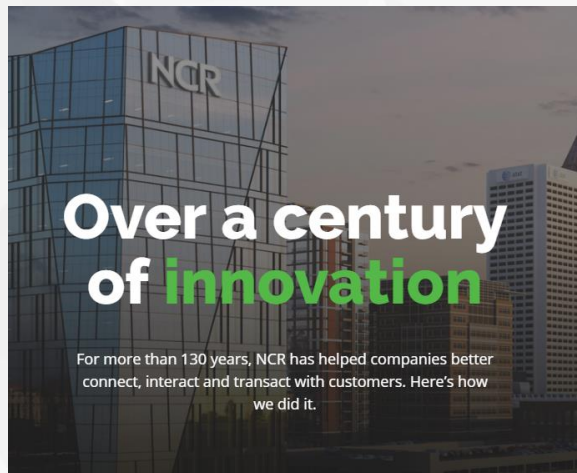


The NCR CX5

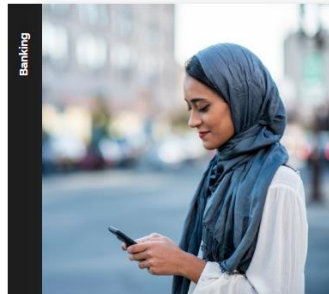
*...powerful, energy efficient,
fan-less and beautiful...*

Who is NCR

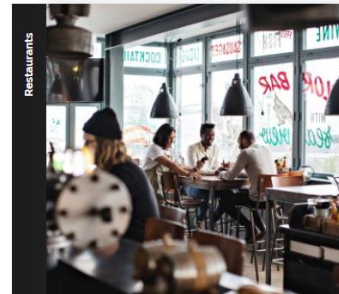
We help **invent** and guide the future of **global commerce**.



Department and Specialty Retail



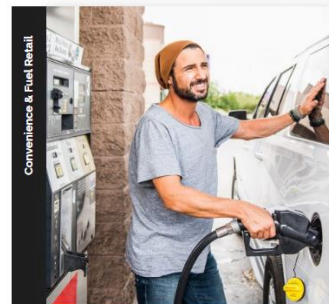
Banking



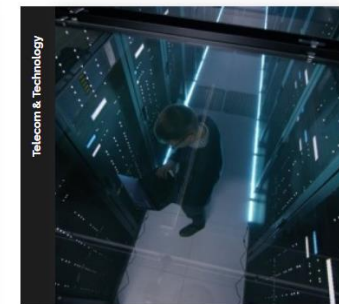
Restaurants



Food, Drug and Mass Merchandise



Convenience and Fuel Retail



Telecom and Technology

What does NCR offer



Self-Checkout and Kiosk



Printers



Scanners

Terminals Displays and Mobility



Specialty Devices and Servers



Cash Drawers and Keyboards



The broadest and deepest portfolio in the industry

The POS terminal continues to evolve...



CONSUMER STYLE



CX series



PURPOSE-BUILT



NCR combines consumer styling with purpose-built engineering and features

NCR CX technology serves all tiers — all verticals — all geographies



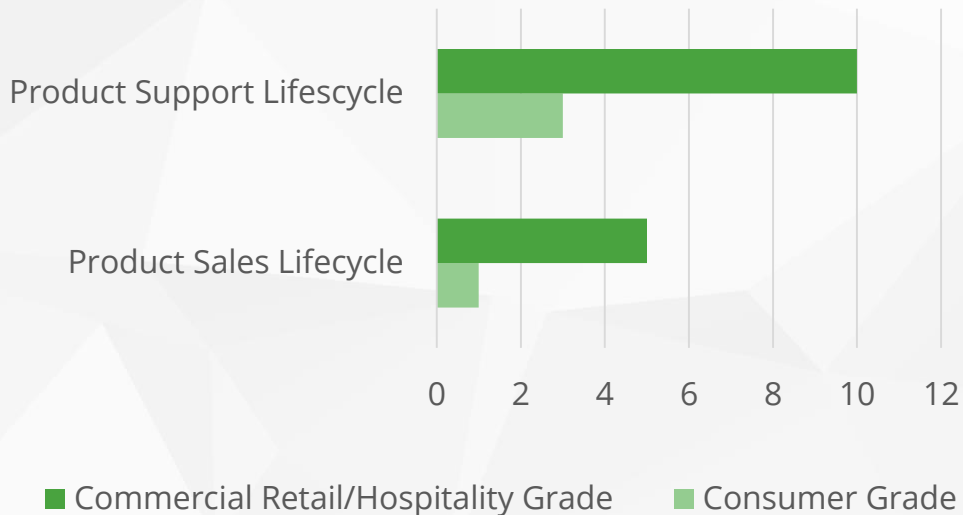
NCR software, hardware and services come together to deliver an unparalleled experience

NCR hardware life cycles

Extended product sale and support life to improve your TCO

- 5-year production life (typical)
- 5-year+ hardware support (post-production)
- Key components selected for extended industrial availability
- Chipsets and processors selected from Intel's embedded roadmap – typically offering a 7-year life versus only 12-18 months for consumer grade
- Stable technology platforms with timed release of product changes
- Enables a consistent operating system image over an extended time span to reduce support costs and reduce TCO

