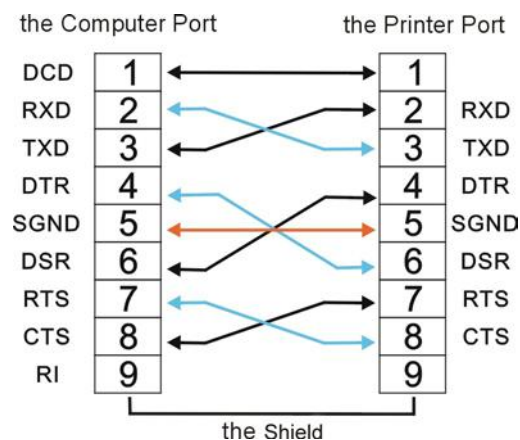
Serial interface pin assingnment

| Pin | Signal name | Description         |
|-----|-------------|---------------------|
| 1   |             |                     |
| 2   | RX          | Receive data        |
| 3   | TX          | Send data           |
| 4   | DT          | Data terminal ready |
| 5   | SGND        | Signal ground       |
| 6   | DS          | Data set ready      |
| 7   | RT          | Request to send     |
| 8   | CT          | Clear to send       |
| 9   |             |                     |

Serial interface connector diagram



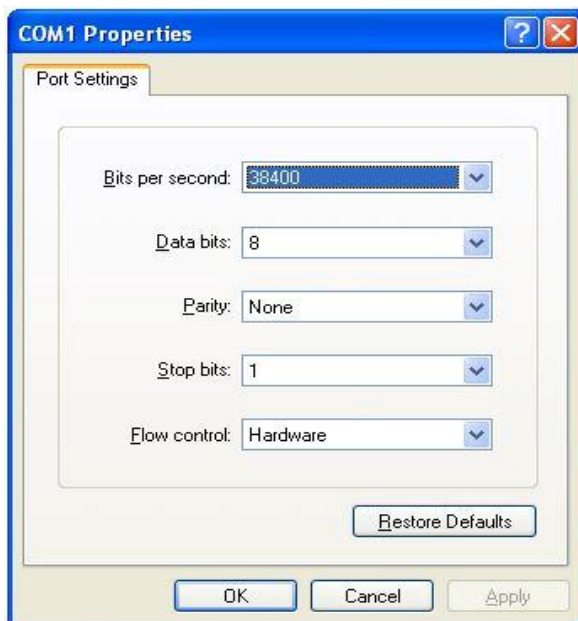
Serial interface wiring diagram



**Note:**

1. The serial cable length should not exceed 15 meters.
2. Make sure the "Interface Setup" selects serial interface and the settings are the same as  
PC communication port settings. Shown as  
below:

|               |          |          |
|---------------|----------|----------|
| Interface:    | Share    | Share    |
| Baud Rate:    | 38400    | 38400    |
| Data Bit:     | 8        | 8        |
| Parity Check: | None     | None     |
| Stop Bit:     | 1        | 1        |
| Data Stream:  | Hardware | Hardware |



The following settings are possible with the RS-232 9 Pin interface, while the bold settings are factory default settings.

Baud Rate: 1200, 2400, 4800, 9600, 19200, **38400**, 115200

Data Bit: 7, **8**

Parity Check: **None**, Odd, Even

Stop Bit: **1**, 2

Data Stream: No, **Hardware**, Xon/Xoff

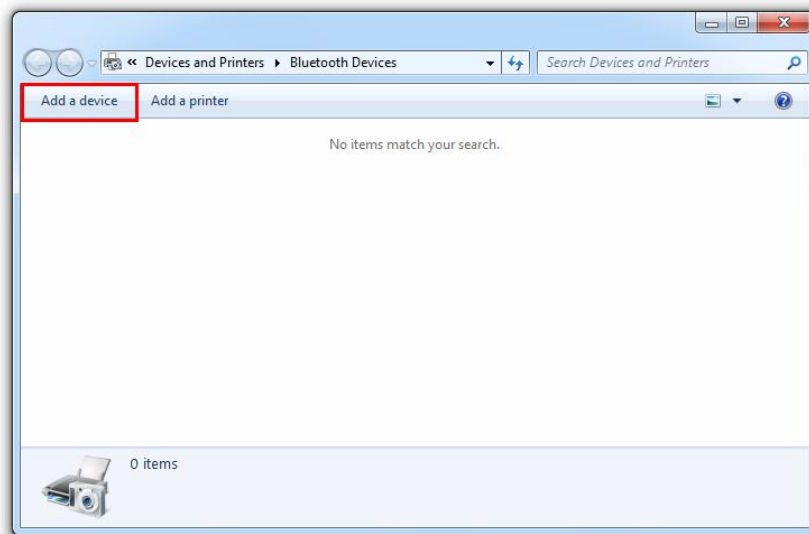
## 10.4 Bluetooth interface

Install Bluetooth adapter (V2.0 or above version) prepared by yourself in the PC via USB interface.

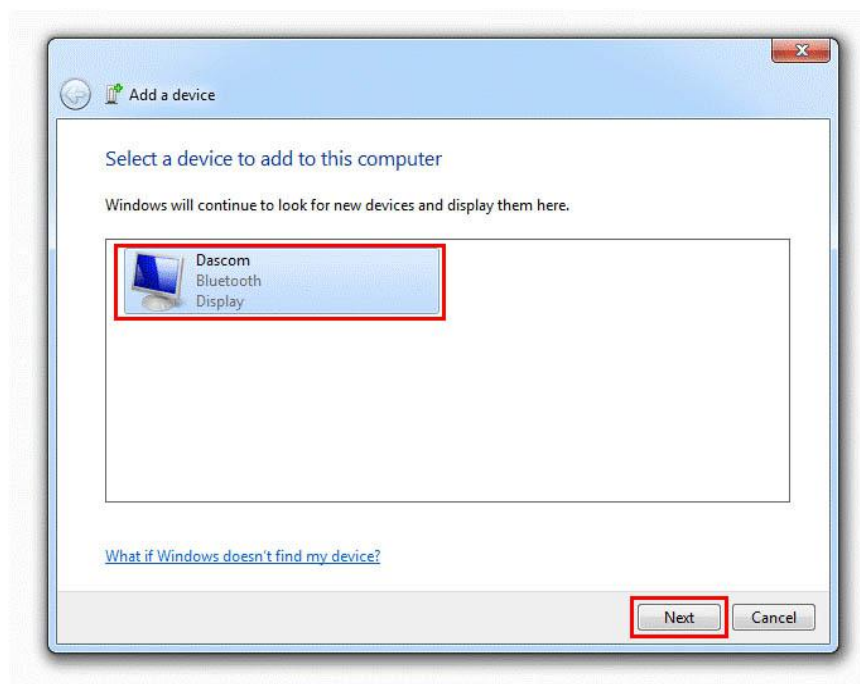
The effective range of the Bluetooth is 10 meters, so make sure the distance between the printer and the PC is within this range. The baud rate is 38400.

Follow below steps to install Bluetooth adapter driver.

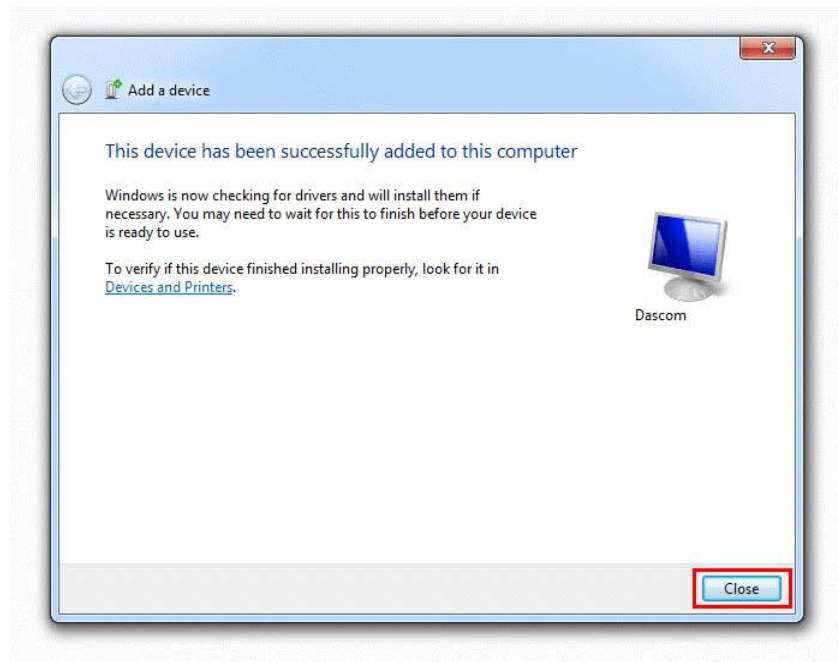
1. Double click the Bluetooth icon  at lower right corner on the PC screen. You will see the following window then Click "Add a device".



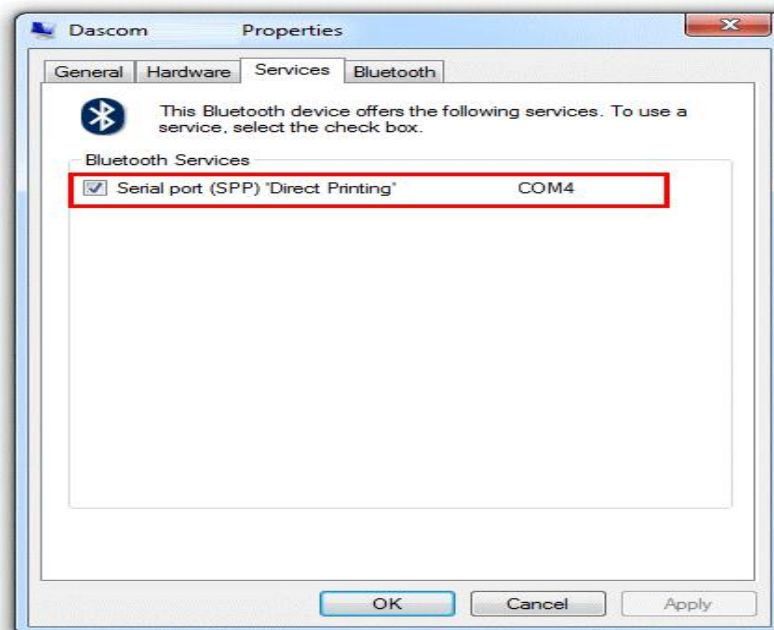
2. Select "Device is ready for searching", and then click the model name for searching the Bluetooth printer. And enter Next to continue.



3. Then the bluetooth adapter has been installed in the computer.



4. Check the port type under the table of Services. In this case, it is COM4.

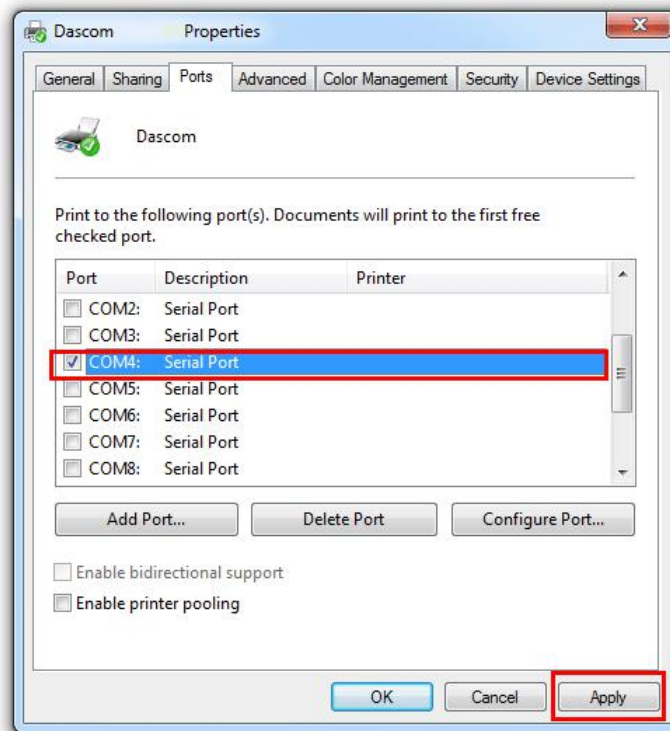


Note:

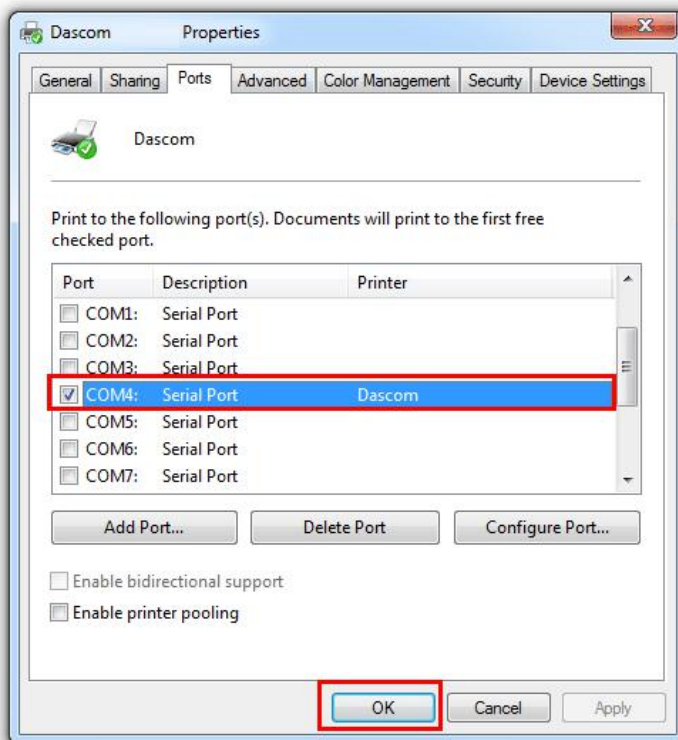
1. If connection failed, please check the distance between the printer and the computer is within 10m and power is on. You may restart the printer or the computer to try again.
2. Make sure the PC Bluetooth adapter is working, it is installed properly and connected to the computer.
3. If the computer reports the pin is wrong, please make sure you enter four-number password (0000).

Follow below process to change Driver Port of PC:

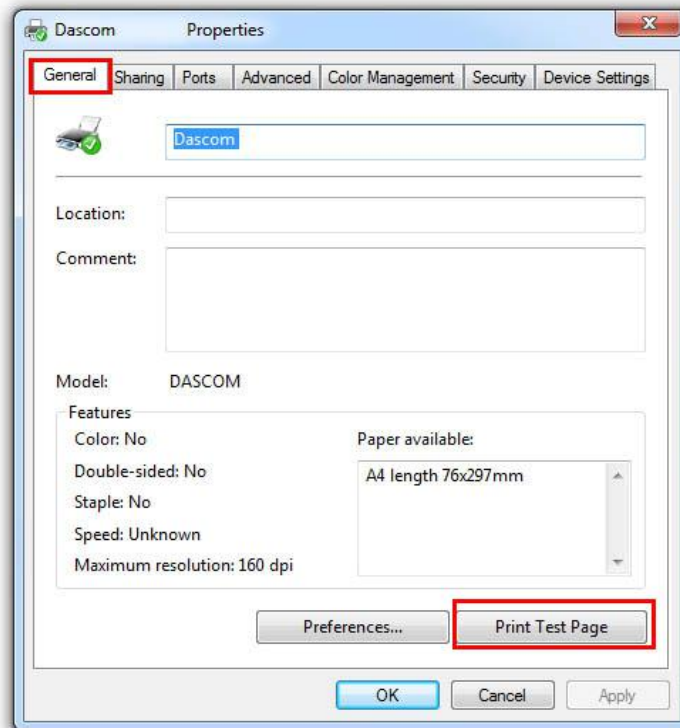
1. Right click the printer, select Properties → Ports, and select the output port that you have put down (in the case COM4) then click “Apply”.



