Inline Quality Inspection for Card Production

A simple answer to a complicated question

Everyone who is producing debit cards, credit cards, voucher cards, driver's licenses, ID cards or other personalized cards knows about the problems:

The print head is dirty or not adjusted right, the heat-sealer for the scratch field is defect, or not adjusted right, the wrong blank cards are inserted into the machine, there is a sequence error in the PLC or the printing subsystem, or another mechanical problem.

The results are always the same: Cards of a substandard quality or - even worse - totally wrong cards.

SkySoft, one of the few companies with more than 10 years of image processing experience, signed up to a mission to make the inline inspection process of your card production as simple as possible.

Easy to Integrate

The use of the LineScan Engine HS94 from SkySoft makes the total inspection of your card production very easy:

The HS94 is a 11"x6"x11" sized unit, which is mounted directly above the cards in motion.

To check the front and backside of the card, or to check at different production steps (such as before and after the sealer), there is the possibility to add up to 3 more external cameras.

This makes the solution less complex than comparable solutions and helps driving down the TCO.

SKYSOFT

Specifications LineScan Engine HS94

The scanner is a 11"x6"x11" sized box, made out of black anodized aluminum

Camera-Unit:

- High-Speed camera, esp. for image processing, built into protective casing
- Option to attach 3 more cameras (only HS94V model)
- Shielded HF light - specially optimized to read highly reflective surfaces
- Scanrate up to 30kHz (variable)
- 3 1/3" width (86mm) (depending on light/optics)
- 1" (25mm) clearing light/card (depending on light/optics)
- 240dpi (depending on optics)
- Speed up to 9ft/sec (self adjusting)

Image Processing CPU included:

- Pentium 4 with Hyperthreading
- 1 GByte RAM, 40 GByte 2,5" hard drive, 9,4GByte DL-DVD R/W drive
- Specially optimized airflow for reliable cooling
- Joystick instead of mouse
- Windows XP Professional
- TFT screen 7", 800x480 pixel, built in portrait mode
- optional external monitor possible (standard VGA connector)
- 10/100MHz LAN (HS94), 1GBit ethernet (HS94V)
- I/O Interface 8Bit In/Output, 2 RS-232 interfaces

General:

- Easy to integrate - no external light switch necessary.
- Mounting with "Bosch-Rexroth" strut profile with a 8mm groove for easy integration
- Weight: about 14lb (6 kg)

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Image processing:

- modern High-Speed OCR (2 options available)
- Texture analysis module to detect defect scratch-fields
- Software to check/compare images, finger prints or signatures
- up to 36,000 cards/h
- all standard 1D barcode (2D optional)
- QVCSVision Image-Processing-System
- Storing of all images of all cards possible without affecting system performance
- Modern multithreaded Client/Server application

Functionality:

- Protocol only
- Check produced cards card-by-card to production batch
- Checking and recording of all blank cards seen/drawn/removed
- Check if the right blank cards are loaded for a specific job
- I/O for external unit to remove defect cards

User-Inferface:

- Implemented using Direct-X, no keyboard necessary
- User interface uses TCP/IP, remote control possible, Java sample program available
- User interface can be implemented into central machine controller
- User can be excluded from any Windows access (Direct-X, no keyboard)