Maximize Your Return on Investment

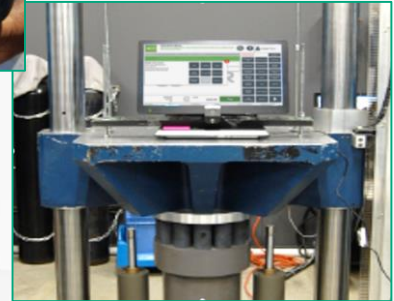


NCR reliability

Purpose-built to thrive

Comprehensive Design and Testing

- Environmental testing
 - Shock and vibration
 - Temperature cycling
 - Packaging and drop testing
 - electro-static discharge (ESD) up to 15kV
- Platform integration testing
 - Multiple operating system environments
- Regulatory compliance
 - Product Safety (UL/TUV, CE, CCC, CU-ETA)
 - EMC (FCC, CE, VCCI)
 - Weights & Measures



Grueling tests and processes beyond legal and industry standards to meet the real demands of Retail, Hospitality and Convenience/Fuel stores

Introducing the CX5

Energy-efficient, fan-less... multi-touch POS



Best-in-Class Style

- Sleek and compact fan-less all-in-one design
- Low-profile stand with no exposed cables
- 15.6" wide-aspect display with PCAP multi-touch
- 15" 4:3 option



Best-in-Class Performance

- Celeron system-on-chip (SoC)
- 4GB DDR3L (up to 8GB)
- 120GB M.2 SSD (or 240GB)



Best-in-Class Versatility

- Counter-top stand, pole or wall mount
- I/O connectivity optimized for each industry
- Integrated options: shopper displays, MSR, biometric reader, 2-D imager, Addimat 2-in-1 key reader, wireless and more



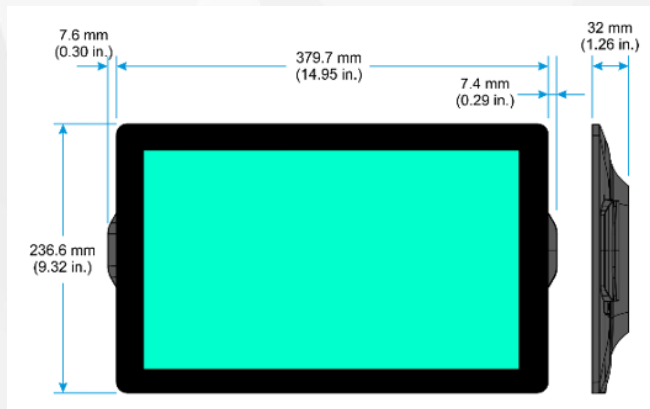
Ideal for thin client or cloud applications

Best-in-Class Innovation

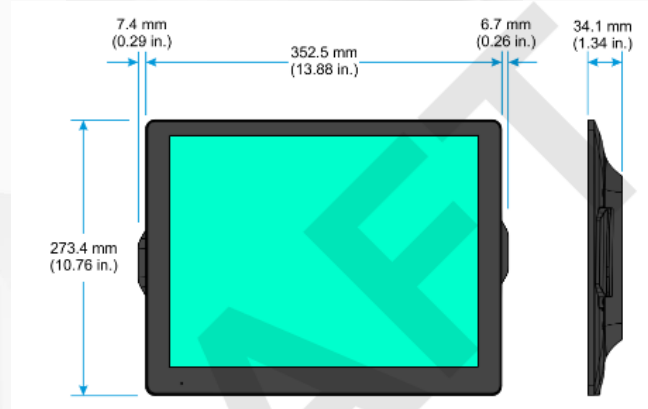
- Display head can be located independently from I/O
- Flip-rotation sensor allows screen sharing
- Intel Core motherboard technology (future-proof)
- Image recovery button for quick service/repair



