DS9900 Series for Labs

Improve workflow efficiency and accuracy with the hybrid presentation imager built for the lab

2D barcodes and RFID help medical labs and pharmacies track critical items like medications, blood, tissue and other specimen samples to improve accuracy and efficiency. But barcodes found in the lab — from tiny barcodes on microscope slides to curved barcodes on medication bottles — can be challenging for a general purpose imager. Zebra's DS9900 Series is purpose-built for lab environments, offering unparalleled productivity and ease of use. Workers get first-time, every time capture of the many types of barcodes found in the lab including small, high density, curved and color-coded. A one-of-a-kind hybrid design offers both handheld and hands-free scanning, with seamless switching between modes. And an RFID model combines barcode scanning with RFID capabilities to read RFID tags on blood bags and other specimen samples. Improve workflow and accuracy with the hybrid imager built for the lab — the DS9900 Series.

Industry-best Performance

Scan it all with virtually no exceptions

The DS9900 Series combines a high-resolution megapixel sensor and Zebra's exclusive PRZM Intelligent Imaging technology for unparalleled performance on virtually any barcode found in pharmacies and labs — including poorly printed, shiny, faded, dirty and damaged, as well as electronic barcodes on dimly lit displays.

Its high density focus easily reads smaller high density barcodes on microscope slides as well as curved barcodes on medicine bottles and blood vials. White illumination LEDs make it easy to scan barcodes on color-coded specimen trays and biopsy cassettes. The result? High-confidence scanning in the lab with first-time, every time capture of even the most challenging barcodes for fewer workflow disruptions.

Rapid-fire scanning to boost productivity

With an 800 MHz microprocessor, advanced illumination system and first-pass read rates up to 240 in./610 cm per second, the DS9900 Series provides near instant barcode capture. With the widest field of view in its class, the scanner requires less precision when positioning items — making hands-free scanning easier than ever.

Optional RFID model for blood bag tracking and more

An RFID model offers barcode scanning and UHF RFID reading/writing in a single platform — providing an ideal solution for tracking serial numbers, expiration dates and other critical data in blood processing. Workers can read multiple RFID-tagged samples in one pass without line of sight. The RFID model operates from a single USB port and does not require an external power supply. Complimentary RFID data conversion software reports RFID tag data as a standard barcode so you don't need to modify your existing application.

Improve workflow efficiency and accuracy with the hybrid scanner built for the lab.

For more information about the DS9900 Series, visit www.zebra.com/ds9900serieslab

Purpose-built for Hybrid Scanning

Dynamic switching between hands-free and handheld modes

The DS9900 Series combines a patent-pending capacitive touch sensor for hand detection and accelerometer for motion detection to instantly switch modes when a worker picks up or puts down the scanner. There are no mechanical components to wear out for fail-proof switching throughout the scanner's life.

Hybrid ergonomics

The ergonomic handle and a well-balanced design make the DS9900 Series remarkably easy to aim in handheld mode. And the integrated adjustable stand offers a sturdy, compact solution that easily fits into crowded workspaces.

Two scanners in one

Handheld and presentation applications have different scanning requirements. That's why the DS9900 Series is built for both. In presentation mode, the scan range is limited to prevent unintentional scanning of nearby items. When the scanner is picked up, an aim dot appears and the scan range is automatically extended to reach items on the table or cart.

Built for Life in the Lab

Day-in, day-out dependability

The DS9900 Series delivers the day-in, day-out dependable operation you need in your lab or pharmacy. Its proven single circuit board design eliminates a common point of failure, substantially increasing durability. Image quality is protected by a patented double-sealed optical scanning system, ensuring that the 'eye' of the DS9900 Series always captures the sharpest possible barcode for fast and reliable decoding. And the recessed scan window protects against smudges, dirt and scratches, which can impact performance.

Designed to survive spills and drops

With IP52 sealing and elevated electronics, accidental spills and dust won't impact operation[1]. Inadvertent drops aren't a problem either — you can depend on reliable operation, even after multiple 5 ft./1.5 m drops to concrete and 2,000 consecutive 1.5 ft./0.5 m tumbles[2].

Easily read color-coded labels

Designed specifically for lab and medical environments, the DS9900 Series features white illumination LEDs that can easily read barcodes on color-coded specimen trays or biopsy cassettes.

By contrast, red illumination found on some barcode scanners can cause color-coded barcodes to appear "washed out," making them difficult to decode.

Boost Productivity with Zebra Innovations

Doubles as a document scanner

With a single press of the scan trigger, Zebra's Intelligent Document Capture can capture a high-resolution image of prescriptions, patient forms and other documents. Smart software automatically compensates for variations in lighting and squares up the image for optimum clarity.

Capture driver's license data

With optional driver's license parsing, the DS9900 Series can capture and parse data on driver's licenses to automatically populate patient admission forms.

Streamline data collection with OCR

Support for OCR transmits data from machine readable text to your application to expedite the collection of data from ID cards and more.

