ACR89U-A2
Handheld Smart Card Reader (Contactless Version)

Advanced Card Systems Ltd.
Card & Reader Technologies

Outline

1. Product Overview
2. Product Features
3. Product Value
4. Product Application

Product Overview

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ACR89U-A2 (Contactless Version)

The ACR89U-A2 Handheld Smart Card Reader with NFC tag support is primarily designed for applications that require access to both contact and contactless smart cards following ISO 7816 and ISO 14443 standards.

ACR89U-A2 is an upgrade version of ACR88-CL which offers better performance, longer battery life, and with optional thermal printer support.

ACR89 Series

ACR89U-A1
(Standard Version)
ISO 7816 Class A, B, C
Memory Cards *(ICC Slot 0)*

PTR89
(Thermal Printer for ACR89)

ACR89U-A2
(Contactless Version)
Standard + ISO 14443, FeliCa, NFC Tags

Product Features

Product Features

USB Host Interface
USB Full Speed (12 Mbps)
Protocol: USB CCID

Contact Card Type Support
2 Full-sized Smart Cards + 3 SAM
ISO 7816 Class A , B, C
MCU with T=0 and T=1 Protocol

Contactless Card Type Support

ISO 14443 A and B Parts 1-4
ISO/IEC 18092 (NFC),
MIFARE®, FeliCa

Contactless

Smart Card Interface
PC/SC
CCID
Secure PIN Entry (SPE)

Memory
Third Party Applications:
512 KB/1 MB NOR Flash
Data Storage:
384 KB Serial Flash
64 KB EEPROM

Standalone Mode
Embedded FreeRTOS
Lithium-ion **B**attery: 3.7 V, 900 mAh

Built-in Peripherals
Graphical LCD with Backlight
21 characters × 8 lines
Keypad: 20 keys
4 tri-colored LEDs – Status Indicator

Other Features
Firmware Upgradeable
Optional Thermal Printer (PTR89)

Operating System Support
Windows®, Linux®, Mac OS®,
Solaris, Android™*

Certifications/Compliance
CE , FCC, RoHS 2,
Microsoft® WHQL

Visit www.acs.com.hk for the list of supported devices.

Enabled NFC Technology

Supports NFC Tags:
- Tag 1: based on ISO 14443-A (96 bytes), e.g. Topaz
- Tag 2: based on ISO 14443-A (48 bytes), e.g. MIFARE Ultralight®
- Tag 3: based on Japanese Industrial Standard, e.g. FeliCa
- Tag 4: based on ISO 14443-A and B, e.g. MIFARE® DESFire®

Source: http://www.nfc-forum.org/specs/

Intelligent Support for Combi and Hybrid Cards

- For Combi card, if it is inserted into the contact card slot, ICC interface will be used and PICC interface will be disabled, as well as PC/SC Polling function for PICCs.

- For Hybrid card, if it is inserted into the contact card slot, both ICC and PICC interfaces will be used to access the Hybrid card.

Combi card = ONE IC chip is shared by two interfaces
Hybrid card = TWO IC chips for two interfaces

Product Features

Optional

PTR89 (ACR89 Thermal Printer)

Product Value

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Product Value

acs

Cost Effective

All in one design with powerful add-ons at the price of one
(PIN-pad + LED + LCD + Contact Card Support + Printer + Rechargeable Battery)

High Security

- o *Multiple SAM Slots*
- o *Dual Smart Card Interface*
- o *Secure PIN Entry*
- o *Mutual Authentication*

Customer Convenience

- o *Easy to read and use*
- o *Highly durable and color -coded keypad*
- o *Firmware upgradeable*
- o *Thermal printer available*