CX5 Operator Display Options



15.6" 16:9

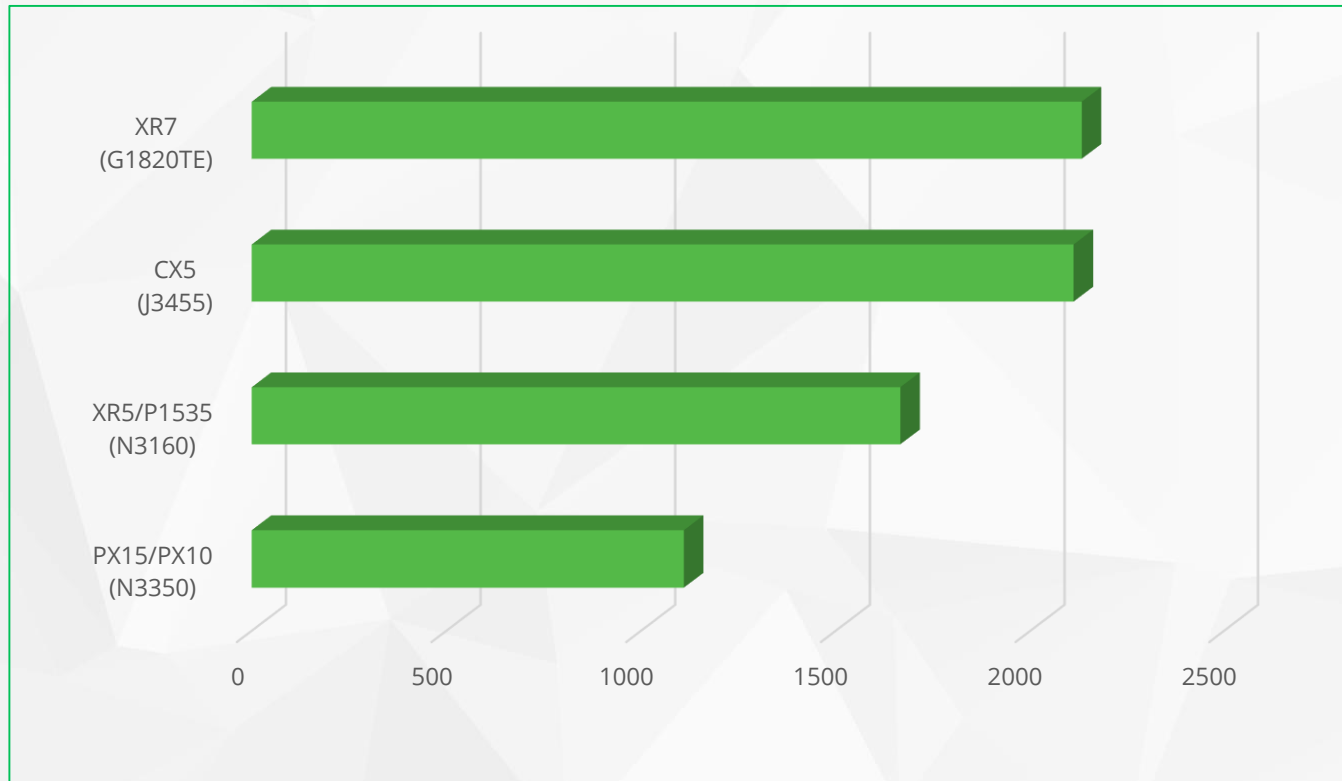


15" 4:3

CX5 Core technology

- **Intel Apollo Lake Core (SoC)**
 - Celeron
- **2 x Memory slots (DDR3L -1600)**
 - 4GB up to 8GB
- **2 x M.2 SSD slots**
 - 120GB or 240GB
- **PCIe slot for wireless option**
- **Four (4) reserved USB headers, USB-C and Gigabit Ethernet**
- **Rotation sensor (accelerometer)**
- **Speakers**

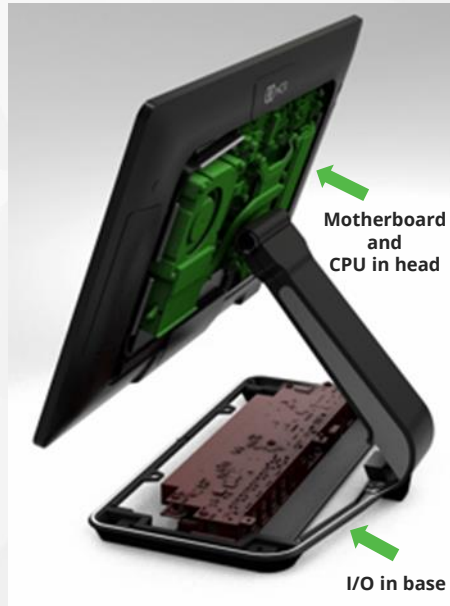
CX5 CPU PassMark benchmarks



*Per cpubenchmark.net – 9/29/19

CX I/O

Connections optimized for USB or serial environments



Offered with either
USB-centric or
Serial-centric I/O

Connectivity: USB-centric



↑ ↑
To CX head

Ports

- 1 x USB Type C (internal; for opt integrated LCD customer display)
- 3 x 12V powered USB
- 1 x 24V powered USB
- Serial: 1 x RJ50; 1 x DB9
- 2 x USB 3.0 (5V)
- 1 x DisplayPort
- Cash Drawer, 12V or 24V (dual-drawer capable)
- Gigabit LAN

Connectivity: Serial-centric



↑ ↑
To CX head

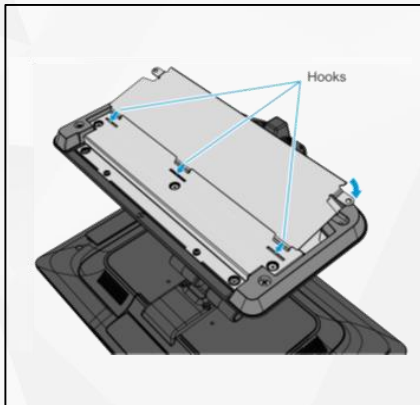
Ports

- 1 x USB Type C (internal; for opt integrated LCD customer display)
- 1 x 12V powered USB
- 1 x 24V powered USB
- Serial: 4 x RJ12; 2 x RJ45
- 2 x USB 3.0 (5V)
- 1 x DisplayPort
- 2 x Cash Drawer, 12 or 24V (dual-drawer capable)
- Gigabit LAN

NCR table-top stand: features and options



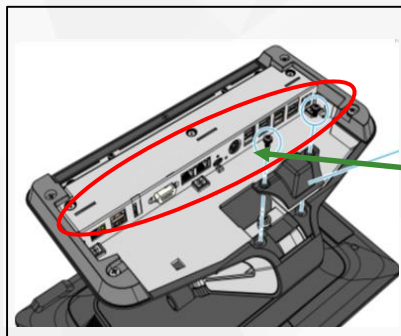
Power supply integrated in base of stand



