NCR Quantum

QR1000

Point-Of-Sale Terminal

User Guide

V.0.4

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Using this Guide

Format/Contents

This user's guide is designed to help you set up and use the NCR Qauntum Point of Sale. The official product name is **NCR Quantum Point of Sale** and offers multiple configurations depending on operating system, memory, touch screen, motion sensor, or storage configurations. It is designed as a reference guide. All steps and overviews contained in this guide can be used as a functional reference when you are using the system on-site.

Text Notations

Labels on the NCR Quantum box are displayed in **bolded** text.

Text Symbols

This guide contains symbols that identify special emphasis on a function or procedure. Each type of symbol is identified below:

NOTE: This symbol indicates any additional information that you might want to know about a certain function. This information is outside of the flow of the current process.

Caution - This symbol indicates that the user's actions may have an effect on the system.

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General Product Description
NCR Quantum POS Terminal

The NCR Quantum Point-of-Sale is the newest member in the NCR Corporation family of hardware platforms. The terminal utilizes a Samsung Tab A 10.1-inch tablet with a Octa-core 1.6 GHz Cortex-A53 processor, 16GB hard drive capacity, and Android Marshmallow. The combination offers great performance, lower power consumption in a proven reliable design. This all-in-one solution provides very tight integration of core point-of-sale hardware including a touch screen, magnetic stripe reader, printer, and much more.

Overview
- Fit-for-Purpose – designed as POS terminal and not just another pieced together tablet solution
- Cost effective solution with high value features
- Built-in Customer Display,
- Built-in EMV payment device with NFC
- Built in Scanner
- Built in 10,000 mAh cell pack
- Elegant/Compact/Modern Design
- Purpose built operating system

The durable countertop enclosure provides many benefits, including a small footprint without the need for wire to connect the customer display, payment device, scanner, and USB hum. . The **modern design** provides a not only sleek up-to-date appearance, but provides everything you need to run your business.

This highly efficient design doesn't require fan to stay cool. This fan less design is efficient and stays cool, even in hot conditions. The NCR Quantum is configured as a silent, thin-client, fanless, solid-state terminal for maximum reliability. Connectors are easily accessible and provide all the connections you will ever need.

This package includes a 10.1" PLS LCD, color, 1200X 1920 capacitive touchscreen with 16M colors main display. The bright LCD display provides the best possible display quality, with excellent contrast and brightness. The projected capacitive touch screen provides multi-touch functionality as well as a very durable, accurate, and fast touch interface with finger input. The NCR Quantum offers plenty of connectivity including two standard USB 2.0 USB B ports, two standard USB 2.0 USB C ports, one for connecting a Ethernet connection.

The Quantum supports

a Android 6.0 (Marshmallow) operating system with full support for TCP/IP networking on a 10/100/ Base-T Ethernet network. Stereo speakers are standard and provide excellent sound quality.

NCR Quantum Every-Unit-Item Features and Benefits

`Samsung Tablet – Tab A 10.1"`

Features	Benefits
Octa-core 1.6 GHz Cortex-A53 (Exynos 7870)	Fast performance with powerful quad-core with 14nm FinFET process technology, Exynos 7870 consumes up to 30% less power than its predecessor built on 28nm HKMG process at the same performance level. With 14nm FinFET process, octa-core 6-bit CPUs offer a perfect balance between performance and power efficiency.
10.1" WXGA (1920 x 1200 pixels) LCD primary display capacitive touchscreen 16M colors	Energy efficient and long life LED display. Excellent brightness, contrast, and color depth. Enables the proper display of high-quality graphics to ease use and decrease training time for retail employees or to directly engage the consumer
Software-adjustable brightness control for main display	Better display characteristics for user as well as increased life for main display
Integrated projected capacitive touch screen controller	Projected capacitive screen offers greater durability for applications that do not require gloved or stylus input.
eMMC Flash Storage	16GB solid-state storage on board. Expanded storage available up to 200GB via memory card.
Integrated stereo, speakers	Provides high-quality feedback for user interaction.
Battery	Li-ion 7,300mAh cell pack that provides up to 13hrs of use
Connectivity	microUSB (2.0), Bluetooth (V4.2), 3.5mm audio jack, WiFi (802.11a/b/g/n/ac, 2.4GHz + 5.0GHz, BHT80),

