User Guide

NCR RealPOS 7199 Thermal Receipt Station Printer

Release 1.0

NCR

Preface

Audience

This book is written for hardware installer/service personnel, system integrators, and field engineers.

Notice: This document is NCR proprietary information and is not to be disclosed or reproduced without consent.

Safety Requirements

Important Information to the User

In order to ensure compliance with the Product Safety, FCC and CE marking requirements, you must use the power supply, power cord, and interface cable which were shipped with this product or which meet the following parameters:

Power Supply

UL Listed (QQGQ), Class 2 power supply with SELV (Secondary Extra Low Voltage), non–energy hazard output, limited energy source, input rated 100–240 Vac, 1.5/0.8 A, 50/60 Hz, output rated 24 Vdc, 2.3 A. or 3.125A.

Use of this product with a power supply other than the NCR power supply will require you to test this power supply and NCR printer for FCC and CE mark certification.

Interface Cable

A shielded (360 degree) interface cable must be used with this product. The shield must be connected to the frame or earth ground connection or earth ground reference at EACH end of the cable.

Use of a cable other than described here will require that you test this cable with the NCR printer and your system for FCC and CE mark certification.

Power Cord

A UL listed, detachable power cord must be used for this product. For applications where the power supply module may be mounted on the floor, a power cord with Type SJT marking must be used. For applications outside the US, power cords which meet the particular country's certification and application requirements should be used.

Use of a power cord other than described here may result in a violation of safety certifications which are in force in the country of use.

Wichtige Benutzerinformationen:

Um die Produktsicherheit und die FCC und CE–Markierungsanforderungen bei der Benutzung des Druckers sicherzustellen, müssen entweder das mitgesante Netzgerät, Netzanschlußkabel und Verbindungskabel verwendet werden oder folgende Anforderungen müssen erfüllt sein:

Netzgerät:

Das Netzgerät muß ein UL verzeichnetes (QQGQ) Netzgerät der Klasse 2 mit SELV (Sekundärextraniederspannung), Nichtenergie Gefahrenausgang, begrenzter Energiequelle, einer Aufnahmeleistung von 100–240 VAC, 1.5/0.8 A und 50/60 Hz, und einer Leistungsabgabe von 24 VDC, 3.125 A.c sein.

Die Benutzung des Produktes mit einem Netzgerät, daß nicht von NCR mitgeliefert wurde erfordert das Testen des Netzgerätes mit dem NCR Drucker auf FCC und CE–Markierungs Befolgung.

Verbindungskabel:

Bei der Benutzung dieses Produkts muß ein abgeschirmtes (360 Grad) Verbindungskabel benutzt werden. Die Abschirmleitung muß entweder mit dem Rahmens des Gerätes oder der Erde verbunden sein oder alternativ müssen alle Enden des Kabels geerdet werden.

Falls das Verbindungskabel nicht in der hier beschrieben Art benutzt wird, muessen das Kabel und der NCR Drucker auf die FCC und CE–Markierungs Befolgung überprüft werden.

Netzanschlußkabel:

Für dieses Produkt muß ein in UL aufgelistete, abnehmbares Netzanschlußkabel benutzt werden. Falls das Netzgerät fest auf dem Boden montiert ist, muß ein Netzanschlußkabel mit der SJT Markierung benutzt werden. Für Anwendungen außerhalb der USA, sollte ein Netzanschlußkabel benutzt werden, daß der Zertifizierung und Bestimmung des jeweiligen Landes entspricht.

Das Abweichen der hier beschriebenen Benutzungsanleitung des Netzanschlußkabels kann gegen die gesetzlichen Sicherheitsbestimmungen des jeweiligen Landes verstoßen.

用户须知

为了确保产品安全和遵守中国电磁兼容(EMC)规定,必须使用随产品附带或符合下列参数的电源,电源线和接口电缆:

电源

中国强制性产品认证,输入为：交流100～240伏, 1.5/0.8安倍, 50/60赫兹, 输出为: 直流24伏, 2.3或3.125安倍

如使用本产品与非NCR生产的电源产品, 必须测试电源和NCR生产的打印机以符合产品安全和**中国电磁**兼容(EMC)规定

接口电缆

本产品必须使用屏蔽(360度)接口电缆。屏蔽层必须连接到金属框架或接地或接口电缆两端的接地参考

使用没有在这里描述的接口电缆将要求您必须测试接口电缆和NCR生产的打印机以符合产品安全和**中国电磁**兼容(EMC)规定

电源线

中国强制性产品认证, 可拆卸的电源线.

使用没有在这里描述的电源线可能导致在该国的安全证书失效

销售打印机的安全规定

安全注意事项

维修

注意：本产品不含有用户可自行更换的部件，如需更换，请联系有资质的技术人员。

保险丝的更换

注意：为防止失火只可用相同规格的保险丝进行更换,

안전주의사항

서비스

주의 : 이 제품은 서비스 부품을 포함하지 않고 있습니다. 서비스는 자격이 있는 서비스 기술자에 의해 제공됩니다.

퓨즈교체

주의: 화재의 위험에 대한 계속적인 보호를 위해 같은 타입과 등급의 퓨즈로 교체해야 합니다. 。

한국 업무용(A급 기기) 방송통신기자재

이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

Federal Communications Commission (FCC)
Radio Frequency Interference Statement

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

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Communication Cables

Shielded communication cables must be used with this unit to ensure compliance with the Class A FCC limits.

Information to User

This equipment must be installed and used in strict accordance with the manufacturer's instructions. However, there is no guarantee that interference to radio communications will not occur in a particular commercial installation. If this equipment does cause interference, which can be determined by turning the equipment off and on, the user is encouraged to contact NCR immediately.

The NCR Company is not responsible for any radio or television interference caused by unauthorized modification of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by NCR. The correction of interferences caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

Industry Canada (IC)
Radio Frequency Interference Statement

This Class A digital apparatus meets all requirements of the Canadian Interference–Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Bundeskommunikationen Kommission (FCC) Hochfrequenz–Störungs Richtlinie.

Warnung: Änderungen oder Änderungen an der Maßeinheit, die nicht ausdrücklich von der Seite, die für die Befolgung verantwortlich ist, genehmigt ist, können zum Entzug der Benutzungsberechtigung dieses Gerätes führen.

Anmerkung: Dieses Gerät wurde getested und entspricht der zulässigem Richtlinien eines digitalen Gerätes der Klasse A, gemäß Abschitt 15 in den FCC Richtlinien. Diese Richtlinien sind dazu da, einen angemessenen Schutz gegen schädliche Störung bei der komerziellen Nutzung dieses Gerätes zu gewährleisten. Dieses Gerät erzeugt und benutzt Hochfrequenzenergie und kann Hochfrequenzenergie ausstrahlen. Wenn die Installierung und Benutzung dieses Gerätes nicht wie im Benutzer Handbuch beschrieben ist, durchgeführt wird, kann eine schädliche Störung von Funkverbindungen verursacht werden. Der Betrieb dieses Gerät in einem Wohngebiet kann schädliche Störung verursachen die auf Kosten des Benutzers behoben werden müssen.

Kommunikationskabel:

Dieses Gerät muß in Uebereinstimmung mit Kategorie A FCC Richtlinien mit einem abgeshirmten Kabel betrieben werden.

Benutzerinformationen:

Dieses Gerät muß wie in der Hersteller Anweisungen beschrieben installiert und benutzt werden. Jedoch gibt es keine Garantie dafür, daß Funkstörung nicht in bestimmten kommerziellen Installation auftritt. Für den Fall, daß das Gerät Funkstörungen verursacht, was durch das An und Abschalten des Gerätes festgestellt werden kann, wird der Benutzer aufgefordert sofort mit NCR Kontakt aufzunehmen.

NCR ist nicht für Radio– oder Fernsehenstörung verantwortlich, die durch unautorisierte Änderung der Ausrüstung oder den Ersatzes der anschließenden Kabel oder durch Anschluß von Geräten hervorgerufen wird, die nicht ausdrücklich von NCR genehmigt wurden sind. Die Korrektur von Störungen, die durch solche unautorisierte Änderung, Ersatz oder Zubehör verursacht werden, liegt in der Verantwortlichkeit des Benutzers.

Industrie–Kanada (IS) Hochfrequenz–Störungs Richtlinie:

Dieses digitale Gerät der Klasse A entspricht allen Anforderungen der kanadischen Störung–Verursachende Geräte Richtlinie.

无线电频率干扰声明

用户须知

本设备已经过测试，证明其符合A级数字设备的限定。这些限制旨在对设备在商业环境中运作时提供合理的保护,以防有害干扰。本设备产生,使用,并能发射无线电频率能量.因此如果不按照使用说明书安装和使用,可能对无线电通讯造成有害干扰.如果在住宅区使用本设备很可能造成干扰.用户将被要求自费纠正干扰。

对于未经授权的修改或使用NCR规定以外的其他附件替换或连接电缆及设备,NCR不负责.

校正由此而产生的干扰将是用户的责任。用户需注意:未经NCR批准的改装可能导致用户无权操作本设备

中国电磁兼容声明：

此为A级产品,在生活环境中,该产品可能会造成无线电干扰。在这种情况下,可能需要用户自费对其干扰采取切实可行的措施。

Caution labels information

Hot Surface, Do not touch / Surface chaude, Ne pas toucher.

Sharp edge. Keep fingers and other body parts away / Tranchant, Tenir les doigts et les autres parties du corps éloignés.

References

- *NCR RealPOS 7199 Thermal Receipt Printer Service Guide* (BCC5-0000-5174)

- *NCR RealPOS 7199 Thermal Receipt Station Printer Parts Identification Manual (PIM)* (BCC5-0000-5173)

- *NCR RealPOS 7197 to 7199 Thermal Receipt Station Printer Migration Guide* (BCC5-0000-5175)

- *NCR RealPOS 7199 Thermal Receipt Station Printer Programmer's Guide* (BCC5-0000-5170)

Table of Contents

Chapter 4: Communication

Revision Record

Issue	Date	Remarks
A	Mar 2017	First Issue
B	Dec 2017	• Updated the contact information in the "Ordering Thermal Receipt Paper" section. • Updated the table in the "Other Supplies" section. • Added cable routing options in the "Connecting the Cables" section for power supply cables with a ferrite bead. • Added the "Stuck Cutter Blade" section in Chapter 2.

Chapter 1: NCR RealPOS 7199 Thermal Receipt Station Printer

General Description

Cover Open Latch

Cutter Cover

Paper Feed with
multi-colored LED

Top Cover/
Printer Door

Main Cover

CCP-71285
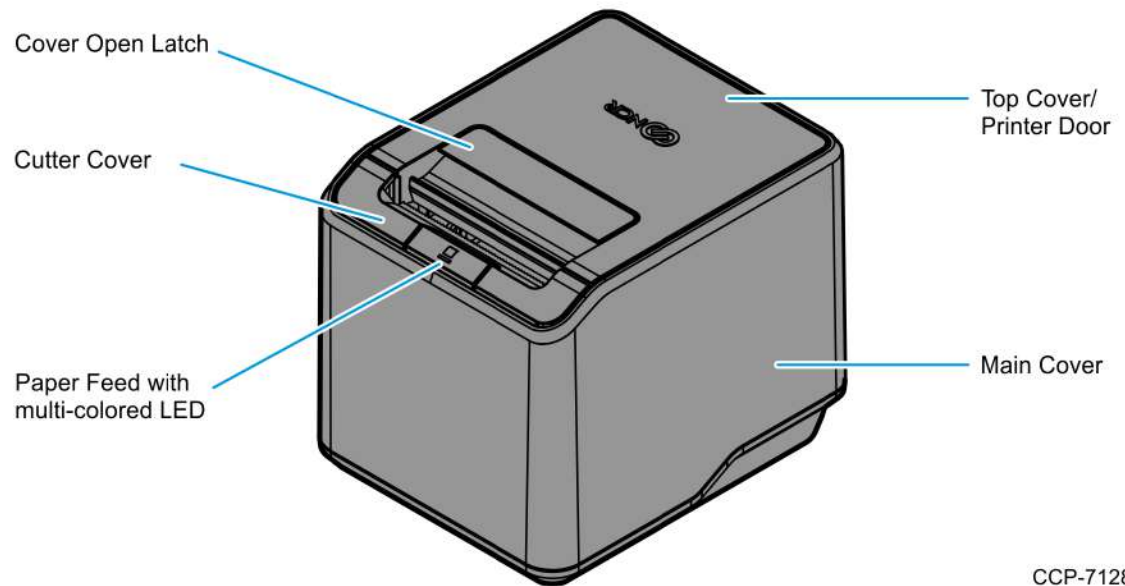
The NCR RealPOS 7199 Thermal Receipt Station Printer delivers high–performance receipt printing in a compact and flexible solution. This printer provides a solution that is designed for any environment that requires thermal receipt printing.

The printer's high–speed thermal printing capability and proven reliability can help reduce transaction time, increasing customer satisfaction, and throughput. It prints crisp text, at a rate of 355mm or 14 inches per second, and sharp graphics in 16 levels of grayscale. The printer can be wall mounted, integrated with an NCR RealPOS terminal, or placed on the countertop as a front or top exiting receipt printer. It is flexible enough to meet the customer's changing needs or space constraints.

The printer can be connected to any host computer that uses USB communication interface. The printer is also available with RS–232C or LAN communication interface.

Features and Options

The 7199 Thermal Receipt Station Printer comes with the proven features and functionality of the 7197 along with several new features and options that enhance the printer's performance, serviceability, reliability, and versatility.

General Features

- Thermal printing
- Resident bar codes
    - Code 39
    - Code 128
    - UPS–A
    - UPC–E
    - JAN8 (EAN)
    - JAN13 (EAN)
    - Interleaved 2 of 5
    - Code–bar
    - PDF417
    - GS1 DataBar
    - QR
- Drop–in paper loading
- Paper Jam Sensor (detecting initial jam of paper at platen roller)
- Paper exhaust indicator
- Support Vertical/ Wall mount (90 Deg)
- Paper low sensing: adjustable through firmware for 40ft, 30ft, 20ft and 10ft
- Black mark sensor as factory option
- 19 resident character language Code Pages:
    - PC Code Page 437 (US English)
    - PC Code Page 850 (Multilingual)
    - PC Code Page 852 (Slavic)
    - PC Code Page 858 (with Euo symbol)
    - PC Code Page 862 (Hebrew)
    - PC Code Page 863 (French Canadian)
    - PC Code Page 864 (Arabic)

- PC Code Page 865 (Nordic)
- PC Code Page 866 (Cyrillic)
- PC Code Page 1252 (Windows Latin #1)
- PC Code Page 1256 (Arabic) – Contextual
- PC Code Page 1256 (Arabic) – Fixed
- PC Code Page Hungary
- PC Code Page Katakana
- PC Code Page 874 (Enhanced Thai)
- PC Code Page 932 (Windows–31J)
- PC Code Page 936 (Simplified Chinese)
- PC Code Page 949 (Korean)
- PC Code Page 950 (Mainland China)
- Unicode support (UTF–16)

- Auto knife cut
- Cover open sensors
- Industry standard USB communication interface
- Variant of Print Mode: High speed print mode, High quality print mode and Eco print mode
- Thermal Head Failure Detection
- One cash drawer connector (supports 2 cash drawers)
- Top and front exit receipt
- Multi–color LED
- Watermark and grayscale support

Note: The 7199 Thermal Receipt Station Printer does not use a paper journal.

Thermal Print Head

The 7199 Thermal Receipt Station Printer uses a thermal print head for printing receipts. It is extremely fast and quiet. Because it uses heat to print directly on paper, there is no cassette or ribbon to change, eliminating soiled fingers and paper dust.

The print head does not need to be regularly cleaned and no regularly scheduled maintenance is required if the recommended paper is used. For more information, refer to *Ordering Thermal Receipt Paper* on the facing page.

If you notice spotty or light print, the thermal head could be dirty. Wipe the head with cotton swabs and rubbing alcohol. If spotty or light printing problems persist after the thermal print head has been cleaned, the print head could be damaged beyond repair.

The print head is designed to have a long life span, but it can be replaced overtime if needed. Only a trained service representative may replace the print head.

Ordering Paper and Supplies

Ordering Thermal Receipt Paper

The 7199 Thermal Receipt Station Printer requires NCR qualified thermal paper to be used on the thermal receipt print station to ensure proper operation of the printer. In addition, the paper rolls must have these dimensions.

Diameter	Length	Width
80 mm Max (3.12 in Max)	273 ft	**80 mm +0.5mm/–1.2mm** (3.15in +0.020in/0.047in)
80 mm Max. (3.12 in Max.)	273 ft	**58mm +0mm/–1.0mm** (2.28in +0in/0.039in)

The paper must not be attached at the core. If the paper is attached to the paper core, the print head may be damaged when the paper is exhausted.

Paper grades available from Iconex

Paper Stock	Paper Grade Description
856911	Economy (for text printing)
856966	Standard Sensitivity (for text and simple graphics)
878559	High Sensitivity (for text, bar codes & detailed graphics)
856380	For improved achievability and added resistance to incompatible substances.
856461	Red/Black
856458	Blue/Black

To order thermal receipt paper, contact your sales representative or order from NCR at the following toll free number:

Iconex
Media Products Division
Voice: 1(800)543-8130 (toll free),
or local listing of Media Products sales office

Other Supplies

Contact your sales representative to order the supplies listed in the following table.

Item	Type	Alias Number
External Power Supply	75W External Power Supply, No Power Cord	7167-K511
	75W External Power Supply with US Power Cord	7167-K510
	60W External Power Supply	7197-K510
AC Cables for External Power Supply	US Power Cord	1416-C325-0030
	UK Power Cord	1416-C321-0030
	SEV Power Cord	1416-C320-0030
	Australian Power Cord	1416-C322-0030
	International Power Cord	1416-C323-0030
	Argentina Power Cord	1416-C009-0018
Non-Powered RS-232 (Serial) Interface	1.0 meter	1416-C879-0010
	4.0 meters	1416-C879-0040
Non-Powered USB Cable	1.0 meter	1432-C083-0010
	4.0 meters	1432-C083-0040
Powered USB Cable	24V Powered USB Cable, 1.0 meter, Black	1432-C086-0010
	24V Powered USB Cable, 4.0 meters, Black	1432-C402-0040
Power Only USB Cable for Serial Configuration	1.0 meter	1432-C092-0010
	4.0 meters	1432-C092-0040

Item	Type	Alias Number
Cash Drawer Cable	1.8 meters	1639-K044
		1639-K043
		1639-K213
	0.6 meter (Y-Cable)	1416-C372-0006
		1639-K045
Narrow 58mm Width Paper Guide	Release 1.0	7199-K058
Ethernet Cable	8–wire	1432-C046-0030
Integrated Terminal Filler Plate		7607-K324
Rear Cable Cover		7199-K200
Under Counter Mounting Bracket		7199-K100
Serial Interface Module		7199-K001
Ethernet Interface Module		7199-K002

What is in the Box

The following items are packed in the shipping box:

- Printer enclosed in a plastic bag and foam pack

These items may be ordered as options from NCR:

- Communication cable (from host computer to printer)
- Cash drawer cables

These cables may be ordered from other equipment suppliers. For more information, refer to *Ordering Paper and Supplies* on page 5.

- DC Power cable
- External Power Supply
- USB plus Power cables

Removing the Packing Material

To remove the packing material, follow these steps:

1. Remove the printer from the foam pack.
2. Remove the plastic bag from the printer.
3. Save all packing materials for future storing, moving, or shipping of the printer.
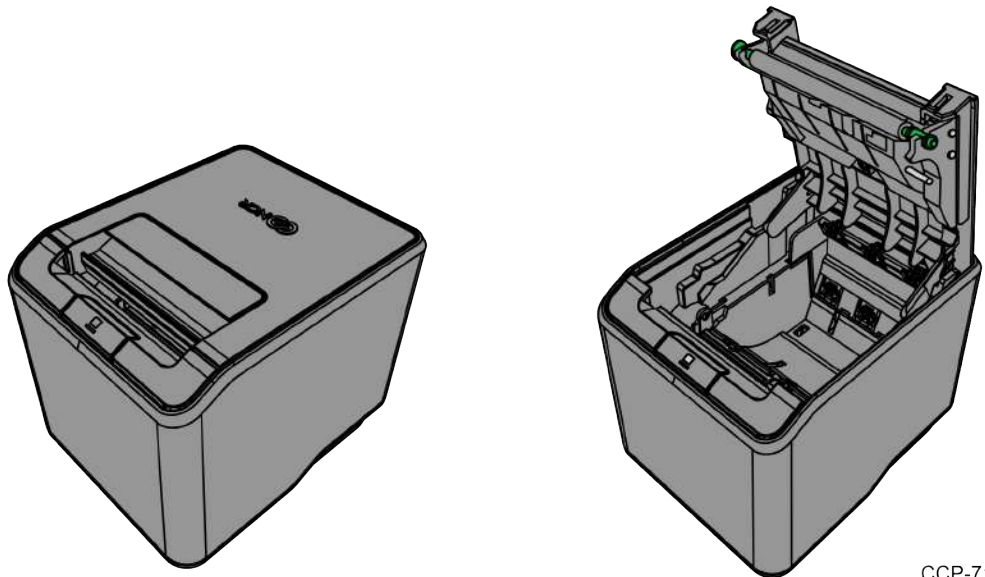
CCP-71029

Repacking the Printer

To repack the printer, follow these steps:

1. Place the printer in the plastic bag and in the foam pack.

2. Place the packed printer in the box.

3. Secure the box with packing tape.

Cleaning the Printer

Cleaning the Cabinet

The external cabinet materials and finish are durable and resistant to these items:

- Cleaning solutions
- Lubricants
- Fuels
- Cooking oils
- Ultraviolet light

The 7199 Thermal Receipt Station Printer does not require a scheduled maintenance. Clean the cabinet as needed to remove dust and finger prints. Use any household cleaner designed for plastics, but test it first on a small unseen area. If the receipt bucket is dirty, wipe it with a clean, damp cloth.

Cleaning the Thermal Print Head

Caution: Do not spray or try to clean the thermal print head or the inside of the printer with any kind of cleaner as this may damage the thermal print head and electronics.

If the thermal print head appears dirty, wipe it with cotton swabs and isopropyl alcohol.

If spotty or light printing problems persist after the thermal print head has been cleaned, refer to *Troubleshooting Problems* on page 27.

Note: The thermal print head does not normally require cleaning if the recommended paper grades are used. If non–recommended paper has been used for an extended period of time, cleaning the print head with cotton swabs and rubbing alcohol will not be of much benefit. For more information on the recommended paper, refer to *Ordering Paper and Supplies* on page 5.

Choosing a Location

Normal Table Top

The 7199 Thermal Receipt Station Printer takes up a relatively small counter space and may be set on or near the host computer. Make sure there is enough room to open the receipt cover to change the paper. The following illustration shows the actual dimensions of the printer, but leave several inches around the printer for connecting and accessing the cables.
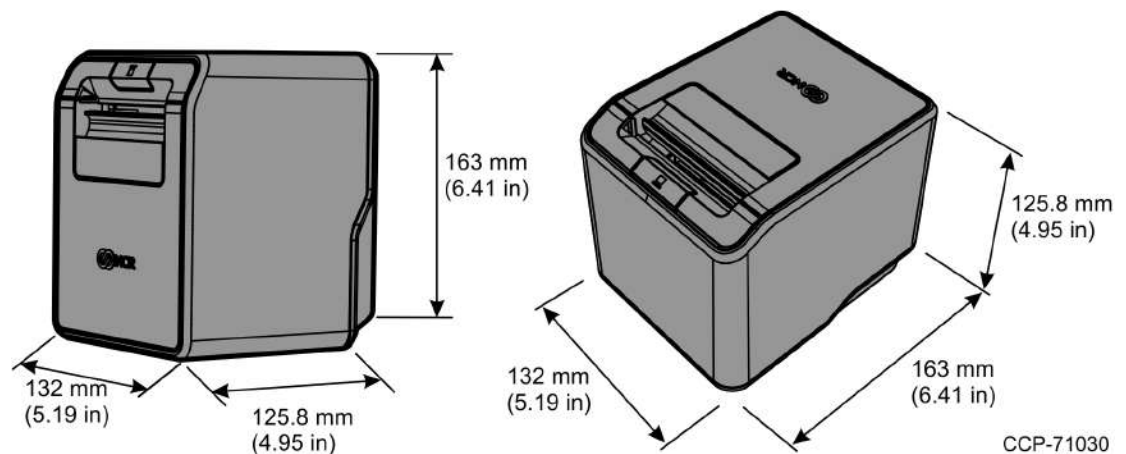
Wall Mounted

The 7199 Thermal Receipt Station Printer may be mounted on a vertical wall. Make sure there is enough room to open the receipt cover to change the paper. Mount the screws on the wall using the following recommended mount dimensions. Use a #8 wood screw, which is to be securely fastened to a wall stud, or use a "Molly" fastener (not provided).
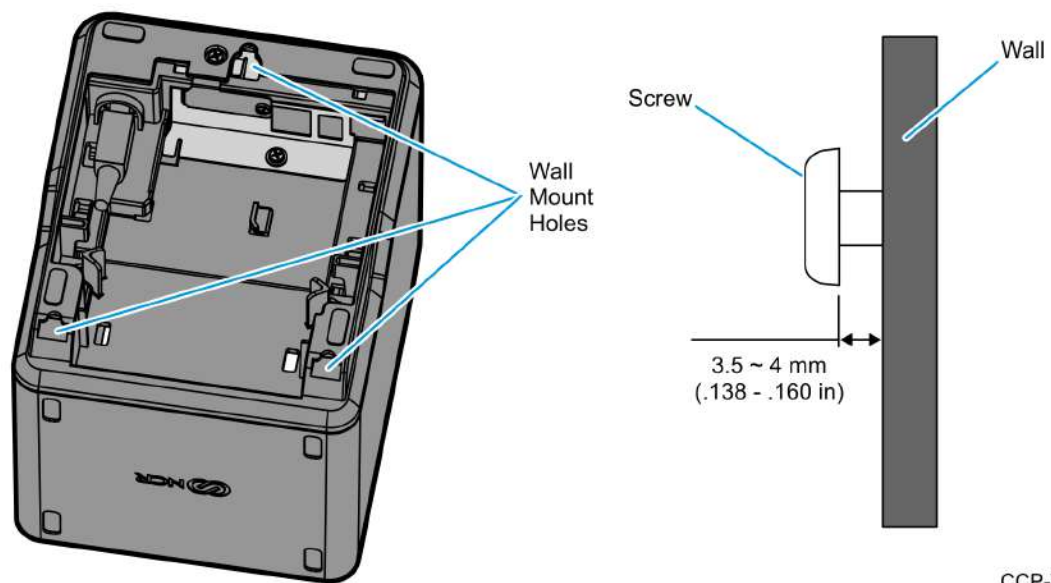
Print the following template to use as a guide for the wall screw position.

126.5 mm
(4.98 in)

52 mm
(2.05 in)

104 mm
(4.09 in)

CCP-71537
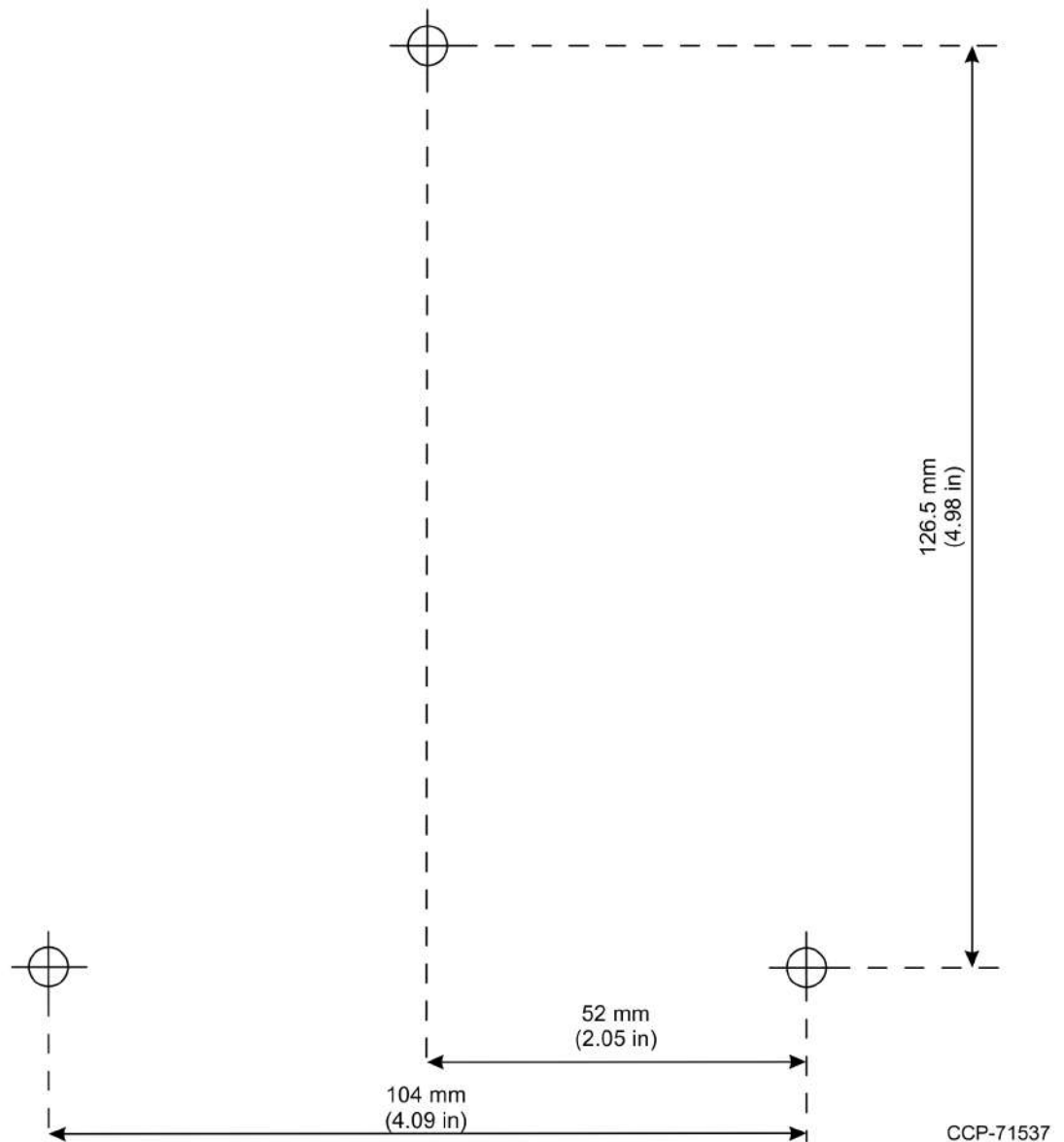
Connecting the Cables

There are three different types of cables that connect to the printer:

- Power supply cable supplying power from the power supply

- Communication cable (USB) connecting the printer to the host computer

- Cash drawer cable connecting the printer to one or two cash drawers

Caution: Disconnect the power before connecting the cables. Always connect the communication cable and cash drawer cables before connecting power to the power supply. Always disconnect power to the power supply before disconnecting the communication and cash drawer cables.

To connect the cables, follow these steps:

Note: Refer to the images in the next sections for more information.

1. Unplug the power supply from its power source.

2. Connect the power and the USB communication cables to their respective connectors under the printer, as shown in the illustration. For the RS–232 communication cable, make sure to screw the communication cable to the communication connector.

3. Route the cables through the cable strain relief feature on the bottom of the printer, then connect the communication cable to the appropriate host computer connector.

4. Connect the cash drawer cable to the printer and cash drawer.

   Note: The connector is a standard RJ11 located at the bottom of the printer.

5. Plug the power cord into the power supply for remote power supply installation, then plug the power supply into an outlet.

6. For Host powered installation, plug the DC cable into the POS terminal.

USB Cable Connection
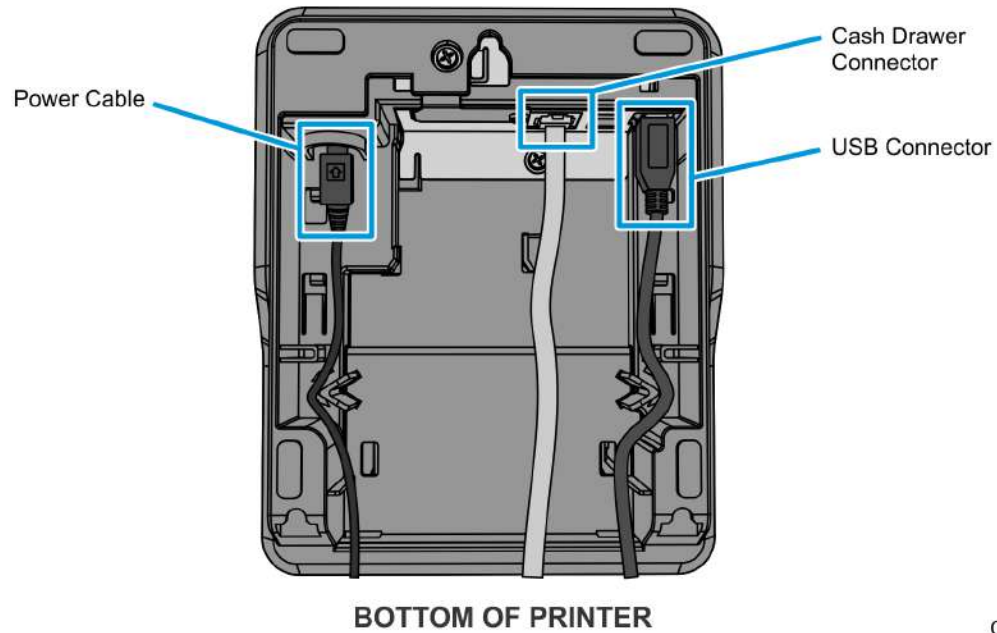
Note: If the power supply cable has a ferrite bead, follow the routing shown in the following image.
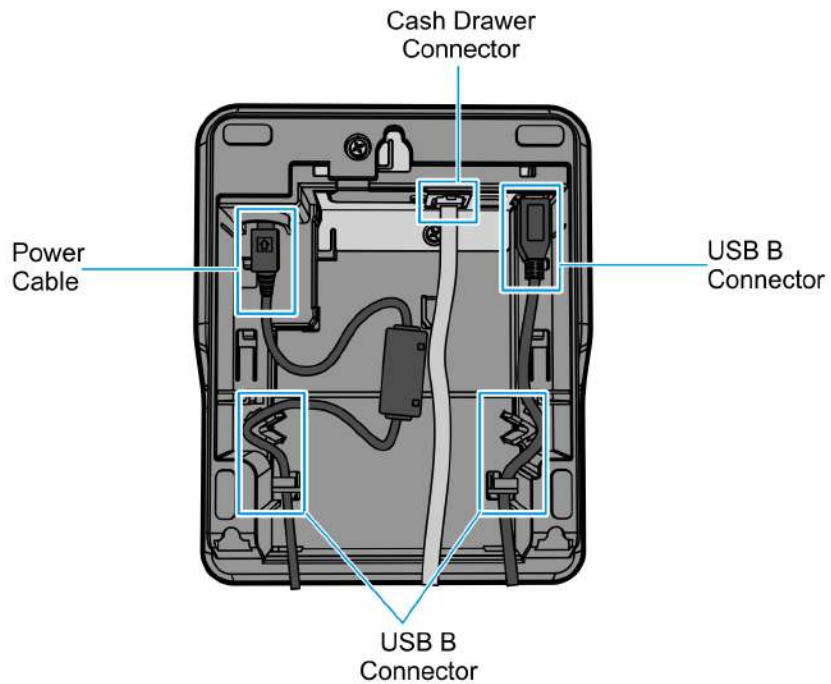
Different types of Y–cable routing method

Y-Cable Type A

Y-Cable Type B — Cable Restraints

Y-Cable Type C — Cable Restraints

Y-Cable Type D — Cable Restraints

Cable Restraints
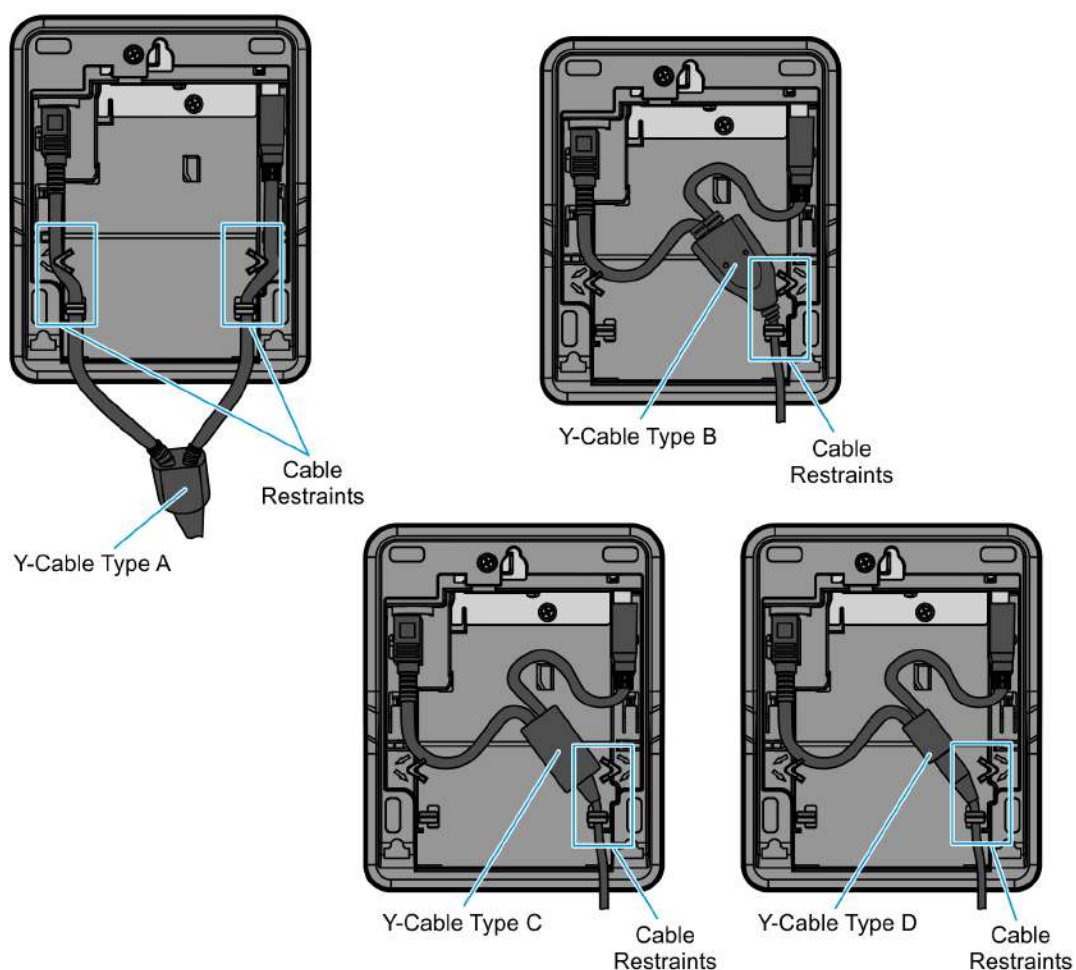
BOTTOM OF PRINTER

CCP-71538

The following cable part numbers can be used for the Y-cable:

- 1432-C402-0040
- 1432-C086-0010
- 1432-C404-0040
- 1432-C328-0040
- 1432-C088-0010
- 1416-C881-0010
- 1416-C713-0010
- 1416-C640-0010

RS–232 Cable Connection (Option)

Power Cable

Cash Drawer Connector

RS232 Communication
Board (Option)

Communication
Connector

BOTTOM OF PRINTER

CCP-71023
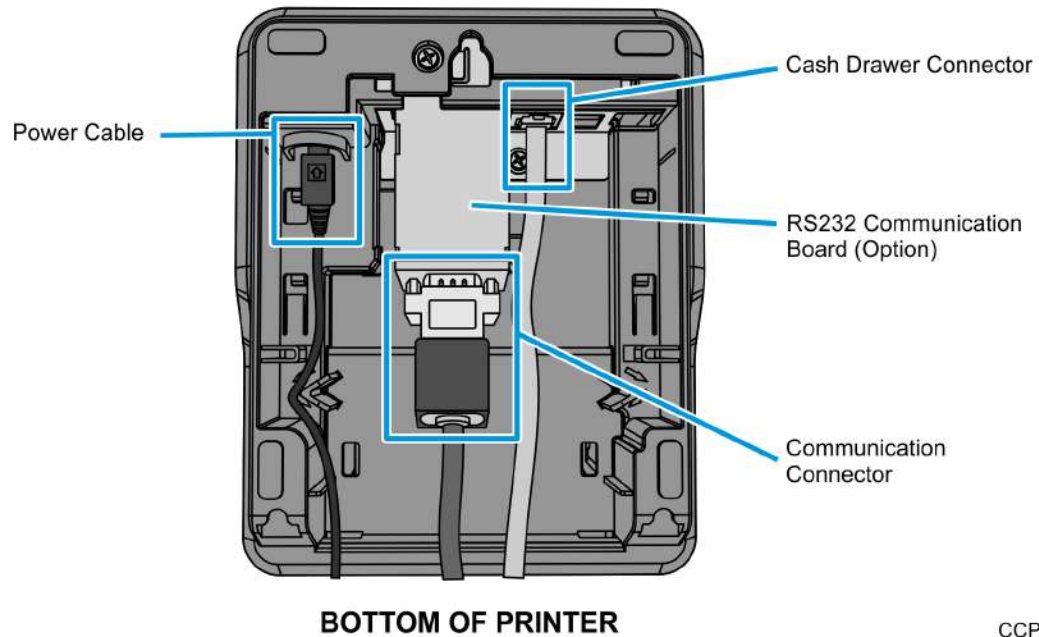
Note: If the RS–232 serial cable has a ferrite bead on one side, connect the side without the ferrite bead to the printer.

Rs232
Communication
Board (Option)

Communication
Connector

Ferrite Bead
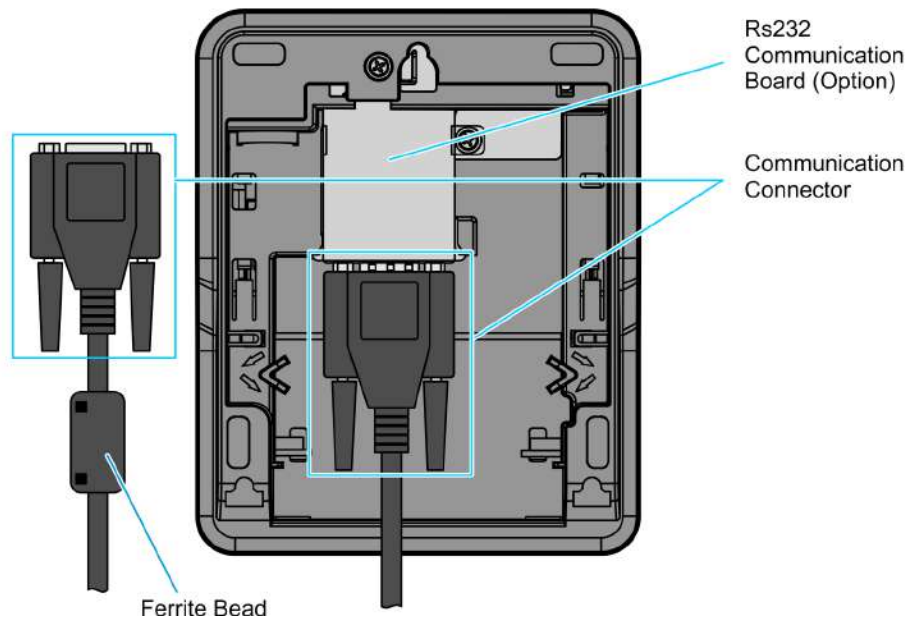
CCP-74101

Note: If the power supply cable has a ferrite bead, route the cable under the communication connector and cash drawer cable, and then to the cable restraints. Do the same for the Ethernet Cable Connection.

Rs232
Communication
Board (Option)

Power Supply
Cable with
Ferrite Bead

Cash Drawer Cable

Communication
Connector
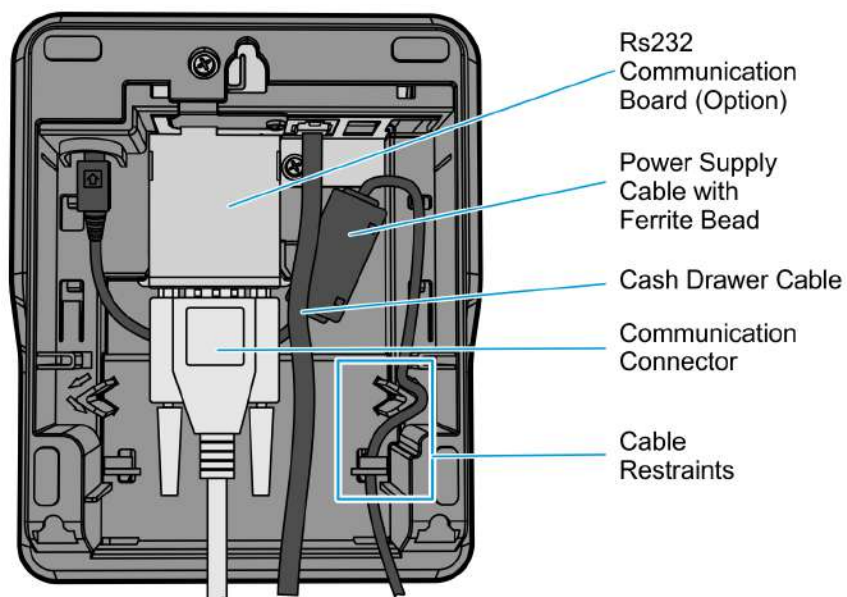
Cable
Restraints

CCP-74102

Ethernet Cable Connection (Option)

CCP-71028
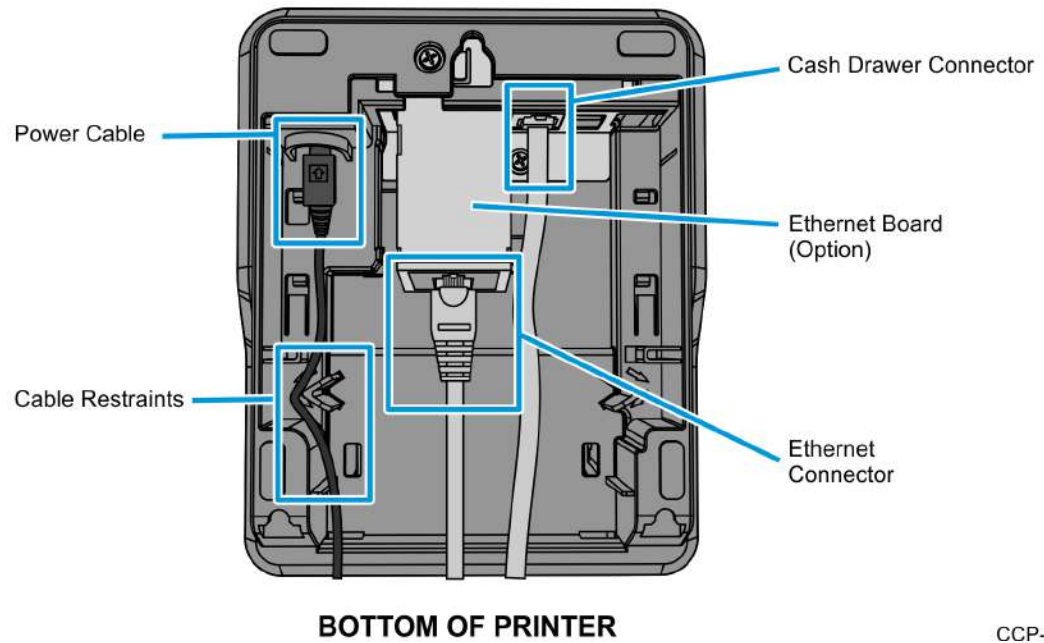
Checking for USB Support on the Host Computer

USB interface communications is required and the host computer must be equipped and set up properly. With the required hardware in place, the Windows POS Ready 2009 operating system natively supports plug–and–play USB with a built–in driver.

Note: You need an Internet access to download the USB drivers from the NCR Web site: *http://www5.ncr.com/support/support_drivers_patches.asp*.

Host Configuration

Verify that the proper hardware has been installed in the host PC.

The following steps are applicable to systems running on a Windows POS Ready 7, a Windows 8, or a Windows 10 operating system:

1. Open the Control Panel.

2. Click the Device Manager.

3. In the Device Manager window, scroll down the list of installed hardware devices until you find an entry for **Universal serial bus controller**.

If this entry exists, your host computer is set up for USB operation. If this entry does not exist, consult your computer documentation to see if USB must be enabled in the BIOS setup.

Interface Description

Human Interfaces

- Top Cover/Printer Door—the printer does not print or operate if the cover is open.

- Cover Open Latch—the Top Cover/Printer Door can be opened by lifting the latch.

- Paper Feed button—located on the top–front side of the printer.

- USB I/F Connector—mounted on the PCB Board.

- Printer Status LED—has three colors: Green, Amber, and Red.

- Thermal Paper—placed inside the printer. For information on the recommended thermal paper, refer to the *Ordering Thermal Receipt Paper* on page 5.

Cover Top

Latch Release Handles

Feed Button
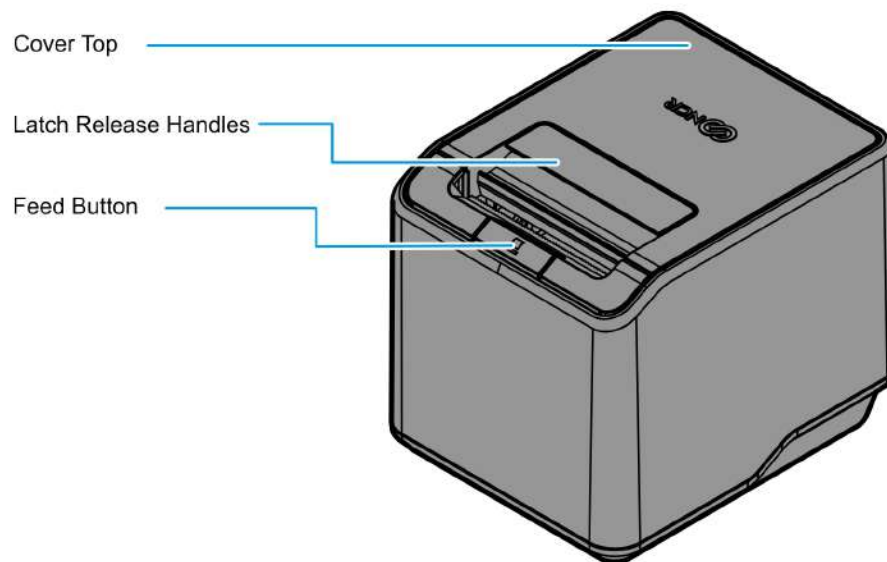
CCP-71222

Using the Printer

To use the printer, follow these steps:

1. Connect the power supply to the printer and turn on the power source. The printer goes through a self–test routine to ensure everything is working properly, and then it "beeps." After the printer has completed its "startup" cycle, it is ready to receive data. If the LED blinks, or the host computer indicates that there is a problem, refer to *Troubleshooting Problems* on page 27 for more information.

