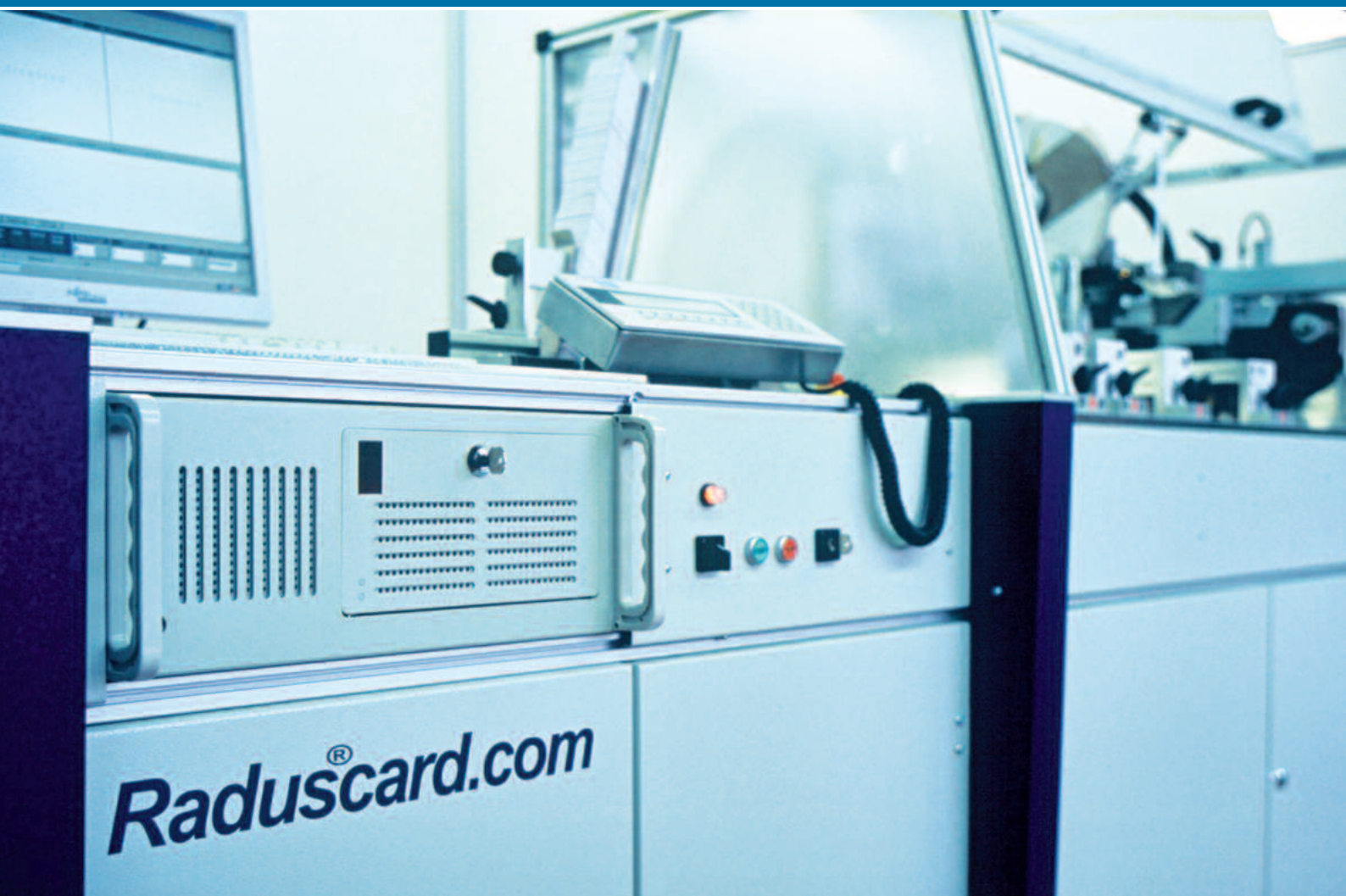# RADUS CODIERSYSTEME

modular | flexible | future-oriented

RADUS®CARD SYSTEMS

Raduscard.com

RFID | SMART TICKETS | SMART CARDS

RADUS®CARD - RFID

Encoding and Print Personalization for Smart Ticktes and Cards

Highest Functionality – Lowest Life-Cycle Costs

High performance chip encoding and print personalization system for single smart tickets and cards

- Support for parallel RFID chip (Transponder) encoding
- Print personalization, database and chip related variable data printing
- Flexible printing systems with high-resolution 360 dpi
- Verifying of imprints and layout by camera system
- Processing up to 15.000 products per hour

Due to their low cost in comparison with plastic cards, these so-called "smart" cards and tickets, usually made of thin plastic or paper and with RFID technology, have already established themselves in the public transport sector. ID cards, parking tickets, ski passes or tickets for public transport - with the RadusCard you master every challenge in encoding and print personalization of smart cards and tickets in large quantities.

