SMARTLINE RFID FAMILY

leadership by design

RFiD
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PRINTRONIX®

GLOBAL PRINTING...ENABLED.

PRINTRONIX®

SMARTLINE RFID FAMILY

mp2

leadership by design

Printronix has been the global leader in industrial printing solutions for over 30 years, earning a reputation for designing and manufacturing leading edge products and delivering them to market with unsurpassed service and support. Printronix leveraged this experience in developing the MP2™ encoding platform, which is the core for all RFID printing solutions. The MP2 encoding platform responds to the five priorities of our customers – ensuring our products provide Industry Leading Encoding Rates, EPCglobal Gen 2 Certified Hardware, Wide Breadth of Tag Support, Consistent Tag Support Across MP2 Family and Field Upgradeability – for the most rewarding user experience and outstanding return on investment.

PROTECTING YOUR TECHNOLOGY INVESTMENT

As a founding member of EPCglobal, Printronix participates in key EPCglobal committees to establish industry standards that will ensure your RFID printers integrate smoothly into current IT networks and supply chain operations. We recognize that RFID standards will continue to evolve over the next few years, and protecting your investment in RFID technology today is a key design goal for our products and services. Built on the MP2 encoding platform, these SmartLine™ printers offer a foundation for protocol upgradeability and expansion and offer global compliance via a choice of upgrade kits.

INDUSTRY LEADING ENCODING RATES

Printronix first-to-market UHF RFID printing solutions deliver tomorrow's EPCglobal technology with today's thermal printing. With more UHF RFID installs than any other encoding platform Printronix users consistently report read and encode performance yields of 98%, exceeding UHF RFID industry expectations.

EPCGLOBAL GEN 2 CERTIFIED HARDWARE

Gen 2 Certified Hardware encoders insure printers work in a predictable and reliable manner in RFID implementation. The patented multi-position coupler isolates and links directly with individual tags, delivering superior performance yields on Gen 2 tags that often do not emit an evenly distributed RF field. Multiple pre-set color coded positions allow users unprecedented control and freedom to leverage the industry's growing range of Gen 2 tags.

WIDE BREADTH OF TAG SUPPORT

Printronix provides the largest UHF tag support in the RFID industry. With over 20 Gen 2 tags and a list that continues to grow, users can select the best tags for their applications. Advanced tag calibration allows users to experiment with new tags and inlays when specifications and performances have not yet been defined or determined.

CONSISTENT TAG SUPPORT ACROSS MP2 FAMILY

Printronix recognizes that most RFID users want to be able to install a mix of printer types from on-demand to full automation without having to procure and manage special or unique RFID media stocks. The MP2 encoding technology avoids confusion and eliminates cost, offering consistent tag specifications with the entire SmartLine family.

RFID FIELD UPGRADEABILITY

Every Printronix T4M,™ T5000r™ and LPA8000™ thermal bar code printer and applicator comes RFID ready to protect printer investments and eliminate special printer configuration requirements. UHF RFID field upgrade kits do not require the printer to be sent back to the factory.

SMARTLINE SL4M RFID PRINTERS

The SL4M™ is the price-performance leader of the SmartLine series of RFID printers for industrial and commercial applications. This cost-effective UHF RFID smart label printer offers the most economical solution for developing an RFID enabled supply chain.

- **Patented MP2 Technology –** Consistently provides encoding rates that exceed UHF RFID industry expectations

- **EPCglobal Gen 2 Certified Hardware Encoder –** Insures printer works in a predictable and reliable manner for the best RFID enterprise solution

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- **32MB SDRAM & 8MB Flash –** Print large labels, encode complex RFID data labels and store label formats, fonts and graphics with twice the memory of other printers in its class

- **User Friendly Graphical Interface –** Offers ease of configuration and installation

- **Multi-protocol Capability –** Includes support for EPCglobal Class 1 and Gen 2 standard

- **Rugged Metal Construction –** Full metal enclosure protects printer, media and ribbon for dependable and reliable performance

- **Embedded Printer Language Support –** Allows users to standardize on a single printer for environments with mixed printer languages

- **Advanced Tag Calibration –** Tag profiling, custom tag configurator and auto inlay locator provide easy configuration and versatile media throughput

- **XML Enabled Printing –** Field-upgradeable with embedded industry standard forms and templates

- **Media Counter –** Easy preventative print head life maintenance and label counting

RFID READY THERMAL PRINTER

For reliability and dependability in a thermal bar code printer, the T4M provides uncompromised features and performance with twice the memory of other printers in its class. Designed as RFID Ready, the T4M can easily be upgraded to an SL4M with Printronix patented MP2 encoding technology to read and encode UHF RFID Smart Labels for small and medium size business applications.

SMARTLINE SL5000r RFID PRINTERS

The high performance SL5000r™ RFID printers represent the foundation of Printronix leadership with UHF RFID. Designed to endure the harshest environments that stop most ordinary printers, the SL5000r delivers uncompromising encoding performance with its patented MP2 technology.

