Why your point-of-sale systems should be designed for retail

Reliability is one of the most important performance factors for any point of sale and self-service hardware. If the system goes down, even for a few minutes, the store can't complete the transaction, which can lead to frustrated shoppers and hurt customer loyalty and result in potential lost sales and revenue.

As retail businesses grow and expand, system reliability becomes even more important. Minor problems–so-called quick-fix failures that take only a few moments to resolve–can scale rapidly in frequency and severity as stores add checkout lanes or businesses grow. A headache for a retailer supporting ten point-of-sale systems becomes a more serious disruption for a business with 50 systems – and practically an unmanageable problem for an enterprise with 10,000 or more. Retailers can't afford disruptions caused by common hazards. Retail-hardened solutions can help retailers maintain high uptime, complete more transactions, and minimize technical support costs.

What does "retail hardened" mean for customers and retailers?
Retail-hardened systems are not generic office or consumer grade personal computers that have been repackaged or customized for retail; they are true point-of-sale systems engineered to deliver high uptime and long-term reliability. When we say that our systems and peripherals are retail hardened, it's about more than just physical resilience and strength. While Toshiba point-of-sale hardware is subjected to some of the most rigorous physical tests in the retail technology industry, our technology is designed for retail so it not only delivers the reliability and durability you need today, but lasts so you can build upon it and scale in the future. Retail-hardened technology is tough enough to endure years of demanding and unpredictable retail environments, and flexible enough to grow and evolve as your business does. Our point-of-sale systems are designed with high-efficiency processors, feature card slots, upgradable I/O configurations and other features that allow for easy enhancements. This way, you can evolve your store technology as business needs change, instead of ripping and replacing systems every few years, to maximize your investment.

IN THIS WHITEPAPER, YOU'LL LEARN:

- The array of tests Toshiba hardware must pass before we deliver it to our customers

- How we design for retail to prolong the life of our technology

- What "retail hardened" means, and why it's our highest and only quality standard

TOGETHER COMMERCE

OUR **PROCESS**

Designing robust, holistic systems

Compared to a typical office environment, a retail store has far more environmental hazards. Point-of-sale systems operate for long hours– sometimes 18 and even 24 hours a day, seven days a week. They are used by many different employees and are often handled roughly. Retail systems that are not specifically designed for the hazards of retail environments are far more susceptible to early failures, so we design our systems to meet a higher durability standard. To do this, we prioritize:

> Retail-ready design: Toshiba point-of-sale systems and peripherals are made to weather the wear-and-tear that is common in retail environments. Touchscreens are sealed to prevent seepage after sanitizing with household cleaners. Displays, printers and keyboards have design features – including seals and gutters – that divert liquid away from critical components.

> Heavy-duty chassis: The foundation for our point-of-sale systems is composed of high-quality materials, including impact, UV and flame-resistant plastics, and heavy grades of sheet metal that feature a special coating to maximize surface electrical conductivity and improve electrostatic discharge performance.

> Long service life: In retail, a technology purchase decision and rollout cycle can last more than two years. We work with component suppliers to identify the key components we need to have to manufacture products over a long period of time. We design our retail systems with a product life of at least two years and ensure that service parts are available for a minimum of seven years after a system reaches the end of its production life.

> Failure prevention: Toshiba's Proactive Availability Services provides retail IT system (hardware and software) health status, incident detection, and resolution to proactively resolve issues before they impact the store. This remote monitoring service watches for critical IoT device incidences, diagnoses a potential issue, and implements either a remote solution or schedules a technician to the retailer. Ensure optimized up-time and system availability by fixing issues before they impact the store associates providing a smooth checkout experience for your customers.

RETAIL HARDENING
PROTECTS YOUR HARDWARE
FROM DAY 1 of installation
& with a minimum time of
7 YEARS THAT **SERVICE PARTS** are available after a SYSTEM REACHES THE END **OF ITS PRODUCT LIFE**

TESTING TO **HIGHER STANDARDS**

Toshiba point-of-sale systems and peripherals are tested rigorously to meet and exceed a wide range of industry, international and company quality standards. When we test systems, they are assembled and tested in typical retail configurations–not just as an isolated system unit, keyboard, or printer – to ensure the systems work in the ways real people use them. Performance testing simulates worst-case scenarios, and systems must pass many tests to receive the retail-hardened designation.