2. COM4 for the printer is checked.



3. Select “General” and click “Print test page” for checking Bluetooth performance.



Note:

If failed to print Test Page, please check if you select the right Port Type in the computer.

# 11 Character sets & Code Pages

## 11.1 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 | Ÿ | !  | 1 | A | Q | a | q   |
| 2 |     | DC2 | "  | 2 | B | R | b | r | Ê | Ž | "  | 2 | B | R | b | r   |
| 3 |     | DC3 | #  | 3 | C | S | c | s | Ë | Ź | #  | 3 | C | S | c | s   |
| 4 |     | DC4 | \$ | 4 | D | T | d | t | Ė | Ž | \$ | 4 | D | T | d | t   |
| 5 |     |     | %  | 5 | E | U | e | u | * | Š | %  | 5 | E | U | e | u   |
| 6 |     |     | &  | 6 | F | V | f | v | £ | Ž | &  | 6 | F | V | f | v   |
| 7 | BEL |     | '  | 7 | G | W | g | w | İ | Ž | '  | 7 | G | W | g | w   |
| 8 | BS  | CAN | (  | 8 | H | X | h | x | Ł | Ÿ | (  | 8 | H | X | h | x   |
| 9 | HT  |     | )  | 9 | I | Y | i | y | Ń | Ÿ | )  | 9 | I | Y | i | y   |
| A | LF  |     | *  | : | J | Z | j | z | Ň | Ž | *  | : | J | Z | j | z   |
| B | VT  | ESC | +  | ; | K | [ | k | { | Ŕ | Ÿ | +  | ; | K | [ | k | {   |
| C | FF  | FS  | ,  | < | L | \ | l |   | Ŗ | Ÿ | ,  | < | L | \ | l |     |
| D | CR  |     | -  | = | M | ] | m | } | À | Ÿ | -  | = | M | ] | m | }   |
| E | SO  |     | .  | > | N | ^ | n | ~ | Å | Ÿ | .  | > | N | ^ | n | ~   |
| F | SI  |     | /  | ? | O | _ | o |   | Ɔ | Ÿ | /  | ? | 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 |     | ø | ⌘ | ⌘ | ⌘ | τ | ≈  |
| 8 | BS  | CAN | (  | 8 | H | X | h | x | BS  | CAN | ¿ | ⌘ | ⌘ | ⌘ | Φ | °  |
| 9 | HT  |     | )  | 9 | I | Y | i | y | HT  |     | ⌘ | ⌘ | ⌘ | ⌘ | 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 | ⌘ | ⌘ | ⌘ | ∅ | 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 | ô  | 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 | å | û  | ä | ⌘ | ⌘ | ⌘ | μ | +  |
| 7 | BEL |     | '  | 7 | G | W | g | w | ç | ù  | ø | ⌘ | ⌘ | ⌘ | τ | ≈  |
| 8 | BS  | CAN | (  | 8 | H | X | h | x | ê | ÿ  | ¿ | ⌘ | ⌘ | ⌘ | Φ | °  |
| 9 | HT  |     | )  | 9 | I | Y | i | y | ë | Ö  | ⌘ | ⌘ | ⌘ | ⌘ | Θ | •  |
| A | LF  |     | *  | : | J | Z | j | z | è | Ü  | ⌘ | ⌘ | ⌘ | ⌘ | Ω | .  |
| B | VT  | ESC | +  | ; | K | [ | k | { | ï | ¢  | ½ | ⌘ | ⌘ | ⌘ | δ | √  |
| C | FF  | FS  | ,  | < | L | \ | l |   | î | £  | ¼ | ⌘ | ⌘ | ⌘ | ∞ | n  |
| D | CR  |     | -  | = | M | ] | m | } | ì | ¥  | ı | ⌘ | ⌘ | ⌘ | ∅ | ₂  |
| E | SO  |     | .  | > | N | ^ | n | ~ | Ä | Pt | « | ⌘ | ⌘ | ⌘ | ε | ■  |
| F | SI  |     | /  | ? | O | _ | o |   | Å | f  | » | ⌘ | ⌘ | ⌘ | ∩ | SP |

## OCR-A character set 1

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

## OCR-A character set 2

|   | 0 | 1 | 2  | 3   | 4 | 5 | 6 | 7  | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|-----|---|---|---|----|---|---|---|---|---|---|---|---|
| 0 | Ø | ► | SP | 0   | H | P | ' | p  |   |   |   |   |   |   |   |   |
| 1 | ☺ | ◄ | 4  | 1   | A | Q | a | q  |   |   |   |   |   |   |   |   |
| 2 | ☹ | ↕ | "  | 2   | B | R | b | r  |   |   |   |   |   |   |   |   |
| 3 | ♥ |   | J  | 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 | ⚙ | ▼ | /  | ? 0 | - | o | ■ | SI |   |   |   |   |   |   |   |   |

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

## OCR-B character set 2

|   | 0 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Ø | ►  | SP | 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 | ■ |   |   |   |   |   |   |   |   |

## International Character Set Commands

| Country        | Basic Command       |
|----------------|---------------------|
| USA            | <ESC>"R"CHR \$ (0)  |
| FRANCE         | <ESC>"R"CHR \$ (1)  |
| GERMANY        | <ESC>"R"CHR \$ (2)  |
| UK             | <ESC>"R"CHR \$ (3)  |
| DENMARK 1      | <ESC>"R"CHR \$ (4)  |
| SWEDEN         | <ESC>"R"CHR \$ (5)  |
| ITALY          | <ESC>"R"CHR \$ (6)  |
| SPAIN 1        | <ESC>"R"CHR \$ (7)  |
| JAPAN          | <ESC>"R"CHR \$ (8)  |
| NORWAY         | <ESC>"R"CHR \$ (9)  |
| DENMARK 2      | <ESC>"R"CHR \$ (10) |
| SPAIN 2        | <ESC>"R"CHR \$ (11) |
| LATINAMERICA   | <ESC>"R"CHR \$ (12) |
| DENMARK/NORWAY | <ESC>"R"CHR \$ (13) |
| CHINA          | <ESC>"R"CHR \$ (16) |

## International character sets

| Character Code (Hex) |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Character Set        | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
| 0: U. S. A.          | #  | \$ | @  | [  | \  | ]  | ^  | '  | {  |    | }  | ~  |
| 1: FRANCE            | #  | \$ | à  | °  | ç  | §  | ^  | '  | é  | ù  | è  | "  |
| 2: GERMANY           | #  | \$ | §  | Ä  | Ö  | Ü  | ^  | '  | ä  | ö  | ü  | ß  |
| 3: U. K.             | £  | \$ | @  | [  | \  | ]  | ^  | '  | {  |    | }  | ~  |
| 4: DENMARK 1         | #  | \$ | @  | 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 1           | Pt | \$ | @  | í  | Ñ  | ¿  | ^  | '  | "  | ñ  | }  | ~  |
| 8: JAPAN             | #  | \$ | @  | [  | ¥  | ]  | ^  | '  | {  |    | }  | ~  |
| 9: NORWAY            | #  | ¤  | É  | Æ  | Ø  | Å  | Ü  | é  | æ  | ø  | å  | ü  |
| 10: DENMARK 2        | #  | \$ | É  | Æ  | Ø  | Å  | Ü  | é  | æ  | ø  | å  | ü  |
| 11: SPAIN 2          | #  | \$ | á  | í  | Ñ  | ¿  | é  | '  | í  | ñ  | ó  | ú  |
| 12: LATIN AMERICA    | #  | \$ | á  | í  | Ñ  | ¿  | é  | ü  | í  | ñ  | ó  | ú  |
| 13: DENMARK/NORWAY   | #  | \$ | @  | [  | \  | ]  | ^  | '  | {  |    | }  | ~  |
| 16: CHINA            | #  | ¥  | @  | [  | \  | ]  | ^  | '  | {  |    | }  | ~  |

## 11.2 Code Page Commands

| Code Page       | ESC R Parameter |
|-----------------|-----------------|
| CP 437          | 80              |
| CP 737          | 93              |
| CP 850          | 82              |
| CP 851          | 88              |
| CP 852          | 87              |
| CP 857          | 8D              |
| CP 858          | 9E              |
| CP 860          | 84              |
| CP 861          | 94              |
| CP 863          | 85              |
| CP 864          | 8C              |
| CP 864 Extended | 95              |
| CP 865          | 86              |
| CP 866 Cyrillic | 8E              |
| CP 866 Bulgaria | 9D              |
| CP 1250         | 70              |
| CP 1251         | 71              |
| CP 1252         | 72              |
| CP 1253         | 73              |
| CP 1254         | 74              |
| 8859-1          | 25              |
| 8859-1 (SAP)    | 2B              |
| 8859-2          | 26              |
| 8859-5          | 2A              |
| 8859-7          | 2D              |
| 8859-9          | 2E              |
| 8859-15         | 2F              |
| BRASCII         | 6D              |
| Abicomp         | 6E              |
| Roman8          | 4D              |
| Coax/Twinax     | 4F              |
| New-437         | 81              |
| New-Dig 850     | 83              |
| Old-Code 860    | 98              |
| Flarro 863      | 99              |
| 865 Hebrew      | 9A              |

| Code Page      | ESC R Parameter |
|----------------|-----------------|
| CP 1257        | 77              |
| 866 Ukraine    | 8F              |
| 866 Kazakhstan | 90              |
| Kamenicky      | 91              |
| Mazovia        | 92              |
| CP 775         | A6              |
| CRO-ASCII      | 3C              |
| Arabic Farsi   | 96              |
| Arabic Urdu    | 97              |
| Greek DEC      | 46              |
| Greek ELOT 928 | 6C              |
| UK_ASCII       | 41              |
| US_ASCII       | 42              |
| Swedish        | 48              |
| German         | 4B              |
| Portuguese     | 4C              |
| French         | 52              |
| Italian        | 59              |
| Norwegian      | 60              |
| Spanish        | 5A              |
| SiemensTurk    | 9B              |
| DECTurkish     | 9C              |

## 11.3 Code Page Tables

### CP 437

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É | Á |   | L | ⌚ | 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 | å | û | æ |   | ⌚ | ⌚ | μ | + |
| 7 | * |   |   | '  | 7 | G | W | g | w | ç | ù | ø |   | ⌚ | ⌚ | τ | ≈ |
| 8 | * |   |   | (  | 8 | H | X | h | x | ê | ÿ | ï |   | ⌚ | ⌚ | Φ | ° |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | Ö | ü |   | ⌚ | ⌚ | Θ | • |
| A | * |   |   | *  | : | J | Z | j | z | è | Ü | ı |   | ⌚ | ⌚ | Ω | · |
| B | * |   |   | +  | ; | K | [ | k | { | ë | φ | ½ |   | ⌚ | ⌚ | δ | √ |
| C | * |   |   | ,  | < | L | \ | l |   | î | £ | ¼ |   | ⌚ | ⌚ | ø | n |
| D | * |   |   | -  | = | M | ] | m | ~ | ì | ¥ | ¾ |   | ⌚ | ⌚ | ² | ² |
| E | * |   |   | .  | > | N | ^ | n |   | Ä | ƒ | » |   | ⌚ | ⌚ | ε | ■ |
| F | * |   |   | /  | ? | O | _ | o |   | Å |   |   |   | ⌚ | ⌚ | ∅ |   |

### CP 737

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | A | P | ı |   | L | ⌚ | ω | Ω |
| 1 | * |   |   | !  | 1 | A | Q | a | q | B | Σ | κ |   | ⌚ | ⌚ | ά | ± |
| 2 | * |   |   | "  | 2 | B | R | b | r | Γ | T | π |   | ⌚ | ⌚ | έ | ≥ |
| 3 | * |   |   | #  | 3 | C | S | c | s | Δ | Y | μ |   | ⌚ | ⌚ | ή | ≤ |
| 4 | * |   |   | \$ | 4 | D | T | d | t | E | Φ | ν |   | ⌚ | ⌚ | ι | ⌚ |
| 5 | * |   |   | %  | 5 | E | U | e | u | Z | X | ξ |   | ⌚ | ⌚ | ί | ÷ |
| 6 | * |   |   | &  | 6 | F | V | f | v | H | Ψ | ο |   | ⌚ | ⌚ | ό | ° |
| 7 | * |   |   | '  | 7 | G | W | g | w | Θ | Ω | π |   | ⌚ | ⌚ | ύ | ≈ |
| 8 | * |   |   | (  | 8 | H | X | h | x | I | α | ρ |   | ⌚ | ⌚ | ű | • |
| 9 | * |   |   | )  | 9 | I | Y | i | y | K | β | σ |   | ⌚ | ⌚ | ő | £ |
| A | * |   |   | *  | : | J | Z | j | z | Λ | ϝ | ς |   | ⌚ | ⌚ | á | √ |
| B | * |   |   | +  | ; | K | [ | k | { | M | δ | τ |   | ⌚ | ⌚ | ê | n |
| C | * |   |   | ,  | < | L | \ | l |   | N | ε | υ |   | ⌚ | ⌚ | ι | ² |
| D | * |   |   | -  | = | M | ] | m | ~ | Ξ | ς | φ |   | ⌚ | ⌚ | ο |   |
| E | * |   |   | .  | > | N | ^ | n |   | Ο | η | χ |   | ⌚ | ⌚ | ο |   |
| F | * |   |   | /  | ? | O | _ | o |   | Π | θ | ψ |   | ⌚ | ⌚ | ο |   |

## CP 850

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É | á | ⌂ | ⌂ | ø | Ó | - |
| 1 | * |   |    | ! | 1 | A | Q | a | q | ü | æ | í | ⌂ | ⌂ | ð | ö | ± |
| 2 | * |   | "  | 2 | B | R | S | b | r | é | Æ | ó | ⌂ | ⌂ | ë | ô | ¼ |
| 3 | * |   | #  | 3 | C | T | U | c | s | â | ö | ú | ⌂ | ⌂ | è | ò | ¾ |
| 4 | * |   | \$ | 4 | D | E | F | d | t | ä | ö | ñ | ⌂ | ⌂ | í | õ | 8 |
| 5 | * |   | %  | 5 | E | F | G | e | u | à | ù | Ñ | ⌂ | ⌂ | í | ö | ÷ |
| 6 | * |   | &  | 6 | F | V | W | f | v | å | ÿ | ä | ⌂ | ⌂ | î | µ | . |
| 7 | * |   | '  | 7 | G | X | Y | g | w | ç | ÿ | ö | ⌂ | ⌂ | ï | þ | ° |
| 8 | * |   | (  | 8 | H | I | Z | h | x | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |
| 9 | * |   | )  | 9 | I | J | [ | i | y | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |
| A | * |   | *  |   | : | J | Y | j | z | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |
| B | * |   | +  |   | ; | K | Z | k | { | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |
| C | * |   | ,  |   | < | L | [ | l |   | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |
| D | * |   | -  |   | = | M | \ | m | ~ | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |
| E | * |   | .  |   | > | N | ^ | n |   | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |
| F | * |   | /  |   | ? | O | _ | o |   | è | ÿ | ÿ | ⌂ | ⌂ | ï | ÿ | ˆ |

