

PRODUCT

NCR RealPOS XR7 Point-of-Sale Terminal

MB POS 1241
September 10, 2014

This initial issue of Reference Bulletin 1241 describes the NCR RealPOS XR7 point-of-sale terminal, its design and features.

For pricing information, see the RealPOS XR7 Pricing and Configuration reference (MB-POS-1242).

While the release of the RealPOS XR7 provides numerous options and accessories, many additional capabilities will appear in subsequent releases later in 2014 and in early 2015. NCR's new X-Series displays are also in the release process. The ideal companion to the RealPOS XR7, the X-Series matches the RealPOS XR7's electronic interfaces, mounting accessories and outstanding look-and-feel. A progression of X-Series releases will make these displays available in the coming months, further enhancing the sales advantages of NCR POS hardware products. Release status of RealPOS XR7 items will be shown in the RealPOS XR7 Pricing and Configuration reference (MB-POS-1242).

NOTE! While Channel Partners are encouraged to order lab/demo units, the RealPOS XR7 is currently in production ramp-up and at this writing is in very limited supply.

NOTE! At this writing, the RealPOS XR7 has not completed certification with ACS, ISS45 or ScanMaster. Testing indicates that software updates are likely required to support the new RealPOS XR7 terminal hardware.

NCR is proud to offer the finest and most powerful point-of-sale terminal ever constructed. The NCR RealPOS XR7 features stylish all-in-one design, best-in-class performance, exceptional versatility – and with all the ruggedness and data security needed for mission-critical service in retail.

The term “game-changer” may be overused. Not this time.



A QUICK OVERVIEW...

The end of modular is near: The XR7 fits a tremendously powerful e-box and screen into a package so slim that you'll swear it's only a flat-panel display – just the nicest one you've ever seen. But the XR7 is a much bigger leap than that. Think about it: NCR has finally rescued the e-box from the reliability-killing heat and grime of the under-counter prison. Now above the counter: stunning appearance. Clean air. Cool air. Less noise. Fewer boxes with fewer power supplies. Lower power. Easier installation. Dramatically simplified cabling – and a lot less of it.

Cost? Much less of that too: A RealPOS XR7 with 15-inch PCAP touch display, costs about the same as a similarly equipped RealPOS 60 with a 15-inch NCR 5967 touch display. But the XR7's eye-popping performance is in another league: even the “good” end of the XR7's spectrum delivers more horsepower than “best” Core i5 versions on top-of-the-line products.

Brains and brawn meet beauty to give your customers one impressive point-of-sale: Beauty is usually only skin deep, but while the XR7's sleek profile, zero-bezel design and elegant anti-glare styling sets it visually apart from every other POS terminal in existence, its outside envelope is only part of the story. Powered by the latest 4th generation Intel® Core™ processor technology, the RealPOS XR7's engines deliver extraordinary performance. More than just future-proofing your customer's investment with blinding speed, the XR7 has inventive new smarts such as on-board odometers, which capture vital health and usage statistics to keep the installed base up and running.

Service shoppers faster ... and look really great doing it: NCR understands the importance of exceptional shopper experiences. When you first set eyes on the XR7, it's obvious that all that

technology is humming within a stylish and versatile design. Not only does it blend beautifully in any retail environment, but it is the first POS terminal that will immediately enhance a merchant's brand and image. And the added bonus of the latest multi-touch screens with gesture support provides even more layers of future-proofing that will enhance shopper interaction and participation with the user interface styles they already know from their phones and pads.

Because one size doesn't fit all: The NCR RealPOS XR7 is available with either a 15-inch standard format or a new 18½-inch wide-screen touch display. For grocery and heavy retail, the new Projective Capacitive displays are the best and toughest ever – or choose resistive for lower cost. These flexible platforms create ideal choices for either POS or kiosk service: its versatile design works to assist shoppers just about anywhere. So whether it's on a checkout counter, tabletop, kiosk pedestal – or even wall-mounted or on a pole – the XR7 will fit wherever it's needed most.

