SOLUTION BROCHURE

Datacard® PB8500™ Compact Passport Issuance System

PB8500™ Compact

Compact, simple to deploy, higher throughput

ENTRUST

SECURING A WORLD IN MOTION

Datacard® PB8500™ Compact Passport Issuance System

Semi-automated modular system with up to 250 BPH supports laser, chip, drop on demand (DoD), and several personalization modules for a low total cost of ownership.

- Compact system allows for redundancy at small sites
- Provides full capabilities for secure passport personalization
- Includes physical and logical security options to reduce the risk of fraud and theft without slowing the issuance process

Key Technologies

Physical and Logical Security:

The PB8500 Compact System offers multiple lines of defense to help reduce the risk of fraud and theft. Logical safeguards protect passport holder data, while physical security options limit access to the system controller, blank booklet stock, supplies, and fully personalized passports.

System Controller Hardware and Software:

The PB8500 Compact System uses the same powerful controller software as other systems in the PB Series portfolio, including data input, job setups, passport layouts, production environment, and audit/reconciliation management.

Passport Chip Encoding:

The system architecture supports encoding of a chip located in the back cover, front cover, or data page. Optionally, an MBCM (Multi-Book-Chip-Module) may be used where throughput requires multiple books to be programmed simultaneously.

Laser Engraving:

Engraves photos, logos, tilted images (CLI, MLI, 3D photos), text, and bar codes, as well as laser ablated images and a wide variety of security features on the polycarbonate data page with speed and precision. Up to two modules can be supported by the PB8500 Compact. Please see the Laser 450G data sheet for more details.

Quality Assurance:

Verifies all personalization, including laser engraving, and chip encoding.

System Specifications

System Input: Feeds open booklet into the system for personalization	
Capacity	Two locking input hoppers; each hopper holds up to 30 (50-page) or 40 (36-page) booklets
Booklet Prep	Flattens the open booklet to prepare it for personalization

Chip Encoding: Enables the personalization of contactless passport chips	
Coupler Type	1 Datacard® Contactless Coupler integrated; optional MBCM Module may be added
Protocols Supported	ISO 14443 Type A, Type B
Frequencies Supported	13.56 MHz
Communication Speed	106, 212, 424 and 848 Kbps
Chip Encoding Software	• Server-based application environment supported by Entrust Chip Interface Software • Supports ICAO compliant custom personalization applications (developed separately) to ensure personalization information matches input data

Laser Engraving: Personalizes the polycarbonate data page using air-cooled Class 1 Laser fiber laser technology	
Resolution	• Greater than 400 dpi; grayscale
Capabilities	• Pixel engraving; text, photos, bar codes, and other digitized images • Vector engraving; text • Micro-printing, 400-800 µm in height • Tilted images engraving: CLI (Changeable Laser Images), MLI (Multiple Laser Images), 3D photo • Laser ablation
Laser Engravable Elements	• Photos, Alphanumeric text, vector text, bar codes, signatures, fingerprints, black-and-white logos, graphic images, scrambled indicia, tilted images, ghost images, micro-print, tactile elements, and laser ablated images
Text Formats	• Scalable fonts, including OpenType fonts for Microsoft® Windows ® operating systems
Bar Code Formats	• One-dimensional (1D): EAN13, Code 39, Code 128, Interleaved 2 of 5 • Two-dimensional (2D): PDF417
Image Formats	• JPEG (.jpg), TIFF (.tif), Bitmap (.bmp), PNG (.png), GFF (.gif)

System Specifications

Laser Engraving: Personalizes the polycarbonate data page using air-cooled Class 1 Laser fiber laser technology - Continued	
Laser Engraving Placement	• Front of standard passport polycarbonate data page • Within 0.16 in. (2.0 mm) from left or right side of data page • Within 0.24 in. (6.0 mm) from the bottom edge of the data page • Up to 3.1 in. (78.9 mm) from the bottom edge of the data page
Laser Engraving Accuracy	• ± 0.004 in.(± 0.1 mm) in both X and Y axes
Vision Registration Features	• Element Placement Tolerance: +/- 0.012 in. (± 0.3 mm) relative to pre-printed elements; no L mark required • Tighter tolerances can be supported with High Resolution Vision Kit
Tilted Image Features	• Tilted element range: Vertical axis (CLI) ± 25°, horizontal axis (MLI) ± 20° • 3D image tilting range ± 10° (either vertical or horizontal axis may be used) • Within 0.16 in (4 mm) from left or right side of data page • Within 0.91 in (23 mm) from bottom edge of data page • Up to 3 in (76 mm) from the bottom edge of data page

Quality Assurance: Verifies pre-printed and personalized elements; supports applications for verifying smart chip programming	
Verifiable Elements	• Many OpenType fonts for Microsoft® Windows® OS; pre-printed and personalized elements • MRZ (verified to ICAO specification for position, spacing, and checksums, requires infrared camera option since personalized to the B900 IR standard) • Personalized holder page information including document number and MRZ (using optical character verification OCV) • Booklet document number perforation • Passport photograph perforation (using pattern matching)
Readable Elements	• Bar codes (Code 128, Code 39, Code 93, Data Matrix, EAN13, EAN8, 120F5, PDF417, UPCA) • Optical character recognition (OCR) • Perforated document number • Pattern matching
Element Location	• Minimum of 0.2 in. (5 mm) from all edges of the page
Text Size	• Minimum of 0.1 in. (2.54 mm)
Contactless Chip Verification	• Supports ICAO compliant Entrust Chip Interface Software verification applications (developed separately) to ensure personalized information matches input data
Camera Options	• Color camera for vertically oriented pages • Color camera for horizontally oriented pages • Infrared camera for vertically oriented pages (MRZ verification only) • High-resolution camera available for specific security features

