



Advanced Card Systems Ltd.
Card & Reader Technologies

ACR1256U

User Manual

V1.00.00

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Prepared by:	Reviewed by:	Approved by:



Version History

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1.0. Introduction

The Security smart card reader ACR1256U is a USB PC-linked contactless card reader/writer. ACR1256U is compliant to ISO-14443 Parts 1- 4 supporting contactless card, Mifare cards, FeliCa cards. ACR1256U is capable to support PKI management.

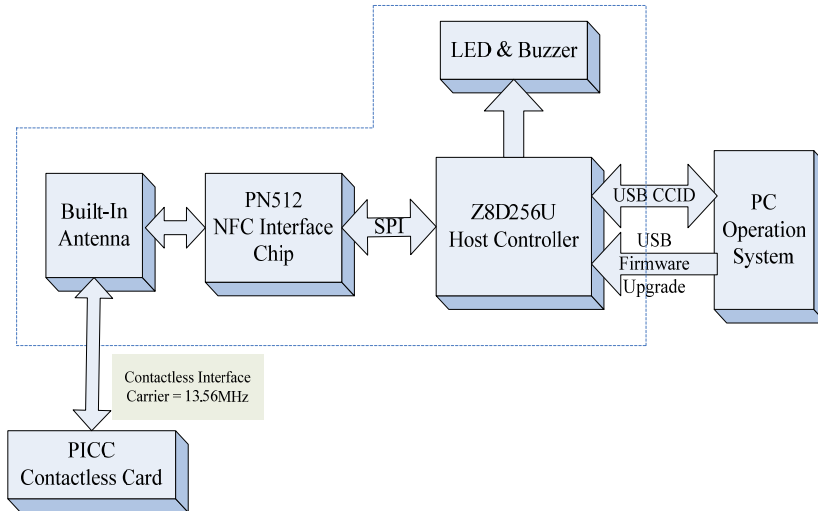


2.0. Features

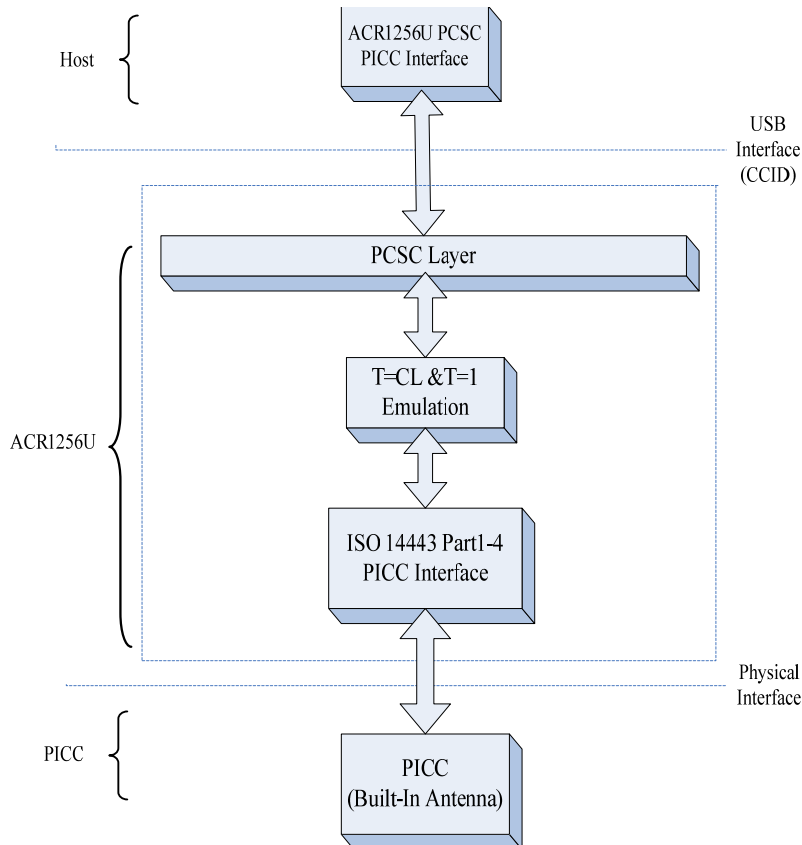
- Support contactless smart card Standard
 - ISO 14443 Parts 1- 4 Compliant
 - ISO-18092 (NFCIP-1) Compliant
- The ACR1256U supports the following Tag Types:
 - MIFARE Classic. E.g. MIFARE 1K, 4K, MINI and Ultralight.
 - ISO14443-4 Type A and B
 - FELICA
- T=CL emulation for MIFare 1K/4K PICCs. Multi-Blocks Transfer Mode is provided for efficient PICC access
- High Speed (424 kbps) Communication for PICCs. #Maximum 848 kbps
- Support 2 User-controllable LEDs
- Support User-controllable Buzzer
- USB1.1 full speed (12Mbps)
- Direct USB Firmware Upgradeable
- Microsoft CCID Compliant for PICC interface
- PCSC Compliant for Contactless Interface