All this flexibility creates extra room for better shopper service: And you can customize the XR7 with NCR's custom-created and integrated accessories, including multiple encrypted MSR options, biometric fingerprint sensor, wireless communications module, classy mounting stands, the new matching family of touch and non-touch shopper displays – even a built-in camera or a hardware-based encryption option.

Reliability and peace of mind ... for your customers, their shoppers ... and you: With a cast aluminum chassis, long-life LED display, Projected Capacitive touch-screens and enterprise-class solid state drives, the RealPOS XR7 is built to last. NCR has combined elegance and sophistication with toughness, joining high-end technology design with industrial-grade hardware and reliability. (And in case you forgot, NCR's strict manufacturing standards are backed up by comprehensive environmental and compatibility testing – to ensure that your entire base of RealPOS XR7s will provide years of dependable operation.

NEW REALPOS XR7 FEATURES – A GLOSSARY

The RealPOS XR7 is breaking new ground – this is just a partial list of new features, components and components that are introduced or incorporated with POS for the first time in the XR7's design:

- ***Intel 4th generation CPUs*** – not its great-great-grandfather's legacy, that's for sure. The XR7's base model – with the Intel G1820TE – gives you better full-system performance¹ than our previous “best” RealPOS 72XRT and RealPOS 82XRT ***with Core i5!*** Want even more? Go with the XR7 powered by a new 4th generation Intel Core i3 or Core i5 and get as much as 65% more full-system horsepower than the previous corresponding Core i3 or Core i5 versions (see the charts provided on page below).
- ***Solid-State Drives (SSD)*** – instead of the traditional rotating hard drive, Solid State Drives generate zero vibration, zero noise, less heat, and use only 25%-33% as much power. Today's “NAND” non-volatile flash memory is specified to stretch out more than 200 years. And it's plenty big enough: the 80GB SSD is about 4x the size needed for typical ScanMaster, ISS45 or ACS installations including OpenEPS.

Oh – and they're blindingly fast. The industrial-quality SSDs we use in the RealPOS XR7 give read/write speeds that are 4-5x faster than the best server-quality drives and 10x faster than the typical PC/POS HDD.
- ***Zero-bezel displays*** – no exterior frame surrounds the display screen, providing a smooth, glass surface that is attractive and easily cleaned – and minimizes footprint.

¹ The performance quotations here use industry-standard PassMark ratings, using results based on PassMark parameters for “overall system performance.” Other PassMark ratings may show increases that are more dramatic.

- **10-Point multi-touch display technology** – the ability to respond to as many as ten touch-points on the LCD at once – versus the current single-touch screens. This provides the future capability for software to implement multi-touch gestures, such as zooming (with “pinch” in or out), app switching or references (with single or multiple finger swipe left-right or from the screen edge).
- **Projected capacitive display technology** – Projected Capacitive Touch (“PCAP” or “PCT”) technology is an improved variant of capacitive touch technology. PCAP screens comprise a matrix of conductive rows and columns layered onto glass sheets. A conductive object – such as a finger – distorts the PCAP’s local electrostatic field and that touch is measurable as a change in capacitance. When a finger bridges a gap between two of the “tracks,” the charge field is further interrupted and detected by the controller. Since capacitance can be changed and measured at every intersection point on the grid, moving touches can be accurately tracked.

You’ve seen PCAP’s advantages before, most likely on an Apple iPhone or modern Android device. The PCAP’s glass top layer is tougher and more resistant to abrasion than the earlier resistive touch or surface capacitive technology. Although this technology’s initial cost is higher, the screens will withstand hard retail use, while working better too. For example, PCAP touch displays will also sense gloved fingers, and a passive (rather than electronic) stylus can be used.