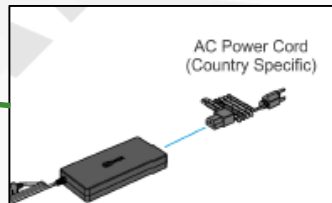
Cable security cover



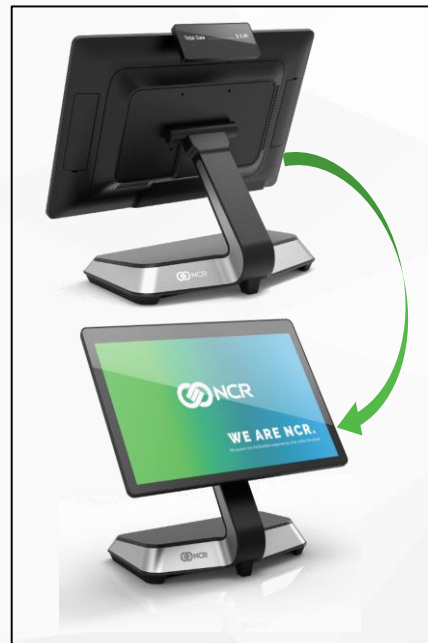
Recessed Power Button



Latching/Powered Connections



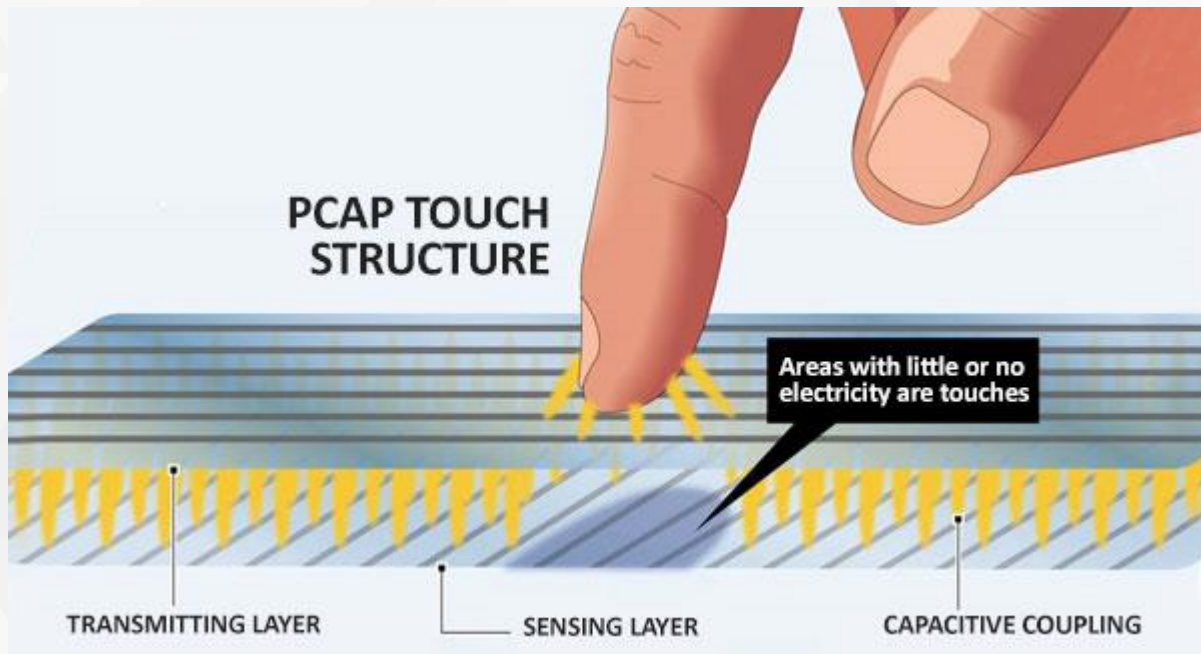
Purpose-built



Display head flips for customer access

CX5 Display

Projected capacitive touch technology — no calibration required



- 15.6" wide-aspect (16:9) LCD
- 15" 4:3 LCD
- Full Hi-Def (FHD)
- 1920 x 1080 resolution
- Anti-glare screen
- PCAP
- 10-point multi-touch
- No calibration needed
- No failures from wear

CX5 Integrated peripheral options



MSR



Imager or biometrics reader



Addimat key reader

Integrated peripherals

- MSR
- Biometric reader
- 2-D imaging scanner
- 2-in-1 key reader (Addimat)
- 802.11ac wireless/bluetooth



**Graphical APA
(All Points Addressable)**



7" LCD



10" LCD

Customer displays

- 2x20 (APA)
- 7-inch LCD (XL7)
 - Touch or non-touch
- 10-inch LCD (XL10)
 - Touch or non-touch

Versatility in mounting that works for *YOU*



Stand/Base with I/O



Integrated I/O

I/O integrates to the head via an
“expander chassis”
for wall or pole-mounting



Remote I/O

The remote I/O chassis permits
placement of the I/O under the
counter to reduce cable clutter