## CP 851

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É | í | ⌂ | ⌂ | ⌂ | ⌂ | - |
| 1 | * |   |    | ! | 1 | A | Q | a | q | ü | æ | í | ⌂ | ⌂ | ⌂ | ⌂ | ± |
| 2 | * |   | "  | 2 | B | R | S | b | r | é | Æ | ó | ⌂ | ⌂ | ⌂ | ⌂ | U |
| 3 | * |   | #  | 3 | C | T | U | c | s | â | ö | ú | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| 4 | * |   | \$ | 4 | D | E | F | d | t | ä | ö | ñ | ⌂ | ⌂ | ⌂ | ⌂ | × |
| 5 | * |   | %  | 5 | E | F | G | e | u | à | ù | Ñ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| 6 | * |   | &  | 6 | F | V | W | f | v | å | ÿ | ä | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| 7 | * |   | '  | 7 | G | X | Y | g | w | ç | ÿ | ö | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| 8 | * |   | (  | 8 | H | I | Z | h | x | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| 9 | * |   | )  | 9 | I | J | [ | i | y | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| A | * |   | *  |   | : | J | Y | j | z | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| B | * |   | +  |   | ; | K | Z | k | { | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| C | * |   | ,  |   | < | L | \ | l |   | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| D | * |   | -  |   | = | M | ^ | m | ~ | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| E | * |   | .  |   | > | N |   | n |   | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |
| F | * |   | /  |   | ? | O | _ | o |   | è | ÿ | ÿ | ⌂ | ⌂ | ⌂ | ⌂ | Φ |

## CP 852

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É | á | ␣ | ␣ | ä | Ö | — |
| 1 | * |   |    | ! | 1 | A | Q | a | q | Ü | Í | í | ␣ | ␣ | ð | Ø | — |
| 2 | * |   | "  | 2 | B | R | b | r | r | é | í | ó | ␣ | ␣ | ð | Ö | — |
| 3 | * |   | #  | 3 | C | S | c | s | s | ä | ô | ú | ␣ | ␣ | ð | Ö | — |
| 4 | * |   | \$ | 4 | D | T | d | t | t | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| 5 | * |   | %  | 5 | E | U | e | u | u | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| 6 | * |   | &  | 6 | F | V | f | v | v | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| 7 | * |   | '  | 7 | G | W | g | w | w | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| 8 | * |   | (  | 8 | H | X | h | x | x | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| 9 | * |   | )  | 9 | I | Y | i | y | y | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| A | * |   | *  |   | J | Z | j | z | z | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| B | * |   | +  |   | K | [ | k | { | ~ | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| C | * |   | ,  |   | L | \ | l |   | ~ | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| D | * |   | -  |   | M | ^ | m | ~ | ~ | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| E | * |   | .  |   | N | O | n | o | ~ | ä | ö | ü | ␣ | ␣ | ð | Ö | — |
| F | * |   | /  |   | O | _ | o | o | ~ | ä | ö | ü | ␣ | ␣ | ð | Ö | — |

## CP 857

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É | á | ␣ | ␣ | ä | Ö | — |
| 1 | * |   |    | ! | 1 | A | Q | a | q | Ü | æ | í | ␣ | ␣ | ð | Ø | — |
| 2 | * |   | "  | 2 | B | R | b | r | r | é | Æ | ó | ␣ | ␣ | ð | Ö | — |
| 3 | * |   | #  | 3 | C | S | c | s | s | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| 4 | * |   | \$ | 4 | D | T | d | t | t | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| 5 | * |   | %  | 5 | E | U | e | u | u | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| 6 | * |   | &  | 6 | F | V | f | v | v | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| 7 | * |   | '  | 7 | G | W | g | w | w | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| 8 | * |   | (  | 8 | H | X | h | x | x | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| 9 | * |   | )  | 9 | I | Y | i | y | y | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| A | * |   | *  |   | J | Z | j | z | z | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| B | * |   | +  |   | K | [ | k | { | ~ | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| C | * |   | ,  |   | L | \ | l |   | ~ | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| D | * |   | -  |   | M | ^ | m | ~ | ~ | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| E | * |   | .  |   | N | O | n | o | ~ | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |
| F | * |   | /  |   | O | _ | o | o | ~ | ä | ö | ñ | ␣ | ␣ | ð | Ö | — |

## CP 858

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É | á |   | ⊥ | ø | Ó | - |
| 1 | * |   |   | !  | 1 | A | Q | a | q | ü | æ | í |   | ⊥ | ð | ö | ± |
| 2 | * |   |   | "  | 2 | B | R | b | r | é | œ | ó |   | ⊥ | ë | ô |   |
| 3 | * |   |   | #  | 3 | C | S | c | s | â | ø | ú |   | ⊥ | ê | ö |   |
| 4 | * |   |   | \$ | 4 | D | T | d | t | ä | ö | ñ |   | ⊥ | ë | ö |   |
| 5 | * |   |   | %  | 5 | E | U | e | u | å | û | ã |   | ⊥ | í | μ |   |
| 6 | * |   |   | &  | 6 | F | V | f | v | ç | ü | ä |   | ⊥ | î | þ |   |
| 7 | * |   |   | '  | 7 | G | W | g | w | ê | ÿ | ö |   | ⊥ | ï | þ |   |
| 8 | * |   |   | (  | 8 | H | X | h | x | è | ÿ | ö |   | ⊥ | ï | þ |   |
| 9 | * |   |   | )  | 9 | I | Y | i | y | è | ÿ | ö |   | ⊥ | ï | þ |   |
| A | * |   |   | *  | : | J | Z | j | z | è | ÿ | ö |   | ⊥ | ï | þ |   |
| B | * |   |   | +  | ; | K | [ | k | { | è | ÿ | ö |   | ⊥ | ï | þ |   |
| C | * |   |   | ,  | < | L | \ | l | } | è | ÿ | ö |   | ⊥ | ï | þ |   |
| D | * |   |   | -  | = | M | ] | m | ~ | è | ÿ | ö |   | ⊥ | ï | þ |   |
| E | * |   |   | .  | > | N | ^ | n |   | è | ÿ | ö |   | ⊥ | ï | þ |   |
| F | * |   |   | /  | ? | O | _ | o |   | è | ÿ | ö |   | ⊥ | ï | þ |   |

## CP 860

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É | á |   | ⊥ | ⊥ | α | ≡ |
| 1 | * |   |   | !  | 1 | A | Q | a | q | ü | À | í |   | ⊥ | ⊥ | β | ± |
| 2 | * |   |   | "  | 2 | B | R | b | r | é | È | 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 | å | û | ã |   | ⊥ | ⊥ | σ | ÷ |
| 6 | * |   |   | &  | 6 | F | V | f | v | ç | ü | ä |   | ⊥ | ⊥ | μ | ≈ |
| 7 | * |   |   | '  | 7 | G | W | g | w | ê | ÿ | ö |   | ⊥ | ⊥ | τ | ° |
| 8 | * |   |   | (  | 8 | H | X | h | x | è | ÿ | ö |   | ⊥ | ⊥ | Φ | • |
| 9 | * |   |   | )  | 9 | I | Y | i | y | è | ÿ | ö |   | ⊥ | ⊥ | Θ | · |
| A | * |   |   | *  | : | J | Z | j | z | è | ÿ | ö |   | ⊥ | ⊥ | Ω | √ |
| B | * |   |   | +  | ; | K | [ | k | { | è | ÿ | ö |   | ⊥ | ⊥ | δ | n |
| C | * |   |   | ,  | < | L | \ | l | } | è | ÿ | ö |   | ⊥ | ⊥ | ø | 2 |
| D | * |   |   | -  | = | M | ] | m | ~ | è | ÿ | ö |   | ⊥ | ⊥ | ∅ |   |
| E | * |   |   | .  | > | N | ^ | n |   | è | ÿ | ö |   | ⊥ | ⊥ | ε |   |
| F | * |   |   | /  | ? | O | _ | o |   | è | ÿ | ö |   | ⊥ | ⊥ | ∩ |   |

## CP 861

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É | Á |   | L | ⊥ | 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 | ø | í |   | ⊥ | ⊥ | σ | ∫ |
| 6 | * |   |   | &  | 6 | F | V | f | v | å | û | Ó |   | ⊥ | ⊥ | μ | ÷ |
| 7 | * |   |   | '  | 7 | G | W | g | w | ç | ÿ | Ú |   | ⊥ | ⊥ | τ | ≈ |
| 8 | * |   |   | (  | 8 | H | X | h | x | ê | ý | ¿ |   | ⊥ | ⊥ | Φ | ° |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | ÿ | ¸ |   | ⊥ | ⊥ | Θ | • |
| A | * |   |   | *  |   | J | Z | j | z | è | Ü | ¸ |   | ⊥ | ⊥ | Ω | · |
| B | * |   |   | +  |   | K | [ | k | { | ð | ø | ½ |   | ⊥ | ⊥ | δ | √ |
| C | * |   |   | ,  |   | L | \ | l |   | Ð | ø | ¼ |   | ⊥ | ⊥ | ø | n |
| D | * |   |   | -  |   | M | ] | m | } | Þ | ø | ¼ |   | ⊥ | ⊥ | ø | ² |
| E | * |   |   | .  |   | N | ^ | n | ~ | Ǽ | ø | ¼ |   | ⊥ | ⊥ | ø | ² |
| F | * |   |   | /  |   | O | _ | o | ~ | Ǽ | ø | ¼ |   | ⊥ | ⊥ | ø | ² |

## CP 863

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É | í |   | L | ⊥ | α | ≡ |
| 1 | * |   |   | !  | 1 | A | Q | a | q | ü | È | í |   | ⊥ | ⊥ | 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 | ä | È | · |   | ⊥ | ⊥ | Σ | ∫ |
| 5 | * |   |   | %  | 5 | E | U | e | u | à | Ï | · |   | ⊥ | ⊥ | σ | ∫ |
| 6 | * |   |   | &  | 6 | F | V | f | v | å | Û | — |   | ⊥ | ⊥ | μ | ÷ |
| 7 | * |   |   | '  | 7 | G | W | g | w | ç | ù | î |   | ⊥ | ⊥ | τ | ≈ |
| 8 | * |   |   | (  | 8 | H | X | h | x | ê | ü | ï |   | ⊥ | ⊥ | Φ | ° |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | Ô | ¸ |   | ⊥ | ⊥ | Θ | • |
| A | * |   |   | *  |   | J | Z | j | z | è | Ü | ¸ |   | ⊥ | ⊥ | Ω | · |
| B | * |   |   | +  |   | K | [ | k | { | ï | ø | ½ |   | ⊥ | ⊥ | δ | √ |
| C | * |   |   | ,  |   | L | \ | l |   | î | ø | ¼ |   | ⊥ | ⊥ | ø | n |
| D | * |   |   | -  |   | M | ] | m | } | Û | ø | ¼ |   | ⊥ | ⊥ | ø | ² |
| E | * |   |   | .  |   | N | ^ | n | ~ | Ä | ø | ¼ |   | ⊥ | ⊥ | ø | ² |
| F | * |   |   | /  |   | O | _ | o | ~ | Ä | ø | ¼ |   | ⊥ | ⊥ | ø | ² |

## CP 864

```

* 0 1 2 3 4 5 6 7 8 9 A B C D E F
*****
0 *      0 @ P ' p o B . C U I I I
1 *      1 A Q a q . 8 - 1 e T U I I I
2 *      2 B R b r . 0 7 7 7 7 7 7 7
3 *      3 C S c s 1 2 2 2 2 2 2 2 2
4 *      4 D T d t 2 3 3 3 3 3 3 3 3
5 *      5 E U e u 3 4 4 4 4 4 4 4 4
6 *      6 F V f v 4 5 5 5 5 5 5 5 5
7 *      7 G W g w 5 6 6 6 6 6 6 6 6
8 *      8 H X h x 6 7 7 7 7 7 7 7 7
9 *      9 I Y i y 7 8 8 8 8 8 8 8 8
A *      * : J Z [ \ ] ^ _
B *      + ; K L M N O
C *      , <
D *      - =
E *      . >
F *      / ?

```

## Extend 864

```

* 0 1 2 3 4 5 6 7 8 9 A B C D E F
*****
0 *      0 @ P ' p o B . C U I I I
1 *      1 A Q a q . 8 - 1 e T U I I I
2 *      2 B R b r . 0 7 7 7 7 7 7 7
3 *      3 C S c s 1 2 2 2 2 2 2 2 2
4 *      4 D T d t 2 3 3 3 3 3 3 3 3
5 *      5 E U e u 3 4 4 4 4 4 4 4 4
6 *      6 F V f v 4 5 5 5 5 5 5 5 5
7 *      7 G W g w 5 6 6 6 6 6 6 6 6
8 *      8 H X h x 6 7 7 7 7 7 7 7 7
9 *      9 I Y i y 7 8 8 8 8 8 8 8 8
A *      * : J Z [ \ ] ^ _
B *      + ; K L M N O
C *      , <
D *      - =
E *      . >
F *      / ?

```

## CP 865

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É | á |   | L | ⌚ | 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 | ê | 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 | å | û | ä |   | ⊥ | ⌚ | μ | ÷ |
| 7 | * |   |   | '  | 7 | G | W | g | w | ç | ù | ö |   | ⊥ | ⌚ | τ | ≈ |
| 8 | * |   |   | (  | 8 | H | X | h | x | ê | ÿ | Ö |   | ⊥ | ⌚ | Φ | ° |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | ÿ | Ü |   | ⊥ | ⌚ | Θ | • |
| A | * |   | * | *  | : | J | Z | j | z | è | ø | U |   | ⊥ | ⌚ | Ω | • |
| B | * |   | + | ;  | < | K | [ | k | { | ï | £ | ½ |   | ⊥ | ⌚ | δ | √ |
| C | * |   | , | =  | > | L | \ | l | ~ | î | Ø | ¼ |   | ⊥ | ⌚ | ∞ | n |
| D | * |   | - | >  | ? | M | ^ | m | ~ | ï | ø | » |   | ⊥ | ⌚ | ∅ | 2 |
| E | * |   | . | /  |   | N |   | n |   | Ä | ø | « |   | ⊥ | ⌚ | ε |   |
| F | * |   | / |    |   | O | _ | o |   | Å | f | » |   | ⊥ | ⌚ | ∅ |   |

## CP 866

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

## Bulgaria 866

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | A | P | a | p | L |   | α | ≡ |
| 1 | * |   |    | ! | 1 | A | Q | a | q | Б | С | б | р | ⊥ |   | β | ± |
| 2 | * |   | "  | 2 | B | R | b | b | r | В | Т | в | с | ┌ |   | Γ | ≤ |
| 3 | * |   | #  | 3 | C | S | c | c | s | Г | У | г | т | └ |   | Π | ≥ |
| 4 | * |   | \$ | 4 | D | T | d | d | t | Д | Ф | д | у | ├ |   | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | e | e | u | Е | Х | е | х | ┤ |   | σ | ∫ |
| 6 | * |   | &  | 6 | F | V | f | f | v | Ж | Ц | ж | ц | ┘ |   | μ | ÷ |
| 7 | * |   | '  | 7 | G | W | g | g | w | З | Ч | з | ч | ┐ |   | τ | ≈ |
| 8 | * |   | (  | 8 | H | X | h | h | x | И | Ш | и | ш | ┌ |   | φ | ° |
| 9 | * |   | )  | 9 | I | Y | i | i | y | Й | Щ | й | щ | └ |   | Θ | • |
| A | * |   | *  |   | : | J | j | j |   | К | Ъ | к | ъ | ┘ |   | Ω | √ |
| B | * |   | +  |   | ; | K | k | k |   | Л | Ы | л | ы | ┐ |   | δ | n |
| C | * |   | ,  |   | < | L | l | l |   | М | Ь | м | ь | ├ |   | ø | 2 |
| D | * |   | -  |   | = | M | m | m |   | Н | Э | н | э | ┤ |   | ∅ |   |
| E | * |   | .  |   | > | N | n | n |   | О | Ю | о | ю | ┘ |   | ∅ |   |
| F | * |   | /  |   | ? | O | o | o |   | П | Я | п | я | ┐ |   | ∅ |   |