- **Wide-Screen display format** – the additional side-to-side real estate available with the 16x9 format (sometimes called “letterbox”) enables viewing of more left-right information such as product images or video frames. The wider aspect ratio also provides room to display an optimally sized touch keyboard on the screen at a comfortable typing angle and height. Standard 4x3 15-inch screens are also available.
- **Anti-glare displays** – smooth glass screens get anti-glare treatment. This dramatically reduces reflections that could interfere with readability.
- **Encrypted MSRs** – data elements are coded simultaneously as the card is swiped, so they’re encrypted before they’re passed to the MSR driver. The MSR driver then manages coding to meet the requirements of the affected applications.
- **Dallas Key security device** – the iButton, also known as the “Dallas Key” (because it originates from Dallas Semiconductor) is operates much like a smart card. By touching it to an iButton reader, it can read, send and store small amounts of information such as an account balance, ID code or e-cash coupon. The device itself is about the size and shape of a flat disk-shaped battery, and is frequently embedded in key-chain dongles. iButtons can be used in harsher temperature, chemical and kinetic environments than smart cards, and provide greater longevity.
- **USB 3.0** – USB 3.0 increases the data transfer rate (up to 5 Gbit/second), decrease power consumption, and increase power output. USB 3.0 is backwards-compatible with USB 2.0 since USB 3.0’s new “SuperSpeed” bus runs in parallel with the USB 2.0 bus.
- **RJ50 serial ports** – refers to the latching RJ50 cable connector for a serial interface. The secure connection and space savings from RJ50s enable the XR7 to provide greater I/O flexibility and more ports than with traditional DB9 shell connectors. RJ50 → DB9 converters are available to support legacy cables and connections.
- **RJ12 serial ports** – similar to the RJ50 above, RJ12 connectors are even smaller, but they support only limited lines instead of the “full” RS-232 pin-out range. RJ12 connectors are used with a special add-on I/O panel option to support Radiant HSA/PCR peripherals (converters available).
- **Trusted Platform Module (TPM)** – by ordering this Feature Code, a special chip can be added to the RealPOS XR7 motherboard. Via this encrypting hardware, the terminal’s TPM option provides secure generation of cryptographic keys and defines parameters for their use. The TPM also provides a random number generator, which can be used to create one-time keys, or prompts for implementing two-factor authentication routines.
- **Push-button image recovery** – the RealPOS XR7 provides a button next to its power switch that can activate a BIOS event, enabling an image to be restored from the backup partition on the

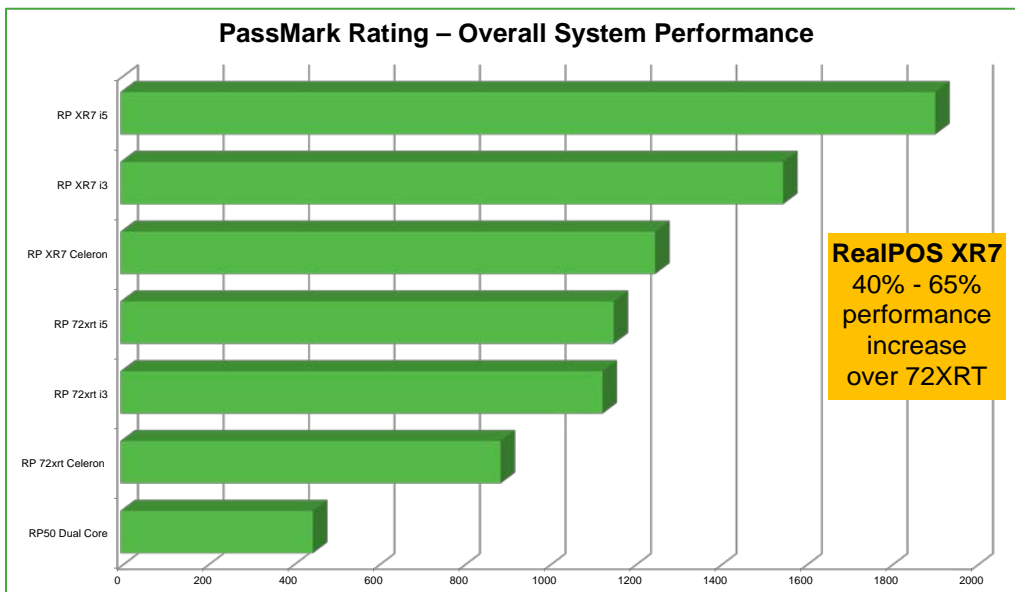
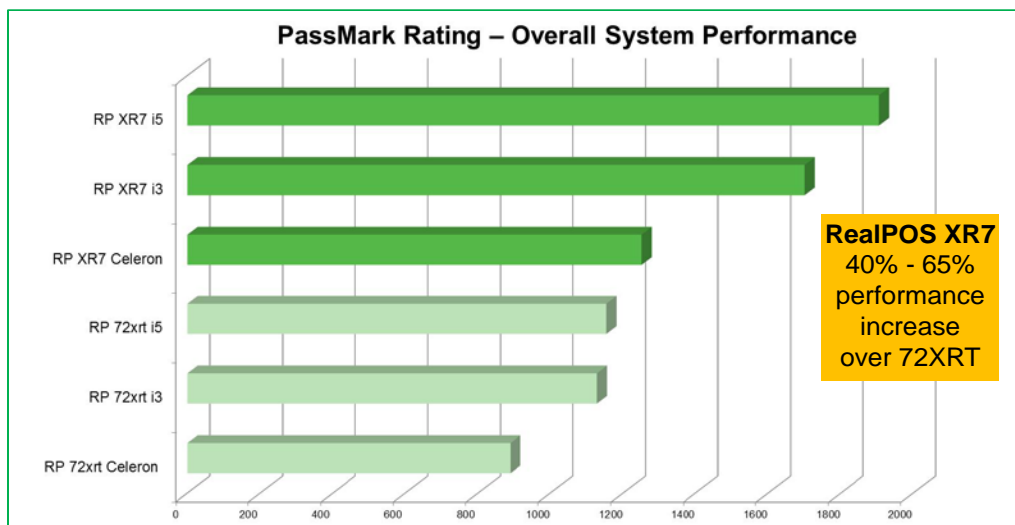
machine's storage device. This dramatically simplifies and reduces the time for operating system and application base restorations in cases of security concerns, or suspected corruption.