By the machine concept, using parallel programming of several RFID products, up to 15,000 products/hour can be achieved, depending on the product length and programming requests. Specially developed R-CONTROL using TCP/IP allows the easy use of the customized programming modules and applications. In this way, current HF modules that meet the ISO 14443A/B and ISO 15693 standards, as well as UHF modules that meet ISO 18000 / EPC Gen2 standards, can be used without any problems. The scalable expansion of the system supports single and parallel operation with up to 4 independent programming modules.

The programmed product is usually personalized by inkjet printing. Options include both simple single nozzle inkjets for matrix printing and high-resolution UV-DOD devices with 360 dpi. Furthermore, a thermal transfer print engine or a solid-state laser can be used depending on the product.

To monitor the consistency between printing and RFID programming data, a CCD camera is an integrated component of the system. Products with faulty print or chip are rejected automatically by the system. Product feeder and output tray provide refilling and emptying during operation, hereby unnecessary downtimes are omitted.

With its sophisticated concept and the major diversity of features the RadusCard is perfect for the RFID encoding and personalization of smart cards and tickets made of paper and plastic.

Feeding Module
Friction-drive separator for cardboard and plastic cards. Magazine can be refilled during machine run. Feeder is easily adjustable to card thickness from 0,25 – 1,0 mm.

Transport System
Chain drive with ISO-size partitioning. Precise positioning by servo-drive. Enclosed guide rails prevent missing cards during transport.

RFID Programming
Parallel programming of up to 4 chips simultaneously. Support for 4 x RFID standard (LF, HF, UHF) programming modules e.g. ISO 14443A/B, ISO 15693, ISO 18000 / EPC Gen2 etc.

SPECIFICATIONS

Fully automatic chip encoding and print personalization system for contactless ISO-sized cards with thicknesses up to 1,0 mm.

Functions
_Parallel processing for high performance
_Chip testing, encoding (initialization, formatting, personalization)
_Variable print personalization, database and chip related
_Ink Jet and thermo transfer imprints
_Faulty card marking
_Verifying of imprints by camera system
_Rejection of defect cards

Main System RadusCard

Controlling	Microprocessor
Operation	Fully automatic
Controll desk	Display and Keyboard
PC control system	Windows™
Card format	ID-1 / ISO CR80: 85,6 mm x 54 mm (3 3/8" x 2 1/8")
Thickness	0,25 – 1,0 mm (10 – 40mil)
Material	Cardboard, plastics such as PVC, ABS, PP etc.
Magazine sizes	500 cards (0,8 mm)

RFID System	Support for 1 to 4 RFID standard programming modules e.g. ISO 14443A/B, ISO 15693, ISO 18000 / EPC Gen2, etc.

Print System I	Continuous single nozzle inkjet, MEK-inks, fast drying
Print System II	UV-DOD inkjet 360dpi with LED curing
Print System III	High-Speed industrial thermo transfer 300dpi
Camera System	CCD-camera with adjustable aperture and focus individually programmable fields
OCR/OCV	machine fonts / teachable
Barcode	Usual barcodes, datamatrix
Illumination	LED lighting

Connections

Compressed air	4 – 8 bar, oil free and dry
Voltage	single phase 220/240V, 50/60Hz, consumption max. 0,5 kW
Measures	2970 x 790 x 1510 mm (length x depth x height)
Weight	Max. 500 kg, depending on configuration

Performace	4 x RFID programming modules up to 15.000 products/h (test and print) up to 12.000 products/h (encode: 200msec and print) up to 11.000 products/h (encode: 400msec and print)

Print Personalization
360 dpi high-resolution DOD inkjet, 300 dpi thermo transfer print engine or continuous single-nozzle inkjet with 24 dot matrix avaliable. Database and chip-ID related print personalization, alphanumeric and barcodes, single and multi-line.

Camera Inspection System
By the CCD-camera alphanumerical and barcode imprints are verified for integrity and legibility. Up to three fields can be scanned simultaneously. The integrated system software compares the scanned array, incorrect cards are rejected.

Card Delivery / Reject Box
Cards are stacked up in sequence, the magazine can be cleared during machine run.
Cards with defective chips or incorrect imprints are rejected.

ARNOLD HERZIG GMBH

Experience and Innovation

For over 50 years, our company has manufactured series and customized machines for print processing and has been a long established supplier to governmental and private security printing companies. Innovative and future-oriented concepts, in-house development and the production of highly-efficient and reliable machines explain the high degree of brand awareness for RADUS around the world.

The Arnold Herzig GmbH manufactures machines for the following applications:
Hologram hot stamping, crash numbering and coding, labeling, RFID chip encoding and variable data print personalization by high-resolution UV-DOD inkjet, laser and thermo transfer.