3.0. Architecture

Z8D256U is for main processor for communication with PC, controlling the contactless chip, communication with peripherals. PN512 act as a contactless chip to perform the communication between contactless tags and Z8D256U.



For communication architecture, the protocol between ACR1256U and PC is using CCID protocol. All the communication with PICC is PCSC Compliant.





4.0. Connection with computer

- 4.1. plug the ACR1256U to a computer USB port, and the Green light will be flashing





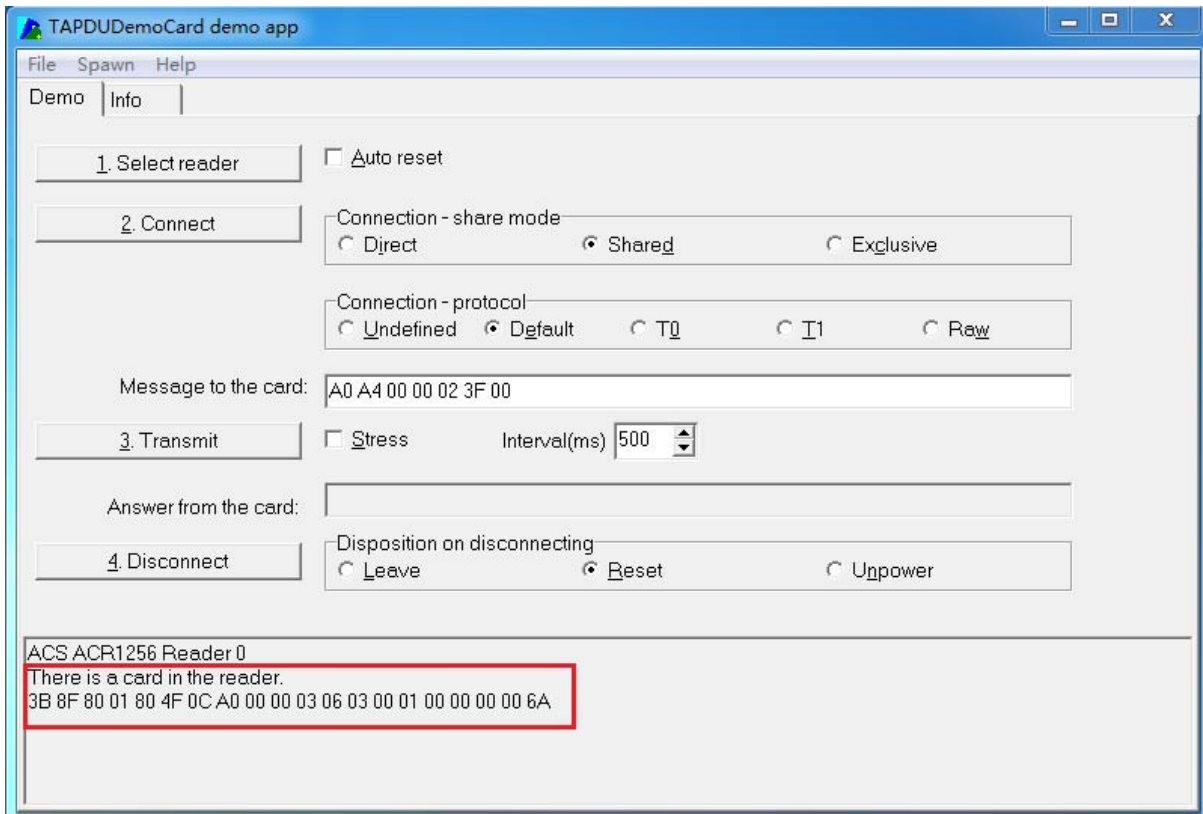
4.2. the driver will be auto install after plugging the reader.