Innovative

- o *Ergonomically designed*
- o *Long battery life (handles up to 200 transactions)*
- o *CCID and PC/SC-compliant*
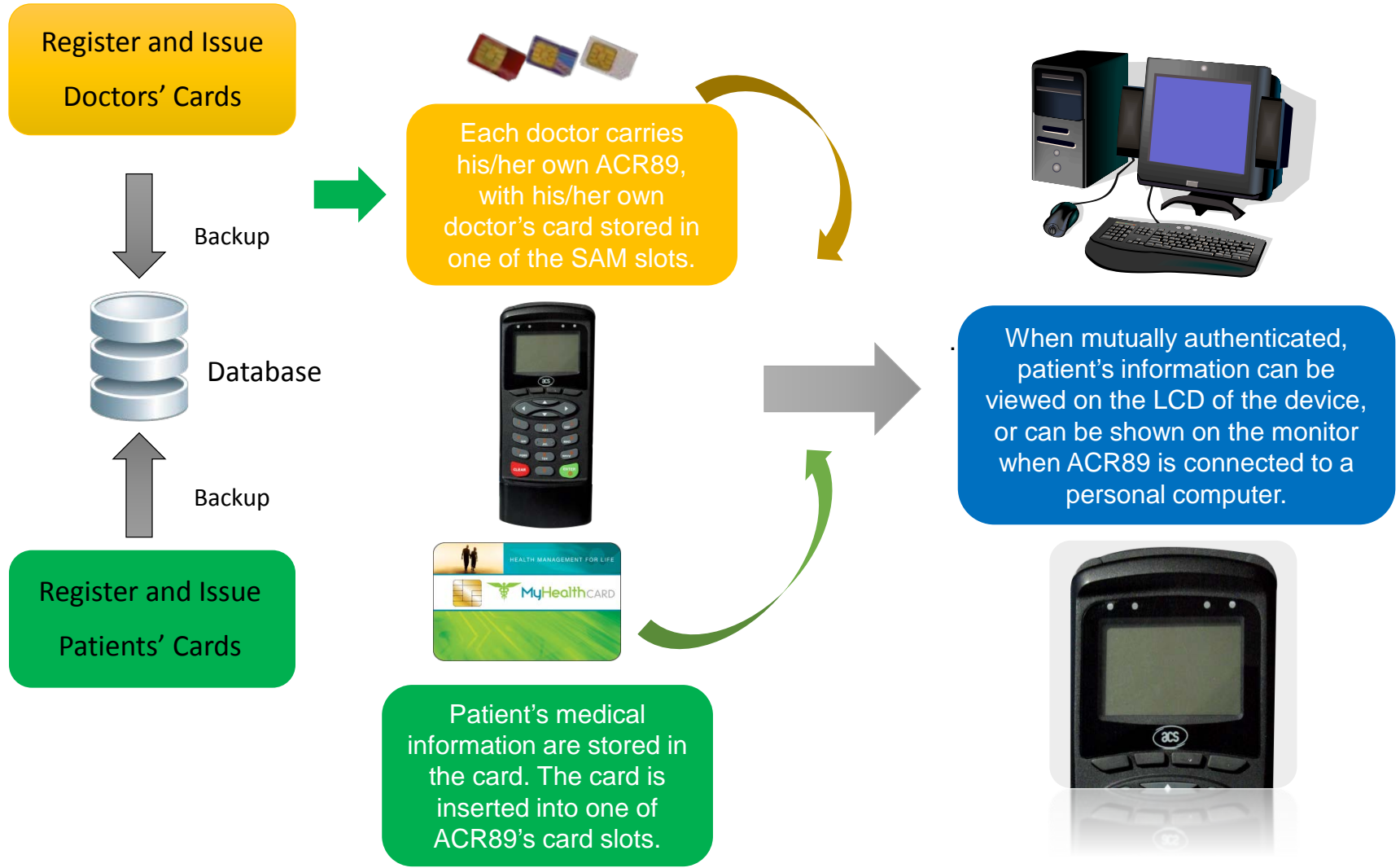- o *Faster processing time at low cost*

Product Application

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Product Application

e-Government

Banking and Payment

e-Purse and Loyalty

Transportation

e-Healthcare

Sample Application

Register and Issue Doctors' Cards

Backup

Database

Backup

Register and Issue Patients' Cards

Each doctor carries his/her own ACR89, with his/her own doctor's card stored in one of the SAM slots.

Patient's medical information are stored in the card. The card is inserted into one of ACR89's card slots.

When mutually authenticated, patient's information can be viewed on the LCD of the device, or can be shown on the monitor when ACR89 is connected to a personal computer.

Thank You!

info@acs.com.hk   **www.acs.com.hk**

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