Capture multiple barcodes with one press of the scan trigger

With Multi-Code Data Formatting (MDF), the DS9900 Series can scan multiple barcodes with a single trigger pull and transmit only the barcodes you need, in the order your application expects.

Identify poor-performance barcodes

Zebra's ScanSpeed Analytics provides detailed performance metrics on each barcode captured — enabling you to identify and eliminate poor performing labels and barcodes that slow down your workflows.

Single out one barcode from many

With Zebra's Preferred Symbol, the DS9900 Series can capture and output only the preferred barcode, so workers no longer have to physically cover nearby barcodes before scanning.

Read securPharm medications

The DS9900 Series can read securPharm labels used to protect patients from receiving counterfeit medications.

Industry-preferred Management Tools

Easily manage all of your scanners with powerful complimentary tools

With 123Scan, you can easily create configuration barcodes to program scanners. If your scanners are in multiple locations across the country or around the world, with Scanner Management Service (SMS), you can configure and update the firmware for any DS9900 Series device that is plugged into the host — no depot staging or user action is required — such as the scanning of a configuration barcode.

Easy application development

Get everything you need to easily integrate scanning into your business applications with our Scanner Software Development Kits (SDKs) for Windows, Android, iOS and Linux. These SDKs provide documentation, drivers, test utilities and sample source code. And the RFID model comes with Zebra's SDK and a sample application that enables it to read data from a barcode and write that data to an RFID tag — lowering the cost and complexity of implementing RFID.

Specifications

Physical Characteristics

[3]Dimensions	DS9908: 8.0 in. H x 3.7 in. W x 5.2 in. D 20.3 cm H x 9.4 cm W x 13.2 cm D DS9908R: 8.0 in. H x 3.9 in. W x 5.75 in. D 20.3 cm H x 9.9 cm W x 14.6 cm D
Weight	DS9908: 11.6 oz./330.0 g DS9908R: 14.8 oz./420.0 g
Input Voltage Range	4.5 to 5.5 VDC Host Powered; 4.5 to 5.5 VDC External Power Supply
Current	Operating current at nominal voltage (5.0V): DS9908: 321 mA (typical) DS9908R: 400 mA (typical) Standby current (idle) at nominal voltage (5.0V): DS9908: 70 mA (typical) DS9908R: 135 mA (typical)
Color	Alpine White
Supported Host Interfaces	USB Certified[3], RS232, Keyboard Wedge, TGCS (IBM) 46XX over RS485
Keyboard Support	Supports over 90 international keyboards
TAA Compliance	Trade Agreement Act Compliant
User Indicators	Direct Decode Indicator, Good Decode LEDs, Speaker (adjustable tone and volume)

Performance Characteristics

Swipe Speed (Hands-Free)	Up to 240 in./610 cm per second for 13 mil UPC in optimized mode
Light Source	Aiming Pattern: Circular 528nm green LED
Illumination	(2) warm white LEDs
Imager Field of View	48° H x 30.6° V nominal
Image Sensor	1280 x 800 pixels
Minimum Print Contrast	16% minimum reflective difference
Skew Tolerance	+/- 60°
Pitch Tolerance	+/- 60°
Roll Tolerance	0° - 360°

RFID (DS9908R)

Standard Supported	EPC Class 1 Gen2; EPC Gen2 V2; ISO-18000-63
RFID Engine	Zebra Proprietary Radio Technology
Nominal Read Range	~18 in. / ~45.7 cm
RFID Power Output	3 dBm to 22 dBm
Frequency Range	US: 902 - 928 MHz EU: 865 - 868 MHz Japan: 916 - 923 MHz

Accessories

Multi-Mount Bracket (non RFID model only)

Symbol Decode Capability[6]

1D	Code 39, Code 128, Code 93, Codabar/NW7, Code 11, MSI Plessey, UPC/EAN, I 2 of 5, Korean 3 of 5, GS1 DataBar, Base 32 (Italian Pharma)
2D	PDF417, Micro PDF417, Composite Codes, TLC-39, Aztec, DataMatrix, MaxiCode, QR Code, Micro QR, Han Xin, Postal Codes
OCR	OCR-A, OCR-B, MICR, US Currency
Minimum Element Resolution	Code 39 - 3.0 mil Code 128 - 3.0 mil* DataMatrix - 5.0 mil QR Code - 5.0 mil * with Decode Range Limit feature disabled.

