



PERSOMASTER

EMV Banking Card Personalization System

DoD Inkjet Technology – Monochrome and 4-Color

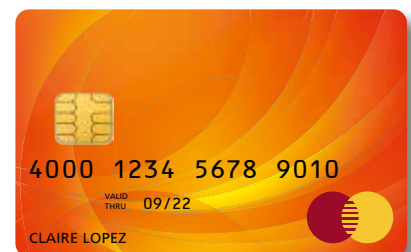
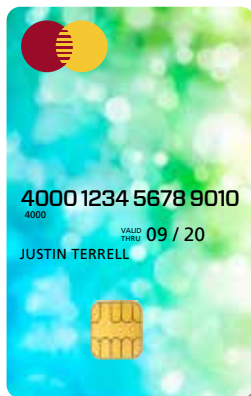


**Atlantic
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PERSOMASTER

REDUCE YOUR EMV CARD PERSONALIZATION COSTS WHILE IMPROVING DURABILITY AND DESIGN FLEXIBILITY

- Unprecedented flexibility for the design and positioning of personalized data
- High-resolution graphic personalization in black, white and color
- Up to 98% cost savings
- 4 times greater durability than thermal
- Full rainbow capabilities
- Perfectly suited for daily work and for re-issuance peaks
- Perfectly integrates with EMV personalization software
- Inline mailing supporting rainbow mode



SEAMLESS RAINBOW DECK PROCESSING

Rainbow deck processing allows combining personalization orders consisting of a wide variety of card products requiring different setup configurations to one production batch. This batch is seamlessly processed in one go without pausing the personalization system.

PERSOMASTER with its innovative software design for the machine workflow, printer and camera efficiently processes rainbow decks. The rainbow deck processes is also available for the card mailing module.

PERSOMASTER

ELIMINATE THERMAL TRANSFER COSTS AND AVOID ABRASION-PRONE EMBOSSING FOR BANKING CARD PERSONALIZATION

PERSOMASTER is the next generation mid-range personalization system for the cost-effective production of Flat EMV Credit and Debit Cards. The modular and highly flexible system incorporates the advantages of monochrome black/white and four-color drop-on-demand (DoD) inkjet printing technologies. DoD printing is the proven replacement for existing legacy technologies such as thermal or embossing/topping. Issuers and personalization bureaus benefit from more durable and long-lasting personalized cards at reduced costs. DoD printing has been approved by all major payment schemes including MasterCard, VISA and American Express.

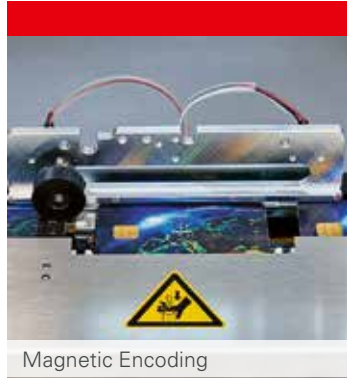
PERSOMASTER revolutionizes the economic personalization of Flat EMV cards – covering small batches during daily operations as well as re-issuance peaks with runs of millions of cards.

Thanks to its rainbow deck capability, PERSOMASTER can also process many small, very different orders in one production batch – seamlessly and without any interruptions.

Moreover, an optional mailing module operates in parallel, printing personalized business letters, applying up to four cards, folding the mail piece, adding enclosures, and inserting the package into envelopes ready for sending.

PERSOMASTER therefore makes it possible to use the advantages of the brilliant, highly abrasion-resistant DoD personalization and color printing technology for an even wider range of production runs.