- **Multi-protocol Capability –** Includes support for the latest Gen 2 standard as well as Class 0, 0+, 1 and Philips UCode 1.19

- **Patented Multi-position RF Coupling Device –** Optimize performance for a broad variety of tags

- **EPCglobal Gen 2 Certified Hardware Encoder –** EPCglobal certified multi-protocol UHF RFID Encoder meets global frequency requirements

- **Intelligent Media Detection –** Prevents non-RFID print jobs from printing on RFID labels, preventing unnecessary expense

- **Intelligent Tag Management System –** Identifies and overstrikes defective smart labels

- **Advanced Tag Calibration –** Tag profiling, custom tag configurator and auto inlay locator provide easy configuration and versatile media throughput

- **Embedded EPC Privacy Logo –** Simplifies label design and system set-up

- **Multiple Embedded Emulation Support –** Standardize on a single printer for environments with mixed printer languages

- **XML Forms Printing –** Field-upgradeable with embedded industry standard forms and templates

- **Unicode TrueType Font –** Supports worldwide compliance and local printing requirements

- **Printronix Extensible Markup Language –** XML based interface enables real-time printer management and job control

- **Aluminum Die-cast Design –** Dampens vibration and maintains precise printer alignment

- **Exclusive Snap-in Printhead –** Easily replace print heads and change resolution without any hardware or firmware changes

- **Dual Motor Ribbon System –** Eliminates clutch replacement and greatly reduces the risk of ribbon wrinkle for superior print quality

- **Cantilever Head Mechanism Design –** Easy to side load media, clean and maintain the print head

- **Ventless System –** Operates in environments with airborne particulate matter without compromising performance

- **Wireless/Ethernet Option –** Provides real-time data access and local printing flexibility

- **GPIO External Interface Option –** Programmable interface offers greater flexibility in controlling external devices like applicators

- **Large Ribbon Capacity –** 625m ribbons provide greater printing efficiency with longer up time and fewer ribbon changes

- **EPC/ODV™ Data Manager Option –** Delivers the industry's only closed-loop bar code and tag quality control for fully automated RFID printing

RFID READY THERMAL PRINTER

Designed to operate in challenging environments and applications, T5000r is an RFID Ready industrial thermal bar code printer that combines reliability, utility, power and flexibility. The T5000r integrates real world experience that readily adapts to emerging standards and provides open migration to RFID for future requirements.

SMARTLINE SLPA8000 LABEL PRINTER APPLICATORS

Developed by the industry leader in RFID print and apply, the SLPA8000™ encodes, prints and applies labels for the majority of manufacturing speeds for environments where Universal Product Codes and Electronic Product Codes are used. The SLPA8000 meets the demands of heavy-duty industrial environments with thermal transfer labeling for high resolution printing.

- **Performance** – Encodes, prints and applies in excess of 100 labels per minute, using "next-out" encoding for unique serialization of products

- **Intelligent Tag Management** – Only 100% good tags are applied to products; defective tags are collected on the rewind mechanism for future analysis

- **Patented MP2 Technology** – Consistently provides encoding rates that exceed UHF RFID industry expectations

- **EPCglobal Gen 2 Certified Hardware Encoder** – EPCglobal certified multi-protocol UHF RFID Encoder meets global frequency requirements

- **Multi-protocol Capability** – Includes support for the latest Gen 2 standard as well as EPCglobal Class 0, 0+, 1 and Philips UCode 1.19

- **Largest Library of UHF Tags** – With the MP2 encoding platform, users benefit from the largest selection of UHF tags to choose from to meet a broad range of RFID applications

- **Intelligent Media Detection** – Intelligent media detection prevents non-RFID print jobs from printing on RFID labels, avoiding unnecessary expense

- **Single System Interface** – The SLPA8000 has combined both printer and applicator interfaces into a single system interface for better control and greater system-level feedback with external devices. This interface provides status and error messages such as tamp extended, label applied, failed tag overstrike and more

- **Easily Integrates into Enterprise Environments with Multiple Embedded Printer Language Support** – The SLPA8000 printer applicator includes multiple print languages to install seamlessly into other printer brand environments

- **FCC Compliant** – Meets FCCb compliance for applications that include industrial environments

- **SLPA Heated Enclosure** – The optional enclosure is ideal for print and apply applications with extreme temperatures that require consistent and predictable environment controls

RFID READY THERMAL PRINTER APPLICATOR

The thermal bar code version of the SmartLine printer applicator, the LPA8000,™ provides a feature-rich product that integrates easily into most enterprise IT environments, saving managers integration time and resources. The LPA8000 can be upgraded to RFID at the user's site, reducing downtime.

MOBILE PRINT SYSTEMS

The Printronix SmartLine Mobile Print System (MPS) provides RFID printer performance for today's just-in-time manufacturing and distribution environments. The MPS consists of a Printronix SmartLine RFID printer, battery powered mobile cart and wireless network connectivity. The Printronix industrial steel frame mobile carts can be custom designed to meet the demands of distribution centers and production facility require-ments, while providing continu-ous power to printers and other wireless devices. The carts are ideal as mobile workstations to encode and print labels for a variety of applications.