## CP 1250

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

## CP 1251

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

## CP 1252

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

## CP 1253

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8  | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|----|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | €  |   |   | ° | ı | Π | Ū | π |
| 1 | * |   |   | !  | 1 | A | Q | a | q |    |   | ˆ | ± | Ā | Ρ | ā | ρ |
| 2 | * |   |   | "  | 2 | B | R | b | r | ,  | ' | ˘ | ² | Β | Σ | â | σ |
| 3 | * |   |   | #  | 3 | C | S | c | s | ,f | " | À | ³ | Γ | Τ | ç | τ |
| 4 | * |   |   | \$ | 4 | D | T | d | t | "  | " | £ | ' | Δ | Υ | ø | υ |
| 5 | * |   |   | %  | 5 | E | U | e | u | "  | • | ¥ | μ | Ε | Φ | ε | φ |
| 6 | * |   |   | &  | 6 | F | V | f | v | "  | † | ₯ | ¶ | Ζ | Χ | ς | χ |
| 7 | * |   |   | '  | 7 | G | W | g | w | "  | ‡ | ₧ | • | Η | Ψ | η | ψ |
| 8 | * |   |   | (  | 8 | H | X | h | x | "  | § | ₨ | • | Θ | Ω | θ | ω |
| 9 | * |   |   | )  | 9 | I | Y | i | y | %  | ™ | © | • | Ι | Ͱ | ι | ͱ |
| A | * |   |   | *  | : | J | Z | j | z | <  | > | « | » | Κ | Ͳ | κ | ͳ |
| B | * |   |   | +  | ; | K | [ | k | { |    |   | » | ¼ | Λ | ʹ | λ | ͵ |
| C | * |   |   | ,  | < | L | \ | l |   |    |   | « | ½ | Μ | Ͷ | μ | Ͷ |
| D | * |   |   | -  | > | M | ] | m | } |    |   | » | ¾ | Ν | ͷ | ν | ͷ |
| E | * |   |   | .  | > | N | ^ | n | ~ |    |   | ® | Υ | Ξ | ͸ | ξ | ͸ |
| F | * |   |   | /  | ? | O | _ | o |   |    |   | — | Ω | Ο | ͹ | ο | ͹ |

## CP 1254

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8  | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|----|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | €  |   |   | ° | À | Ğ | à | ğ |
| 1 | * |   |   | !  | 1 | A | Q | a | q |    |   | ı | ± | Á | Ğ | â | ğ |
| 2 | * |   |   | "  | 2 | B | R | b | r | ,  | ' | ı | ² | Â | Ŋ | ã | ñ |
| 3 | * |   |   | #  | 3 | C | S | c | s | ,f | " | ı | ³ | Ã | Ŋ | ä | ô |
| 4 | * |   |   | \$ | 4 | D | T | d | t | "  | " | ı | ' | Ä | Ŋ | å | õ |
| 5 | * |   |   | %  | 5 | E | U | e | u | "  | • | ı | μ | Å | Ŋ | æ | ö |
| 6 | * |   |   | &  | 6 | F | V | f | v | "  | † | ı | ¶ | Æ | Ŋ | ç | ÷ |
| 7 | * |   |   | '  | 7 | G | W | g | w | "  | ‡ | ı | • | Ç | Ŋ | ç | ø |
| 8 | * |   |   | (  | 8 | H | X | h | x | "  | § | ı | • | È | Ŋ | è | ù |
| 9 | * |   |   | )  | 9 | I | Y | i | y | %  | ™ | ı | • | É | Ŋ | é | ú |
| A | * |   |   | *  | : | J | Z | j | z | <  | > | ı | • | Ê | Ŋ | ê | û |
| B | * |   |   | +  | ; | K | [ | k | { |    |   | ı | • | Ë | Ŋ | ë | ü |
| C | * |   |   | ,  | < | L | \ | l |   |    |   | ı | • | Ė | Ŋ | ė | ı |
| D | * |   |   | -  | > | M | ] | m | } |    |   | ı | • | İ | Ŋ | î | ı |
| E | * |   |   | .  | > | N | ^ | n | ~ |    |   | ı | • | Í | Ŋ | í | ı |
| F | * |   |   | /  | ? | O | _ | o |   |    |   | ı | • | Î | Ŋ | î | ı |

8859-1

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É |   | ° | À | Đ | à | ø |
| 1 | * |   |    | ! | 1 | A | Q | a | q | ü | æ | ; | ± | Á | Ñ | á | ñ |
| 2 | * |   | "  | 2 | B | R | b | r | r | é | Æ | ç | ² | Â | Ò | â | ò |
| 3 | * |   | #  | 3 | C | S | c | s | s | ê | ô | £ | ³ | Ã | Ó | ã | ó |
| 4 | * |   | \$ | 4 | D | T | d | t | t | â | ö | ¤ | ´ | Ä | Ô | ä | ô |
| 5 | * |   | %  | 5 | E | U | e | u | u | ä | ù | ¥ | µ | Å | Õ | å | õ |
| 6 | * |   | &  | 6 | F | V | f | v | v | å | û | ¦ | ¶ | Æ | Ö | æ | ö |
| 7 | * |   | '  | 7 | G | W | g | w | w | ç | ÿ | § | · | Ç | × | ç | ÷ |
| 8 | * |   | (  | 8 | H | X | h | x | x | ê | ÿ | ¨ | ¸ | È | Ø | è | ø |
| 9 | * |   | )  | 9 | I | Y | i | y | y | ë | Ö | © | ¹ | É | Ù | é | ù |
| A | * |   | *  | : | J | Z | j | z | z | è | Ü | ª | º | Ê | Ú | ê | ú |
| B | * |   | +  | ; | K | [ | k | { | { | ï | ç | « | » | 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 |   |   | Ä | ƒ | ® | ¾ | Î | Þ | î | þ |
| F | * |   | /  | ? | O | _ | o |   |   | Å | f | — | ¿ | Ï | ß | ï | ÿ |

8859-1 (SAP)

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | ± |   | ° | À | Đ | à | ø |
| 1 | * |   |    | ! | 1 | A | Q | a | q | ü | ± | ; | ± | Á | Ñ | á | ñ |
| 2 | * |   | "  | 2 | B | R | b | r | r | é | ± | ç | ² | Â | Ò | â | ò |
| 3 | * |   | #  | 3 | C | S | c | s | s | ê | ± | £ | ³ | Ã | Ó | ã | ó |
| 4 | * |   | \$ | 4 | D | T | d | t | t | â | ± | ¤ | ´ | Ä | Ô | ä | ô |
| 5 | * |   | %  | 5 | E | U | e | u | u | ä | ± | ¥ | µ | Å | Õ | å | õ |
| 6 | * |   | &  | 6 | F | V | f | v | v | å | ± | ¦ | ¶ | Æ | Ö | æ | ö |
| 7 | * |   | '  | 7 | G | W | g | w | w | ç | ± | § | · | Ç | × | ç | ÷ |
| 8 | * |   | (  | 8 | H | X | h | x | x | ê | ± | ¨ | ¸ | È | Ø | è | ø |
| 9 | * |   | )  | 9 | I | Y | i | y | y | ë | ± | © | ¹ | É | Ù | é | ù |
| A | * |   | *  | : | J | Z | j | z | 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 |   |   | Ä | ± | ® | ¾ | Î | Þ | î | þ |
| F | * |   | /  | ? | O | _ | o |   |   | Å | ± | — | ¿ | Ï | ß | ï | ÿ |

8859-2

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É |   | ° | Á | Ð | Ÿ | đ |
| 1 | * |   |   | !  | 1 | A | Q | a | q | Ü | æ | À | à | Â | Ñ | â | ñ |
| 2 | * |   |   | "  | 2 | B | R | b | r | ë | Æ | Á | á | Ã | Ŋ | ã | ŋ |
| 3 | * |   |   | #  | 3 | C | S | c | s | â | Ö | Â | â | Ä | Ó | ä | ó |
| 4 | * |   |   | \$ | 4 | D | T | d | t | ä | ö | Ä | ä | Å | Ô | å | ô |
| 5 | * |   |   | %  | 5 | E | U | e | u | å | ø | Å | å | Ö | Õ | ö | ø |
| 6 | * |   |   | &  | 6 | F | V | f | v | ø | ù | Ö | ö | Ç | × | ç | ÷ |
| 7 | * |   |   | '  | 7 | G | W | g | w | ë | ÿ | Ç | ç | È | Ŕ | è | ŕ |
| 8 | * |   |   | (  | 8 | H | X | h | x | ë | ÿ | È | è | É | Ů | é | ů |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | ÿ | É | é | Ê | Ú | ê | ú |
| A | * |   |   | *  | : | J | Z | j | z | ë | ÿ | Ê | ê | Ë | Û | ë | û |
| B | * |   |   | +  | ; | K | [ | k | [ | ë | ÿ | Ë | ë | Ë | Ü | ë | ü |
| C | * |   |   | ,  | < | L | \ | l | \ | ë | ÿ | Ë | ë | Ë | Ü | ë | ü |
| D | * |   |   | -  | > | M | ] | m | ] | ë | ÿ | Ë | ë | Ë | Ü | ë | ü |
| E | * |   |   | .  | ? | N | ^ | n | ^ | ë | ÿ | Ë | ë | Ë | Ü | ë | ü |
| F | * |   |   | /  |   | O | _ | o | _ | ë | ÿ | Ë | ë | Ë | Ü | ë | ü |

8859-5

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É |   | À | Р | а | р | № |
| 1 | * |   |   | !  | 1 | A | Q | a | q | Ü | æ | È | Б | С | б | с | ё |
| 2 | * |   |   | "  | 2 | B | R | b | r | ë | Æ | É | В | Т | в | т | ђ |
| 3 | * |   |   | #  | 3 | C | S | c | s | â | Ö | Ê | Г | У | г | у | ѓ |
| 4 | * |   |   | \$ | 4 | D | T | d | t | ä | ö | Ë | Д | Ф | д | ф | ѐ |
| 5 | * |   |   | %  | 5 | E | U | e | u | å | ø | Ì | Е | Х | е | х | ё |
| 6 | * |   |   | &  | 6 | F | V | f | v | ø | ù | Í | Ж | Ц | ж | ц | ѐ |
| 7 | * |   |   | '  | 7 | G | W | g | w | ë | ÿ | Î | З | Ч | з | ч | ѐ |
| 8 | * |   |   | (  | 8 | H | X | h | x | ë | ÿ | Ï | И | Ш | и | ш | ѐ |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | ÿ | Ï | Й | Щ | й | щ | ѐ |
| A | * |   |   | *  | : | J | Z | j | z | ë | ÿ | Ï | Ь | Ъ | ь | ъ | ѐ |
| B | * |   |   | +  | ; | K | [ | k | [ | ë | ÿ | Ï | К | Л | к | л | ѐ |
| C | * |   |   | ,  | < | L | \ | l | \ | ë | ÿ | Ï | Л | М | л | м | ѐ |
| D | * |   |   | -  | > | M | ] | m | ] | ë | ÿ | Ï | М | Н | м | н | ѐ |
| E | * |   |   | .  | ? | N | ^ | n | ^ | ë | ÿ | Ï | Н | О | н | о | ѐ |
| F | * |   |   | /  |   | O | _ | o | _ | ë | ÿ | Ï | О | П | о | п | ѐ |

8859-7

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É |   | ° | Ï | Π | Û | π |
| 1 | * |   |    | ! | 1 | A | Q | a | q | Ü | æ | ' | ± | À | Ρ | α | ρ |
| 2 | * |   |    | " | 2 | B | R | b | r | ë | Æ | £ | ² | Á | Σ | β | σ |
| 3 | * |   | #  | 3 | C | S | T | c | s | â | ô |   | ³ | Â | Τ | γ | τ |
| 4 | * |   | \$ | 4 | D | T | U | d | t | ä | ö |   | » | Ä | Υ | δ | υ |
| 5 | * |   | %  | 5 | E | U | V | e | u | å | ò |   | » | Å | Φ | ε | φ |
| 6 | * |   | &  | 6 | F | V | W | f | v | ä | ù | ! | » | Ä | Χ | ζ | χ |
| 7 | * |   | '  | 7 | G | W | X | g | w | ç | ÿ | ! | » | Ä | Ψ | η | ψ |
| 8 | * |   | (  | 8 | H | X | Y | h | x | ë | ÿ | © | » | Ä | Ω | θ | ω |
| 9 | * |   | )  | 9 | I | Y | Z | i | y | è | ÿ | © | » | Ä | Ι | ι | ι |
| A | * |   | *  |   | : | J | [ | j | { | ë | ÿ | © | » | Ä | Κ | κ | κ |
| B | * |   | +  |   | ; | K | \ | k |   | ï | £ | « | » | Ä | Λ | λ | λ |
| C | * |   | ,  |   | < | L | ] | l | ~ | î | ¥ | « | » | Ä | Μ | μ | μ |
| D | * |   | -  |   | > | M | ^ | m |   | ï | ¥ | « | » | Ä | N | ν | ν |
| E | * |   | .  |   | ? | N |   | n |   | ï | ¥ | « | » | Ä | Ξ | ξ | ξ |
| F | * |   | /  |   |   | O | _ | o |   | ï | ¥ | « | » | Ä | Ο | ο | ο |

8859-9

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É |   | ° | À | Ğ | à | ğ |
| 1 | * |   |    | ! | 1 | A | Q | a | q | Ü | æ | ! | ± | Ã | Ñ | á | ñ |
| 2 | * |   |    | " | 2 | B | R | b | r | ë | Æ | ! | ² | Ä | Ò | â | ò |
| 3 | * |   | #  | 3 | C | S | T | c | s | â | ô | ! | ³ | Å | Ó | ã | ó |
| 4 | * |   | \$ | 4 | D | T | U | d | t | ä | ö | ! | » | Ä | Ô | ä | ô |
| 5 | * |   | %  | 5 | E | U | V | e | u | å | ò | ! | » | Ä | Õ | å | õ |
| 6 | * |   | &  | 6 | F | V | W | f | v | ä | ù | ! | » | Ä | Ö | æ | ö |
| 7 | * |   | '  | 7 | G | W | X | g | w | ç | ÿ | ! | » | Ä | × | ç | ÷ |
| 8 | * |   | (  | 8 | H | X | Y | h | x | ë | ÿ | ! | » | Ä | Ø | é | ø |
| 9 | * |   | )  | 9 | I | Y | Z | i | y | è | ÿ | ! | » | Ä | Ù | è | ù |
| A | * |   | *  |   | : | J | [ | j | { | ë | ÿ | ! | » | Ä | Ú | é | ú |
| B | * |   | +  |   | ; | K | \ | k |   | ï | £ | « | » | Ä | Û | è | û |
| C | * |   | ,  |   | < | L | ] | l | ~ | î | ¥ | « | » | Ä | Ü | é | ü |
| D | * |   | -  |   | > | M | ^ | m |   | ï | ¥ | « | » | Ä | Ý | í | ý |
| E | * |   | .  |   | ? | N |   | n |   | ï | ¥ | « | » | Ä | Ş | î | ş |
| F | * |   | /  |   |   | O | _ | o |   | ï | ¥ | « | » | Ä | ß | ï | ß |