Quantum Base - Every-Unit-Item Features and Benefits

Features	Benefits
Qualcom APQ8009 Quad-core 13oo MHz	Fast performance with powerful quad-core and very low power. Long lifecycle commitment. Supports dual, independent video displays and USB 2.0.
10,000 mAh cell pack	When power goes down, you don't.
Sleek modern all in one design	No mix of wires all over the place.
7" (800 x 480) LED LCD customer display	Energy efficient and long life LED display. Excellent brightness, contrast, and color depth. Enables the proper display of high-quality graphics to ease use and decrease training time for retail employees or to directly engage the consumer
Interactive customer Display	Enter tips and captures signature for payment
Cable Management	All of the ports and wires are on one side of the device so they are consolidated to one location
Integrated projected capacitive touch screen controller	Projected capacitive screen offers greater durability for applications that do not require gloved or stylus input. Multi-touch supported for application interaction
Integrated payment device (US models only) • MSR(Mangnetic Strip Reader) • EMV • NFC	• Integrated encrypting 3-Track MSR for secure credit and loyalty cards. The terminal can be configured with no MSR module. End-to-end encryption is possible with certain applications. • Accept EMV Chip and Sign transactions and contactless payments, including Apple Pay, in a single device • PCI PTS 4.1 POI SRED, EMV Level 1 & 2 and EMV L1 Contactless , Visa Paywave & Mastercard, Amex & Discover Contactless certified • Support for 100+ iOS (MFi certified) and Android™ mobile devices • LED and beep indicators for battery and reader status. Beeps when ready, and beeps when card can be removed from smart card reader (for EMV transactions) •
Lock down tablet feature	Allows tablet to be secured from theft.
Ability to pull tablet out	Can use tablet for line busting
Utilizes Tablet that is a standard off the shelf tablet	Accidently break your tablet….no problem. The Samsung Tab A 10.1" is available to be purchased at multiple locations. Just buy the tablet, load the app,

	and your up and running again.
Exterior tablet control buttons	Allows tablet to power-up/down without having to be removed.
Build in 2D camera / scanner	Will allow the scanning of QR codes and standard barcodes for scanning loyalty cards , coupons, and more
Utilized Standard off the shelf high end tablet	Designed specifically for Samsung Tab A 10.1" tablets. When the tablets upgrade, so do you. Taking advantage of any upgrades to Android or electronics associated with an already high end tablet.
USB and Ethernet Port protection	All USB and Ethernet ports are protected with a rubber plug to protect them from dirt and moisture when not being used.
4 USB 2.0 ports (Qty 2 in USB C configuration and Qty 2 in USB B configuration)	Provides data I/O with any USB peripheral. Fast data rates with USB 2.0 at 480 Mbps
Can use the USB ports to connect to multiple accessories	Connect to scanner, printers, and external payment devices today and will be able to connect to scales and other items in the future.
1 Dedicated Ethernet port	Provide direct connection to Ethernet to ensure strong connections to internet.

EMV Reader (Only for versions being sold in US)

There are 4 LEDs on the top of the reader to indicate progress of a contactless transaction. In addition, there is a buzzer inside the reader to prompt Swipe/Tap/Dip.
- Reader ready: The Red LED on the side of the reader will be On.
- Reader waiting for card : The reader will generate a beep prompting user to Swipe/Tap/Dip. One LED light on top of the reader will turn on (Only for Contactless).
- Reader reading the card : 2 LED lights turn On.
- Card read successful: 3 LED lights turn On.
- Card Processing Error/Multiple Contactless Cards detected: All lights are turned off to indicate that the contactless interface is not acceptable for this transaction.
- Card Processing Error : Only fourth LED light turns On indicating condition for use of the contactless interface have not been satisfied (ex: As an added security measure, transaction amounts over a pre-set threshold may require a card swipe or insert.).

Cable Management

USB ports, Ethernet ports and power port are all located on the left side of quantum for easy cable management.

Base Power Button

Want to save energy when not in use?   The Quantum base has its own power button.   When the unit is not being used, press the power button to shut off the power to the base and tablet. .

Customer Display

The 7" color customer display provides a compact display that is touch enabled for easy customer interaction with full motion video. The projected capacitive touch screen provides full multi-touch functionality with finger input. This accurate touch system enables customers to enter Tips, email addresses or sign for payment, for example.

