DS8100 Series Handheld Imagers

The ultimate in performance, innovation and manageability

The final step of a shopping journey is a retailer's last chance to make a good impression. Whether customers are using curbside pickup or in-store checkout, they expect speed and convenience. With the DS8100 Series handheld imager, you can elevate the customer experience and deliver frictionless transactions at every touchpoint — from cashier manned and self-checkout lanes to curbside and in-store pickup. The DS8100 Series rises above conventional imagers, providing unprecedented scanning performance so cashiers and self-checkout customers can easily scan any barcode the first time, every time. You get a wide range of innovations, including interchangeable power sources — a PowerPrecision+ battery and PowerCap™ capacitor[1]. And every DS8100 Series imager is engineered with DataCapture DNA, Zebra's exclusive software ecosystem that simplifies every stage of the scanning experience over the life of your device. Keep checkout lines moving with the DS8100 Series, the ultimate in handheld scanning performance and innovation.

Unprecedented Performance

Unparalleled performance on virtually every barcode in any condition

Only the DS8100 Series combines the power of an 800 MHz microprocessor, the highest sensor resolution in its class 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.

The DS8100 Series — when your business demands the ultimate in performance, workforce productivity and customer service.

For more information, visit www.zebra.com/ds8100

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.

Prevent downtime with anti-loss tools

With Zebra's Virtual Tether, both the cradle and scanner will alert users when a device is taken out of range or left out of the cradle for an extended period of time. As a result, you won't have to worry about a customer accidentally leaving self-checkout with a cordless scanner in their cart or an associate misplacing a scanner in the backroom. And if a DS8178 is lost, simply press the cradle's paging button to locate it.

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.

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.

Easily capture label data for better inventory management

With Label Parse+, the DS8100 Series can instantly capture and parse GS1 label barcode data on items, enabling associates to easily capture a wealth of data, including expiration dates and lot number/ manufacturing location.

Capture multiple barcodes with one press of the scan trigger

With Multi-Code Data Formatting (MDF), the DS8100 Series can capture multiple barcodes with a single scan and transmit only the barcodes you need, in the order your application expects.

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.

Support for the barcode of the future — Digimarc™

The DS8100 Series supports Digimarc digital watermark technology, enabling faster checkouts and easier self-checkout.

Direct Decode Indicator improves productivity

Since the illumination on the barcode flashes to indicate a good decode, associates never need to pause to make sure a barcode was captured correctly.

Unrivaled manageability

Switch workflows in an instant with AutoConfig

Zebra's AutoConfig cradle automatically configures the DS8178 for your workflow. For example, you can take a DS8178 from self-checkout and use it for a manned lane, customer service, inventory or receiving without having to change settings. Since scanner settings are stored in the cradle base, simply pair the scanner to a different base to automatically configure it for a new host application and use case.

Identify and correct problem barcodes with ScanSpeed Analytics

Only from Zebra, ScanSpeed Analytics provides detailed performance metrics on every barcode captured — enabling you to identify and eliminate poor performing barcodes that slow down your operations.

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.

Up-to-the-minute insight into every aspect of your scanners

The logging agent's Remote Diagnostics capabilities automate the recording of scanner asset information, health and statistics, configuration settings and barcode data — giving you the information needed for event verification, blockchain traceability, pilot site ROI generation, troubleshooting and predictive fleet-wide trend analysis.

Visionary visibility into battery performance metrics

The PowerPrecision+ battery provides a wealth of health information, so you can easily spot and replace aging batteries before battery failures cause checkout delays.

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.

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

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

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	1.1 in./2.8 cm to 9.9 in./25.1 cm

Markets and Applications

Retail

• Point-of-Sale (POS)
• Self-checkout
• Buy Online Pickup In Store (BOPIS)
• Buy Online Pickup At Curb (BOPAC)
• Loyalty applications
• Electronic coupon redemption
• Backroom receiving
• Inventory management

Hospitality

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

Transportation and 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

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
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

Decode Ranges (Typical)[6]

mil	
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

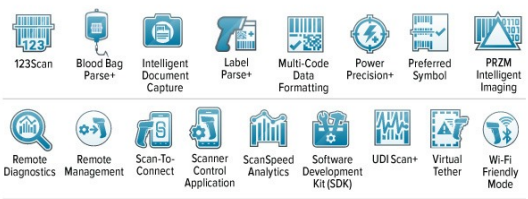
123Scan	Programs scanner parameters, upgrades firmware, displays scanned barcode data, scanning statistics, battery health, asset data and prints reports. www.zebra.com/123scan
Symbol Scanner SDK	Generates a fully-featured scanner application, including documentation, drivers, test utilities and sample 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.
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



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