Zebra® R110Xi4™ RFID Printer/Encoder

Innovation and Flexibility in RFID Printer/Encoders

With Zebra's R110Xi4 RFID printer/encoder—optimized for high-volume operations—you can print and encode a variety of UHF radio frequency identification smart labels for a multitude of applications. As Zebra's third-generation R*Xi*™ printer/encoders, the R110Xi4 is designed with innovative, industry-leading features to meet the demands of current and future applications, and leverages the built-to-last Xi4™ printer platform for robust performance.

This high-performance printer/encoder delivers superior flexibility and unique features for a number of benefits. For example, it can fulfill a wide range of applications—from small, high-resolution (600-dpi) healthcare specimen smart labeling and item-level tagging, to RFID pallet/carton labeling with print widths up to 4″/103 mm. Auto-configuration, which enables encoding of a variety of different RFID tags, simplifies setup. And by encoding RFID inlays that are spaced closer together (.6″/16 mm) than other-brand printer/encoders, the R110Xi4 enables lower cost per label, fewer media-roll changes, and faster throughput. Even use media converted for other printer/encoders thanks to Zebra's ability to detect variable inlay placement. If you don't need printed labels, the direct-to-inlay encoding capability means even more media savings.

The high-performance R110Xi4 is designed for item-, case- and pallet-level identification. Streamline business-improvement and supply-chain management applications such as:

- Item-level tracking for apparel and other retail item tagging, package verification, work in process, product authentication, document tracking, healthcare specimen tracking and more

- Asset tracking

- Inventory management

- Shipping/receiving verification

- Distribution

Cutting-Edge Advantages

Reduce RFID Media Costs

- R110Xi4 can print/encode small RFID tags spaced closer together—with a distance (pitch) as narrow as .6"/16 mm on most RFID inlays, smaller than what other printer/encoders can accommodate. By spacing inlays closer, label converters use less material—which for your organization means lower cost per label, fewer media roll changes and faster printer/encoder throughput for your organization.

- R110Xi4 can print directly on RFID inlays—so if you don't need to print labels, you can avoid the additional cost of label face stock or RFID label converting.

Benefit from RFID Media Flexibility

- Zebra's exclusive variable inlay detection and configuration feature automatically detects the inlay position within the tag, so you can choose media from a variety of sources with no concern for calibrating inlay location.

- Variable inlay detection also enables you to use media converted for other-brand printer/encoders with minimal printer re-configuration.

- The RXi4 offers multiple RFID power settings to support the widest range of transponder designs and sizes available in the market.

- Enjoy investment protection. Flash-upgradeable firmware assures maximum upgradeability to future RFID protocols and evolving features—no service calls or upgrade to hardware required.

Ensure the Highest Encoding Accuracy in the Industry

Encoding accuracy is critical to your operations. If a tag is not encoded accurately, the tagged asset doesn't "exist" in inventory or in transit and becomes "lost," costing you money. Adaptive Encoding Technology—Zebra's patent-pending RFID encoding module—ensures the highest encoding accuracy in the industry.

Save Setup Time

Smart inlay detection and configuration considerably reduces setup time. Automatic RFID inlay position calibration saves users the time and frustration of manually calculating the inlay position on new labels.

Choose the Print Resolution That Best Matches Your Application

- R110Xi4 offers high resolution (600 dpi/23.5 dots per mm) for enhanced print quality on smaller labels, such as component labels.

- Versions with 203 dpi/8 dots per mm or 300 dpi/12 dots per mm are perfect for high-volume smart labeling, including item-level and parts tagging.

Simplify Global RFID Printer/Encoder Deployment

Organizations with multinational supply chains can easily deploy the same R110Xi4 printer/encoder model in multiple countries through Zebra's global certification process.

ZebraCare™ Service

Increase printer uptime, and reduce lost productivity and unbudgeted repair costs, by selecting a ZebraCare Depot or ZebaCare On-Site service agreement. A cost-effective means of planning and budgeting your annual maintenance expenditures, your agreement ensures that trained Zebra technicians will bring your printer back to factory specifications. Zebra offers a variety of plans to fit your budget and business needs.

