DS8100 Series Handheld Imagers

The ultimate in performance, innovation and manageability

Checkout is the last chance to leave your shoppers with a good impression — and the quality of the checkout experience is heavily dependent upon the performance of the scanner you choose. If cashiers need to scan barcodes multiple times or enter unreadable barcodes manually, your checkout lanes can back up quickly, resulting in long lines, long wait times and cashiers that need to focus on ringing up merchandise as quickly as possible instead of focusing on shoppers to provide a better checkout experience. Now, you can give every shopper the ultimate last impression with the DS8100 Series handheld imager. The DS8100 Series rises above conventional imagers, delivering unprecedented scanning performance on 1D and 2D barcodes, innovative productivity enhancing tools, including swappable power sources — a PowerPrecision+ battery or PowerCap™ capacitor[1] — plus unrivaled manageability tools to keep your scanners up, running and in the hands of your cashiers. Keep checkout lines moving and cashiers free to deliver a more personal checkout experience with the DS8100 Series — because when it comes to the checkout experience, only the best will do.

Unprecedented Performance

Unparalleled performance on virtually every barcode in any condition
Only the DS8100 Series combines the power of an 800 MHz microprocessor, a high-resolution megapixel sensor and Zebra's exclusive PRZM Intelligent Imaging technology. With this unique combination of hardware and advanced algorithms, the DS8100 Series instantly captures the most problematic barcodes — including dense, poorly printed, crinkled, faded, distorted, dirty or damaged, as well as electronic barcodes on dimly lit displays.

Superior scan range
A scanning range up to 24 in./61 cm, a high resolution imaging sensor and a bright "aiming spot" improve checkout speed. Now, cashiers in busy checkout environments can easily scan items in a customer's shopping cart — without leaving the cash-wrap.

Innovation beyond the barcode

Swappable power options reduce your investment risk
Two interchangeable power options are available to power your devices: a PowerPrecision+ battery or a PowerCap capacitor. You can swap power options at any time on all models, right in your facility — no need to purchase separate battery-free and battery powered devices. And managing your power sources is easy. Since the PowerPrecision+ battery and PowerCap capacitor can report their model and serial numbers, you'll always know which power source is in each scanner.

On a single charge, the advanced PowerPrecision+ battery provides over three around-the-clock days of continuous scanning, plus a wealth of metrics for better battery management.

The PowerCap capacitor is ideal when the scanner can always be inserted into a charging cradle when not in use. The largest capacitor in its category, the superior PowerCap offers 2,000 scans on a full charge and 100 scans after as little as 35 seconds in the cradle — both metrics are four times the competition.

Dedicated Power Charge Gauge
See at-a-glance if the PowerPrecision+ battery or the PowerCap capacitor are sufficiently charged at the start of a shift.

Connect+ Contact Technology designed to last
The position of the charging contacts in the DS8100 Series charging cradles combined with Zebra's exclusive Connect+ Contact Technology assures reliable, corrosion-free charging over the life of the scanner.

Support for the barcode of the future — Digimarc®
The DS8100 Series supports Digimarc digital watermark technology, which enables a barcode to be printed repeatedly over all surfaces of a product like wallpaper — yet remain completely invisible to the naked eye. Cashiers no longer need to locate and position a barcode in the field of view of the imager, enabling faster checkout and easier self-checkout.

Eliminate Bluetooth interference with Wi-Fi Friendly Mode
Only operate on channels that are not shared with your wireless LAN (WLAN), protecting service levels for workers and customers.

Capture multiple barcodes with one press of the scan trigger
Multi-code Data Formatting (MDF) provides the ability to capture multiple barcodes and transmit only those required in the precise order the application requires.

Capture drivers license data (DL version required)
With one press of the scan trigger, cashiers can capture and parse data on drivers licenses to automatically populate a loyalty or credit card application, verify age for age-restricted purchases and more.

Direct Decode Indicator improves productivity
Since the illumination on the barcode flashes to indicate a good decode, workers never need to pause to make sure a barcode was captured correctly.

Unrivaled manageability

Identify and correct problem barcodes with ScanSpeed Analytics
Get the information you need to spot and correct barcode issues before they impact worker productivity and customer service quality. Only from Zebra, ScanSpeed Analytics captures barcode type, scan speed and more for every scanned barcode. And an image of the barcode with the slowest scan time helps you proactively identify and address issues to improve scan speed.

Visionary visibility into battery performance metrics
The PowerPrecision+ battery provides a wealth of health information, including charge cycles consumed, a State-of-Health meter and whether the battery can still hold a full charge. Now, you can easily spot, order and replace aging batteries before battery failures interrupt front end operations and cause checkout delays.

Control your scanners from a smartphone, tablet or PC
With this easy-to-use application, you can: control your imager's beeper, vibration and LED to set user alerts; display scanned barcode data; access model and serial number; and access battery statistics and more from Android, iOS and Windows smartphones, tablets and PCs.