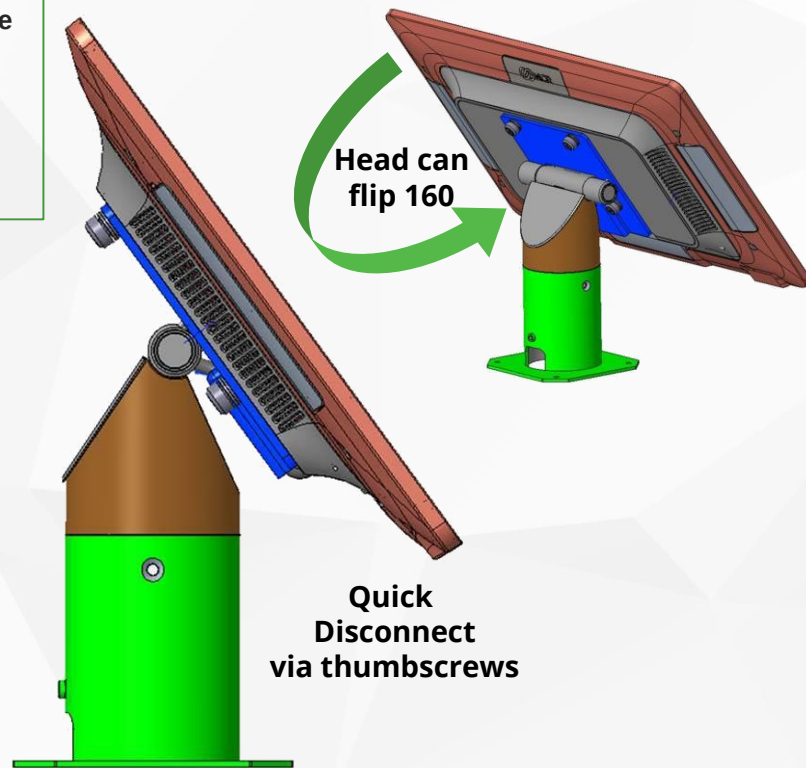
NCR quick-disconnect pole mount with remote I/O



CX7 head connects to the remote I/O chassis via only two cables:

- USB Type C (Choice of 1.3M or 2.5M cables)
- LAN cable

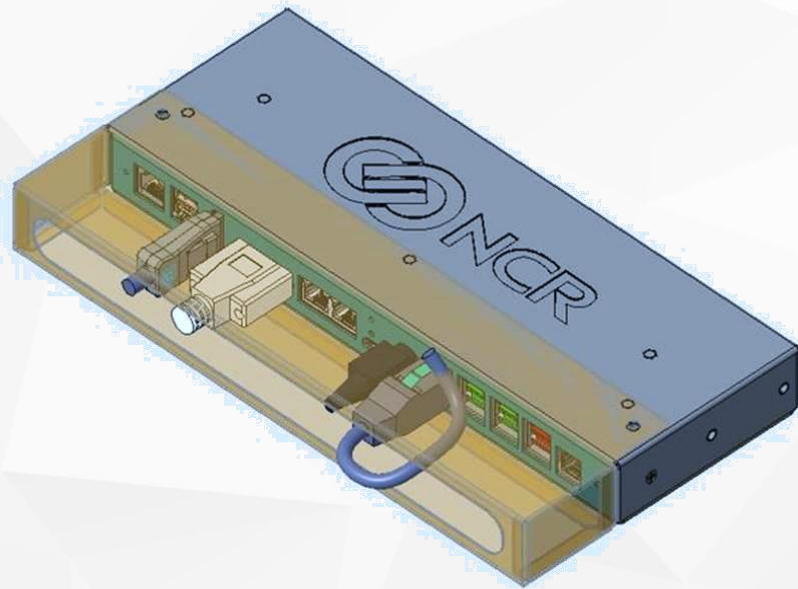
- The remote I/O chassis permits placement of the I/O under the counter to reduce cable clutter
- The external power supply connects to remote I/O chassis



Remote I/O mounting and tamper resistant cover



*L-Bracket Kit for secure fastening
or wall-mounting*



*Port Cover Kit protects connectors
and inhibits unauthorized port access*

Remote I/O Specs

USB-Centric Option
Ship with CX unit → F038
Kit option → 7772-K038



Serial-Centric Option
Ship with CX unit → F039
Kit option → 7772-K039



Dimensions

- 11.25"x1.25"x4" (WxHxD)
- 2.7 lbs

I/O options

- USB centric (F038)
- Serial centric (F039)

Cable Options

- 1M - F112 (1432-C846-0010)
- 2.5M - F113 (1432-C846-0030)