2. To perform a Configuration check (optional), reset the printer while holding the Paper Feed button, or open the receipt door and, while pressing the Paper Feed button, close the receipt door. Let go of the Paper Feed button when the printing begins.

Cover Top

Latch Release Handles

Feed Button
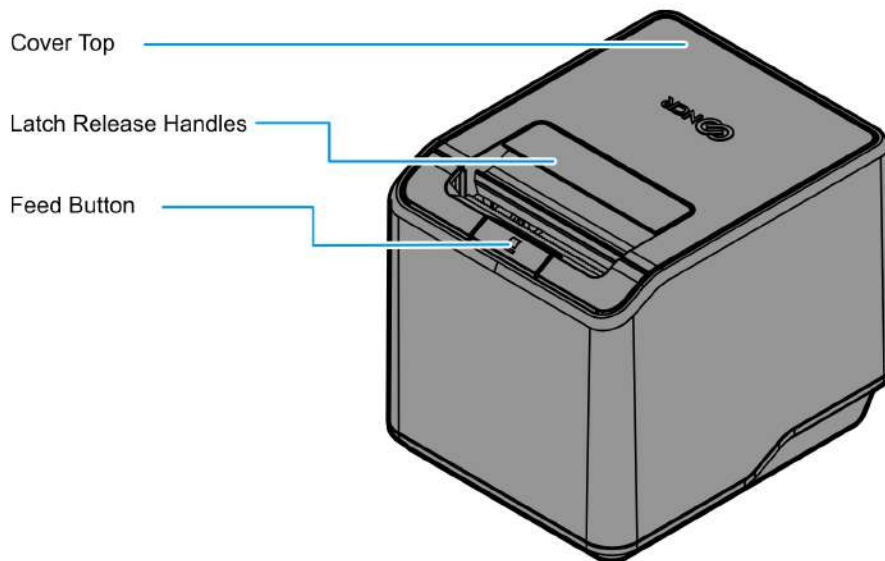
CCP-71222

Note: The printer receives power when the power supply is on even if the printer is offline. To completely remove power, unplug the power supply from the outlet, or turn the POS terminal off.

Loading and Changing the Receipt Printer

Change the paper when either of the following two conditions occurs:

- Amber LED blinks (slow): the paper is low.

  There are approximately 1 ½ to 7 ½ meters (5–25 feet) of paper remaining on the roll. Change the paper as soon as possible to avoid running out half way through a transaction. Depending on the application, the host computer may alert you when the paper is low.

- Amber LED blinks (fast): the paper is out.

  Change the paper immediately or data may be lost.

⚠ **Caution:** Do not operate the printer or host computer if the printer runs out of paper. The printer will not operate without paper, but it may continue to accept data from the host computer. Because the printer cannot print any transactions, the data may be lost.

Removing the Paper Roll

To remove the paper roll, follow these steps:

1. Open the receipt cover.
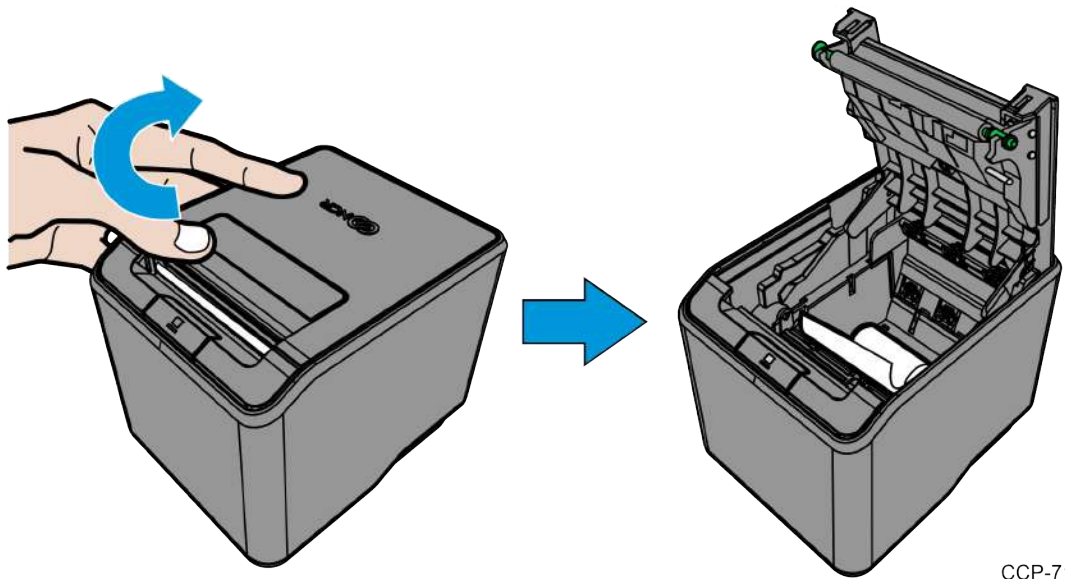
CCP-71032

2. Remove the used roll.
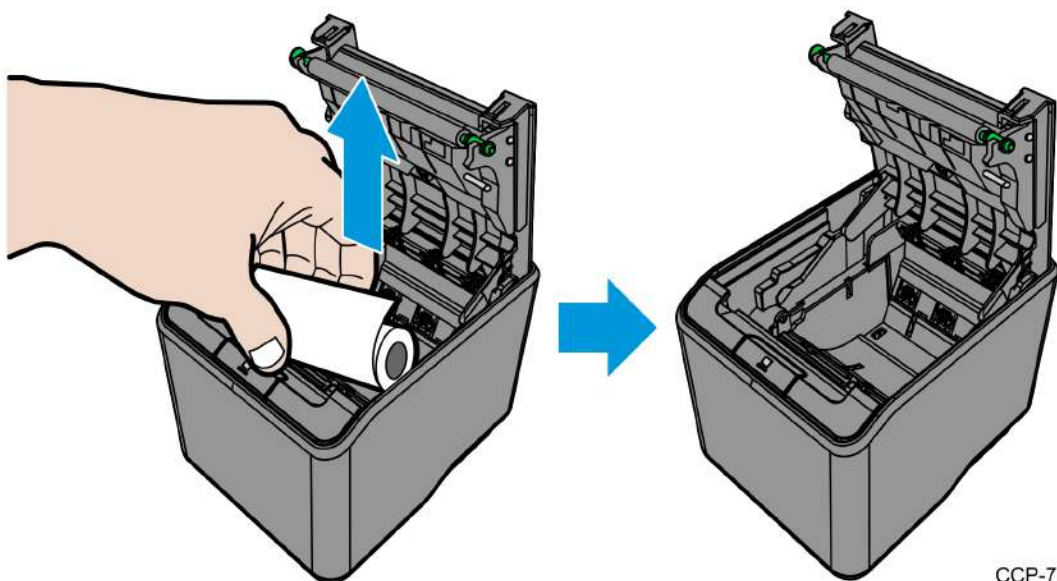
CCP-71033

Loading the Paper Roll

To load the paper roll, follow these steps:

Note: Tear off the end of the new roll so that the edge is loose.

1. Place the new roll in the bin with a little extra paper extending over the front. Make sure that the paper unrolls from the bottom of the roll. Otherwise, the printer cannot print on the paper because the thermal coating is on the wrong side.

CCP-71064
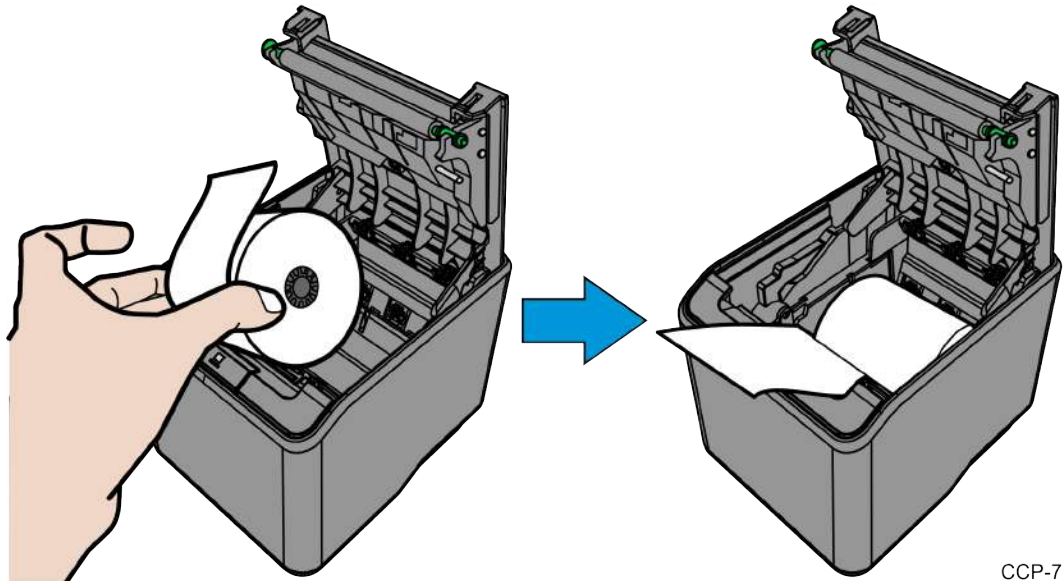
CCP-71034

2. Close the receipt cover.
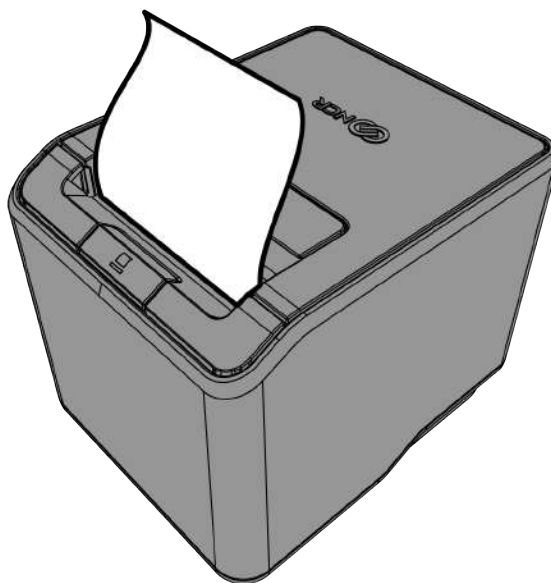
CCP-71024

3. Remove the excess paper by tearing it against the tear–off blade.
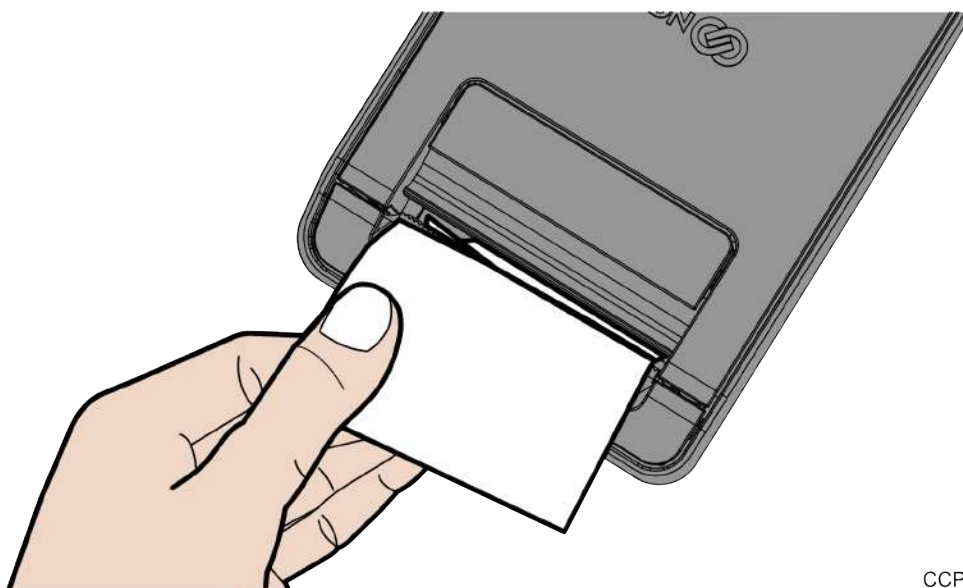
CCP-71025

Advancing the Paper

To advance the paper, follow these steps:

1. Press the Paper Feed button on the operator panel to advance the paper. The cover must be closed. To ensure print quality and proper alignment of the paper, advance about **30 cm** (12 inches) of paper.

2. Tear off the excess paper against the tear–off blade.

Chapter 2: **Troubleshooting Problems**

Overview

The 7199 Thermal Receipt Station Printer is a simple, generally trouble–free printer, but from time to time, minor problems may occur. The multi–colored LED lights provide associates with visual feedback for error correction. For some problems, the printer communicates the information to the host computer and relies on the application to indicate what the problem is.

This section describes some problems that you may encounter: problems that you can easily fix, and others that you will need to contact a service representative for.

You may be able to correct many of the conditions or problems without calling for service. However, if a problem persists, contact a service representative. For more information, refer to *Contacting a Service Representative* on page 35.

Red LED is off or Printer Will Not Print

Cause	What to Do	Where to Go
Cables may not be connected properly	Check all cable connections. Check that the host computer and power supply are both on (the power supply is turned on by plugging it into an outlet).	Refer to *Connecting the Cables* on page 13.
Power supply may be defective	If the power supply is plugged in but does not come on, order a new power supply.	Refer to *Ordering Paper and Supplies* on page 5.

Amber LED Blinking (Slow)

Cause	What to Do	Where to Go
Receipt paper is low*	There are about **4.5 meters, ± 3 meters**, (15 feet, ±10 feet) of paper left. Change the paper soon to avoid running out of paper part way through a transaction.	Refer to *Loading and Changing the Receipt Printer* on page 22.

Amber LED Blinking (Fast)

Cause	What to Do	Where to Go
Receipt paper is out	Change the paper now. Do not run a transaction without paper as the data may be lost.	Refer to *Loading and Changing the Receipt Printer* on page 22.
Receipt cover is open	Close the cover. The printer will not operate with the cover open.	
Knife failure	Open the receipt cover and check the knife. Clear any jammed paper you can see. Tear off any excess paper against the tear–off blade. Contact a service representative if this does not resolve the problem.	Refer to *Amber LED Blinking (Fast)* above.
AC supply voltage is out of range	If paper is not low and no conditions indicate that the thermal print head is too hot, then it is likely that the power supply voltage is out of range. Contact a service representative if this does not resolve the problem.	Refer to *Contacting a Service Representative* on page 35.

Cause	What to Do	Where to Go
Thermal print head temperature is out of range	The print head may overheat when printing in a room where the temperature is above the recommended operating temperature or when printing high–density graphics continuously, regardless of the room temperature. In either case, the printer will shut off. If the temperature of the print head is too hot, adjust the room temperature or move the printer to a cooler location. If the print head is overheating because of printing high density graphics continuously, reduce the graphics print density. If the printer continues to overheat, contact a service representative.	Refer to *Physical and Operating Environment* on page 130 for the recommended temperature range for operating the printer. If the printer continues to overheat, refer to *Contacting a Service Representative* on page 35.
Power supply voltage is out of range	If paper is not low and no conditions indicate that the print head is too hot, the power supply voltage is out of range. Contact a service representative.	Refer to *Contacting a Service Representative* on page 35.

Receipt Printing is Light or Spotty

Cause	What to Do	Where to Go
Thermal print head may be dirty	Open the receipt cover and clean the thermal print head with cotton swabs and isopropyl alcohol. **Note:** Do not use the alcohol to clean other parts of the printer. Damage will occur. Contact a service representative if this does not resolve the problem.	Refer to *Cleaning the Printer* on page 10. Refer to *Contacting a Service Representative* on page 35.

Note: The thermal print head does not normally require cleaning if the recommended paper grades are used. If a non–recommended paper has been used for an extended period of time, cleaning the print head with alcohol and cotton swabs will not be of much benefit. For information on the recommended paper, refer to *Ordering Thermal Receipt Paper* on page 5. For information on power consumption, refer to *Power Requirements* on page 129.

Stuck Cutter Blade

If a cutter blade is stuck in a fully extended position, do the following steps to fix it:

1. Open the front cover. To open the front cover, do the following:

    a. Unlatch the front cover by pulling on the holes located on both sides of the front cover.
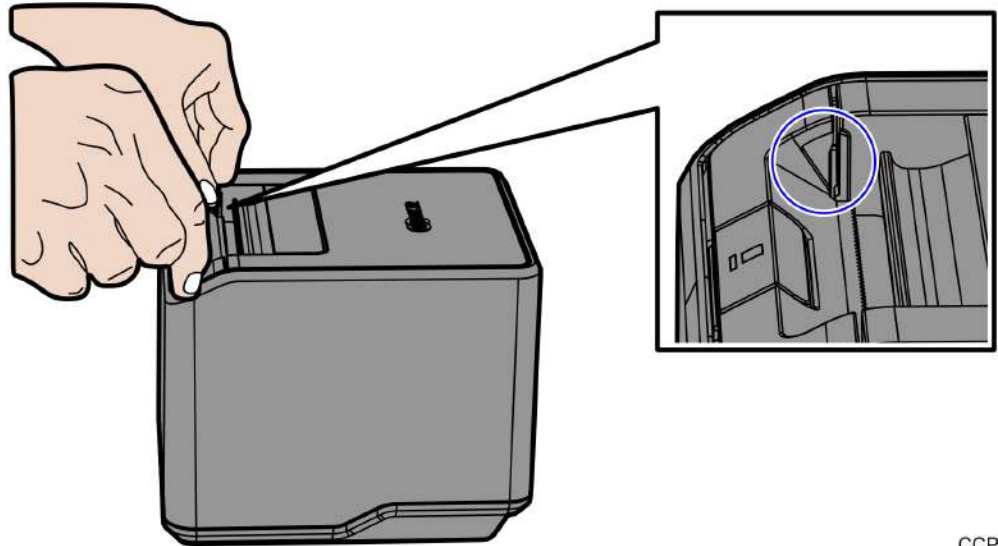
CCP-74103

    b. Flip to fully open the front cover.
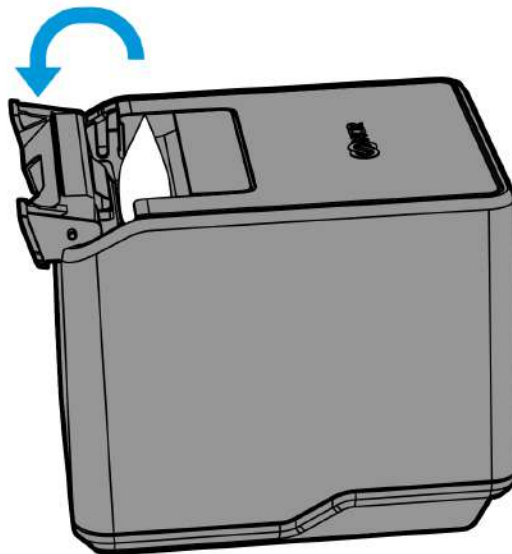
CCP-74104

2. Flip to open the top cover. the cutter blade is in the extended position.

CCP-74105

3. Remove the jammed paper.
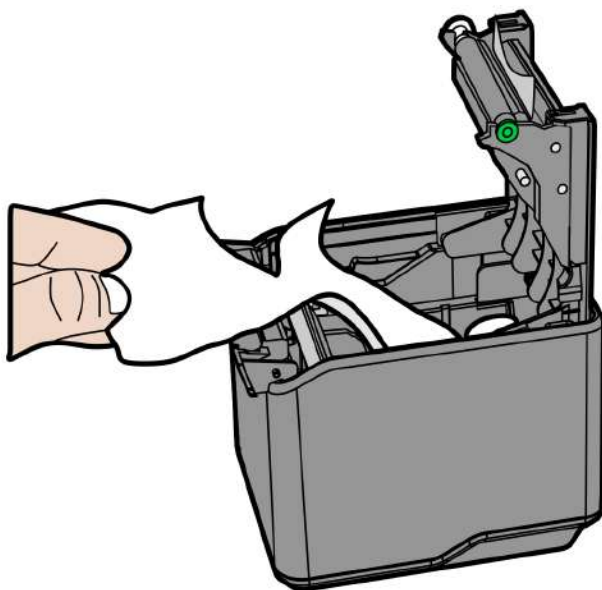
CCP-74106

Note: Ensure that the paper is not at the paper exit area.
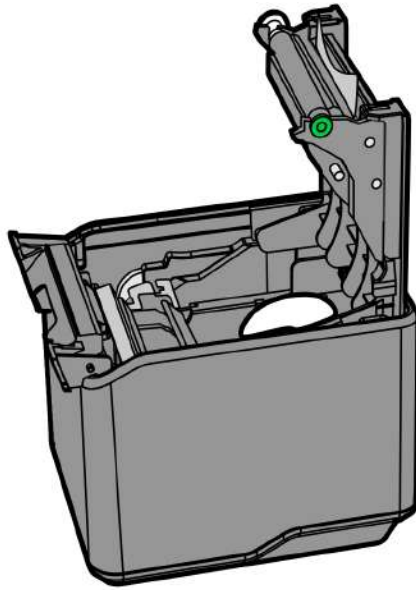
CCP-74107

4. Close the top cover (A) and then the front cover (B).
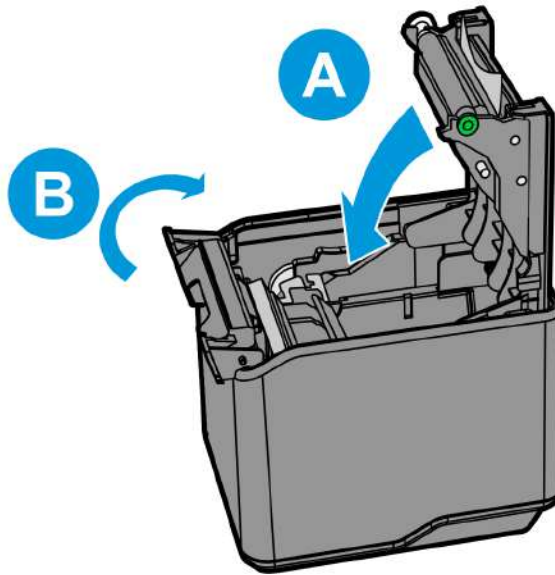
CCP-74108

When the printer detects that both covers are closed, the moving blade automatically retracts the exposed blade back to the cutter module.

Note: The printer does not operate if either the front cover or the top cover is not closed.

Other Serious Problems

The following problems all need to be corrected by a qualified service representative. For more information, refer to *Contacting a Service Representative* below.

- Printer will not cycle or stop when required

- Illegible characters

- Paper will not feed

- Knife will not cycle or cut

- Printer will not communicate with Host

Contacting a Service Representative

For serious problems, such as the printer not printing, not communicating with the host computer, or not turning on, contact your NCR–authorized service organization to arrange for a service call. In addition to the service guide listed below, other service–related materials may be available. Contact your NCR–authorized service representative to obtain these documents.

- *NCR RealPOS 7199 Thermal Receipt Station Printer Parts Identification Manual* (PIM) (BCC5–0000–5173)

- *NCR RealPOS 7199 Thermal Receipt Station Printer Service Guide* (BCC5–0000–5174)

Chapter 3: **Service Level Troubleshooting**

Diagnostics Overview

The 7199 Thermal Receipt Station Printer performs four types of diagnostic tests to help troubleshoot problems and to change the printer configuration. Each of these is described in detail in the sections that follow.

- **Startup (Level 0) Diagnostics**—the printer performs these tests during the startup cycle. For more information, refer to *Startup (Level 0) Diagnostics* on the next page.

- **Printer Configuration (Level 1)**—allows configuration of the printer using a Configuration Menu that is printed on a receipt. For more information, refer to *Printer Configuration (Level 1)* on page 39.

- **Runtime (Level 2) Diagnostics**—the printer checks the status during normal operation. For more information, refer to *Runtime (Level 2) Diagnostics* on page 91.

- **Remote (Level 3) Diagnostics**—the printer keeps track of counters during normal operation.

Startup (Level 0) Diagnostics

The printer automatically performs startup diagnostics during the startup cycle when power is supplied or when the printer goes online. Startup diagnostics comprise the following actions:

1. Power off the printer.

2. Perform CRC check of the firmware ROM, read external RAM.

   Note: Failure causes startup diagnostics to stop.

3. EEPROM check

   Note: Failure causes startup diagnostics to stop.

4. Printer Status (Amber) LED is turned on.

5. Check if paper is present.

6. Return the knife to the home position.

   Note: Failure causes a fault condition.

7. Check if printer Top Cover/Printer Door is closed.

   Note: Failure causes turning on the Printer Status (Amber) LED until the Top Cover/Printer Door is closed.

When the last step is complete, the Paper Feed button is enabled and the printer is ready for normal operation. Information about the test is available in the communication interface through the commands.

If the printer has not been turned on, or a new EEPROM has been installed, the default values for the printer functions (set in Level 1 Diagnostics) are loaded into the EEPROM during startup diagnostics. For more information on the printer settings, refer to *Printer Configuration (Level 1)* on the facing page. If the EEPROM load has failed, the Printer Status LED is turned on.

Printer Configuration (Level 1)

Level 1 diagnostics (setup mode) provides the functionality to change the settings for various printer functions.

Take note of the following information when changing the settings:

- The default options are set at the factory and are stored in the history non–volatile memory.

- After the settings are changed and stored in the non–volatile memory, the diagnostic setup is exited, which saves the settings.

⚠️ **Caution:** If you are changing the printer settings, make sure to add the correct settings for that particular function or test to avoid accidentally changing the settings for another function or test. If the settings are accidentally changed, re–enter the setup mode, and then re–enter the correct settings. If you need assistance, contact a service representative. For more information, refer to *Contacting a Service Representative* on page 35.

Runtime (Level 2) Diagnostics

Runtime diagnostics occur during normal printer operation. When the following conditions occur, the printer automatically turns off the appropriate motors and disables printing to prevent damage:

- Paper out

- Cover open

- Knife unable to home

- Print head too hot

- Power supply voltage out of range

The Printer Status (Green) LED signals when these conditions occur and indicates the state or mode of the printer.

The Printer Status LED has 3 colors: green, amber, and red.

LED indication for Printer Status LED is shown as below.

Configuring the Printer

Paper Receipt
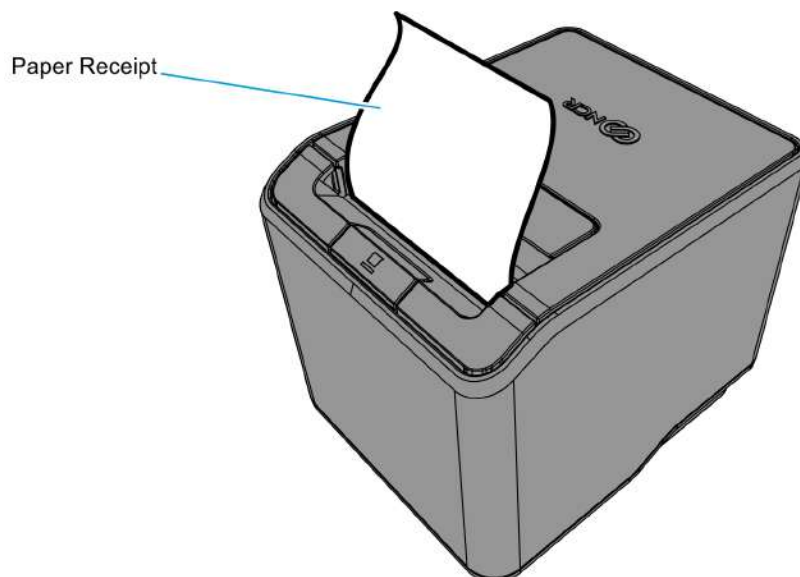
CCP-71026

Use the Configuration Menu to select functions or change various settings as indicated in the next sections. The Configuration Menu prints instructions and setting options interactively as the user goes through the configuration process.

⚠ **Caution:** Be extremely careful in changing any of the printer settings to avoid changing settings that might affect the performance of the printer.

Reset the printer while pressing the Paper Feed button and opening and closing the slip cover door or disconnecting and reconnecting the power cable. The printer prints the current settings, and then cuts the paper.

Software or hardware configuration

To configure the software or hardware, follow these steps:

1. Open the Top Cover/Printer Door, and then check if the printer has paper.

2. Insert a paper roll if no paper is found.

3. Restart the printer while pressing the Paper Feed button.

   The printer beeps, prints the current configuration, and then waits for you to make a selection from the Main Menu on the printout.

   ```
   ==============     Main Menu ============
   EXIT                          -> No Click
   Print Printer config          -> 1 Click
   Emulation                     -> 2 Clicks
   Hardware                      -> 3 Clicks
   Reset all EEPROM to Default   -> 4 Clicks
   Printer Maintenance Info      -> 5 Clicks
   Interface (Ethernet or RS232C)-> 6 Clicks
   ```

4. Press or click the Paper Feed button based on the number of clicks associated to your desired option as stated on the Main Menu, then hold the button down for at least one second to validate.

The following is an example of configuring the printer for Emulation.

This option is to set Sync Mode, LPI, Carriage, Asian Mode, Code Page, Special Font, Compress Pitch Font, 48 Character Mode, PDF417 Max Columns, Auto Reset mode, Compatible Top Margin.

To enter into emulation mode, press the Paper Feed button twice as short click and do long press until a beep sound is generated.

By following the above steps, the sub menu will appear as follows:

```
**************EMULATION*************
Receipt sync          -> 1 Click
Default LPI           -> 2 Clicks
Carriage              -> 3 Clicks
Asian mode            -> 4 Clicks
Code Page             -> 5 Clicks
Special Font          -> 6 Clicks
Compress Pitch Font   -> 7 Clicks
48 Character Mode     -> 8 Clicks
PDF417 Max Columns    -> 9 Clicks
Auto Reset            -> 10 Clicks
Compatible Top Margin -> 11 Clicks
```

Printer Configuration form indicates the printer individual information and configurations.

```
*** Diagnostics Form ***

Model number            : 71xx-xxxx-xxxx
Serial number           : 1234567890
Boot Firmware P/N        : 497-0426492
Main Firmware P/N        : 497-0426493
Firmware Revision
  Boot Firmware          : V01.00 / 32CA
  Main Firmware          : V01.00 / A04C
  SBCS Font              : V01.00
  DBCS Font              : V01.00
  Control Table          : V01.00
Emulation
  Receipt Sync           : Disable
  Default LPI            : 7.52
  Carriage               : Use as PrintCmd
  Asian Mode             : Off
  Code Page              : 437
  Special Font           : Disable
  Compress Pitch Font    : Valid
  48 Character Mode      : Disable
  PDF417 Max Columns     : 9 columns
  Auto Reset             : 20 sec
  Compatible Top Margin  : Enable
  USU                    : Disable
  Logo(s) Defined        : No
  User Char(s) Defined   : No
Hardware
  USB Type               : ION
  USB Speed              : Full Speed
  Print Mode             : High Speed
  Print Density          : 0
  Power Supply           : Term Pwr-High
  Standby Mode           : Enable
  Power Off Mode         : Disable
  Knife                  : Enable
  Paper Width            : 80 mm
  Paper Low Detection    : Disable
  Color Paper            : Disable
  Buzzer Tone            : Middle
  LED                    : Auto

Interface (RS232C)

  Baud Rate              : 19200
  Data Bits              : 8
  Stop Bits              : 1
  Parity                 : None
  Flow Control           : DTR/DSR
  Reception Errors       : Print '?'
  DSR Signal             : Enable
```

It is shown if RS232C I/F is installed.

```
Interface (Ethernet)
  MAC address            : xx.xx.xx.xx.xx.xx
  IP address             : 192.168.  1.  1
  Subnet Mask            : 255.255.255.  0
  Default Gateway        :   0.  0.  0.  0
  TCP Port Number        : 9100
  UDP Port Number        : 3000
  RTC Protocol           : TCP
  DHCP                   : Enable
  DHCP request address   : 192.168.  2.  1
  TCP max. connection    : 1
  Physical LAN Speed     : Auto
  Link Down Timeout      : 120 min
  TCP Idle Timeout       : 2 min
  SNMP Trap 1            : Disable
  Trap 1 IP Address      : 192.168.1.111
  SNMP Trap 2            : Disable
  Trap 1 IP Address      : 192.168.1.222
```

It is shown if Ethernet card is installed.

```
Sensor Level   ON   OFF   TH   LED
  Paper Low    : 3.3V, 0.0V, 1.7V, 0.5V
  Paper Jam    : 3.2V, 0.6V, 1.4V, 0.5V
Tallies            User      Perm.
  Hours ON     :    959       959
  Flash cycles :      5         5
  Receipt Len. :    482       482
  Head Overheat:      3         3
  Knife Cuts   :  12768     12768
  Knife Jams   :      2         2
  Cover Open   :     71        71
  Paper Jams   :      2         2

Thermal Head Usage Rate        : 1%
Dot Failure                    : 0 dots
```

Installing the USB Virtual COM Port Driver for Printer

Windows POS Ready 7

To install the USB Virtual COM Port Driver for printer on a Windows POS Ready 7 system, follow these steps:

1. The printer beeps when it is plugged in to show the USB device is recognized. The Driver Software Installation window is displayed. Select **Skip obtaining driver software from Windows Update** to skip getting driver software from Window Update.
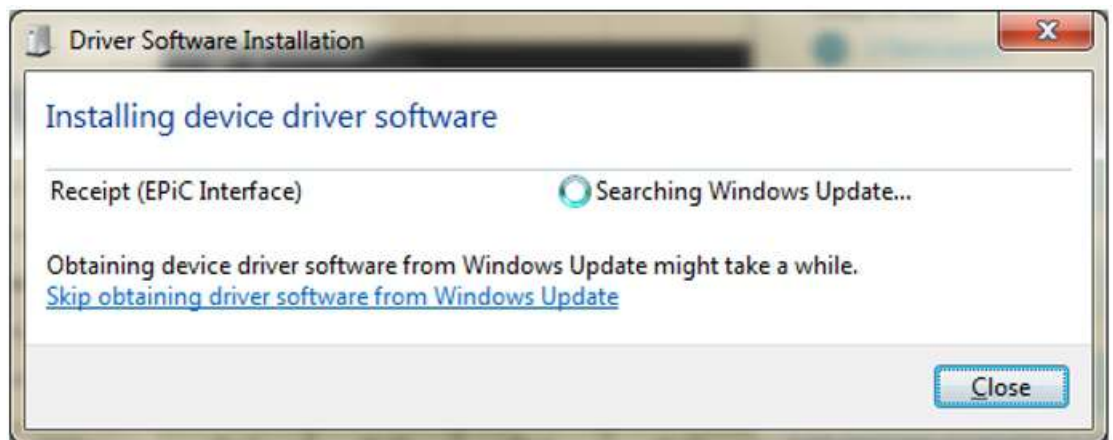

The following window is displayed.

2. Select **Yes**. The following window is displayed.
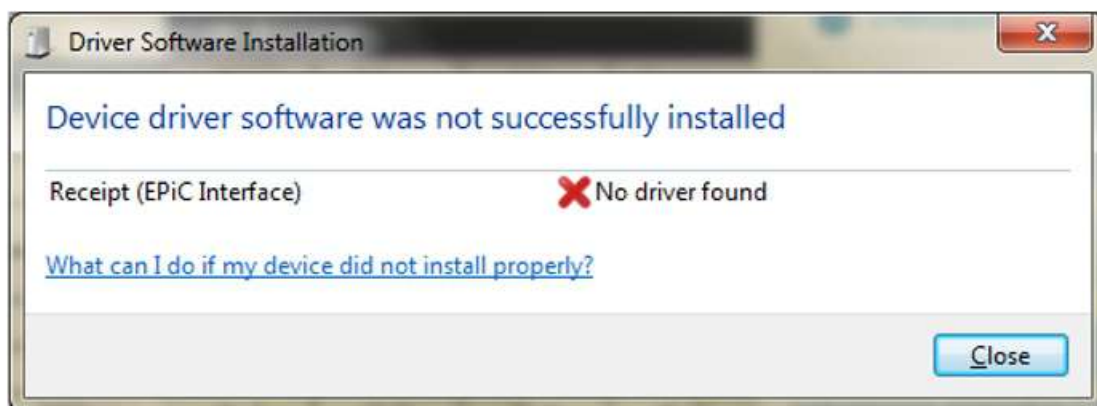
3. Open Device Manager, and then select **Receipt (EPiC Interface)**.

4. Select the **Update Driver Software** button.
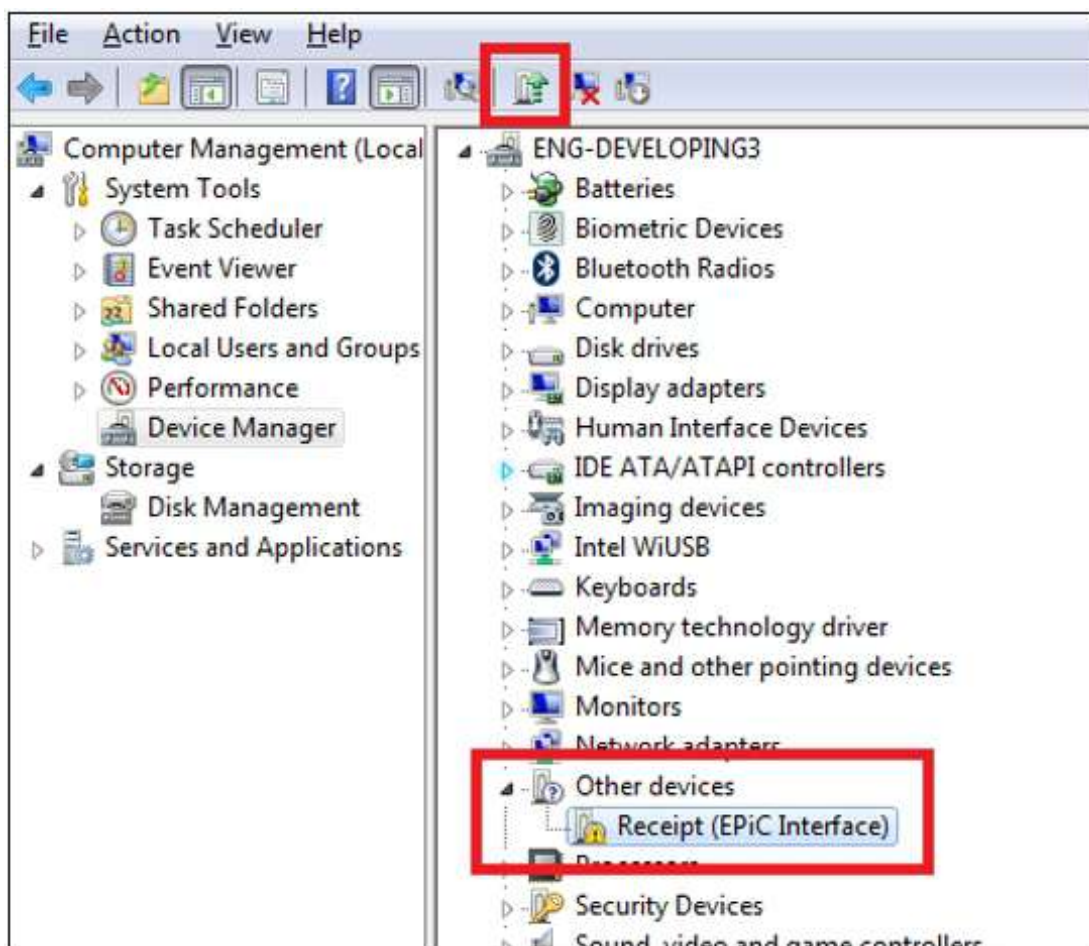
5. Select **Browse my computer for driver software**.
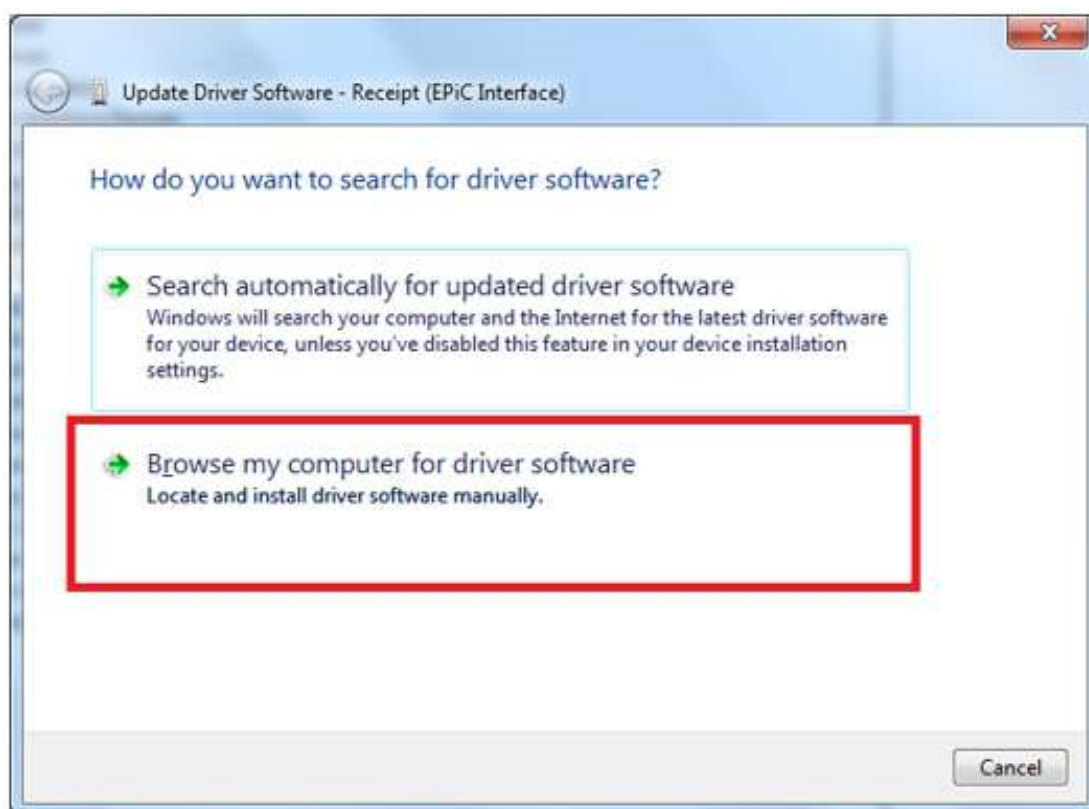
6. Select **Browse**, and then select the Edgeport Driver folder.

7. Select **Next**.

The system starts installing the printer driver.
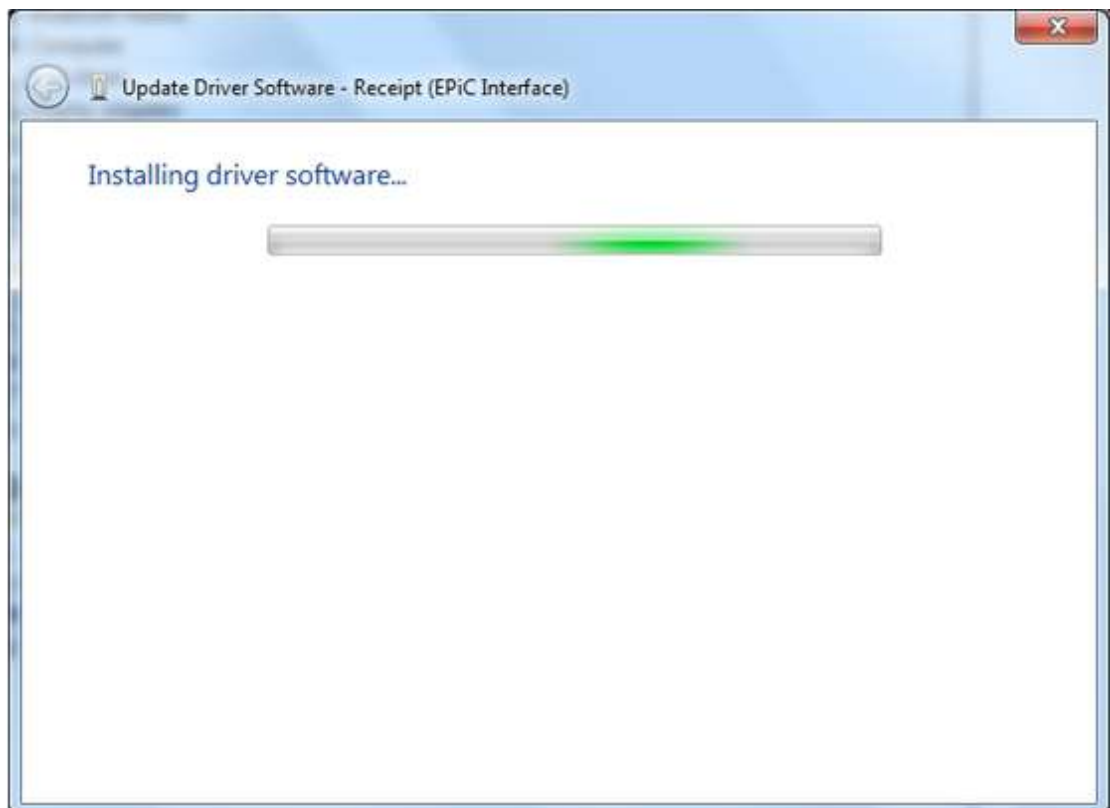
Windows 8

To install the USB Virtual COM port driver for printers on a Windows 8 system, follow these steps:

1. The printer beeps when it is plugged in to show the USB device is recognized. Device Setup window displays that the Installing Receipt (EPiC Interface) process is ongoing.
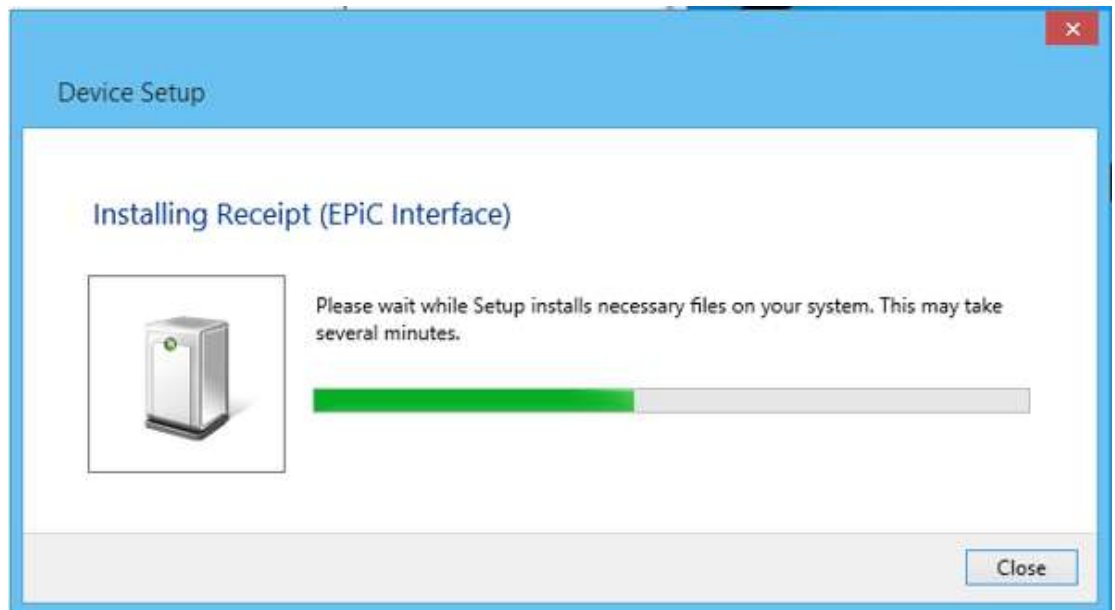

2. Open the Device Manager, and then select **Receipt (EPiC interface)**.

3. Select the **Update Driver Software** button.
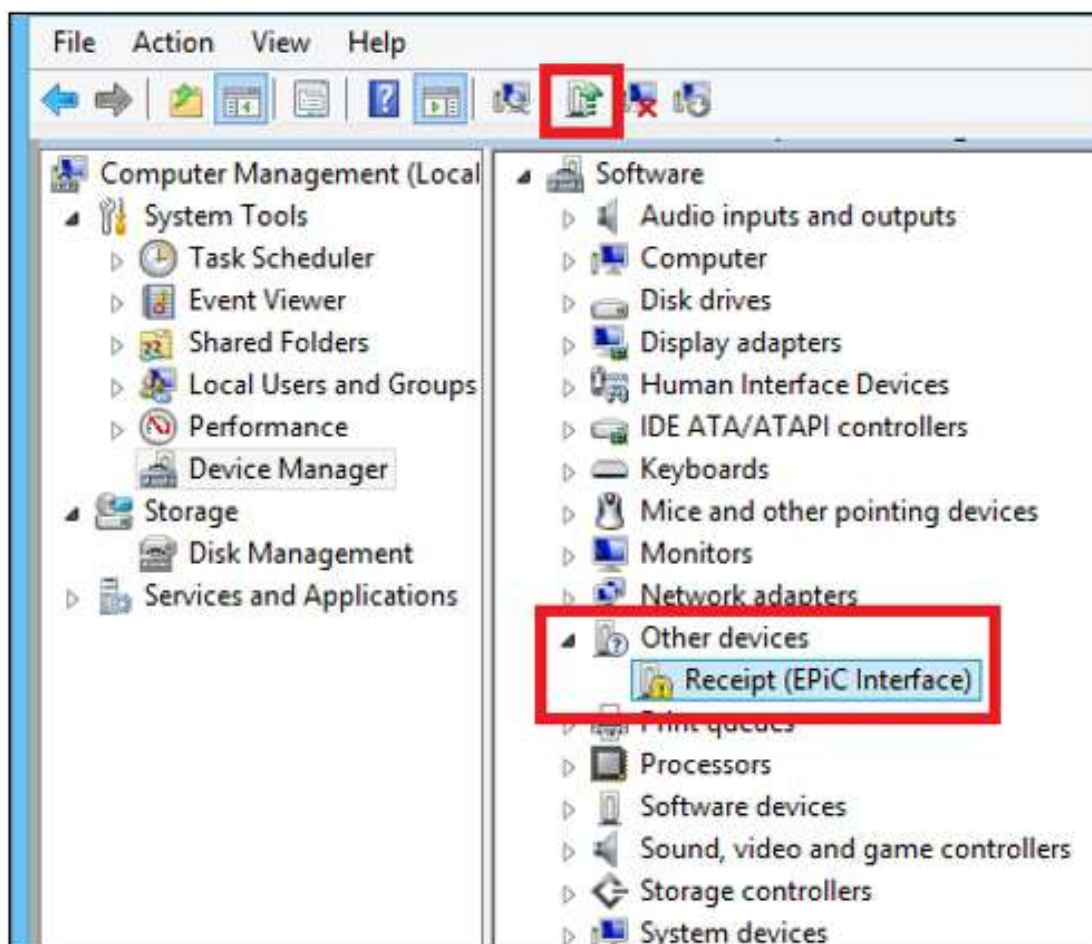
4. Select **Browse my computer for driver software**.
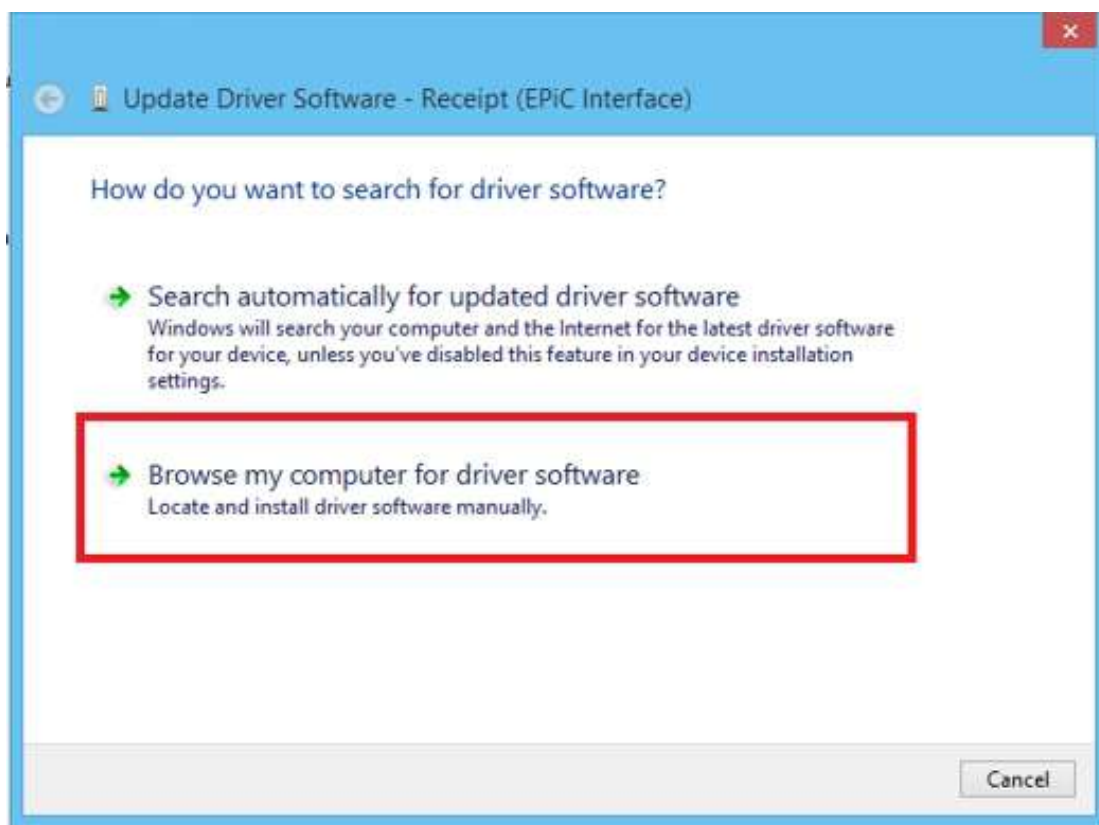
5. Select **Browse**, and then select the **Edgeport Driver** folder.