- **Odometers** – the RealPOS XR7 includes a non-volatile memory device that stores the terminal's historical metrics such as system uptime, operating time for the primary screen, MSR swipe quantities and success ratios, system startup and shut-down counts, cash drawer pop count, operating time for the system fan, CPU throttle statistics, and storage drive read and error data. This data can be used to proactively service the product or enhance diagnostic analysis. Using these features can reduce your service cost by the reducing the number of service calls – and reducing the time for each call (MTTR).

RealPOS XR7 Performance

CPU-to-CPU, the RealPOS XR7 dramatically outperforms previous products with earlier chipsets.

Check this out: even the base-level RealPOS XR7 with its Intel G1820TE (Celeron) outperforms the current top-of-the-line XRT models with the Core i5.



RealPOS XR7 Features

REALPOS XR7 BASE MODELS



15" Projected Capacitive

- 10 point multi touch interface
- Standard 4:3 aspect ratio
- 1028 x 768 XGA resolution
- High bright LED backlit LCD
- Zero bezel design
- Anti glare
- Stereo speakers

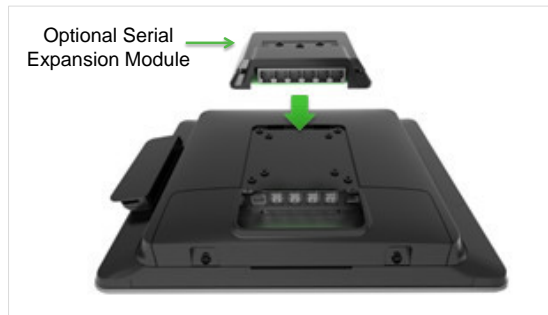
18.5" Projected Capacitive

- 10 point multi touch interface
- Wide Screen 16:9 aspect ratio
- 1366 x 768 WXGA resolution
- High bright LED backlit LCD
- Zero bezel design
- Anti glare
- Stereo speakers

