

NCR

RealPOS™

Purpose-built for retail



NCR RealPOS™ represents the latest evolution of design for usability and reliability thinking around retail point-of-sale (POS) devices. The product form, materials and user interface builds on over a century of knowledge and global experience culminating in a purpose-built solution for retail store environments.

An NCR white paper



After 135 years in the business and well over a million point-of-sale (POS) devices installed globally, NCR is committed to designing, manufacturing and testing to the unique demands of the retail market. Our POS devices are not general purpose office PCs that have been repackaged or customized for retail. NCR's solutions are purpose-built specifically for retail store environments. NCR methodically determines what features and capabilities are important to meet the varied needs of retailers, and we design, build and test our terminals to meet or exceed these unique requirements.

Many POS devices are based on PC designs that are not able to survive common retail hazards making them more susceptible to failure and giving the customer a shorter production life cycle. Our philosophy focuses on quality and reliability, but does not stop there. A true "purpose-built" POS device has many other important characteristics. This document highlights a few of the areas NCR feels are crucial to a customer's decision-making process when selecting a new point-of-sale device.

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- 2 Material selection
- 3 Designed and tested for retail environments
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Life cycle

Consumer-grade PCs and POS devices based on generic or general purpose designs normally have a 12- to 18-month lifecycle before the manufacturer moves to a new offering. These changes affect the gold image and compatibility with peripherals. NCR has historically offered 5 years of production and 5 years or more of service after discontinuation of our hardware production. This allows our customers to leverage their hardware investment for ten years and beyond.

Retailer experience proves that changing models or components during deployment results in higher costs due to image changes and the complexity to test applications and peripherals on multiple platforms. Vendors who focus on general purpose/consumer grade PCs are not concerned about supporting multi-year rollouts and long term parts availability. Multiple variations of the product cause increased support risk and cost.





Material selection

Often our competitive analysis and testing indicates that some suppliers' terminals are designed with plastic, light sheet metal, and hinges that are not intended for a retailer's use case. A common example is weak stands that do not create a stable platform for touchscreen usage. NCR insists on heavier gauge metal parts and plastic parts resistant to impact, fire and ultra-violet (UV) light. Plus, whenever possible, durable die-cast aluminum is incorporated into our chassis design. PCs and many POS device suppliers leverage the lowest cost components available at the time of production and change the technology often to take advantage of commodity market trends. Our choice of materials differentiates NCR terminals from most other suppliers.

In addition, NCR specifies an extended operating temperature range, and all components from capacitors to CPUs must be able to perform in those environments without failure. This level of design detail is part of our extensive retail hardening. Many POS device vendors are offering the lowest cost solution, but fail to focus on delivering a product with long-term sustainability.

	Temperature	Humidity
Operating Range	5 to 40 °C	10–90%
Transit Range	-40 to 60 °C	5–95%





Designed and tested for retail environments

A retail environment exposes terminals to extreme conditions including increased temperatures, dirt, dust, grime, shock, vibration, spills, magnetic fields, and radio frequency (RF) interference. All of these conditions are uncommon in a typical home or office environment. NCR products are tested thoroughly so that they will perform correctly and survive in these harsh environments.



NCR POS devices are designed to endure heavy daily use and accidents that may occur throughout the life of the product. Retail terminals are heavily used and subjected to stress on a daily basis. NCR conducts a variety of operational vibration tests to simulate the abuse a POS device may encounter in a retail environment. This could be from years of opening and closing cash drawers and from constant usage operating on the sales floor.



Designed and tested for retail environments

Electro-static discharge (ESD) is a common occurrence and can have a significant impact on a POS device. ESD commonly causes reboots and blue screens if the terminal is not properly protected. Most PC devices and many POS devices are tested only to the legal specification of 4KV because they are not required to operate in harsh environments. NCR POS devices are tested to pass 15KV of ESD without being impacted or damaged. This means fewer ESD problems which result in fewer support/service calls and longer life expectancy.

Home, office and low-cost POS devices are generally not able to survive spills. NCR has learned that POS devices must be able to survive liquid spills regardless of the situation or typical environment. NCR's modular and all-in-one terminals have special venting and cooling system components that are carefully designed to prevent liquids from reaching key internal components. NCR displays and touchscreen glass are sealed and not subject to damage from liquids.



Comprehensive testing beyond legal and industry standards to meet the demands of retail



Designed and tested for retail environments

Point-of-sale devices must be able to survive many years in harsh environments that can generate dust and airborne contaminants. Many POS devices are based on traditional consumer product designs where dust and other airborne contaminants are not a primary concern. If proper airflow is not maintained, the terminal can run hotter which reduces the life of the electronic components. Or, in worst case scenarios, the system can overheat and shutdown or fail. Many of our systems are fan-less which means no dust or debris will be ingested. Those terminals requiring active cooling have venting and cooling system components carefully designed to maintain proper airflow. In addition, NCR designs and tests POS devices so they can accommodate years of dust buildup.

