The CardMaster® One card personalisation system

The introduction of a new card project can be an exciting, but stressful endeavour. With IAI's innovative and easy-to-operate card personalisation systems, you'll have one less thing to worry about. Ideal for higher-volume projects, and supporting both inkjet printing and laser engraving technologies, IAI's versatile CardMaster One system provides secure, reliable, fully automated card personalisation at high speeds.

Suits your project demands. With its modular and highly configurable design, CardMaster One allows you to choose the functionalities and throughput required for your specific card project. The system's flexibility also ensures that future upgrades can easily be accommodated for.

High-level security features. CardMaster One performs full personalisation in one go. Using state-of the-art laser and inkjet technologies, the system can apply IAI's proven, high-security features such as Laser Colour Inkjet (LCI™), ImagePerf® and ImagePerf/REV™, among others, during the personalisation process.

Proven machine concept. CardMaster One has a proven performance in the security documents market. With its robust, industrial design — it is safe and easy to operate and maintain. Built to last and fully compliant with CE and UL safety standards, the system provides high uptime and high yield. Simplified setup and operation ensure short start-up and switch-over times. The system's thoughtfully designed laser and inkjet engines help minimise consumables usage and maintenance cost. Moreover, all functions are conveniently performed in single, seamless pass — including the integral verification of all applied personal data. The finished product is a consistent, high-quality card.

Highlights

- Scalable in speed up to 1500+ cph
- Fully automated, one-pass personalisation
- Modular design, fully configurable
- Full colour inkjet printing and/or high-quality laser engraving
- Personalised, high-level security features such as ImagePerf, ImagePerf/REV, ImagePerf/TLI, ImagePerf/VLI and LCI
- Support for third-party security features
- Support for contact/contactless chip and/or magstripe personalisation
- Verification of applied data and security features
- Upgradable and easy to operate and maintain
- Proven performance in the security documents market

What functionalities do you require?

INPUT

The input unit can be equipped with two to eight input stackers and fully supports high-production batch runs — including those where multiple types of cards must be produced in a single run. For greater production security, lockable cassettes are available as an option.

CARD IDENTIFICATION

Cards can be identified by either reading a pre-printed number, barcode or QR code directly from the card. Alternatively, cards can be identified by reading the unique identification (UID) number or pre-programmed data from the card's integrated chip – or both. The system then retrieves the required data from the host computer for the next step in the personalisation process.

CHIP ENCODING

CardMaster One can be equipped with one or more encoding modules — each of which many contain up to 16 contact and/or contactless encoding heads. The CardMaster One system uses a defined and documented interface, allowing customers to use the chip encoding software of their choice. Before programming, the chip can be tested to ensure it works properly. Rejected cards and/or those with malfunctioning chips are sent to the reject bin without further processing.

CLEANING

CardMaster One's cleaning module cleans the cards edge2edge — both front and back — from dust and debris even before production begins to ensure your finished cards are flawlessly personalised.

LASER ENGRAVING

The laser engraving module applies personal information to the front and back sides of the card using laser technology wherein each laser uses a camera to align the data relative to the pre-printed background design. This unit can apply both subsurface and tactile engraving as desired — and supports most high-level security features available on the market. The engraving unit can contain multiple engraving heads, depending on the speed and functionalities desired.

INKJET PRINTING

A full-colour, industrial inkjet engine prints the holder's photograph on the laser-engraved photo in the card body resulting in a secure and durable Laser Colour Inkjet (LCI) image. A camera reads the position of a pre-printed mark to align the data. The resolution of the print can be adapted to obtain more speed. Immediately upon printing, the ink is cured by UV light and hardens instantly. To increase resistance against surface abrasion, a translucent varnish ink is applied on top of the colour image, which is also cured with high-powered UV light.

IMAGEPERF

ImagePerf is the replication of the holder's photograph that is used to easily verify the holder's original image, thus guaranteeing its authenticity.

ImagePerf uses specialised laser technology to create an exact replica of the cardholder's photograph by perforating minute holes through the card substrate. When held up to light, the perforated image is clearly visible — making it easy to compare it with the original photograph and authenticate the card as genuine.

Offered as an optional module for your CardMaster One solution, an ImagePerf/TLI (Tilted Laser Image) feature is also available. With ImagePerf/TLI, different images are perforated in a way that makes them visible when viewed from various angles. This optically variable security feature is highly effective in posing an extra threshold against fraud.

Additionally available is the highly secure ImagePerf/REV (REVERSE) feature where the ImagePerf image can be matched with a second laser-engraved image on the reverse side of card. This feature protects against manipulation of the original photograph should it ever be attacked from the reverse side of the card.

MAGSTRIPE ENCODING

The CardMaster One platform offers an optional magstripe encoding module for encoding cards that have a magnetic stripe.

VERIFICATION

Cameras cross-check all applied visual data and features, while a chip reader checks the electronic data to ensure that the personal information has been applied correctly. Cards that do not pass verification are automatically sent to a reject bin or dedicated output stacker.

OUTPUT

Finished cards are conveyed to output stackers for retrieval. The system can be equipped with two to eight stackers — all of which are accessible and can be emptied as needed during production. For greater security, lockable cassettes are available as an option.

"Our customers benefit from our 25+ years of laser and inkjet-based innovations and system design expertise."

CARDMASTER® ONE //   PERSONALISATION SYSTEM

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Empowering Security Documents