The benefit of a customer display is to provide the ability for customers to view orders as they are entered into the point of sale resulting in increased order accuracy. Additionally, in the future, it can be used as an advertising medium, allowing clients to display specials and promotions to the customer at the time of purchase. The display is built right into Quantum, for a clean high quality look. The customer display is power by an internal battery in the event that the power goes out.

Customer Display Specifications

LCD	7.0" LCD, LED, 1024 (RGB) x 600
Touch	Projected Capacitive single-touch
Viewing angle Range:	80 (Cr>2) Horizontal, 70(Cr>2) Vertical
Tilt Angle	Fixed 45 degrees
Display colors	16.7M
Luminance for LCM	350 min
Operating Temperature	15°F – 120°F, -10°C – 50°C
Storage Temperature	5°F – 120°F, -20°C – 50°C (Must be in original pack material in humidity and temperature controlled environment)

Humidity	5% to 85%, non-condensing

2D Scanner

This feature is a great way to for customer to scan coupons or loyalty cards. All you have to do is waive your loyalty card or coupon by the NCR logo.
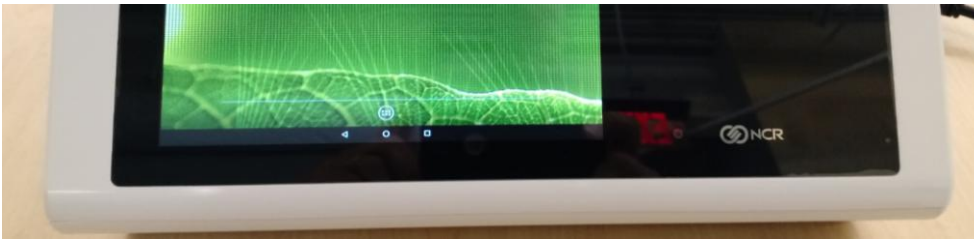
Quantum Specifications

Networking	Auto-selecting 10/100/1000 Base-T Ethernet using TCP/IP
Primary Display	10.1" WXGA (1280x800) LED LCD
Touch Screen	Projected Capacitive Touchscreen. Supports only single touch
Enclosure	Polycarbonate/ABS impact resistant, high strength blend plastic Die-casted Aluminum
Dimensions (Countertop envelope)	12.60" L x 7.91" W x 7.38" H, 320mm L x 201mn W x 187.5mn H
Base Dimension	12.01" L x 5.51" W 305 mm L x 140mm W
Tilt Angle	Fixed at 46 degrees from vertical
Weight	5.3 lbs., 2.4 kg	with tablet (1.14 lbs / 0.517 kg) and EMV Module (.14lb / 0.064 kg)
Operating Temperature	32°F – 104°F, 0°C – 40°C
Storage Temperature	32°F – 104°F, 0°C – 40°C Must be in original pack material in humidity and temperature controlled environment
Humidity	5% to 85%, non-condensing
Environmental Compliance	RoHS, WEEE
EMI Certifications	FCC Class A, RCM, *(CE requires special configurations)*
Safety Certifications	TUV, CB Scheme

Installation Notes

Cable Plugs: Quantum includes protective plug coverings. These are used to prevent the outlet from a foreign material from accidental getting in to the outlet. Please make sure these coverings are in place when plugs are not being used.

Footprint: An area of no less than 15" inches square is necessary to properly install a Quantum unit with EMV module. This will accommodate the unit as well as its associated mounting hardware.

Power: Quantum has an external 65 watt 12V/5.417 switching power supply for both 100VAC and 240VAC (Auto-sensing*).* Source power is drawn from a regular AC wall outlet. The electronics are "universal" – that is, they will function when connected to standard wall outlets of most nationalities around the world. For international configurations of the Quantum in locales other than North America, typically the country specific power cord is ordered separately.

Moisture: Quantum should not be installed in areas where they might be exposed to direct water spray. Quantum units are not meant for outdoor installation.

Touch Screen Cleaning: Any standard glass cleaner that is not ammonia based or water can be used to clean the touchscreen. Always spray the glass cleaner on the cloth or towel and then clean the touchscreen to prevent cleaner from running down the glass and gathering on the front bezel.