6. Select **Next**.
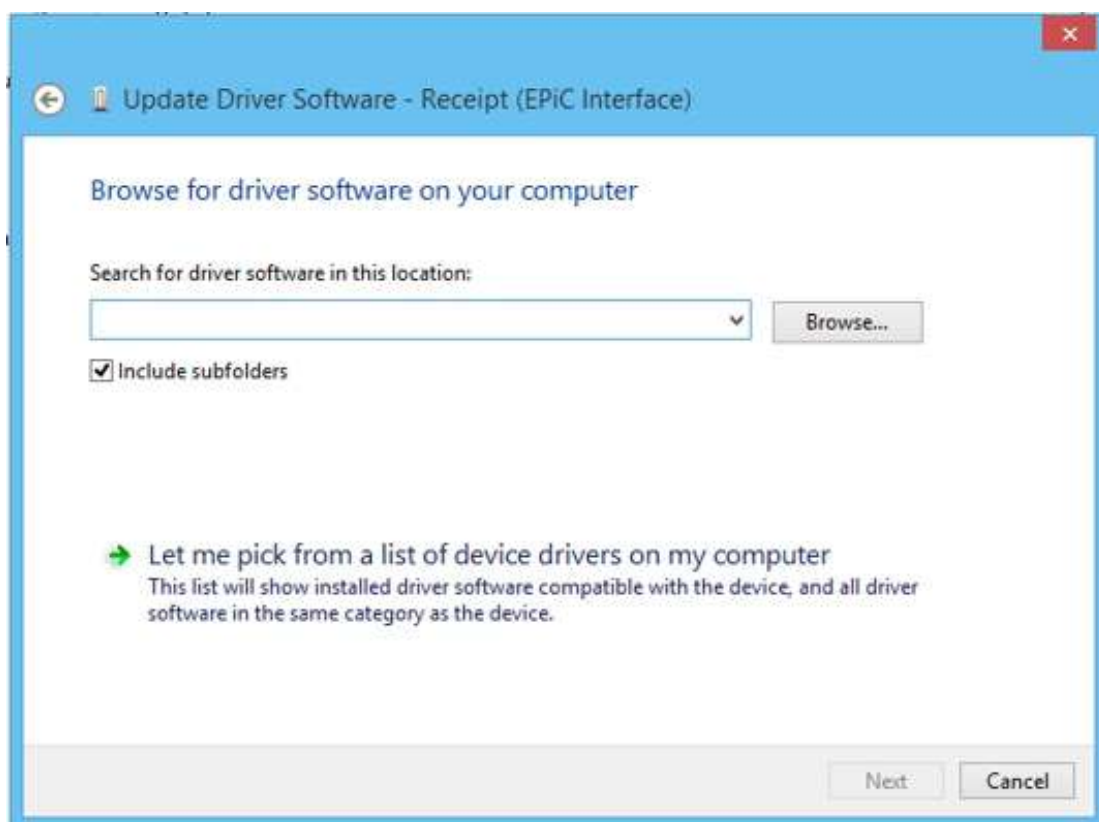
The system starts installing the USB Virtual COM port driver for printers.

When the installation is complete, the following window is displayed.

Update Driver Software - NCR 7197 Receipt Printer

Windows has successfully updated your driver software

Windows has finished installing the driver software for this device:

NCR 7197 Receipt Printer

Close
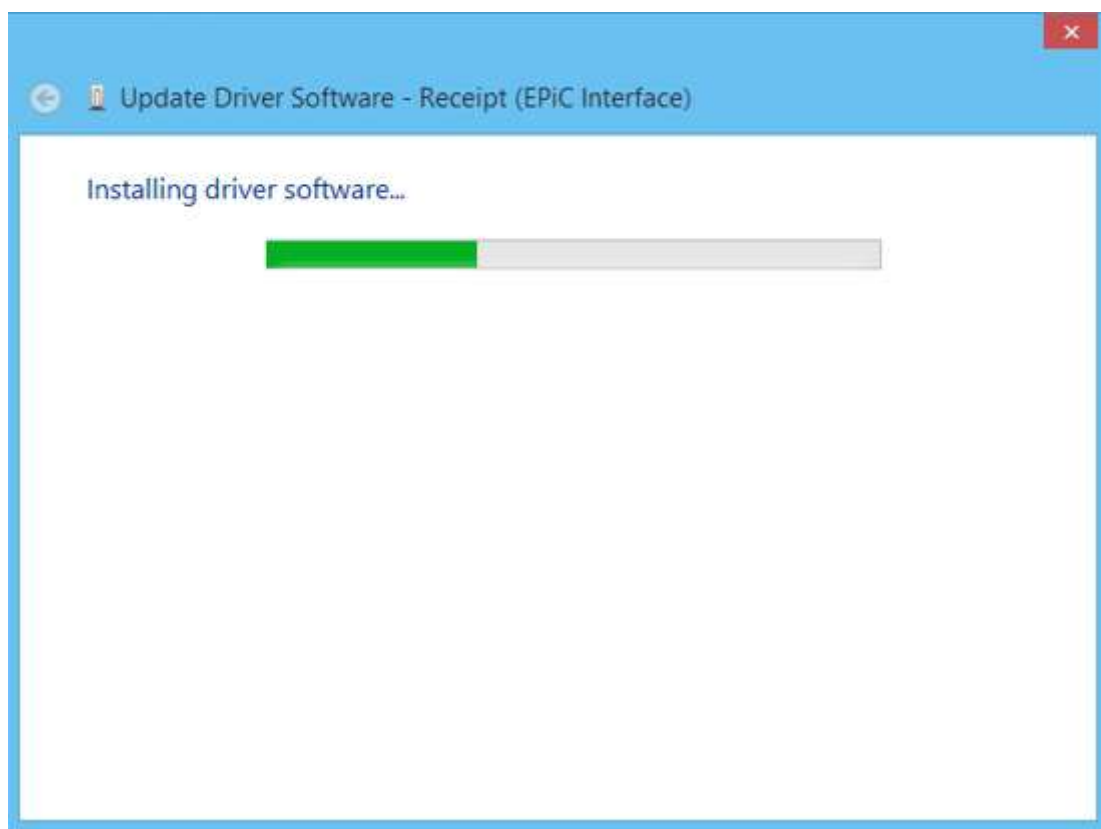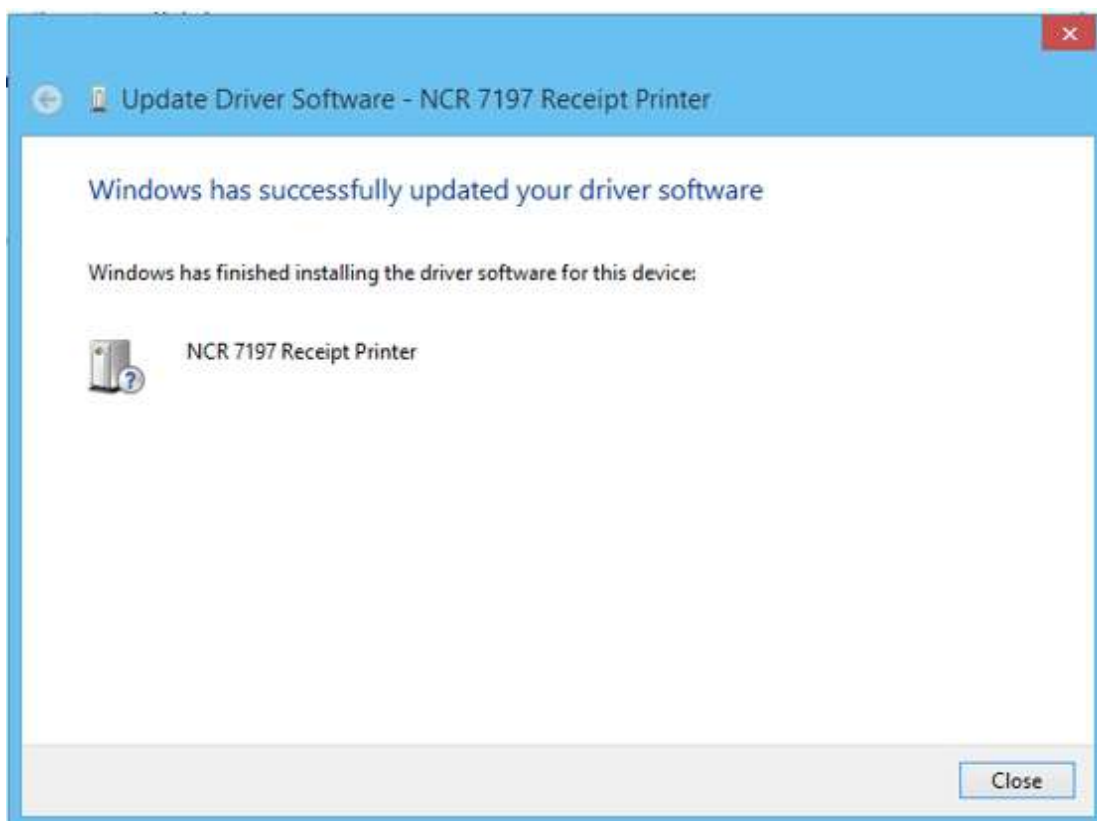
Windows 10

To install the USB Virtual COM Port Driver for Printer on a Windows 8 system, follow these steps:

1. The printer beeps when it is plugged in to show the USB device is recognized. The Device Setup window displays that the Installing Receipt (EPiC Interface) process is ongoing.
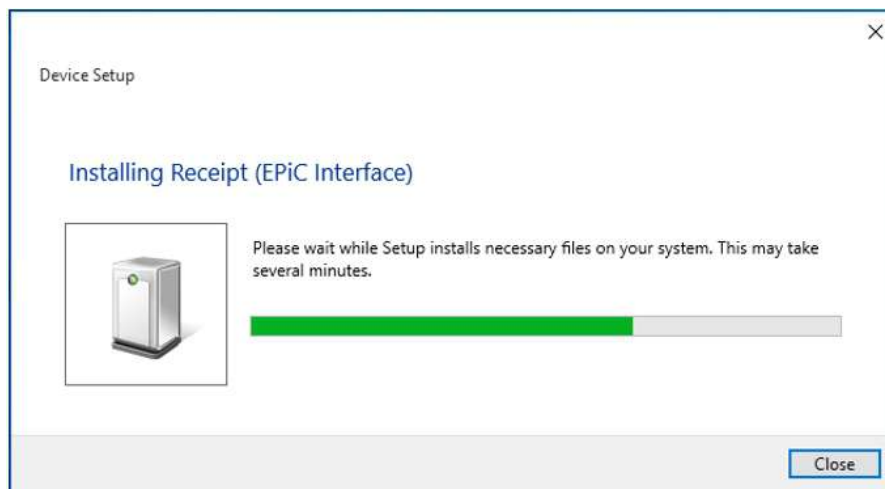
2. Open the Device Manager, and then select **Receipt (EPiC interface)**.

3. Select the **Update Driver Software** button.
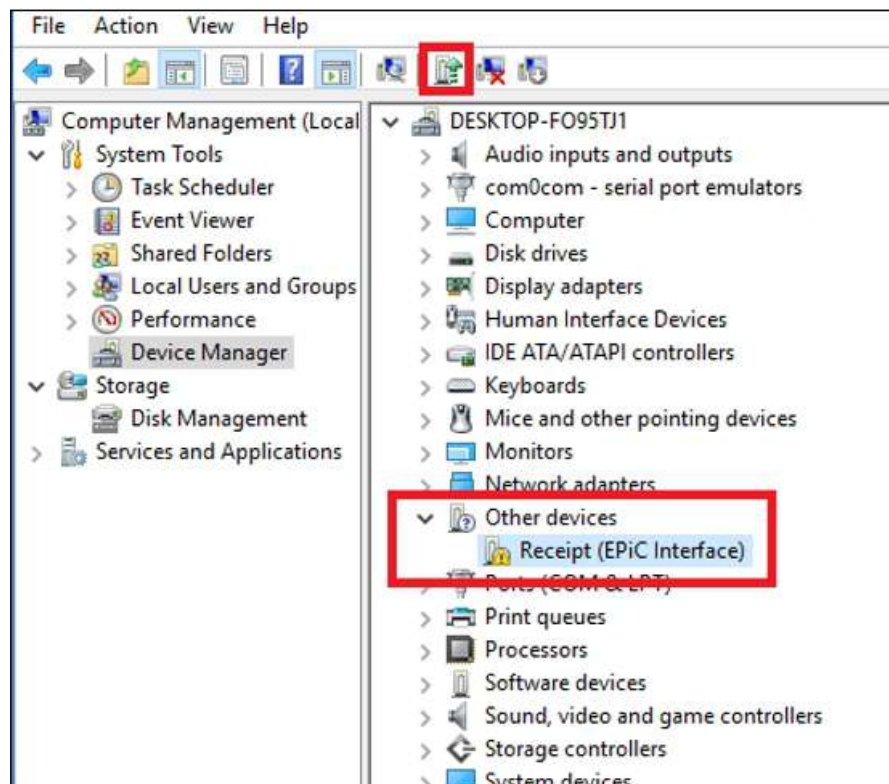
4. Select **Browse my computer for driver software**.
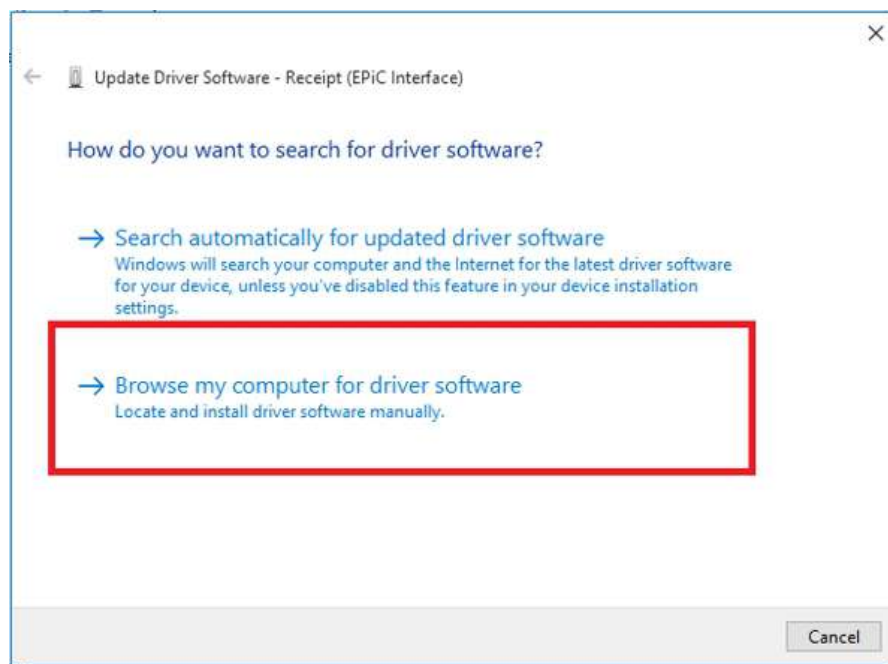
5. Select **Browse**, and then select the **Edgeport Driver** folder.

6. Select **Next**.
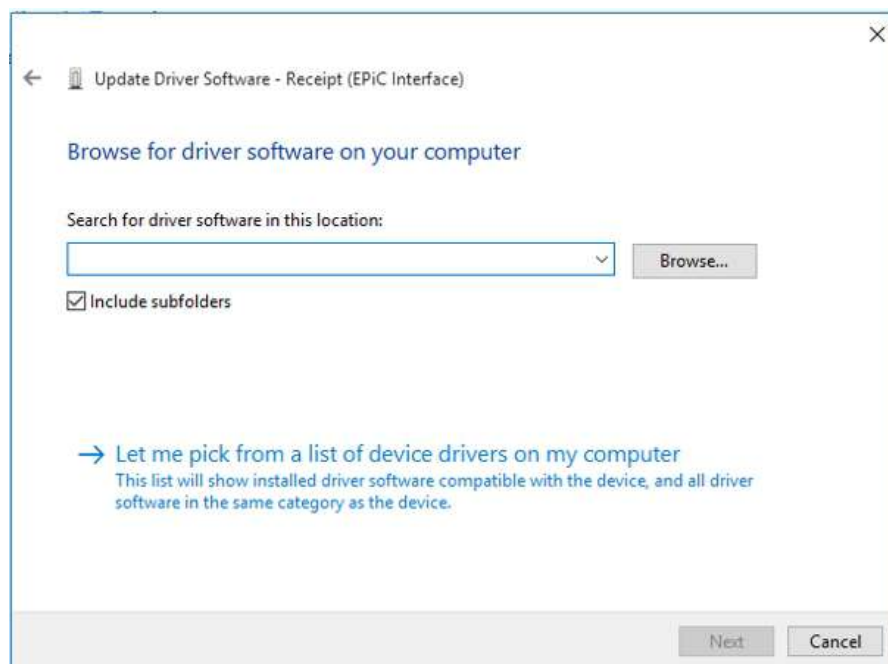
The system starts installing the printer driver.
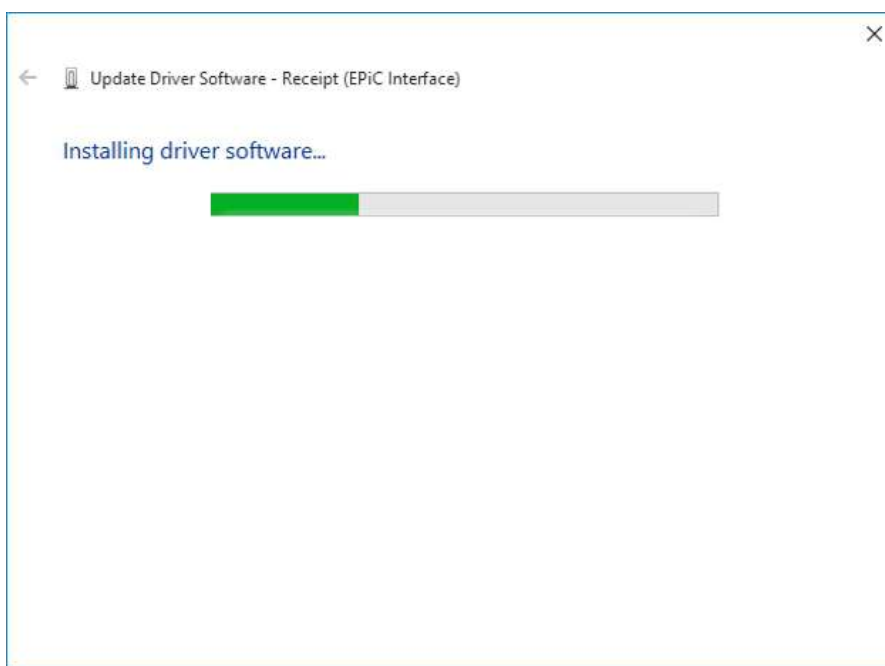
When the installation is complete, the following window is displayed.
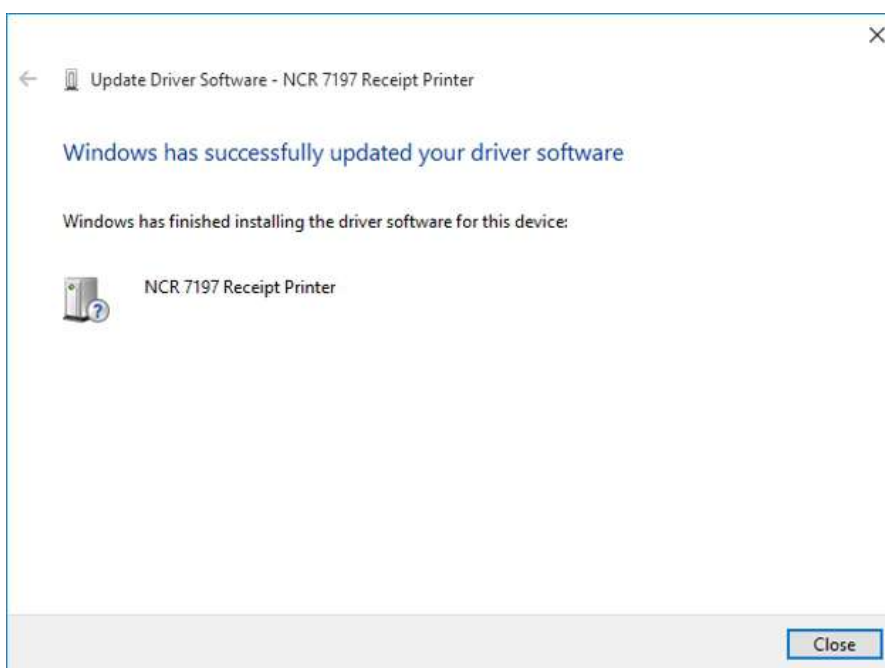
Verifying the Installation

You need to verify that the device drivers were installed correctly.

Windows POS Ready 7

To verify the installation of the driver on a Windows POS Ready 7 system, follow these steps:

1. Open the Device Manager window.

2. Make sure that the NCR 7197 Receipt Printer and the EPIC Port are installed.

   Note: The NCR 7197 Receipt Printer is the defined USB VID/PID (Vendor ID/Product ID) of the NCR Single Station printers (7197, 7198, and 7199).
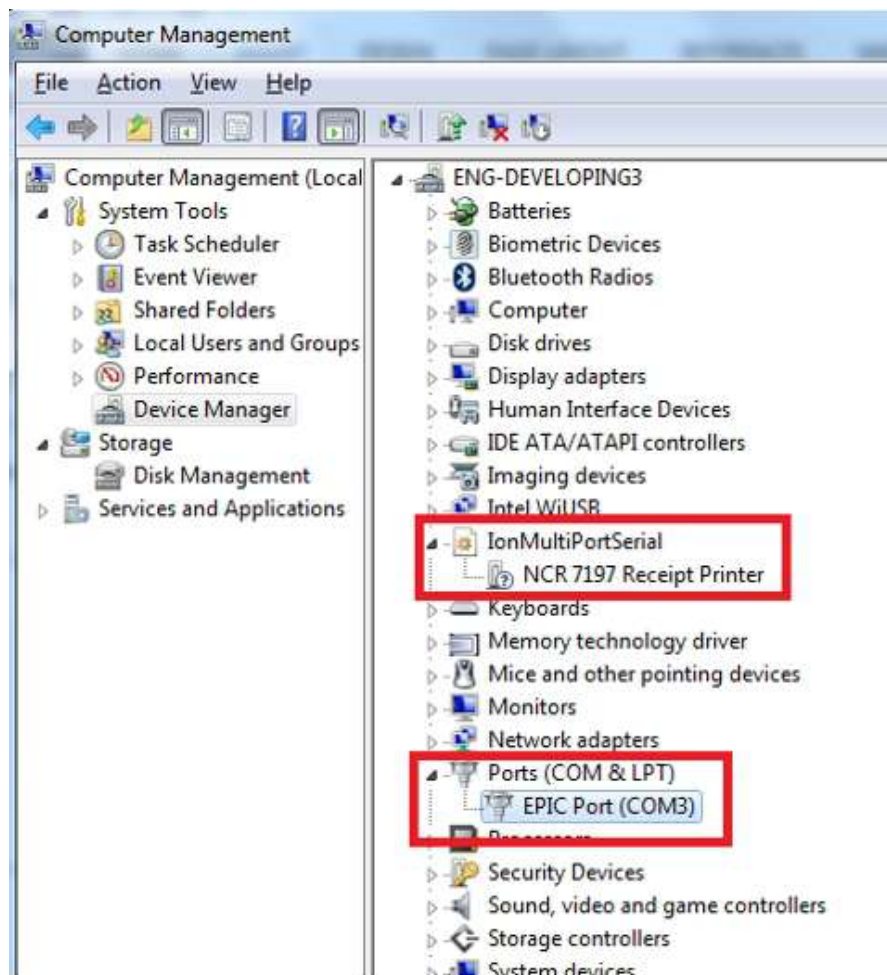
Note: If this information is not listed, then the installation was not successful. You need to reinstall the drivers.

3. Open the Edgeport utility and make sure the Port is assigned.
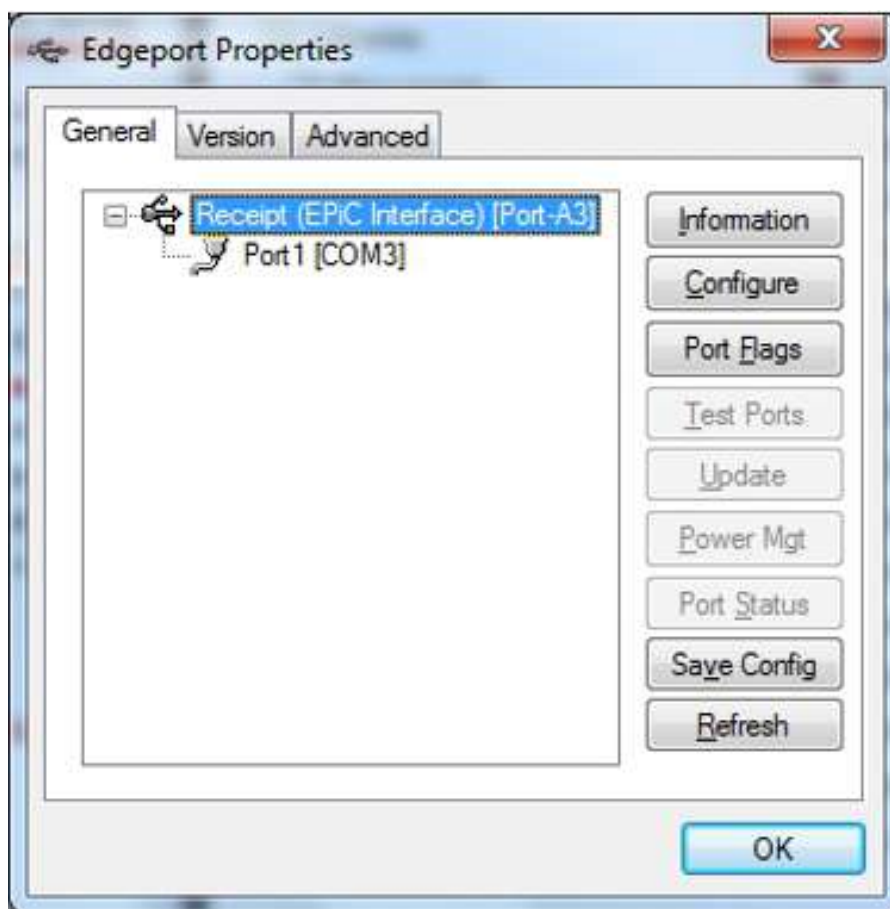
Windows 8

To verify the installation of the driver on a Windows 8 system, follow these steps:

1. Open the Device Manager window.

2. Make sure that the **NCR 7197 Receipt Printer** and the **EPIC Port** are installed.

   Note: The **NCR 7197 Receipt Printer** is the defined USB VID/PID (Vendor ID/Product ID) of the NCR Single Station printers (7197, 7198, and 7199).
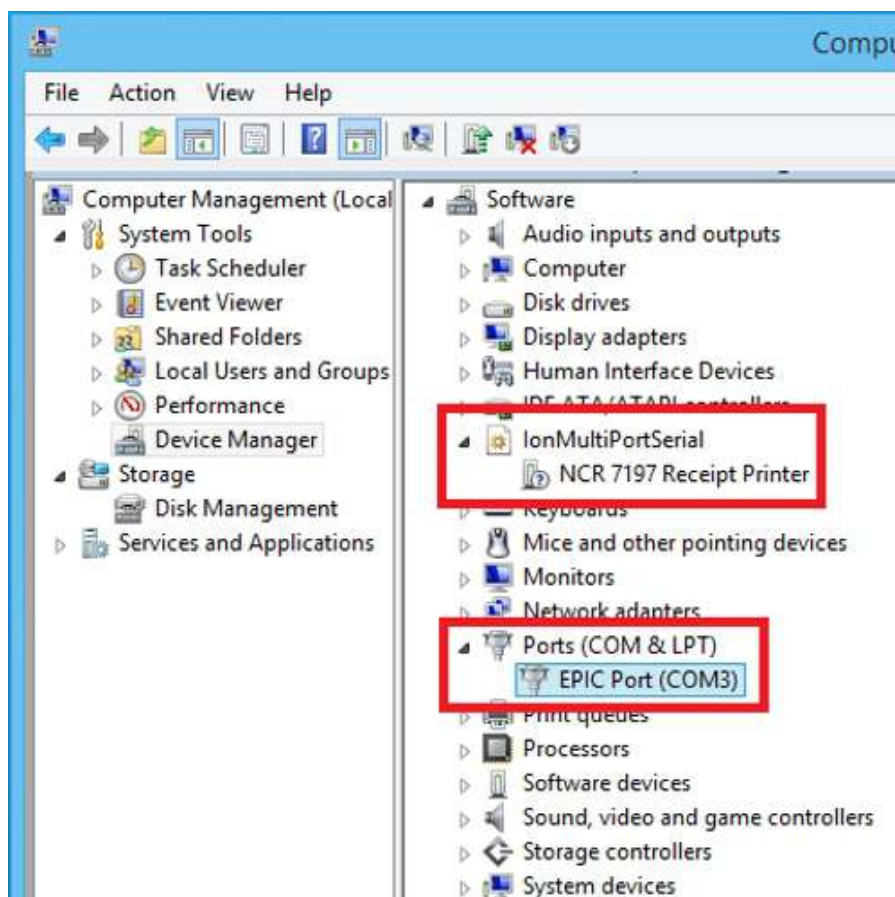
   Note: If this information is not listed, then the installation was not successful. You need to reinstall the drivers.

3. Open the Edgeport utility and make sure the Port is assigned.
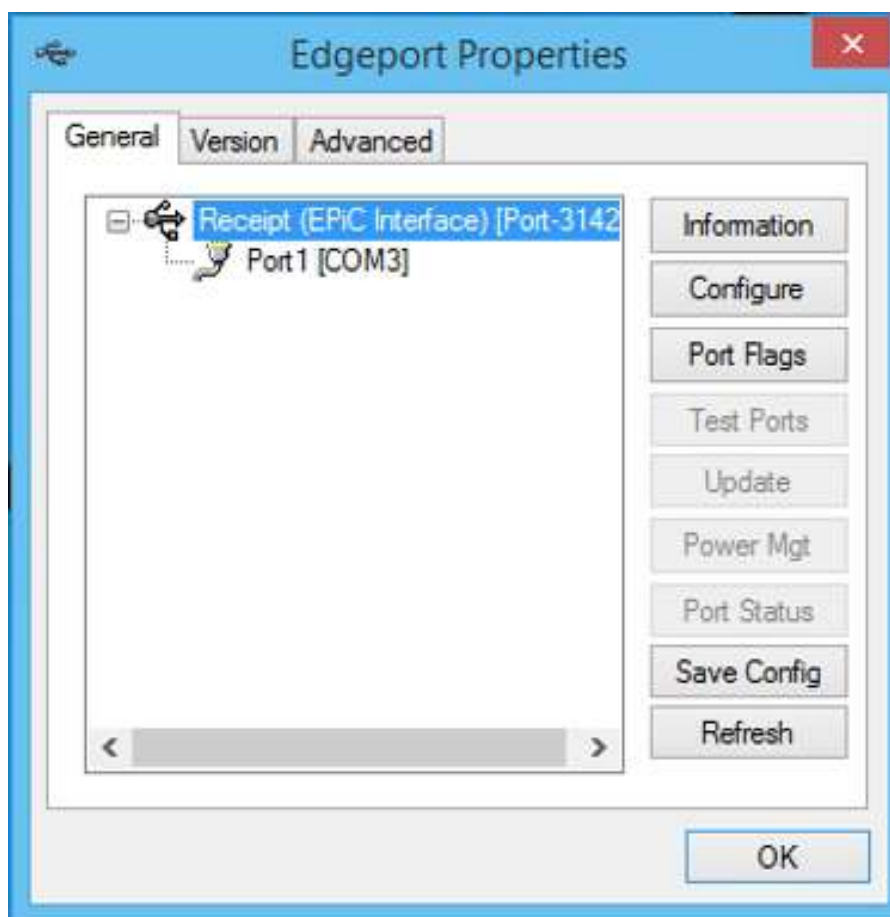
Windows 10

To verify the installation of the driver on a Windows 10 system, follow these steps:

1. Open the Device Manager window.

2. Make sure that the **NCR 7197 Receipt Printer** and the **EPIC Port** are installed.

Note: The **NCR 7197 Receipt Printer** is the defined USB VID/PID (Vendor ID/Product ID) of the NCR Single Station printers (7197, 7198, and 7199).
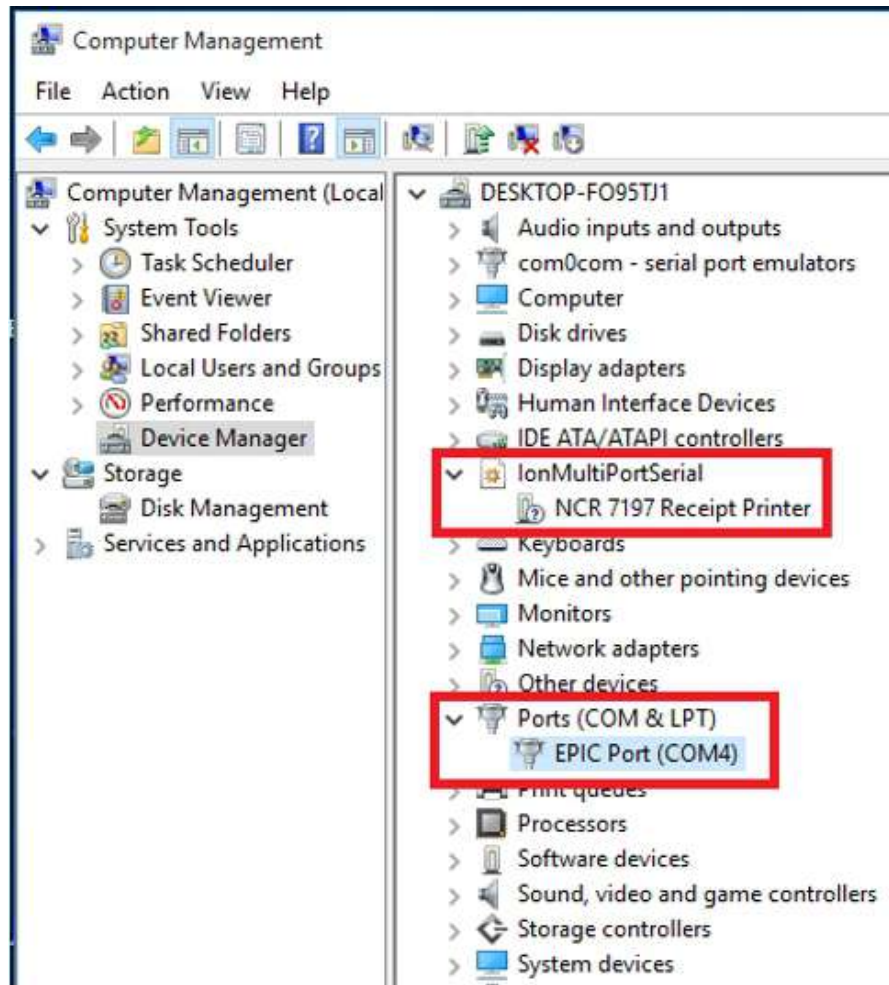
Note: If this information is not listed, then the installation was not successful. You need to reinstall the drivers.

3. Open the Edgeport utility and make sure the Port is assigned.
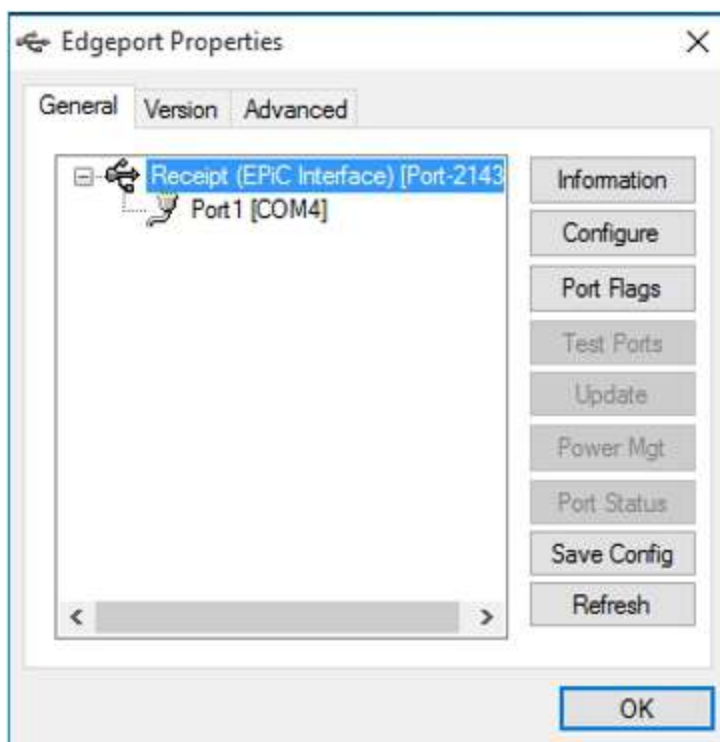
Uninstalling the Drivers

Windows POS Ready 7

To uninstall the printer driver on a Windows POS Ready 7 system, follow these steps:

1. Open the Edgeport utility.

2. Select the **Advanced** tab.

3. Select the **Uninstall** button, and then follow the on–screen instructions.
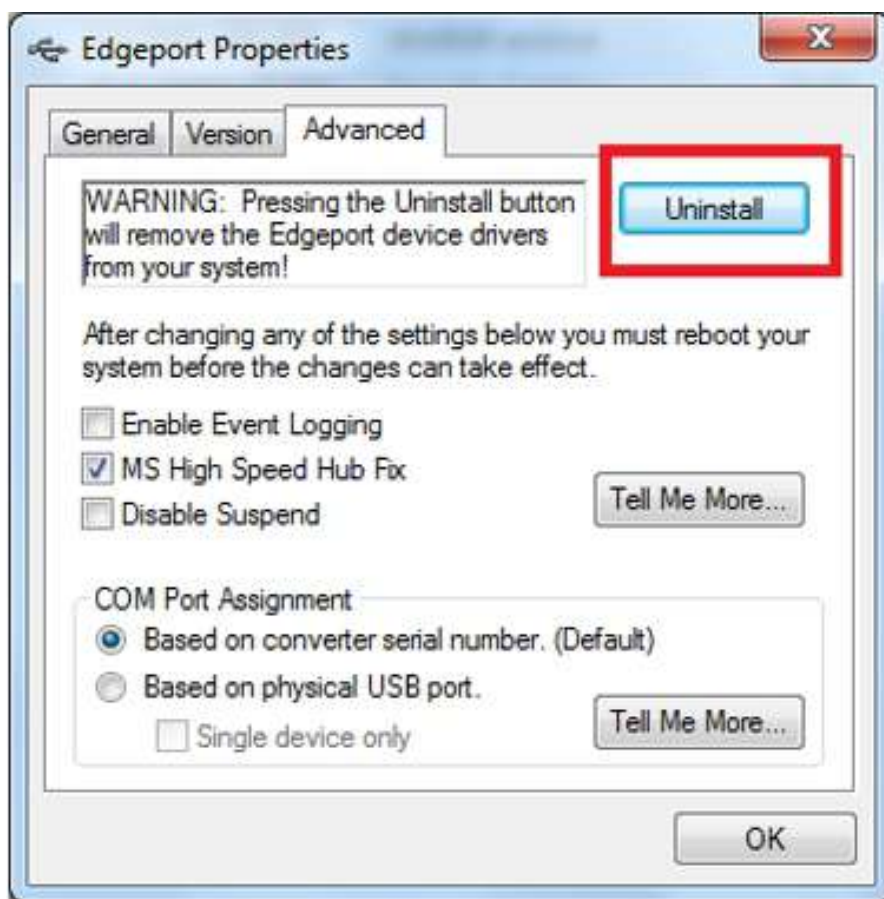
The following window is displayed.
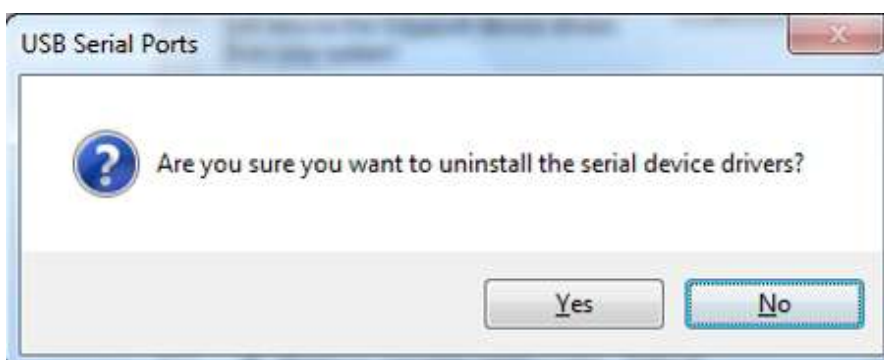
4. Select **Yes**.

    The system uninstalls the driver, and then displays the following window.

5. Select **Yes** to completely uninstall the driver and to restart the PC.

Windows 8

To uninstall the printer driver on a Windows 8 system, follow these steps:

1. Open the Edgeport utility.

2. Select the **Advanced** tab.

3. Select the **Uninstall** button, and then follow the on–screen instructions.
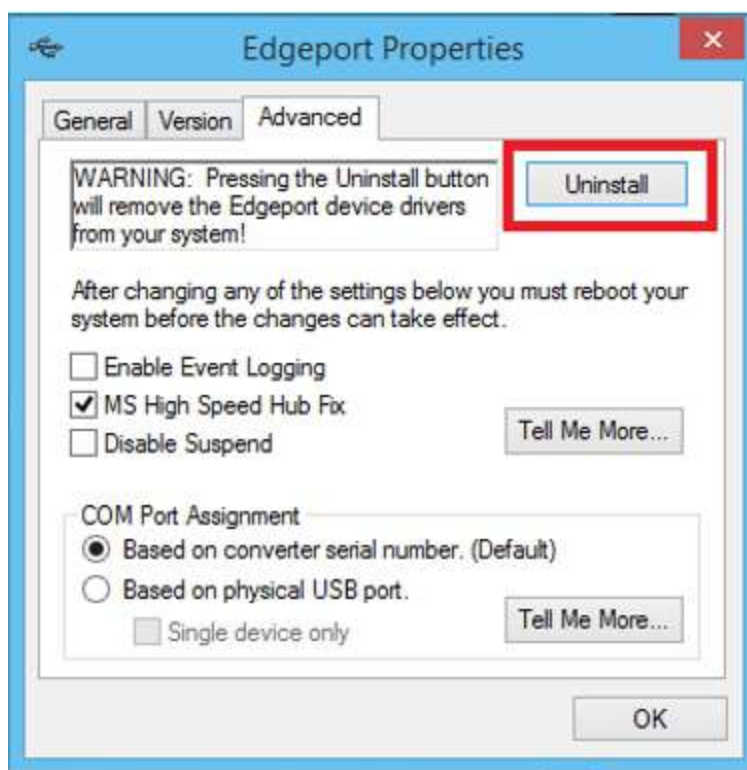
The following window is displayed.
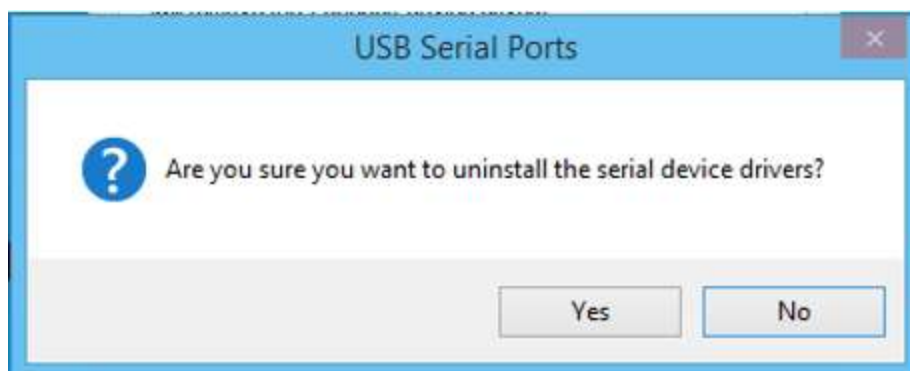
4. Select **Yes**.

    The system uninstalls the driver, and then displays the following window.
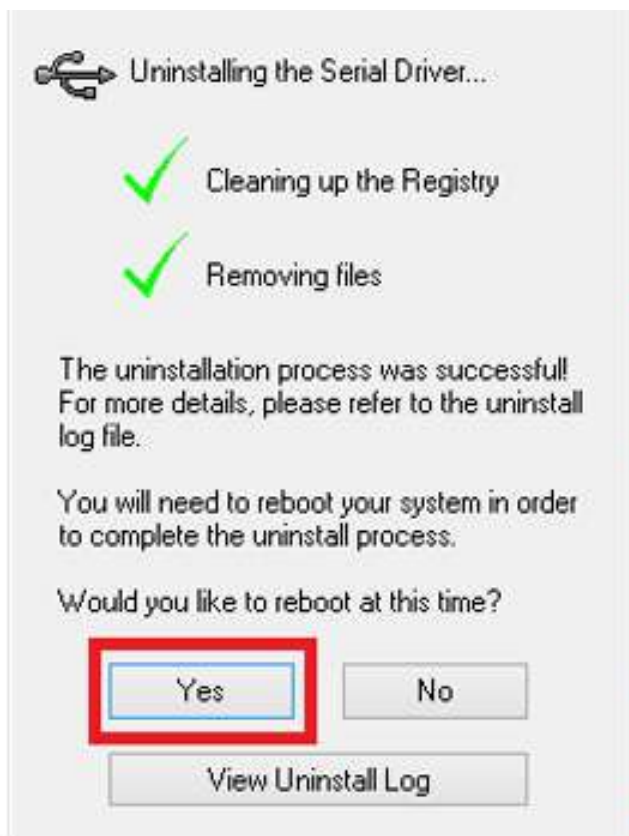
5. Select **Yes** to completely uninstall the driver and to restart the PC.

