

**ACK30S/ ACK30U Keyboard  
with Built-in Smart Card Reader**



**TECHNICAL SPECIFICATIONS**

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## ACK30S/ACK30U Keyboard with Built-in Smart Card Reader

### 1.0 Introduction

The ACK30S/ACK30U Multimedia Keyboard with built-in Smart Card Reader offers you specialized keyboard setting, accessing every function in just one key-press, plus a classy multimedia player. This package also comes with a card reader that enables you to easily implement smart card based systems. The ACS smart card readers utilize the latest advancement of microchip technology, which brings you high security for your confidential files in a convenient and easy to carry microchip smart card. The software drivers and tools in this package will enable you to write files to your smart card and to read the contents.

You can also write protect the contents of your smart card so that nobody can erase or overwrite the files.

Combined with our versatile smart card reader/writer, using the ACR30 module, the keyboard is transformed into a highly powerful component for security, e-commerce, and other applications.



The ACK30 series offer two options: ACK30S (Shown on the left, with serial interface for the smart card I/O, standard serial PS/2 interface for keyboard I/O) and ACK30U (Shown on the right, with USB interface for the smart card I/O, standard serial PS/2 interface for keyboard I/O).

### 2.0 Features

#### 2.1 Keyboard Features

- PS/2 interface with 18 multimedia hot keys support (back, forward, stop, refresh, search, favorites, home, mute, volume -, volume +, previous track, stop, play, next track, media, calculator, my computer)
- 4 programmable keys
- ACPI power management key support: power, sleep and wake up
- Fixed wrist rest

#### 2.2 Smart Card Reader Features

- Read and write all microprocessor cards (MCU) with T=0 and T=1 protocols
- Read and write popular memory card types
- Certificate of conformance: ISO 7816-1/2/3, PC/SC compatible, CE, FCC
- (For ACK30S) RS-232 interface to PC with simple command structure
- (For ACK30U) USB interface to PC with simple command structure
- Optional built-in slot for the Security Access Module (SAM)

### 3.0 Supported Card Types

#### 3.1 MCU Cards

The ACK30S/ACK30U can operate MCU cards with T=0 and T=1 protocol. The table presented in Appendix A (reference manual) explains which card type selection value must be specified for the various card types supported by the reader.

#### 3.2 Memory-based smart cards (synchronous interface)

- '104' type EEPROM non-reloadable token counter cards, including:  
GPM103, ST1305, SLE4406, SLE4436 (on request), SLE5536 (on request)
- Cards following the I2C bus protocol (free memory cards) such as:  
*Atmel:* AT24C01, AT24C02, AT24C04, AT24C08, AT24C16  
*SGS-Thomson:* ST14C02C, ST14C04C  
*Gemplus:* GFM1K, GFM2K, GFM4K, GFM8K
- SLE4432/4442 intelligent 256 bytes EEPROM with write protect function:  
SLE4432, SLE4442
- SLE4418/4428 intelligent 1K bytes EEPROM with write-protect function:  
SLE4418, SLE4428

### 4.0 Technical Specification



#### Mechanical

Key number ..... 108/109/113 (US/EU/JP)  
 Multimedia hot key ..... 18 keys  
 Keyboard dim. (mm) ..... 475 (L) x 254 (W) x 50 (H)  
 Switch travel ..... 4.0 ± 0.5mm  
 Switch reliability ..... 10 million cycles  
 Keyboard interface ..... PS/2  
 Smart card interface ..... (ACK30S) RS232 or (ACK30U) USB

#### Electrical

Voltage ..... 5V DC  
 Current ..... 150mA  
 Switch mechanism ..... Membrane  
 Contact resistance ..... 500 Ω max.

#### Quality and Reliability

MTBF ..... +60,000 hours  
 Safety ..... FCC class B UL, CE

#### Smart Card Reader

Standard ..... ISO 7816 1/2/3, T=0 and T=1  
 Supply current ..... max. 50mA  
 Smart card read / write speed ..... 9600 – 96000 bps  
 Short circuit protection ..... +5V / GND on all pins  
 CLK frequency ..... (ACK30S) 3.6864 MHz, (ACK30U) 4MHz  
 Card connector ..... sliding contacts (8 contacts)

**Environment Operating Conditions**

Temperature ..... 0 - 40° C  
Storage temperature ..... -20°C - +40°C  
Humidity..... 10% - 90% RH

**Standard/Certifications**

ISO7816-1/2/3, PC/SC compatible, CE, FCC, Microsoft WHQL 98, ME, 2K, NT 4.0, XP

**OS**

Windows 98, ME, 2K, NT, XP , Vista

**OEM**

OEM-Logo possible, customer-specific colors, casing, and card connector