No-cost tools to meet advanced management needs
With 123Scan, you can easily create configuration barcodes to program scanners. If your imagers 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 DS8100 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.

Simplify the entire scanning experience with DataCapture DNA
Hardware is just the start of what you need to maximize the value of your scanners. The DS8100 Series is powered by DataCapture DNA, a set of unique development, management, visibility and productivity tools. Leveraging Zebra's 50 years of innovation, DataCapture DNA turns Zebra scanners into powerful tools that lower your TCO and help workers get more done each day. Decrease development cycles with development tools. Dramatically simplify scanner deployments of any size with management tools. Get the remote analytics you need to keep scanners up and running with visibility tools. And reach new levels of productivity with innovations that streamline tasks, allowing workers to capture the data the drives your business, faster and easier than ever.

DS8100 Series Specifications

Physical Characteristics	
Dimensions	**Corded DS8108 and Cordless DS8178:** 6.6 in. H x 2.6 in. W x 4.2 in. D 16.8 cm. H x 6.6 cm. W x 10.7 cm. D **Standard Cradle:** 2.8 in. H x 3.3 in. W x 8.3 in. D 7.1 cm. H x 8.4 cm. W x 21.1 cm. D **Presentation Cradle:** 2.9 in. H x 3.7 in. W x 4.8 in. D 7.4 cm. H x 9.4 cm. W x 12.2 cm. D
Weight	**Corded DS8108:** 5.4 oz./154 g **Cordless DS8178:** 8.3 oz./235.3 g **Desk/Wall Cradle:** 7.1 oz./202 g **Presentation Cradle:** 6.5 oz./182 g
Input Voltage Range	**DS8108:** 4.5 to 5.5VDC **DS8178 Cradles:** 5V: 4.7 to 5.5VDC; 12V: 10.8 to 13.2VDC
Current[2]	**Corded DS8108 Operating Current at Nominal Voltage (5.0V):** 450 mA **Cradle:** 470 mA (typical) Standard USB; 743mA (typical) 12V
Color	Nova White, Twilight Black
Supported Host Interfaces	USB Certified, RS232, Keyboard Wedge, TGCS (IBM) 46XX over RS485
Keyboard Support	Supports over 90 international keyboards
FIPS Security Certification	Certified Compliant with FIPS 140-2
User Indicators	Direct decode indicator, good decode LEDs, rear view LEDs, beeper (adjustable tone and volume), dedicated Power Charge Gauge

Performance Characteristics	
Light Source	Aiming Pattern: circular 617nm amber LED
Illumination	(2) 645nm red LEDs
Imager Field of View	48° H x 37° V nominal
Image Sensor	1,280 x 960 pixels
Minimum Print Contrast	16% minimum reflective difference
Skew/Pitch Roll Tolerance	+/- 60°; +/- 60°; 0-360°

Imaging Characteristics	
Graphics Format	Images can be exported as Bitmap, JPEG or TIFF
Image Quality	109 PPI on an A4 document
Minimum Element Resolution	Code 39 - 3.0 mil; Code 128 - 3.0 mil; Data Matrix - 6.0 mil; QR Code - 6.0 mil; PDF - 5.0 mil

User Environment	
Operating Temperature	32° to 122° F/0° to 50° C
Charging Temperature	32° to 104° F/0° to 40° C
Storage Temperature	-40° to 158° F/-40° to 70° C
Humidity	5% to 95% RH, non-condensing
Drop Specification	Designed to withstand multiple drops at 6.0 ft./1.8 m to concrete

User Environment (continued)	
Tumble Specification	Designed to withstand 2,000 1.5 ft./0.5 m tumbles[3]
Environmental Sealing	IP52
Electrostatic Discharge (ESD)	**DS8108/DS8178 and Cradles:** ESD per EN61000-4-2, +/-15 KV Air, +/-8 KV Direct, +/-8 KV Indirect
Ambient Light Immunity	0 to 9,000 Foot Candles/0 to 96,840 Lux

Radio Specifications	
Bluetooth Radio	**Standard Bluetooth Version 4.0 with BLE:** Class 1 330 ft./100m and Class 2 33 ft./10m, Serial Port and HID Profiles
Adjustable Bluetooth Power	Class 1: Output power adjustable down from 4 dBm in 8 Steps Class 2: Output power adjustable down from 2 dBm in 8 Steps