Windows 10

To uninstall the printer driver on a Windows 8 system, follow these steps:

1. Open the Edgeport utility.

2. Select the **Advanced** tab.

3. Select the **Uninstall** button, and then follow the on–screen instructions.
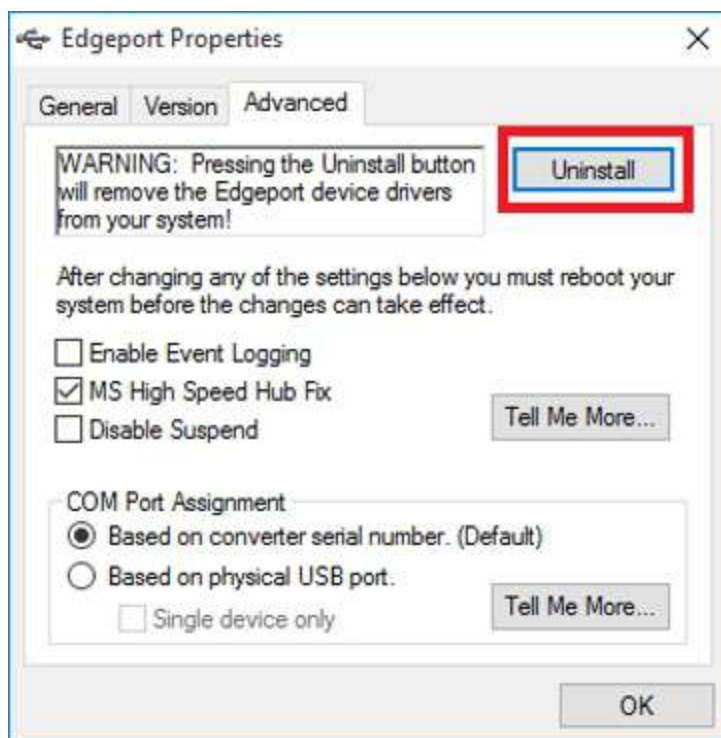
The following window is displayed.
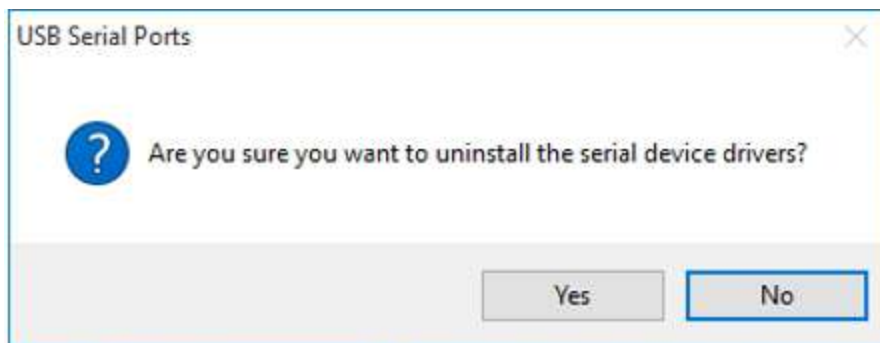
4. Select **Yes**.

The system uninstalls the driver, and then displays the following window.
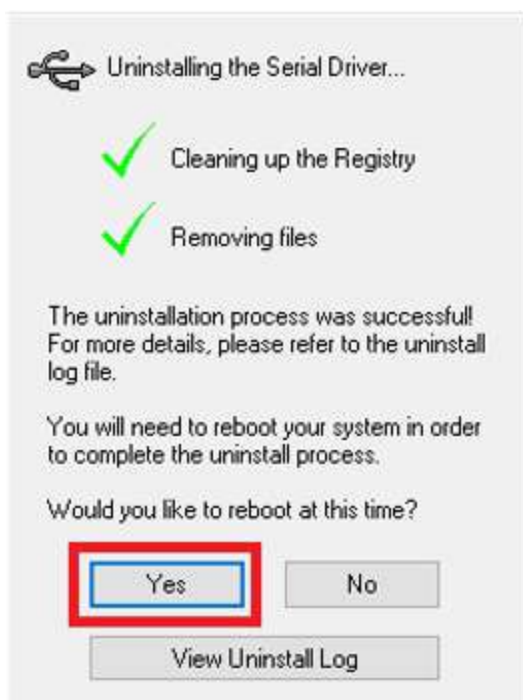
5. Select **Yes** to completely uninstall the driver and to restart the PC.

Configuring Serial Port Number Assignments

This section describes how the NCR USB solution assigns serial port numbers (for example, COMx) to the printer. The information that determines the assigned port number is stored in the host computer and not in the printer. This assignment is made in one of three ways. The first method is the default method that automatically assigns a serial port number to the printer. The other two methods require the user to specify a port number. These methods are described more fully in the following section.

Serial Port Configuration Methods

Automatic (Default)

When the printer is plugged into the USB port of the host and the drivers are loaded, the printer will default to the next available serial port number. In many cases, this is exactly what is desired. You can check the assigned serial port by clicking the General tab in the Edgeport utility. You'll see an entry for the NCR printer. Expand the list to see which serial port has been assigned to the printer.

Assigning a serial port to the printer

If the default assignment does not meet the requirements of the installation, you can assign a different serial port to the printer. From the General tab of the Edgeport utility, select the printer and press Configure. Follow the directions on the resulting form to assign a new port to the printer.

Communication Interface Modes

The Configuration Menu gives the user the option of setting the printer to use a USB communication.

RS–232C Interface Settings [Standard Model]

If the user sets the printer to use an RS–232C serial interface, the Configuration Menu can be used to set the following RS–232C specific settings:

- Set a baud rate 115200, 57600, 38400, 19200, 9600 baud

- Set the number of data bits to seven or eight

- Set the number of stop bits to one or two

- Enable or disable parity

- Set the printer to ignore data errors or print a "?" upon encountering an error

The settings used will depend on the software the operator is using and the capabilities of the host computer.

Press the Paper Feed button for the communications settings you want.

Defaults are marked with asterisks (*).

```
** Interface RS232C

Baud Rate            -> 1 Click
Data Bits            -> 2 Clicks
Stop Bits            -> 3 Clicks
Parity               -> 4 Clicks
Flow Control         -> 5 Clicks
Reception Errors     -> 6 Clicks
DSR Signal           -> 7 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


** BAUD RATE

115200 Baud    -> 1 Click
57600 Baud     -> 2 Clicks
38400 Baud     -> 3 Clicks
19200 Baud*    -> 4 Clicks
9600 Baud      -> 5 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

```
** DATA BITS

8 Data Bits*  -> 1  Click
7 Data Bits   -> 2  Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


** STOP BITS

1 Stop Bits*     -> 1  Click
2 Stop Bits      -> 2  Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


** PARITY

No Parity*      -> 1 Click
Even Parity     -> 2 Clicks
Odd Parity      -> 3 Clicks
Enter code, then hold Button DOWN.


** RECEPTION ERRORS

Ignore Errors   -> 1  Click
Print '?'*      ->  2  Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


** DSR Signal

Enable     -> 1 Click
Disable    -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

USB Interface Settings [Standard Model]

USB Interface setting can be changed by selecting USB Type in the Hardware menu.

```
** USB Type

ION (EpiC) -> 1 Click

NonION (NHPI) * -> 2 Clicks

NonION (PRTR) -> 3 Clicks

Enter code, then hold Button DOWN.

At least 1 second to validate.
```

Ethernet Interface Settings [Option]

Press the Paper Feed button for the communications settings you want.

```
** Interface Ethernet

Ethernet RTC Protocol -> 1 Click
DHCP                   -> 2 Clicks
TCP max. connection    -> 3 Clicks
Physical LAN Speed     -> 4 Clicks
Link Down Timeout      -> 5 Clicks
TCP idle Timeout       -> 6 Clicks
SNMP Trap 1            -> 7 Clicks
SNMP Trap 2            -> 8 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


** ERTC Protocol

TCP* -> 1 Click
UDP  -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


** DHCP

Disable*   -> 1 Clicks
Enable     -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


** TCP max. connection

1 client*    -> 1 Click
2 clients    -> 2 Clicks
3 clients    -> 3 Clicks
4 clients    -> 4 Clicks
5 clients    -> 5 Clicks
6 clients    -> 6 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

** Physical LAN Speed

```
Auto*             -> 1 Clicks
100 Mbps Full    -> 2 Clicks
100 Mbps Half    -> 3 Clicks
 10 Mbps Full    -> 4 Clicks
 10 Mbps Half    -> 5 Clicks
```
Enter code, then hold Button DOWN.
At least 1 second to validate.

**Link Down Timeout

```
No Time Out          -> 1 Click
1 min - 10 min       -> 2 Clicks
11 min - 20 min      -> 3 Clicks
21 min - 30 min      -> 4 Clicks
31 min - 40 min      -> 5 Clicks
41 min - 50 min      -> 6 Clicks
51 min - 60 min      -> 7 Clicks
61 min - 70 min      -> 8 Clicks
71 min - 80 min      -> 9 Clicks
81 min - 90 min      -> 10 Clicks
91 min - 100 min     -> 11 Clicks
101 min - 110 min    -> 12 Clicks
111 min - 120 min    -> 13 Clicks
```
Enter code, then hold Button DOWN.
At least 1 second to validate.

**TCP idle Timeout

```
No Time Out          -> 1 Click
1 min - 10 min       -> 2 Clicks
11 min - 20 min      -> 3 Clicks
21 min - 30 min      -> 4 Clicks
31 min - 40 min      -> 5 Clicks
41 min - 50 min      -> 6 Clicks
51 min - 60 min      -> 7 Clicks
61 min - 70 min      -> 8 Clicks
71 min - 80 min      -> 9 Clicks
81 min - 90 min      -> 10 Clicks
91 min - 100 min     -> 11 Clicks
101 min - 110 min    -> 12 Clicks
111 min - 120 min    -> 13 Clicks
```
Enter code, then hold Button DOWN.
At least 1 second to validate.

```
** SNMP Trap 1

Disable*   -> 1 Click
Enable     -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

Save Parameters

This function allows to save the selected communication settings or return to the communication settings to select additional options.

Press the Paper Feed button for the option you want.

```
Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Emulation/Software Options

Receipt Synchronization

This function makes it possible for the user to select whether to enable or to disable receipt synchronization printing.

When "Receipt synchronization" is enabled (Mode1 or Mode2), printer returns the status for buffered status command after confirming the start of printing.

The following commands are the buffered status command.

```
1B 75 0 Transmit Peripheral Device Status

1B 76 Transmit Printer Status

1D 49 n Transmit Printer ID

1D 72 n Transmit Status
```

Regarding Mode1 and Mode2, the command/status sequence is completely the same. The only difference is the printing speed. The printing speed of Mode1 is the same as in normal printing (max. 12ips).

Whereas, the printing speed of Mode2 is 4ips (max) in order to prevent the clatter print in the synchronized line mode.

When Mode3 is selected, the following command will be available.

```
1F 0A n Get Print Completion
```

When "Receipt synchronization" is disabled, printer returns the status for buffered status command immediately after decoding the status command.

Caution: Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the receipt synchronization option you want.

```
**********Receipt Sync**********

Sync.Mode     -> 1 Click
Disabled*     -> 2 Clicks
Sync.Mode  1  -> 3 Clicks
Sync.Mode  3  -> 4Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

Save Parameters

This function allows to save the selected communication settings or to return to the communication settings to select additional options.

Press the Paper Feed button for the option you want.

```
Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Default Lines per Inch

This function allows the user to set the default lines per inch printed by the thermal printer to 6, 7.52, or 8.13.

Press the Paper Feed button for the lines per inch you want.

```
************Default LPI**********

8.13 Lines per Inch    -> 1 Click
7.52 Lines per Inch*   -> 2 Clicks
6 Lines per Inch       -> 3 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

```
Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Carriage Return Usage

This function allows the printer to ignore or use the Carriage Return (hexadecimal 0D) command depending on the application. Some applications expect the command to be ignored while others use the command as a print command.

Press the Paper Feed button for the carriage return usage you want.

```
****************Carriage******************

Ignore CR                  -> 1 Click
Use CR as Print Cmd*     -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES              -> Long Click
NO, MODIFY     -> Short Click
```

Asian Mode

This function makes it possible for the user to select an Asian character for the printer.

Press the Paper Feed button for the Asian mode you want.

```
********ASIAN MODE********

Asian Mode 932 On  -> 1 Click
Asian Mode Off*     -> 2 Clicks
Asian Mode 936 On  -> 3 Clicks
Asian Mode 949 On  -> 4 Clicks
Asian Mode 950 On  -> 5 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES              -> Long Click
NO, MODIFY     -> Short Click
```

Set Font Type option

Set Font Type using the Emulation sub–menu.

⚠️ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the option you want to choose.

```
*****SPECIALFONT*********

Original Font *           -> 1 Click
Mode 1 CP473/856 Large    -> 2 Clicks
Mode 2 866 Mini           -> 3 Clicks
Mode 3 Constructed 874    -> 4 Clicks
Mode 4 Contextual 1256    -> 5 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Set Compress Pitch option

Set Compress Pitch command using the configuration menu.

⚠️ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

```
******************** COMPRESS PITCH FONT************

Valid           -> 1 Click
Invalid*        -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Set 48 CHARACTER MODE

This option is to set 48 Character printing. The selections are enable or disable. The end result is to print 48 characters in one line.

```
***************48 Character Print***************

Disable*   -> 1 Click
Enable     -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Set PDF417 MAX COLUMN PRINT?

This function makes it possible for the user to select the print columns for the PDF417 bar code printing. The selections are 9 or 14 columns. The end result is the height of the bar code printing. The default setting is 9 columns.

RS485 doesn't support this function.

⚠️ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the PDF417 max column you want.

```
*********PDF417 MAX COLUMNS********

9 Columns     -> 1 Click
14 Columns    -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Set Auto Reset option

Set Auto Reset using the configuration menu. Answer No to the questions printed on the receipt until you come to the instructions for Auto Reset.

⚠ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the platen waiting time you want.

```
** SET AUTO RESET ******

Disable*   -> 1 Click
10 Sec     -> 2 Clicks
20 Sec     -> 3 Clicks
30 Sec     -> 4 Clicks
40 Sec     -> 5 Clicks
50 Sec     -> 6 Clicks
60 Sec     -> 7 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES            -> Long Click
NO, MODIFY     -> Short Click
```

Set Compatibility Top Margin option

Set Compatibility Top Margin using the configuration menu. Answer No to the questions printed on the receipt until you come to the instructions for Compatibility Barcode Length.

⚠ **Caution:** Be extremely careful in changin any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the Compatibility Top Margin option.

```
** ********Compatible Top margin*******

Disable -> 1 Click
Enable* -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES            -> Long Click
NO, MODIFY     -> Short Click
```

Hardware Options

Set USB Type

Set the USB type using the configuration menu. Select Hardware Options in the Configuration Menu.

⚠️ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the USB type you want.

```
***************USB Type************
ION(Epic)          -> 1 Click
NonION(NHPI)*      -> 2 Clicks
NonION(PRTR)       -> 3 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES                -> Long Click
NO, MODIFY    -> Short Click
```

Set USB Speed

Set the USB speed using the configuration menu. Select Hardware Options in the Configuration Menu.

⚠️ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the USB speed you want.

```
***************USB Speed************
Full Speed*   -> 1 Click
High Speed    -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES                -> Long Click
NO, MODIFY    -> Short Click
```

Set Print mode

Set the Receipt Print Mode using the configuration menu. Select Hardware Options in the Configuration Menu.

⚠️ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the receipt print mode you want.

```
**************Print Mode************

High Speed Print*     -> 1 Click
High Quality Print    -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES              -> Long Click
NO, MODIFY    -> Short Click
```

Print Density

This function makes it possible to adjust the energy level of the print head to darken the printout. An adjustment should only be made when necessary. The factory setting is 100%.

⚠️ **Warning: Choose an energy level no higher than necessary to achieve a dark printout.**

Failure to observe this rule may result in a printer service call or voiding of the printer warranty. Consult your NCR technical support specialist if you have any questions.

Press the Paper Feed button for the print density you want.

```
****** PRINT DENSITY********

-11 ~ -15      -> 1 Click
-6 ~ -10       -> 2 Clicks
-1 ~ -5        -> 3 Clicks
0*             -> 4 Clicks
+1 ~ +5        -> 5 Clicks
+6 ~ +10       -> 6 Clicks
+11 ~ +15      -> 7 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

If 1 click was selected, it is printed as follows.

```
-11            -> 1 Click
-12            -> 2 Clicks
-13            -> 3 Clicks
-14            -> 4 Clicks
-15            -> 5 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

Save new parameters?

```
YES            -> Long Click
NO, MODIFY     -> Short Click
```

Power Supply

This function allows the user to set the maximum power for the printer to the below modes available.

Press the Paper Feed button for the option you want.

```
Term Pwr-High*       -> 1 Click
NCR 75W Ext Pwr      -> 2 Clicks
Term Pwr-Low         -> 3 Clicks
NCR 60W Ext Pwr      -> 4 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

Save new parameters?

```
YES            -> Long Click
NO, MODIFY     -> Short Click
```

Set Standby Mode

Enable or disable the Standby Mode using the configuration menu. If the standby mode is enabled, the printer shifts to the standby mode in order to save the power consumption in the idle mode when the printer is in the idle mode.

Printer will exit from standby mode to normal mode in below criteria:

- Printer receives any data
- Feed key is pressed
- Receipt cover is opened / closed

Note: Flip cover open/close will not affect the standby mode.

After power–on, it will go to standby mode if it does not receive any transaction data in 60 seconds.

After one transaction, it will go to standby mode if it does not receive any transaction data in 1 second.

In disable setting, the printer does not shift to the standby mode. During going back from the standby mode, the response of the printer will be slightly delayed compared to the normal mode response.

Caution: Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the Shift to Standby Mode you want.

```
** ********Standby Mode *******

Disable -> 1 Click
Enable* -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES           -> Long Click
NO, MODIFY    -> Short Click
```

Set Power Off Mode

Set the Shift Time to Power Off using the configuration menu. If the printer is in standby mode for the time that is defined by this setting, printer automatically power off. Once enter power off mode, all LED are turned off. If feed key is pressed, printer exit from power off mode and enter normal mode.

⚠ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the Shift Time to Power Off you want.

```
********* POWER OFF MODE******

Disabled*              -> 1 Click
Enabled (60min)     -> 2 Clicks
Enabled (120min)    -> 3 Clicks
Enabled (180min)    -> 4 Clicks
Enabled (240min)    -> 5 Clicks
Enabled (300min)    -> 6 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES             -> Long Click
NO, MODIFY    -> Short Click
```

Set Knife Option

Set the Knife option using the configuration menu. Answer No to the questions printed on the receipt until you come to the instructions for knife option.

⚠ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the option you want.

```
*********** KNIFE ************

Enable Knife *                  -> 1 Click
Disable Knife                   -> 2 Clicks
Enable Knife with Buzzer (Low)    -> 3 Clicks
Enable Knife with Buzzer (High)  -> 4 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

```
Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Paper Width

This function allows the user to set the default paper width for the receipt thermal printer to 58mm or 80mm wide.

Press the Paper Feed button for the paper width option you want.

```
***********PAPER WIDTH *******

Paper Width = 80 mm*  -> 1 Click
Paper Width = 58 mm   -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

```
Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Set Paper Low Detection

Paper Low Sensor makes it possible to enable or disable the paper low sensor for particular printer configurations.

Press the Paper Feed button for the option you want.

```
******** PAPER LOW Detection**********

Enable (Remaining 40ft)*        ->     1 Click
Disable                         ->     2 Clicks
Enable (Remaining 30ft)         ->     3 Clicks
Enable (Remaining 20ft)*        ->     4 Clicks
Enable (Remaining 15ft)*        ->     5 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.
```

```
Save new parameters?

YES             -> Long Click
NO, MODIFY      -> Short Click
```

Set Color Paper Option

This function allows the user to set the color paper option to Monochrome or Color Paper.

Press the Paper Feed button for the option you want.

```
********* SET COLOR PAPER *********

Monochrome*       -> 1 Click
Color Paper       -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES               -> Long Click
NO, MODIFY    -> Short Click
```

Set Buzzer Tone

This function allows the user to set the Buzzer Tone to Low, Middle and High.

Press the Paper Feed button for the option you want.

```
********* SET BUZZER TONE *********

Low*         -> 1 Click
Middle       -> 2 Clicks
High         -> 3 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES               -> Long Click
NO, MODIFY    -> Short Click
```

Set Power LED Control

Set the power LED control using the configuration menu. Answer No to the questions printed on the receipt until you come to the instructions for power LED control.

⚠ **Caution:** Be extremely careful in changing any of the printer settings to avoid inadvertently changing other settings that might affect the performance of the printer.

Press the Paper Feed button for the Power LED Control you want.

```
******* LED CONTROL Mode*******

Auto Mode*    -> 1 Click
User Mode     -> 2 Clicks
Enter code, then hold Button DOWN.
At least 1 second to validate.


Save new parameters?

YES            -> Long Click
NO, MODIFY     -> Short Click
```

Default Code Page

This function makes it possible to select the default code page.

These are the code pages available for printing:

- Code page 437 (US English)
- Code page 850 (Multilingual)
- Code page 852 (Slavic)
- Code page 858 (with Euo symbol)
- Code page 860 (Portuguese)
- Code page 862 (Hebrew)
- Code page 863 (French Canadian)
- Code page 864 (Arabic)
- Code page 865 (Nordic)
- Code page 866 (Cyrillic)
- Code page 874 (Thai)
- Code page 1252 (Windows Latin #1)
- Code page 1256 (Windows Arabic)
- Code page Katakana
- Hungary
- Code page 932 (MS Japan)
- Space page

For Asian code pages, code page 936, 949 or 950 replaces code page 932 in the above shown menu. Only one Asian code page (either 932, 936, 949 or 950) will exist in the firmware.

To set the Code Page, emulation mode should be selected:

1. To enter into emulation mode from the main menu, press the Paper Feed button twice as short click and hold the button until a beep sound is generated.

    The following submenu will be displayed.

    ```
    *************EMULATION*************
    Receipt sync                -> 1 Click
    Default LPI                 -> 2 Clicks
    Carriage                    -> 3 Clicks
    Asian mode                  -> 4 Clicks
    Code Page                   -> 5 Clicks
    Special Font                -> 6 Clicks
    Compress Pitch Font         -> 7 Clicks
    48 Character Mode           -> 8 Clicks
    PDF417 Max Columns          -> 9 Clicks
    Auto Reset                  -> 10 Clicks
    Compatible Top Margin       -> 11 Clicks
    ```

2. To set code page, press feed key 5 times as short click and hold the feed key until the beep sound is generated.

    The following sub–menu will be displayed.

    ```
    **CODE PAGE MENU
    Code Page 437*   -> 1 Click
    Code Page 850    -> 2 Clicks
    Code Page 852    -> 3 Clicks
    Code Page 858    -> 4 Clicks
    More Options     -> 5 Clicks
    Enter code, then hold Button DOWN
    At least 1 second to validate
    ```

    If more Options is selected, following sub menu will be displayed:

    ```
    Code Page 860    -> 1 Click
    Code Page 862    -> 2 Clicks
    Code Page 863    -> 3 Clicks
    Code Page 864    -> 4 Clicks
    More Options     -> 5 Clicks
    Enter code, then hold Button DOWN
    At least 1 second to validate
    ```

```
Code Page 865     -> 1 Click
Code Page 866     -> 2 Clicks
Code Page 874     -> 3 Clicks
Code Page 1252    -> 4 Clicks
More Options      -> 5 Clicks
Enter code, then hold Button DOWN
At least 1 second to validate


Code Page 1256      -> 1 Click
Code Page Katakana -> 2 Clicks
Code Page Hungary   -> 3 Clicks
Code Page 932        -> 4 Clicks
Enter code, then hold Button DOWN
At least 1 second to validate
```

Save new parameters?

```
YES             -> Long Click
NO, MODIFY    -> Short Click
```

Runtime (Level 2) Diagnostics

Runtime diagnostics occur during normal printer operation. When the following conditions occur, the printer automatically turns off the appropriate motors and disables printing to prevent damage:

- Paper out

- Cover open

- Knife unable to home

- Print head too hot

- Power supply voltage out of range

The Printer Status (Green) LED signals when these conditions occur and indicates the state or mode of the printer.

The Printer Status LED has 3 colors: green, amber, and red.

LED indication for Printer Status LED is shown as below.

Printer Status LED Error Blink Pattern

Basic policy of blinking pattern for errors at Printer Status LED in Auto Mode is as follows:

1. Red color is used for an unrecoverable error.

2. Amber color is used for a recoverable error.

3. Blink cycle is 2Hz.

4. Number of blink depends on the block where an error occurs.

•	PCB 1 Blink
•	Thermal Head 2 Blink
•	Cover 3 Blink
•	Paper block 4 Blink
•	Print block 5 Blink
•	Cutter block 6 Blink

In "User Mode" of Printer Status LED, a system controls LED by "LED Control Request", LED pattern and the indication timing are specified by a system.

Errors	COLOR	Bezel LED
Memory Error	RED	1 Blink Pause 5 seconds
Thermal Head Disconnected	RED	2 Blink Pause 5 seconds
Thermal Head Abnormal Temperature	RED	2 Blink Pause 5 seconds
Cover Open	AMBER	3 Blink Pause 5 seconds
Paper End	AMBER	4 Blink Pause 5 seconds
Printer Jam	AMBER	5 Blink Pause 5 seconds
Cutter Error	AMBER	6 Blink Pause 5 seconds
Thermal head over heat	AMBER	2 Blink Pause 5 seconds

PC Board Connector Locations and Designations
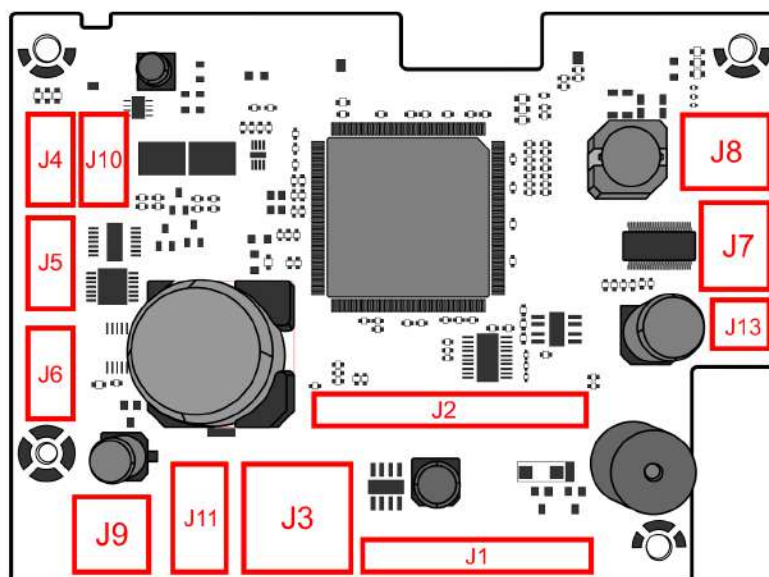
CCP-71039

Driver Board
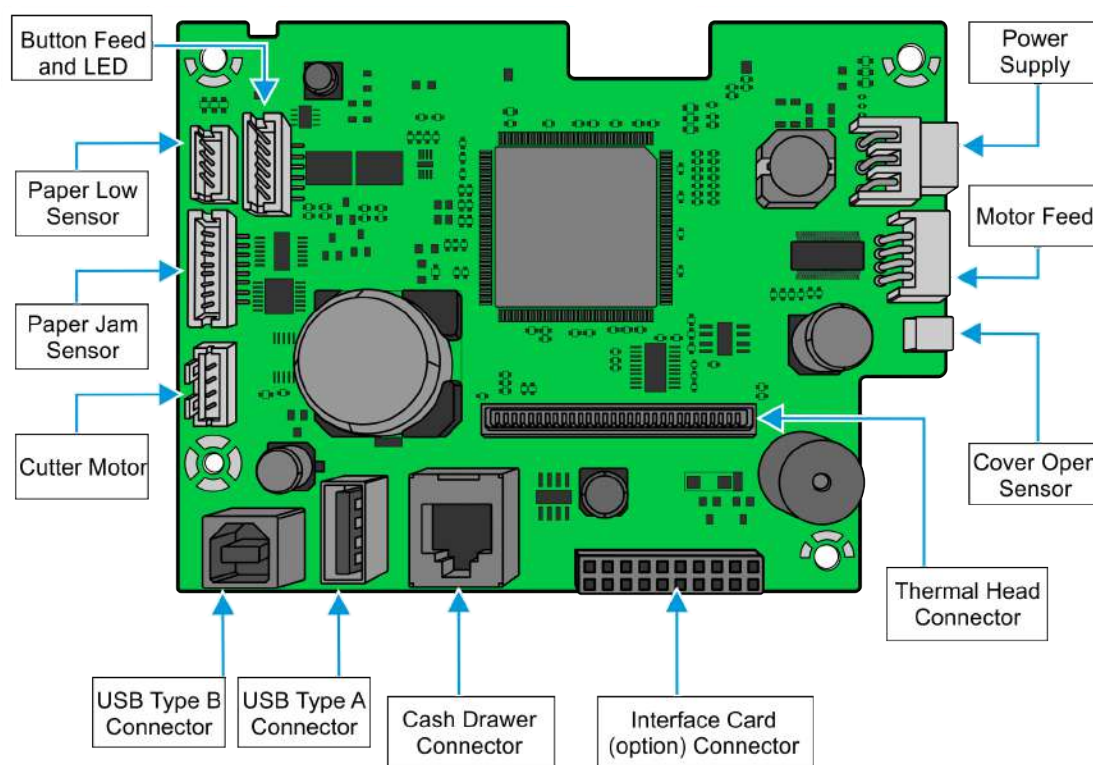
CCP-71040

Fuse Location and Information
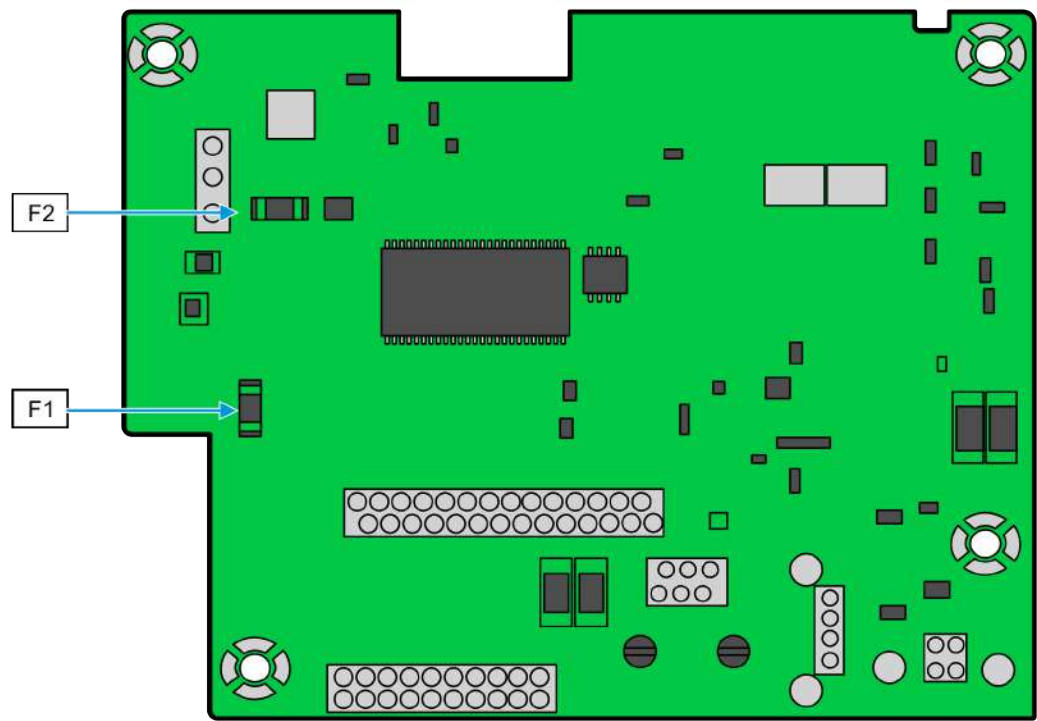
CCP-71541

Refer to the following table for more information:

Location	Part Description	Specifications
F1	25H3000G (skygate) or equivalent	125V / 3A
F2	25H5000G (skygate) or equivalent	125V / 5A

Chapter 4: **Communication**

Communication Overview

In order for a receipt to be printed, a program must be in place that translates the data from the host computer into a language that the printer can understand. This program must tell the printer exactly how to print each character. This chapter describes how to create such a program or modify an existing one.

Interface

For the printer to communicate with the host, a communication link must be set up. The 7199 Model supports the industry standard USB communication interface. This interface has a protocol associated with it that the host computer must understand and adhere. The printer also supports RS–232C communications.

Only when the interface parameters are matched and the proper protocol is used will the host and the printer be able to communicate.

The 7199 Ethernet Model supports the Ethernet communication interface.

Sending Commands

Once the communication link is established, commands can be sent to the printer. This section describes how to send commands to the printer using DOS and BASIC. This section does not take into account the necessary protocol, but is meant as a general introduction to how the printer functions.

Using BASIC to Send Commands

In BASIC, printer commands are sent as a string of characters preceded by the LPRINT command.

Example: `LPRINT CHR$(&H0A)`

This sends the hexadecimal number 0A to the printer, which causes the printer to print the contents of its print buffer. Previously sent commands tell the printer exactly how this data should appear on the paper.

Example: `LPRINT CHR$(&H12); "ABC"; CHR$(&H0A)`

This sends the Hex numbers 12 41 42 43 0A to the printer. This causes the printer to set itself to double wide mode (12), load the print buffer with "`ABC`" `(41 42 43),` and finally, print `(0A)`. The communication link that the BASIC program outputs to must be matched to that of the printer.

RS-232C Interface (Option)

The RS-232C version of the 7199 printer offers the standard options which are selectable in the Diagnostic mode. For more information, refer to *Communication Interface Modes* on page 70.

Print Speed and Timing

The fast speed of the printer requires the application to send data to the printer at least as fast as it is printed. This application must also allow receipt lines to be buffered ahead at the printer, so the printer can print each line immediately after the preceding line, without stopping to wait for more data. Ideally, the application will send all the data for an entire receipt without pausing between characters or lines transmitted.

If the application sends data at 9600 baud and pauses between lines for as little as 50 milliseconds, the printer will never be able to print at full speed. But if the application sends data at 19.2 K baud and does not pause between lines, the printer will be able to print at its full speed of 1020 lines/minute.

The following table shows that with a pause of 50 milliseconds after each line, the transmit time equals or exceeds the print time, slowing down the printer, regardless of the baud rate.

Char./Line	Lines/Receipt	Transmit Time: (9600 Baud)	Transmit Time: (19.2 K Baud)	Print Time
20	20	1.4 seconds	1.2 seconds	0.2 seconds
20	40	2.8 seconds	2.4 seconds	0.4 seconds
44	20	1.88 seconds	1.44 seconds	0.2 seconds
44	40	3.76 seconds	2.88 seconds	0.4 seconds

The following table shows that with no delay between lines, the transmit time is much less than the print time, allowing the printer to print at full speed.

Char./Line	Lines/Receipt	Transmit Time: (9600 Baud)	Transmit Time: (19.2 K Baud)	Print Time
20	20	0.4 seconds	0.2 seconds	0.2 seconds
20	40	0.8 seconds	0.4 seconds	0.4 seconds
44	20	0.88 seconds	0.44 seconds	0.2 seconds
44	40	1.76 seconds	0.88 seconds	0.4 seconds

RS-232C Technical Specifications

This section describes the pin settings for the connectors and the RS-232C interface parameters. The RS-232C parameters can be selected in the Diagnostic mode. The RS-232C parameters must match the host parameters.

Setting Extra RS-232C Options

The following extra options are available for the RS-232C Interface:

• Data errors

• Print **?** for data errors (default)

• Ignore data errors

Ethernet Interface (Option)

The Ethernet interface uses either 10BASE–t, 100BASE–TX protocol. The Ethernet version of the 7199 printer offers the web configuration, which configure the Ethernet settings through a Web browser. For more information, refer to the *Communication Interface Modes* on page 70.

Protocol

Application Layer	TCP Socket, UDP Socket, SNMP, DHCP, HTTP
Transport Layer	TCP, UDP
Network Layer	IP, ICMP, ARP
Data Link Layer	CSMA/CD
Physical Layer	10BASE–t, 100BASE–TX (IEEE802.3 Conforming) Auto negotiation 10/100Mbps Full/Half Duplex

TCP Socket

It transfers printing commands and data, several status commands and those responses by direct socket communications.

Port number	9100 (Default)
Maximum simultaneous sessions	1
Maximum simultaneous connections	6
Time out	120 seconds (Default)

UDP Socket

It transfers real time commands and those responses.

Port number	3000 (Default)

SNMP

SNMP is used by the SNMP manager to acquire the printer information and status from SNMP agent (Printer).

SNMP version	SNMP v1 (RFC1157) compliant
Transport protocol	UDP/IP
MIB support	Part of MIB-II (RFC1213) Part of HOST Resource MIB Part of Printer MIB
PDU support	Get Request Get Next Request Get Response Trap
Port number of Server	161
Port number for Trap transmit	162

DHCP

DHCP is used by the DHCP client (Printer) to acquire IP address, Subnet mask, and Gateway address from the DHCP server.

Transport protocol	UDP/IP

HTTP

HTTP is used to configure the network setting by WEB Provision.

HTTP version	V1.1
Transport protocol	TCP/IP
Items to be able to configure	IP address Subnet mask Default Gateway DHCP DHCP address TCP max. connection Ethernet Physical LAN Speed LAN Real Time Command Protocol Link Down Timeout TCP idle Timeout TCP Port number UDP Port number SNMP Trap 1 SNMP Trap 2 SNMP Community (R/W) SNMP Trap 1 Community SNMP Trap 2 Community SNMP Trap 1 IP Address SNMP Trap 2 IP Address

TCP Socket Communication

The communication procedure is designed as follows.

The TCP socket is used to send commands and data related to printing. And, it is also used to send and receive the batch status commands and its statuses.

When "Ethernet RTC Protocol" setting is TCP, it is used by sending and receiving of Real Time command,

1. Client PC connects to the TCP socket via the defined port number of the printer.

2. Client PC transmits the commands and the date of the printer.

3. When the printer receives the batch status command, the response is transmitted to client PC.

UDP Socket Communication

The UDP socket is used by sending and receiving of Real Time Command.

This is effective in UDP port 3000 when "Ethernet RTC Protocol" setting is UDP.

1. Client PC connects to the UDP socket via the defined port number of the printer.

2. Client PC sends the status command and receives the status from the printer via UDP socket.

Multiple Connection

It is possible to connect with multiple clients at the same time. However, more than 7 connections will be rejected.

Connector

This section discusses the following NCR 7199 cable connectors:

- Power Cable Connector

- USB Cable Connector

- RS–232C Connector

- Ethernet Connector

- Cash Drawer Connector

Power Cable Connector

The control cards received 24VDC +–10% power via a 3–pin Mini–DIN plug, which mates with an integral shielded cable from the power supply unit.

The power connector is WIESON GA1009–3AT1N1 (or equivalent) with the following pin out:
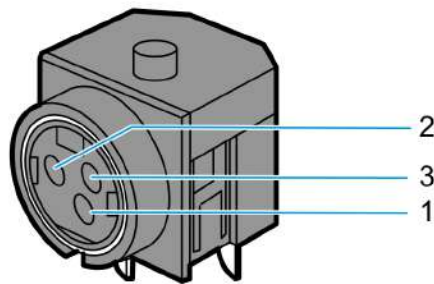
1	+ 24VDC
2	Power Ground
3	NC
Shell	Frame Ground

CCP-71542

USB Cable Connector

USB I/F is mounted on main card as default. There are 2 ports. The first port is for the HOST function with Type A connector, and the second port is for the Device function with Type B connector.

It does not support USB host port and device port at the same time.

USB Version

Version 2.0 High speed

Connector Pin Assignment

The USB I/F connector is "B" Plug type for the Device function, and "A" plug type for the Host function.

Type B connector

1	VBUS
2	D-
3	D+
4	GND
Shell	Shield

Pin Position
2
1
3
4

Type A connector

1	VBUS
2	D-
3	D+
4	GND
Shell	Shield

Pin Position
1
2
3
4

CCP-71041
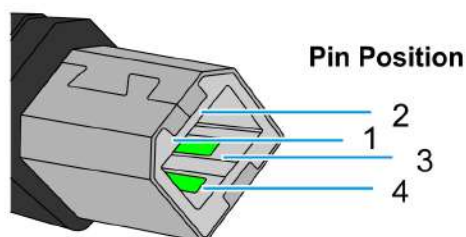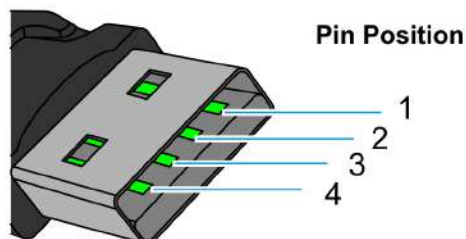
RS–232C Communication Connector Pin Assignments

The serial I/F connector is 9pin D–SUB Male type connector with the following pin assignments:

Function   **Pin Numbers**   **Function**

Logic Ground 5

DTR 4

TXD 3

RXD 2

Not Used 1

9 Not Used

8 CTS

7 RTS

6 DSR

Shell - Frame ground

Printer View (Male)

CCP-71036
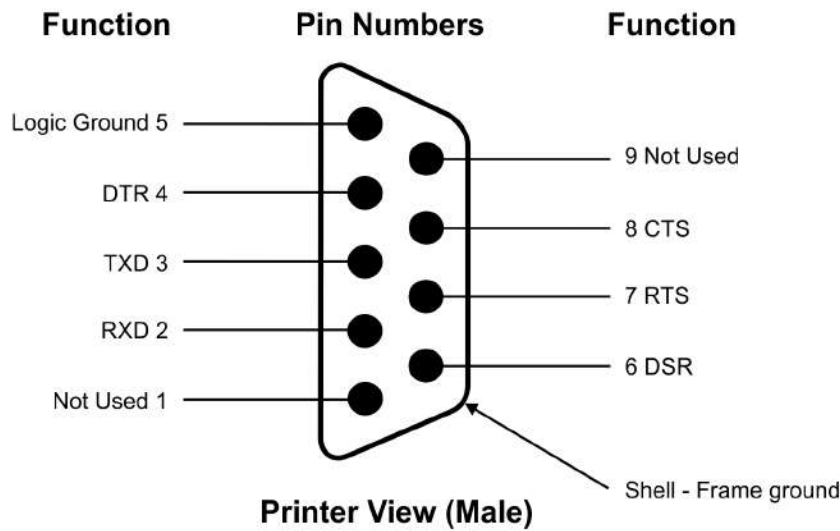
Ethernet Connector

The following specification is for the model equipped with Ethernet connection.

Standard

Fully integrated IEEE 802.3/802.3u–100 Base–TX/10 BASE–T Physical Layer

Speed

Auto Negotiation: 10Mbps/100Mbps, Full/Half Duplex

Connector Pin Assignment

The Ethernet I/F connector is an 8P8C modular connector (usually called RJ45) with the following pin assignments:
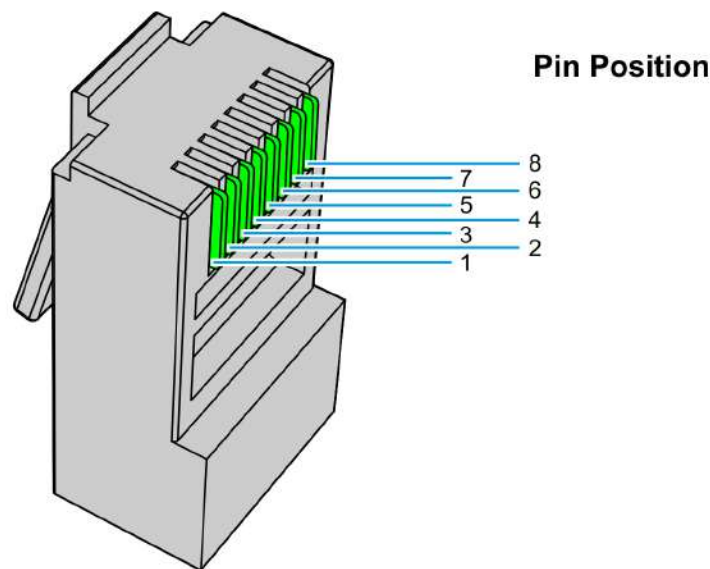
CCP-71038

Pin Position	Signal Description
1	TX+
2	TX–
3	RX+
6	RX–

Cash Drawer Connector and Pin Assignments

The Cash drawer connector is located at the rear of the printer.

The Cash drawer connector is a 6–pin modular type connector with the following pin assignments:

Pin Number	Pin Function
1	Frame GND
2	Drawer 1 Solenoid
3	Drawer 1 Status Switch
4	+24 Volts (to Solenoid)
5	Drawer 2 Solenoid
6	GND

CCP-71037
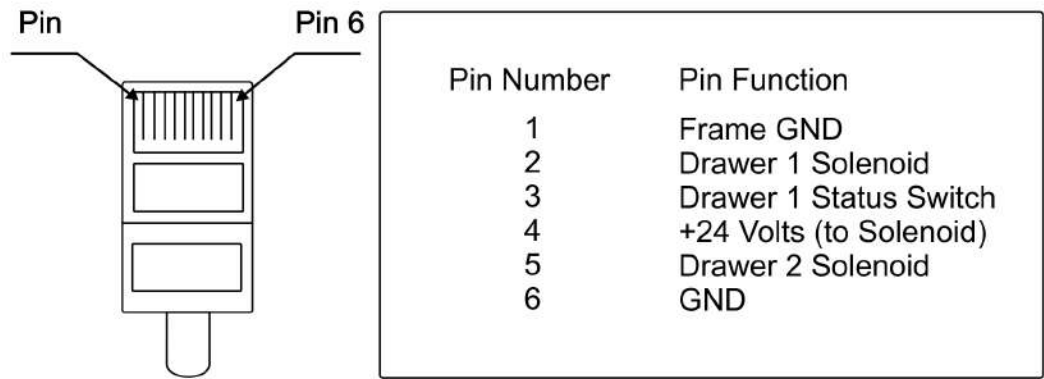
Chapter 5: **Command**

Command Conventions

The different features and functions provided by the printer are controlled by sending commands from the host computer to the printer. This chapter describes the commands that are supported by the printer. The printer commands are made up of one or more bytes of data starting with a command control code followed by its supporting parameters.

Commands control all operations and functions of the printer, including the following:

- Drawing by text, image, bar–code, and so forth.

- Controlling knife cut, cash drawer, and so forth.

- Retrieving the printer status and information.

- Configuring the printer to customize.

Unless otherwise noted, any of the commands may be used in any combination to communicate with the printer from a program in a host computer.

To allow the graceful handling of commands that may be available in other printers but are not available in this printer, some commands will be listed and described but identified as "not implemented". If the printer receives one of these "not implemented" commands, the command and its supporting operands will be discarded. Any other data bytes, including unrecognized commands, are sent to the print buffer as data, and the printer will attempt to print the data when it is instructed to print the buffer.

For more information and for the list of commands, refer to the *NCR RealPOS 7199 Thermal Receipt Station Printer Programmer's Guide (BCC5-0000-5170).*

Chapter 6: **Reflashing the Printer Firmware**

Flash Utility Information

The following instructions provide information on how to use the Flash Utilities provided for the NCR 7167 series, 7168 series, 7197 series, 7198 series, 740x-K59x series, 734X series, 7649–F301, and 7199 printers. These instructions cover the utilities provided for Windows GUI and Windows Command Line.

The following files comprise the utilities:

- `TseFlash.exe`—Windows GUI version of the Flash Utility
- `TseFlash.com`—Windows Command Line Flash Utility

File Configurations

The following kinds of firmware loads can be sent to the printer:

- Boot Firmware
- Boot Firmware for Ethernet
- Main Firmware
- Single Byte Font
- Two Byte Receipt Font
- Two Byte Slip Font

The Single Byte Font file has a file extension of `.sfn`. It is the font used for OEM Codepages such as 437, 850, 858, and so forth, which require only a single byte of data to define the character to be printed. The Two Byte Font files (Separately Defined for Slip & Receipt) have a file extension `.dfn`. These are used to define the following Code Pages:

- 932 – Japanese
- 936 – Simplified Chinese
- 949 – Korean
- 950 – Traditional Chinese

It is very rare for the Single Byte Font to have to be updated. Since there is only enough memory in the printer for one of the Two Byte Fonts to be loaded at any time, the Two Byte Font will typically need to be loaded prior to installation in the appropriate country.

> **Note:** The Font files, both Single and Two byte, should be loaded into the printer after the Boot and Main firmware have been loaded.

Printer Languages Cross-Reference

Font Type	Print Station	File Name
ANK	Receipt	7199_SBCS_V2101.sfn*
Arabic Font	Receipt	
Japanese CP932	Receipt	7199_DBCS_V2201.sfn*
Korean CP949	Receipt	
Simple Chinese CP936	Receipt	
Traditional Chinese CP950	Receipt	

The following items need to be noted:

- The noted font files are included on LPIN A370-0050-0000 or are available from the NCR web site under Retail Solution Specific Printer Firmware.

- The asterisk (*) denotes that the printer is preloaded with these fonts from the factory.

- When Asian fonts are to be used, select the appropriate Asian Code Page in the diagnostic set and also enable the Asian Mode.

- The above file names are latest as of 10th Jan 2017. Based on the new modification, the filenames may change.

- 7199_SBCS_V2101.sfn is inclusive of ANK and Arabic Font.

- 7199_DBCS_V2201.dfn is inclusive of Japanese CP932, Korean CP949, Simple Chinese CP936, and Traditional Chinese CP950.

Windows Command Line Firmware Update Utility

The Windows Command Line version of the Flash Utility is provided to allow batch mode of operation in a Windows XP environment. If you issue a call to **TseFlash.com** with no parameter, you will get the following output that explains the parameters.

