Zebra® R110*Xi*™ and R170*Xi*™

Multi-Protocol Printer/Encoders for EPC UHF Tags

Unprecedented Flexibility in RFID Printer/Encoders

Built on the solid, tested *Xi*III*Plus*™ printer platform, Zebra's R110*Xi* and R170*Xi* printer/encoders offer an unprecedented level of on-demand printing flexibility in tag placement and label size (4-inch and 6-inch), as well as unique features such as XML-Enabled printing for seamless integration into enterprise systems, easier programming, more detailed front panel information, faster throughput, and statistics tracking, which allows customers to track the number of good and unusable labels.

As Zebra's most robust printer/encoders, the R110*Xi* and R170*Xi* are built to withstand extreme conditions and deliver high-volume printing. They offer a rich set of features to meet the demands of leading RFID applications today—including auto-calibration, multiple power settings and flexible inlay placement. These printer/encoders embed ThingMagic's Mercury4e®, which supports both multiple antennas and multiple protocols, including UHF EPC-compliant Class 1 Gen 2, ISO18000-6B, ISO18000-6C and Philips UCode 1.19. Using software-defined radio technology, the R110*Xi* and R170*Xi* models can be easily firmware upgraded to support emerging protocols and features with no compromise in performance.

The high-performance R110*Xi* (for 4-inch smart labels) and the R170*Xi* (for 6-inch smart labels) have been designed for case- and pallet-level identification for companies needing to streamline logistics and supply chain management and other applications including:

• Asset Tracking

• Inventory Management

• Work in Process

• Shipping/Receiving

• Distribution

Built on the Solid *Xi*III*Plus* Platform

With ZebraLink™ Solutions, you can take advantage of the latest innovations today and tomorrow. Zebra is continually adding new features and options to give you more ways to connect, more ways to control your printers, and more ways to manage your enterprise.

▶ Software

ZebraDesigner™ Pro

ZebraDesigner™ for XML

ZebraNet™ Bridge Enterprise

ZebraNet™ Utilities v 7.0

Zebra Universal Driver

▶ Networking

ZebraNet® Wireless Plus Print Server

ZebraNet® 10/100 Print Server

▶ Firmware

ZPL®—Universal language for Zebra printers. Simplifies label formatting and enables format compatibility with other Zebra printers.

XML-Enabled printing—Direct-connect integration for bar code label printing that eliminates license fees and print server hardware, and lowers customization and programming costs.

R110*Xi*

The R110*Xi* for 4-inch-wide smart labels is designed for high performance and mission-critical ruggedness in the most demanding environments.

MAXIMUM PRINT WIDTH
203 dpi: 4.0" (103 mm)
300 dpi: 4.0" (103 mm)

RESOLUTION
203 dpi/8 dots per mm
300 dpi/12 dots per mm

PRINT SPEED
203 dpi: 2.4" (61 mm), 3" (76 mm) through 10" (254 mm) per second in 1" (25 mm) increments
300 dpi: 2.4" (61 mm), 3" (76 mm) through 8" (203 mm) per second in 1" (25 mm) increments

PHYSICAL CHARACTERISTICS
Width: 10.37" (263.5 mm)
Height: 15.5" (393.7 mm)
Depth: 19.5" (495.3 mm)
Weight: 50 lbs. (22.7 kg)

MEDIA CHARACTERISTICS
Label and liner width: 203 dpi and 300 dpi: .79" (20 mm) to 4.5" (114 mm)
Ribbon width: 203 dpi and 300 dpi: .79" (20 mm) to 4.33" (110 mm)

R170*Xi*

The R170*Xi* for 6-inch-wide smart labels delivers the legendary 'round-the-clock reliability and heavy-gauge-steel durability of Zebra's high-performance *Xi*™ series.

MAXIMUM PRINT WIDTH
203 dpi: 6.6" (168 mm)
300 dpi: 6.6" (168 mm)

RESOLUTION
203 dpi/8 dots per mm
300 dpi/12 dots per mm

PRINT SPEED
203 dpi: 2.4" (61 mm), 3" (76 mm) through 12" (305 mm) per second in 1" (25 mm) increments
300 dpi: 2.4" (61 mm), 3" (76 mm) through 8" (203 mm) per second in 1" (25 mm) increments

PHYSICAL CHARACTERISTICS
Width: 13.15" (334.4 mm)
Height: 15.5" (393.7 mm)
Depth: 19.5" (495.3 mm)
Weight: 67 lbs. (30.5 kg)

MEDIA CHARACTERISTICS
Label and liner width: 2.0" (51 mm) to 7.1" (180 mm)
Ribbon width: 2.0" (51 mm) to 6.7" (170 mm)

R110*Xi* / R170*Xi*

STANDARD FEATURES

Fully integrated ThingMagic® UHF RFID reader/encoder for transponder types:
- EPC Class 1 Gen 2
- ISO18000-6B, ISO18000-6C
- Philips UCode 1.19

RFID processes optimized for fastest label throughput

New RFID ZPL commands allow ease of RFID setup with maximum flexibility

Program position allows users to place transponders virtually anywhere within a smart label

RFID calibration feature automatically selects the program position for optimal transponder placement

RFID counters keep track of the good and unusable labels

Variable RFID power settings for both read and write allows maximum flexibility for printing small labels

Full-function front panel and multilingual back-lit LCD display with user-programmable password protection