Product lines

RadusCard: Chip encoding and print personalization for RFID smart cards (single cards ISO / ID-1)
RadusTag: Chip encoding and print personalization for RFID smart labels and tickets, roll-to-roll
CFS series: Continuous forms pack-to-pack and roll-to-roll
SV series: Sheet-fed systems from ticket size to 50x70cm
SU series: Imprinting and numbering heads for use on RADUS systems and as OEM device
HP series: Hologram applicator - hot stamping heads for use on RADUS systems and as OEM device
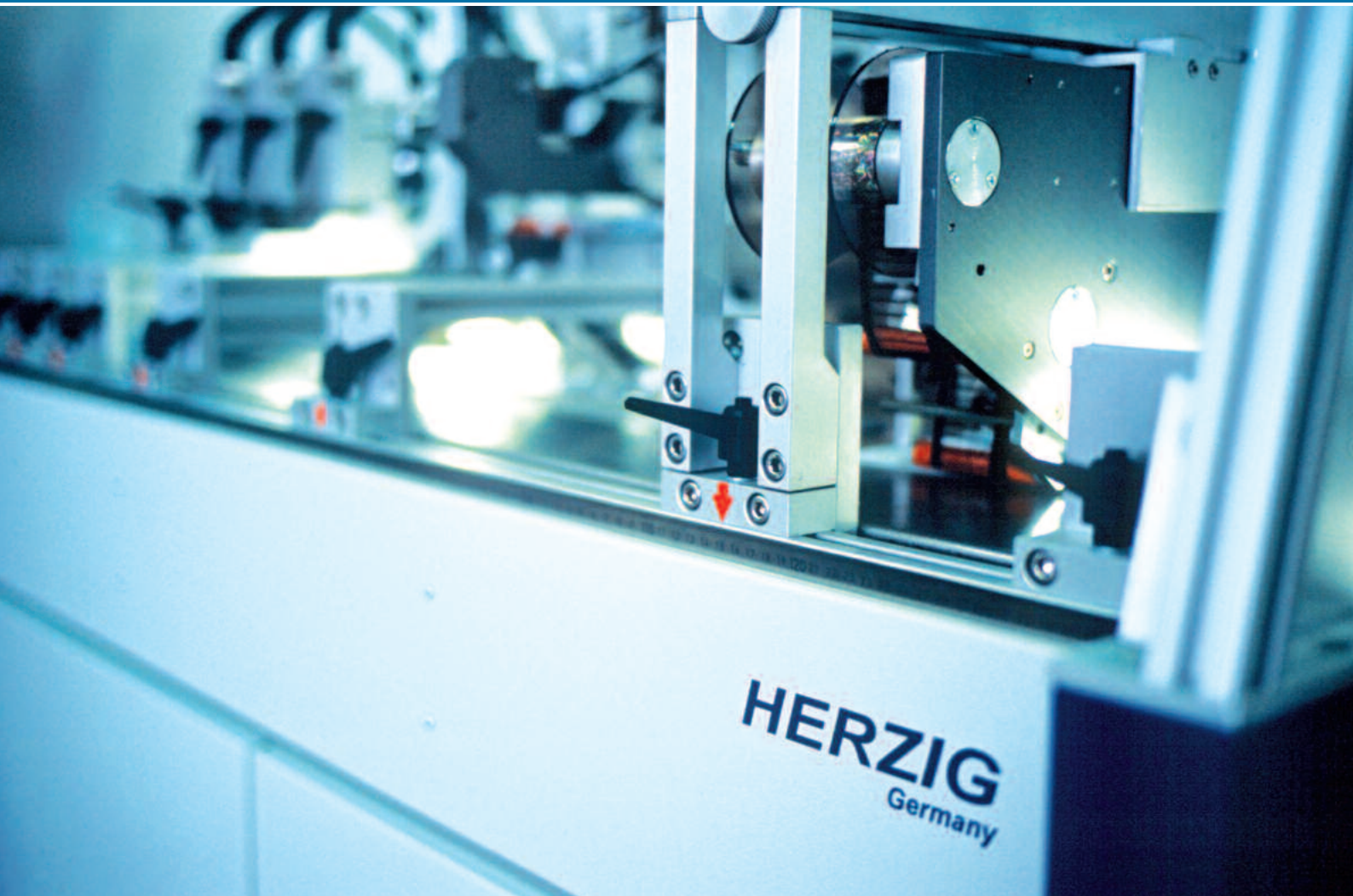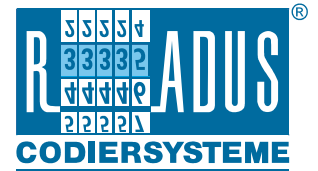
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