Note: This utility requires the **TseFlash.exe** to be in the same directory. **TseFlash.com** is just a shell that sends the command line options to **TseFlash.exe** to process.

```
*** TseFlash.com Ver 3.1 ***
Thank you for using TseFlash Flash Memory Writer command line interface
utility!

TseFlash [model] [download type] [COM] [parameter] [file] [check model
(opt)] [pr int(opt)] [status(opt)] [ErrorTimeOut(opt)]

[model]--> Selections for the model:
[7167] [7167-X115] [7167-X035] [7167-5XX1/6XX1/7XX1] [7167-8011-9001]
[7168] [7168-23X3/22X3/1223] [7168-5XX3/6XX3] [7197] [7197-
5XX1/6XX1/7XX1/9XX1] [7198] [7649-F301] [K8] [K590] [7401-K592] [7402-
K592] [7346-F306] [734X-F307/7125] [734X-F309] [SSCO6-1ST/2st] [7199]

[download type] --> Selections for the download type:

     /f - Download IMF program for [7168-23X3/22X3/1223], 7167-6321-
9001.
     /m - Download firmware main program.
     /i - Download firmware IPL program.
     /l - Download firmware IPL LAN program for 7197-
5XX1/6XX1/7XX1/9XX1.
     /a - Download ANK font or combined ANK & CP932 font
          for 7167, 7167-X115, 7167-X035, 7167-5XX1/6XX1/7XX1, 7167-
8011-9001, 7168, 7168-5XX3/6XX3, 7197, 7198, K590, 7402-
          K592, 7342-F306.
     /s - Download ASIAN font for 7197, K590, 7401-K592 , 7402-K592,
7342-F306, 7346-F306.
     /rs - Download Receipt ASIAN Font for 7167 & Receipt 2 Byte for
7168, 7168-5XX3/6XX3, 7198, 7167-5XX1/6XX1/7XX1, 7167-
          8011-9001
     /ss - Download Slip ASIAN font for 7167 & Slip 2 Byte for 7168,
71618-5XX3/6XX3, 7167-51/6XX1/7XX1, 7167-8011-9001
     /sb - Download SBCS font for 734X-F307/7125, 734X-F309, 7649-F301,
7197-5XX1/6XX1/7XX1/9XX1, K8, SSCO6-1ST/2ST, 7199
     /db - Download DBCS font for 734X-F307/7125, 734X-F309, 7649-F301,
7197-5XX1/6XX1/7XX1/9XX1, SSCO6-1ST/2ST, 7199
     /t - Download Table file for SSCO6-1ST/2ST, 7199
     /c - Printer Configuration Table file for 7199 (CPMI is not
supported)

     [com]--> Selections for the COM port, CPMI, IBMUSB, HID (Only K8)
or LAN:
          /COMX Where X is any valid integer within 1-50.
          /CPMI CPMI Interface.
          /IBMUSB 4690 USB (HID) Interface.
          /LAN Ethernet Interface.
```

```
                /WIFIWireless Interface.
                /HID Only for K8 printers.
                /NHPI Only for 7199 printers.
                /PRTR Only for 7199 printers.

        [parameter] --> Selections for interface parameter (Only for RS232
and Ethernet interface):
                For RS232 Only: Please key in the Baud Rate, Parity and Stop
Bit
                - Baud Rate Selection:
                    /[115200] | [57600] | [38400] | [19200] | [9600]
                - Parity Selection:
                    /[none] | [even] | [odd]
                - Stop Bit Selection:
                    /[1] | [2]
                For WiFi / Ethernet Only: Please key in the IP Address
                - IP Address Selection:
                    /[xxx.xxx.xxx.xxx]
                - xxx is a number from 0 to 255
                For CPMI, IBMUSB and HID is ignore

        [file] --> Selections for the filename:
                Any valid binary file with extension *.mfw | *.sfn | *.dfn |
*.ipl | *.lan | *.bin (Only for K8) | *.tbl (Only for
                SSCO6-1ST/2ST and 7199) | *.cfg (Only for 7199)

        [print(opt)] -->  Selections for the print (Optional Parameter):
                /print          (default) Print printer configuration form.
                /noprint         Bypass printing printer configuration
form.

        [status(opt)] --> Optional for Return Status (Optional Parameter):
                /noretstat (default) Utility will not return status code.
                /retstat  Utility will return status code.

        [ErrorTimeOut(opt)] --> Failsafe: Max Time Allowed for Called Exe
(Optional Parameter):
                (ONLY USED BY TseFlash.COM
                /ErrorTimeOut=xxx (minimum=420) xxx is number of
        Seconds - limit 3600.
        Information : Please use RS232 Interface, when switching
                from ION <=> NON ION
```

If you fail to use the correct parameters, an error message will be displayed similar to the following error:

```
Error: Too few / many command line parameters!
```

The following is an example of a command line:

```
TseFlash.com /7197-5X01/6X01 /m /COM1 /115200 /none /1 SP2M0609.MFW
/noskip /print /retstat
```

This invokes the GUI interface shown in the next section and displays a progress bar indicator. The same is seen if you run the program through the GUI Windows GUI Printer Firmware Update Utility.

The printer firmware can be updated from the host terminal, a laptop, or a PC by running the `TSEFlash.exe` utility. The three file formats for the flash firmware are the following:

- IPL—Boot Firmware

- LAN—Boot Firmware for LAN

- MFW—Main Firmware

Examples of the firmware are the following:

- `7198RoL_V2001.ipl`—7198 RoL Printer Boot Firmware

- `7198RoL_V2001.lan`—7198 RoL Printer Boot Firmware for LAN

- `7198RoL_V5464.mfw`—7198 RoL Printer Main Firmware

Note: These are examples only. The firmware version varies based on the printer and as updates are provided.

To re–flash a firmware into the printer, unzip the flash utility and the flash files being used into a directory on the hard disk.

Using TseFlash.exe Utility

On the host terminal or PC running Windows, execute the utility TSEFlash.ex*** to start the program. A window similar to the example below will appear on the screen.

Note: The flash utility shown is for demonstration purposes only. Visit NCR Support Site for the latest release.

Chapter 7: **Configuration Network**

Overview

The printer provides the Ethernet Network Configuration page in a Web page (respondent HTTP/1.0 and 1.1)

The Configuration page can be accessed by connecting the Host PC to the printer via the network and inputting the printer's IP address in the Web browser address bar.

Example: http://192.168.1.1/main.html) in the Web browser

The Host PC needs to be set with the correct network configuration (IP address, Subnet mask address, and so forth) to connect to the printer.

Format: `http ://(IP address for the printer)/`

Display Format of Configuration Setting Page

This section discusses the display format of the Ethernet Network Configuration page.

Top Page

On the Top page, the *Show Configuration* button is displayed. when it is selected, the Ethernet Configuration setting page is displayed with the current configuration.
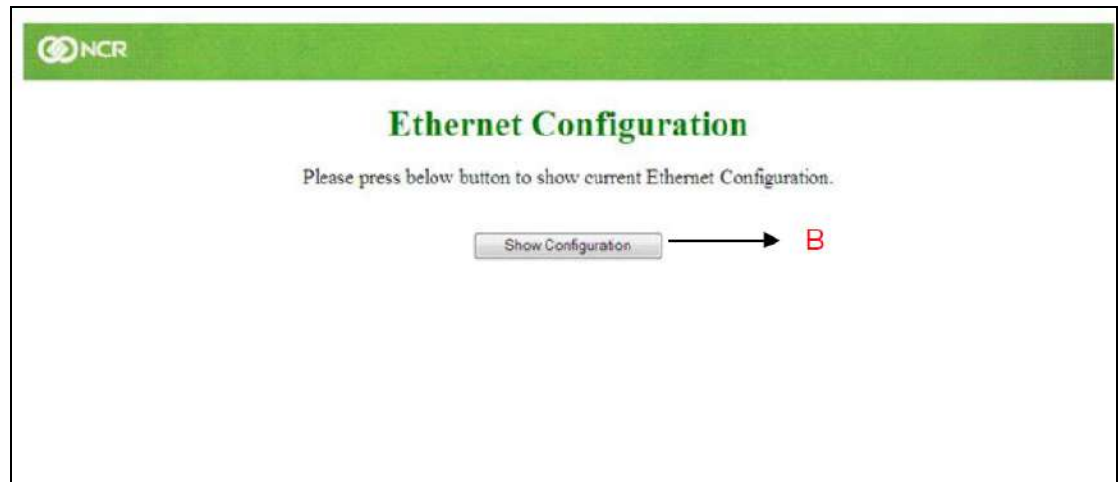
Ethernet Configuration Setting Page

On Ethernet Configuration setting page, users can view or change the Ethernet configuration.

To change the Ethernet configuration, do the following:

1. Change the values by doing any of the following:

   • Enter a value in the corresponding text box.

   • Select an option from the drop–down list.

2. Select **SAVE CONFIGURATION** to save the new Ethernet configuration in the printer ROM.

   Note: If all values are valid and the saving process is successful, the *Save Configuration Message* is then displayed. If any value is invalid, the new Ethernet configuration is not saved and an error message is then displayed. To check and retry changing the values, select **Top Page**.

   Note: To set the values to factory default, select **FACTORY DEFAULT**, and then select **SAVE CONFIGURATION**.

Ethernet Configuration

Please set the configuration and press SAVE CONFIGURATION button.

FACTORY DEFAULT ➤ **Set default value**

TCP/IP - Configuration

[IP]

IP Address	192	168	1	1	Value(0-255): Valid address
Subnet Mask	255	255	255	0	Value(0-255): Valid Mask
Default Gateway	0	0	0	0	Value(0-255): Valid address
DHCP	Enabled				Select option
DHCP Request IP Address	0	0	0	0	Value(0-255): Valid address

[TCP/UDP]

Number of TCP Connections	1	Value(1-6)
Time of Time-out (for Link Down)	120	Value(1-120 minutes) : 0=No timeout
Time of Time-out (for Idle)	2	Value(1-120 minutes) : 0=No timeout
Real Time Command	TCP	Select option
TCP port	9100	Value(1024-65535)
UDP port	3000	Value(1024-65535)

[Ethernet]

MAC Address	80-00-0e-4e-40-08	Unchangeable
Physical Layer	Auto	Select option

SNMP - Configuration

[Community]

Read Only	public	Unchangeable
Read/Write		Maximum 16 character

[SNMP Trap1]

TRAP	Disabled				Select option
IP Address	0	0	0	0	Value(0-255): Valid address
Community Name					Maximum 16 character

[SNMP Trap2]

TRAP	Disabled				Select option
IP Address	0	0	0	0	Value(0-255): Valid address
Community Name					Maximum 16 character

SAVE CONFIGURATION ➤ **C**

Top Page

Save Configuration Message Page

On the Save Configuration Message page, users are informed that the new Ethernet configuration is successfully saved. To apply the new configuration to the printer, select **RESET PRINTER**.
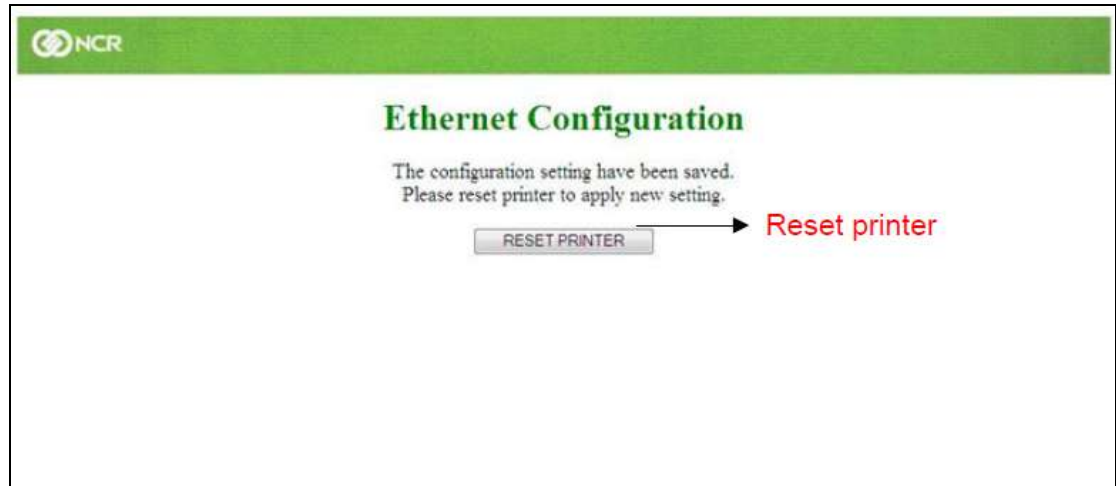
Error Message Page

On the Error Message page, users are informed that the new Ethernet configuration is not saved. Error details are also displayed. To check and retry changing values, select **Top Page**.
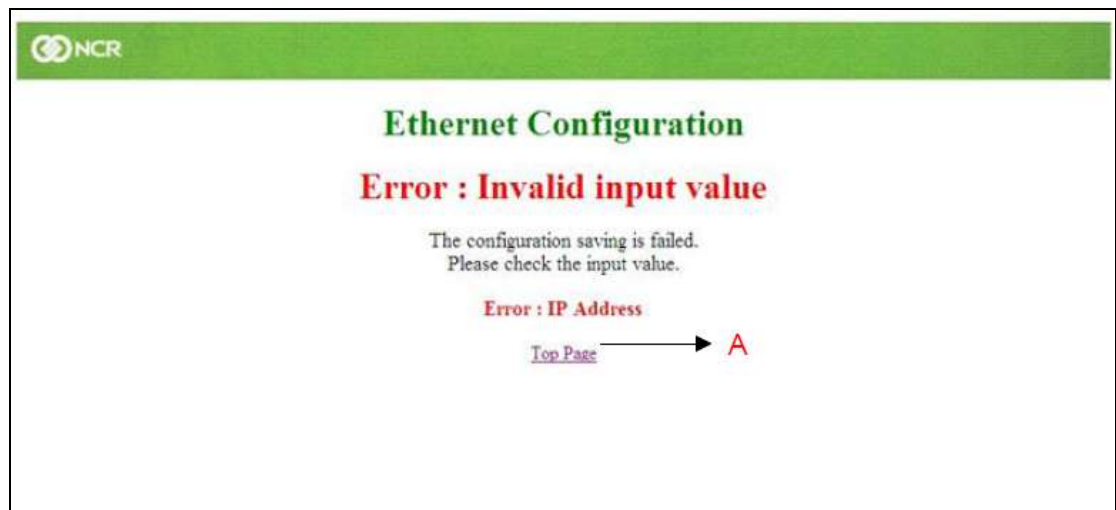
TCP/IP Setting

This section discusses configuration parameters and default values for the TCP/IP setting.

IP setting

[IP]					
IP Address	192	168	1	1	Value(0-255): Valid address
Subnet Mask	255	255	255	0	Value(0-255): Valid Mask
Default Gateway	0	0	0	0	Value(0-255): Valid address
DHCP	Enabled ▾				Select option
DHCP Request IP Address	0	0	0	0	Value(0-255): Valid address

Items	Default value	Detail
IP Address	`192.168.1.1`	Set Printer IP Address. This IP Address is effective when Get IP Address is Manual.
Subnet Mask	`255.255.255.0`	Set Printer Subnet Mask. This Subnet Mask Address is effective when Get IP Address is Manual.
Default Gateway	`0.0.0.0`	Set Printer Default Gateway. This Subnet Mask Address is effective when Get IP Address is Manual.
Get IP Address	Manual	Select method of acquiring IP Address. Selectable method is Manual or DHCP base on the Printer Dip Switch Setting. If Printer Dip Switch 1 OFF and Dip Switch 2 OFF, Manual mode selected If Printer Dip Switch 1 ON and Dip Switch 2 ON, DHCP mode selected
DHCP IP Address	`0.0.0.0`	Set requesting specific IP address to DHCP server. If set 0.0.0.0, DHCP sever allocates printer IP address automatically.

Note: IP addresses that cannot be set with Ethernet model printer are the following:

- `255.255.255.255` (Broad cast address)
- Local loopback address
    - `127.***.***.***`—this is the IP Address to send to oneself and ******* is any value from 0 to 255.

IP Address Automatic Acquisition

When "DHCP" is enabled, the printer automatically gets the IP address, the Subnet Mask and the Default Gateway from a DHCP server. If the printer fails to automatically get the IP address, it uses the same IP address as the Manual mode. The DHCP allocated IP address can be seen on the Diagnostics Form of the connected printer.

TCP/UDP Setting

[TCP/UDP]		
Number of TCP Connections	1	Value(1-6)
Time of Time-out (for Link Down)	120	Value(1-120 minutes) : 0=No timeout
Time of Time-out (for Idle)	2	Value(1-120 minutes) : 0=No timeout
Real Time Command	TCP ▾	Select option
TCP port	9100	Value(1024-65535)
UDP port	3000	Value(1024-65535)

Items	Default Value	Detail
Number of TCP Connections	1	Select the maximum number hosts that can be connected. (1–6)
Time of Time-out (for Link Down)	120 min	Set time of time–out for link down. (0–120 min). When this value is 0, Time–out disables.
Time of Time-out (for Idle)	2 min	Set time of time–out for Idle. (0–120 min). When this value is 0, Time–out disables.
Real Time Command	TCP	Select protocol of Real Time command. (TCP/UDP)
TCP port	9100	Set port number of TCP RAW. This port number range is 1024 to 65535. When "Real Time Command" setting is TCP, it is used by sending and receiving of Real Time Command.
UDP port	3000	Set port number of UDP command. This port number range is 1024 to 65535. This is effective when "Real Time Command" setting is UDP.

Other Ethernet Setting

[Ethernet]		
MAC Address	80-00-0e-4e-40-03	Unchangeable
Physical Layer	Auto ▼	Select option

Items	Default value	Detail
MAC Address	___	Show MAC Address of the printer Ethernet interface. This is the unique value for each Ethernet interface and show only.
Physical Layer	Auto	Select connection Speed and Duplex. (Auto / 10Mbps Half/10 Mbps Full / 100Mbps Half/ 100Mbps Full)

SNMP Setting

This section discusses configuration parameters and default values for the SNMP setting.

SNMP Community Setting

Items	Default value	Detail
Read Only	public	Show SNMP community read only name. Maximum length is 16 characters.
Read/Write		Set SNMP community read-write name. Maximum length is 16 characters.

SNMP IP Trap1 Setting

Items	Default value	Detail
TRAP	Disable	Select whether SNMP TRAP is "Enable" or "Disable".
Address	0.0.0.0	Set address of host that receives SNMP TRAP.
Community Name		Set SNMP TRAP community name. Maximum length is 16 characters.

SNMP IP Trap2 Setting

Items	Default value	Detail
TRAP	Disable	Select whether SNMP TRAP is "Enable" or "Disable".
Address	`0.0.0.0`	Set address of host that receives SNMP TRAP.
Community Name		Set SNMP TRAP community name. Maximum length is 16 characters.

Appendix A: **Printer Specifications**

Printing Specifications

Print head	• Fixed • 576 Print Elements • Direct Thermal • Fixed Head • Line of Dots
Character Cell	Standard: 13 x 24 Dots Compressed: 10 x 24 Dots
Character Size	0.0525-inch wide by 0.092-inch high
Character Spacing	15.25 characters per inch (horizontal)
Character Pitch	15.6 characters per inch (Standard) 20.3 characters per inch (Compressed)
Columns (maximum)	For 80-mm paper: • 44 Columns (Standard) • 56 Columns (Compressed) For 58-mm paper: • 32 Columns (Standard) • 42 Columns (Compressed)
Print Mode	Standard, Compressed, Double High, Double Wide, Upside Down, Rotated, Underline, Scalable, Bold, Superscript, Italic, Subscript
Resident Fonts	Code Page 437, 850, 852, 860, 863, 865, 858, 866, 1252, 1256, Katakana *Unicode support (UTF–16)
Speed	355.6 mm/sec
Print Order	Descending

Line Spacing	7.52 lines per inch (default)
	8.47, 8.13, 7.81, 7.25, 7.00, 5.98 lines per inch and variable lines per inch.
Print Zone	2.83 inches maximum
Noise	57 dBA Sound Pressure (ISO 7779)
ECO	Paper reduction, Power reduction
Other	No Reverse Paper Feed

Power Requirements

The printer receives power either from a host system (integrated) or from a separate in–line power supply (remote) which can be purchased separately. Models receiving power from a power supply use one cable for communication and a separate cable for power.

Power Modes

Below are the available power modes of the printer.

- **NCR Terminal Power–Low Mode (Term Pwr–Low)**: Maximum allowable <u>printing cycle</u> power consumption is 55W.

- **NCR Terminal Power–High Mode (Term Pwr–High)**: Maximum allowable <u>printing cycle</u> power consumption is 55W.

- **NCR 60W Power Supply Mode (NCR 60W Ext Pwr):** Maximum allowable <u>printing cycle</u> power consumption is 60W.

- **NCR 75W Power Supply Mode (NCR 75 Ext Pwr):** Maximum allowable <u>printing cycle</u> power consumption is 75W.

Power from Host

The host computer must provide a +24V supply to the printer. Voltage variation in the 24V line may be within 21.6 and 26.4 volts. Surge protection must be provided. To do this, place a 3.2 Ampere time delay fuse on the +24V line.

Power from External Power Supply

The external power supply must provide a +24V line of power to the printer. Surge protection must be provided.

- When NCR 75W external power supply is used, select **(NCR 75W Ext Pwr)** mode.

- When NCR 60W external power supply is used, select **(NCR 60W Ext Pwr)** mode.

Physical and Operating Environment

Temperature and Humidity

	Temperature	Humidity
Operating	5 to 50°C (41 to 122°F)	5% to 90%
Storage	–10 to 55°C (14 to 131°F)	10% to 90%
Transit	–40 to 60°C (–40 to 140°F)	5% to 95%
Condensation	Condensation may occur when the printer is moved from cold to warm areas after shipment. The printer's design permits operation after drying out and stabilizing at room temperature.	

Reliability

The numbers in the table refer to the Mean Cycle Between Failure (MCBF) for the items indicated.

Note: Reliability statistics are based on averages exhibited under lab conditions and do not constitute a warranty.

Component	Reliability
Thermal Mechanism	60 Million Lines
Communications Card (RS232/USB)	43.45 Million Hours
Communications Card (LAN)	26.3 Million Hours
Main PCB	1.65 Million Hours
Knife	2 Million Cuts

Dimensions and Weight

Height	130.0 mm (5.12 in.)
Width	125.8 mm (4.95 in.)
Depth	163.0 mm (6.42 in.)
Weight	1.1 kg (2.42 lbs)

Appendix B: **Re–flashing the Printer Firmware**

Flash Utility is used to flash the firmware and font files to the printer.

Note: For the detailed procedure, refer to the *NCR Printer Flash Utility Owners Guide* from the NCR web site, *http://www5.ncr.com/support/support_drivers_ patches.asp?Class=External\Peripherals\Printer\FlashUtility\display.*

Appendix C: Lean Receipt Utility

Lean Receipt Utility is used to set the printer ECO setting from the utility.

For detailed procedure, refer to the Lean Receipt utility user manual from the NCR web site: *http://www5.ncr.com/support/support_drivers_ patches.asp?Class=External\Peripherals\Printer\LeanReceiptUtility\display.*

Appendix D: **Print Characteristics**

Character Size

This section shows the dot pattern for characters printed on the receipt station.

Receipt Station

The following two illustrations show the dot patterns of sample characters for standard pitch (15.6 CPI) and compressed pitch (20.3 CPI).

Note: Compressed pitch uses fewer dots horizontally than standard pitch.

Standard Pitch

11 Dots
1.38 mm
.054 in.

13 Dots
1.63 mm
.064 in.

19 Dots
2.38 mm
.094 in.

24 Dots
3.00 mm
.118 in.

B - Upper Case
m - Lower Case
g - With Descender

Ö - With Ascender
$ - Both Ascender and Desender
# - Graphic Symbol

203 DPI, 15.6 CPI Pitch (Standard)
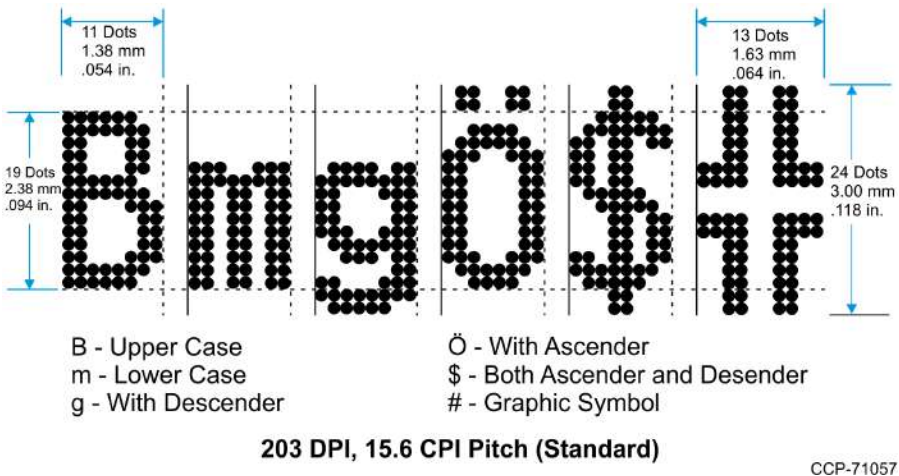
CCP-71057

Compressed Pitch

8 Dots
1.00 mm
.039 in.

10 Dots
1.25 mm
.049 in.

19 Dots
2.38 mm
.094 in.

24 Dots
3.00 mm
.118 in.

B - Upper Case
m - Lower Case
g - With Descender

Ö - With Ascender
$ - Both Ascender and Desender
# - Graphic Symbol

203 DPI, 19 CPI Pitch (Compressed)
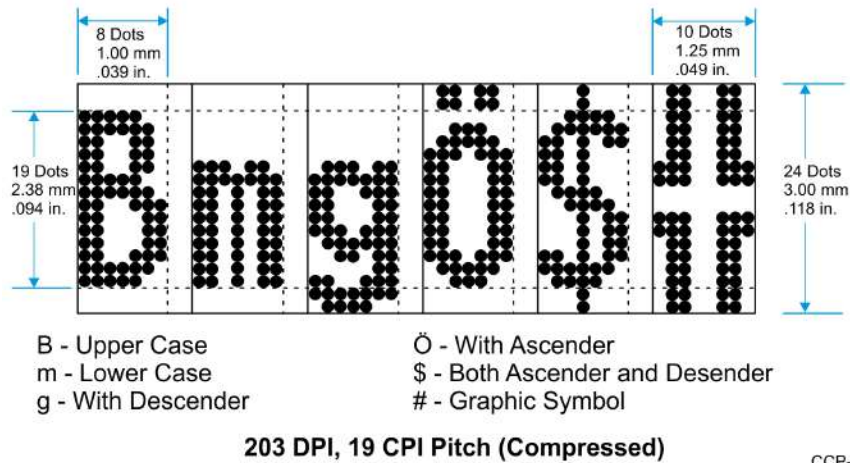
CCP-71058

Print Zones

This section shows the printable area for the receipt station.

Receipt Station

For 80-mm Paper

The receipt station centers characters (standard pitch and compressed pitch) and graphics on a receipt with a width of 27 dots or **80 mm** (3.15 inches).

- Standard pitch: 13 x 24 dots in character cell, 44 characters (columns) per line

- Compressed pitch: 10 x 24 dots in character cell, 56 characters (columns) per line

- Double byte character: 24 x 24 dots in character cell, 24 characters (columns) per line

- Graphics: 576 addressable bits

The minimum print line height is 24 dots for characters and 24 dots for graphics. The standard print line height is 27 dots or **3.38 mm** (0.133 inches) for characters (with three extra dot rows). Refer to the illustration below (not to scale).

Paper Width = 80 mm (3.15 in)

Top Margin, 17.5 mm (.69 in.)
Minimum

Print Zone, 72.10 mm (2.84 in.)
576 Dots

Left and Right Margins, 3.95 mm (.16 in.)
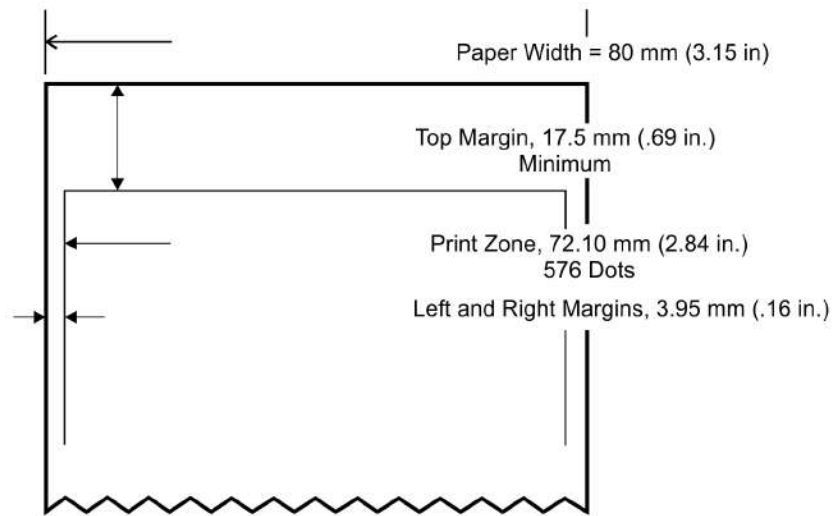
CCP-71054

For 58-mm Paper

The receipt station centers characters (standard pitch and compressed pitch) and graphics on a receipt with a width of **58 mm** (2.28 inches).

- Standard pitch: 13 x 24 dots in character cell, 32 characters (columns) per line

- Compressed pitch: 10 x 24 dots in character cell, 42 characters (columns) per line

- Double byte character: 24 x 24 dots in character cell, 17 characters (columns) per line

- Graphics: 424 addressable bits

The minimum print line height is 24 dots for characters and 24 dots for graphics. The standard print line height is 27 dots or **3.38 mm** (0.133 inches) for characters (with three extra dot rows). Refer to the illustration below (not to scale).

Paper Width = 58 mm (2.28 in)

Top Margin, 17.5 mm (.69 in.)
Minimum

Print Zone, 53.05 mm (2.09 in.)
424 Dots

Left Margin 2.75 mm (.11 in.) and

Right Margins, 2.25 mm (.10 in.)
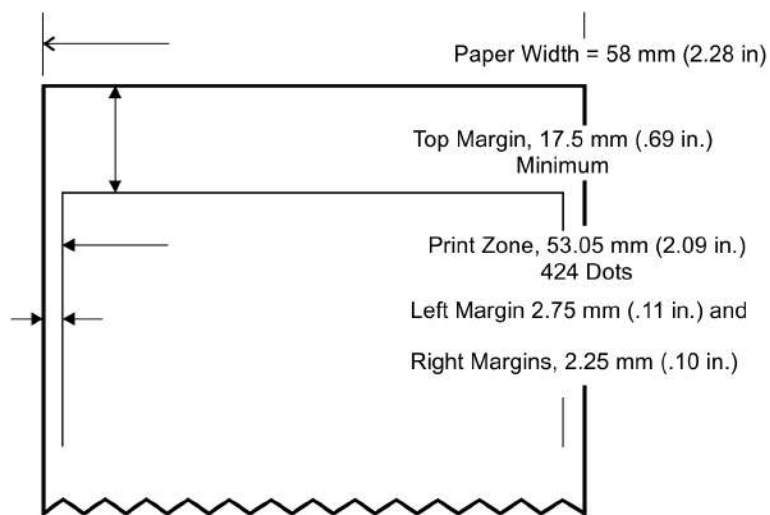
CCP-71053

Appendix E: **Thai Code Page Function**

Outline

7199 RealPOS Thermal Receipt Station Printer supports printing of Thai characters. Code Page 874 (Thai) supports Thai character, but, some characters of them define only a part of one character. Actual Thai character is made up of a combination of some characters (maximum 4 characters in CP 874) for one Thai character. 7199 RealPOS Thermal Receipt Station Printer supports the function which synthesizes Thai character from Code Page 874's characters.

Validate Thai Code Page Function

The Thai code page function is validated when the following conditions are selected.

• Online mode

• Asian Mode = OFF

• Code Page = 874

Thai Character Configuration

The character cell of Thai character is made up of a maximum 4 parts—Top level, Above level, Base line and Below level.)

• **Top Level**—places the Top level characters only. Top level character is placed on the Above characters.

• **Above Level**—places the Above level characters only. The Above level character is placed on the Base line characters.

• **Base Line**—places the Base level characters and Low code characters.

• **Below Level** –places the Below level characters. The Below level character is placed under the Base line character.
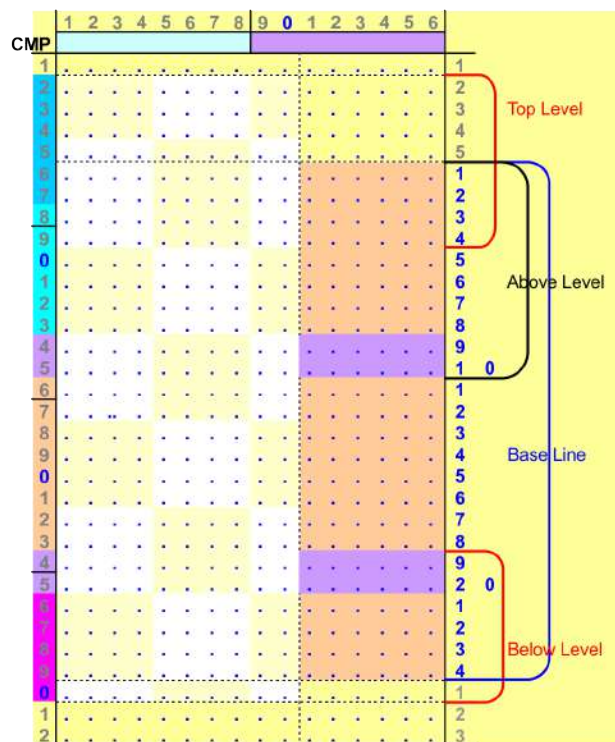
CCP-71044

Below mentions about each character type.

CCP-71043

Base line characters

- Base line characters are the characters encircled in red, purple, and pink.

- The characters encircled in purple will not have below level characters, but they are rarely used.

- The characters encircled in pink will not have top level and above level. Only the ฟ character is rarely used.

- Every character encircled in red and purple must have a top and below level.

Top level/Above level characters

- Characters encircled in blue are Top level/Above level characters.

- Characters encircled in red and purple, and the ฟ character can be both top and above level.

- The characters encircled in blue on the fifth line can be top level when above level character exists. The fourth line characters encircled in blue can be above level only. The fifth line characters encircled in blue can be both top and above level.

Below level characters

- Characters encircled in green are Below level characters. It is impossible that the top, above and below characters are in one character.

Thai Character Data Procedure

Thai character data string uses the following format:

```
Base character, <Below character >, <Above character>, <Top character>,
Base character, ……
```

The printer checks whether the received character is the Base character. If the Top, Above, Below characters are sent before the Base character, these characters are ignored.

After receiving the Base character, the printer checks the next character until it receives the next Base character.

If next character is the Below character, the Above character or Top character, 7199 RealPOS Thermal Receipt Station checks whether these Thai characters are valid for the current Base character. If valid, 7199 RealPOS Thermal Receipt Station merges the characters images on the Base character image. If invalid, the characters are ignored.

Notes for this Function

This function supports standard pitch font and compressed pitch font. Thai character height is 34 dots. The below command functions change, and are different from other code pages.

SYN	Add *n* Extra Dot Rows. **Note:** When CP874 is selected, the line Pitch is 34 + *n* dot
ESC 2	Set Line Spacing to 1/6 inch. **Note:** When CP874 is selected, this command is ignored.
ESC 3	SetLine Spacing. **Note:** When CP874 is selected, valid parameter value is >= 34.

The line pitch is changed by below commands because the code page is changed.

ESC R	Select international character set.
ESC t	Select character code table. **Note:** Same as ESC R.
ESC %	Set/cancel the user–defined character set.
ESC L	Set page mode.
ESC S	Select standard mode.
FF	Form Feed in page mode.

Limitation

The unicode command is ignored under the Thai code page function. When the Asian mode = *ON*, the Thai character image is not synthesized. Each character is printed separately.

Appendix F: **Arabic Font Support**

Outline

7199 RealPOS Thermal Receipt Station supports several features of Arabic font, such as the following:

- Contextual forms
- Word ligatures
- Reverse the Arabic strings

These features can be achieved based on the proportional font and they are available according to the following conditions:

- Arabic Proportional font exist in DBCS font area.
- Asian Mode is disabled.
- Codepage 1256 is selected or Arabic characters (`0600–06FF`) are specified in Unicode mode.

If Arabic proportional font does not exist in the DBCS font area, the above–mentioned features are not available, and Codepage 1256 isolated characters are printed in fixed pitch.

Contextual Forms

Arabic letters have contextual forms, depending on surrounding letters in the same word: a typical–three letter word will start with a letter in initial form, followed by a letter in medial form and, finally, by a letter in final form

Curly writing is a way to write a word with connection to all the characters in that word. This feature is supported in contextual forms.

Word Ligatures

Arabic Presentation Forms-A has a few characters defined as *word ligatures* for terms frequently used in formulaic expressions in Arabic. By way of example, the common ampersand (**&**) represents the conjunctive word *and*. The ampersand symbol is a ligature.

Reverse the Arabic strings

Arabic writing is from right to left by aligning right margin. The data received by the printer will reverse the arabic string and print as per the Arabic format, which is right to left.

Proportional Font

The printer has the following resident proportional characters for Arabic functions (Unicode base).

Lower characters	0020–007F
Arabic (Basic)	0600–06FF, 225 characters
Arabic Supplement	0750–077F, 48 characters
Arabic Extended-A	08A0–08FF, 39 characters
Arabic Presentation Forms-A	FB50–FDFF, 535 characters
Arabic Presentation Forms-B	FE70–FEFF, 140 characters

The characters of Codepage 1256 are covered by the above–mentioned characters.

Proportional Font Conversion Handling of Arabic
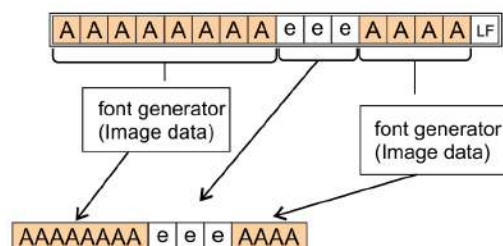
CCP-71055

Limitations

Due to the features of Arabic font, there are several limitations in terms of the character attributes. For more information on the command description, refer to the *NCR RealPOS 7199 Thermal Receipt Station Printer Programmer's Guide (BCC5-0000-5170)*. Please see the command description of Print Characteristic Commands in detail.

Invalid command list

The following table contains a list of commands that are not available if a new Arabic character is used.

Command	Command name	Remarks
ESC DC2	Select 90 Degree Counter-Clockwise Rotated Print	
ESC SYSN	Select Pitch (Column Width)	
ESC SP	Set Character Right-Side Spacing	
ESC !	Select Print Modes	Bit0, Bit3 Invalid
ESC %	Select or Cancel User-Defined Character Set	
ESC & 3	Define User-Defined Characters	
ESC :	Copy Character Set from ROM to RAM	

Command	Command name	Remarks
ESC ?	Cancel User-Defined Characters	
ESC E	Select or Cancel Emphasized Mode	
ESC G	Select Double Strike	
ESC H	Cancel Double Strike	
ESC I	Select or Cancel Italic Print	
ESC V	Select or Cancel 90 Degrees Clockwise Rotated Print	
ESC {	Select or Cancel Upside Down Printing Mode	
US ENQ	Selects Superscript or Subscript Modes	

The following table contains a list of commands which are ignored if the command is sent in the middle of a line that includes an Arabic character.

Command	Command name	Remarks
DC2	Select Double-Wide Characters	
ESC -	Select or Cancel Underline Mode	
ESC r	Select Print Color	
GS !	Select Character Size	
GS B	Select or Cancel White/Black Reverse Printing Mode	
ESC !	Select Print Modes	Bit4, Bit5 Invalid

Horizontal Positioning Commands

Ex) HT Horizontal Tab (6,12,18)
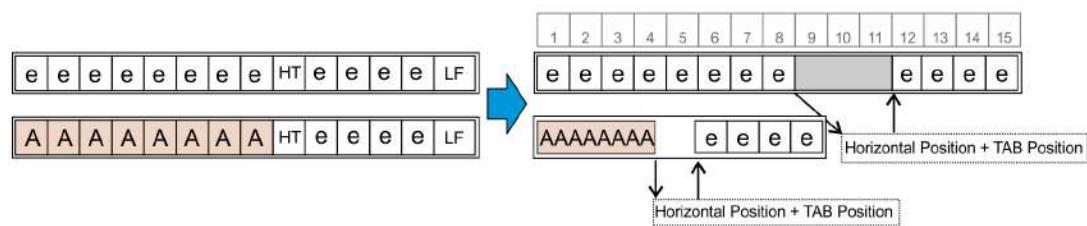
CCP-71059

Invalid command (sample)

Ex) ESC DC2 Select 90 Degree Counter-Clockwise Rotated Print

CCP-71060
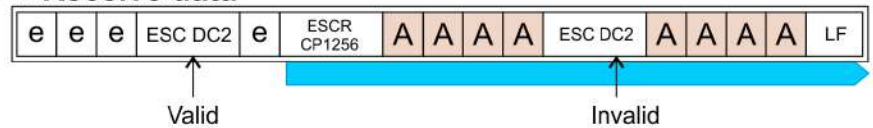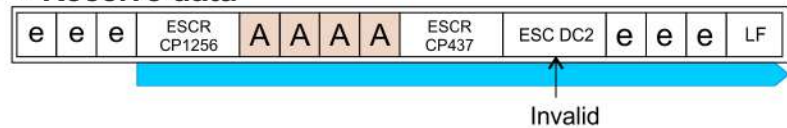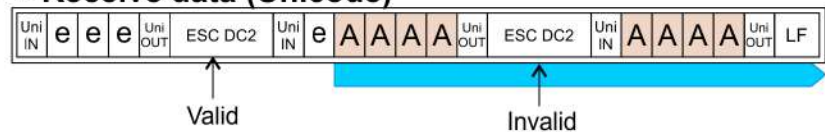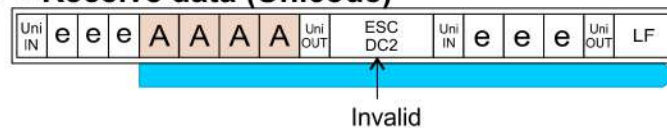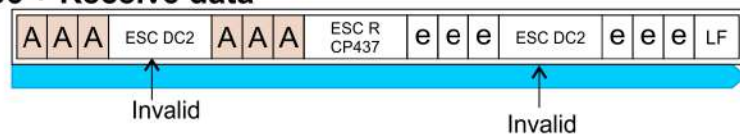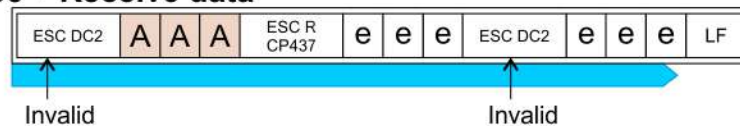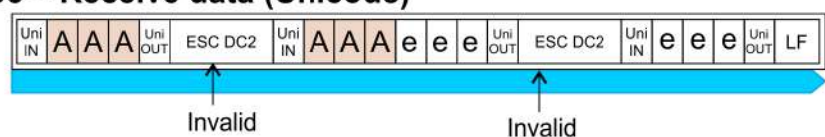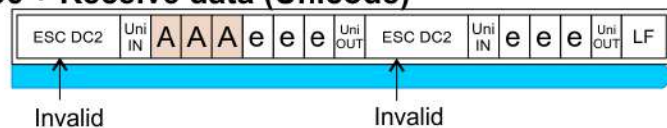
Invalid command in middle of the line (example)

It is invalid for the middle of the line .

Ex) DC2 Select Double-Wide Characters

CCP-71061
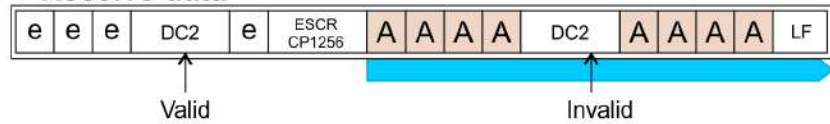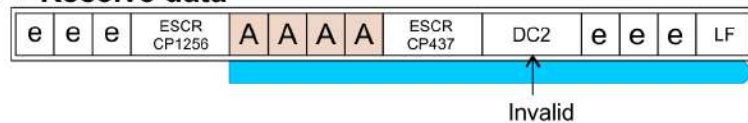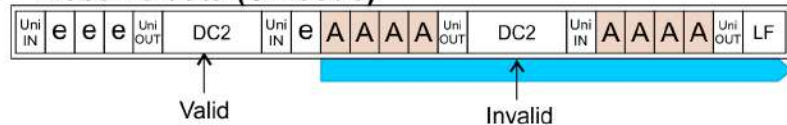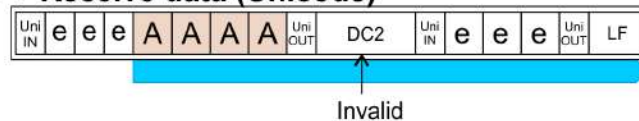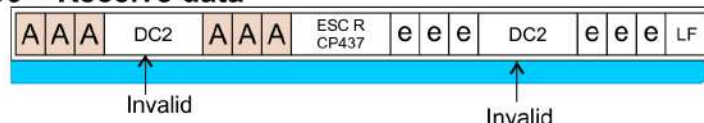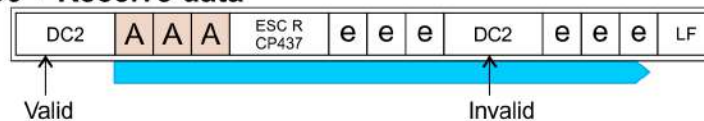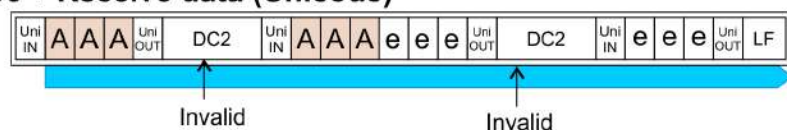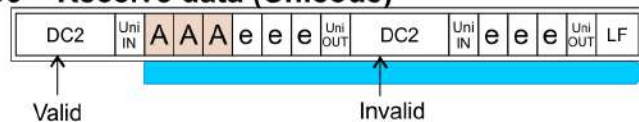
Printing Layout (Over the Area)

If the Arabic character line exceeds printable area, it will be printed as bellows.
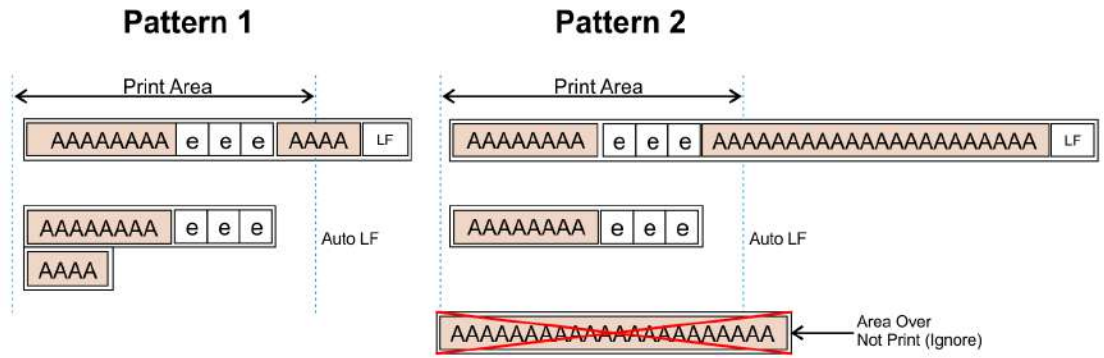
Character Sets

The following pages show the character sets.

- PC Code Page 437 (US)

- PC Code Page 850 (Multilingual)

- PC Code Page 852 (Slavic)

- PC Code Page 860 (Portuguese)

- PC Code Page 862 (Hebrew)

- PC Code Page 863 (French-Canadian)

- PC Code Page 864 (Arabic)

- PC Code Page 865 (Nordic)

- PC Code Page 866 (Cyrillic)

- PC Code Page 1252 (Windows Latin #1)

- PC Code Page 1256 (Arabic) – Contextual

- PC Code Page 1256 (Arabic) – Fixed

- PC Code Page Katakana

- Hungary

- PC Code Page 874 (Enhanced Thai)

- Space Page

- Code Page 932

- Code Page 936

- Code Page 949

- Code Page 950

Code Page 950 Code Page 437, 850, 852 and 858

Code Page 437.

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	Ç	É	á	▓	└	╨	α	≡
01	!	1	A	Q	a	q	ü	æ	í	▒	┴	╤	ß	±
02	"	2	B	R	b	r	é	Æ	ó	█	┬	╥	Γ	≥
03	#	3	C	S	c	s	â	ô	ú	│	├	╙	π	≤
04	$	4	D	T	d	t	ä	ö	ñ	┤	─	╘	Σ	⌠
05	%	5	E	U	e	u	à	ò	Ñ	╡	┼	╒	σ	⌡
06	&	6	F	V	f	v	å	û	ª	╢	╞	╓	µ	÷
07	'	7	G	W	g	w	ç	ù	º	╖	╟	╫	τ	≈
08	(	8	H	X	h	x	ê	ÿ	¿	╕	╚	╪	Φ	°
09	)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	θ	•
0A	*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
0B	+	;	K	[	k	{	ï	¢	½	╗	╦	█	δ	√
0C	,	<	L	\	l			î	£	¼	╝	╠	▄	∞	ⁿ
0D	-	=	M	]	m	}	ì	¥	¡	╜	═	▌	φ	²
0E	.	>	N	^	n	~	Ä	₧	«	╛	╬	▐	ε	■
0F	/	?	O	_	o	⌂	Å	ƒ	»	┐	╧	▀	∩	

Code Page 850.

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	Ç	É	á	▓	└	ð	Ó	-
01	!	1	A	Q	a	q	ü	æ	í	▒	┴	Ð	ß	±
02	"	2	B	R	b	r	é	Æ	ó	█	┬	Ê	Ô	
03	#	3	C	S	c	s	â	ô	ú	│	├	Ë	Ò	¾
04	$	4	D	T	d	t	ä	ö	ñ	┤	─	È	õ	¶
05	%	5	E	U	e	u	à	ò	Ñ	Á	┼	ı	Õ	§
06	&	6	F	V	f	v	å	û	ª	Â	ã	Í	µ	÷
07	'	7	G	W	g	w	ç	ù	º	À	Ã	Î	þ	
08	(	8	H	X	h	x	ê	ÿ	¿	©	╚	Ï	Þ	°
09	)	9	I	Y	i	y	ë	Ö	®	╣	╔	┘	Ú	
0A	*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Û	·
0B	+	;	K	[	k	{	ï	ø	½	╗	╦	█	Ù	¹
0C	,	<	L	\	l			î	£	¼	╝	╠	▄	ý	³
0D	-	=	M	]	m	}	ì	Ø	¡	¢	═	¦	Ý	²
0E	.	>	N	^	n	~	Ä	×	«	¥	╬	Ì	¯	■
0F	/	?	O	_	o	⌂	Å	ƒ	»	┐	╧	▀	´	

Code Page 852.