Magnetic Strip Reader (MSR) Cleaning: Periodically, the MSR may need to be cleaned depending on usage. Pre-saturated MSR cleaning cards can be ordered from NCR (50/box) using part number 1666-K024. Otherwise, wrap a card with a saturated paper towel of glass cleaner and swipe gently to clean reader head. Do not use this method to clean EMV reader (chip reader)

Countertop mounting: There is a screw hole available on the bottom of the terminal for countertop mounting using M4 screw.
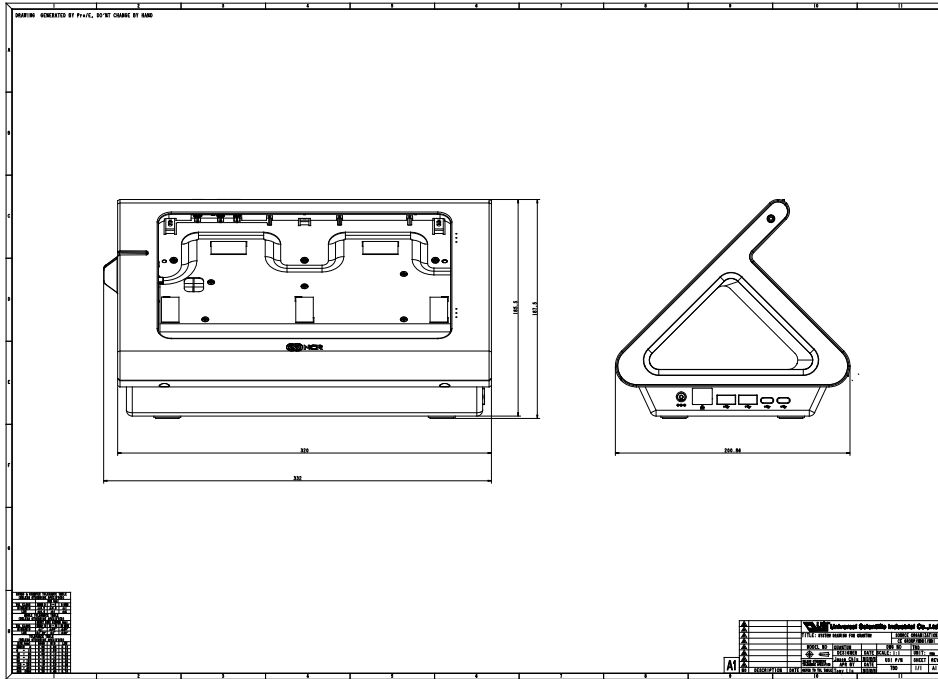
Power cord installation:

Plug power connector into terminal. Plug power cable into round outlet on the far left.

Connectivity – Cash Drawer

Quantum is configured where the cash drawer must be connected to the connector on the printer. On the printer there is a 6 pin cash drawer port (RJ12) and supports 24v as standard.
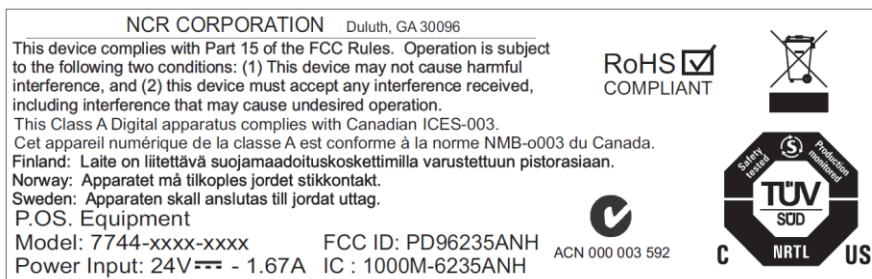
Dimensions of Quantum (mm)

Certification Label

Below is picture of certification label as of as of   DD/MM/YY: (Example shown below)

註解 [MK1]: Need image of lable.

Product Labels

Series number, serial number, and model number are located on the bottom of the terminal per the sample picture below.

註解 [MK2]: Need Image

Radio Frequency Interference Statements

Federal Communications Commission (FCC)
Information to User
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of 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 interference in which case the user will be required to correct the interference at his own expense. NCR 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 interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user. The user is cautioned that changes or modifications not expressly approved by NCR may void the users authority to operate the equipment.

Canadian Department of Communications
These digital apparatuses are Class A digital apparatuses that comply with Canadian ICES-003.
These digital apparatuses do not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.
Le présent appareil numérique n′émet pas de bruits radioélectriques dépassant les limites applicables
aux appareils numériques de la classe A prescrites dans le règlement sur le brouillage radioélectriques
édicté par le ministère des Communications du Canada.