15" Resistive

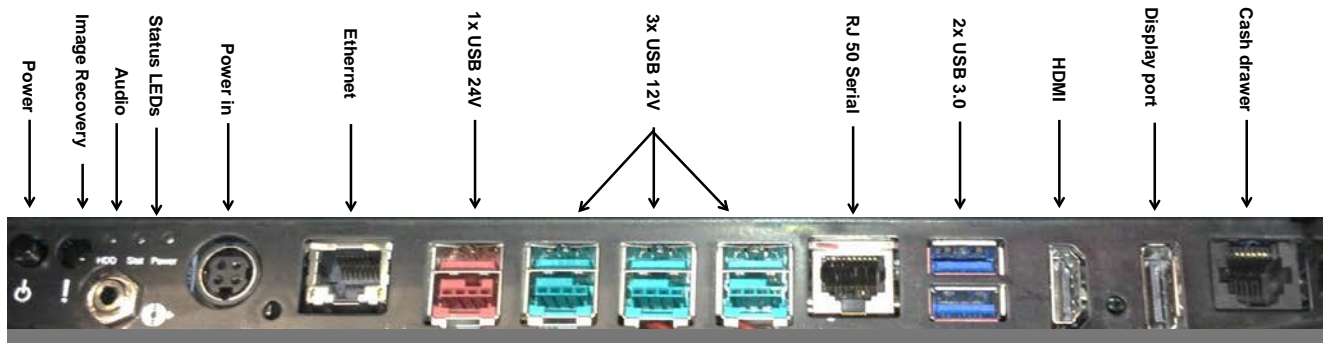
- Single touch interface
- Standard 4:3 aspect ratio
- 1028 x 768 XGA resolution
- High bright LED backlit LCD
- Zero bezel design
- Anti glare
- Stereo speakers

REALPOS XR7 CONNECTIVITY AND I/O



External I/O row connectivity

- 3 x 12V USB, 1 x 24V USB, 2 x USB 3.0 ports
- 1 serial port standard (RJ45 0, 5,12V)
- Cash drawer port (supports dual drawers 12 or 24 volt)
- Ethernet, audio, HDMI and DisplayPort
- Optional 6 port serial expansion (RJ12 powered)



REALPOS XR7 MOUNTING OPTIONS

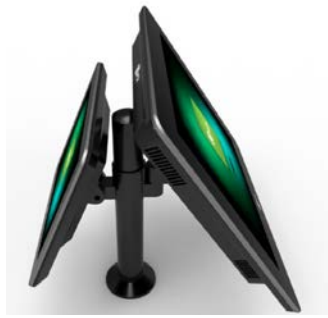


Table top POS stand

- Compact design conserves counter space
- Wide tilt range (0 to 110 degrees) for improved usability and access to I/O

Pole or wall mount

- Secures POS/kiosk to wall or pole system
- Standard VESA mount
- Slim 2" thin profile for tight spaces
- Maximizes counter space for customer service

Kiosk pedestal mount

- Leverage platform as a kiosk
- Common core across enterprise
- Integrate kiosk peripherals
- Landscape or portrait mode

REALPOS XR7 SHOPPER DISPLAYS



• X Series Displays 15" or 10"

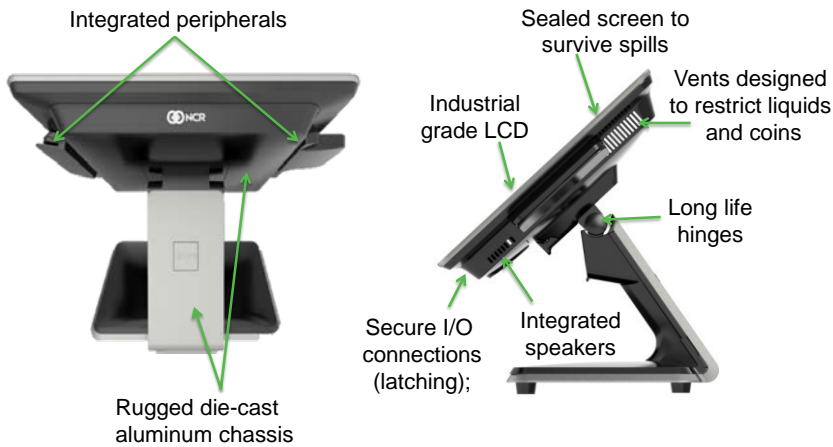
- Stylish zero bezel design
- High brightness LED backlit LCD
- Standard 4:3 aspect ratio
- Retail hardened
- Integrated MSR option
- Touchscreen option
- Integrated display interface:
 - DisplayPort video
 - 12V USB power, data (MSR, Touch)
- Integrated Mount options:
 - Direct to POS stand
 - Stand extension arm with tilt