Built on the Solid Xi4 Printer Platform

Zebra's built-to-last *Xi*™ series printers are legendary for their rugged durability, consistently outstanding print quality, fast print speed, long life, and unparalleled reliability in demanding applications. These qualities translate into low total cost of ownership—making them a smart investment for organizations with high-volume, mission-critical or specialty labeling applications.

R110Xi4 RFID printer/encoders are based on Xi4 printers (specifically, the 110Xi4™ model) which build upon the *Xi* series legacy with advanced and flexible features that make them easier and faster to operate, customize, maintain, and integrate.

- Front control panel includes larger, brighter, easier-to-read LCD with an optional customizable menu that tailors the content and navigation to your needs. Menu supports a wide variety of languages—great for multinational operations.

- Versatile connectivity choices for easy integration range from simultaneous parallel/Ethernet capability, to included internal ZebraNet® 10/100 Print Server (Ethernet) with faster data transfer rates than previous generations, to secure 802.11b/g wireless connectivity option.

- Advanced ribbon- and media-low sensing capability helps reduce downtime and allows users to proactively plan supplies changes.

- On-board diagnostic tools and adjustments ensure optimum print quality.

Standard Features

RFID

- Fully integrated ThingMagic® UHF EPC Gen 2 V1.2/ISO 18000-6C RFID Reader/Encoder
- Prints and encodes EPC Gen 2 tags with a pitch of .6"/16 mm
- Adaptive Encoding Technology automatically selects optimum encode settings
- Auto-tag calibration for label lengths of 2" or greater
- Variable inlay placement supports a range of inlay positions for maximum media flexibility
- RFID counters keep track of the good and bad labels
- RFID processes optimized for fastest label throughput
- RFID ZPL® commands allow ease of RFID setup with maximum flexibility
- Variable RFID power settings for both read and write allow maximum flexibility for printing small labels

Physical

- New full-function front panel and large multilingual back-lit LCD display—with user-programmable password protection
- Clear media side door—easy monitoring of supplies usage without opening the printer systems
- Thin film printhead—with E^3™ Element Energy Equalizer™
- 16 MB Flash memory including 2.0 MB user-available non-volatile memory storage for downloadable objects
- Serial RS-232 and bi-directional parallel ports—with auto detect
- USB 2.0 port
- Dual media sensors—transmissive and reflective, selectable through software or front panel
- Real-time clock
- Advanced label/media counters
- Internal ZebraNet® 10/100 Print Server—supports 10Base-T, 100Base-TX, and fast Ethernet 10/100 auto-switching networks

Specifications at a Glance*

Printer Specifications

Resolution
- 203 dpi/8 dots per mm
- 300 dpi/12 dots per mm
- 600 dpi/23.5 dots per mm

Memory
- 8 MB Flash; 16 MB RAM

Print width
- 4.0"/102 mm

Print length
- 150"/3810 mm

Print speed
- 14"/356 mm per second—203dpi
- 12"/305 mm per second—300 dpi
- 6"/152 mm per second—600 dpi

Media sensors
- Transmissive and reflective

Physical Characteristics
- Width: 10.31"/261.9 mm
- Height: 15.5"/393.7 mm
- Depth: 20.38"/517.5 mm
- Weight: 50 lbs/22.7 kg

Operating characteristics

Environment
- Operating Temperature:
  40° F/5° C to 105° F/40° C (Thermal Transfer)
  32° F/0° C to 105° F/40° C (Direct Thermal)
- Storage/Transport Environ.:
  -40° F/-40° C to 140° F/60° C
- Operating Humidity: 20-85% non-condensing
- Storage Humidity: 5-85% non-condensing

Electrical
- 90-264VAC; 48 – 62Hz

Agency approvals
- IEC 60950-1, EN 55022 Class B, EN 55024, EN 61000-3-2, EN 61000-3-3