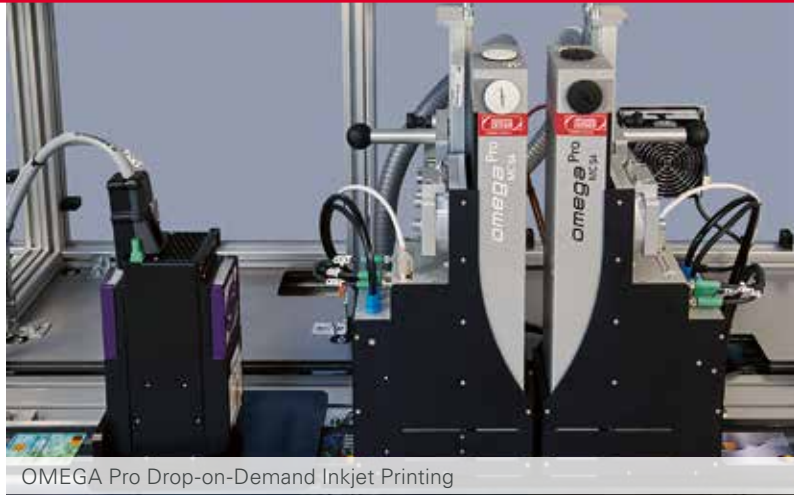
Magnetic Encoding



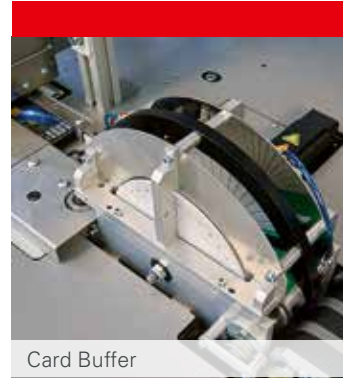
Chip Programming



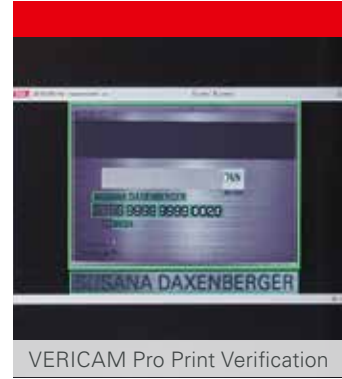
Plasma Treatment



OMEGA Pro Drop-on-Demand Inkjet Printing



Card Buffer



VERICAM Pro Print Verification



Label Application

NOW WITH INLINE MAILING

Thanks to an optional mailing module, PERSOMASTER can process complete personalization tasks in one single operation.



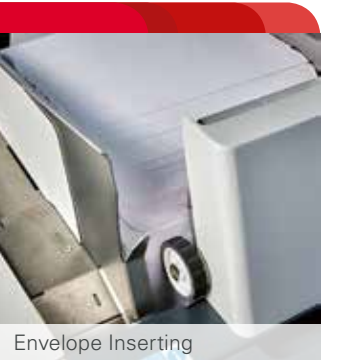
Sheet Channel



Card Attaching



Folding



Envelope Inserting

MODULARITY

Powerful and flexible platform that can be easily configured with different system modules to handle specific applications.

INPUT

- Reload of cards without stopping
- Feeding process prevents scratching of card surfaces; processing of glossy cards possible
- Extension kit for processing of metal cards available

PRODUCT ID VERIFICATION

- VERICAM Pro camera verification to check correct preparation of rainbow decks
- Card orientation verification
- Fast setup, no layout parameters required for teach-in

MAGNETIC ENCODING

- Three-track HiCo and LoCo ISO encoding
- High precision encoding with the card in a static position
- Extension kit for JIS2 encoding available as factory option

CHIP PROGRAMMING

- High-speed programming of contact, contactless or dual interface cards
- Scalable number of chip programming heads (up to 21)
- Industrial standard readers allow easy integration into existing customer infrastructure
- All heads are equipped with antennas and contact pins

OPEN DLL INTERFACE

- Customer-based interfacing with external data sources
- Easy integration with external EMV personalization platforms
- No digital signatures required for customer-developed DLLs

PLASMA TREATMENT

- Plasma unit for better adhesion and print quality on challenging substrates
- Treatment widths covers full card

OMEGA PRO DOD PRINTING

- Robust deep black or opaque white graphical DoD personalization
- Brilliant 4-color DoD printing
- Superior abrasion resistance and adhesion to a wide variety of card materials and surfaces
- High-resolution with up to 600 dpi for ultra-compact printing of T/C, 2D codes and bar codes
- Atlantic Zeiser inks for high contrast, graphical resolution and superior durability

CLEANING AND CAPPING

- Fully automated
- Highest level of production yield due to unmanned cleaning
- Minimum operator interaction
- Minimized down time

AZ PRINT ENGINE

- On the fly RIPing
- Full data driven operation without impacting machine performance
- Data driven change-over between black, white and color printing supported

UV CURING

- Air-cooled LED drying
- Maintenance-free, no liquid coolant
- 10 times longer life time than Hg lamps
- Increased productivity with instant on/off

VERICMA PRO PRINT VERIFICATION

- No setup required
- 100% OCR verification, 1D/2D code reading
- Robust print verification independent of card backgrounds

LABEL APPLICATION

- Inline application of activation labels
- Handles a wide variety of label dimensions
- No tooling required for different label sizes
- Compensates missing labels on the reel without impacting performance

FLIPPING AND BUFFER

- Allows inline processing of both card faces at full speed
- Reduced reject rates due to the buffer design allowing emptying of upstream modules during a downstream stop

OUTPUT STACK SORTING

- Allows card-only production, even with inline mailing module
- Cards can be unloaded without stopping the machine
- Automatic change of magazines

CONTROL PC AND DATA MANAGEMENT

- Full rainbow capabilities
- Intuitive User Interface
- Windows based
- Handles a wide variety of file formats

EMV BANKING PERSONALIZATION SOFTWARE

- Independent solution supporting a wide variety of different personalization machine models from various vendors
- Supports a wide variety of chip vendors
- Handles both Global Platform and Proprietary EMV cards
- Offers one-step data preparation requiring less hardware using the same server hosting both data preparation and personalization
- Alternatively EMV data preparation in batch mode
- Modular architecture

