persomaster
EMV Banking Card Personalization System
First with DoD Inkjet Technology

• 4x greater durability than thermal
• 50x less cost per card
persomaster
Eliminate thermal transfer costs 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 the DoD inkjet printing technology. 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.

Drop-on-demand printing has been approved by all major payment schemes including VISA, MasterCard and American Express.

The system can easily utilize existing software infrastructures and effectively handle short runs. The state-of-the-art machine and software design allows for quick changeover. PERSOMASTER is a perfect solution for personalization bureaus of any size.

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

Input
- Automatic card reloading for reduced manning
- Feeding process prevents scratching of card surfaces, processing of glossy cards possible
- Simple card handling

Magnetic Encoding
- Three-track HiCo and LoCo ISO encoding
- High precision encoding with the card in a static position

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 pins

Your Competitive Edge
- 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
- Simple integration in personalization workflow
- Perfectly integrates with EMV personalization software
Plasma Treatment
• Plasma unit for better adhesion and print quality on challenging substrates
• Treatment widths up to 54 mm (2.13 inches)

DoD Printing
• Robust deep black or opaque white graphical personalization
• Superior abrasion resistance and adhesion to a wide variety of card materials and surfaces
• High-resolution with up to 720 x 720 dpi for ultra-compact bar code printing
• Printing width covering full ID-1/CR-80 card format
• Atlantic Zeiser inks for high contrast and graphical resolution

UV Curing
• Ultra-fast UV curing
• Increased lifetime
• Eco-friendly

Print Verification
• Straightforward setup
• 100% OCR verification, 1D/2D bar code reading
• Card orientation verification
• Improved reading performance by fading out of difficult backgrounds

Label Application
• Highly accurate placement of labels
• Compact design
• High durability

Flipping & 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 down-stream stop

Output/Stack Sorting
• Automatic change of magazines

Control PC and Data Management
• 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 allows tailoring and scaling the solution to growing needs
ID Card Laboratory

Test laboratory accredited by DAKKS Deutsche Akkreditierungsstelle GmbH in accordance with the standard DIN EN ISO/IEC 17025 (2005). The accreditation is valid for the tests listed in the certificate.

Statement

Tests on ID-1 cards (Fogra Report no. 27004-3) were successfully performed between 15th January 2013 and 12th February 2014 on behalf of the Atlantic Zesar GmbH according to the standards ISO/IEC 10373-1 (2006)/Gematrik specification, Part 3, V2.2.0 (2008) and DIN 32753-1 (1983).

The report contains the following tests:

**Adhesion or blocking**
Standard of test method and standard of requirement:

**Resistance to chemicals**
Standard of test method and standard of requirement:

**Dynamic bending stress (4000 bendings)**
Standard of test method and standard of requirement:

**Resistance to abrasion**
Standard of test method and standard of requirement:

**Resistance to plasticizer**
Standard of test method and standard of requirement:

**Varnish link adhesion (cross cut)**
Standard of test method and standard of requirement:

**Unilateral dynamic bending stress**
Standard of test method and standard of requirement:
DIN 32753-1 (1983), 8000 bendings, Fogra/Client

Note: The test results refer to the sample cards provided by the client and the applied ink coating. Changes in the applied ink coating may affect test results.

Bartosz Niewiadomski [Dipl. Ing. -(FH)]

Dr. Uwe Berthold
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.

**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 technique 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.

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Excerpt of VISA “Product Brand Standards”, taken from [www.productbrandstandards.com](http://www.productbrandstandards.com) on 16th October 2015

Excerpt of MasterCard “Card Design Standards”, page 58, issued 22nd October 2015
# Technical Specifications

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<tr>
<th>Technical Specifications</th>
<th>PERSOMASTER</th>
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<tr>
<td>Card Formats</td>
<td>ID-1/CR80 format according to ISO/IEC 7810</td>
</tr>
<tr>
<td></td>
<td>Thickness: 0.76 mm 30 mil</td>
</tr>
<tr>
<td></td>
<td>Length: 85.6 mm 3.37 inches</td>
</tr>
<tr>
<td></td>
<td>Width: 54 mm 2.13 inches</td>
</tr>
<tr>
<td>Production Speed</td>
<td>Up to 4200 cards/hr (depending on card material and/or application)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Length: depending on configuration</td>
</tr>
<tr>
<td></td>
<td>Width: depending on configuration</td>
</tr>
<tr>
<td></td>
<td>Height: 1815 mm 71.5 inches</td>
</tr>
<tr>
<td>Power Supply</td>
<td>400 VAC ± 5% / 50 Hz or 60 Hz / 3 phases + N + PE</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Depending on configuration</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>15 – 30 °C</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>40 – 60% at 25 °C – non-condensing</td>
</tr>
<tr>
<td>Compressed Air Supply</td>
<td>6 bar positive air, clean and dry</td>
</tr>
<tr>
<td>Air Consumption</td>
<td>Depending on configuration</td>
</tr>
<tr>
<td>Exhaust</td>
<td>Depending on configuration</td>
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**Atlantic Zeiser provides excellent service and support**

- Efficient preventive and corrective maintenance
- Fast emergency and extended service support
- Installation and start-up support
- Remote service support and hotline
- Customized and individual after-sales service concepts
- Tailor-made service contracts
- Professional training and workshops
- Worldwide service network with local service, parts and telephone support
- Consulting

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