8859-15

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

## BRASCII

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p |   |   |   | ° | À | Đ | à | ð |
| 1 | * |   |   | !  | 1 | A | Q | a | q |   |   | ı | ± | Á | Ñ | á | ñ |
| 2 | * |   |   | "  | 2 | B | R | b | r |   |   | ç | ² | Â | Ò | â | ò |
| 3 | * |   |   | #  | 3 | C | S | c | s |   |   | € | ³ | Ã | Ó | ã | ó |
| 4 | * |   |   | \$ | 4 | D | T | d | t |   |   | ¥ | ´ | Ä | Ô | ä | ô |
| 5 | * |   |   | %  | 5 | E | U | e | u |   |   | Š | µ | Å | Õ | å | õ |
| 6 | * |   |   | &  | 6 | F | V | f | v |   |   | Š | ¶ | Æ | Ö | ç | ö |
| 7 | * |   |   | '  | 7 | G | W | g | w |   |   | š | · | Ç | Ø | ç | ø |
| 8 | * |   |   | (  | 8 | H | X | h | x |   |   | š | ¸ | È | Ø | è | ø |
| 9 | * |   |   | )  | 9 | I | Y | i | y |   |   | š | ¹ | É | Ù | é | ù |
| A | * |   |   | *  | : | J | Z | j | z |   |   | š | º | Ê | Ú | ê | ú |
| B | * |   |   | +  | ; | K | [ | k | { |   |   | š | » | Ë | Û | ë | û |
| C | * |   |   | ,  | < | L | \ | l | ~ |   |   | š | ¼ | Ì | Ü | ì | ü |
| D | * |   |   | -  | > | M | ] | m | ~ |   |   | š | ½ | Í | Ý | í | ý |
| E | * |   |   | .  | ? | N | ^ | n | ~ |   |   | š | ¾ | Î | Þ | î | þ |
| F | * |   |   | /  |   | O | _ | o | ~ |   |   | š | ¿ | Ï |   | ï | ÿ |

## Abicomp

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | ÿ |   |   |
| B | * |   | + | ;  | ; | K | [ | k | { |   |   | Ì | £ | ì | ÿ | B |   |
| C | * |   | , | <  | < | L | \ | l |   |   |   | Í | £ | í | ÿ | a |   |
| D | * |   | - | =  | = | M | ] | m | } |   |   | Î | £ | î | ÿ | o |   |
| E | * |   | . | >  | > | N | ^ | n | ~ |   |   | Ï | £ | ï | ÿ | z |   |
| F | * |   | / | ?  | ? | O | _ | o |   |   |   | Ñ | £ | ñ | ÿ | ± |   |

## Roman 8

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p |   |   |   | — | â | À | Á | þ |
| 1 | * |   |   | !  | 1 | A | Q | a | q |   |   | À | Ý | ê | Â | Ã | Þ |
| 2 | * |   |   | "  | 2 | B | R | b | r |   |   | Â | Ý | ô | Ë | Ä | • |
| 3 | * |   |   | #  | 3 | C | S | c | s |   |   | È | Ç | û | Æ | Å | µ |
| 4 | * |   |   | \$ | 4 | D | T | d | t |   |   | Ê | Ç | á | Å | Ö | ¾ |
| 5 | * |   |   | %  | 5 | E | U | e | u |   |   | Ë | Ç | é | Í | Ï | ¼ |
| 6 | * |   |   | &  | 6 | F | V | f | v |   |   | Î | Ñ | ó | Ø | Ò | ¼ |
| 7 | * |   |   | '  | 7 | G | W | g | w |   |   | Ï | ñ | ú | æ | Ó | ½ |
| 8 | * |   |   | (  | 8 | H | X | h | x |   |   | Ì | í | à | À | Ô | ½ |
| 9 | * |   |   | )  | 9 | I | Y | i | y |   |   | Ì | í | è | À | Õ | ¾ |
| A | * |   | * | :  | : | J | Z | j | z |   |   | ˆ | ˆ | ò | Ö | Š | ¾ |
| B | * |   | + | ;  | ; | K | [ | k | { |   |   | ˆ | ˆ | ù | Ü | Š | ¾ |
| C | * |   | , | <  | < | L | \ | l |   |   |   | ˆ | ˆ | ä | É | Š | ¾ |
| D | * |   | - | =  | = | M | ] | m | } |   |   | ˆ | ˆ | ë | Ï | Ú | ¾ |
| E | * |   | . | >  | > | N | ^ | n | ~ |   |   | ˆ | ˆ | ö | Ï | Ý | ¾ |
| F | * |   | / | ?  | ? | O | _ | o |   |   |   | £ | £ | ü | Ö | ÿ | ¾ |

## Coax/Twinax

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | N | J | á |   | L | ⌌ | N | ⌌ |
| 1 | * |   |    | ! | 1 | A | Q | a | q | ⌌ | ⌌ | í |   | ⌌ | ⌌ | ⌌ | ⌌ |
| 2 | * |   | "  |   | 2 | B | R | b | r | ⌌ | ⌌ | 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 | ⌌ | ⌌ | ǎ |   | ⌌ | ⌌ | ⌌ | ⌌ |
| 7 | * |   | '  |   | 7 | G | W | g | w | ⌌ | ⌌ | o |   | ⌌ | ⌌ | ⌌ | ⌌ |
| 8 | * |   | (  |   | 8 | H | X | h | x | ⌌ | ⌌ | ¿ |   | ⌌ | ⌌ | ⌌ | ⌌ |
| 9 | * |   | )  |   | 9 | I | Y | i | y | ⌌ | ⌌ | ı |   | ⌌ | ⌌ | ⌌ | ⌌ |
| A | * |   | *  | : | J | Z | [ | j | { | ⌌ | ⌌ | ı | ½ | ⌌ | ⌌ | ⌌ | ⌌ |
| B | * |   | +  | ; | K | \ | ] | k |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ⌌ | ⌌ |
| C | * |   | ,  | < | L | ^ |   | l | ~ | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ⌌ | ⌌ |
| D | * |   | -  | > | M |   |   | m |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ⌌ | ⌌ |
| E | * |   | .  | ? | N |   |   | n |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ⌌ | ⌌ |
| F | * |   | /  |   | O |   |   | o |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ⌌ | ⌌ |

## New-437

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | N | J | á |   | L | ⌌ | α | ≡ |
| 1 | * |   |    | ! | 1 | A | Q | a | q | ⌌ | ⌌ | í |   | ⌌ | ⌌ | β | ± |
| 2 | * |   | "  |   | 2 | B | R | b | r | ⌌ | ⌌ | ó |   | ⌌ | ⌌ | Γ | ≥ |
| 3 | * |   | #  |   | 3 | C | S | c | s | ⌌ | ⌌ | ú |   | ⌌ | ⌌ | π | ≤ |
| 4 | * |   | \$ |   | 4 | D | T | d | t | ⌌ | ⌌ | ñ |   | ⌌ | ⌌ | Σ | ∫ |
| 5 | * |   | %  |   | 5 | E | U | e | u | ⌌ | ⌌ | Ñ |   | ⌌ | ⌌ | o | ı |
| 6 | * |   | &  |   | 6 | F | V | f | v | ⌌ | ⌌ | ǎ |   | ⌌ | ⌌ | ı | ° |
| 7 | * |   | '  |   | 7 | G | W | g | w | ⌌ | ⌌ | o |   | ⌌ | ⌌ | τ | ° |
| 8 | * |   | (  |   | 8 | H | X | h | x | ⌌ | ⌌ | ¿ |   | ⌌ | ⌌ | Φ | ° |
| 9 | * |   | )  |   | 9 | I | Y | i | y | ⌌ | ⌌ | ı | ½ | ⌌ | ⌌ | Θ | ° |
| A | * |   | *  | : | J | Z | [ | j | { | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | Ω | ° |
| B | * |   | +  | ; | K | \ | ] | k |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | δ | ° |
| C | * |   | ,  | < | L | ^ |   | l | ~ | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ø | ° |
| D | * |   | -  | > | M |   |   | m |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ε | ° |
| E | * |   | .  | ? | N |   |   | n |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ε | ° |
| F | * |   | /  |   | O |   |   | o |   | ⌌ | ⌌ | ı | ¼ | ⌌ | ⌌ | ε | ° |

## New-Dig 850

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | N | J | á |   | L | ø | N | J |
| 1 | * |   |   | !  | 1 | A | Q | a | q | U | V | í |   | ⊥ | ð | U | U |
| 2 | * |   |   | "  | 2 | B | R | b | r | λ | Y | ó |   | ⊥ | Ê | λ | Y |
| 3 | * |   |   | #  | 3 | C | S | c | s | T | Y | ú |   | ⊥ | Ë | T | Y |
| 4 | * |   |   | \$ | 4 | D | T | d | t | U | Y | ñ |   | ⊥ | È | U | Y |
| 5 | * |   |   | %  | 5 | E | U | e | u | F | Y | Ñ |   | ⊥ | È | U | Y |
| 6 | * |   |   | &  | 6 | F | V | f | v | G | Y | a |   | ⊥ | í | U | Y |
| 7 | * |   |   | '  | 7 | G | W | g | w | H | Y | o |   | ⊥ | î | U | Y |
| 8 | * |   |   | (  | 8 | H | X | h | x | I | Y | ¿ |   | ⊥ | ï | U | Y |
| 9 | * |   |   | )  | 9 | I | Y | i | y | J | Y | ® |   | ⊥ | ï | U | Y |
| A | * |   |   | *  | : | J | Z | j | z | K | Y | ½ |   | ⊥ |   | U | Y |
| B | * |   |   | +  | ; | K | [ | k | { | L | Y | ¼ |   | ⊥ |   | U | Y |
| C | * |   |   | ,  | < | L | \ | l |   | M | Y | ¼ |   | ⊥ |   | U | Y |
| D | * |   |   | -  | > | M | ^ | m | ~ | N | Y | ¼ |   | ⊥ |   | U | Y |
| E | * |   |   | .  | > | N |   | n |   | O | Y | ¼ |   | ⊥ |   | U | Y |
| F | * |   |   | /  | ? | O | _ | o |   |   | Y | ¼ |   | ⊥ |   | U | Y |

## Old-Code 860

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | N | J | N | J | á |   | L | α | ≡ | ± |
| 1 | * |   |   | !  | 1 | A | Q | U | U | U | À | í |   | ⊥ | β | ± | ± |
| 2 | * |   |   | "  | 2 | B | R | λ | V | λ | È | ó |   | ⊥ | Γ | ± | ± |
| 3 | * |   |   | #  | 3 | C | S | T | Y | λ | È | ú |   | ⊥ | π | ± | ± |
| 4 | * |   |   | \$ | 4 | D | T | U | Y | ã | õ | ñ |   | ⊥ | Σ | ± | ± |
| 5 | * |   |   | %  | 5 | E | U | F | Y | Á | Ú | Ñ |   | ⊥ | σ | ± | ± |
| 6 | * |   |   | &  | 6 | F | V | G | Y | À | Ú | a |   | ⊥ | í | ± | ± |
| 7 | * |   |   | '  | 7 | G | W | H | Y | À | Ú | o |   | ⊥ | τ | ± | ± |
| 8 | * |   |   | (  | 8 | H | X | I | Y | À | Ú | ¿ |   | ⊥ | Φ | ± | ± |
| 9 | * |   |   | )  | 9 | I | Y | J | Y | À | Ú | ¿ |   | ⊥ | Θ | ± | ± |
| A | * |   |   | *  | : | J | Z | K | Y | À | Ú | ½ |   | ⊥ | Ω | ± | ± |
| B | * |   |   | +  | ; | K | [ | L | Y | À | Ú | ¼ |   | ⊥ | δ | ± | ± |
| C | * |   |   | ,  | < | L | \ | M | Y | À | Ú | ¼ |   | ⊥ | ø | ± | ± |
| D | * |   |   | -  | > | M | ^ | N | Y | À | Ú | ¼ |   | ⊥ | ε | ± | ± |
| E | * |   |   | .  | > | N |   |   |   | À | Ú | ¼ |   | ⊥ |   | ± | ± |
| F | * |   |   | /  | ? | O | _ |   |   | À | Ú | ¼ |   | ⊥ |   | ± | ± |

## Flarro 863

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | λ | τ | η | ι | ζ |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | λ | ν | λ | ν | λ | ι | λ | τ | α | ≡ |
| 1 | * |   |    | ! | 1 | λ | ν | λ | ν | λ | Ε | ι | τ | τ | β | ± |
| 2 | * |   | "  | 2 | λ | τ | ν | λ | ν | λ | Ε | ι | τ | τ | Γ | ≥ |
| 3 | * |   | #  | 3 | τ | ν | ν | τ | ν | τ | Ε | ι | τ | τ | π | ≤ |
| 4 | * |   | \$ | 4 | η | ι | ν | η | ι | τ | Ε | ι | τ | τ | Σ | ∫ |
| 5 | * |   | %  | 5 | ι | ν | ν | ι | ν | λ | ι | τ | τ | τ | σ | ' |
| 6 | * |   | Ν  | 6 | ζ | κ | ν | ζ | κ | π | ι | τ | τ | τ | ι | ≈ |
| 7 | * |   | '  | 7 | π | κ | τ | π | κ | π | ι | τ | τ | τ | τ | ° |
| 8 | * |   | (  | 8 | υ | ι | ν | υ | ι | ν | ι | τ | τ | τ | θ | • |
| 9 | * |   | )  | 9 | ι | ν | ν | ι | ν | τ | ι | τ | τ | τ | Ω | · |
| λ | * |   | *  | * | : | λ | ν | λ | ν | τ | ι | τ | τ | τ | δ | √ |
| τ | * |   | +  | * | < | κ | ν | κ | ν | τ | ι | τ | τ | τ | θ | n |
| η | * |   | ,  | * | = | κ | ν | κ | ν | τ | ι | τ | τ | τ | θ | 2 |
| ι | * |   | -  | * | > | κ | ν | κ | ν | τ | ι | τ | τ | τ | θ |   |
| ζ | * |   | /  | * | ? | λ | ν | λ | ν | τ | ι | τ | τ | τ | θ |   |

## Hebrew 865

|   | * | 0 | 1  | 2 | 3 | 4 | 5   | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|-----|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P   | ' | p | λ | λ | á | λ | λ | λ | α | ≡ |
| 1 | * |   |    | ! | 1 | A | Q   | a | q | λ | ν | í | λ | λ | λ | β | ± |
| 2 | * |   | "  | 2 | B | R | b   | r | λ | ν | ν | ó | λ | λ | λ | Γ | ≥ |
| 3 | * |   | #  | 3 | C | S | c   | s | τ | ν | η | ú | λ | λ | λ | π | ≤ |
| 4 | * |   | \$ | 4 | D | T | d   | t | η | ν | ν | ñ | λ | λ | λ | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | e   | u | ι | ν | ν | Ñ | λ | λ | λ | σ | ' |
| 6 | * |   | &  | 6 | F | V | f   | v | ζ | κ | τ | æ | λ | λ | λ | ι | ≈ |
| 7 | * |   | '  | 7 | G | W | g   | w | π | υ | τ | ó | λ | λ | λ | τ | ° |
| 8 | * |   | (  | 8 | H | X | h   | x | υ | ι | ν | í | λ | λ | λ | θ | • |
| 9 | * |   | )  | 9 | I | Y | i   | y | τ | ν | τ | í | λ | λ | λ | Ω | · |
| A | * |   | *  | * | : | J | Z   | i | κ | ν | τ | ι | τ | τ | τ | δ | √ |
| B | * |   | +  | * | < | K | [   | k | { | κ | ν | ι | τ | τ | τ | θ | n |
| C | * |   | ,  | * | = | L | \   | l |   | κ | ν | ι | τ | τ | τ | θ | 2 |
| D | * |   | -  | * | > | M | ] ^ | m | ~ | κ | ν | ι | τ | τ | τ | θ |   |
| E | * |   | .  | * | ? | N |     | n |   | κ | ν | ι | τ | τ | τ | θ |   |
| F | * |   | /  | * |   | O | _   | o |   | κ | ν | ι | τ | τ | τ | θ |   |