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	Ç	É	á	▓	└	đ	Ó	-
01	!	1	A	Q	a	q	ü	Ĺ	í	▒	┴	Đ	ß	
02	"	2	B	R	b	r	é	ĺ	ó	█	┬	Ď	Ô	
03	#	3	C	S	c	s	â	ô	ú	│	├	Ë	Ń	
04	$	4	D	T	d	t	ä	ö	Ą	┤	─	ď	ń	
05	%	5	E	U	e	u	ů	Ľ	ą	Á	┼	Ň	ň	§
06	&	6	F	V	f	v	ć	ľ	Ž	Â	Ă	Í	Š	
07	'	7	G	W	g	w	ç	Ś	ž	Ě	ă	Î	š	
08	(	8	H	X	h	x	ł	ś	Ę	Ş	╚	ě	Ŕ	°
09	)	9	I	Y	i	y	ë	Ö	ę	╣	╔	┘	Ú	
0A	*	:	J	Z	j	z	Ő	Ü	¬	║	╩	┌	ŕ	·
0B	+	;	K	[	k	{	ő	Ť	ź	╗	╦	█	Ű	ű
0C	,	<	L	\	l			î	ť	Č	╝	╠	▄	ý	Ř
0D	-	=	M	]	m	}	Ź	Ł	ş	Ż	=	Ţ	Ý	ř
0E	.	>	N	^	n	~	Ä	×	«	ż	╬	Ů	ţ	■
0F	/	?	O	_	o	⌂	Ć	č	»	┐	¤	▀		

Code Page 858.

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	Ç	É	á	▓	└	ð	Ó	-
01	!	1	A	Q	a	q	ü	æ	í	▒	┴	Ð	ß	±
02	"	2	B	R	b	r	é	Æ	ó	█	┬	Ê	Ô	
03	#	3	C	S	c	s	â	ô	ú	│	├	Ë	Ò	¾
04	$	4	D	T	d	t	ä	ö	ñ	┤	─	È	õ	¶
05	%	5	E	U	e	u	à	ò	Ñ	Á	┼	€	Õ	§
06	&	6	F	V	f	v	å	û	ª	Â	ã	Í	µ	÷
07	'	7	G	W	g	w	ç	ù	º	À	Ã	Î	þ	
08	(	8	H	X	h	x	ê	ÿ	¿	©	╚	Ï	Þ	°
09	)	9	I	Y	i	y	ë	Ö	®	╣	╔	┘	Ú	
0A	*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Û	·
0B	+	;	K	[	k	{	ï	ø	½	╗	╦	█	Ù	¹
0C	,	<	L	\	l			î	£	¼	╝	╠	▄	ý	³
0D	-	=	M	]	m	}	ì	Ø	¡	¢	═	¦	Ý	²
0E	.	>	N	^	n	~	Ä	×	«	¥	╬	Ì	¯	■
0F	/	?	O	_	o	⌂	Å	ƒ	»	┐	¤	▀		

Code Page 860, 862, 863 and 864

Code Page 860.

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	Ç	É	á	░	└	╨	α	≡
01	!	1	A	Q	a	q	ü	À	í	▒	┴	╤	ß	±
02	"	2	B	R	b	r	é	È	ó	▓	┬	╥	Γ	≥
03	#	3	C	S	c	s	â	ô	ú	│	├	╙	π	≤
04	$	4	D	T	d	t	ã	õ	ñ	┤	─	╘	Σ	⌠
05	%	5	E	U	e	u	à	ò	Ñ	╡	┼	╒	σ	⌡
06	&	6	F	V	f	v	Á	Ú	ª	╢	╞	╓	µ	÷
07	'	7	G	W	g	w	ç	ù	º	╖	╟	╫	τ	≈
08	(	8	H	X	h	x	ê	Ì	¿	╕	╚	╪	Φ	°
09	)	9	I	Y	i	y	Ê	Õ	Ò	╣	╔	┘	θ	•
0A	*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
0B	+	;	K	[	k	{	Í	¢	½	╗	╦	█	δ	√
0C	,	<	L	\	l			Ô	£	¼	╝	╠	▄	∞	ⁿ
0D	-	=	M	]	m	}	ì	Ù	¡	╜	=	▌	φ	²
0E	.	>	N	^	n	~	Ã	Pt	«	╛	╬	▐	ε	■
0F	/	?	O	_	o	⌂	Â	Ó	»	┐	┴	▀	∩	

Code Page 862

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	א	ב	á	░	└	╨	α	≡
01	!	1	A	Q	a	q	ג	ס	í	▒	┴	╤	ß	±
02	"	2	B	R	b	r	ד	ע	ó	▓	┬	╥	Γ	≥
03	#	3	C	S	c	s	ה	ף	ú	│	├	╙	π	≤
04	$	4	D	T	d	t	ו	פ	ñ	┤	─	╘	Σ	⌠
05	%	5	E	U	e	u	ז	ץ	Ñ	╡	┼	╒	σ	⌡
06	&	6	F	V	f	v	ח	צ	ª	╢	╞	╓	µ	÷
07	'	7	G	W	g	w	ט	ק	º	╖	╟	╫	τ	≈
08	(	8	H	X	h	x	י	ר	¿	╕	╚	╪	Φ	°
09	)	9	I	Y	i	y	ך	ש	⌐	╣	╔	┘	θ	•
0A	*	:	J	Z	j	z	כ	ת	¬	║	╩	┌	Ω	·
0B	+	;	K	[	k	{	ל	¢	½	╗	╦	█	δ	√
0C	,	<	L	\	l			ם	£	¼	╝	╠	▄	∞	ⁿ
0D	-	=	M	]	m	}	מ	¥	¡	╜	=	▌	φ	²
0E	.	>	N	^	n	~	ן	Pt	«	╛	╬	▐	ε	■
0F	/	?	O	_	o	⌂	נ	ƒ	»	┐	┴	▀	∩	

Code Page 863.

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	Ç	É	¦	░	└	╨	α	≡
01	!	1	A	Q	a	q	ü	È	⌐	▒	┴	╤	ß	±
02	"	2	B	R	b	r	é	Ê	ó	▓	┬	╥	Γ	≥
03	#	3	C	S	c	s	â	ô	ú	│	├	╙	π	≤
04	$	4	D	T	d	t	Â	Ë	¨	┤	─	╘	Σ	⌠
05	%	5	E	U	e	u	â	Ï	¸	╡	┼	╒	σ	⌡
06	&	6	F	V	f	v	¶	û	³	╢	╞	╓	µ	÷
07	'	7	G	W	g	w	ç	ù	¯	╖	╟	╫	τ	≈
08	(	8	H	X	h	x	ê	¤	Î	╕	╚	╪	Φ	°
09	)	9	I	Y	i	y	e	Ô	⌐	╣	╔	┘	θ	•
0A	*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
0B	+	;	K	[	k	{	ï	¢	½	╗	╦	█	δ	√
0C	,	<	L	\	l			î	£	¼	╝	╠	▄	∞	ⁿ
0D	-	=	M	]	m	}	‗	Ù	¾	╜	=	▌	φ	²
0E	.	>	N	^	n	~	À	Û	«	╛	╬	▐	ε	■
0F	/	?	O	_	o	⌂	§	ƒ	»	┐	┴	▀	∩	

Code Page 864

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00		0	@	P	`	p	°	β		·	¢	ذ	ـ	‍
01	!	1	A	Q	a	q	·	∞	.	٠	﹤	ر	ﻑ	ﺑ
02	"	2	B	R	b	r	·	φ	Ï	٢	١	ز	ﻗ	ﻥ
03	#	3	C	S	c	s	√	±	£	٣	ﺍ	ﺳ	ﻙ	٠
04	$	4	D	T	d	t	▒	½	ﻼ	١	ﺑ	ﺷ	ﻝ	♦
05	%	5	E	U	e	u	—	¼	ﻻ	°	ﺓ	ﺻ	ﻡ	ﺝ
06	&	6	F	V	f	v			≈	ﻹ	٦	ﺕ	ﺿ	ﻥ	ﺥ
07	'	7	G	W	g	w	+	«	ﻷ	٧	ﺙ	ﻁ	ﻩ	ﺣ
08	(	8	H	X	h	x	┤	»	ﻸ	٨	ﺝ	ﻅ	ﻭ	ﻕ
09	)	9	I	Y	i	y	┬	ﻻ	ﻵ	٩	ﺡ	ﻉ	ﻱ	ﻝ
0A	*	:	J	Z	j	z	├	ﻞ	ﺍ	ﻺ	ﺥ	ﻑ	ﻯ	ﻻ
0B	+	;	K	[	k	{	┴	ﻟ	٠	ﺏ	ﺩ	ﻕ	ﻭ	ﺩ
0C	,	<	L	\	l			┐	ﺍ	ﺃ	ﻮ	ﺫ	ﻙ	ﺃ	ﺫ
0D	-	=	M	]	m	}	ﺏ	ﺀ	ﺫ	ﺓ	ﺥ	ﺿ	ﻍ	ﻱ
0E	.	>	N	^	n	~	ﺍ	ﺅ	ﺫ	ﺽ	ﺱ	ﻁ	ﻍ	■
0F	/	?	O	_	o	⌂	ﺝ	ﺀ	ﺥ	ﺁ	ﺉ	ﺩ	ﻉ	ﺭ

Code Page 865, 866, 874 and 1252

Code Page 865.

```
      2 3 4 5 6 7 8 9 A B C D E F
00      0 @ P ` p Ç É á ⌐ L ╨ α ≡
01    ! 1 A Q a q ü æ í ▒ ⊥ ╤ ß ±
02    " 2 B R b r é Æ ó ▓ ┬ ╥ Γ ≥
03    # 3 C S c s â ô ú │ ├ ╙ π ≤
04    $ 4 D T d t ä ö ñ ┤ ─ ╘ Σ ⌠
05    % 5 E U e u à ò Ñ ╡ ┼ ╒ σ ⌡
06    & 6 F V f v å û ª ╢ ╞ ╓ µ ÷
07    ' 7 G W g w ç ù º ╖ ╟ ╫ τ ≈
08    ( 8 H X h x ê ÿ ¿ ╕ ╚ ╪ Φ °
09    ) 9 I Y i y ë Ö ⌐ ╣ ╔ ┘ Θ ∙
0A    * : J Z j z è Ü ¬ ║ ╩ ┌ Ω ·
0B    + ; K [ k { ï ø ½ ╗ ╦ █ δ √
0C    , < L \ l | î £ ¼ ╝ ╠ ▄ ∞ ⁿ
0D    - = M ] m } ì Ø ¡ ╜ = ▌ φ ²
0E    . > N ^ n ~ Ä ₧ « ┘ ╬ ▐ ε ■
0F    / ? O _ o ⌂ Å ƒ ¤ ┐ ± █ ∩
```

Code Page 866.

```
      2 3 4 5 6 7 8 9 A B C D E F
00      0 @ P ` p А Р а ⌐ L ╨ р Ё
01    ! 1 A Q a q Б С б ▒ ⊥ ╤ с ё
02    " 2 B R b r В Т в ▓ ┬ ╥ т Є
03    # 3 C S c s Г У г │ ├ ╙ у є
04    $ 4 D T d t Д Ф д ┤ ─ ╘ ф Ї
05    % 5 E U e u Е Х е ╡ ┼ ╒ х ї
06    & 6 F V f v Ж Ц ж ╢ ╞ ╓ ц Ў
07    ' 7 G W g w З Ч з ╖ ╟ ╫ ч ў
08    ( 8 H X h x И Ш и ╕ ╚ ╪ ш °
09    ) 9 I Y i y Й Щ й ╣ ╔ ┘ щ ∙
0A    * : J Z j z К Ъ к ║ ╩ ┌ ъ ·
0B    + ; K [ k { Л Ы л ╗ ╦ █ ы √
0C    , < L \ l | М Ь м ╝ ╠ ▄ ь №
0D    - = M ] m } Н Э н ╜ = ▌ э ¤
0E    . > N ^ n ~ О Ю о ┘ ╬ ▐ ю ■
0F    / ? O _ o ⌂ П Я п ┐ ± █ я
```

Code Page 874.

```
      2 3 4 5 6 7 8 9 A B C D E F
00      0 @ P ` p
01    ! 1 A Q a q
02    " 2 B R b r
03    # 3 C S c s
04    $ 4 D T d t
05    % 5 E U e u
06    & 6 F V f v
07    ' 7 G W g w
08    ( 8 H X h x
09    ) 9 I Y i y
0A    * : J Z j z
0B    + ; K [ k {
0C    , < L \ l |
0D    - = M ] m }
0E    . > N ^ n ~
0F    / ? O _ o
```

Code Page 1252.

```
      2 3 4 5 6 7 8 9 A B C D E F
00      0 @ P ` p €       ° À Ð à ð
01    ! 1 A Q a q ' ¡ ± Á Ñ á ñ
02    " 2 B R b r ‚ ' ¢ ² Â Ò â ò
03    # 3 C S c s ƒ " £ ³ Ã Ó ã ó
04    $ 4 D T d t „ " ¤ ´ Ä Ô ä ô
05    % 5 E U e u … • ¥ µ Å Õ å õ
06    & 6 F V f v † - ¦ ¶ Æ Ö æ ö
07    ' 7 G W g w ‡ — § · Ç × ç ÷
08    ( 8 H X h x ˆ ˜ ¨ ¸ È Ø è ø
09    ) 9 I Y i y ‰ ™ © ¹ É Ù é ù
0A    * : J Z j z Š š ª º Ê Ú ê ú
0B    + ; K [ k { ‹ › « » Ë Û ë û
0C    , < L \ l | Œ œ ¬ ¼ Ì Ü ì ü
0D    - = M ] m } - ½ Í Ý í ý
0E    . > N ^ n ~ Ž ž ® ¾ Î Þ î þ
0F    / ? O _ o Ÿ ¯ ¿ Ï ß ï ÿ
```

Code Page 1256 and Katakana

Code Page 932

Code page 932

```
20    ! " ♯ $ ％ & ' ( ) ＊ ＋ , - . /
30  0 1 2 3 4 5 6 7 8 9 : ; < = > ?
40  ＠ A B C D E F G H I J K L M N O
50  P Q R S T U V W X Y Z [ ¥ ] ˆ _
60  ` a b c d e f g h i j k l m n o
70  p q r s t u v w x y z { | } ‾
80
90
A0    。 「 」 、 ・ ヲ ァ ィ ゥ ェ ォ ャ ュ ョ ッ
B0  ー ア イ ウ エ オ カ キ ク ケ コ サ シ ス セ ソ
C0  タ チ ツ テ ト ナ ニ ヌ ネ ノ ハ ヒ フ ヘ ホ マ
D0  ミ ム メ モ ヤ ユ ヨ ラ リ ル レ ロ ワ ン ゙ ゚
E0
F0
```

Code page 932-81

```
40  ＿ 、 。 , . ・ : ; ? ! ゛ ゜ ´ ` ¨ ＾
50  ‾ ＿ ヽ ヾ ゝ ゞ 〃 仝 々 〆 〇 ー ― ‐ ／ ＼
60  ～ ‖ | … ‥ ' ' " " ( ) 〔 〕 [ ] {
70  } 〈 〉 《 》 「 」 『 』 【 】 ＋ － ± ×
80  ÷ ＝ ≠ < > ≦ ≧ ∞ ∴ ♂ ♀ ° ′ ″ ℃ ¥
90  ＄ ¢ £ ％ ＃ ＆ ＊ ＠ § ☆ ★ ○ ● ◎ ◇ ◆
A0  □ ■ △ ▲ ▽ ▼ ※ 〒 → ← ↑ ↓ 〓
B0                              ∈ ∋ ⊆ ⊇ ⊂ ⊃ ∪ ∩
C0                        ∧ ∨ ￢ ⇒ ⇔ ∀ ∃
D0                                  ∠ ⊥ ⌒ ∂ ∇ ≡
E0  ≒ ≪ ≫ √ ∽ ∝ ∵ ∫ ∬
F0  Å ‰ ♯ ♭ ♪ † ‡ ¶                      ○
```

Code page 932-82

```
40                                              0
50    1 2 3 4 5 6 7 8 9
60  A B C D E F G H I J K L M N O P
70  Q R S T U V W X Y Z
80    a b c d e f g h i j k l m n o
90  p q r s t u v w x y z        ぁ
A0  あ い ぃ う ぅ え ぇ お ぉ か が き ぎ く ぐ け
B0  げ こ ご さ ざ し じ す ず せ ぜ そ ぞ た だ ち
C0  ぢ っ つ づ て で と ど な に ぬ ね の は ば ぱ
D0  ひ び ぴ ふ ぶ ぷ へ べ ぺ ほ ぼ ぽ ま み む め
E0  も ゃ や ゅ ゆ ょ よ ら り る れ ろ ゎ わ ゐ ゑ
F0  を ん
```

Code page 932-83

```
40  ァ ア ィ イ ゥ ウ ェ エ ォ オ カ ガ キ ギ ク グ
50  ケ ゲ コ ゴ サ ザ シ ジ ス ズ セ ゼ ソ ゾ タ ダ
60  チ ヂ ッ ツ ヅ テ デ ト ド ナ ニ ヌ ネ ノ ハ バ
70  パ ヒ ビ ピ フ ブ プ ヘ ベ ペ ホ ボ ポ マ ミ
80  ム メ モ ャ ヤ ュ ユ ョ ヨ ラ リ ル レ ロ ヮ ワ
90  ヰ ヱ ヲ ン ヴ ヵ ヶ                          A
A0  Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ
B0  Σ Τ Υ Φ Χ Ψ Ω                          α
C0  β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ
D0  σ τ υ φ χ ψ ω
E0
F0
```

Code page 932-87

```
40  ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯
50  ⑰ ⑱ ⑲ ⑳ Ⅰ Ⅱ Ⅲ Ⅳ Ⅴ Ⅵ Ⅶ Ⅷ Ⅸ Ⅹ ㍉ ㌔
60  ㌢ ㍍ ㌘ ㌧ ㌃ ㌶ ㍑ ㍗ ㌍ ㌦ ㌣ ㌫ ㍊ ㌻ ㎜ ㎝
70  cm km mg kg cc ㎡                         平 成
80    ″ ‰ № ㏍ ℡ ㊤ ㊥ ㊦ ㊧ ㊨ ㈱ ㈲ ㈹ ㍾ ㍽ ㍼
90  ≒ ≡ ∫ ∮ Σ √ ⊥ ∠ ∟ ⊿ ∵ ∩ ∪
A0
B0
C0
D0
E0
F0
```

Code Page 932 (continuation)

Code page 932-84

40	А Б В Г Д Е Е Ж З И Й К Л М Н О
50	П Р С Т У Ф Х Ц Ч Ш Щ Ъ Ы Ь Э Ю
60	Я
70	а б в г д е ё ж з и й к л м н
80	о п р с т у ф х ц ч ш щ ъ ы ь э
90	ю я —
A0	┌ ┐ ┘ └ ├ ┬ ┤ ┴ ┼ ─ │ ┌ ┘ └
B0	├ ┬ ┤ ┴ ┼ ├ ┬ ┤ ┴ ┼ ├ ┬ ┤ ┴ ┼
C0	
D0	
E0	
F0	

Code page 932-87

40	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯
50	⑰ ⑱ ⑲ ⑳ Ⅰ Ⅱ Ⅲ Ⅳ Ⅴ Ⅵ Ⅶ Ⅷ Ⅸ Ⅹ
60	mm
70	cm km mm gkg ccm' 戦
80	" „ KKTel 上 中 下 左 右 株 有 代 略 大 正 劂
90	≒ ≡ ∫ § Σ √ ⊥ ∠ ∟ ⌒ ∵ ∩ ∪
A0	
B0	
C0	
D0	
E0	
F0	

Code page 932-88

40	
50	
60	
70	
80	
90	亜
A0	唖 娃 阿 哀 愛 挨 姶 逢 葵 茜 穐 悪 握 渥 旭 葦
B0	芦 鯵 梓 圧 斡 扱 宛 姐 虻 飴 絢 綾 鮎 或 粟 袷
C0	安 庵 按 暗 案 闇 鞍 杏 以 伊 位 依 偉 囲 夷 委
D0	威 尉 惟 意 慰 易 椅 為 畏 異 移 維 緯 胃 萎 衣
E0	謂 違 遺 医 井 亥 域 育 郁 磯 一 壱 溢 逸 稲 茨
F0	芋 鰯 允 印 咽 員 因 姻 引 飲 淫 胤 蔭

Code page 932-89

40	院 陰 隠 韻 吋 右 宇 烏 羽 迂 雨 卯 鵜 窺 丑 碓
50	臼 渦 嘘 唄 欝 蔚 鰻 姥 厩 浦 瓜 閏 噂 云 運 雲
60	荏 餌 叡 営 嬰 影 映 曳 栄 永 泳 洩 瑛 盈 穎 頴
70	英 衛 詠 鋭 液 疫 益 駅 悦 謁 越 閲 榎 厭 円
80	園 堰 奄 宴 延 怨 掩 援 沿 演 炎 焔 煙 燕 猿 縁
90	艶 苑 薗 遠 鉛 鴛 塩 於 汚 甥 凹 央 奥 往 応 押
A0	旺 横 欧 殴 王 翁 襖 鴬 鴎 黄 岡 沖 荻 億 屋 憶
B0	臆 桶 牡 乙 俺 卸 恩 温 穏 音 下 化 仮 何 伽 価
C0	佳 加 可 嘉 夏 嫁 家 寡 科 暇 果 架 歌 河 火 珂
D0	禍 禾 稼 箇 花 苛 茄 荷 華 菓 蝦 課 嘩 貨 迦 過
E0	霞 蚊 俄 峨 我 牙 画 臥 芽 蛾 賀 雅 餓 駕 介 会
F0	解 回 塊 壊 廻 快 怪 悔 恢 懐 戒 拐 改

Code Page 932 (continuation)

Code page 932-8A

```
40  魁晦槐海灰界皆絵芥蟹開階貝凱劾外
50  咳害崖慨概涯碍蓋街該鎧骸浬馨蛙垣
60  柿蛎鈎劃嚇各廓拡撹格核殻獲確穫覚
70  角赫較郭閣隔革学岳楽額顎掛笠樫
80  橿梶鰍潟割喝恰括活渇滑葛褐轄且鰹
90  叶椛樺鞄株兜竃蒲釜鎌噛鴨栢茅萱粥
A0  刈苅瓦乾侃冠寒刊勘勧巻喚堪姦完官
B0  寛干幹患感慣憾換敢柑桓棺款歓汗漢
C0  澗潅環甘監看竿管簡緩缶翰肝艦莞観
D0  諌貫還鑑間閑関陥韓館舘丸含岸巌玩
E0  癌眼岩翫贋雁頑顔願企伎危喜器基奇
F0  嬉寄岐希幾忌揮机旗既期棋棄
```

Code page 932-8B

```
40  機帰毅気汽畿祈季稀紀徽規記貴起軌
50  輝飢騎鬼亀偽儀妓宜戯技擬欺犠疑祇
60  義蟻誼議掬菊鞠吉吃喫桔橘詰砧杵黍
70  却客脚虐逆丘久仇休及吸宮弓急救
80  朽求汲泣灸球究窮笈級糾給旧牛去居
90  巨拒拠挙渠虚許距鋸漁禦魚亨享京供
A0  侠僑兇競共凶協匡卿叫喬境峡強彊怯
B0  恐恭挟教橋況狂狭矯胸脅興蕎郷鏡響
C0  饗驚仰凝尭暁業局曲極玉桐粁僅勤均
D0  巾錦斤欣欽琴禁禽筋緊芹菌衿襟謹近
E0  金吟銀九倶句区狗玖矩苦躯駆駈駒具
F0  愚虞喰空偶寓遇隅串櫛釧屑屈
```

Code page 932-8C

```
40  掘窟沓靴轡窪熊隈粂栗繰桑鍬勲君薫
50  訓群軍郡卦袈祁係傾刑兄啓圭珪型契
60  形径恵慶慧憩掲携敬景桂渓畦稽系経
70  継繋罫茎荊蛍計詣警軽頚鶏芸迎鯨
80  劇戟撃激隙桁傑欠決潔穴結血訣月件
90  倹倦健兼券剣喧圏堅嫌建憲懸拳捲検
A0  権牽犬献研硯絹県肩見謙賢軒遣鍵険
B0  顕験鹸元原厳幻弦減源玄現絃舷言諺
C0  限乎個古呼固姑孤己庫弧戸故枯湖狐
D0  糊袴股胡菰虎誇跨鈷雇顧鼓五互伍午
E0  呉吾娯後御悟梧檎瑚碁語誤護醐乞鯉
F0  交佼侯候倖光公功効勾厚口向
```

Code page 932-8D

```
40  后喉坑垢好孔孝宏工巧巷幸広庚康弘
50  恒慌抗拘控攻昂晃更杭校梗構江洪浩
60  港溝甲皇硬稿糠紅紘絞綱耕考肯肱腔
70  膏航荒行衡講貢購郊酵鉱砿綱閤降
80  項香高鴻剛劫号合壕拷濠豪轟麹克刻
90  告国穀酷鵠黒獄漉腰甑忽惚骨狛込此
A0  頃今困坤墾婚恨懇昏昆根梱混痕紺艮
B0  魂些佐叉唆嵯左差査沙瑳砂詐鎖裟坐
C0  座挫債催再最哉塞妻宰彩才採栽歳済
D0  災采犀砕砦祭斎細菜裁載際剤在材罪
E0  財冴坂阪堺榊肴咲崎埼碕鷺作削咋搾
F0  昨朔柵窄策索錯桜鮭笹匙冊刷
```

Code page 932-8E

```
40  察拶撮擦札殺薩雑皐鯖捌錆鮫皿晒三
50  傘参山惨撒散桟燦珊産算纂蚕讃賛酸
60  餐斬暫残仕仔伺使刺司史嗣四士始姉
70  姿子屍市師志思指支孜斯施旨枝止
80  死氏獅祉私糸紙紫肢脂至視詞詩試誌
90  諮資賜雌飼歯事似侍児字寺慈持時次
A0  滋治爾璽痔磁示而耳自蒔辞汐鹿式識
B0  鴫竺軸宍雫七叱執失嫉室悉湿漆疾質
C0  実蔀篠偲柴芝屡蕊縞舎写射捨赦斜煮
D0  社紗者謝車遮蛇邪借勺尺杓灼爵酌釈
E0  錫若寂弱惹主取守手朱殊狩珠種腫趣
F0  酒首儒受呪寿授樹綬需囚収周
```

Code page 932-8F

```
40  宗就州修愁拾洲秀秋終繍習臭舟蒐衆
50  襲讐蹴輯週酋酬集醜什住充十従戎柔
60  汁渋獣縦重銃叔夙宿淑祝縮粛塾熟出
70  術述俊峻春瞬竣舜駿准循旬楯殉淳
80  準潤盾純巡遵醇順処初所書庶緒署
90  書薯藷諸助叙女序徐恕鋤除傷償勝
A0  匠升召哨商唱嘗奨妾娼宵将小少尚庄
B0  床廠彰承抄招掌捷昇昌昭晶松梢樟樵
C0  沼消渉湘焼焦照症省硝礁祥称章笑粧
D0  紹肖菖蒋蕉衝裳訟証詔詳象賞醤鉦鍾
E0  鐘障鞘上丈丞乗冗剰城場壌嬢常情擾
F0  条杖浄状畳穣蒸譲醸錠嘱埴飾
```

Code Page 932 (continuation)

Code page 932-90

```
40   試植殖燭織職色触食飴辱尻伸信侵唇
50   娠震審心慎振新晋森榛浸深申疹真神
60   秦紳臣芯薪親診身辛進針震人仁刃塵
70   壬尋甚尽腎訊迅陣靭笥諏須酢図厨
80   逗吹垂帥推水炊睡粋翠衰遂酔錐錘随
90   瑞髄崇嵩数枢趨雛据杉椙菅頗雀裾澄
A0   摺寸世瀬畝是凄制勢姓征性成政整星
B0   晴棲栖正清牲生盛精聖声製西誠誓請
C0   逝醒青静斉税脆隻席惜戚斥昔析石積
D0   籍績脊責赤跡蹟碩切拙接摂折設窃節
E0   説雪絶舌蝉仙先千占宣専尖川戦扇撰
F0   栓栴泉浅洗染潜煎煽旋穿箭線
```

Code page 932-91

```
40   繊羨腺舛船薦詮賎践選遷銭銑閃鮮前
50   善漸然全禅繕膳糎噛塑岨措曾曽楚狙
60   疏疎礎祖租粗素組蘇訴阻遡鼠僧創双
70   叢倉喪壮奏爽宋層匝惣想捜掃挿掻
80   操早曹巣槍槽漕燥争痩相窓糟総綜聡
90   草荘葬蒼藻装走送遭鎗霜騒像増憎臓
A0   蔵贈造促側則即息捉束測足速俗属賊
B0   族続卒袖其捕存孫尊損村遜他多太汰
C0   詑唾堕妥惰打柁舵楕陀駄騨体堆対耐
D0   岱帯待怠態戴替泰滞胎腿苔袋貸退逮
E0   隊黛鯛代台大第醍題鷹滝瀧卓啄宅托
F0   択拓沢濯琢託鐸濁諾茸凧蛸只
```

Code page 932-92

```
40   叩但達辰奪脱巽竪辿棚谷狸鱈樽誰丹
50   単嘆坦担探旦歎淡湛炭短端箪綻耽胆
60   蛋誕鍛団壇弾断暖檀段男談値知地弛
70   恥智池痴稚置致蜘遅馳築畜竹筑蓄
80   逐秩窒茶嫡着中仲宙忠抽昼柱注虫衷
90   註酎鋳駐樗瀦猪苧著貯丁兆凋喋寵帖
A0   帳庁弔張彫徴懲挑暢朝潮牒町眺聴脹
B0   腸蝶諜超跳銚長頂鳥勅捗直朕沈珍
C0   賃鎮陳津墜椎槌追鎚痛通塚栂掴槻佃
D0   漬柘辻蔦綴鍔椿潰坪壷嬬紬爪吊釣鶴
E0   亭低停偵剃貞呈堤定帝底庭廷弟悌抵
F0   挺提梯汀碇禎程締艇訂諦蹄逓
```

Code page 932-93

```
40   邸鄭釘鼎泥摘擢敵滴的笛適鏑溺哲徹
50   撤轍迭鉄典填天展店添纏甜貼転顛点
60   伝殿澱田電兎吐堵塗妬屠徒斗杜渡登
70   菟賭途都鍍砥砺努度土奴怒倒党冬
80   凍刀唐塔塘套宕島嶋悼投搭東桃梼棟
90   盗淘湯涛灯燈当痘祷等答筒糖統到董
A0   蕩藤討謄豆踏逃透鐙陶頭騰闘働動同
B0   堂導憧撞洞瞳童胴萄道銅峠鴇匿得徳
C0   涜特督禿篤毒独読栃橡凸突椴届鳶苫
D0   寅酉瀞噸屯惇敦沌豚遁頓呑曇鈍奈那
E0   内乍凪薙謎灘捺鍋楢馴縄畷南楠軟難
F0   汝二尼弐迩匂賑肉虹廿日乳入
```

Code page 932-94

```
40   如尿韮任妊忍認濡禰祢寧葱猫熱年念
50   捻撚燃粘乃廼之埜嚢悩濃納能脳膿農
60   覗蚤巴把播覇杷波派琶破婆罵芭馬俳
70   廃拝排敗杯盃牌背肺輩配倍培媒梅
80   楳煤狽買売賠陪這蝿秤矧萩伯剥博拍
90   柏泊白箔粕舶薄迫曝漠爆縛莫駁麦函
A0   箱硲箸肇筈櫨幡肌畑畠八鉢溌発醗髪
B0   伐罰抜筏閥鳩噺塙蛤隼伴判半反叛帆
C0   搬斑板氾汎版犯班畔繁般藩販範釆煩
D0   頒飯挽晩番盤磐蕃蛮匪卑否妃庇彼悲
E0   扉批披斐比泌疲皮碑秘緋罷肥被誹費
F0   避非飛樋簸備尾微枇毘琵眉美
```

Code page 932-95

```
40   鼻柊稗匹疋髭彦膝菱肘弼必畢筆逼桧
50   姫媛紐百謬俵彪標氷漂瓢票表評豹廟
60   描病秒苗錨鋲蒜蛭鰭品彬斌浜瀕貧賓
70   頻敏瓶不付埠夫婦富冨布府怖扶敷
80   斧普浮父符腐膚芙譜負賦赴阜附侮撫
90   武舞葡蕪部封楓風葺蕗伏副復幅服福
A0   腹複覆淵弗払沸仏物鮒分吻噴墳憤扮
B0   焚奮粉糞紛雰文聞丙併兵塀幣平弊柄
C0   並蔽閉陛米頁僻壁癖碧別瞥蔑箆偏変
D0   片篇編辺返遍便勉娩弁鞭保舗鋪圃捕
E0   歩甫補輔穂募墓慕戊暮母簿菩倣俸包
F0   呆報奉宝峰峯崩庖抱捧放方朋
```

Code Page 932 (continuation)

Code page 932-96

```
40   法泡烹砲縫胞芳萌逢蜂麥訪叢邦鋒鮑
50   鳳鵬乏亡傍剖坊妨帽忘忙房暴望某棒
60   冒紡肪膨謀貌貿鉾防吠頬北僕卜墨撲
70   朴牧睦穆釦勃没殆堀幌奔本翻凡盆
80   摩磨魔麻埋妹昧枚毎哩槙幕膜枕鮪柾
90   鱒桝亦俣又抹末沫迄侭繭麿万慢満漫
A0   蔓味未魅巳箕岬密蜜湊蓑稔脈妙粍民
B0   眠務夢無牟矛霧鵡椋婿娘冥名命明盟
C0   迷銘鳴姪牝滅免棉綿緬面麺摸模茂妄
D0   孟毛猛盲網耗蒙儲木黙目杢勿餅尤戻
E0   籾貰問悶紋門匁也冶夜爺耶野弥矢厄
F0   役約薬訳躍靖柳薮鑓愉愈油癒
```

Code page 932-97

```
40   諭輸唯佑優勇友宥幽悠憂揖有柚湧涌
50   猶猷由祐裕誘遊邑郵雄融夕予余与誉
60   輿預傭幼妖容庸揚揺擁曜楊様洋溶熔
70   用窯羊耀葉蓉要謡踊遥陽養慾抑欲
80   沃浴翌翼淀羅螺裸来莱頼雷洛絡落酪
90   乱卵嵐欄濫藍蘭覧利吏履李梨理璃痢
A0   裏裡里離陸律率立葎掠略劉流溜琉留
B0   硫粒隆竜龍侶慮旅虜了亮僚両凌寮料
C0   梁涼猟療瞭稜糧良諒遼量陵領力緑倫
D0   厘林淋燐琳臨輪隣鱗麟瑠塁涙累類令
E0   伶例冷励嶺怜玲礼苓鈴隷零霊麗齢暦
F0   歴列劣烈裂廉恋憐漣煉簾練聯
```

Code page 932-98

```
40   蓮連錬呂魯櫓炉賂路露労婁廊弄朗楼
50   榔浪漏牢狼篭老聾蝋郎六麓禄肋録論
60   倭和話歪賄脇惑枠鷲亙亘鰐詫薀蕨椀
70   湾碗腕
80
90                                              式
A0   丐丕个丱丶丼丿乂乖乘亂亅豫亊舒弍
B0   于亞亟亠亢亰亳亶从仍仄仆仂仗仞仭
C0   仟价伉佚估佛佝佗佇佶侈侏侘佻佩佰
D0   侑佯來侖儘俔俟俎俘俛俑俚俐俤俥倚
E0   倨倔倪倥倅伜俶倡倩倬俾俯們倆偃假
F0   會偕偐偈做偖偬偸傀傚傅傴傲
```

Code page 932-99

```
40   僉僊傳僂僖僞僥僭僣僮價僵儉儁儂儖
50   儕儔儚儡儺儷儼儻儿兀兒兌兔兢竸兩
60   兪兮冀冂囘册冉冏冑冓冕冖冤冦冢冩
70   冪冫决冱冲冰况冽凅凉凛几處凩凭
80   凰凵凾刀刃刋刎刊刔刎刧刪刮剏剄剋
90   剌剞剔剪剴剩剳剿剽劍劔劒剱劈劑辨
A0   辧劬劭劼劵勁勍勗勞勣勦飭勠勳勵勸勹
B0   勹匆匈甸匍匐匏匕匚匣匯匱匳匸區卆卅
C0   世丗卍凖卞卩卮夘卻卷厂厖厘厚厝厲厴
D0   厰厶參簒雙叟曼燮叮叨叭叺吁吽呀听
E0   吭吼吮吶吩吝呎咏呵咎呟呷呻咀呶咄呰
F0   咀咐咆哇咢咸咥咬哄哈咨
```

Code page 932-9A

```
40   咫哂咤咾咼哘哥哦唏唔哽哮哭哺哢唹
50   啀啣啌售啜啅啖啗唸唳啝喙喀咯喊喟
60   啻啾喘喞單啼喃喩喇喨嗚嗅嗟嗄嗜嗤
70   嗔嘔嗷嘖嗾嗽嘛嗹噎噐營嘴嘶嘲嘸
80   噫噤嘯噬噪嚆嚀嚊嚠嚔嚏嚥嚮嚶嚴囂
90   嚼囁囃囀囈囀囂囔囗囮囹圀囿圄圉圈
A0   國圍圓團圖嗇圜圦圷圸坎圻址坏坩堝
B0   坫坡坿垉垓垠垳垤垪垰埃埖埆埔埒埓
C0   堊埖塰堋堙堝塲堡塢塤塡塰毀塒堽塹墅
D0   墹墟墫墺壞墻墸墮壅壓壑壗壥壜壤壩壯
E0   壺壹壻壼壽夂夊夐夛梦夥夬夭夲夸夾竒
F0   奕奐奎奚奘奢奠奧奬奩
```

Code page 932-9B

```
40   妁妝佞侫妣妲姆姨姜妍姙姚娥娟娑娓
50   娜娉娚婀婬婉娵娶婢婪媚媼媾嫋嫂媽
60   嫣嫗嫦嫩嫖嫺嫻嬌嬋嬖嬲嫐嬪嬶嬾孃
70   孅孀孑孕孚孛孥孩孰孳孵學斈孺宀
80   它宦宸寃寇寉寔寐寤實寢寞寥寫寰寶寳
90   寶尅將專對尓尠尢尨尸尹屁屆屎屓屓
A0   屏孱屬屮乢屶屹岌岑岔妛岫岻岶岼岷
B0   峅岾峇峙峩峽峺峭嶌峪崋崕崗嵜崟崛
C0   崑崔崢崚崙崘嵌嵒嵎嵋嵬嵳嵶嶁嶄嶂
D0   嵿嶬嶬嶮嶽嶐嶝嶬巉巍巓巖巛巫已
E0   巵帋帚帙帑帛帶帷幄幃幀幎幗幔幟幢
F0   幤幇幵并幺麼广庠廁廂廈廐廏
```

Code Page 932 (continuation)

Code page 932-9C

Code page 932-9D

Code page 932-9E

Code page 932-9F

Code page 932-E0

Code page 932-E1

Code Page 932 (continuation)

Code page 932-E2

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40
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80
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A0
B0
C0
D0
E0
F0
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Code page 932-E3

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40
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80
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A0
B0
C0
D0
E0
F0
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Code page 932-E4

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80
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A0
B0
C0
D0
E0
F0
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Code page 932-E5

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80
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A0
B0
C0
D0
E0
F0
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Code page 932-E6

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80
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A0
B0
C0
D0
E0
F0
```

Code page 932-E7

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40
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80
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A0
B0
C0
D0
E0
F0
```

Code Page 932 (continuation)

Code page 932-E8

40	鎦鎝鐯鎭鋍鈥鈇鍜鍠鍼鎙鏨鎵鎬鎱鐀
50	鼗鑋鞵鑿鎿鎺鍲鐉鍄鏈鐡鐥鐼鎙鏐鐵
60	鐵鐬鎁鐵鐵鐵鎱鑿鐀鍆鍗鐵鐵鐵鐄鐥
70	鍒鍤鍔鐵鐷鐷鐵閂閊閂閄閄閉問閅
80	閖閗閍閏閐閑閕閤閖閛閑閣閛閝閑
90	閖閛閮閖阡阨阮阯陂陌陏陋陋陝陸陝
A0	陟陜陘陘陘陰陰陦陔隊隍陽陽隶隶
B0	佳雉惟雉雞雖雒雈雈雷雷霆霈霈霝霈
C0	霸霏霈霑霈霈霈霈霈霈霈霈霈霈
D0	鮑鮂鮆鮄鮊靫靫靬靫靫靫鞋鞏鞐鞋
E0	鞖鞳鞛鞝鞴鞲鞵鞰韋館韭韌篳篳篲韶韵
F0	頄頌頍頎頏頏頖頖頖頖頖頖頖

Code page 932-E9

40	頬頷顳風飆飁飂飀飃飶飺飶飶飾飽
50	餘餡餝餹餮餯餺餼餿饆饑饓饔饐饛饖
60	餼饊馝馗馘馚馛馭馮馱馰駃駝駘駃駅
70	駱駢駟駺駻駽駾騅騏騌騫騬騮驅騨驫騘
80	驄驕駶驛駷駸騧騨騩騪騫驫騵骭骱骼骾
90	髀髁髄髄骰髟髦髣髯髫髫髰髫髫髻髻
A0	髭鬁髮鬃鬆鬍鬥鬧鬨鬩鬪鬮魂魄魁魃
B0	魏魍魎魑魖魩魬鮓鮒鮊鮍鮎魬鮚鮞鮔
C0	鮫鮭鮚鮦鮮鮰鮲鮴鮴鮼鮷鯀鯁鮵鮶鮁
D0	鮻鮽鮿鯏鯑鯒鯄鯎鯵鯤鯝鯡鯢鯤鯘鯝
E0	鯥鯦鯡鯤鯖鯥鯨麁麀鳫鴻鳯鳰鳬鳧鴫
F0	鳰鳴鳵鴣鴟鴬鴕鴜鴝鴀鴇鴿鴾鴴

Code page 932-EA

40	鵝鵟鵞鵬鵡鵬鵠鵝鵲鵪鵡鵧鵬鵲鷥鵾
50	鶍鶊鶤鶙鶬鶼鶍鶰鶭鶬鶲鶱鶍鶴鶵鶹
60	鶺鶇鶵鹹虹麋麼麾黌黌黌黌麗麥黏麩
70	黐黐麻黌黍黏黔黎黟黠黜黠黛黠
80	黴黶黷黐鼈鼉鼓鼗鼗鼗鼕鼠鼢鼾齏齒
90	齔齟齬齠齡齦齲齦齮齶鱏鱐龍龍龕龜
A0	槇遙瑤凜熙
B0	
C0	
D0	
E0	
F0	

Code page 932-ED

40	纊褜鍈銈蓜俿炻昱棈鋹曻彅丨仡仉仞
50	仵伌佤伃佧佒伭俦俠侥偺傜俻偀倢俌
60	俻偙偢傿俬兟兤冝冾凬刕劜劦勀勛匀匇匤卲
70	厓厲叝﨎咜咊咩哿喆坙坥垬埈埇﨏
80	塚增墲夋奓奛奝奣妤妺孖寀甯寘寬尞
90	岦岺峵崧嵓﨑嵂峵嶧嶫巐弡弴彧德忞
A0	恝悅悊惞惕愠惲愑愷愰憘戓抦揵摠撝
B0	擎敎昀昕昢昒昡昰昺昽晛晜晥晗晙晴
C0	晳暙暠暲暿曺朎朗杦枻桒柀栁桄棏桴
D0	榊榎楨榉�榖榥榓榔氿汜沆汯泚洄涇
E0	浯涖涬淏淸淲淼渹湜渧渼溿澈澵濵瀅
F0	瀇瀨炅炫焏焄煜煆煇凞燁燾犱犾

Code page 932-EE

40	狊狤猪獷玽珉珖珣玽琇珱琇琦璌珺璙琮璻
50	琭瑋瓶皉皜睲畠疆瘼皬盉皸砈硺硐硤硺硾
60	碝碄祥禔禋禇禑竑竧竮筇筙箞鏏絈絾絣
70	綠綝繢羨羽茁荢荢菇菶莼菏萴菏蕚蕀蕍蕌
80	蕰薸蕷蕼蚈螻禊袔裋袔裍裍諥諧諟諻
90	諐諗諞諚趂趂軏軥逸遧郞鄕鄒鄉鈄釪
A0	釚釭釮釤釥鈆鈐鈊鈺鉀鈼鉎鉙鉑鈹鉧
B0	銧鉷鉸鋧鋗鋖鋘鋊鋍鋐錝錂鋺錃鋷鋽
C0	錪鋾鉾銿鉾鉾鉾鉾鉾鉾鋋錌閍隝隝
D0	隯霳霻霶霺靏靑靚靕靦靨裄韴頰
E0	顀皫皫皫骪骹骲骲骴骶黒 丨
F0	ii iii iv v vi vii viii ix x ｢ ｣ ▼ ▼▼

Code page 932-FA

40	i ii iii iv v vi vii viii ix x Ⅰ Ⅱ Ⅲ Ⅳ Ⅴ Ⅵ
50	Ⅶ Ⅷ Ⅸ Ⅹ ￢ ￤ ' ▼ ▼▼ ㈱ No Tel ". 纊褜鍈銈
60	蓜俿炻昱棈鋹曻彅丨仡仉仞仵伌佤伃佧
70	佒伭俦俠侥偺傜俻偀倢俌俻偙偢傿俬
80	兟兤冝冾凬刕劜劦勀勛匀匇匤卲厓厲叝﨎
90	咜咊咩哿喆坙坥垬埈埇﨏塚增墲夋
A0	奓奛奝奣妤妺孖寀甯寘寬尞岦岺峵崧
B0	嵓﨑嵂峵嶧嶫巐弡弴彧德忞恝悅悊惞
C0	惕愠惲愑愷愰憘戓抦揵摠撝擎敎昀昕
D0	昢昒昡昰昺昽晛晜晥晗晙晴晳暙暠暲暿曺朎
E0	朗杦枻桒柀栁桄棏桴榊榎楨榉椄榖榥
F0	榓榔氿汜沆汯泚洄涇浯涖涬淏淸淲溿渧滣

Code Page 932 (continuation)

Code page 932-FB

40	泣淬渓清涙淼淘湜渧渓湃澈漸濱瀅濱
50	瀬旻炫煦煮煜燉煇烜爆焦犾狄猥猪獷
60	珣珉玳珣瑋琇瑾琦琪瑁琮瑢璉璟瓶畯
70	畀皞皥鼻曒益睆矼砡刷硤碌曋礼神
80	祥禔福禛竑竕竧竫筝精紵絜綷綟緒繪
90	繝羨羽耑耇茂菇菫蓂萠萲蕚鵙蕉蕎
A0	甡蟖寏訥訷訐誧誾諟諶諝諜賹頖賢
B0	赶赳軏汲逸遑郎郜鄉郾釚釗釟釭釸釤
C0	釙鈒鈐鈄鈺鉀鉈鉎銤鉑鈹鉬銚鋴鉸鋲
D0	鋦鋙鉉鋥銇鋠銂鑕鋹銻銲銶鈼鋩鈷鋑鈑
E0	錦錤鎮鎸錜鍄錀鎤鍲陉陋隈隔隃蘿薲
F0	靈靆靑靖頖頖飯餇餕館靜騊高

Code page 932-FC

40	魝魵魲魟鮖鮗鮟鰕鵰鶉鶴鷯黑
50	
60	
70	
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A0	
B0	
C0	
D0	
E0	
F0	

Code Page 936 Simple Chinese

A440 - A4FF

```
40
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90
A0   あ あ い い う う え え お お か が き ぎ く
B0   ぐ け げ こ ご き ぎ し じ す ず せ ぜ そ ぞ た
C0   だ ち ぢ っ つ づ て で と ど な に ぬ ね の は
D0   ば ぱ ひ び ぴ ふ ぶ ぷ へ べ ぺ ほ ぼ ぱ ま み
E0   む め も や や ゆ よ より ら り る れ ろ わ わ
F0   ゐ ゑ を ん
```

A140 - A1FF

```
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A0          、 。 ・ ‥ ˇ ¨ 〃 々 ─ 〜 ‖ … ''
B0   ""  ˜ () 〈〉 《》 「」 『』 【】 〔〕
C0   ± × ÷ : ∧ ∨ Σ Π ∪ ∈ ∷ √ ⊥ ∥ ∠
D0   ⌒ ⊙ ∫ ∮ ≡ ≌ ≈ ∽ ∝ ≠ ≮ ≯ ≤ ≥ ∞ ∵
E0   ∴ ♂ ♀ ° ′ ″ ℃ $ ¤ ¢ £ ‰ § № ☆ ★
F0   ○ ● ◎ ◇ ◆ □ ■ △ ▲ ※ → ← ↑ ↓ ▬
```

A240 - A2FF

```
40
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60
70
80
90
A0        i ii iii iv v vi vii viii ix x
B0   1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.
C0   16. 17. 18. 19. 20. (1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
D0   (12)(13)(14)(15)(16)(17)(18)(19)(20)①②③④⑤⑥⑦
E0   ⑧⑨⑩    ㈠㈡㈢㈣㈤㈥㈦㈧㈨㈩
F0   Ⅰ Ⅱ Ⅲ Ⅳ Ⅴ Ⅵ Ⅶ Ⅷ Ⅸ Ⅹ Ⅺ Ⅻ
```

A340 - A3FF

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

A540 - A5FF

```
40
50
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A0     ァ ア ィ イ ゥ ウ ェ エ ォ オ カ ガ キ ギ ク
B0   グ ケ ゲ コ ゴ サ ザ シ ジ ス ズ セ ゼ ソ ゾ タ
C0   ダ チ ヂ ッ ツ ヅ テ デ ト ド ナ ニ ヌ ネ ノ ハ
D0   バ パ ヒ ビ ピ フ ブ プ ヘ ベ ペ ホ ボ ポ マ ミ
E0   ム メ モ ヤ ャ ユ ュ ョ ヨ ラ リ ル レ ロ ワ ヮ
F0   ヰ ヱ ヲ ン ヴ ヵ ヶ
```