- **Cases requiring re-work**
- **Late-point RFID labeling in distribution centers**
- **Pallets at multiple locations in a production or distribution facility**
- **RFID lab environments where pilot projects require mobile printing and encoding**

With an easy to read power display panel, users can monitor remaining battery power for maximum operations and productivity. The carts can be equipped to supply power for mobile printing and encoding required in warehouse and manufacturing facilities, up to a full eight-hour shift.

PRINTNET ENTERPRISE

Organizations with changing requirements in a fast paced market need reliability, flexibility and upgradeability built into their enterprise. For almost a decade, PrintNet® Enterprise has provided that solution with worldwide remote access printer management and control for the Printronix product portfolio. Combined with the PrintNet 10/100 Base-T Ethernet interface, PrintNet Enterprise allows organizations to integrate their operations and network solutions.

- **Reduce Costly Downtime –** For immediate attention, issues instant printer status to operators, maintenance and production personnel via email, pager or cell phone alerts

- **Optimize Resources –** Remotely manage, organize, monitor and control PrintNet printers from a central location via Ethernet LAN/WAN
- **Maximize Productivity –** Secure and protect printer configurations by locking out unauthorized changes with PrintNet's remote front panel interface
- **Manage Printer Assets –** Support, manage, monitor and inventory printers from the entire Printronix product portfolio of printing solutions

ONLINE DATA VALIDATION

RFID and bar codes remain the vital link in every RFID supply chain solution. Combining tag failures and unscannable bar codes reduces supply chain efficiency and impacts production with slower response to the fast changing needs of the market. When combined with the SL5000r, Online Data Validation (ODV) analyzes each bar code to ensure it meets stringent verification standards and compares that data to the encoded tag data for closed loop printing and encoding solutions.

- **Increased Efficiency –** Stops unscannable bar codes and incompatible tag data from entering the RFID supply chain
- **Improved Productivity –** Unique void-and-reprint technology visually alerts operators immediately of bad labels to prevent any non-compliance fines
- **Higher Quality –** Display, capture and monitor scanned and encoded data for enterprise-wide compliance with the RFID supply chain solution

CERTIFIED RFID SMART LABELS

Printronix certified smart labels combine the technology of thermal transfer, pressure-sensitive labels with RFID. Printronix has gone to great lengths to ensure that smart labels – with their many different sizes and antenna configurations – provide the finest RF performance possible when used with Printronix printers. Under software control, the printer writes data to the RFID tag, then validates that the EPCglobal information can be read reliably. After completing this validation process, the printer prints the human-readable and bar code data. If for any reason the encoding process cannot be validated, the label is printed with an overstrike pattern to prevent it from entering your supply chain.

GENUINE PRINTRONIX SUPPLIES

Ensure optimal performance by using Genuine Printronix Supplies. Printronix offers a broad selection of labels and ribbons specifically designed to enhance the output quality and complement the features of all Printronix printer systems. These products will provide performance, reliability and economy to support even your most critical printing, bar code and IS applications. All Genuine Printronix Supplies are certified for maximum output quality and unconditionally guaranteed!

SMART LABEL DEVELOPER'S ENVIRONMENT

Experiment, test and measure smart labels to find the ideal RFID solution without disrupting operations. Printronix makes it easy to start an RFID program with its comprehensive, best of breed Smart Label Developer's Kit (SLDK™). The kit includes everything needed to create an RFID development environment right out of the box.

- **Smart Labels and Ribbon**
- **Bar Code to EPC Software Migration Tools**
- **10/100 Base-T Ethernet Connectivity**
- **Documentation**

To automatically encode smart labels with an SL printer, Printronix has developed its Software Migration Tools (SMT) to use with existing UPC or GTIN label bar code data. These products provide the encoding performance, industry leading reliability and economics to support the most challenging applications. An SLDK can help define your smart labeling requirements to jumpstart your RFID program.

RFID SMART INTEGRATOR

Printronix has carefully selected partners who are experts in installation, testing and consulting to help you initiate and/or deploy an intelligently designed RFID solution that meets your supply chain requirements. Printronix partners include RFID experts who have made investments in obtaining the industry's best technical resources as well as in dedicated RFID lab space to test and recommend the best solutions for your particular product needs.

MAINTENANCE AND SUPPORT SERVICES

Printronix and Printronix Certified Service Partners offer a full range of maintenance and support options to fit your individual needs. These services will assure you trouble free operation and maximized uptime while protecting your printer investment.

PROFESSIONAL SERVICES

- **Auto-ID/RFID Consulting**
  - EPCglobal data management and integration
  - Rapid implementation and deployment
  - Development and implementation of a successful migration strategy from bar code to RFID

- **RFID Encode, Print and Apply Integration**
  - Customize encode, print and apply applications
  - Integrate to conveyor systems and other hardware devices
  - Integrate to PLCs (Programmable Logic Controller)
  - Optimize for maximum throughput

- **SAP Integration**
  - Offer custom device types and drivers to facilitate SAP/ERP EPC label encoding and printing
  - Integrate bar codes into ERP applications
  - Support ABAP/4 and SAPscript
  - Provide expertise with available EPC-compliant middleware packages

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