Declaration of Conformity

Manufacturer's Name   : **NCR Corporation**
Manufacturer's Address   : **NCR Corporation**
                    Retail Solutions Division – Atlanta
                    2651 Satellite Boulevard
                    Duluth, GA 30096-5810

Type of Equipment
Information Technology Equipment
Point of sale Terminals

Model Number

Safety Warning

Servicing

Warning: This product does not contain user serviceable parts. Servicing should only be performed by a qualified service technician.
Attention: Ce produit ne contient pas de components reparable par l'utilisateur. Le service ne doit être fait que par un technicien qualifié.
Warnung: Dieses Produkt enthält keine verbrauchbaren Teile. Service nur durch einen qualifizierten Fachmann.

Lithium Battery Warning

Warning: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
Attention: Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebute les batteries usagées conformément aux instructions du fabricant.
Warning:: Gefahr von Explosionen wenn die Batterie falsch eingelegt wird. Ersetzen Sie nur mit gleichen oder gleichwertigen Batterien wie vom Hersteller empfohlen. Entsorgen Sie die Batterien wie vom Hersteller empfohlen.

State of California Perchlorate Material Notification

Perchlorate Material — special handling may apply.

See *www.dtsc.ca.gov/hazardouswaste/perchlorate*.

The lithium coin cell batteries in this product contain Perchlorate and are subject to

the State of California's Best Management Practices (BMP) Regulations for Perchlorate Materials.

Please visit the above website for more information.

Battery Disposal (Switzerland)
Refer to Annex 4.10 of SR814.013 for battery disposal.

System Weight Considerations for Wall or Ceiling Mounted Equipment

Warning: Terminals must be mounted securely to prevent a hazard.
They must be installed in accordance with local building codes. The location where
the unit is installed should be able to withstand four times the weight of the unit

Attention – Doit être installer précautionneusement afin d'éviter
tout accident éventuel. Il doit être installé dans le respect des codes de l'établissement.

Power Supply Cord Used as Disconnect Means

Caution: The power supply cord is used as the main disconnect device. Ensure that the
socket outlet is located/installed near the equipment and is easily accessible.

Attention: Le cordon d'alimentation est utilisé comme interrupteur général. La prise de
courant doit être située ou installée à proximité du matériel et être facile à acceder.

Environmental Consciousness

Do not discard the unit or its parts (e.g. batteries) with general household waste;
recycle or dispose in accordance with your local regulations.

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following
two conditions: (1) This device may not cause harmful interference, and (2) this device
must accept any interference received, including interference that may cause undesired
operation.

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

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

FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for
  compliance could void the user's authority to operate this equipment.
- This transmitter must not be co-located or operating in conjunction with any other
  antenna or transmitter.

Industry Canada statement

1. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
   1) this device may not cause interference, and
   2) this device must accept any interference, including interference that may cause undesired operation of the device.
1. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
   1) l'appareil ne doit pas produire de brouillage, et
   2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2. This Class A digital apparatus complies with Canadian ICES-003.
2 Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Batteries

There are limitation to how long a battery can operate tot be stored before requiring replacement. Many factors affect the actual life of the battery. Such as heat, cold harsh conditional and severe temperature drops

Battery Safety Guidelines
- The area where units are charged should be clear of debris and combustible material or chemicals. Particular care should be taken where the device is charged in a ono-commercial environment
- Follow the device usage, storage and charging guidelines
- Do not use incompatible chargers. Use of an incompatible charger may present a risk of fire, explosion, leakage, or other hazard. If you have any questions about the compatibility of the charger contact support.
- Do not disassemble or open, crush, bend or deform, puncture or shred the device
- Severe impact from dropping a battery containing device on a hard surface could cause the battery to overheat.
- Do not modify or remanufacture, attempt to insert foreign objects into the device, immerse or expose to water or other liquids, or expose to fire, explosion or other hazard.
- Do not leave or store the equipment in or near the areas that might get very hot, such as in a parked vehicle or near a radiator or other heat source. Do not place the device into a microwave over or dryer.
- Device usage by children should be discouraged.
- Please follow all local regulation to properly dispose of used rechargeable devices with batteries
- Do not of device/batteries in fire
- If you suspect damage to your equipment r battery, contact support to arrange for inspection
- This device must not be used at low air pressure, like that found at high altitudes.