SHEET CHANNEL

- Handles A4 and US letter
- Redirection to allow high performance sheet printing with wide edge leading
- Interface to optional Cut Sheet Feeder
- Sheet buffer to ensure proper machine net performance
- In case of process errors in downstream stations the sheets are buffered until the normal workflow is recovered

CARD ATTACHING

- Reading of control bar code to ensure correct card to sheet matching
- Card affixing to the sheet by the use of double sided adhesive labels
- Attaches up to 4 cards to one sheet
- Motor-driven mechanical attachment
- Horizontal and vertical variable position of card possible
- Full rainbow capabilities
- Reject bin for rejected sheets

FOLDING

- Folder for A4 and US letter format
- Supports Z-fold, C-fold and V-fold
- Fold configuration without mechanical adjustments
- The mailing section can be ordered with
 - » folding only
 - » folding and inline envelope inserting

ENVELOPE INSERTING

- Can insert folded US letter or A4 mail-pieces and enclosures
- Packing thickness of mail-piece and enclosure can be up to 4 mm
- The software allows limitless saving of configurations
- Workflow control with graphical user interface



Visa-Allowed Printing Processes

- **Indent-printing.** Printed characters are pressed downward into the surface of the card
- **Laser-engraving.** Characters, numbers and letters are etched into plastic with a laser device
- **Thermal printing/hot stamping with a bonded laminate or topcoat covering the printed data.** Cardholder data is heat-transferred onto the plastic surface of the card, then covered with a protective and tamper-evident bonded laminate or topcoat
- **Drop on Demand (DOD).** Characters, numbers and letters are applied to the card and ultraviolet cured or bonded to the card body

Card Feature Requirements

As outlined in the requirements for Visa cards and Visa Electron Cards, certain card design features must be applied using a Visa-allowed embossing or printing process. The Visa-allowed processes for the application of these card features are specified below.

Embossed Account Number, Cardholder Name, and Expiration Date

- Standard embossing
- Flatback embossing
- Indent printing
- Thermal printing
- Laser engraving
- Drop on Demand printing

Card Verification Value 2 (CWV2)

- Indent-printing
- Thermal printing with topcoat (only for CWV2 applied to card body, not to signature panel)
- Laser-engraving
- Drop on Demand (DOD)

Four-Digit Bank Identification Number (BIN)

- Indent-printing
- Laser-engraving
- Thermal printing/hot stamping with a bonded, tamper-evident laminate or topcoat covering the printed data
- Drop on Demand (DOD)

Excerpt of VISA "Product Brand Standards", taken from www.productbrandstandards.com on 16th October 2015

All Visa cards can be issued unembossed. There are no restrictions as to which products can or can't be issued unembossed. This change was made within the past month and is reflected in the VPBS site.

Excerpt out of an e-mail received by Atlantic Zeiser Germany from Visa Inc., 22nd September 2015

MasterCard Personalization Techniques – Unembossed Specifications

The unembossed personalization technique is optional, and allows any MasterCard card program to print account information using flat characters. Cards printed using this techniques are sometimes referred to as flat cards.

The following unembossed methods may be used:

- Thermal printing (also known as ultragraphic printing) with a clear protective overlay.
- Indent printing through the laminate. Indent printing must be of sufficient depth to ensure a durable print, but must not deboss through the card front.
- Laser printing through the laminate.
- Drop on demand printing.

When using a clear protective overlay, the overlay must not be placed over the MasterCard Global Hologram or if present, the chip.

Excerpt of MasterCard "Card Design Standards", page 58, issued 22nd October 2015

Technical Specifications	PERSOMASTER
Card Formats	ID-1/CR80 format according to ISO/IEC 7810 Thickness: 0.76 mm 30 mil Length: 85.6 mm 3.37 inches Width: 54 mm 2.13 inches
Paper Formats	DIN A4, US letter
Document Formats	Word, PCL, PS and PDF
Format of Endlosures	Dimension according to envelope Thickness up to 4 mm
Envelope Size	DIN C6/5
Production Speed	Up to 4200 cards/hr (depending on card material and/or application)
Dimensions	Length: depending on configuration Width: depending on configuration Height: 1815 mm 71.5 inches
Power Supply	400 VAC $\pm 10\%$ / 50 or 60 Hz / three phases + N + PE
Power Consumption	Depending on configuration
Ambient Temperature	15 – 30 °C
Relative Humidity	40 – 60% at 25 °C – non-condensing
Compressed Air Supply	6 bar positive air, clean and dry
Air Consumption	Depending on configuration
Exhaust	Depending on configuration

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Coesia is a group of innovation-based industrial and packaging solutions companies operating globally, headquartered in Bologna, Italy.

Coesia's companies are leaders in the sectors of:

- **Advanced automated machinery and packaging materials**
- **Industrial process solutions**
- **Precision gears**

Coesia's customers are leading players in a broad range of industries, including Consumer Goods, Tobacco, Healthcare, Aerospace, Racing & Automotive and Electronics.



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