## CP 1257

|   | * | 0 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |    | 0 | @ | P | ' | p | € |   |   | ° | À | Š | a | š |
| 1 | * |   |    | !  | 1 | A | Q | a | q |   |   |   | ± | Á | Š | ā | š |
| 2 | * |   |    | !" | 2 | B | R | b | r | , |   |   | ² | Ā | Ń | ā | Ń |
| 3 | * |   | #  | 3  | C | S | T | c | s | , | " | φ | ³ | Ĉ | Ń | ā | Ń |
| 4 | * |   | \$ | 4  | D | E | U | d | t | " | " | ⊗ | ⁴ | Ä | Ō | ä | Ō |
| 5 | * |   | %  | 5  | E | F | V | e | u | " | • | ⊗ | ⁵ | Å | Ö | e | Ö |
| 6 | * |   | &  | 6  | F | G | W | f | v | " | — | ⊗ | ⁶ | Æ | × | e | × |
| 7 | * |   | '  | 7  | G | H | X | g | w | " | — | ⊗ | ⁷ | Ė | × | e | × |
| 8 | * |   | (  | 8  | H | I | Y | h | x | " | — | ⊗ | ⁸ | Č | × | e | × |
| 9 | * |   | )  | 9  | I | J | Z | i | y | " | — | ⊗ | ⁹ | Ď | × | e | × |
| A | * |   | *  |    | : | J | [ | j | { | < |   |   | ⊗ | Ž | × | e | × |
| B | * |   | +  |    | ; | K | \ | k |   | > |   |   | ⊗ | ž | × | e | × |
| C | * |   | ,  |    | < | L | ] | l | ~ |   |   |   | ⊗ | Ġ | × | e | × |
| D | * |   | -  |    | = | M | ^ | m | ~ |   |   |   | ⊗ | ġ | × | e | × |
| E | * |   | .  |    | > | N |   | n | ~ |   |   |   | ⊗ | Ħ | × | e | × |
| F | * |   | /  |    | ? | O | _ | o | ~ |   |   |   | ⊗ | İ | × | e | × |

## Ukraine 866

|   | * | 0 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |    | 0 | @ | P | ' | p | А | Р | а | б | Л | Щ | р | Ё |
| 1 | * |   |    | !  | 1 | A | Q | a | q | Б | С | б | в | Л | Щ | р | ё |
| 2 | * |   |    | !" | 2 | B | R | b | r | В | Т | в | г | Л | Щ | р | ѐ |
| 3 | * |   | #  | 3  | C | S | T | c | s | Г | У | г | д | Л | Щ | р | ѐ |
| 4 | * |   | \$ | 4  | D | E | U | d | t | Д | Ф | д | е | Л | Щ | р | ѐ |
| 5 | * |   | %  | 5  | E | F | V | e | u | Е | Х | е | ж | Л | Щ | р | ѐ |
| 6 | * |   | &  | 6  | F | G | W | f | v | Ж | Ц | ж | з | Л | Щ | р | ѐ |
| 7 | * |   | '  | 7  | G | H | X | g | w | З | И | з | и | Л | Щ | р | ѐ |
| 8 | * |   | (  | 8  | H | I | Y | h | x | И | Й | и | к | Л | Щ | р | ѐ |
| 9 | * |   | )  | 9  | I | J | Z | i | y | Й | К | й | л | Л | Щ | р | ѐ |
| A | * |   | *  |    | : | J | [ | j | { | К | Л | к | м | Л | Щ | р | ѐ |
| B | * |   | +  |    | ; | K | \ | k |   | Л | М | л | н | Л | Щ | р | ѐ |
| C | * |   | ,  |    | < | L | ] | l | ~ | М | Н | м | о | Л | Щ | р | ѐ |
| D | * |   | -  |    | = | M | ^ | m | ~ | Н | О | н | п | Л | Щ | р | ѐ |
| E | * |   | .  |    | > | N |   | n | ~ | О | П | о | я | Л | Щ | р | ѐ |
| F | * |   | /  |    | ? | O | _ | o | ~ | П |   | я |   | Л | Щ | р | ѐ |

## Kazakhstan 866

|   | * | 0 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |    | 0 | @ | P | ' | p | A | P | a |   | L | Ш | р | Ә |
| 1 | * |   |    | !  | 1 | A | Q | a | q | Б | С | б |   | ┐ | т | с | Ғ |
| 2 | * |   |    | "  | 2 | B | R | b | r | В | Т | в |   | ┐ | т | т | Қ |
| 3 | * |   | #  | #  | 3 | C | S | c | s | Г | У | г |   | ┐ | т | у | Ң |
| 4 | * |   | \$ | \$ | 4 | D | T | d | t | Д | Ф | д |   | ┐ | т | ф | Ө |
| 5 | * |   | %  | %  | 5 | E | U | e | u | Е | Х | е |   | ┐ | т | х | Ұ |
| 6 | * |   | &  | &  | 6 | F | V | f | v | Ж | Ц | ж |   | ┐ | т | ц | Ү |
| 7 | * |   | '  | '  | 7 | G | W | g | w | З | Ч | з |   | ┐ | т | ч | Һ |
| 8 | * |   | (  | (  | 8 | H | X | h | x | И | Ш | и |   | ┐ | т | ш | Ә |
| 9 | * |   | )  | )  | 9 | I | Y | i | y | Й | Щ | й |   | ┐ | т | щ | Ғ |
| A | * |   | *  | *  |   | J | Z | j | z | Ы | Ь | ы |   | ┐ | т | ь | Қ |
| B | * |   | +  | +  | : | K | [ | k | { | Ы | Ь | ы |   | ┐ | т | ь | Ң |
| C | * |   | ,  | ,  | < | L | \ | l | ~ | Н | О | н |   | ┐ | т | о | Ө |
| D | * |   | -  | -  | = | M | ] | m | ~ | О | Ю | о |   | ┐ | т | ю | Ұ |
| E | * |   | .  | .  | > | N | ^ | n | ~ | П |   | п |   | ┐ | т |   | Ү |
| F | * |   | /  | /  | ? | O | _ | o | ~ |   |   |   |   | ┐ | т |   | Ү |

## Kamenicky

|   | * | 0 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |    | 0 | @ | P | ' | p | Č | É | á |   | L | Ш | α | ≡ |
| 1 | * |   |    | !  | 1 | A | Q | a | q | Ü | Ž | í |   | ┐ | т | β | ± |
| 2 | * |   |    | "  | 2 | B | R | b | r | é | ž | ó |   | ┐ | т | Γ | ≡ |
| 3 | * |   | #  | #  | 3 | C | S | c | s | ď | ž | ô |   | ┐ | т | Π | ≡ |
| 4 | * |   | \$ | \$ | 4 | D | T | d | t | ä | ž | õ |   | ┐ | т | Σ | ≡ |
| 5 | * |   | %  | %  | 5 | E | U | e | u | Ď | ž | ň |   | ┐ | т | α | ≡ |
| 6 | * |   | &  | &  | 6 | F | V | f | v | ť | ž | ň |   | ┐ | т | μ | ÷ |
| 7 | * |   | '  | '  | 7 | G | W | g | w | č | ž | ň |   | ┐ | т | τ | ≈ |
| 8 | * |   | (  | (  | 8 | H | X | h | x | ě | ž | ň |   | ┐ | т | Φ | • |
| 9 | * |   | )  | )  | 9 | I | Y | i | y | ě | ž | ň |   | ┐ | т | Θ | ° |
| A | * |   | *  | *  |   | J | Z | j | z | ě | ž | ň |   | ┐ | т | Ω | · |
| B | * |   | +  | +  | : | K | [ | k | { | ě | ž | ň |   | ┐ | т | Θ | · |
| C | * |   | ,  | ,  | < | L | \ | l | ~ | ě | ž | ň |   | ┐ | т | Θ | · |
| D | * |   | -  | -  | = | M | ] | m | ~ | ě | ž | ň |   | ┐ | т | Θ | · |
| E | * |   | .  | .  | > | N | ^ | n | ~ | ě | ž | ň |   | ┐ | т | Θ | · |
| F | * |   | /  | /  | ? | O | _ | o | ~ | ě | ž | ň |   | ┐ | т | Θ | · |

## Mazovia

|   | * | 0 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |    | 0 | @ | P | ' | p | Q | E | Ž |   | L | Ł | α | ≡ |
| 1 | * |   |    | !  | 1 | A | Q | a | q | Ü | e | Ž |   | Ł | Ł | β | ± |
| 2 | * |   |    | "  | 2 | B | R | b | r | é | ı | ó |   | Ł | Ł | Γ | ± |
| 3 | * |   | #  | #  | 3 | C | S | c | s | â | ö | ó |   | Ł | Ł | Π | ± |
| 4 | * |   | \$ | \$ | 4 | D | T | d | t | ä | ö | ń |   | Ł | Ł | Σ | ± |
| 5 | * |   | %  | %  | 5 | E | U | e | u | ä | ö | ń |   | Ł | Ł | α | ± |
| 6 | * |   | &  | &  | 6 | F | V | f | v | a | ü | ń |   | Ł | Ł | μ | ÷ |
| 7 | * |   | '  | '  | 7 | G | W | g | w | o | ü | ń |   | Ł | Ł | τ | ÷ |
| 8 | * |   | (  | (  | 8 | H | X | h | x | ë | ö | ń |   | Ł | Ł | Φ | ° |
| 9 | * |   | )  | )  | 9 | I | Y | i | y | ë | ö | ń |   | Ł | Ł | Θ | ° |
| A | * |   | *  | *  |   | J | Z | j | z | ë | ö | ń |   | Ł | Ł | Ω | ° |
| B | * |   | +  | +  |   | K | [ | k | { | ï | ü | ń |   | Ł | Ł | δ | ° |
| C | * |   | ,  | ,  |   | L | \ | l | } | î | ü | ń |   | Ł | Ł | ø | ° |
| D | * |   | -  | -  |   | M | ] | m | ~ | ä | ü | ń |   | Ł | Ł | ε | ° |
| E | * |   | .  | .  |   | N | ^ | n | ~ | ä | ü | ń |   | Ł | Ł | ε | ° |
| F | * |   | /  | /  |   | O | _ | o | ~ | ä | ü | ń |   | Ł | Ł | ε | ° |

## Baltic 775

|   | * | 0 | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |    | 0 | @ | P | ' | p | Č | É | Ā |   | Ł | ā | Ō | - |
| 1 | * |   |    | !  | 1 | A | Q | a | q | ü | æ | ī |   | Ł | ā | ō | ± |
| 2 | * |   |    | "  | 2 | B | R | b | r | é | æ | ō |   | Ł | ē | ō | ± |
| 3 | * |   | #  | #  | 3 | C | S | c | s | ā | ō | ž |   | Ł | ē | ō | ± |
| 4 | * |   | \$ | \$ | 4 | D | T | d | t | ā | ō | ž |   | Ł | ē | ō | ± |
| 5 | * |   | %  | %  | 5 | E | U | e | u | ā | ō | ž |   | Ł | ē | ō | ± |
| 6 | * |   | &  | &  | 6 | F | V | f | v | ā | ō | ž |   | Ł | ē | ō | ± |
| 7 | * |   | '  | '  | 7 | G | W | g | w | ā | ō | ž |   | Ł | ē | ō | ± |
| 8 | * |   | (  | (  | 8 | H | X | h | x | ā | ō | ž |   | Ł | ē | ō | ± |
| 9 | * |   | )  | )  | 9 | I | Y | i | y | ā | ō | ž |   | Ł | ē | ō | ± |
| A | * |   | *  | *  |   | J | Z | j | z | ā | ō | ž |   | Ł | ē | ō | ± |
| B | * |   | +  | +  |   | K | [ | k | { | ā | ō | ž |   | Ł | ē | ō | ± |
| C | * |   | ,  | ,  |   | L | \ | l | } | ā | ō | ž |   | Ł | ē | ō | ± |
| D | * |   | -  | -  |   | M | ] | m | ~ | ā | ō | ž |   | Ł | ē | ō | ± |
| E | * |   | .  | .  |   | N | ^ | n | ~ | ā | ō | ž |   | Ł | ē | ō | ± |
| F | * |   | /  | /  |   | O | _ | o | ~ | ā | ō | ž |   | Ł | ē | ō | ± |

## CRO-ASCII

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D  | E | F  |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|----|---|----|
| 0 | * |   |   |    | 0 | Ž | P | ž | p | Č | É | á |   | L | ll | α | ≡  |
| 1 | * |   |   | !  | 1 | A | Q | a | q | Ü | æ | í |   | l | ll | β | +V |
| 2 | * |   |   | "  | 2 | B | R | b | r | ë | Æ | ó |   | l | ll | Γ | Λ  |
| 3 | * |   |   | #  | 3 | C | S | c | s | ä | ö | ô |   | l | ll | π | ∇  |
| 4 | * |   |   | \$ | 4 | D | T | d | t | å | ø | ñ |   | l | ll | Σ | ∫  |
| 5 | * |   |   | %  | 5 | E | U | e | u | ä | ö | ñ |   | l | ll | σ | ∫  |
| 6 | * |   |   | &  | 6 | F | V | f | v | å | ø | ü |   | l | ll | μ | ÷  |
| 7 | * |   |   | '  | 7 | G | W | g | w | ö | ü | ö |   | l | ll | τ | ≈  |
| 8 | * |   |   | (  | 8 | H | X | h | x | ë | ÿ | ö |   | l | ll | φ | °  |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | ÿ | ö |   | l | ll | θ | •  |
| A | * |   |   | *  |   | J | Z | j | z | ë | ÿ | ö |   | l | ll | Ω | ·  |
| B | * |   |   | +  |   | K | Š | k | š | ë | ÿ | ö |   | l | ll | σ | √  |
| C | * |   |   | ,  |   | L | Đ | l | đ | ë | ÿ | ö |   | l | ll | 8 | n  |
| D | * |   |   | -  |   | M | Č | m | č | ë | ÿ | ö |   | l | ll | ø | 2  |
| E | * |   |   | .  |   | N | Č | n | č | ë | ÿ | ö |   | l | ll | ε |    |
| F | * |   |   | /  |   | O | — | o | — | ë | ÿ | ö |   | l | ll | ∩ |    |