3rd Party Pole mount with remote I/O



**Two small cables:
USB Type C and Ethernet**

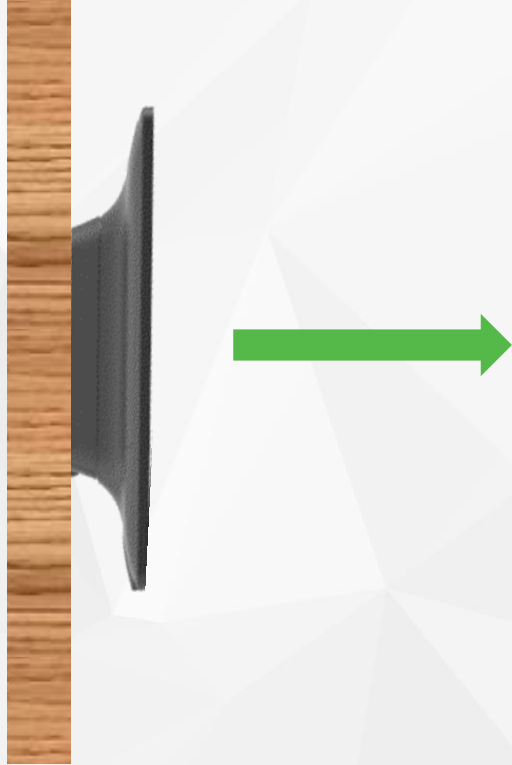


**The remote I/O chassis permits
placement of the I/O under the
counter to reduce cable clutter**



5977

Wall mounting



*I/O can be integrated with display head via
Expander Chassis for wall mounting*

CX5 SW / Driver Options

CHOICE OF OPERATING SYSTEMS

- Microsoft Windows® 10 64-bit (Pre-loaded)
- Linux Options:
 - SuSE Linux (SLES 15) 64-bit
 - NCR Linux C (CentOS)
- Android Oreo
- NCR OPOS and JavaPOS



***Open-platform support for Windows and Linux solutions
with robust software suite for ease of integration***

NCR HW Advantage

Designed to maximize system up-time

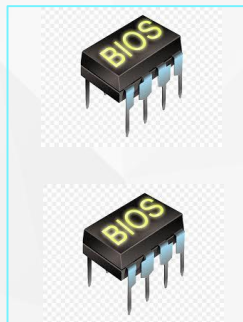


Image Recovery

Allows a terminal to restore a back-up image from hidden partition or server in seconds reducing down time due to software corruption



Auto +

Auto detects the USB devices, install the platform software, and update the device firmware if needed



BIOS Recovery

Allows a terminal to restore a BIOS form a redundant BIOS storage chip in case of corruption



Advanced Remote Management

- DCS – NCR Digital Connected Services monitors system logs for issues
- Intel AMT w/ KVM



NCR Odometers

Used by NCR Services to track terminal usage for preventive/timely actions:

- System up time
- Display on time
- MSR reads/errors
- CPU throttle time

How CX5 technology and design work for you

Top Reasons: The Technology

- **Retail rugged:** Die-cast chassis; engineered to exceed regulations for safety, durability and reliability
- **System odometer:** Keeps logs of touches, processor overspeed, high heat conditions, forced shutdowns, MSR swipes and more, enabling your service centers to proactively predict and head off failures before they happen
- **UEFI:** This interface layer between O/S and firmware tightens security to prevent unauthorized firmware changes

Top Reasons: The NCR Design

- **Long, long life cycle:** NCR guarantees at least a 10-year life cycle, further reducing your TCO (5 years of sales and 5 years of post-sale support)
- **Fan-less:** Reduces the amount of heat generated and power consumption. Reduced failures due to no moving internal parts. And silence too!
- **Remote I/O:** Port connections can be located separately when your counters or other service requirements call for alternate positioning or cable routing
- **AUTO+:** Updates peripheral drivers and firmware at start-up, ensuring consistency across your entire estate
- **Auto-rebuild:** Automatically re-creates the POS drive to repair corruption, and accepts remote updates from your latest gold image to establish consistency across your system estate

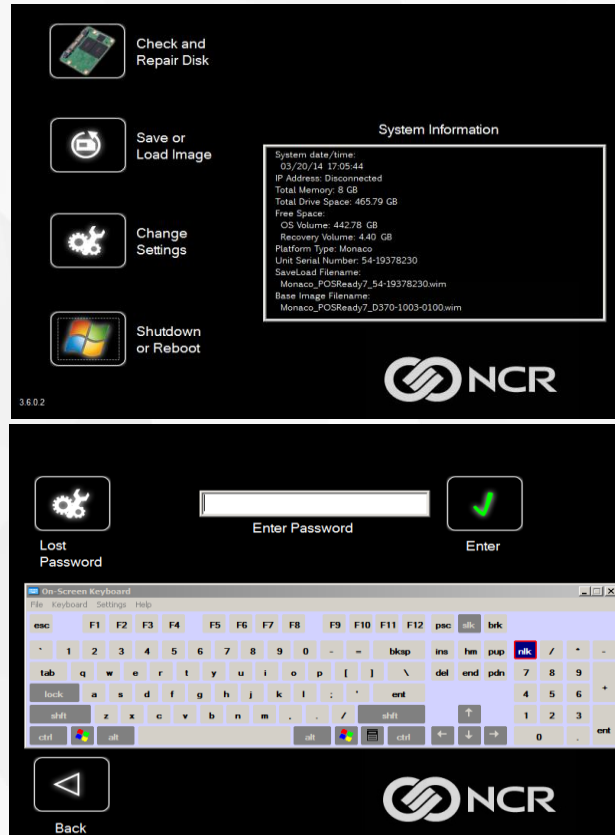
THANK YOU



Backup, Additional Information and Optional Detail Slides



Systems management – image recovery



Recovery Tool functions and features:

- Check and repair disk
- Backup the system
- Restore the system to a previous state
- Password protection
- Network support
- Multi-language support (EN; DE; FR; IT; ES)
- Save and restore from:
 - Network
 - USB drive
 - Hard drive / solid state drive

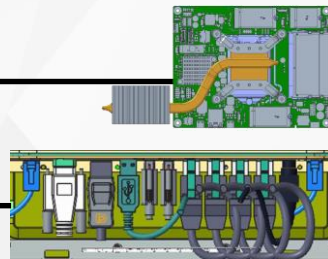
Why CX7 and why CX5



CX7



CX5 has SoC chipset



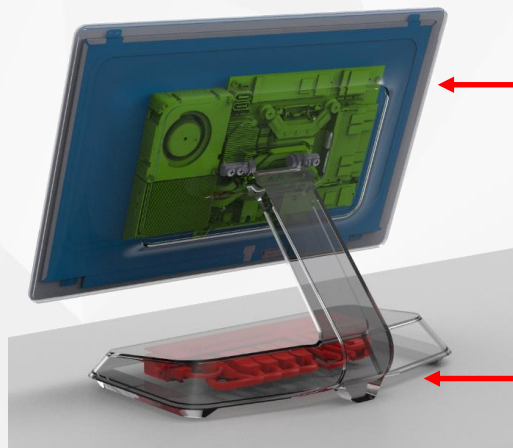
CX5

- **15.6" Full HD LED LCD w/premium PCAP**
50K hour backlight, 400 nits brightness with anti-glare screen
- **Chipset:** Intel Coffee Lake (Gen 8) – Motherboard in head
- **CPU:** Celeron, i3 or i5 (Celeron PassMark = 2960)
- **Memory:** 8GB to 32GB RAM; DDR4 -2400
- **Storage:** 128GB, 240GB, 480GB NVMe SSD options
- **Head ports:** Ethernet, 1xUSB Type C, 5 x internal USB
- **I/O base ports**
Base connectors can be modified for market requirements
- **Integrated options:** MSR, imager, wireless, Addimat, Bio, P/S
- **Customer display:** 7" / 10" touch-optional LCD, 2x20 APA
- Windows 10 IoT 64-bit, Linux

- **15.6" Full HD LED LCD w/ premium PCAP**
50K hour backlight, 400 nits brightness with anti-glare screen
- **Chipset:** **Apollo Lake SoC** - Motherboard in head
- **CPU:** **SoC Celeron Quad-core CPU (PassMark=2146)**
- **Memory:** 4GB to **8GB RAM; DDR3L-1600**
- **Storage:** 128GB or 240GB SSD options
- **Head ports:** Ethernet, 1xUSB Type C, 5 x internal USB
- **I/O base ports:**
Base connectors can be modified for market requirements
- **Integrated options:** MSR, imager, wireless, Addimat, Bio, P/S
- **Customer display:** 7" / 10" touch-optional LCD, 2x20 APA
- Windows 10 IoT 64bit, Linux, **Android**

CX and PX

Design differences



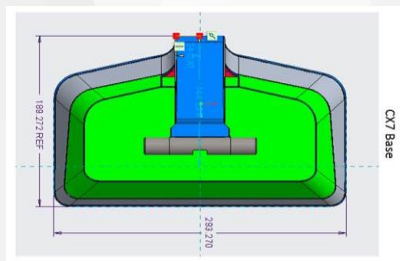
Motherboard

External
peripheral
I/O connectors



CX5 and CX7

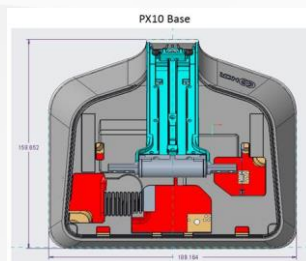
Head has 75mm VESA



Base width: 293mm

PX10 and PX15

Head has no VESA mount



Base width: 189mm

Why CX5 and why PX15



CX5

- **15.6" Full HD LED LCD w/ premium PCAP**
50K hour backlight, 400 nits brightness with anti-glare screen
- **Chipset:** Apollo Lake SoC; Motherboard in head
- **CPU:** SoC Celeron **quad-core** CPU (PassMark rating: **2146**)
- **Memory:** 4GB to 8GB RAM; DDR3L-1600
- **Storage:** 128GB and 240GB SSD options
- **Head ports:** Ethernet, 1 x USB-C, 5 x Internal USB
- **I/O base ports:**
Base connections can be modified for market requirements
- **Integrated options:** MSR, imager, wireless, Addimat, bio
- **Customer display:** 7" / 10" touch-optional LCD, 2x20 APA
- **O/S:** Windows 10 IoT 64bit, Linux, Android
- **Fan:** Single low-noise



