



Supplement to CE3240 User's Manual

Smart Card Reader Option



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Introduction

This short manual describes the use of the Smart Card Reader (SCR) option of the DAP CE 3240.

CE3240

The CE3240 is an expandable handheld computer running Windows CE 5.0. This mobile computer may be equipped with a series of options through the use of its PCMCIA slot or one of its 2 SDIO expansion slots. Using either one of the above expansion capability, it is easy to add such functionality as a wireless WAN, wireless LAN, Bluetooth, more memory or many other PCMCIA or SDIO cards supported under Windows CE. Moreover, the CE3240 can also accept options like a 2D imager / decoder, a fingerprint sensor or a smart card reader.

Smart Card Reader

The SCR option allows for reading contact smart cards as well as contactless smart cards. The reader electronics as well as the reader slot are integrated in a small add on “back pack” that is attached to the back of the CE3240.



Figure 1 - SCR top/front view



Figure 2 - SCR back view

The main characteristics of the SCR follow:

Programming Interface

- Complies PC/SC

Contact Smart Card Interface

- Complies ISO 7816-3/4 T=0, T=1
- Contact type landing, 1,000,000 cycles
- Support 2 wire: SLE4432/4442 (S=10)
- 3 wire: SLE4418/4428 (S=9)

Contactless (RFID) Smart Card Interface

- ISO1443 A/B, ISO15693
- Works with a variety of 13.56 MHz smart card including but not limited to MIFARE®, DESFire®.

Usage

The SCR is very simple to use. Of course, the specifics on how to use the SCR are highly application software dependent. Nonetheless, in order for the SCR hardware and firmware to read the information stored on a smart card, the user needs to know how to properly handle the unit and the card to read.

Reading a contact smart card

Contact smart cards are easy to recognize. They all present a series of contacts that are exposed and identifiable without difficulty. These contacts are the link between the internal of the card (its memory) and the SCR electronics that will read data from the card.



Figure 3 - A sample of contact smart cards



Figure 4 - Zoomed view of the contacts of a smart card

When comes time to read the content of the card, whatever the application software running on the computer, the user will have first to insert the card in the slot of the reader. When inserted, the reader socket will land contacts on the card to make an electrical contact. This will allow reading information from the card. The card shall be inserted so the contacts of the card are facing the user. Refer to the figure below.



Figure 5 - Inserting the contact card the right way

Reading a contactless smart card

Contactless smart cards usually do not show any specific characteristics. Since they do not expose any contacts, the contactless smart card can just be a blank card.



Figure 6 - Typical contactless smart card

The contactless smart card does not need to be inserted into the reader's slot. All you need to do is to approach the card near enough to the reader (i.e. the back pack). The best way to do this is to just hold the card between your thumb and the unit itself. This will allow reading of the card easily and without errors. See the figure below.



Figure 7 - Handling a contactless smart card properly in order to read it flawlessly

Programmer's Interface

The programmer's interface to the smart card reader is available to most DAP partners and is published online. Ask your DAP representative to get a copy of this manual if you want to build an application that will use the interface.

When you order a DAP CE3240, the interface software is pre-installed in the unit. This software is a Windows CE DLL that allows applications to easily read information from smart cards.

WARNING

Warning

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