## Farsi

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

## Urdu

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

## Greek DEC

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Α | Ε | ά | ± | ι | Π | ϒ | π |
| 1 | * |   |   | !  | 1 | A | Q | a | q | Ε | æ | ί | ± | Α | Π | α | ρ |
| 2 | * |   |   | "  | 2 | B | R | b | r | Η | Æ | ό | ± | Β | Ρ | β | σ |
| 3 | * |   |   | #  | 3 | C | S | c | s | Ι | ö | ύ | ± | Γ | Σ | γ | τ |
| 4 | * |   |   | \$ | 4 | D | T | d | t | ä | ö | ñ | ± | Δ | Τ | δ | υ |
| 5 | * |   |   | %  | 5 | E | U | e | u | ä | ö | ¥ | ± | E | Υ | ε | φ |
| 6 | * |   |   | &  | 6 | F | V | f | v | a | ü | ¥ | ± | Z | Φ | ζ | χ |
| 7 | * |   |   | '  | 7 | G | W | g | w | ç | ü | ¥ | ± | H | Ψ | η | ψ |
| 8 | * |   |   | (  | 8 | H | X | h | x | ë | ÿ | ¥ | ± | Θ | Ω | θ | ω |
| 9 | * |   |   | )  | 9 | I | Y | i | y | ë | ÿ | ¥ | ± | I | Κ | ι | κ |
| A | * |   |   | *  | : | J | Z | j | z | ë | ÿ | ¥ | ± | K | Λ | κ | λ |
| B | * |   |   | +  | ; | K | [ | k | { | ë | ÿ | ¥ | ± | Λ | Μ | μ | μ |
| C | * |   |   | ,  | < | L | \ | l | } | ë | ÿ | ¥ | ± | M | Ν | ν | ν |
| D | * |   |   | -  | = | M | ^ | m | ~ | ë | ÿ | ¥ | ± | N | Ξ | ξ | ξ |
| E | * |   |   | .  | > | N | ~ | n | ~ | ë | ÿ | ¥ | ± | O | Ο | ο | ο |
| F | * |   |   | /  | ? | O | _ | o | ~ | ë | ÿ | ¥ | ± |   |   |   |   |

## ELOT 928

|   | * | 0 | 1  | 2 | 3 | 4 | 5   | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|-----|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P   | ' | p |   |   |   | ° |   | Π | Ů | π |
| 1 | * |   |    | ! | 1 | A | Q   | a | q |   |   | ~ | ± | A | Ρ | α | ρ |
| 2 | * |   |    | " | 2 | B | R   | b | r |   |   |   | ² | B | Σ | β | σ |
| 3 | * |   | #  | 3 | C | S | T   | c | s |   |   | α | ³ | Γ | Τ | γ | τ |
| 4 | * |   | \$ | 4 | D | E | U   | d | t |   |   | ¥ | ' | Δ | Υ | δ | υ |
| 5 | * |   | %  | 5 | E | F | V   | e | u |   |   | ₹ | - | E | Φ | ε | φ |
| 6 | * |   | &  | 6 | F | G | W   | f | v |   |   | ₹ | ! | Z | Χ | ζ | χ |
| 7 | * |   | '  | 7 | G | H | X   | g | w |   |   | ₹ | ! | H | Ψ | η | ψ |
| 8 | * |   | (  | 8 | H | I | Y   | h | x |   |   | ₹ | ! | Θ | Ω | θ | ω |
| 9 | * |   | )  | 9 | I | J | Z   | i | y |   |   | ₹ | ! | I | Υ | ι | υ |
| A | * |   | *  | : | J | K | [   | j | z |   |   | ₹ | ! | K | Ψ | κ | ψ |
| B | * |   | +  | ; | K | L | \   | k | { |   |   | ₹ | ! | Λ | Υ | λ | ϖ |
| C | * |   | ,  | = | L | M | ] ^ | l | } |   |   | ₹ | ! | M | α | μ | ν |
| D | * |   | -  | > | M | N |     | m |   |   |   | ₹ | ! | N | ε | ν | ξ |
| E | * |   | .  | ? | N | O | _   | n | o |   |   | ₹ | ! | O | ζ | ο | ξ |
| F | * |   | /  |   | O |   |     | o |   |   |   | ₹ | ! |   |   |   |   |

## UK\_ASCII

|   | * | 0 | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |    | 0 | @ | P | ' | p | Ç | É | á |   | L | ≡ | 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 | ê | ô | ú |   | ⊥ | ⊥ | π | ≤ |
| 4 | * |   |   | \$ | 4 | D | E | d | t | â | ö | ñ |   | ⊥ | ⊥ | Σ | ≤ |
| 5 | * |   |   | %  | 5 | E | F | e | u | à | ò | ñ |   | ⊥ | ⊥ | σ | ≤ |
| 6 | * |   |   | &  | 6 | F | G | f | v | á | ù | ñ |   | ⊥ | ⊥ | μ | ÷ |
| 7 | * |   |   | '  | 7 | G | H | g | w | ç | û | ñ |   | ⊥ | ⊥ | τ | ÷ |
| 8 | * |   |   | (  | 8 | H | I | h | x | è | ÿ | ñ |   | ⊥ | ⊥ | Φ | ÷ |
| 9 | * |   |   | )  | 9 | I | J | i | y | ë | Ö | ñ |   | ⊥ | ⊥ | Θ | ÷ |
| A | * |   |   | *  | : | J | K | j | z | è | Ü | ñ |   | ⊥ | ⊥ | Ω | ÷ |
| B | * |   |   | +  | ; | K | L | k | { | ï | φ | ñ |   | ⊥ | ⊥ | δ | ÷ |
| C | * |   |   | ,  | = | L | M | l | } | î | ψ | ñ |   | ⊥ | ⊥ | ø | ÷ |
| D | * |   |   | -  | > | M | N | m |   | ï | ϕ | ñ |   | ⊥ | ⊥ | ε | ÷ |
| E | * |   |   | .  | ? | N | O | n | o | Ä | ϕ | ñ |   | ⊥ | ⊥ | ε | ÷ |
| F | * |   |   | /  |   | O |   | o |   | Ä | ϕ | ñ |   | ⊥ | ⊥ | ε | ÷ |

## US\_ASCII

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

## Swedish

|   | * | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |   |   | 0 | É | P | é | p | Ç | É | á |   | L | ⌌ | α | ≡ |
| 1 | * |   | ! | 1 | A | Q | Q | a | q | ü | æ | í |   | ⌌ | ⌌ | β | ± |
| 2 | * |   | " | 2 | B | R | R | b | r | é | Æ | ó |   | ⌌ | ⌌ | Γ | ≥ |
| 3 | * |   | # | 3 | C | S | S | c | s | ê | ô | ú |   | ⌌ | ⌌ | π | ≤ |
| 4 | * |   | ¤ | 4 | D | T | T | d | t | â | ö | ñ |   | ⌌ | ⌌ | Σ | ∫ |
| 5 | * |   | % | 5 | E | U | U | e | u | ä | ò | ã |   | ⌌ | ⌌ | σ | ÷ |
| 6 | * |   | & | 6 | F | V | V | f | v | å | ù | ä |   | ⌌ | ⌌ | μ | ≈ |
| 7 | * |   | ' | 7 | G | W | W | g | w | ç | û | ö |   | ⌌ | ⌌ | τ | ° |
| 8 | * |   | ( | 8 | H | X | X | h | x | è | ÿ | ÿ |   | ⌌ | ⌌ | Φ | • |
| 9 | * |   | ) | 9 | I | Y | Y | i | y | ë | Ö | Ü |   | ⌌ | ⌌ | Θ | · |
| A | * |   | * | : | J | Z | Z | j | z | è | Ü | ½ |   | ⌌ | ⌌ | Ω | √ |
| B | * |   | + | ; | K | Ä | Ä | k | ä | ï | φ | ¼ |   | ⌌ | ⌌ | δ | n |
| C | * |   | , | < | L | Ö | Ö | l | ö | î | £ | ¼ |   | ⌌ | ⌌ | ø | ² |
| D | * |   | - | = | M | Ä | Ä | m | ä | ï | ¥ | ½ |   | ⌌ | ⌌ | ø |   |
| E | * |   | . | > | N | Ü | Ü | n | ü | Ä | ƒ | » |   | ⌌ | ⌌ | ε | ■ |
| F | * |   | / | ? | O | _ | _ | o | ~ | Ä | ƒ | » |   | ⌌ | ⌌ | ∩ |   |

## German

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | S | P | ' | p | Ç | É | á |   | L | ⌌ | α | ≡ |
| 1 | * |   | !  | 1 | A | Q | Q | a | q | ü | æ | í |   | ⊥ | ⌌ | β | ± |
| 2 | * |   | "  | 2 | B | R | R | b | r | é | Æ | ó |   | ⊥ | ⌌ | Γ | ≥ |
| 3 | * |   | #  | 3 | C | S | S | c | s | â | ô | ú |   | ⊥ | ⌌ | π | ≤ |
| 4 | * |   | \$ | 4 | D | T | T | d | t | ä | ö | ñ |   | ⊥ | ⌌ | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | U | e | u | à | ò | Ñ |   | ⊥ | ⌌ | σ | ∫ |
| 6 | * |   | &  | 6 | F | V | V | f | v | å | ù | ä |   | ⊥ | ⌌ | μ | ÷ |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | û | ö |   | ⊥ | ⌌ | τ | ≈ |
| 8 | * |   | (  | 8 | H | X | X | h | x | ê | ÿ | Ö |   | ⊥ | ⌌ | Φ | ° |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | ë | Û | Ü |   | ⊥ | ⌌ | Θ | • |
| A | * |   | *  | : | J | Z | Z | j | z | è | Ü | ü |   | ⊥ | ⌌ | Ω | · |
| B | * |   | +  | ; | K | Ä | Ä | k | ä | ï | ç | ½ |   | ⊥ | ⌌ | δ | √ |
| C | * |   | ,  | < | L | Ö | Ö | l | ö | î | £ | ¼ |   | ⊥ | ⌌ | ø | n |
| D | * |   | -  | = | M | Ü | Ü | m | ü | ï | ¥ | ¼ |   | ⊥ | ⌌ | ε | 2 |
| E | * |   | .  | > | N |   |   | n |   | ì | ƒ | » |   | ⊥ | ⌌ | ∞ |   |
| F | * |   | /  | ? | O | - | - | o |   | À | f | » |   | ⊥ | ⌌ | ∅ | ■ |

## Portuguese

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | S | P | ' | p | Ç | É | á |   | L | ⌌ | α | ≡ |
| 1 | * |   | !  | 1 | A | Q | Q | a | q | ü | æ | í |   | ⊥ | ⌌ | β | ± |
| 2 | * |   | "  | 2 | B | R | R | b | r | é | Æ | ó |   | ⊥ | ⌌ | Γ | ≥ |
| 3 | * |   | #  | 3 | C | S | S | c | s | â | ô | ú |   | ⊥ | ⌌ | π | ≤ |
| 4 | * |   | \$ | 4 | D | T | T | d | t | ä | ö | ñ |   | ⊥ | ⌌ | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | U | e | u | à | ò | Ñ |   | ⊥ | ⌌ | σ | ∫ |
| 6 | * |   | &  | 6 | F | V | V | f | v | å | ù | ä |   | ⊥ | ⌌ | μ | ÷ |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | û | ö |   | ⊥ | ⌌ | τ | ≈ |
| 8 | * |   | (  | 8 | H | X | X | h | x | ê | ÿ | Ö |   | ⊥ | ⌌ | Φ | ° |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | ë | Û | Ü |   | ⊥ | ⌌ | Θ | • |
| A | * |   | *  | : | J | Z | Z | j | z | è | Ü | ü |   | ⊥ | ⌌ | Ω | · |
| B | * |   | +  | ; | K | Ä | Ä | k | ä | ï | ç | ½ |   | ⊥ | ⌌ | δ | √ |
| C | * |   | ,  | < | L | Ö | Ö | l | ö | î | £ | ¼ |   | ⊥ | ⌌ | ø | n |
| D | * |   | -  | = | M | Ü | Ü | m | ü | ï | ¥ | ¼ |   | ⊥ | ⌌ | ε | 2 |
| E | * |   | .  | > | N |   |   | n |   | ì | ƒ | » |   | ⊥ | ⌌ | ∞ |   |
| F | * |   | /  | ? | O | - | - | o |   | À | f | » |   | ⊥ | ⌌ | ∅ | ■ |

## French

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | à | P | ' | p | Ç | É | á |   | L | ⊥ | α | ≡ |
| 1 | * |   | !  | 1 | A | Q | Q | a | q | ü | æ | í | ⊥ | ⊥ | ⊥ | β | ± |
| 2 | * |   | "  | 2 | B | R | R | b | r | é | Æ | ó | ⊥ | ⊥ | ⊥ | Γ | ≥ |
| 3 | * |   | £  | 3 | C | S | S | c | s | â | ô | ú | ⊥ | ⊥ | ⊥ | π | ≤ |
| 4 | * |   | \$ | 4 | D | T | T | d | t | ä | ö | ñ | ⊥ | ⊥ | ⊥ | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | U | e | u | à | ò | Ñ | ⊥ | ⊥ | ⊥ | σ | ∫ |
| 6 | * |   | &  | 6 | F | V | V | f | v | ã | û | â | ⊥ | ⊥ | ⊥ | μ | ÷ |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | ÿ | ô | ⊥ | ⊥ | ⊥ | τ | ° |
| 8 | * |   | (  | 8 | H | X | X | h | x | ê | ÿ | Ö | ⊥ | ⊥ | ⊥ | Φ | ° |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | è | ÿ | Ü | ⊥ | ⊥ | ⊥ | Θ | ° |
| A | * |   | *  | : | J | K | Z | j | k | è | ÿ | Ü | ⊥ | ⊥ | ⊥ | Ω | ° |
| B | * |   | +  | ; | L | M | ° | l | m | î | ÿ | ϕ | ⊥ | ⊥ | ⊥ | δ | ° |
| C | * |   | ,  | < | N | O | ç | n | o | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ø | ° |
| D | * |   | -  | = |   |   | ç |   |   | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ε | ° |
| E | * |   | .  | > |   |   | ç |   |   | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ε | ° |
| F | * |   | /  | ? |   |   | ç |   |   | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ε | ° |

## Italian

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | § | P | ù | p | Ç | É | á |   | L | ⊥ | α | ≡ |
| 1 | * |   | !  | 1 | A | Q | Q | a | q | ü | æ | í | ⊥ | ⊥ | ⊥ | β | ± |
| 2 | * |   | "  | 2 | B | R | R | b | r | é | Æ | ó | ⊥ | ⊥ | ⊥ | Γ | ≥ |
| 3 | * |   | £  | 3 | C | S | S | c | s | â | ô | ú | ⊥ | ⊥ | ⊥ | π | ≤ |
| 4 | * |   | \$ | 4 | D | T | T | d | t | ä | ö | ñ | ⊥ | ⊥ | ⊥ | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | U | e | u | à | ò | Ñ | ⊥ | ⊥ | ⊥ | σ | ∫ |
| 6 | * |   | &  | 6 | F | V | V | f | v | ã | û | â | ⊥ | ⊥ | ⊥ | μ | ÷ |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | ÿ | ô | ⊥ | ⊥ | ⊥ | τ | ° |
| 8 | * |   | (  | 8 | H | X | X | h | x | ê | ÿ | Ö | ⊥ | ⊥ | ⊥ | Φ | ° |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | è | ÿ | Ü | ⊥ | ⊥ | ⊥ | Θ | ° |
| A | * |   | *  | : | J | K | Z | j | k | è | ÿ | Ü | ⊥ | ⊥ | ⊥ | Ω | ° |
| B | * |   | +  | ; | L | M | ° | l | m | î | ÿ | ϕ | ⊥ | ⊥ | ⊥ | δ | ° |
| C | * |   | ,  | < | N | O | ç | n | o | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ø | ° |
| D | * |   | -  | = |   |   | ç |   |   | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ε | ° |
| E | * |   | .  | > |   |   | ç |   |   | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ε | ° |
| F | * |   | /  | ? |   |   | ç |   |   | ï | ÿ | £ | ⊥ | ⊥ | ⊥ | ε | ° |