REALPOS XR7 ACCESSORIES AND OPTIONS



- Encrypted MSR option
- Biometric Sensor “Fingerprint Reader” option
- Wireless option:
 - 802.11 and Bluetooth
 - Plus optional long range antenna
- Camera option integrated in front glass

REALPOS XR7 RETAIL HARDENING EXAMPLES



- Integrated peripherals
- Rugged die cast aluminum chassis
- Sealed zero bezel touchscreen
- Long life LCD: LED backlight rated at 50K hours (to ½ brightness)
- Vents designed to restrict intrusion of liquids and object (e.g. coins)
- Robust long life hinges
- Powered USB and Serial I/O

RealPOS XR7 Specifications, Details and Feature Summary

PROCESSING SPECIFICATIONS

Model Specifications	1820TE (Celeron)	Core i3 – 4330TE	Core i5 – 4570TE
Chipset	Intel Q87 (Haswell)		
CPU Cores	Two		
Clock Speed	2.2 GHz	2.4 GHz	2.7 GHz to 3.3 GHz i5 has Turbo feature
Level 2 Cache	2MB	4MB	4MB
Intel vPro	No	No	Yes
KVM	No	No	Yes
AMT	Yes		
Thermal Design Power	35 Watts		
Image recovery Button	Yes		
Diagnostic LED	Yes		
Odometer Chip	Yes		
RAID Support	Yes		
PCIe Expansion Slot (Reserved for Wireless)	Yes		
Trusted Platform Module	Optional		
Memory (RAM)	1820TE (Celeron)	Core i3 – 4330TE	Core i5 – 4570TE
Memory Type	1333MHz/1600MHz DDR3	1600MHz DDR3	1600MHz DDR3
Form Factor	SODIMM		
Memory Slots	2		
Standard Memory	4GB (1 x 4GB)		
Maximum Configurable Memory at Release 1	8GB (2 x 4GB)		
Maximum Memory Future release – date TBD	16GB (2 x 8GB)		
Storage	1820TE (Celeron)	Core i3 – 4330TE	Core i5 – 4570TE
Solid State Drive (SSD)	2.5-inch 80GB (SATA Interface)		
Dual Solid State Drive	2 x 2.5-inch 80GB (SATA Interface)		
Hard Disk Drive (Rotating)	2.5-inch 500GB (SATA Interface)		
Dual Hard Disk Drives	2 x 2.5-inch 500GB (SATA Interface)		

CONNECTIVITY SPECIFICATIONS

Connectivity	1820TE (Celeron)	Core i3 – 4330TE	Core i5 – 4570TE
RS-232, 0/5/12V (RJ50 on I/O row)	1 (plus options)		
Legacy Radiant Serial (6 x RJ12) Add-on	6		
Legacy Retail Serial (2 x RJ50 + 1 x DB9) Add-on Rel 1.2 (~Q1 2015)	3		
USB Total	10		
USB, 5V PC (I/O row)	2		
USB, 12V Powered (front I/O)	3		
USB, 24V Powered (front I/O)	1		
USB, 5V (dedicated to integrated option ports)	4 (ports in side of display)		
Triple Independent Display Support	Standard		
Video 1: Operator	LVDS		
Video 2: Shopper	Display Port		
Video 3: Shopper	HDMI		
Audio Line Out	1		
Ethernet LAN	10/100/1000 “Gigabit”		
Cash Drawer Ports (12V and 24V)	1 (supports two cash drawers via Y cable)		

POWER SPECIFICATIONS

Power	1820TE (Celeron)	Core i3 – 4330TE	Core i5 – 4570TE
Power Supply	80-Plus Gold Certified		