Power	
PowerPrecision+ Li-Ion Battery	Capacity: 2500 mAh Number of scans from full charge: 65,000[4] Charge time from empty to full: 9 hours over USB Charge time from audible low charge warning to Ready-to-Scan at 20% of full charge (default): 3 hours over USB
PowerCap Capacitor	Capacity: 440 F Number of scans from full charge: 2,000[4] Number of scans from Ready-To-Scan at 20% of full charge (default): 200[4] Number of scans from Ready-To-Scan at 15% of full charge: 100[4] Charge time from empty to full: 30 min over USB Charge time from audible low charge warning to Ready-to-Scan at 20% of full charge (default): 90 sec over USB Charge time from audible low charge warning to Ready-to-Scan at 15% of full charge: 35 sec over USB

Regulatory	
Electrical Safety	EN 60950-1 2ed + A11 + A1 + A12 + A2:2013, IEC 60950-1 2ed + A1 + A2, UL 60950-1, CAN/CSA-C22.2 No. 60950-1-07
Environmental	RoHS EN 50581
LED Safety	IEC 62471
IT Emissions	EN 55022 (Class B); EN 55032 (Class B)
IT Immunity	EN 55024
Harmonic Current Emissions	EN 61000-3-2
Voltage Fluctuation and Flicker	EN 61000-3-3
Radio Frequency Devices	47 CFR Part 15, Subpart B, Class B
Digital Apparatus	ICES-003 Issue 6, Class B

Accessories

Standard cradle, presentation cradle, wall mount bracket, spare battery, spare PowerCap; document capture stands

Put the DS8100 Series to work in:

Retail
- Point-of-Sale (POS)
- Loyalty applications
- Electronic coupon redemption
- Backroom receiving
- Inventory management

Hospitality
- Check-in
- Ticketing (concerts, sporting events and more)
- Loyalty cards

Transportation & Logistics
- Shipping and receiving
- Picking
- Product tracking
- Ticketing (airports, train and bus terminals)
- Postal

Light/Clean Manufacturing
- Product and component tracking
- Work-in-Process (WIP)

Government
- Lottery and gaming
- Administration
- Banking

DS8100 Series Specifications (continued)

Decode Capabilities[5]	
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, Chinese Sensible (Han Xin), Postal Codes, SecurPharm, DotCode, Dotted DataMatrix
Digimarc	Digital watermark technology

Decode Ranges (Typical)[6]	
Symbology/Resolution	**Near/Far**
Code 39: 3 mil	2.2 in./5.6 cm to 5.0 in./12.7 cm
Code 39: 20 mil	0 in./0 cm to 36.8 in./93.5 cm
Code 128: 3 mil	2.6 in./6.6 cm to 4.5 in./11.4 cm
Code 128: 5 mil	1.6 in./4.1 cm to 8.4 in./21.3 cm
Code 128: 15 mil	0 in./0 cm to 27.1 in./68.8 cm
PDF 417: 5 mil	2.3 in./5.8 cm to 6.4 in./16.3 cm
PDF 417: 6.7 mil	1.8 in./4.6 cm to 8.5 in./21.6 cm
UPC: 13 mil (100%)	0 in./0 cm to 24.0 in./61.0 cm
Data Matrix: 7.5 mil	2.1 in./5.3 cm to 6.9 in./17.5 cm
Data Matrix: 10 mil	1.1 in./2.8 cm to 9.9 in./25.1 cm
QR: 20 mil	.1 in./.3 cm to 17.6 in./44.7 cm

Warranty

Subject to the terms of Zebra's hardware warranty statement, the DS8178 and the CR8178 are warranted against defects in workmanship and materials for a period of three years from the date of shipment. The DS8108 is warranted against defects in workmanship and materials for a period of five years from the date of shipment. Complete Zebra hardware product warranty statement: www.zebra.com/warranty

Recommended Services

Zebra OneCare Select; Zebra OneCare Essential

Utilities and Management

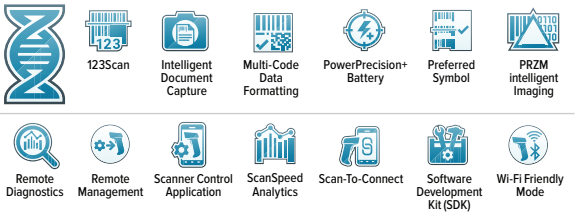
123Scan	Programs scanner parameters, upgrades firmware, displays scanned barcode data, scanning statistics, battery health, asset data and prints reports. www.zebra.com/123scan
Symbol Scanner SDK	Generates a fully-featured scanner application, including documentation, drivers, test utilities and sample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

Footnotes

[1] Requires firmware version CAACXS00-004-R00 or later.
[2] Refer to Product Reference Guide for currents when other power sources are used.
[3] 1 tumble = 0.5 cycle.
[4] At one scan per second.
[5] Refer to Product Reference Guide for complete list of symbologies.
[6] Printing resolution, contrast, and ambient light dependent.

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



SK&T ESTABLISHED 1997

(720) 851-9108
info@skandt.com
https://www.skandt.com/
7385 Greendale Rd #105, Windsor, Colorado, 80550, United States

ZEBRA

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