PX15

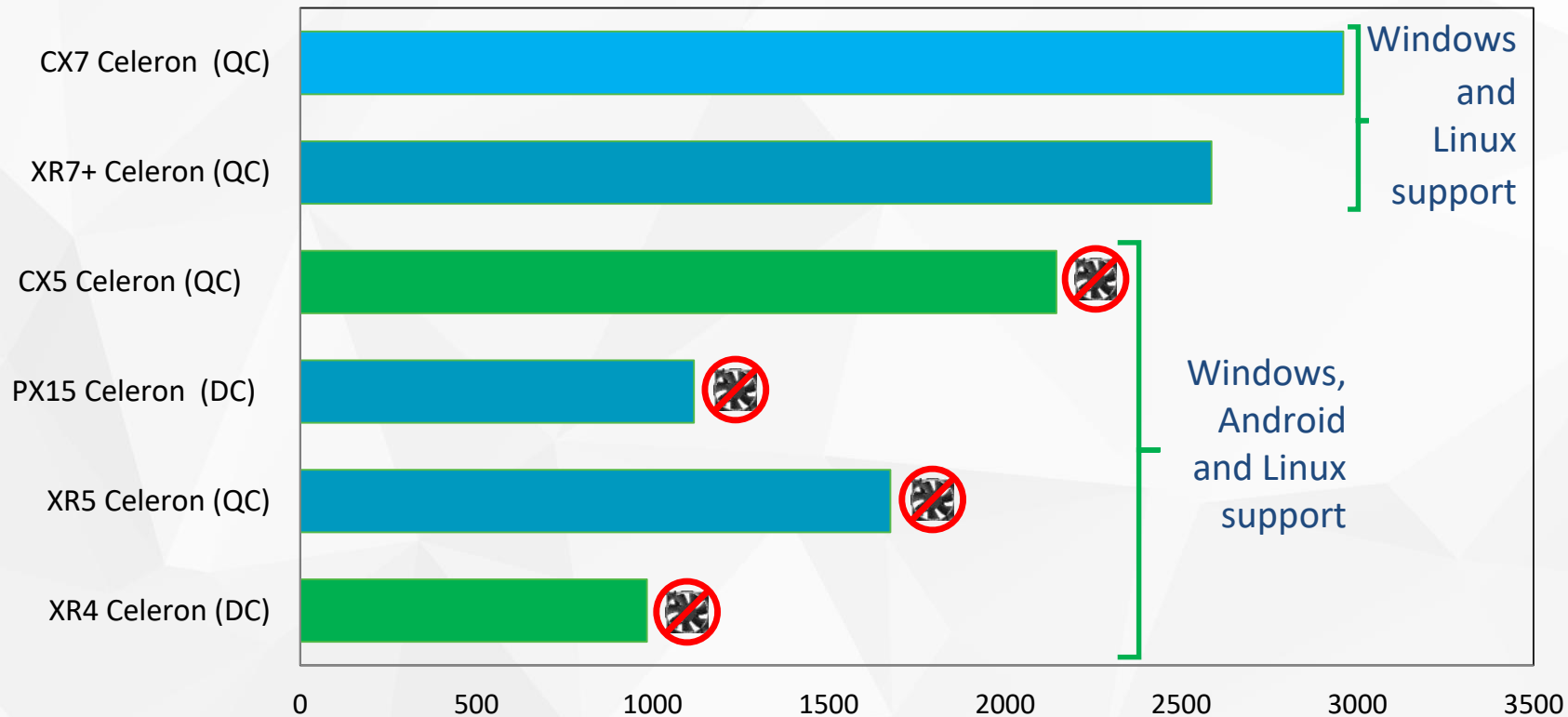
- **15.6" Full HD LCD with standard PCAP touch**
30K hour backlight, **300** nits brightness with anti-glare screen
- **Chipset:** Apollo Lake SoC; Motherboard in base
- **CPU:** SoC Celeron **dual-core CPU** (PassMark rating: **2016**)
- **Memory:** 4GB to 8GB RAM; DDR3L-1600
- **Storage:** **32GB, 64GB** or 128GB SSD
- **Head ports:** **N/A**
- **I/O base ports:** CD, Ethernet, 1xUSB-C, 2xUSB-A, **1 x RJ45**
serial External port expansion available (1x24V, 2x12v USB)
Base ports and connections not modifiable
- **Integrated options:** MSR, imager, wireless, bio, **battery**
- **Customer display:** 7" / 10" touch-optional LCD, 2x20 APA
- **O/S:** Windows 10 IoT 64bit, Linux, Android
- **Fan:** **None**

CX5 technology advancements

Key Feature	NCR XR5/P1535 	NCR CX5 
Touch Technology	P-CAP (Both) Resistive (P1535 only)	P-CAP
Screen size (aspect ratio)	15" 4:3	15.6" 16:9 15" 4:3
	500 nits	400 nits
Zero Bezel	Yes	Yes
Chassis	Cast Aluminum	Cast Aluminum
Chipset	Braswell	Apollo Lake
CPU offers	Celeron Quad Core N3160	Celeron J3455
Memory	4GB to 8GB	4GB to 8GB
Powered USB	3x12V 1x24V (XR5) 1 x 12V (P1535)	3x12V 1x24V (Retail I/O) 1x12V 2x 24V (HSR I/O)
Powered Serial	1 x RJ50 – XR5 3 x RJ12, 2 x RJ45 – P1535	1 x RJ50 (Retail I/O) 4 x RJ12, 2 x RJ45 (HSR I/O)
Storage	HDD or SSD	120GB/240GB M.2 SATA SSD
Dual Drive (RAID)	No	No
Video Out	DisplayPort & HDMI	DisplayPort & USB-C
Fanless	Yes	Yes

Ultimate performance and O/S flexibility

PassMark Benchmark Results



Embedding the CX in checkout furniture