Here are the top six tests we do to ensure our technology is ready for retail:
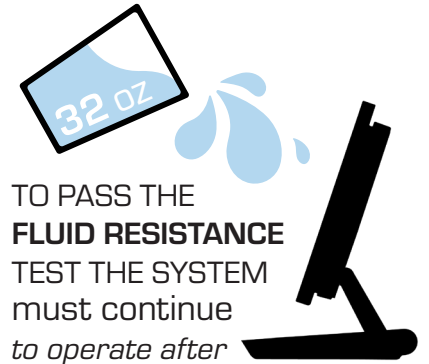
The test: Fluid Resistance
How it works: Whether a cashier is keeping a personal beverage nearby during their shift or a bartender serving a large group, the danger of spilled liquids in a retail or hospitality environment is ever-present. The fluid resistance test ensures the product can with stand large amounts of liquids. A 32-ounce container of water is vertically poured on the product at various points. To pass this test, the system must continue to operate after accidental spills.

The test: Chemical Resistance
How it works: This test helps ensure our touch screen can work well after various household cleaners have been used to clean them, verifying touch screen sealing. Long term exposure to cleaners can damage internal point-of-sale electronics and plastics. To pass, no functional damage is allowed through the touch bezel area. Our products have always been tested with common off-the-shelf cleaners and after the COVID-19 crisis, we added several surface cleaners approved by Center of Disease Control and Prevention to the chemical resistance test to ensure that our point-of-sale solutions can operate safely after they have been sanitized. Consumer-grade monitors do not have front seals to prevent cleaners from seeping through the unit.

The test: Component Selection
How it works: Not all point-of-sale parts are created equally. Our guidelines require designers to select components that deliver a longer life span in rigorous retail environments: These parts are to have high design margin, high reliability ratings, and are designed for embedded or industrial use cases. For example, Toshiba point-of-sale systems typically include gold-plated connectors, which are more durable and reduce corrosion, while commercial PC manufacturers use tin-plated connectors, which are not as robust. And if we can't find retail-ready parts that meet our longevity and durability standards, we'll design them ourselves.

TO PASS THE
FLUID RESISTANCE
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ACCIDENTAL SPILLS

The test: Extreme Temperature

How it works: Retail systems operate on cruise ships, at mountaintop resorts and near the mist of scenic waterfalls. These systems sit in drive-through windows, in gas stations, and when they're transported, travel through a variety of climates – from a shipping container on the ocean to a tractor trailer through the desert. Because these products need to withstand prolonged exposure to a wide range of temperatures and humidity levels, we test our hardware in environmental chambers to ensure they can work well in a variety of environments for years to come. Systems are also exposed to air temperatures from 0°C to 45°C and during thermal testing, humidity varies between 8 to 80 percent and often includes rapid temperature fluctuations.

The test: Burn In and Power Cycling

How it works: To protect retailers from early life failures, we conduct an elevated burn-in and power cycling test, during which systems are powered up and down numerous times and are run for as long as 12 hours at high temperatures. While a PC can withstand 4 hours of this test, Toshiba hardware can withstand 24 hours. Extended burn-in and power cycle helps ensure that our systems perform at their peak right out of the box.

The test: Lint and contamination

How it works: Dirt and lint particles are everywhere and can lodge in the cracks and crevices of point-of-sale systems; a problem that specialty and clothing retailers frequently face. We test to ensure that these particles don't affect product cooling to prevent systems overheating and costly downtime. Our goal is to make our solutions so that retailers never have to worry about vacuuming them over the life of the hardware.

IN **CONCLUSION**

Creating retail-hardened solutions is important to us because we aim to provide retailers the best solutions possible, for as long as possible. While retail environments can vary widely, the target service life for Toshiba retail technology is seven years. And when retail technology can perform at a high level in a store for seven years or more, it's great for all of us. Not only do retailers get high-quality products that deliver great experiences for shoppers, keeping technology in circulation longer instead of cycling through new hardware more frequently, is good for the planet too.
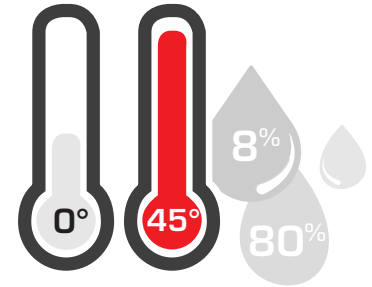
Our products are exposed to extreme temperatures and humidity levels.

Toshiba Global Commerce Solutions

Toshiba Global Commerce Solutions is a global market share leader in retail store technology and retail's first choice for unified commerce solutions. Together with a global team of dedicated business partners, we advance the future of retail with innovative commerce solutions that enhance customer engagement, transform the in-store experience, and accelerate digital transformation.

Together Commerce

Together Commerce is Toshiba's vision for the new future of retail where retailers adapt their strategies, their stores and their technology to engage with consumers throughout the buying process in a seamless and helpful way. This collaborative approach enables retailers and customers to create mutually rewarding commerce–together.

For more information

To learn more about how Toshiba can help transform your business, contact your local Toshiba sales representative or Toshiba Business Partner, or visit:
commerce.toshiba.com

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