## Norwegian

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É | á |   | L | ⌚ | α | ≡ |
| 1 | * |   | !  | 1 | A | Q | Q | a | q | ü | æ | í |   | ⌚ | ⌚ | β | ± |
| 2 | * |   | "  | 2 | B | R | R | b | r | é | Æ | ó |   | ⌚ | ⌚ | Γ | ≥ |
| 3 | * |   | #  | 3 | C | S | S | c | s | ê | ô | ú |   | ⌚ | ⌚ | π | ≤ |
| 4 | * |   | \$ | 4 | D | T | T | d | t | â | ö | ñ |   | ⌚ | ⌚ | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | U | e | u | à | ò | Ñ |   | ⌚ | ⌚ | σ | ∫ |
| 6 | * |   | &  | 6 | F | V | V | f | v | å | û | a |   | ⌚ | ⌚ | μ | ÷ |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | ù | o |   | ⌚ | ⌚ | τ | ≈ |
| 8 | * |   | (  | 8 | H | X | X | h | x | ê | ÿ | ö |   | ⌚ | ⌚ | Φ | ° |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | ë | Ö | Ü |   | ⌚ | ⌚ | Θ | • |
| A | * |   | *  | : | J | Z | Z | j | z | è | Ü | ü |   | ⌚ | ⌚ | Ω | · |
| B | * |   | +  | ; | K | Æ | Æ | k | æ | ï | φ | ½ |   | ⌚ | ⌚ | δ | √ |
| C | * |   | ,  | < | L | Ø | Ø | l | ø | î | £ | ¼ |   | ⌚ | ⌚ | ø | n |
| D | * |   | -  | = | M | Å | Å | m | å | ï | ¥ | i |   | ⌚ | ⌚ | ε | ² |
| E | * |   | .  | > | N | ^ | ^ | n | ^ | ï | ¥ | « |   | ⌚ | ⌚ | ε | ■ |
| F | * |   | /  | ? | O | _ | _ | o | _ | Ä | f | » |   | ⌚ | ⌚ | ∩ |   |

## Spanish

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | § | P | ' | p | Ç | É | á |   | L | ⌚ | α | ≡ |
| 1 | * |   | !  | 1 | A | Q | Q | a | q | ü | æ | í |   | ⌚ | ⌚ | β | ± |
| 2 | * |   | "  | 2 | B | R | R | b | r | é | Æ | ó |   | ⌚ | ⌚ | Γ | ≥ |
| 3 | * |   | &  | 3 | C | S | S | c | s | ê | ô | ú |   | ⌚ | ⌚ | π | ≤ |
| 4 | * |   | \$ | 4 | D | T | T | d | t | â | ö | ñ |   | ⌚ | ⌚ | Σ | ∫ |
| 5 | * |   | %  | 5 | E | U | U | e | u | à | ò | Ñ |   | ⌚ | ⌚ | σ | ∫ |
| 6 | * |   | &  | 6 | F | V | V | f | v | å | û | a |   | ⌚ | ⌚ | μ | ÷ |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | ù | o |   | ⌚ | ⌚ | τ | ≈ |
| 8 | * |   | (  | 8 | H | X | X | h | x | ê | ÿ | ö |   | ⌚ | ⌚ | Φ | ° |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | ë | Ö | Ü |   | ⌚ | ⌚ | Θ | • |
| A | * |   | *  | : | J | Z | Z | j | z | è | Ü | ü |   | ⌚ | ⌚ | Ω | · |
| B | * |   | +  | ; | K | ñ | ñ | k | ñ | ï | φ | ½ |   | ⌚ | ⌚ | δ | √ |
| C | * |   | ,  | < | L | Ñ | Ñ | l | ñ | î | £ | ¼ |   | ⌚ | ⌚ | ø | n |
| D | * |   | -  | = | M | ^ | ^ | m | ^ | ï | ¥ | i |   | ⌚ | ⌚ | ε | ² |
| E | * |   | .  | > | N | ^ | ^ | n | ^ | ï | ¥ | « |   | ⌚ | ⌚ | ε | ■ |
| F | * |   | /  | ? | O | _ | _ | o | _ | Ä | f | » |   | ⌚ | ⌚ | ∩ |   |

## Siemens Turk

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É | á |   | L | Ğ | α | ğ |
| 1 | * |   |    | ! | 1 | A | Q | a | q | Ü | æ | í |   | + | ı | β | ı |
| 2 | * |   | "  | 2 | B | R | R | b | r | ê | Æ | ó |   | ı | ı | Γ | ı |
| 3 | * |   | #  | 3 | C | S | S | c | s | â | ö | ü |   | ı | ı | Π | ı |
| 4 | * |   | \$ | 4 | D | T | T | d | t | ä | ö | ü |   | ı | ı | Σ | ı |
| 5 | * |   | %  | 5 | E | U | U | e | u | â | ö | ü |   | ı | ı | α | ı |
| 6 | * |   | &  | 6 | F | V | V | f | v | a | ö | ü |   | ı | ı | μ | ı |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | ü | ü |   | ı | ı | φ | ı |
| 8 | * |   | (  | 8 | H | X | X | h | x | ë | ö | ü |   | ı | ı | θ | ı |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | ë | ö | ü |   | ı | ı | Ω | ı |
| A | * |   | *  |   | : | J | Z | j | z | è | ü | ü |   | ı | ı | ø | ı |
| B | * |   | +  |   | ; | K | [ | k | l | ï | ü | ü |   | ı | ı | ø | ı |
| C | * |   | ,  |   | < | L | \ | l | m | ï | ü | ü |   | ı | ı | ø | ı |
| D | * |   | -  |   | > | M | ^ | m | n | ï | ü | ü |   | ı | ı | ø | ı |
| E | * |   | .  |   | > | N |   | n | o | ï | ü | ü |   | ı | ı | ø | ı |
| F | * |   | /  |   | ? | O | _ | o |   | Ä | f | » |   | ı | ı | ø | ı |

## DEC Turkish

|   | * | 0 | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | * |   |    |   | 0 | @ | P | ' | p | Ç | É | á |   | L | Ğ | α | ğ |
| 1 | * |   |    | ! | 1 | A | Q | a | q | Ü | æ | í |   | + | ı | β | ı |
| 2 | * |   | "  | 2 | B | R | R | b | r | ê | Æ | ó |   | ı | ı | Γ | ı |
| 3 | * |   | #  | 3 | C | S | S | c | s | â | ö | ü |   | ı | ı | Π | ı |
| 4 | * |   | \$ | 4 | D | T | T | d | t | ä | ö | ü |   | ı | ı | Σ | ı |
| 5 | * |   | %  | 5 | E | U | U | e | u | â | ö | ü |   | ı | ı | α | ı |
| 6 | * |   | &  | 6 | F | V | V | f | v | a | ö | ü |   | ı | ı | μ | ı |
| 7 | * |   | '  | 7 | G | W | W | g | w | ç | ü | ü |   | ı | ı | φ | ı |
| 8 | * |   | (  | 8 | H | X | X | h | x | ë | ö | ü |   | ı | ı | θ | ı |
| 9 | * |   | )  | 9 | I | Y | Y | i | y | ë | ö | ü |   | ı | ı | Ω | ı |
| A | * |   | *  |   | : | J | Z | j | z | è | ü | ü |   | ı | ı | ø | ı |
| B | * |   | +  |   | ; | K | [ | k | l | ï | ü | ü |   | ı | ı | ø | ı |
| C | * |   | ,  |   | < | L | \ | l | m | ï | ü | ü |   | ı | ı | ø | ı |
| D | * |   | -  |   | > | M | ^ | m | n | ï | ü | ü |   | ı | ı | ø | ı |
| E | * |   | .  |   | > | N |   | n | o | ï | ü | ü |   | ı | ı | ø | ı |
| F | * |   | /  |   | ? | O | _ | o |   | Ä | f | » |   | ı | ı | ø | ı |

## 12 Control Codes Summary

### 12.1 ESC/P2 Emulation Command List

| Command | Function                               |
|---------|----------------------------------------|
| BEL     | Beeper                                 |
| BS      | Backspace                              |
| HT      | Horizontal Tab                         |
| LF      | Line Feed                              |
| VT      | Vertical Tab                           |
| FF      | Form Feed                              |
| CR      | Carriage Return                        |
| SO      | Double-Wide Printing 1 Line            |
| SI      | Select Condensed Mode                  |
| DC2     | Cancel Condensed Mode                  |
| DC4     | Cancel Double-Wide Printing 1 Line     |
| CAN     | Cancel Line                            |
| ESC SO  | Double-Wide Printing 1 Line            |
| ESC SI  | Select Condensed Mode                  |
| ESC SP  | Set Inter Character Space              |
| ESC !   | Master Select                          |
| ESC #   | Cancel MSB Control                     |
| ESC \$  | Set absolute horizontal print position |
| ESC %   | Select user-defined set                |
| ESC &   | Define user-defined characters         |
| ESC ( - | Select line/score                      |
| ESC ( B | Bar code setup and print               |
| ESC ( C | Set page length in define unit         |
| ESC ( G | Select graphics mode                   |
| ESC ( U | Set unit                               |
| ESC ( V | Set absolute vertical print position   |
| ESC ( ^ | Print data as characters               |
| ESC ( c | Set page format                        |
| ESC ( t | Assign character table                 |
| ESC ( v | Set relative vertical print position   |
| ESC *   | Select bit image                       |
| ESC +   | Select n/360" Line Spacing             |
| ESC -   | Auto Underscore                        |
| ESC .   | Print raster graphics                  |
| ESC 0   | Select 1/8" Line Spacing               |
| ESC 2   | Select 1/6" Line Spacing               |
| ESC 3   | Set Graphics Line Spacing (n/180")     |
| ESC 4   | Select Italic Mode                     |
| ESC 5   | Cancel Italic Mode                     |
| ESC 6   | Enable Printable Characters            |
| ESC 7   | Enable Upper Control Codes             |
| ESC :   | Copy ROM to RAM                        |

| Command | Function                                            |
|---------|-----------------------------------------------------|
| ESC <   | Select Unidirectional Mode 1 Line                   |
| ESC =   | Set MSB to 0                                        |
| ESC >   | Set MSB to 1                                        |
| ESC ?   | Reassign Graphics Mode                              |
| ESC @   | Initialize Printer                                  |
| ESC A   | Set n/60" Line Spacing                              |
| ESC B   | Set Vertical Tabs                                   |
| ESC C   | Set Page Length in Lines                            |
| ESC C 0 | Set Page Length in Inches                           |
| ESC D   | 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 J   | Advance print position                              |
| ESC K   | Select 60-dpi graphics                              |
| ESC L   | Select 120-dpi graphics                             |
| ESC M   | Select 12 cpi                                       |
| ESC N   | Set bottom margin                                   |
| ESC O   | Cancel bottom margin                                |
| ESC P   | Select 10 cpi                                       |
| ESC Q   | Set right margin                                    |
| ESC R   | Select an international character set and code page |
| ESC S   | Select Subscript or Superscript Printing            |
| ESC T   | Cancel Subscript or Superscript Printing            |
| ESC U   | Turn unidirectional mode on/off                     |
| ESC W   | Turn Double-wide Mode On/Off                        |
| ESC Y   | Select 120-dpi, double-speed graphics               |
| ESC Z   | Select 240-dpi graphics                             |
| ESC \   | Set relative horizontal print position              |
| ESC c   | Set horizontal motion index(HMI)                    |
| ESC g   | Select 15 cpi                                       |
| ESC k   | Select Typestyle Family                             |
| ESC l   | Set left margin                                     |
| ESC p   | Turn Proportional Mode On/Off                       |
| ESC q   | Select Character Style                              |
| ESC t   | Select character table                              |
| ESC w   | Turn Double-high Mode On/Off                        |
| ESC x   | Select Letter Quality or Draft                      |
| ESC y   | Select draft/super draft                            |
| ESC Y   | Select High-speed Double-density Graphics Mode      |
| DEL     | Delete Character                                    |

## 12.2 IBM Emulation Command List

| Command   | Function                            |
|-----------|-------------------------------------|
| BS        | Backspace                           |
| HT        | Horizontal tab                      |
| CR        | Carriage return                     |
| ESC BS    | Backspace                           |
| ESC HT    | Horizontal tab                      |
| ESC CR    | Carriage return                     |
| ESC D     | Set horizontal tabs                 |
| ESC X     | Set horizontal margins              |
| ESC d     | Relative mode inline forward        |
| LF        | Line feed                           |
| VT        | Vertical tab                        |
| FF        | Form feed                           |
| ESC LF    | Line feed                           |
| ESC VT    | Vertical tab                        |
| ESC FF    | Form feed                           |
| ESC 0     | Select 1/8" line spacing            |
| ESC 1     | Select 7/72" line spacing           |
| ESC 2     | Start text line spacing             |
| ESC 3     | Set graphics line spacing           |
| ESC 4     | Set top of form                     |
| ESC 5     | Automatic line feed                 |
| ESC A     | Set text line spacing               |
| ESC B     | Set vertical tabs                   |
| ESC C     | Set form length in lines            |
| ESC C NUL | Set form length in inches           |
| ESC J     | Graphics variable line spacing      |
| ESC N     | Set automatic perforation skip      |
| ESC O     | Cancel automatic perforation skip   |
| ESC [ \   | Set vertical units                  |
| ESC ]     | Reverse line feed                   |
| SO        | Double-wide printing by line        |
| SI        | Condensed printing                  |
| DC2       | Select 10 cpi                       |
| DC4       | Cancel double-wide printing by line |
| ESC SO    | Double-wide printing by line        |
| ESC SI    | Condensed printing                  |
| ESC DC2   | Select 10 cpi                       |
| ESC DC4   | Cancel double-wide printing by line |
| ESC -     | Continuous underscore               |
| ESC :     | Select 12 cpi                       |
| ESC E     | Select emphasized mode              |
| ESC F     | Cancel emphasized mode              |
| ESC G     | Select double strike mode           |

| Command    | Function                                        |
|------------|-------------------------------------------------|
| ESC H      | Cancel double strike mode                       |
| ESC I      | Set print mode                                  |
| ESC P      | Proportional space mode                         |
| ESC S      | Start subscript or superscript printing         |
| ESC T      | Cancel subscript or superscript printing        |
| ESC W      | Continuous double-wide printing                 |
| ESC [ -    | Score select                                    |
| ESC [ @    | Set presentation highlight                      |
| ESC [ I    | Set font global                                 |
| ESC [ d    | Set print quality                               |
| ESC _      | Continuous over score                           |
| ESC 6      | Select character set 2                          |
| ESC 7      | Select character set 1                          |
| ESC =      | Character font image download                   |
| ESC [ T    | Set code page                                   |
| ESC \      | Print continuously from all character chart     |
| ESC ^      | Print single character from all character chart |
| ESC K      | Normal density bit image graphics               |
| ESC L      | Dual density bit image graphics                 |
| ESC Y      | Dual density bit image graphics                 |
| ESC Z      | High density bit image graphics                 |
| ESC [ g    | High resolution graphics                        |
| ESC [ f    | Setup barcode parameter                         |
| ESC [ p    | Set barcode data                                |
| DEL        | Beeper                                          |
| DC1        | Select printer                                  |
| DC3        | Deselect printer                                |
| CAN        | Cancel Data                                     |
| ESC BEL    | Beeper                                          |
| ESC DC1    | Select printer                                  |
| ESC DC3    | Deselect printer                                |
| ESC CAN    | Cancel Data                                     |
| ESC Q      | Deselect printer                                |
| ESC R      | Set all tabs to power on settings               |
| ESC U      | Set print direction                             |
| ESC [ K    | Set initial condition                           |
| ESC j      | Stop printing                                   |
| ESC *      | Select graphics mode                            |
| ESC 3(AGM) | Set graphics line spacing(n/180")               |
| ESC A(AGM) | Set text line spacing(n/60")                    |
| ESC J(AGM) | Graphics variable line spacing(n/180")          |

## FCC STATEMENT

Changes or modifications not expressly approved by the 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 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:

- Reorient 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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