Multi-level Element Energy Equalizer™ (E³®) for superior print quality

Thermal transfer and thermal direct printing of bar codes, text, and graphics

32 bit 133 MHz RISC processor

Type I, II linear memory up to 32 MB and future availability of Type III Series PC Card Interface

Clear media side door—easy monitoring of supplies usage without opening the printer systems

Zebra printer driver for Windows® 3.X and 95/98/NT/2000/XP/2003 operating systems

Internal real-time clock

Advanced label/media counters

Auto calibration—printer calibrates when printer is turned on or when printhead is closed with approximately two labels

Early Warning Systems for low label, low ribbon, and clean printhead alerts

XML-Enabled printing

PRINTER SPECIFICATIONS

Memory
Standard 16 MB SDRAM (12 MB available for user); 4 MB Flash (2.0 available to user)

Optional: PCMCIA or CompactFlash® (up to 256 MB memory each)

Print length
Maximum non-continuous: 39" (991 mm) with standard memory

Media Sensors
Dual media sensors: transmissive and reflective

MEDIA CHARACTERISTICS – SMART LABELS

Maximum label and liner length
39"/991 mm with standard memory

Maximum roll outside diameter
8.0" (203 mm)

Core diameter
3" (76 mm) core

Media thickness
.003" (.076 mm) to .012" (.305 mm)

Media types
Continuous, die-cut, black mark

For optimum print quality and performance, use genuine Zebra™ supplies

RIBBON CHARACTERISTICS

Outside diameter
3.2" (81.3 mm)

Standard length
1476' (450 m) or 984' (300 m); provides 3:1 & 2:1 media roll to ribbon ratios

Ratio
Ribbon is recommended to be at least as wide as media.

Ribbon setup
Ribbon wound coated side out

Core I.D.
1.0" (25.4 mm)

OPERATING CHARACTERISTICS

Environmental
Operating temperature:
Thermal transfer = 41° F/5° C to 104° F/40° C
Thermal direct = 32° F/0° C to 104° F/40° C

Storage temperature: -40° F/-40° C to 140° F/60° C

Operating humidity: 20% to 85% non-condensing R.H.

Storage humidity: 5% to 85% non-condensing R.H.

Electrical
Universal power supply with power-factor correction 90-264 VAC, 48-62 Hz

Agency approvals
Bi-National UL 60950 3rd edition/CSA CAN/CSA-C22.2 No. 60950-00 Third Edition; FCC Part 15.107 & 15.109 Class B; FCC Part 15.247; Canadian ICES-003, Class B; IC RSS-210

Zebra also has country-specific versions available. Contact your local representative for more information.

Printer name
R110*Xi*; R170*Xi*

Printer model
110*Xi*III; 170*Xi*III

RELATED PRODUCTS

Options and Accessories
Additional fonts

RS-422/485 multi-drop (optional adaptor)

Applicator interface

Media supply spindle

Media rewind spindle

Linear PCMCIA cards

ATA-Style PCMCIA cards or CompactFlash® (CF) cards

COMMUNICATIONS AND INTERFACE CAPABILITIES

High-speed serial interface
High-speed bi-directional, IEEE 1284-1994 parallel interface
RS-232C with DB9F connector
USB 2.0 port

(continued)

For More Information
Contact your Zebra representative for additional printer specifications. For information on Zebra's other printers, supplies, software and accessories, ask your reseller, call +1 800 423 0442, or visit our Web site **www.rfid.zebra.com**.

R110*Xi* / R170*Xi*

▶ BAR CODE/SYMBOLOGIES

Linear

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

▶ FONTS AND GRAPHICS

Fonts and Character Sets

Standard bitmapped Zebra fonts: A, B, C, D, E (OCR-B), F, G, H, (OCR-A), GS & Ø Smooth scalable font (CG Triumvirate™ Bold Condensed).

Contains UFST® from Monotype Imaging, Inc.

IBM® Code Page 850 International characters & graphic symbols

Smooth scalable font Ø (CG Triumvirate™ Bold Condensed) is expandable dot-by-dot, height and width independent, while maintaining edges to a max. 1500 x 1500 dots.

IBM Code Page 850 International Characters available in fonts A,B,D,E,F,G and Ø through software control.

Graphic Features

Supports user defined fonts and graphics—including custom logos

Not all products are available worldwide due to country-specific government regulations. Contact your Zebra representative for product availability.

Cutting-Edge Features

- Automatic inlay position calibration —Only from Zebra! Saves users the time and frustration of manually calculating the inlay program position on new labels.

- Multiple RFID power settings—Users can adjust the RF power in response to various RFID protocols, transponder designs and sizes. This feature gives users unprecedented flexibility to accommodate tighter-pitch transponders.

- Flexible inlay placement—A Zebra exclusive since our very first printer/encoder, this feature lets users keep label formats intact while ensuring higher read rates.

- Models for 4- and 6-inch label widths—Gives users the flexibility to print and encode most popular label and transponder sizes. Zebra's is the first 6-inch printer/encoder.

- Easier programming—The Zebra Programming Language is now even better! We streamlined it to make it more intuitive and easier to use while ensuring continued support to legacy ZPL applications.

- Front panel display offers more detailed information on tag data, error status and self-test, ensuring that support personnel have the information they need to optimize production and get the maximum quality output from each roll of smart labels.

- Flash upgradeable—Assures maximum flexibility for upgradeability to future RFID protocols and evolving features.

- Faster throughput—Eliminated backfeed for RFID batches and faster VOID printing means better overall smart label printing performance.