Warranty

Subject to the terms of Zebra's hardware warranty statement, the DS9900 Series is warranted against defects in workmanship and materials for a period of Five Years from the date of shipment. For the complete Zebra hardware product warranty statement, please visit:
www.zebra.com/warranty

Recommended Services

Zebra OneCare Select; Zebra OneCare Essential

Utilities and Management

123Scan	Programs scanner parameters, upgrades firmware, provides scanned barcode data and prints reports. www.zebra.com/123Scan
Symbol Scanner SDK	Generates a fully-featured scanner application, including documentation, drivers, test utilities and sample source code. www.zebra.com/windowsSDK
Scanner Management Service (SMS)	Remotely manages your Zebra scanner and queries its asset information. www.zebra.com/sms

DS9908-HD Handheld Decode Ranges (Typical)[5]

Symbology/Resolution	Near/Far
Code 39: 3 mil	1.3 in./3.3 cm to 3.7 in./9.4 cm
Code 128: 3 mil	1.4 in./3.6 cm to 4.2 in./10.7 cm
Code 128: 5 mil	0.8 in./2 cm to 7.5 in./19 cm
PDF 417: 6.7 mil	0.8 in./2 cm to 8 in./20 cm
UPC: 13 mil (100%)	0.2 in./0.5 cm to 19.1 in./48.5 cm

Markets and Applications

Healthcare

- Blood verification/Phlebotomy
- Blood, tissue and specimen tracking
- Patient admissions
- Inventory management
- Medication tracking

Imaging Characteristics

Graphics Format Support	Images can be exported as Bitmap, JPEG or TIFF
Image Quality (A4 Document)	116 PPI on an 8.3 x 11.7 in./21.0 x 29.7 cm document @ 8.0 in./20.3 cm

Environmental

Operating Temperature	32.0° to 122.0° F / 0.0° to 50.0° C
Storage Temperature	-40.0° to 158.0° F / -40.0° to 70.0° C
Humidity	5% to 95% RH, non-condensing
Drop Specification	DS9908: Designed to withstand multiple drops at 5.0 ft./1.5 m to concrete DS9908R: Designed to withstand multiple drops at 4.0 ft./1.2 m to concrete
Tumble Specification	Designed to withstand 2,000 tumbles in 1.5 ft. /0.5 m tumbler[4]
Environmental Sealing	DS9908: IP52 DS9908R: IP42
Electrostatic Discharge (ESD)	ESD per EN61000-4-2, +/-15 KV Air, +/-8 KV Direct, +/-8 KV Indirect
Ambient Light Immunity	0 to 10,000 Foot Candles / 0 to 107,600 Lux

Regulatory

Environmental	EN 50581:2012
Electrical Safety	IEC 62368-1 (ed.2) EN 62368-1:2014/AC:2015
LED Safety	IEC 62471:2006 (Ed.1.0) EN 62471:2008 (LED)
EMI/RFI	EN 55032:2012/AC:2013 (Class B) EN 55032:2015/AC:2016 (Class B) EN 55024:2010 EN 55024:2010/A1:2015 EN 55035:2017 EN 61000-3-2:2014 (Class A) EN 61000-3-3:2013 47 CFR Part 15, Subpart B, Class B ICES-003 Issue 6, Class B

DS9908-HD Handheld Decode Ranges (Typical)[5]

Data Matrix: 10 mil	0.5 in./1.3 cm to 9.3 in./23.6 cm
QR: 20 mil	0 in./0 cm to 13.7 in./34.8 cm

DS9908-HD Hands-Free Decode Ranges (Typical)[5]

Symbology/Resolution	Near/Far
Code 39: 3 mil	1.1 in./2.8 cm to 3.7 in./9.4 cm
Code 128: 5 mil	0.6 in./1.5 cm to 2.5 in./6.4 cm
PDF 417: 6.7 mil	0.8 in./2.0 cm to 8.0 in./20.3 cm
UPC: 13 mil (100%)	0 in./0 cm to 9.5 in./24.1 cm
Data Matrix: 10 mil	0 in./0 cm to 9.3 in./23.6 cm
QR: 20 mil	0 in./0 cm to 9.5 in./24.1 cm

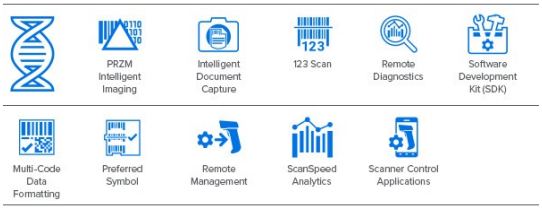
Footnotes

1. DS9908R RFID model: IP42 sealing
2. DS9908R RFID model: Multiple drops at 4.0 ft./ 1.2 m to concrete
3. USB connectivity supported on all DS9900 Series models. DS9900 Series non-RFID models are USB-IF Certified; certification is planned for DS9900 Series RFID models in H1 2019.
4. Note: 1 tumble = 0.5 cycles
5. Printing resolution, contrast, and ambient light dependent
6. Refer to Product Reference Guide for a complete list of symbologies.

Features are subject to availability.
Specifications are subject to change without notice.

DataCapture DNA™

DataCapture DNA is a suite of highly intelligent firmware, software, utilities and apps exclusively engineered to add functionality and simplify the deployment and management of Zebra scanners. For more information about DataCapture DNA and its applications, please visit www.zebra.com/datacapturedna



NA and Corporate Headquarters
+1 800 423 0442
inquiry4@zebra.com

Asia-Pacific Headquarters
+65 6858 0722
contact.apac@zebra.com

EMEA Headquarters
zebra.com/locations
contact.emea@zebra.com

Latin America Headquarters
zebra.com/locations
la.contactme@zebra.com

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