A640 - A6FF

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40
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A0     Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο
B0   Π Ρ Σ Τ Υ Φ Χ Ψ Ω
C0      α β γ δ ε ζ η θ ι κ λ μ ν ξ ο
D0   π ρ σ τ υ φ χ ψ ω
E0   ︵ ︶ ︹ ︺ ︿ ﹀ ︽ ︾ ﹁ ﹂ ﹃ ﹄
F0   ﹇ ﹈ ︶ ︿ ︶ ︺
```

A740 - A7FF

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80
90
A0     А Б В Г Д Е Ё Ж З И Й К Л М Н
B0   О П Р С Т У Ф Х Ц Ч Ш Щ Ъ Ы Ь Э
C0   Ю Я
D0     а б в г д е ё ж з и й к л м н
E0   о п р с т у ф х ц ч ш щ ъ ы ь э
F0   ю я
```

Code Page 936 Simple Chinese (Continuation)

A840 - A8FF

```
40
50
60
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80
90
A0    ō ó ǒ ò ē é ě è ı̄ ı́ ı̌ ı̀ ō ó ǒ
B0    ò ū ú ǔ ù ǖ ǘ ǚ ǜ ü ê ɑ     ḿ ń
C0    ǹ          ㄅ ㄆ ㄇ ㄈ ㄉ ㄊ ㄋ ㄌ ㄍ ㄎ ㄏ
D0    ㄐ ㄑ ㄒ ㄓ ㄔ ㄕ ㄖ ㄗ ㄘ ㄙ ㄚ ㄛ ㄜ ㄝ ㄞ ㄟ
E0    ㄠ ㄡ ㄢ ㄣ ㄤ ㄥ ㄦ ㄧ ㄨ ㄩ
F0
```

A940 - A9FF

```
40
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80
90
A0         ─ │ │ ┌ ┐ └ ┘ ├
B0    ┌ ┌ ┌ ┌ ┐ ┐ ┐ └ └ └ ┘ ┘ ┘
C0    ├ ├ ├ ├ ├ ├ ┤ ┤ ┤ ┤ ┤ ┤ ┤
D0    ┬ ┬ ┬ ┬ ┬ ┬ ┴ ┴ ┴ ┴ ┴
E0    ┼ ┼ ┼ ┼ ┼ ┼ ┼ ┼ ┼ ┼ ┼ ┼ ┼
F0
```

AA40 - AAFF

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40
50
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70
80
90
A0
B0
C0
D0
E0
F0
```

AB40 - ABFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

AC40 - ACFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

AD40 - ADFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

AE40 - AEFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

AF40 - AFFF

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40
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80
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A0
B0
C0
D0
E0
F0
```

Code Page 936 Simple Chinese (Continuation)

B040 - B0FF

40	
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A0	啊阿埃挨哎唉哀皑癌蔼矮艾碍爱隘
B0	鞍氨安俺按暗岸胺案肮昂盎凹敖熬翱
C0	袄傲奥懊澳芭捌扒叭吧笆八疤巴拔跋
D0	靶把耙坝霸罢爸白柏百摆佰败拜稗斑
E0	班搬扳般颁板版扮拌伴瓣半办绊邦帮
F0	梆榜膀绑棒磅蚌镑傍谤苞胞包褒剥

B140 - B1FF

40	
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A0	薄雹保堡饱宝抱报暴豹鲍爆杯碑悲
B0	卑北辈背贝钡倍狈备惫焙被奔苯本笨
C0	崩绷甭泵蹦迸逼鼻比鄙笔彼碧蓖蔽毕
D0	毙毖币庇痹闭敝弊必辟壁臂避陛鞭边
E0	编贬扁便变卞辨辩辫遍标彪膘表鳖憋
F0	别瘪彬斌濒滨宾摈兵冰柄丙秉饼炳

B240 - B2FF

40	
50	
60	
70	
80	
90	
A0	病并玻菠播拨钵波博勃搏铂箔伯帛
B0	舶脖膊渤泊驳捕卜哺补埠不布步簿部
C0	怖擦猜裁材才财睬踩采彩菜蔡餐参蚕
D0	残惭惨灿苍舱仓沧藏操糙槽曹草厕策
E0	侧册测层蹭插叉茬茶查碴搽察岔差诧
F0	拆柴豺搀掺蝉馋谗缠铲产阐颤昌猖

B340 - B3FF

40	
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60	
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80	
90	
A0	场尝常长偿肠厂敞畅唱倡超抄钞朝
B0	嘲潮巢吵炒车扯撤掣彻澈郴臣辰尘晨
C0	忱沉陈趁衬撑称城橙成呈乘程惩澄诚
D0	承逞骋秤吃痴持匙池迟弛驰耻齿侈尺
E0	赤翅斥炽充冲虫崇宠抽酬畴踌稠愁筹
F0	仇绸瞅丑臭初出橱厨躇锄雏滁除楚

B440 - B4FF

40	
50	
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A0	础储矗搐触处揣川穿椽传船喘串疮
B0	窗幢床闯创吹炊捶锤垂春椿醇唇淳纯
C0	蠢戳绰疵茨磁雌辞慈瓷词此刺赐次聪
D0	葱囱匆从丛凑粗醋簇促蹿篡窜摧崔催
E0	脆瘁粹淬翠村存寸磋撮搓措挫错搭达
F0	答瘩打大呆歹傣戴带殆代贷袋待逮

B540 - B5FF

40	
50	
60	
70	
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A0	怠耽担丹单郸掸胆旦氮但惮淡诞弹
B0	蛋当挡党荡档刀捣蹈倒岛祷导到稻悼
C0	道盗德得的蹬灯登等瞪凳邓堤低滴迪
D0	敌笛狄涤翟嫡抵底地蒂第帝弟递缔颠
E0	掂滇碘点典靛垫电佃甸店惦奠淀殿碉
F0	叼雕凋刁掉吊钓调跌爹碟蝶迭谍叠

B640 - B6FF

40	
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A0	丁盯叮钉顶鼎锭定订丢东冬董懂动
B0	栋侗恫冻洞兜抖斗陡豆逗痘都督毒犊
C0	独读堵睹赌杜镀肚度渡妒端短锻段断
D0	缎堆兑队对墩吨蹲敦顿囤钝盾遁掇哆
E0	多夺垛躲朵跺舵剁惰堕蛾峨鹅俄额讹
F0	娥恶厄扼遏鄂饿恩而儿耳尔饵洱二

B740 - B7FF

40	
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60	
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A0	贰发罚筏伐乏阀法珐藩帆番翻樊矾
B0	钒繁凡烦反返范贩犯饭泛坊芳方肪房
C0	防妨仿访纺放菲非啡飞肥匪诽吠肺废
D0	沸费芬酚吩氛分纷坟焚汾粉奋份忿愤
E0	粪丰封枫蜂峰锋风疯烽逢冯缝讽奉凤
F0	佛否夫敷肤孵扶拂辐幅氟符伏俘服

Code Page 936 Simple Chinese (Continuation)

B840 - B8FF

40	
50	
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A0	浮涪福袱弗甫抚辅俯釜斧脯腑府腐
B0	赴副覆赋复傅付阜父腹负富讣附妇缚
C0	咐噶嘎该改概钙盖溉干甘杆柑竿肝赶
D0	感秆敢赣冈刚钢缸肛纲岗港杠篙皋高
E0	膏羔糕搞镐稿告哥歌搁戈鸽胳疙割革
F0	葛格蛤阁隔铬个各给根跟耕更庚羹

B940 - B9FF

40	
50	
60	
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A0	埂耿梗工攻功恭龚供躬公宫弓巩汞
B0	拱贡共钩勾沟苟狗垢构购够辜菇咕箍
C0	估沽孤姑鼓古蛊骨谷股故顾固雇刮瓜
D0	剐寡挂褂乖拐怪棺关官冠观管馆罐惯
E0	灌贯光广逛瑰规圭硅归龟闺轨鬼诡癸
F0	桂柜跪贵刽辊滚棍锅郭国果裹过哈

BA40 - BAFF

40	
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A0	骸孩海氦亥害骇酣憨邯韩含涵寒函
B0	喊罕翰撼捍旱憾悍焊汗汉夯杭航壕嚎
C0	豪毫郝好耗号浩呵喝荷菏核禾和何合
D0	盒貉阂河涸赫褐鹤贺黑痕很狠恨哼
E0	亨横衡恒轰哄烘虹鸿洪宏弘红喉侯猴
F0	吼厚候后呼乎忽瑚壶葫胡蝴狐糊湖

BB40 - BBFF

40	
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A0	弧虎唬护互沪户花哗华猾滑画划化
B0	话槐徊怀淮坏欢环桓还缓换患唤痪豢
C0	焕涣宦幻荒慌黄磺蝗簧皇凰惶煌晃幌
D0	恍谎灰挥辉徽恢蛔回毁悔慧卉惠晦贿
E0	秽会烩汇讳诲绘荤昏婚魂浑混豁活伙
F0	火获或惑霍货祸击圾基机畸稽积箕

BC40 - BCFF

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A0	肌饥迹激讥鸡姬绩缉吉极棘辑籍集
B0	及急疾汲即嫉级挤几脊己蓟技冀季伎
C0	祭剂悸济寄寂计记既忌际妓继纪嘉枷
D0	夹佳家加荚颊贾甲钾假稼价架驾嫁歼
E0	监坚尖笺间煎兼肩艰奸缄茧检柬碱碱
F0	拣捡简俭剪减荐槛鉴践贱见键箭件

BD40 - BDFF

40	
50	
60	
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A0	健舰剑饯渐溅涧建僵姜将浆江疆蒋
B0	桨奖讲匠酱降蕉椒礁焦胶交郊浇骄娇
C0	嚼搅铰矫侥脚狡角饺缴绞剿教酵轿较
D0	叫窖揭接皆秸街阶截劫节桔杰捷睫竭
E0	洁结解姐戒藉芥界借介疥诫届巾筋斤
F0	金今津襟紧锦仅谨进靳晋禁近烬浸

BE40 - BEFF

40	
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60	
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90	
A0	尽劲荆兢茎睛晶鲸京惊精粳经井警
B0	景颈静境敬镜径痉靖竟竞净炯窘揪究
C0	纠玖韭久灸九酒厩救旧臼舅咎就疚鞠
D0	拘狙疽居驹菊局咀矩举沮聚拒据巨具
E0	距踞锯俱句惧炬剧捐鹃娟倦眷卷绢撅
F0	攫抉掘倔爵桀决诀绝均菌钧军君峻

BF40 - BFFF

40	
50	
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70	
80	
90	
A0	俊竣浚郡骏喀咖卡咯开揩楷凯慨刊
B0	堪勘坎砍看康慷糠扛抗亢炕考拷烤靠
C0	坷苛柯棵磕颗科壳咳可渴克刻客课肯
D0	啃垦恳坑吭空恐孔控抠口扣寇枯哭窟
E0	苦酷库裤夸垮挎跨胯块筷侩快宽款匡
F0	筐狂框矿眶旷况亏盔岿窥葵奎魁傀

Code Page 936 Simple Chinese (Continuation)

Left column:

C040 - C0FF
40
50
60
70
80
90
A0 馈馈溃坤昆捆困括扩廓阔垃拉喇蜡
B0 腊辣啦莱来赖蓝婪栏拦篮阑兰澜谰揽
C0 览懒缆烂滥琅榔狼郎朗捞劳牢老
D0 佬姥酪烙涝勒乐雷镭蕾磊累儡垒擂肋
E0 类泪棱楞冷厘梨犁黎篱狸离漓理李里
F0 鲤礼莉荔吏栗丽厉励砾历利僳例俐

C140 - C1FF
40
50
60
70
80
90
A0 俐立粒沥隶力璃哩俩联莲连镰廉怜
B0 涟帘敛脸链恋炼练楝凉梁粱良两辆量
C0 晾亮谅撩聊僚疗撩寥辽潦了撩獠寮料
D0 列裂烈劣猎琳林磷霖临邻鳞淋凛赁吝
E0 拎玲菱零龄铃伶羚凌灵陵岭领另令溜
F0 琉榴硫馏留刘瘤流柳六龙聋咙笼窿

C240 - C2FF
40
50
60
70
80
90
A0 隆垄拢陇楼娄搂篓漏陋芦卢颅庐炉
B0 掳卤虏鲁麓碌露路赂鹿潞禄录陆戮驴
C0 吕铝侣旅履屡缕虑氯律率滤绿峦孪挛
D0 孪卵乱掠抡轮伦仑沦纶论萝螺罗逻
E0 锣箩骡裸落洛骆络妈麻玛码蚂马骂嘛
F0 吗埋买麦卖迈脉瞒馒蛮满蔓曼慢漫

C340 - C3FF
40
50
60
70
80
90
A0 谩芒茫盲氓忙莽猫茅锚毛矛铆卯茂
B0 冒帽貌贸么玫枚梅酶霉煤没眉媒镁每
C0 美昧寐妹媚门闷们萌蒙檬盟锰猛梦孟
D0 眯醚靡糜迷谜弥米秘觅泌蜜密幂棉眠
E0 绵冕免勉娩缅面苗描瞄藐秒渺庙妙蔑
F0 灭民抿皿敏悯闽明螟鸣铭名命谬摸

Right column:

C440 - C4FF
40
50
60
70
80
90
A0 摹蘑模膜磨摩魔抹末莫墨默沫漠寞
B0 陌谋牟某拇牡亩姆母墓暮幕募慕木目
C0 睦牧穆拿哪呐钠那娜纳氖乃奶耐奈南
D0 男难囊挠脑恼闹淖呢馁内嫩能妮霓倪
E0 泥尼拟你匿腻逆溺蔫拈年碾撵捻念娘
F0 酿鸟尿捏聂孽啮镊镍涅您柠狞凝宁

C540 - C5FF
40
50
60
70
80
90
A0 柠狞牛扭钮纽脓浓农弄奴努怒女暖
B0 虐疟挪懦糯诺哦欧鸥殴藕呕偶沤啪趴
C0 爬帕怕琶拍排牌徘湃派攀潘盘磐盼畔
D0 判叛乓庞旁耪胖抛咆刨炮袍跑泡呸胚
E0 培裴赔陪配佩沛喷盆砰抨烹澎彭蓬棚
F0 硼篷膨朋鹏捧碰坯砒霹批披劈琵毗

C640 - C6FF
40
50
60
70
80
90
A0 啤脾疲皮匹痞僻屁譬篇偏片骗飘漂
B0 瓢票撇瞥拼频贫品聘乒坪苹萍平凭瓶
C0 评屏坡泼颇婆破魄迫粕剖扑铺仆莆葡
D0 菩蒲埔朴圃普浦谱曝瀑期欺栖戚妻七
E0 凄漆柒沏其棋奇歧畦崎脐齐旗祈祁骑
F0 起岂乞企启契砌器气迄弃汽泣讫掐

C740 - C7FF
40
50
60
70
80
90
A0 恰洽牵扦钎铅千迁签仟谦乾黔钱钳
B0 前潜遣浅谴堑嵌欠歉枪呛腔羌墙蔷强
C0 抢橇锹敲悄桥瞧乔侨巧鞘撬翘峭俏窍
D0 切茄且怯窃钦侵亲秦琴勤芹擒禽寝沁
E0 青轻氢倾卿清擎晴氰情顷请庆琼穷秋
F0 丘邱球求囚酋泅趋区蛆曲躯屈驱渠

Code Page 936 Simple Chinese (Continuation)

C840 - C8FF

```
40
50
60
70
80
90
A0    取琴搔趋去圈颧权醛泉全痊拳大寿
B0    劝缺炔瘸却鹊檀确雀鹊群然燃冉染瓤
C0    壤攘嚷让饶扰绕蕙热壬仁人忍韧任认
D0    刃妊纫扔仍日戎茸蓉荣融熔溶容绒冗
E0    揉柔肉茹蠕嚅濡如辱乳汝入褥软阮蕊
F0    瑞锐闰润若弱撒洒萨腮鳃塞赛三叁
```

C940 - C9FF

```
40
50
60
70
80
90
A0    伞散桑嗓丧搔骚扫嫂瑟色涩森僧莎
B0    砂杀刹沙纱傻啥煞筛晒珊苫杉山删煽
C0    衫闪陕擅膳赡善汕墒伤商赏晌上
D0    尚裳梢捎稍烧芍勺韶少哨邵绍奢赊蛇
E0    舌舍赦摄射慑涉社设砷申呻伸身深娠
F0    绅神沈审婶甚肾慎渗声生甥牲升绳
```

CA40 - CAFF

```
40
50
60
70
80
90
A0    省盛剩胜圣师失狮施湿诗尸虱十石
B0    拾时什食蚀实识史矢使屎驶始式示士
C0    世柿事拭誓逝势是嗜噬适仕侍释饰氏
D0    市恃室视试收手首守寿授售受瘦兽蔬
E0    枢梳殊抒输叔舒淑疏书赎孰熟薯暑曙
F0    署蜀黍鼠属术述树束戍竖墅庶数漱
```

CB40 - CBFF

```
40
50
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70
80
90
A0    恕刷耍摔衰甩帅栓拴霜双爽谁水睡
B0    税吮瞬顺舜说硕朔烁斯撕嘶思私司丝
C0    死肆寺嗣四伺似饲巳松怂颂送宋诉讼
D0    诵搜艘擞嗽苏酥俗素速粟僳塑溯宿诉
E0    煮酸蒜算虽隋随绥髓碎岁穗遂隧祟孙
F0    损笋蓑梭唆缩琐索锁所塌他它她塔
```

CC40 - CCFF

```
40
50
60
70
80
90
A0    獭挞蹋踏胎苔抬台泰酞太态汰坍摊
B0    贪瘫滩坛檀炎潭谭谈坦毯袒碳探叹炭
C0    汤塘搪堂棠膛唐糖倘躺淌趟烫掏涛滔
D0    绦萄桃逃淘陶讨套特藤腾疼誊梯剔踢
E0    锑提题蹄啼体替嚏惕涕剃屉天添填田
F0    甜恬舔腆挑条迢眺跳贴铁帖厅听烃
```

CD40 - CDFF

```
40
50
60
70
80
90
A0    汀廷停亭庭挺艇通桐酮瞳同铜彤童
B0    桶捅筒统痛偷投头透凸秃突图徒途涂
C0    屠土吐兔湍团推颓腿蜕褪退吞屯臀拖
D0    托脱鸵陀驮驼椭妥拓唾挖哇蛙洼娃瓦
E0    袜歪外豌弯湾玩顽丸烷完碗挽晚皖惋
F0    宛婉万腕汪王亡枉网往旺望忘妄威
```

CE40 - CEFF

```
40
50
60
70
80
90
A0    巍微危韦违桅围唯惟为潍维苇萎委
B0    伟伪尾纬未蔚味畏胃喂魏位渭谓尉慰
C0    卫瘟温蚊文闻纹吻稳紊问嗡翁瓮挝蜗
D0    涡窝我斡卧握沃巫呜钨乌污诬屋无芜
E0    梧吾吴毋武五捂午舞伍侮坞戊雾晤物
F0    勿务悟误昔熙析西硒矽晰嘻吸锡牺
```

CF40 - CFFF

```
40
50
60
70
80
90
A0    稀息希悉膝夕惜熄烯溪汐犀檄袭席
B0    习媳喜铣洗系隙戏细瞎虾匣霞辖暇峡
C0    侠狭下厦夏吓掀锨先仙鲜纤咸贤衔舷
D0    闲涎弦嫌显险现献县腺馅羡宪陷限线
E0    相厢镶香箱襄湘乡翔祥详想响享项巷
F0    橡像向象萧硝霄削哮嚣销消宵淆晓
```

Code Page 936 Simple Chinese (Continuation)

D040 - D0FF

```
40
50
60
70
80
90
A0    小孝校肖啸笑效楔些歇蝎鞋协挟携
B0    邪斜胁谐写械卸蟹懈澥渫谢屑薪芯锌
C0    欣辛新忻心信衅星腥猩惺兴刑型形邢
D0    行醒幸杏性姓兄凶胸匈汹雄熊休修羞
E0    朽嗅锈秀袖绣墟戌需虚嘘须徐许蓄酗
F0    叙旭序畜恤絮婿绪续轩喧宣悬旋玄
```

D440 - D4FF

```
40
50
60
70
80
90
A0    浴寓裕预豫驭鸳渊冤元垣袁原援辕
B0    园员圆猿源缘远苑愿怨院曰约越跃钥
C0    岳粤月悦阅耘云郧匀陨允运蕴酝晕韵
D0    孕匝砸杂栽哉灾宰载再在咱攒暂赞赃
E0    脏葬遭糟凿藻枣早澡蚤躁噪造皂灶燥
F0    责择则泽贼怎增憎曾赠扎喳渣札轧
```

D140 - D1FF

```
40
50
60
70
80
90
A0    选癣眩绚靴薛学穴雪血勋熏循旬询
B0    寻驯巡殉汛训讯逊迅压押鸦鸭呀丫芽
C0    牙蚜崖衙涯雅哑亚讶焉咽阉烟淹盐严
D0    研蜒岩延言颜阎炎沿奄掩眼衍演艳堰
E0    燕厌砚雁唁彦焰宴谚验殃央鸯秧杨扬
F0    佯疡羊洋阳氧仰痒养样漾邀腰妖瑶
```

D540 - D5FF

```
40
50
60
70
80
90
A0    则闸栅榨咋乍炸诈摘斋宅窄债寨
B0    瞻毡詹粘沾盏斩辗崭展蘸栈占战站湛
C0    绽樟章彰漳张掌涨杖丈帐账仗胀瘴障
D0    招昭找沼赵照罩兆肇召遮折哲蛰辙者
E0    锗蔗这浙珍斟真甄砧臻贞针侦枕疹诊
F0    震振镇阵蒸挣睁征狰争怔整拯正政
```

D240 - D2FF

```
40
50
60
70
80
90
A0    播尧遥窑谣姚咬舀药要耀椰噎耶爷
B0    野冶也页掖业叶曳腋夜液一壹医揖铱
C0    依伊衣颐夷遗移仪胰疑沂宜姨彝倚已
D0    倚已乙矣以艺抑易邑屹亿役臆逸肄疫
E0    亦裔意毅忆义益溢诣议谊译异翼翌绎
F0    茵荫因殷音阴姻吟银淫寅饮尹引隐
```

D640 - D6FF

```
40
50
60
70
80
90
A0    锁症郑证芝枝支吱蜘知肢脂汁之织
B0    职直植殖执值侄址指止趾只旨纸志挚
C0    掷至致置帜峙制智秩稚质炙痔滞治窒
D0    中盅忠钟衷终种肿重仲众舟周州洲诌
E0    粥轴肘帚咒皱宙昼骤珠株蛛朱猪诸诛
F0    逐竹烛煮拄瞩嘱主著柱助蛀贮铸筑
```

D340 - D3FF

```
40
50
60
70
80
90
A0    印英樱婴鹰应缨莹萤营荧蝇迎赢盈
B0    影颖硬映哟拥佣臃痈庸雍踊蛹咏泳涌
C0    永恿勇用幽优悠忧尤由邮铀犹油游酉
D0    有友右佑釉诱又幼迂淤于盂榆虞愚舆
E0    余俞逾鱼愉渝渔隅予娱雨与屿禹宇语
F0    羽玉域芋郁吁遇喻峪御愈欲狱育誉
```

D740 - D7FF

```
40
50
60
70
80
90
A0    住注祝驻抓爪拽专砖转撰赚篆桩庄
B0    装妆撞壮状椎锥追赘坠缀谆准捉拙卓
C0    桌琢茁啄浊兹咨资姿滋淄孜紫
D0    仔籽滓子自渍字鬃棕踪宗综总纵邹走
E0    奏揍租足卒族祖诅阻组钻纂嘴醉最罪
F0    尊遵昨左佐柞做作坐座
```

Code Page 936 Simple Chinese (Continuation)

D840 - D8FF

```
40
50
60
70
80
90
A0    宁刀兀叼廿卅丕旦丞禹孬斝丨禺丿
B0    匕乇天癸匛氐凶胤嬮魤辈袋、亟歮乜
C0    乩亓毕孛斋掀仄庠庥庵厰厀廧厤亡区
D0    胝盇甌瞖卦卣刂刈刜刭刱刜刞刾刜刜
E0    剓刞刜刞刭剓剐冂闁亅仃仉仂仁忔仫
F0    仞伛仉伢佪仵倀伧优亡倿伜攵侇伨
```

D940 - D9FF

```
40
50
60
70
80
90
A0    佟仵伲伽佶偍侑侉侶侏侚优侪佼侬
B0    侳傅伊侲徕偑侁俥倄侫倩偖俳倬倏
C0    偰倭俥倜傊倥倌偾偲偶偒俛偲偲偲
D0    幓傸侰僵僙俶儆儃傾�䁖仐佘佘金俎侖
E0    余佘兮兾黄諴榊㦸门甈甶甶鬼凩兌丷
F0    克乇袠表袠宵宾棊燕嬴嬴? 涄刿浼
```

DA40 - DAFF

```
40
50
60
70
80
90
A0    滧一冡冥丩讣讧讪讴讵讷讹讻诏诏
B0    诎诒诓诔诖讹诶洸诹诠净诨诩谞诣诳
C0    诶诿谡谖谘诶谇谌谏谞诸谞说诌谞诸
D0    浄谘诮谚说谖逰遜涛湁凒谞湁湁谞谩
E0    卩癹卩阢阱阪阽阼陂陉陟阽陧陑陲
F0    陣陻陉陦隖邘邗邛邙邹邯邯邳邴邶
```

DB40 - DBFF

```
40
50
60
70
80
90
A0    邸邰邽邾邿邻邻邾邯邾邳邾邶邳邿邾
B0    邾邼郑邼邽邯邽邬邪邼邽色奂劢劥劦
C0    劢劧劻劼劭叟夒夒夒乚凵凼凷厶弁鲁琉
D0    坌埜垐塾墼圩圬圪玑圯玑圮坜圻
E0    坂坩坺坫垆坼坻坨圿坮坶坢坻坰坍坝
F0    坰坶坱坭埕垌塪坸埮坰埍塪坲坱
```

DC40 - DCFF

```
40
50
60
70
80
90
A0    翊埌塝埭埵堞垤垱墇埚塱塱堮埗堞
B0    蒊蔜齻卝芄芠芏苹苠苊葛葩艻芺芸
C0    苻萎苈苊苩苊苆苪苋苌苁苈苌芰苠芰
D0    苧苎芁苁菜昔菶苊苊苩苜莳荏苻苓
E0    苮苮苊葊莖茾萠苕葚葊荛荜苊苠苩荥
F0    莐荞荚荏荇苤荟荀苕荤苊莐茳荜荥
```

DD40 - DDFF

```
40
50
60
70
80
90
A0    荠荙荬荴荮莛莳莰莃葬荺荫莓荍
B0    荱荼荟莩莪荻莘莞荶萁莳荠莳荮茈
C0    莛莈莍莜菝蒀莼萜荜萑苊莌莈荩荱
D0    莳菅莌荄菋荍莳莉莉荿菺莿葺荄莒
E0    莳荍菔菮莻菄莿莤菉荮莓荒莀荺莆
F0    莼葲荂莀葋谟菿菢莣菔菑萑菨葟苩
```

DE40 - DEFF

```
40
50
60
70
80
90
A0    菉菀菏萝葸菶葄莀菮萙菩菨菷菥葙
B0    莞萒蔐蔊葕葎葍葚荣萮萝葟菣菠葤
C0    荣蓳萠卄夯夼夽奁奕夝其奘奜尤尴尬尵
D0    扌打扜抻抻抹抴扗扴抪扖揰抐
E0    捀抱抦挬捁挢扮抌挬捁挬捁掅拹挱挸
F0    捚挵拲挴捍挽挼挬捜捠挩掭揬挀挶
```

DF40 - DFFF

```
40
50
60
70
80
90
A0    挶捰捯捭捴捹揳捯捄揬揬搚弋弌
B0    弌弒卟吥呃呣叨叼叻吨吁吃吷吽呀呄
C0    呷呲呗吶吲咖咻呷呱吟咔咛咝咻呦
D0    咤咺咭咕吙哒咧咴哓咩咴呔哆咻呱
E0    哈咪咮咩吧咳呸咩嗺喆唠唛唔咭唢
F0    唛唝唑呐咯嘖啫唔唭咻咻喟咻咜哗咹
```

Code Page 936 Simple Chinese (Continuation)

E040 - E0FF

40	
50	
60	
70	
80	
90	
A0	啗啜啞啝喑喒啯喥喭啷啾嗖嗁嗟嗑嗉
B0	嗌嗍嗐嗑嗢嗜嗝嗑嗉嗦嗎嗪嗫嗬嗔嗸
C0	�嗒嗓嗉嗕嗘嗚嗛嗜嗝嗞嗟嗠嗣嗤
D0	嗥嗦嗧嗨嗩嗪嗫嗬嗭嗮嗯嗰嗱嗲嗳嗴
E0	嗵嘈嘉嘅嘆嘇嘈嘉嘊嘋嘌嘍嘎□団囷
F0	囹圀圁圂圃圄圅圆圇佖佡佢佣佤佥佦

E140 - E1FF

40	
50	
60	
70	
80	
90	
A0	惟惼惽惾惿愀愁愂杞妍坡埏玗坝
B0	岚屺垎坩坮坯坰坱坲坳坴坵坶坷坸坹
C0	塎塏塐塑塒塓塔塕塖塗塘塙塚塛塜塝
D0	塟塠塡塢塣塤塥塦塧塨塩彳徉徊徇
E0	徉徊徍徎徏徐徑徒従乡彳扎扞扩玛
F0	扭扮扯扰扳扶抚抉扼抑抒抓抔投

E240 - E2FF

40	
50	
60	
70	
80	
90	
A0	扱扲扳扴扵扶扷扸批扺扻扼扽找承
B0	抁抂抃抄抅抆抇抈抉把仌仍仓饪
C0	饫饬怡饲饴徐饶饷饸饹饺饻饼廒庀
D0	庑庖庙庚庛府庝庞庠庡庢庣庤庥廒庼
E0	忄忉忖忏忐忑忒忓忔忕忖志忘忙忛
F0	怵怶怷怸怹怺总怼怽怾怿恀恁恂

E340 - E3FF

40	
50	
60	
70	
80	
90	
A0	恪恫恬恭恮息恰恱恲恳恴恵恶恷恸
B0	恹恺恻恼恽恾恿悀悁悂悃悄悅悆悇
C0	悈悉悊悋悌闩闫闬闭问闯闰闱闲闳
D0	间闵闶闷闸闹闺闻闼闽闾闿斗斟氵
E0	汔汜汊沣沅沐沔沌汩汩汭汲汴汾沆泔
F0	沭泷泸泱泳泂泠泖泺泫泮沱泓泯泾

E440 - E4FF

40	
50	
60	
70	
80	
90	
A0	沮沴沺泱泆泗泘泙洙泪泹洤洪洦洤洌
B0	泫泞洳洤洤洤洦泦消泖洪泲浼浣渚淇
C0	渐淞泆泆泆洤洤淇淙洤洤泖泖洤洤淌
D0	湫湲湟溦溢淯淔淲淴泆淸淡淰淸澄淈
E0	淉淉泏淐淎淏淐淑淒淓淔淕淖渶淘淙
F0	淜淝淞淟淠淡淢渎渏淤渐淧渧渨渪

E540 - E5FF

40	
50	
60	
70	
80	
90	
A0	淮渣涺渣渶滗滘渷游渺淖渻滆渶渎读
B0	渼渽宀宄宎宏宓宔宕宖宗官宙定定
C0	宛宜辶迀迁迂迃达迅迆过迈迉迊述
D0	迋迌迍迎运迓返迕迖迗违这迚迌迌迌
E0	迯迱迲违违彐彑彖彗彘尻尼屈屉屋屌
F0	屍屎屏屐弹舡舢舣中灼妃妍妖姖妣

E640 - E6FF

40	
50	
60	
70	
80	
90	
A0	妗姊�妞妠妡妢妣妤妥妦妧妨娇
B0	姘姙姚姛姜姝姞姟姠姡姢姣姤姥姧姨
C0	姩姪姫姬姭姮姯姰姱姲姳姴姵姶姷姸
D0	姹娀威娂娃妭尕孚孛孜孝孞孟不兆
E0	妞驷妭妯驸驹骀驵驶骆骇骈驾骈骈骓
F0	骈骐骑骒骓骔骕骖骗乡纠纡纣纤纥纩

E740 - E7FF

40	
50	
60	
70	
80	
90	
A0	纭纰纾绀绁绂练组绅细织终绉绊绋
B0	绌绍绎经绐绑绒结绔绕绖绗绘给绚绛
C0	绝绞络绠绡绢绣绤绥绦继继绩绪绫缫
D0	缪缫缬缭绰缯缰缲缳缴坏壤壕幺麽巛
E0	玎玑玙玚玛玞玟玠玡玢玣玤玥玦玧
F0	玨珩珈珧珀珥珦珧珨珩珪玷珫珬琰玩

Code Page 936 Simple Chinese (Continuation)

E840 - E8FF

40	
50	
60	
70	
80	
90	
A0	琛琭琱瑜琰瑅瑚瑷瑭瑬瑒瑾璆瑝瑝瑐璒遾
B0	璋瑛琹璉瑝璧瑑瓔瑩瑰瑂瑠机杓杞杈楬
C0	栭杚杪杳枏榥杵枇枞枓枋杷杼柰栉栢
D0	柷柩枰柫柙枸枳柝柲柃枸柢柟柁柽
E0	栲柮枵柭柸桢枹柩柤栝柈桦桁桧槑枀
F0	桊枹栩梵栳栟桄梓杪梂栲梣栜桜棹

E940 - E9FF

40	
50	
60	
70	
80	
90	
A0	椤桲桉棹楗棷梐桮棋梄楦梉桯梘桻桼
B0	楺棭棭楻楙楻楻桯槆梐棝槄桓槆桿梻
C0	椑棌榻梨榄榕椪槉椲楠梾榑橙榊椥橄
D0	榿槼槧榼橌桷椲榑桽榿楻槄楦榏榘椽
E0	歈槷歾殂殇殄殙殓殍歼殌殡殨轫轭秸
F0	轲轳轵轶轸轷轹轺轼轻辂辁辂氕氘氙

EA40 - EAFF

40	
50	
60	
70	
80	
90	
A0	辐辐袈辕辖毐戋戕戗戥戗戗戥戗戥
B0	咸匦瓴瓶甏甑甓攴旮昙旰昊昙昴昃昕
C0	昀昃昴晳昴昱晷昵晷晷晔昴昙晖晡晗晗
D0	暑晅暌暖暾昽曛暾曩昃昃旯岵傥贵
E0	赅贻赆赍贶赊贽赇赈赀赃赅赆贾贾贾
F0	毕毖牝牯牮犄牾犋犍牿牶犄犋犁犋牿

EB40 - EBFF

40	
50	
60	
70	
80	
90	
A0	厮癶耄耋耷毵耒毳耔耘耖氕氘氙
B0	氚氖氕氘氚氩攵攽攸肷肜胨肫肭肭肭肭
C0	肜肓胼肮肷肷肭胨肷肭肼肭肭胂胂
D0	胄胙胂肷胫肼胴胴腔肷肷肼胕肷
E0	腺胴胜胫脘腙膅胰胼胨胨腙胲胠腩肺
F0	腽膊胳膛脧膳胬脲腙腾膣胳膊膊腴腔

EC40 - ECFF

40	
50	
60	
70	
80	
90	
A0	胰脬欤欷欷欹欹欸欻赴讯赵赴蚁跑夂
B0	敫敫敫敩斋砜於鉦煦煸旄旎煓熿旄炜
C0	炖炝炻炜炷炫炱焐烊烀炻炯焯焯炱煳煨
D0	熳熜煲熵焖熰熳熻焐熨煺焠煼焯煺煲
E0	燨灬燽煦熹庚庱扃廒庶扌扎忟忔忤忮
F0	忾忤忭忯忷忮恍恓恺怩怅忟忐忑

ED40 - EDFF

40	
50	
60	
70	
80	
90	
A0	怂恝恚恧恁恙恣恣忉恧恶懑恧恧恧恙
B0	愍忡摹愿桼桼杋砎砀砉砗砩砑砺砄矾
C0	砝砹砺砦砟硌�⾦硗硐砹砄砹砹砝砜硐
D0	硌硌硪砜硪硐硭硚硓硪硕硭硬硖硖硓硇
E0	碜碡磴磴碹磲砻窑庶敝瓻肝肟肛肫
F0	眇眈瞀眢眙眭眵眸眯睐睑睒眲眦睨

EE40 - EEFF

40	
50	
60	
70	
80	
90	
A0	睢睥瞀睚眼暂睑睐睽睒眦睑嚆睼叮眇
B0	欤敂敂眇畚畹嚅罘罡罟詈罴罴罴罴詈
C0	詈詈詈劓凿钆钇钋钊钉钌扎钐钏钐钋钣钕
D0	钚钛钜钣钤钫钪钬钬钯钷钲钴钶钸钹
E0	钺铍铌钼钽钿铀铉铇铊钲铑钲铈铓铕铗
F0	铕铙铗铙铟铠铩铪铞铞铢铢铥铧铨铪

EF40 - EFFF

40	
50	
60	
70	
80	
90	
A0	铋铌铮铯铱铴铵铷铹铼铽铿锃锃锃铞
B0	铳锂锇铵铜锏锒锒锔铴锕锖锑锓锔锓
C0	铞锬锕锺锗锚锞锘锝铴锪锬锬锪锬铈锘
D0	锵锎锞锴锝锘锢锄锘锘锩锃锩锣锝锒锓
E0	锬锔锃锷锜锬锱锕锘锘锤锩锪锶锸锌锗
F0	锗锺锸锃锥锥锩锞锞锛锗锪锩稆稂稞

Code Page 936 Simple Chinese (Continuation)

F040 - F0FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

F140 - F1FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

F240 - F2FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

F340 - F3FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

F440 - F4FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

F540 - F5FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

F640 - F6FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

F740 - F7FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

Code Page 936 Simple Chinese (Continuation)

F840 - F8FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

F940 - F9FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

FA40 - FAFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

FB40 - FBFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

FC40 - FCFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

FD40 - FDFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

FE40 - FEFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

FF40 - FFFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

Code Page 949 Korean

A140 - A1FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

A240 - A2FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

A340 - A3FF

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

A440 - A4FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

A540 - A5FF

```
40
50
60
70
80
90
A0        i  ii iii iv  v  vi vii viii ix  x
B0   I  II III IV  V  VI VII VIII IX  X
C0      A  B  Γ  Δ  E  Z  H  Θ  I  K  Λ  M  N  Ξ  O
D0   Π  P  Σ  T  Y  Φ  X  Ψ  Ω
E0      α  β  γ  δ  ε  ζ  η  θ  ι  κ  λ  μ  ν  ξ  ο
F0   π  ρ  σ  τ  υ  φ  χ  ψ  ω
```

Code Page 949 Korean (Continuation)

A640 – A6FF

A740 – A7FF

A840 – A8FF

A940 – A9FF

AA40 – AAFF

AB40 – ABFF

Code Page 949 Korean (Continuation)

AC40 - ACFF

```
40
50
60
70
80
90
A0      А Б В Г Д Е Ё Ж З И Й К Л М Н
B0      О П Р С Т У Ф Х Ц Ч Ш Щ Ъ Ы Ь Э
C0      Ю Я
D0      а б в г д е ё ж з и й к л м н
E0      о п р с т у ф х ц ч ш щ ъ ы ь э
F0      ю я
```

AD40 - ADFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

AE40 - AEFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

AF40 - AFFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

B040 - B0FF

```
40
50
60
70
80
90
A0  가각간갇갈갉갊감갑값갓갔강갖갗
B0  갘같갛개객갠갤갬갭갯갰갱갸갹갼걀
C0  걋걍걔걘걜거걱건걷걸걺검겁것겄겅
D0  겆겇겈겉겊겋게겐겔겜겝겟겠겡겨격겪견
E0  겯결겷겸겹겻겼경곁계곈곌곕곗고곡곤
F0  곤곪곬곱곳공곶과곽관괄괆
```

B140 - B1FF

```
40
50
60
70
80
90
A0  괌괍괏광괘괜괠괢괤괬
B0  괭괫괴굄굈괸괼굅굇구국
C0  굮굴굶굷궁궂궈궉권궐궜
D0  궐궘궙궛규균귤그극근
E0  긍긔기긱긴긷길긺김깁깃
F0  깍깎깐깔깖깗깘깙깚깛
```

Code Page 949 Korean (Continuation)

B240 - B2FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

B340 - B3FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

B440 - B4FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

B540 - B5FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

B640 - B6FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

B740 - B7FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

Code Page 949 Korean (Continuation)

B840 - B8FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

B940 - B9FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

BA40 - BAFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

BB40 - BBFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

BC40 - BCFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

BD40 - BDFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

Code Page 949 Korean (Continuation)

BE40 - BEFF

```
40
50
60
70
80
90
A0    췰췸췔쵤쏴수뮥순쑬쑴쑴삼솽숵쳣숴숴쒸
B0    쒼쑹쓰숇쓴숅쓸숄슴슴씌쒼숴쒼씨씩
C0    씬쵤씸씸솃씽아악안앉앉암악암앍암
D0    압앗았앙앝앝애액앤앨앰압앳앳앰야
E0    약안알맒앏앖앙앑앙앙애앤앨앮어억
F0    언엇얼엎엝엄업없엇엇엄엇억 어
```

C040 - COFF

```
40
50
60
70
80
90
A0    웱웬웰웲웱웲위웍윈윈읾읨윗윙유욧
B0    욱윤읈욞욠욕우의윈읠윈윘이읙인인
C0    왕윽읰임입입잇있잉읶읶인자잔잔잣잤쟁
D0    윘잃잃입입밋있밍잇인자작잔잔잣잤쟁
E0    잠잠잡잣잤장쟛쟁재잭잰잴젭젓적
F0    쟈작잔쟌쟜잠쟝재잰젤저적적전졉젬
```

C240 - C2FF

```
40
50
60
70
80
90
A0    징짗질짊짜짝잔잡짤쫩쫨짬짭잣짰짬
B0    째쩩짼쩰쩸쩁쌋쩼쌍짜잔쟝쩌쩌쩐쩔
C0    쩝쩝젓쩠쩡쩨쩮쩌쩠쪼쭉쭌쯥쫌쭋쭅
D0    쫌쫐쫘쫙쫬쯯쭼쭤쩽쩌쭸쭬쭼푸쭉
E0    쭌쭬짬쩝쯩쯥쩠쩸쮜쮸픠쫌쭉쭹찌쯱
F0    쩐쩐쩜쩝쩜쩣쩣차착찬찰찰참참찻
```

BF40 - BFFF

```
40
50
60
70
80
90
A0    에엑엔에엠엡엣엠여역역역연열엄엄엇
B0    열엄엇엇엔영열엄엄여엄엄에옌엠엄엣엇
C0    오엄엄옌엄읔엄엇앗엇요요옹옷옹옷
D0    오왈엄엄옌엄엄엄엄엄엄엄엇와왁완엄엄
E0    오엄읠옌엄엇윈얶왁엇엇엄우욱욕운욻
F0    엄읔엄엄엄읨옷왂엄엄엄엄윈윈윈윈웨
```

C140 - C1FF

```
40
50
60
70
80
90
A0    젬접젓정젖제적젠젤젬접젓젱져전
B0    젤젬접젔젔젬제조좀존좀좀좀젓정
C0    좃좀젹쬐좍쫍좁좁촹좍쬐쬐죄린쫌쫌즈좍
D0    쬓횅죠좍존죵주죽순쮼쮼쮼쬬죵쥬준즈즈
E0    쮼찠쮜쮜쥐젹쬔찔쩝쩝찟쥬준쮼줌즈즈
F0    쯘줍쥽쭟죵지직진짙짙쩝쩝집짓
```

C340 - C3FF

```
40
50
60
70
80
90
A0    찹찹찻채책챈챌첨첩찻찻쳉챠찬찹
B0    참참찻처척천첼첨첩찻찻쳥체책쳰쳴
C0    쳄쳈쳈찟쳏처천쳤쳐쳔쳥초춖촌춖춥
D0    춧춤좌촨춯쳹최췐춤춈찻촹죠춤춥주
E0    춖춖춖춖춖춥춤춤추춖찠췐춖춈춈춈춤
F0    춧춯쥬춖춖춥춤춤츠축춘춤춤춤춧춤
```

Code Page 949 Korean (Continuation)

C440 - C4FF

```
40
50
60
70
80
90
A0    치 칙 친 칠 침 칡 침 칩 칫 칭 카 칵 칸 캄 캅
B0  캇 캉 캐 캑 캔 캘 캠 캡 캣 캤 캥 캬 캭 캉 커
C0  컥 컨 컫 컬 컴 컷 컸 컹 케 켁 켄 켈 켐 켑 켓
D0  켕 켜 켠 켤 켬 켭 켯 켰 켱 켸 코 콕 콘 콜 콤 콥
E0  콧 콩 콰 콱 콴 콸 쾀 쾅 쾌 쾡 쾨 쾰 쿄 쿠 쿡 쿤
F0  쿨 쿰 쿱 쿳 쿵 쿼 퀀 퀄 쿰 퀘 퀭 퀴 퀵 퀸 퀼
```

C540 - C5FF

```
40
50
60
70
80
90
A0    큄 큅 큇 큉 큐 큔 큘 큠 크 큭 큰 클 큼 큽 큄
B0  키 킥 킨 킬 킴 킵 킷 킹 타 탁 탄 탈 탐 탑 탓
C0  탔 탕 태 택 탠 탤 탬 탭 탯 탰 탱 탸 탹 터 턱 턴
D0  턿 텀 텁 텄 텟 텃 텀 테 텍 텐 텔 템 텀 텟 텀 텨
E0  텬 텼 테 텐 토 톡 톤 톨 톰 톱 톳 통 톺 톼 퇴
F0  퇴 튄 툇 튕 토 투 툭 툰 툴 툼 툽 툿 퉁 퉈 췄
```

C640 - C6FF

```
40
50
60
70
80
90
A0    퉤 튀 튁 튄 튈 튐 튑 튕 튜 튠 튤 튬 튱 트 특 툭
B0  튼 튿 틀 틂 틈 틉 틋 틔 틘 틜 틤 틥 티 틱 틴 틸
C0  팀 팁 팃 팅 파 팍 팎 판 팔 팜 팝 팟 팠 팡 팥 패
D0  팩 팬 팰 팸 팹 팻 팼 팽 퍄 퍅 퍼 퍽 펀 펄 펌 펍
E0  펏 펐 펑 페 펙 펜 펠 펨 펩 펫 펴 편 펼 폄 폅 폈
F0  폅 폈 폄 펴 펠 폅 폄 펨 포
```

C740 - C7FF

```
40
50
60
70
80
90
A0    퐈 퐝 퐤 편 표 푠 푤 푭 풀 품 풋 푸 푹 푼
B0  풉 풋 풍 푀 풔 풩 풔 풴 퓌 퓨 퓬 퓸 퓻 퓽 프 픈
C0  픔 픕 픠 픤 픽 핀 필 핌 핍 핏 핑 하 학 한
D0  할 함 합 핫 항 해 핵 핸 핼 햄 햅 햇 했 행 햐 향
E0  햠 햣 햤 햨 허 헉 헌 헐 험 헙 헛 헝 헤 헥 헨
F0  헬 헴 헵 헷 헹 혀 혁 현 혈 혐 협 혓 혔 형 혜 혠
```

C840 - C8FF

```
40
50
60
70
80
90
A0    혤 혥 호 혹 혼 홀 홈 홉 홋 홍 홑 화 확 환
B0  활 홧 황 홰 홱 홴 홷 횃 횅 회 획 횐 횔 횟 횡 효
C0  횬 횸 훗 후 훅 훈 훌 훔 훗 훙 훠 훤 훨 훰 훵 휴
D0  휨 훼 훽 휜 휠 휨 휘 휙 휜 휠 휨 휫 휭 휴 휵
E0  휸 휼 흄 흇 흉 흐 흑 흔 흗 흘 흙 흠 흡 흣 흥
F0  흩 희 흰 흴 흼 흽 힁 히 힉 힌 힐 힘 힙 힛 힝
```

C940 - C9FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

Code Page 949 Korean (Continuation)

CA40 - CAFF

```
40
50
60
70
80
90
A0    伽佳假價加可呵哿嘉嫁家暇架枷柯
B0    歌珂痂苛茄街袈痀賈哿舸迦駕刻却
C0    各恪殼珏脚覺角閣侃刊墾奸森干幹
D0    懇揀杆東桿測癇看磵稈竿簡肝艮懇諫
E0    間芝喝恩渴碣竭葛裙蛤褐勘坎堪嵌感
F0    憾戡敢柑橄減甘疳監瞰紺邯邯譴鑑龕
```

CB40 - CBFF

```
40
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80
90
A0    匣岬甲胛鉀閘剛堈姜岡崗康強彊慷
B0    江畺糨襁絳綱羌腔缸畫槓講鋼降鱇介
C0    价個凱塏慨愾改槩漑疥皆蓋箇芥蓋
D0    豈鎧開喀客坑更粳羹破偈去居巨拒据
E0    據擧渠炬祛距跟車遽鉅鐻乾件健巾建
F0    愆楗腱虔蹇鍵騫乞傑杰桀儉劍劒檢
```

CC40 - CCFF

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40
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90
A0    瞼鈐黔劫怯迲偈憩揭擊格檄激膈覡
B0    隔堅牽犬甄絹繭肩見譴遣鵑抉決潔結
C0    缺訣兼慊箝謙鉗鎌京俓倞傾僥儆勁勍
D0    坰境庚徑慶憬敬景暻更梗涇炅烱璟
E0    璥瓊痙硬磬竟競絅經耕耿脛莖警輕逕
F0    鏡頃頸驚鯨係啓堺契季屆悸戒桂械
```

CD40 - CDFF

```
40
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80
90
A0    棨溪界癸磎稽系繫繼計誡谿階鷄古
B0    叩告呱固姑孤尻庫拷攷故敲暠枯槁沽
C0    痼皐睾羔考股膏苦菰蒄蠱袴誥賈
D0    辜錮雇顧高鼓哭斛曲梏穀谷鵠困坤寬
E0    昆梱棍滾琨袞鯤汨滑骨供公共功孔工
F0    恐恭拱控攻珙空蚣貢控串寡戈果瓜
```

CE40 - CEFF

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40
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90
A0    科菓誇課跨過鍋顆廓槨藿郭串冠官
B0    寬慣棺欸灌瓘管罐菅觀貫關館刮恝
C0    括适侊光匡壙廣曠洸狂珖筐胱鑛卦
D0    掛罫乖傀塊壞怪愧拐槐魁宏紘肱轟交
E0    僑咬喬嬌嶠巧攪敎校槁狡皎矯絞翹膠
F0    蕎蛟較轎郊鮫驕鮫丘久九仇俱具勾
```