NCR Dust Chamber pictured at right





Designed and tested for retail environments

Many competitors' POS devices are designed to operate in pristine environments that are rarely subject to extremes of radio frequency (RF) or electromagnetic interference. The reality is that retailers frequently integrate POS devices with a variety of RF devices and electromagnetic devices, such as security system de-activation coils for electronic article surveillance (EAS) systems. NCR has the experience to design our products to co-exist with these devices. This prevents integration conflicts, which results in fewer support or service calls and reduced downtime.





Other purpose-built characteristics

Retail environments rarely have an uninterrupted power supply (UPS) backup system that can prevent power cycles or fluctuations. To help verify that all components, firmware and the BIOS are robust when a power drop or outage occurs, NCR conducts extensive cycle testing under heavy load and varied voltage ranges. This is designed to expose any weakness in the power circuits or system base functionality that would cause a field failure during power interruptions.

Every cable that attaches to a POS device has two potential failure points: one connection on each end. For many years NCR has stressed the importance of using powered connectors with latches for peripheral connections. This will reduce the number of cables and ensure once the cable is connected, it stays firmly in place.



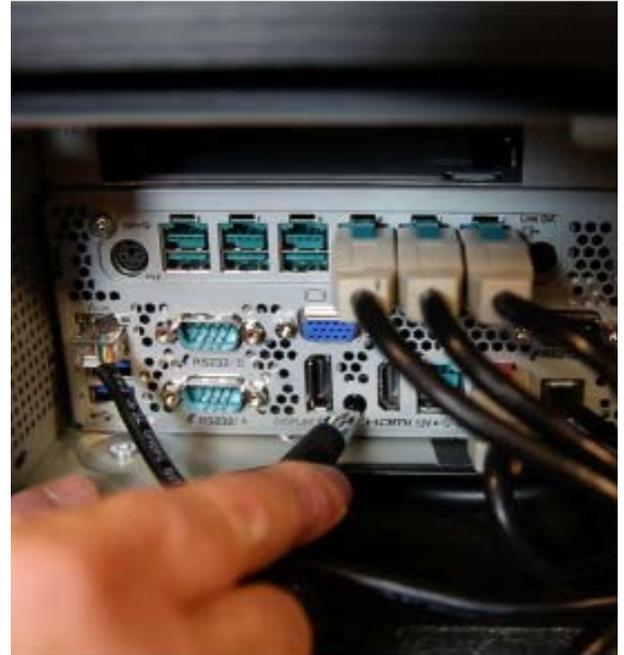
NCR offers several unique features that differentiate our products from all other POS device suppliers. The RealPOS™ X-Series family of POS devices contain a non-volatile memory device to store historical metrics about the terminal such as: system uptime, primary screen on-time, good/bad magnetic stripe reader (MSR) swipes, system startup and shutdown count, cash drawer open count, system fan on-time, CPU throttle time, and hard drive reads and errors. This type of data can be used to proactively service the terminal based on usage data or simply improve the service diagnostic analysis resulting in fewer calls and more accurate, speedy fixes.



Other purpose-built characteristics

In addition, NCR recognizes that many site disruptions are related to file corruptions and not truly hardware failures. To assist our customers with this type of failure, the X-Series POS devices have a new “instant recovery button.” This concealed button on the input/output (I/O) row initiates a fast image recovery system. It activates a password protected BIOS event, which allows a backup image to be restored from the back-up partition on the storage device. This capability enables an instant recovery after a terminal has been corrupted.

Should remote support be required, NCR offers an enterprise-class remote-support tool known as Command Center. This suite of tools improves availability by providing predictive capabilities and remote resolution solutions to proactively predict failures and increase remote resolution of issues. The suite offers the most advanced tools to remotely monitor and manage security and availability, performance, and service activity, plus the ability to remotely update retail systems.



Conclusion

NCR has been a leader in the retail industry for over 135 years.

We are committed to designing the highest quality and the most innovative point-of-sale devices. Our products are designed from the ground up to be robust and provide many years of service to our customers allowing them to focus on their business and get the most out of their technology investment.

Contact us at retail@ncr.com to learn more about how we can help you create exceptional checkout experiences.

Contact us



Learn more



Why NCR?

NCR Corporation (NYSE: NCR) is the global leader in consumer transaction technologies, turning everyday interactions with businesses into exceptional experiences. With its software, hardware, and portfolio of services, NCR enables more than 550 million transactions daily across retail, financial, travel, hospitality, telecom and technology, and small business. NCR solutions run the everyday transactions that make your life easier.

NCR is headquartered in Duluth, Georgia with over 30,000 employees and does business in 180 countries. NCR is a trademark of NCR Corporation in the United States and other countries. The company encourages investors to visit its web site which is updated regularly with financial and other important information about NCR.

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