Product Markings
- FCC-B, C-Tick

Media characteristics

Labels
- Minimum non-continuous label length:
  - .25"/6 mm—Rewind mode
  - .5"/13 mm—Peel mode
  - .7"/18 mm—Tear-off mode
  - 1.5"/38 mm—Cutter mode
- Maximum label and liner width: .79"/20 mm to 4.5"/114 mm
- Maximum media roll size: 8"/203 mm O.D. on a 3"/76 mm I.D. core
- Media thickness: .003"/.076 mm to .012"/.305 mm
- Media types: Continuous, die-cut, or black mark, notch

Ribbons
- Outside diameter: 3.2"/81.3 mm
- Standard length: 1476'/450 m or 984'/300 m
- Ratio: 2/3:1 media to roll to ribbon
- Ribbon setup: Coated side out
- Core inner diameter (I.D.): 1"/25.4 mm

ZebraLink™ Tools

Software
- ZebraDesigner™ Pro— an intuitive, easy-to-use software program for creating complex label designs (option)
- ZebraDesigner—offers basic features for simple label design
- ZebraDesigner for XML—easy-to-use label design software that enables printing on XML enabled printers
- ZebraNet™ Bridge Enterprise—centrally manage Zebra printers from a computer anywhere on your network
- ZebraNet Utilities v 7.0—provides enhanced printing, conversion, and administration capabilities; message management; and more

Networking
- Serial RS-232 and bi-directional parallel ports—with auto detect
- USB 2.0 port

Firmware
- ZPL II® programming language—selectable through software or front panel
- XML-Enabled printing—allows XML communications for bar code label printing, eliminating license fees and print server hardware and lowering customization and programming costs

Fonts/graphics/symbologies

Fonts and character sets
- Bitmap fonts A through H and GS symbols are expandable up to 10 times, height and width independent
- Smooth scalable font Ø (CG Triumvirate™ Bold Condensed) is expandable dot-by-dot, height and width independent
- IBM® Code Page 850 International Characters
- Contains UFST® from Monotype Imaging, Inc.

Graphic features
Supports user-defined fonts and graphics—including custom logos

Bar code symbologies
- Bar code ratios: 2:1, 7:3, 5:2, and 3:1
- Linear Bar Codes: Code 11, Code 39, Code 93, Code 128 with subsets A/B/C and UCC Case Codes, ISBT-128, UPC-A, UPC-E, EAN-8, EAN-13, UPC and EAN 2-or 5-digit extensions, Plessey, Postnet, Standard 2-of-5, Industrial 2-of-5, Interleaved 2-of-5, Logmars, MSI, Codabar and Planet Code
- 2-Dimensional: Codablock, PDF417, Code 49, DataMatrix, MaxiCode, QR Code, TLC 39, MicroPDF, RSS-14 (and composite), Aztec

Communication and Interface Capabilities
- ZebraNet 10/100 Print Server—supports 10Base-T,
- 100Base-TX, and fast Ethernet 10/100 auto-switching networks.
- USB 2.0—12 Mbits/second
- High-speed bi-directional parallel interface—IEEE 1284-1994 compatibility, ECP, nibble mode
- High-speed serial interfaces:
  - RS-232C with DB9F connector, optional converter for DB25F available
  - Optional RS-422/485 with multidrop capability to network multiple printers from a single host with external adapter
  - Software (XON/XOFF) or hardware (DTR/DSR) communication handshake protocols
- Applicator interface—with DB15F connector

Options and accessories

Printer Options
- Clear media side bi-fold door—allows shorter media door opening radius
- Full-width rotary knife cutter and catch tray—operates under software control cutting labels individually or in strips
- Media rewind spindle—rewinds finished roll internally onto 3"/76 mm core or enables label peel and liner rewind
- Applicator interface—provides status and control signals for applicators and remote control devices
- Media supply spindle for 3"/76 mm core or 15.7"/40 mm core
- Flash memory—factory installed 64 MB (61 MB user available)
- Additional fonts

ZebraNet Print Server Options
- Features provided by ZebraNet Print Servers include:
  - Web View Web pages—connect and control Zebra bar code printers via the printer's Web interface using common Internet browsers
  - Alerts—provide alerts via any e-mail-enabled, wired, or wireless device to minimize downtime
- ZebraNet Internal Wireless Plus Print Server