INTEGRATED SHOPPER TOUCH DISPLAY SPECIFICATIONS

Integrated Touch Display	1820TE (Celeron)	Core i3 – 4330TE	Core i5 – 4570TE
15-Inch 1024 x 768 Resistive Single-Point Touch	Resistive Option Available	Resistive Option Available	No Resistive Option with Core i5
15-Inch 1024 x 768 Projected Capacitive 10-Point Touch	This Display Option Available with All CPUs/Models		
18.5-Inch 1366 x 768 Projected Capacitive 10-Point Touch	This Display Option Available with All CPUs/Models		
Brightness: 15-Inch	500 nits typical		
Brightness: 18½-Inch	300 nits typical		
Screen Life	50K Hours to Half Brightness (all models)		
Integrated Speakers	Standard (all models)		
Integrated 3-Track MSR Encrypting	Option (all models)		
Integrated 3-Track MSR Monetra P to P Encrypting	Option (available ~Q4 2014)		
Integrated Wireless	Option (all models)		
Integrated Biometrics	Option (all models)		
Integrated Camera	Option (all models)		

X-SERIES SHOPPER DISPLAY SPECIFICATIONS

Zero-Bezel Displays	1820TE (Celeron)	Core i3 – 4330TE	Core i5 – 4570TE
10-Inch Color LCD Touch	Option (available ~Q1 2015)		
15-Inch Color LCD Touch	Option (available ~Q4 2014)		
10-Inch Color LCD (No Touch)	Option (available ~Q4 2014)		
15-Inch Color LCD (No Touch)	Option (available ~Q4 2014)		
2 x 20 Integrated	Option		
2 x 20 Pole Mount	Option		
2 x20 on Swivel	Option (available ~Q4 2014)		

RealPOS XR7 Warranty

The NCR RealPOS XR7 provides Channel Partners the same warranty plan as other RealPOS terminals. Refer to the PDS Addendum and NCR service information and documentation for details.

RealPOS XR7 Technical Details

ENVIRONMENTAL REQUIREMENTS

The RealPOS XR7 (7702) is designed to operate in a Class 3 working range, which applies to a broad spectrum of fully to partially conditioned office and commercial environments. Dependent upon local climatic conditions, heating, cooling and humidity control capability may not be provided at all or be inadequate to maintain desirable human comfort levels on a day-to-day basis under adverse climatic conditions. A summary of the RealPOS XR7 environmental requirements is shown in the table below.

Item	Temperature	Relative Humidity	Dew Point
Operating Range	5 to 40°C	10-90%	26 °C
Storage Range	-10 to 50°C	10-90%	N/A
Transit Range	-40 to 60°C	5-95%	N/A

Condensation may occur when equipment is transferred from cold to warm areas during shipment. The equipment design permits operation after flash condensation has occurred, a drying out process has been accomplished, and the equipment has stabilized to the operating environment.

The 7702 is not certified for use in outdoor locations where the unit could be directly exposed to moisture. Exposure to direct sunlight should be restricted (unit requires shading).

REGULATORY COMPLIANCE

The 7702 shall meet the safety requirements set forth in NCR RSD Regulatory Compliance Guidelines Document 497-0412176. The following reports are available for the XR7:

- UL Report (USA and Canada)
- EU Declaration of Conformity (Safety and EMC)
- TUV Report
- TUV Certificate
- Certification Body (CB) Report (to all national deviations)
- Compliance with EU Harmonic Distortion Requirements (EN610001-3-2 and EN610001-3-3)
- NOM/NYSE Certificate (Mexico)
- GOST Certificate (Russia)
- PSE (Japan)
- China Safety Certification
- China Emissions Testing
- VCCI Japan emissions testing
- Australia/NZ Tick Mark
- Korea MIC Emissions Testing

PRODUCT DIMENSIONS

- 15-inch terminal with MSR:
 - Width 15.45 inches (392.6 mm)
 - Height 13.35 inches (339.3 mm)
 - Depth 11.75 inches (298.3 mm)

- 18½-inch terminal with MSR:
 - Width 19.84 inches (503.9 mm)
 - Height 13.80 inches (350.6 mm)
 - Depth 12.12 inches (307.8 mm)

RealPOS XR7 Sales Resources

The following sales collateral is available on the Channel Partner website. Click the links to access.

- [NCR RealPOS XR7 Brochure](#)
- [NCR RealPOS X-Series Displays Brochure](#)
- [NCR RealPOS XR7 Presentation](#)
- [NCR X-Series Display Presentation](#)
- [NCR Touch Display Technology Overview](#)