4.3. When you put a contactless card on the reader, the green LED will be on.



4.4. The card ID can be checked by some card tool software, e.g. APDU.exe, the card ID is shown in the red box below





Appendix A. Parameter sheet

Device

ACR1256U Smart Card Reader/Writer

Power supply

Supply voltage..... Regulated 5V DC
Supply current..... <200mA (without smart card)

Universal Serial Bus Interface

Type USB, four lines: +5V, GND, D+ and D-
Connector Micro USB Connector
Speed..... Full Speed Device, 12 Mbps

Contactless Smart Card Interface

Standard..... ISO 14443 A & B Parts 1-4, Felica
Protocol ISO14443 T=CL for ISO14443-4 compliant cards and T=CL Emulation for MIFARE 1K/4K
Smart card read / write speed..... 106 kbps, 212 kbps, 424 kbps

Operating Frequency for Contactless Cards Access

Operating Frequency 13.56 MHz

Antenna

Antenna Size.....54mm x 34mm
Operating distance..... up to 50 mm (Depend on Card Type)

Built-in peripherals

Monotone buzzer
Dual-Color LED

Case

Dimensions 80.13 mm (L) x 50.06mm (W) x 9 mm (H)
Color White

Cable Connector

Length 1.0m (Micro USB Cable)

Standard/Certifications

CE, FCC
EN300330
EN55022 & EN55024

OS

Windows 2K,XP,VISTA,WIN7,linux,Android,Mac

OEM

OEM-Logo



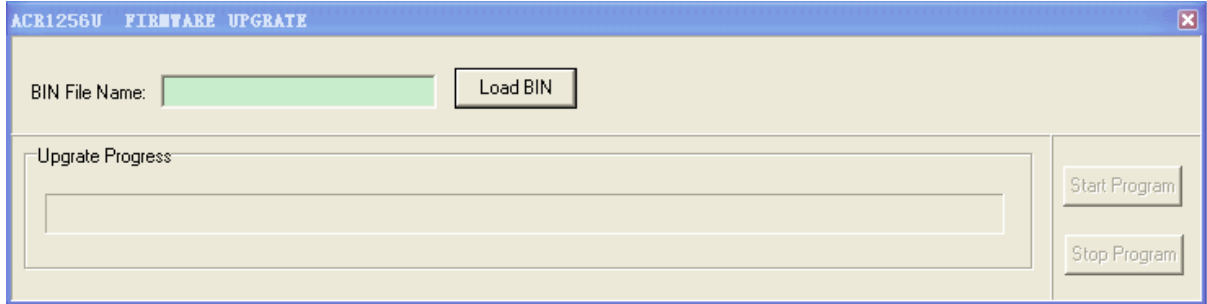
Appendix B. Firmware Upgrade Procedure

Method: Upgrade by APDU command

Step 1: Plug the Reader into PC's USB Port

Step 2: Send APDU command, let the reader enter the upgrade status.

Step 3: Run Firmware Upgrade Application for Firmware Upgrade



Step 4: Load the BIN, then Press "Start Program" For firmware upgrade.

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.