System Specifications

Optional Modules available via RPQ	
The PB8500 Compact is part of the PB8500 Series and shares the same architecture, which allows for the use of additional personalization modules that meet the needs of your project.	
Multi-Book Chip Module	• May be integrated if lengthy chip-programming times are a bottleneck
LSI Laser	• CO2 laser employed to produce high-security features by modifying the surface of the polycarbonate with perso data and images (clear, not black/grayscale). See Secure Identity Technologies brochure for more information.
Page 1 Engraving	• Sometimes referred to as Title Page Engraving, this module supports printing grayscale images/ text on the reverse side of the data-page, protecting against attacks to the main portrait on the data page from the rear side.
Portrait Perf	• A CO2 laser produces a secondary portrait of the passport holder, replicating the main portrait by perforating through the polycarbonate having a grayscale appearance. Module also supports dot matrix text with tilting.
Number Perf	• A CO2 laser uses the passport ID number, or other specified data, to perforate holes through the internal pages and back cover of the book.
Drop on Demand	• Personalizes both polycarbonate and paper using UV-curable ink. Can be used for Secure Color portraits on the data page, or secondary color images on page 3, and can be configured to use UV-fluorescing ink for additional security.

System Output/Reject: Sorts fully personalized and inspected booklets into good and reject bins	
Locked Reject Hopper Capacity	• Up to 7 (50 page) or 9 (36 page) booklets
Locked Output Hopper Capacity	• Up to 45 (50 page) or 60 (36 page) booklets

System Controller Software Specifications	
Operating System	• Microsoft® Windows® 10 IoT Enterprise 2021 LTSC
Controller Software	• PB Series System Controller Software v10.14
Languages Supported	• Operating system language packs are available • PB8500 Compact system controller user interfaces, online help, and error/warning messages are available in English, French, Spanish, Chinese (PRC)
Setup and Specification Software Capability	• Passport layout, passport personalization, secure remake processes, reject handling, reading and storing data, passport stock characteristics, supply characteristics, graphic image repositories, audit setup
Security Software Capability	• Microsoft® Windows® 10 IoT Enterprise 2021 LTSC operating system security, access level control, and access privileges are assigned by the administrator • Access and privileges are assigned by the administrator
Audit Software Capability	• Job Status reporting and real-time production logs
Diagnostic Software Capability	• Diagnostics and troubleshooting support available locally at the system or remotely through secure network

System Specifications

System Controller Specifications: Manages the data and provides the controls for the system; is the primary interface for the operator; provides a work surface	
Monitor	• Standard: Desktop 22" monitor (no table provided) with standard keyboard and mouse • Option: Articulated Arm Non-Touch Kit with standard monitor and touch pad keyboard
Alarm Kit	• Option: Audible Attention Light Kit
CPU	• Intel® Core i7 CPU, 33 MB Cache, up to 5.4 GHz • RAID controller option available
Hard Drive	• Standard: Minimum 2 TB SSD (usable disk space may be less) • Optional: RAID 1 controller for mirrored data redundancy can be added to the system for added backup support
Memory	• 64 GB (2 x 32 GB) ECC memory
DVD/CD-ROM	• Read/write (physically contained by closed bezel option)
Communicating and Networking options	• Two Gigabit Ethernet LAN ports on the motherboard • Additional 4 port 10/100/1000 megabits per second Ethernet Server Adapter • Additional communication kits are available

General System Specifications	
System Dimensions	• Minimum configuration with 1 Laser 450G: 50.1 in. H x 50.0 in. W x 27.0 in. D (127.3 cm x 127.3 cm x 68.6 cm). Additional modules will increase footprint.
Weight	• 692 lbs (315 Kgs) — does not include shipping containers or optional equipment
Electrical Requirements	• 230V, 50/60 Hz, 15 Amps (dependent on system configuration)
Operating Requirements	• Room temperature 65° to 80° F (18° to 27° C); Humidity: 20% to 85% (non-condensing)
Storage Requirements	• Room temperature 50° to 130° F (10° to 54° C); Humidity: 0% to 85% (non-condensing)
Passport Booklets Supported	• Supports ID-3 ICAO 9303 compliant booklets (4.9 in. x 3.5 in.; 125 mm x 88 mm)
Logical and Physical Security	• Option: All input hoppers, output hopper, reject stackers can be locked • Option: Locking mechanisms for system hoods • Option: Closed bezel on controller • Cabinet enclosure for controller hardware • USB ports can be disabled logically

ABOUT ENTRUST

Entrust fights fraud and cyber threats with identity-centric security that protects people, devices, and data. Our comprehensive solutions help organizations secure every step of the identity lifecycle, from verifying identity at onboarding to securing connections and fighting fraud in everyday transactions. Ongoing monitoring supports compliance and safeguards keys, secrets, and certificates. With a foundation of identity-centric security, our customers can transact and grow with confidence. Entrust has a global partner network and supports customers in over 150 countries.

For more information, visit www.entrust.com

entrust.com Toll-Free: 888.690.2424 | International: +1.952.933.1223 | sales@entrust.com

ENTRUST
SECURING A WORLD IN MOTION