CF40 - CFFF

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90
A0    區口句咎嘔坵垢寇嶇廐懼拘救枸柩
B0    構歐毆毬求溝灸狗玖球瞿矩究絿耉臼
C0    舅舊苟衢謳購軀逑邱鉤銶駒驅鳩鷗龜
D0    國局菊鞠鞫麴君窘群裙軍郡堀屈掘窟
E0    宮弓穹窮芎躬倦券勸卷圈拳捲棬淃眷
F0    厥獗蕨蹶闕机櫃潰詭軌饋句劂麂貴
```

Code Page 949 Korean (Continuation)

D040 - D0FF

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40
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90
A0     鬼亀叫圭奎揆槻珪硅窺敲糾葵規赳
B0   逵闚勻均畇筠圃鈞龜橘克剋劇戟棘椒楓
C0   隙僅劤勤懃斤根椴瑾筋斤童覲謹近饉
D0   契今唅擒唫襟琴禁唫襟衿襟金錦伋
E0   及姶扱汲級給亘兢矜肯企伎其冀嗜譏
F0   圻基埼變奇妓寄岐崎己棄忌技旗旣
```

D140 - D1FF

```
40
50
60
70
80
90
A0     蓍期杞棋棄機欺氣汽沂淇記琦琪璂
B0   璣畸疁畿碁磯祈祺紀綺羈者譏肌
C0   記譏夔起錡錤飢機騎騏騕騹緊佶吉拮
D0   桔金喫儒喫奈娜懦懶拏拿挐拏臝螺裸
E0   邏那樂洛烙珞落諾酪駱亂卵暖楠煖燗
F0   蘭爛蘭攔擥南嵐枏柟婻灆男藍襤拉
```

D240 - D2FF

```
40
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80
90
A0     納臘蠟衲囊娘廊朗浪狼郎乃來內奈
B0   柰耐冷女年撚秊念恬拈捻寧寗努帑奴
C0   弩怒櫓爐瑙惱瑙老虜路露魯鷺碌
D0   祿綠菉錄鹿麓錄弄濃膿農惱牢磊
E0   賂賄賂尿壘壘擂淚漏累屢嶁耨訥扭紐
F0   勒肋凜凌稜綾能菱陵尼泥匿溺多茶
```

D340 - D3FF

```
40
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80
90
A0     丹單但亶團壇彖斷旦檀段湍短端簞
B0   緞蛋袒靼鍛達撻獺疸達噉坍憺撻曇淡
C0   湛潭澹痰聃膽蕁薝曇談譚錟沓畓答踏遝
D0   唐堂塘塘幢撞棠瑭璫糖螳黨代岱坮大對
E0   岱帶待戴撢玳臺袋貸隊黛宅德悳倒刀
F0   到圖堵嵞導屠島嶋度徒悼挑掉搗桃
```

D440 - D4FF

```
40
50
60
70
80
90
A0     棹櫂淘渡滔濤燾盜睹禱稻萄覩賭跳
B0   蹈逃途道都鍍陶韜毒瀆讀牘犢督禿篤
C0   纛讀墩惇敦旽暾沌焞燉豚頓乭突仝冬
D0   凍動同憧東桐棟洞疼瞳董胴銅兜
E0   斗杜枓竇荳讀豆逗頭屯臀芚遁遯鈍
F0   得嘚橙燈登等藤謄鄧滕呤懶隥嶝瓙
```

D540 - D5FF

```
40
50
60
70
80
90
A0     瓇螺裸邏樂洛烙珞絡落諾酪駱丹亂
B0   卵樂樂湳懶闌黨剌辣嵐嵐瀾爛濫藍籃
C0   藍襤拉臘臘臘廊朗浪狼琅瑯螂郎來崍
D0   徠萊冷掠略亮倆兩涼梁樑粮粱糧良諒
E0   輬量侶儷勵呂廬慮戾旅櫚濾礪藜蠣閭
F0   驪麗黎力曆歷瀝礫轢靂靈儷戀攣漣
```

Code Page 949 Korean (Continuation)

D640 - D6FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

D740 - D7FF

40
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60
70
80
90
A0
B0
C0
D0
E0
F0

D840 - D8FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

D940 - D9FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

DA40 - DAFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

DB40 - DBFF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

Code Page 949 Korean (Continuation)

DC40 - DCFF

```
40
50
60
70
80
90
A0    髻頻鬪罷便卞弁變辨辯邊別瞥螫鼈
B0    丙倂兵屛幷昞昺柄棅炳瓶病秉竝駢餠
C0    騈保堡報寶普步洑深湺瑚甫菩褓褓譜
D0    鰒伏僕匐卜宓復服福腹茯蔔複覆輹輻
E0    輹輹本翻俸奉封峯峰捧棒烽熢琫緯蓬
F0    蜂逢鋒鳳不付俯傅剖副否咐埠夫婦
```

DD40 - DDFF

```
40
50
60
70
80
90
A0    孚孵富府復扶敷斧浮溥父符簿缶腐
B0    腑膚蜉芙蓉訃負賦賻赴趺部釜阜附駙
C0    馞北分吩噴墳奔憤忿愤扮盼汾焚盆粉
D0    糞紛芬賁雰不佛弗彿拂崩朋棚硼繃鬅
E0    丕備匕匪妃嬪庇悲憊憊扉批斐枇榧比
F0    毖毗昆沸泌琵痺砒碑秕秘粃緋翡肥
```

DE40 - DEFF

```
40
50
60
70
80
90
A0    脾臂菲蓖裨誹賁鄙非飛鼻嚬嬪彬
B0    斌檳殯浜濱牝玭貧賓頻憑氷聘聘乍
C0    事些仕伺似使俟僿史唆嗣四士奢娑
D0    寫寺射巳師徙思撒斜斯柶査楂死沙泗
E0    渣瀉獅砂祠祀絲私篩紗絲肆舍莎蛇
F0    裟詐詞謝賜辭邪飼騋鯊削數朔槊
```

DF40 - DFFF

```
40
50
60
70
80
90
A0    傘刪山散汕珊産疝筭蒜酸霰溹撒殺
B0    煞薩三參杉森滲芟蔘衫揷澁鈒颯上傷
C0    償價商喪嘗孀尙峠常床庠廂想桑橡湘
D0    爽牀狀相祥箱翔裝觴詳象賞霜塽孀償
E0    璽塞賽穡素色牲生甥省笙墅嶼序庶徐
F0    恕抒捿敍曙署栖樓犀瑞筮簞綌緖
```

E040 - E0FF

```
40
50
60
70
80
90
A0    胥舒薯西誓逝勸黍鼠夕奭席惜昔晳
B0    析汐淅潟石碩席釋錫仙僊先善嫙宣扇
C0    敾旋渲煽琁瑄璇璿璹癬禪線繕羨腺膳船
D0    蟬褋跣鉄選銑鐥鮮卨屑楔泄洩渫舌
E0    薛褻設說雪齧剡遾纖暹贍閃陝攝涉
F0    燮葉城姓宬性惺成星晟猩珹盛省筬
```

E140 - E1FF

```
40
50
60
70
80
90
A0    聖聲腥誠醒世勢歲洗稅笹細說貰召
B0    嘯塑宵小少巢所掃搔昭梳沼消溯瀟炤
C0    燒甦疏疎瘙笑篠簫蔬蘇訴逍遡邵銷
D0    韶騷俗屬束涑粟謖贖速孫巽損蓀遜
E0    飧率宋悚松淞訟誦送頌刷殺灑碎
F0    鎖衰釗修受嗽囚垂壽嫂守岫峀帥愁
```

Code Page 949 Korean (Continuation)

E240 - E2FF

```
40
50
60
70
80
90
A0    戍手授援收敤樹殊水洙漱燧狩獸琇
B0    璥瘦脽莠穗堅粹綏綫繡翠脩葉覔脩藪
C0    袖誰瞥峨遂遠刪銖銹隋隨隨雖屬須首
D0    體殻叔塾尻孰宦淑潚熟璹璹霱荍巡徇
E0    循恂旬栒楯殉洵淳珣盾瞬筍純脣舜
F0    荀蕣舜絢脣醇錞順馴戌術述鉥崇崧
```

E340 - E3FF

```
40
50
60
70
80
90
A0    嵩愁愀膝盟濕拾習褶襲丞乘僧勝升承
B0    昇繩蠅陞侍匙嘶始媤尸屎屍市弑恃施
C0    是時柿柴猜矢示翅蒔蓍視試詩諡豕豺
D0    埴寔式息拭植殖湜熄篒蝕識軾食飾伸
E0    佌信呻娠宸愼新晨燼申神紳腎臣莘薪
F0    藎訊身辛辰迅失室實悉蕈蕁心沁
```

E440 - E4FF

```
40
50
60
70
80
90
A0    沈深瀋甚芯諶什十拾雙氏亞俄兒啞
B0    娥峨我牙芽莪蛾衙訝阿雅俄猚鵝堊岳
C0    垠幄惡愕握樂渥鄂鍔顎鰐鰐安岸按晏
D0    案眼雁鞍顔鞍鞌軋閼唵岩庵庵暗癌
E0    蒼闇壓押狎鴨仰央快昻狹狹礙崖埃
F0    噯愛曖涯碍艾隘額厄扼掖液縊腋額
```

E540 - E5FF

```
40
50
60
70
80
90
A0    櫻鶯鸚鸚也倻冶夜惹揶椰爺耶若野
B0    禰掠略約若葯蒻藥躍亮佯兩涼壤孃恙
C0    揚攘敭暘梁楊椋洋漾煬痒瘍禳穰糧羊
D0    良襄諒讓釀陽量養圉御於漁瘀瘀語馭
E0    魚齬偃堰抑揜臆臆偃堰彦焉言諺蹇俺
F0    儼躽奄掩淹罨業円予余勵呂女如廬
```

E640 - E6FF

```
40
50
60
70
80
90
A0    旅歟汝濾璵礖礪與艅茹輿轝閭餘驪
B0    麗黎亦力墩役易歷歷疫繹譯轢逆驛嚥
C0    堧姸娟宴年延憐戀捐挺撚椽沿沿涎涓
D0    淵演漣烟然煙燕璉硯硯秊筵綖緣緣
E0    緜聯衍軟輦蓮連鉛鍊鳶列劣咽悅涅烈
F0    熱裂說閱厭廉念捻染燄炎焰琰艶苒
```

E740 - E7FF

```
40
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80
90
A0    簾閻髥苒曄獵爗葉令囹塋寧嶺嶸影
B0    怜映暎楹櫻永泳渶潁濚濚瀯營獰玲
C0    瑛瑩瓔楹瑛羚聆英詠迎鈴鎣零霙霛
D0    領乂倪例刈叡曳汭濊猊睨穧芮藝禮
E0    裔詣譽豫醴銳糠羿睿預五伍俉傲午吾吳
F0    嗚塢墺奧娛寤悟惡懊敖旿晤梧汚澳
```

Code Page 949 Korean (Continuation)

E840 - E8FF

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40
50
60
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80
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A0
B0
C0
D0
E0
F0
```

E940 - E9FF

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40
50
60
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80
90
A0
B0
C0
D0
E0
F0
```

EA40 - EAFF

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40
50
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80
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A0
B0
C0
D0
E0
F0
```

EB40 - EBFF

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40
50
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A0
B0
C0
D0
E0
F0
```

EC40 - ECFF

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40
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80
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A0
B0
C0
D0
E0
F0
```

ED40 - EDFF

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40
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80
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A0
B0
C0
D0
E0
F0
```

Code Page 949 Korean (Continuation)

EE40 - EEFF   EF40 - EFFF

F040 - F0FF   F140 - F1FF

F240 - F2FF   F340 - F3FF

Code Page 949 Korean (Continuation)

F440 - F4FF

40
50
60
70
80
90
A0 貴湊妻懷處側刺劁尺憾戚拓鄉斥潑
B0 瘠瞖蹠跰肇仟千喘天川撣泉淺玔穿舛
C0 鴛賤踐邅釗闡阡翾凸哲喆徹撤澈綴綴
D0 轍鐵僉尖沾添聒瞻簽能詹簷謟壤姜帖捷
E0 牒疊睫睫貼孤屬晴淸聽菁請鯖切剃
F0 督涕滯締諦遞逮遞體初剴哨憔抄招梢

F540 - F5FF

40
50
60
70
80
90
A0 椒楚樵炒焦硝礁礎秒稍肖艸苕草蕉
B0 貂超酢醋醮促幄燭矗蜀囑寸忖村邨叢
C0 塚寵悤憁搋總聰蔥統撮催嗺最醉抽推
D0 椎楸樞湫皺秋皴萩諏趨追鄒酋醜錐錘
E0 鍬雛騶鰍丑蓄柷竺筑築槌響贅蹴軸逐
F0 蓄椿瑃出朮黜充忠沖蟲衝表悴膵萃

F640 - F6FF

40
50
60
70
80
90
A0 贅取吹嘴娶就炊翠聚脆臭趣醉驟鷲
B0 側仄厠惻測層侈値嗤峙幟恥梔治淄熾
C0 痔癡癎稚穉緇緻置致嶲輜雉馳齒則勅
D0 飭親七柒漆侵寢枕沈浸琛砧針鍼蟄秤
E0 稱快他咤唾墮侂恸打拖朶楕舵陀馱駝
F0 倬卓啄坼度托拓擢晫柝濁濯琢琸詫

F740 - F7FF

40
50
60
70
80
90
A0 鐸呑嘆坦彈憚歎灘炭綻誕奪脫探眈
B0 耽貪塔搭榻宕帑湯糖蕩兒台太怠態殆
C0 汰泰笞胎苔跆邰颱宅擇澤撢攎兎吐土
D0 討慟桶洞痛筒統通堆槌腿褪退頹偸套
E0 妬投透慝慝特闖坡婆巴把播擺杷波派
F0 爬霸破罷芭跛頗判坂板版瓣販辦鈑

F840 - F8FF

40
50
60
70
80
90
A0 阪八叭捌佩唄悖敗沛浿牌狽稗霸貝
B0 彭澎烹膨愎便偏扁片篇編翩遍鞭騙貶
C0 坪平枰萍評吠嬖幣廢弊斃肺蔽閉陛佈
D0 包匍匏咆哺圃布怖抛抱暴泡浦疱砲
E0 胞脯葡蒱袍裒逋鋪飽咆幅暴曝瀑爆
F0 輻俵剽彪慓杓標漂瓢票表豹飇飄飄

F940 - F9FF

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70
80
90
A0 品稟楓諷豐馮彼披疲皮被避陂匹
B0 弼必泌珌畢疋筆苾秘乏逼下何厦夏廈
C0 豐河瑕荷蝦賀遐霞鰕壑學虐謔鶴寒恨
D0 悍旱汗漢澣瀚罕翰閈閑限韓割轄函含
E0 咸啣喊檻涵緘艦銜陷鹹合哈盒蛤閤闔
F0 陜亢伉姮嫦巷恒抗杭桁沆港缸肛航

Code Page 949 Korean (Continuation)

FA40 - FAFF

```
40
50
60
70
80
90
A0        行降項亥偕咳埃愛孩害幀楷海凝螢
B0    解該偕邂駭骸劾核偉幸杏荇行享向慨
C0    珦鄕響餉饗香噏過虛許憲櫶獻軒歇險
D0    驗奕爀赫革俔峴弦懸睍泫炫玄玹現眩
E0    睍絢絢顯舷衒見賢鉉顯子穴血頁嫌俠
F0    協夾峽挾浹狹脅脅莢鋏頰亨兄刑型
```

FB40 - FBFF

```
40
50
60
70
80
90
A0        形泂滎瀅瀅炯熒珩瑩荊螢衡逈邢鎣
B0    醯兮醯惠慧暳蕙蹊醯鞋乎互呼壕壺好
C0    岵弧戶昊晧澔浩淏湖滸滈滈濠濠濩狐
D0    琥瑚頊皓祜糊縞胡芦葫蒿葒虎號蝴諕豪
E0    鎬鎬頀惑或酷婚香混渾琿魂忽惚笏哄
F0    弘泓泓洪烘紅虹缸鴻化和樺樺火畵
```

FC40 - FCFF

```
40
50
60
70
80
90
A0        禍禾花華話譁貨靴廓擴攪確碻種丸
B0    喚奐宦幻患換歡晥柜渙煥環紈還鰥鰥
C0    活滑猾豁闊凰幌慌恍慌惶晃晄梡況
D0    滉滉潢煌璜�}荒蝗遑隍黃匯回迴
E0    徊恢悔懷晦會檜淮澮灰獪繪膾茴蛔誨
F0    賄劃獲宖橫鎤哮嚆孝效驍昢膮涍淆
```

FD40 - FDFF

```
40
50
60
70
80
90
A0        爻肴酵餚侯候厚后吼喉嗅帿後朽煦
B0    珝逅勳勛塤壎焄熏薰訓暈薫暄喧煊
C0    萱卉喙毀彙徽揮暉煇諱輝麾休携烋畦
D0    虧恤譎鷸兇凶匈洶胸黑昕欣炘訢吃屹
E0    紇訖欠欽歆吸恰洽翕興僖凞喜噫噫姬
F0    嬉姬憘憙戱晞曦熙熹熺犧禧稀義詰
```

Code Page 950 Traditional Chinese

A440 - A4FF

```
40  一乙丁七乃九了二人儿入八几刀刁力
50  匕十卜又三下丈上丫丸凡久么也乞于
60  亡兀刃勺千叉口士土夕大女子孑孓寸
70  小尢尸山川工己巳巾干升弋弓才
80
90
A0     丑丐不中丰丹之尹予云井互五亢仁
B0  什仃仆仇仍今介仄元允內六兮公冗凶
C0  分切刈勻勿化匹午卅卞卜卮友及反
D0  壬天夫太夭孔少尤尺屯巴幻廿弔引心
E0  戈戶手扎支文斗斤方日曰月木欠止歹
F0  毋比毛氏水火爪父爻片牙牛犬王丙
```

A140 - A1FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

A240 - A2FF

```
40  ＼／＼$¥〒¢£%@℃℉$‰§ ml
50  mm cm km KM nm ㎎㎏㏄
60
70
80
90
A0
B0  1 2 3 4 5 6 7 8 9 Ⅰ Ⅱ Ⅲ Ⅳ Ⅴ Ⅵ Ⅶ
C0  Ⅷ Ⅸ Ⅹ 〡 〢 〣 〤 〥 〦 〧 〨 〩 文 十 卄 卅 A
D0  B C D E F G H I J K L M N O P Q
E0  R S T U V W X Y Z a b c d e f g
F0  h i j k l m n o p q r s t u v
```

A340 - A3FF

```
40  w x y z A B Γ Δ E Z H Θ I K Λ M
50  N Ξ O Π P Σ T T Φ X Ψ Ω α β γ δ
60  ε ζ η θ ι κ λ μ ν ξ o π ρ σ τ υ
70  φ χ φ ω ㄅ ㄆ ㄇ ㄈ ㄉ ㄊ ㄋ ㄌ ㄍ ㄎ ㄏ
80
90
A0     ㄐ ㄑ ㄒ ㄓ ㄔ ㄕ ㄖ ㄗ ㄘ ㄙ ㄚ ㄛ ㄜ ㄝ ㄞ ㄟ
B0  ㄠ ㄡ ㄢ ㄣ ㄤ ㄥ ㄦ ㄧ ㄨ ㄩ ・  ˊ ˇ ˋ
C0
D0
E0     €
F0
```

A540 - A5FF

```
40  世丕且丘主乍乏乎以付仔仕他仗代令
50  仙仞充兄冊再冉多凹出凸刊加功包匆北
60  匝仟半卉卡占卯恳去可古右召叮叩叨
70  叼司叵叫另只史叱台句叭叻四囚外
80
90
A0     央失奴奶孕它尼巨巧左市布平幼弁
B0  弘弗必戊打扒扔斥且朮本未末札正
C0  母民氐永汁汀犯玄玉瓜瓦甘生用甩
D0  田由甲申疋白皮皿目矛矢石示禾穴立
E0  丞丟乒乓乩亙交亦亥仿伉伙伊伕伍伐
F0  休伏仲件任仰仳份企仿光兇兆先全
```

A640 - A6FF

```
40  共再冰列刑划刎刖劣匈匡匠印危吉吏
50  同吊吐吁吋各向名合吃后吆吒因回因
60  圳地在圭圬圯圩夙多夷夸妄奸妃好她
70  如妁字存宇守宅安寺尖屹州帆并年
80
90
A0     式弛忙忖戎戍戌成扣托收早旨旬
B0  旭曲曳有朽朴朱朵次此死氖汝汗汙江
C0  池汐汕污汛汍灰牟牝百竹米糸缶羊
D0  羽老考而耒耳聿肉肋肌臣自至臼舌舛
E0  舟艮色艾虫血行衣西阡串亨位住佇佗
F0  佞伴佛何估佐佑伽佝伸佃佔似但佣
```

A740 - A7FF

```
40  作你伯低伶余佝佈佚兌克免兵冶冷別
50  刨利刪刨劫助努劬匣即卵吝吭吞吾否
60  呎吧呆呃吳呈呂君吩告吹吻吸吮吵吶
70  吠吼呀吱含吟听囤困囷囹坊坑址坍
80
90
A0     均坎圾坐坏坊壯夾妝妒妨妞妣妙妖
B0  妍妤妓妊妍妕孝孜孚孛完宋宏尬尿
C0  尾岐岑岔岌巫希序庇床廷弄弟形彤彷
D0  役忘忌志忍忱快忸忪戒我抄抗扼技扶
E0  抉扭把扼找批扳抒扯折扮投抓抑抔改
F0  攻攸早更束李杏材村杜杖杞杉杆杠
```

Code Page 950 Traditional Chinese (Continuation)

A840 - A8FF

```
40  杓枭步篁求泵沙泌沈沉沅沛汪決沐汰
50  沌汨沖沒汽沃汲汾汴沆洄洿沘沂灶
60  灼災灸牢牡牠狄狂玖甬甫男甸皂町癸
70  私秀禿究系罕肓肓訐肘肛肚肓良芒
80
90
A0    芊芍見角曹谷豆豕貝赤走足身車辛
B0  辰迂迪迅迄巡邑邢邪邦那酉采里防阮
C0  阱阪阮並乖乳事些亞享京佯佽佻佳使
D0  佬供例來侃佰佴侈佩佻侖侑侏俏佗兔
E0  兒兔剛具其奠冽函刻券刷刪到刮制剎
F0  劾勁卒協卓卑卦卷卸卹取叔受味呵
```

A940 - A9FF

```
40  咖呸咕咀坤呻咄咒咆呼咐呱咄和咚呢
50  周咋命咎固垃坷坪坩坡坦坤坼夜奉奇
60  奈奄奔妾妻委妹妮姑姆妯姍始姓姊妯
70  妳姒妞孟孤季宗定官宜宙宛尚屈居
80
90
A0    屜岷岡岸岩岫岱岳峙帔帖帕帛帑帚
B0  庚店府底庖延弦弧彔往征彿彼忝忠忽
C0  念忿快怔怯忱怵怪怕怡性怩怫怛或戕
D0  房戾所承拉拌拄拓抹拒招拓拔拋
E0  拈拜抽押拐拙拇拍抵拼抱拘拖拗拆抬
F0  拎放斧於旺昔易昌昆昂明昀昏昕昊
```

AA40 - AAFF

```
40  昇服朋杭枋枕東果杳杷枇枝林杯杰板
50  枉松析杵枚枓杆抄杲欣武歧歿氓氛泣
60  注泳沱泌泥河沽沾沼波法泓沸泄油
70  況沮泗泅泱浴治泡泛泊沬泯泖泠
80
90
A0    炕炎炒炊炙爬爭爸版牧物狀狎狙狗
B0  狐玩玨玫玥玨玖疚疝疙玄盲直知矽
C0  社祀邱秉私空穹竺糾罔羌羊者肺肥肢
D0  肱股肫肺肮肴肪肯臥臾舍芳芝芙芭芽芟
E0  芹花芬芥芯芸芣芾芷虎虱初表軋迎
F0  返近邵邸邱邶朵金長門阜陀阿阻附
```

AB40 - ABFF

```
40  陂佳雨靑非亟亭亮信侵侯便俠俏俏保
50  促俚俐俄俗俤俄保俚俎俞侶兗冒
60  冑冠剃削剌前剋則勇勉勃勁姸南卻
70  厚叛咬哀咨哎哉咸咦咳哇哂咩咪品
80
90
A0    哄哈咯咫咱咻咩咧哂哇垂型垠垣垢
B0  城垮垓奕奘套奚姜姘姿姣姨娃姥姪
C0  姚姦威姻孩宣宦室客宥封屍屏屎屋峙
D0  峒巷峙帝帥幽庠度建弈弭彥很待徊
E0  徇後徉怒思怠急怨怠恂怡恍恬恆恃恬
F0  恫恪恤扁拜挖按拼拭持拮拽指拱拷
```

AC40 - ACFF

```
40  拯挑拾捲挑挂政故斫施既春昭映昧是
50  星昨昱昤契柿染柱柔某東柴枯桐柩柯
60  柄柑枵柚查枸柏柞柳枰枵柾柝柴柔映
70  殆殳毒毗氫泉洋洲洪流津洌洱洞洗
80
90
A0    活治派洵洛泵洹洧洸洩洮洳洎炫
B0  為炳炬炯炭炸炮炤爰牲牯牴狩狠狡狦
C0  珊玻玲珍珀玳甚畀界畋畎疫疤疥疢
D0  疣癸窄癷皈盃盅省眄相眉盾盼
E0  眇矜砂研砑砍砒砧祇祕祗祟祚科秒秋穿
F0  突竿笆籽竽紅紀紉紇約紆缸美羿耆
```

AD40 - ADFF

```
40  耐耍耑耶胖脊胚胃胃背胡胛胎胞胱脈
50  致舡舢苧范茅苣苛苦茄若茂茉苗茁英苴
60  苜苔苑苞苓苟苯苶苹苔虹虻衍衫要勅
70  計訂卦貞負赴起趴軍軌述迴迢迪迥
80
90
A0    迭迫迴迢郊郎郁郅郇郤軍門限陔陌
B0  降面革韭音頁風飛食首香飛孫倌倍
C0  俯倦倖倬倢倆值借倚倒們倉倥倔
D0  倨俱倡個候倘俳修倏倪倥倫倉倓冥
E0  冢凍凌准凋剖剜剔剛剝剠剢剜冤哨
F0  唐唏唷哼哥哲唆唰啊哩哭員唉哮哪
```

AE40 - AEFF

```
40  哦唧哿哽哳圃匿埕埔埋埃埔夏家奘奚
50  娑娘娜娟娛娓娠娣娌娉娥娌姬娠宰
60  害家宴宮宵容寂射屑展屐峭峽峻峪峨
70  峰島峴峻庫座庭徒徑徐恙
80
90
A0    恣恥恐恕恭恩息悄悟悚悍悔悌悅悖
B0  扇搴挈奉捐挾振捕插捆捏捉挺捎挽捌
C0  挫挨捭捫效校料旁旅時晉晏晃晒晰晅
D0  晃書朔朕朗校核栗框桓根桂桔栩梳栗
E0  桌桑栽柴栩桀格桃株梳栲栳桁殊殉殷
F0  氣氦氨氣泰涎涕消涇浦凌海浙涓
```

AF40 - AFFF

```
40  涅涉浮浚浴浩涌涩涘浹浬浹浼烘烤烙
50  烈烏烝特狼狹狽狸狷玆班琉珮珠珪珞
60  眸畝畜畚留疾痀症疲疳疸疹疼疵疽暈
70  窈益盍蚩眩真眠眨矩砰砧砭砝破砷
80
90
A0    砥砭砧砟砲砥砧祠祟祖神祝祗祚秤
B0  秣秧租秦秩秘窈窕站笆笑粉紡紗紋茶
C0  素索紓紐純級紜納紙紛缺罟羔翅翁翀
D0  耘耕耗耽耿胼胯脂胸脅胳胴胭胴胳脈
E0  能脊胼胸臭臬舀舫舨舨般舫茫荒荔
F0  荊茸荐草茴荳茲茹茶茗茵荏茱荃
```

Code Page 950 Traditional Chinese (Continuation)

B040 - B0FF

40	庚蚊斜蛐蚤崖蚌蚣蚜蚕衷袁快杠衹阰
50	訐訏缸舢孤紽訕紇舩舥舥衬紡財賈起
60	躬軒軔軛轟逐逆迷退逅迥迷追追迸崙
70	郡郝郢酒配酌釘針釗釜釙閃阬陣陡
80	
90	
A0	陸陝除陘陘隼飢馬骨高門秣鬼乾偈
B0	偶偉偷偌做偉健傌傁偛偵側偂偬偛
C0	偆偅兜冕冕匐勒務勔勣勖勖匙匽匾
D0	啟參曼啙啪啦喙啞咖咈喡啁咬咜唯
E0	啤哈啱啜啖啍啍啁咭喼喳啟啞堅堃堆
F0	埠埤基堇埻培夠奢娶婁婉婦姿婀

B440 - B4FF

40	婷媚婿媒媛娸婺寁富寓寐寙寙寣
50	崟嵌嵽巽帽帽幀幃幾廱廁廂寃敧彤復
60	循徨惑惡忿悶惠惆勞蕫忰情惻慨愷
70	復慍愉怵愷戟戟犛犛描掭揞揉換換
80	
90	
A0	插揣提握揾揭揮揲援揪換揜揚揹敁
B0	敫敨敨敟斐斯普晰晶景暑智暐暍曾
C0	曾期期楦椋某棌棗啝棳森楼椑椂椲
D0	棟棋棍植椶棉棚椿棻款款欷殘殖殼
E0	毯氮氥氫港游湔渡湎湊渠湮湭減湛
F0	湘湍湖湮湑渦湯湍渺測湃湞潭游

B140 - B1FF

40	娼婢婚娑婃執寇寅宯寂宿宩尉專將屠
50	屝屢崇崆崎崛崑崢崖崟崗崧崔巢
60	常帶帳帷康庶庹庵巽巽爽彗彬彩彫得
70	徙從徘御徠徜悉患悉悠您悍悴悟悾
80	
90	
A0	情倬惜惇惆惕惆惟孛惢惇惑悪悪
B0	掠控掩披採接捲揑掘措捶掩掉捕排扪
C0	推掄授掙採掏掞揉措捥敝敓敘救
D0	教敗啟敔敘敍斜斜斬族旌旌施晝晚
E0	晤晨晬晫曹晷晰梁梧椅椊焚梗梱梧
F0	梗梘梴梥梭梆梅梧梾梨梟梡梂欷殺

B540 - B5FF

40	溉換湮潛溜溲溫湟焙焚焦焰無然煮焜
50	牌牻犂犿猁猇猢猻猩猄猋猻猓琴琯
60	琛琲琨琱甥畫番疏痛痣痤痘痔痎登發
70	皖皓皴盜盟短硝硬硬稍稈程稅稛窘
80	
90	
A0	窩窨窒竣等箬箠箐筒筋筍筏筍筑粟
B0	粥絞結絨絮絮絜絡絎絢經緯絪絪鑫
C0	睪睦罥腕腔腑胰腴腖腴腴腴絎舜
D0	菩萃菇茹菠菁菅菁萎菱菁萊菈萌菫
E0	菠菲萄奐葵菊菼菥蘿莧蛤蛙蜓蛔蛛
F0	蛤蛐蛞街觞裂袱覃觀詎詠詞詎鈷

B240 - B2FF

40	毫毬氫涎涼淳涼液淡淘洫添淩清淇淋
50	淮淑淴淞渝淢淵淅淥淆涼淫淘淪
60	深淮淨涓淄淖淬淦淶淇埠焊熔焇牽
70	犂犉狻猖猓猙率琅玼珝琂現琍瓠瓶
80	
90	
A0	痊甜產睎畦畢異疏疼疽疵產瘦皎皎
B0	盒盞眷眨眼睞眺硫硃硼硏祥票祭移窒
C0	窕笠笨笛笭符笙笮笠粗粕秤秸稅茮
D0	紹綁絀紳組絮終絈絞紩絆羚翌翊習
E0	耝耵聆脯脬脾脫脘脛脤脧脫脬莎
F0	莞莘莠苹莝莩莒莙莉莓莉莙莉荻茶

B640 - B6FF

40	詔詛詐詆訴診詖胲象詔詝貼貳胎貴費
50	賀貴賈貶貸貸趄趑趒跎距跛跚跑跌跂
60	胎跗跏跋蹇迸逵逶迻迸邟鄂鄉鄒鄆甜
70	酥量鈔鈕鈣鈉鈞鈀鈥鈇鈑閔閔閒閒
80	
90	
A0	閔閔閎隊階陶陽隅隆陲陲隄隈雅雄
B0	換雇雯雲韌項順須次缸飯飥飫飭馮馭
C0	黃黍黑亂傭傲傯傌傓傔傷傳傏傮剴
D0	剸剝募剫剡剴勤勛勐嗟嗒嗯嗦嗎嗜嗜
E0	嗯嗒嗝嗚嗛嗅嗆嗡嗓嗉嗌圓塞塋塗塚
F0	塔填塌塢塊塘塋塹嫁嫉嫌嫖嫗�힆

B340 - B3FF

40	莆莧處彪蛇蛀蚶蛄蚵蚰蛆蛋蚱蚯蚣衒袞
50	袈祆袒袖袍袋袈規舫詡訣納肸股舧舥
60	斱販販販賈貸貪貧貫頇放魷胅魷舧訢道
70	逭通逯逮逵逳逶逳逳造逳遈迼逿逮逖途
80	
90	
A0	郘郭都酖野釵釦釣釧釭釩閈陪陵陳
B0	陸陰陳陶啗喈喟啻童竟頂頃魚鳥鹵
C0	鹿麥麻傕傳傎傜傭傺傀啚啜喪喪剴
D0	剴剮勞勝勛博喵喈喧喤喨喵喵喳喠喟
E0	喪喔啄喋喃喳喵喔喃喇喻喻喘喏喉喉
F0	喫喙壺堯塔堨堤堙報堡堝堠壹壺壺

B740 - B7FF

40	嫦嫚媾薈媾塤幹廉廈廄彙彙徬微愍愚慈
50	愍想愛惹愁愈慎愴慄慍慍慊愧愍愁僧
60	摵摋摶搞摸搭搓搓搬摶搦搨搨損搶搐搗
70	搗敬斟新暗暉暇暈暖暄暗暘暍會榔業
80	
90	
A0	楚楷楠楥極椰椴楊楨楥椶椶榿楠楞
B0	楂榾歇歲毀毀毹毹湺湹湗溯溱滂溿溝湆
C0	滅溽溰溼溫溫滑準溜湣溜溪漠漠款煙
D0	煩煤煉照煜煸煁渙煥煨煅煖煖煬煔歈
E0	鹍猻猾猻猢猇猿琲瑝瑜瑚瑈瑜瑜甁痳痳
F0	痰瘁癌痹痺瘋痲痲盞盟睛睦睦睦眹睿

Code Page 950 Traditional Chinese (Continuation)

Code Page 950 Traditional Chinese (Continuation)

C040 - C0FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

C140 - C1FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

C240 - C2FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

C340 - C3FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

C440 - C4FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

C540 - C5FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

C640 - C6FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

C740 - C7FF

| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| A0 |
| B0 |
| C0 |
| D0 |
| E0 |
| F0 |

Code Page 950 Traditional Chinese (Continuation)

C840 - C8FF

40
50
60
70
80
90
A0
B0
C0
D0
E0
F0

C940 - C9FF

40 ㄨㄜㄩㄈㄏ万ㄅㄇㄒ口ㄤㄓㄔㄞ有与
50 乩亓仂仉仈尢勾卬尐圠夊夬尐市无夊
60 甴气屴屵幵乬亿化仡仝仐刌匜冊打圣
70 兙夯宁宄佘屒屶囼帄庀庆刎刌扐气
80
90
A0　　永氿氻氻艾扏圱内肋伎优伈仵伉
B0 伶伦价伈伝佈佪伻伔伆沰刉刉刊刞
C0 矗囡囸卍罕呼囷囟圮圠均夰姀妀妏妏
D0 妰奸姎奷汖炏氿氻圠屾宓开圭异奮约
E0 伏忔忏扞扞抌扡扞扢扡扐扥岄奝扞
F0 机杤科机枣杦朾気杂汇记汰汉沱汋

CA40 - CAFF

40 洲刧劰扞炏圢角乩宦网艸芊芀尢芀乜
50 兩邡邘邞邔郘肮沲阽陀伮伂佢伝体伬
60 伍伔伕佸佁佉佪佀伀冈汝剻刞剕剮劫
70 勼剘圁卲匷庄匼呔唊吪呔咬呗咂呒哶
80
90
A0　　吽吶呴咟阶否阎囷囼坭坽坌圠坊坓
B0 备奀姙奼妱妱妫奻妼妡妱奀宯廷
C0 呀坈峄吸坳岺田呋听并亜陀忱庋宐序
D0 庰庍坒圯伩及沄忈忐扠扞忱技忼忡仟圾
E0 忕怇伩忻怀怜阤扑扢坛抁扏扞抇扱扺
F0 扰抚拐扶扽拎扞欯扞旴旴旳昗屈扞柌

CB40 - CBFF

40 杙杦机权杔杅杬杬机毒気气沴沜沯泜沈
50 沜汰沲泪讪沴沈汮汫沠泧波泟池圱他
60 初狄�扭狆扰扰狅圩扞扚玔江町亊庁
70 疤皁勎虬肚脼肮肱肜芐芋芖尭芎芑孛
80
90
A0　　芊芃芙彡辺氹邟邡邥郝邥邢邧肶阽舡
B0 阢弗佗佼伎佽佪佪佶佪佸佪伬佪佪個
C0 佪佪伩佸佪佪侢佪佶佪佪佪佪侁冾
D0 刉刓剄圀剆刧劶笧匌庂里唲去时呵唷
E0 唷呙吚咺呬吶咟呴咟呬吙呬呇呴呎哈
F0 囷囵坏塘坭坫坱峒坿坏坺坥坳奀坤

CC40 - CCFF

40 坨坮夔奋娃妹姳姌妱姅姍姁妱妱娙姮姳
50 姌妺妗嫠娑抱挲泫宕灵屇岥哛妵姑姕
60 姐岬块姁岭岇奠岇岿峻峀岇岇岖岇岥
70 岊弳駙弢众俎伶徎态态伆忚忴恬伒恨
80
90
A0　　忱悓怗恍怚怞怛怢怢怀怐怮慨伴玽怉
B0 怜衾屝忧抛扜挂挀抷挾扮挓抆挭抻挟
C0 抙敚斦敀敚敀晌旴旲昗眘旳肐毗旳
D0 盼畱斯杆杬杖枒枊杻枃杬耗枃枃枃杌
E0 杬栢柏枸样极枒枒枒欨欳奻嫰雰耆次
F0 泫沖泮凉泔沭波波渤洞泏泃泆泔泃

CD40 - CDFF

40 泒泝诊焘枺枒行泃泹泙泇泃泹泏泆泝
50 块炘昃枓炍坦沐沊敀皷衤欵沫泈波浱
60 狤狤狌狙坫狪狂昍扺欵玢圿玶玕咆塤
70 吒昴畱癃疟欪盰盽盰肝吃肝紅矶矼玔
80
90
A0　　矸矵肬耗罗穹另籵籵钉肎肐肕矜斳
B0 肭肋肤羌芜芚芘笁羏芜羏芄哞羏芴芰
C0 芆芐艾抚麦苉苎訂釓刞釓家迕迕迕迕
D0 达连迕匟釓邔邟陆贴咋嚜陜侲伙俚
E0 傆伍伂使伋傅伂悅伂伂佭佉傆倹庭伜
F0 刲刞勉劲旤瑓庭軍圵喧唒哮哇喞

CE40 - CEFF

40 哏哊咪咪咋咟哆粤台喦咢哇咾吨哇喞
50 坲垮垟埕坢垊堼狀堼垅塃垚吏宜喜
60 奐奓娂媯娂娥姝娆娺垘姶姼妭姵娍娹
70 婷姁媭妱娃裂奐奀屖屽峹峭崖崞噊昴
80
90
A0　　庈崊客夻岊峧嵿垆嵿垆峀岛㞍肎臣嵗
B0 栵姁带尚帮庪奉帝庄虎床奂喜豪泀砼
C0 恣俊讲傲咾怓佰恛佰徊恍圠恂恼恜侏
D0 伖仝属局挲技抱持挵挵挵挼挼挼挼挼
E0 振挼挼挼拍挼挵战敀斩游羳眩睲昵易
F0 界屲眇旳晋旮界咏旯腼胊柂秘柸秝秝

CF40 - CFFF

40 柜柜杯柘柀枷柜柦柤柙掲恏枳枼栢柚
50 柣栂柁枒机衾菜枕拉枒桐枮柤神枵枒
60 柊柈枒柂恌狙昵殁彭昺甃砉毲汝沶洭
70 滇洼湴洒浒泚泚湮湅洙洛洱洀洒浚淠
80
90
A0　　洁海泾泮泪油洇浲淐泶泞泞浶泞烂坦
B0 烂夹氣烂映垮炲肒胖昭狱轴栂粤昺栆
C0 狖狣垣犻狲狣妙毖珂珈珅玹玶秙秙珖
D0 珆珇珅珃珅地玵昦爰嵿胊叹疤疰发蛊
E0 肬砼哂眊眊旳斯蚅妖妵砼毗砅砅砼
F0 斨彗砅砼昉旳殳跃阶秕秬栕秖粉窀

Code Page 950 Traditional Chinese (Continuation)

D040 - D0FF

D440 - D4FF

D140 - D1FF

D540 - D5FF

D240 - D2FF

D640 - D6FF

D340 - D3FF

D740 - D7FF

Code Page 950 Traditional Chinese (Continuation)

D840 - D8FF

```
40  鈞釙釘紂馱閚閖閗暗隣隊胸胸踰儱惟釘頂鴖
50  尵容傂傃傆儓傃傌偟傎傃裝傃傃隿偁傃
60  铣食箌柯馺戛喨咪哞崿唥嗚唶唟嗒咭
70  喵喁哤唻嗗喠啳玾哯甴味哣嗒啺圈啹坿
80
90
A0     堙埮埳堣埇墳鍫埫堧塪堷堵堵塪埕堸
B0  堭堤埳埊埄埾堛坉堟垮塢塪埨墳堵墳塪
C0  堧堵塪塪壀壇堧堵垶塪娯娵垶塪惀塪娑
D0  塪盗塪嫠塪矧玗迋喥嚥塪塪塪啳嘆塪塪
E0  塪塪塪嘾塪嚙崓卿垞塪堷哞塪嗳塪塪塪
F0  垚戲塪憛塪偎偃亄点薏惡忀基怒倍
```

DC40 - DCFF

```
40  釮釞釩釕釙釚釤釫輕輸粬鎜柱鮐鎏遝遂
50  鄆鄇鄣鄀鄈鄑鄠鄍鄏鄀鄋郐鄞鄨鄆鄇鄓
60  酢鈈釖釙釙釘鈇釫鈇釫鈀鈓鈈鈶鈖
70  鈑鈇鈦鈕鈒鈑鈆紛駃閞閖閎閠駶戣鬳
80
90
A0     堼除陲儴崔隆羿芿釪轞駶頂髦鈇鈀
B0  荗宛夑童偉倄傓健傃傂傃傃傃偅傆傃傃傃保
C0  �ᆺ食傃藏傃徃傃劇傅車勖傃像塙崈溶濆漬
D0  喝毃塪塪槾吳塪珠塪味塪嘾塪喥塪塪塪
E0  嘾圇塪塪塪壇陸塪滺堸塪塪嘾凜塪塪塪
F0  滜塪糱塪塪塪塪塪塪塪塪嬈塪嬈嬈嗇
```

D940 - D9FF

```
40  傂傃傃傃傃傃傃傃发烮儃客傃崷傃偅傃
50  悓晜堅桑矧揎掉撟撯揎揚揤楬揁撟鄉撘
60  撢撻揤揤揤揳揃撻揤揎揁揎揤撖掉揤揨
70  揤揤晈敿晊敿叔叔叔斌弾料斬旂旗
80
90
A0     腌晬脏旺晈曘眖瞀柜棺槀椫槀栦
B0  枍棲柜楼椒椵椲椮椵梧根柜槙梫柋柯栦
C0  槀啒槀榴棨稑苯荼槀樳椂椝探槽楬
D0  枬椦榴榴榴楒椦桇栜欶欶欶欶欶陙
E0  殢殢殼錈蠹乬桑汻谷肀皓渦漢敥凓
F0  涺漢涑涑涆浶渑漢湊清沕若姇瞋
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DD40 - DDFF

```
40  傂傃傃傃塪傃喛傃蹙寞窒髭塪塪塪塪塪
50  峩臭寛衾喝喝駿嘆吳塪帕嚀塪塪塪塪
60  廈麿殼奚傃攀傃憤塪塪傃儈嘾憛堷
70  憤傃殼殼殼塪塪窣㧦峯揨揨揨揨揨揨揗拴
80
90
A0     揎塪揨揎揚揎揤揤揗塪揎揤塪塪
B0  招揨揚撶撰撗撝揤媬塪揳撻撻塪塪塪
C0  晈晈塪韾晈暰晈塪塪恀傃墤槀椫枘槀樁
D0  榴嵤塪嵤晈塪塪塪榴槀槀㮡榴榴榴楬榴
E0  枬椦塪栠栠愠攲椲枿樤槀椫掫枻樁栦
F0  椫椽掫椫斴叔叔叔叔叔叔寁叔斪髭
```

DA40 - DAFF

```
40  漢湜涊涊漫濄嗗澈渑瑖滇湜溙湜淰溷
50  涤漢凜湜滆澷涊烔涊娵欼烼歃烼泏
60  炮炠塪塪澦闇凜塪擎塪塪塪塪塪塪塪廀凚
70  塪塪塪塪塪塪塪塪焛欶琠瑔碠瑋瑲
80
90
A0     瑤珧瑃瑔琤珸塪塪塪塪塪嗳喈瑶
B0  痺塪瑭塪喈傃傃佄瞌砛睏塪塪喥塪晈
C0  睞眒晜堸妵眼硤砶硜硜眖瞑恀確堷塪碓
D0  砄碂堸塪嗳眲稞䅟稐秷栥筊踈遞妏筊
E0  芸傃釜荺筊扤芫豜粨枏欶睞枏杆桂歃
F0  柯枘栈鵀螜傃椒㮡檌栊桫梾椧柠昍嘼
```

DE40 - DEFF

```
40  鉈鉈瑥滍浚渑滫澶涊滇瀵漄灙澄澰濫淎
50  渧滼滺溑隌澶湜滜傃溁澷烢瀹澷湺渑濃
60  湺喈喝凜揨塪塪塪塪凜瀹嵤熌粘塪塪喈
70  焑姄焁堸滜塪堸塪塪塪堸晊塪嗝溷濩瀌
80
90
A0     塪沘焭塪鍵穮揨斵犁塪琝塪鵂焫塪
B0  塪塪堸塪堸堷塪溙瀵塪塪塪傃傃堷塪塪
C0  塪塪塪桂晈吸錧甾焍埃俰塪塪塪塪廀皮
D0  傃奐犷萍傃筊瞉盆跕嵒塪嵤晈睩睥嗙
E0  瞌眼塪胆跕砐玟硐枏砆遞塪硬塪松矧
F0  砣砘睜瞷塪桻枍橠梾柸梾塪柸柸柸柸
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DB40 - DBFF

```
40  塪戗嵤塪玬玓玾嚗戝粫塪塪塪喈腰塪
50  塪崒亞慂歏粍塪塪塪塪塪嘾塪喨酋塪
60  娵揎毚傃荗芫荃菝荺荳塪荺柠荁荺茢塪
70  粑塪讉菻蒀莂荺桽荺塪莟芶雀莗荁釜
80
90
A0     蒿塪菇瑠岩菫泩惚黃袜荺荿莄茻
B0  恭粖荓塪栽荺塪塪塪塪塪塪塪塪蛪綌
C0  廒傃傃袚祝祒襏祚祒栥栥袘袚袈衻裉
D0  塪塪塪塪朏膲腮塪塪塪塪塪塪跕盱盰
E0  署駌塪塪塪跕塪玾塪貶跕貶塪趍趋趗
F0  跕趓跕睩踎玼跕跕趼趐趍訸跕幹鮍鮀
```

DF40 - DFFF

```
40  稲輪窀宎萻沣荒粖菷衉荺笞萵荺茬秐
50  菜茸菌笒荺椢梘緆粖塪枺挮緆椢緆塪塪
60  糸橎糸綌綄緼枏怨郎郏綌雲綌粖炾綌脩
70  槀嫰暗膴螯殍胘朣荺胂塪腰腰睊腄腤譜
80
90
A0     腄晲釁梘柎轩鎴缺弅寉荼葦荺皆脩
B0  荺荺荺蔨荺菫蓊袾相藏塪動蚨蚨前
C0  曾前羮鸎塪禾塪塪秋蓊胊資柸荓荺獉
D0  樸埮虻耏荒荺筊蕨蕢蕣忿作蒖荰荎
E0  蒾塪塪睩趍塪塪迤塪洴绸好绸诸绌
F0  蜔塪嵒栺嵒視塪衻栠稦鄍龈畦鮍鮀
```

Code Page 950 Traditional Chinese (Continuation)

E040 - E0FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E140 - E1FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E240 - E2FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E340 - E3FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E440 - E4FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E540 - E5FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E640 - E6FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E740 - E7FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

Code Page 950 Traditional Chinese (Continuation)

E840 - E8FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

E940 - E9FF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

EA40 - EAFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

EB40 - EBFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

EC40 - ECFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

ED40 - EDFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

EE40 - EEFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

EF40 - EFFF

```
40
50
60
70
80
90
A0
B0
C0
D0
E0
F0
```

Code Page 950 Traditional Chinese (Continuation)

F040 - F0FF

F140 - F1FF

F240 - F2FF

F340 - F3FF

F440 - F4FF

F540 - F5FF

F640 - F6FF

F740 - F7FF