

**Card Access Management System
for
Intelligent Card Access System
User Manual**

- Version 5.41 -

Document Date : OCT 10, 2007

Table of Contents

1	Introduction	4
1.1	Features	4
1.1.1	Door Access	4
1.1.2	Lift Access	4
1.1.3	Car Park Access	4
1.1.4	Guard Tour Station	4
1.1.5	Time Recorder	4
1.1.6	General	4
1.2	About this document	4
2	ICAS Models	6
2.1	ICAS – Type A	6
2.2	ICAS – Type B	6
2.3	ICAS Lite	6
3	Installation & Configuration	8
3.1	Hardware and Software Requirements	8
3.2	Connect MFR1000 Reader/Writer to your PC	8
3.3	Connect an external MFR1000 Reader/Writer to ICAS Controller	8
3.4	Connect ICAS Controller to your PC	9
3.4.1	Connection using RS232	9
3.4.2	Connection using RS485	9
3.5	Configure and manage ICAS controller using master engineering cards	9
3.5.1	MASTER RESET CARD	9
3.5.2	CONTROLLER ID SETTING CARD	9
3.5.3	TIME SETTING CARD	10
3.5.4	VOID / ACTIVATE CARD	10
3.5.5	DOWNLOAD CARD – FROM BEGINNING	10
3.5.6	DOWNLOAD CARD – CONTINUE	10
4	Card Access Management System – (CAMS)	11
4.1	Introduction	11
4.2	Program in details	11
4.2.1	General functionalities of the buttons used in ICAS	11
4.3	Main Screen / Window	12
4.4	File	12
4.4.1	File → Login Screen	13
4.4.2	File → Connect	13
4.4.3	File → Port Settings	14
4.5	Settings	15
4.5.1	Settings → Site	16
4.5.2	Settings → User Login Accounts	17
4.5.3	Settings → Change Password	18
4.5.4	Settings → Floor Definitions	18
4.5.5	Settings → Extra Card Definitions	19
4.5.6	Settings → Access Level	20
4.5.7	Settings → Online Settings	21
4.6	Cards management	23
4.6.1	Cards management → Profile	23
4.6.2	Cards management → Users	29
4.6.3	Cards management → Guard Tour	30
4.7	Transactions	30
4.7.1	Transactions → Activities	31
4.8	Reports	32
4.8.1	Reports → Card Listing	32

4.8.2	Reports → Activities Tracking	32
5	To void / activate a user card	34
6	Backup and restore.....	35
7	Terminologies, Acronyms And Abbreviations Used	36
8	References.....	37

1 Introduction

ICAS is an intelligent card access system implemented using Mifare Contactless Smart Card Technology. It fully makes use of the Read/Write features of Mifare Contactless Card. The card has a capacity of 1024 bytes. The 1024 bytes are divided into 16 sectors (64 bytes per sector) and each sector is having its own 48-Bit PIN # protection. This allows the card to support multiple (16) applications.

For door access and time attendance, the write capability of the card makes it an economical, affordable and reliable OFFLINE approach.

1.1 Features

Control access to Lift, Car Park, Door and functions as a guard tour station and time recorder WITH JUST ONE CARD.

ICAS functions fully even when go OFFLINE. The access conditions and information are written on the card for verification, this makes the information accessible across multiple ICAS controller without having a common backend database.

1.1.1 Door Access

Anti-passback supported even when OFFLINE.
Different time windows for different days

1.1.2 Lift Access

Allow / Disallow access to particular/all floors.
Different time windows for different days

1.1.3 Car Park Access

Anti-passback
Different time windows for different days
The card can be used as monthly pass and can be voided/enabled anytime.
Can store prepaid value and deduct the stored value on every access of car park.

1.1.4 Guard Tour Station

Records Guards' Tour Time
The Guards' Tour Time is written back to the card for later checking and verification purposes. The written record can later be retrieved using a Desktop Mifare Reader.

1.1.5 Time Recorder

When configured as a Time Recorder, the device records the transaction time.
This is used in payroll program and attendance tracking.

1.1.6 General

Void/Blacklist cards
Card expiry
Multiple time windows
Keypad can be activated to give higher security
ICAS supports up to 14 applications such as Library, Canteen, Loyalty, Prepaid, etc.

1.2 About this document

This is the user operation manual for using CAMS, the software application for ICAS.
It describes the following information:

- installation of ICAS
- setup of the software

- card management
- access transaction monitoring

Most of the sections does not explain the system in detail as the major part of the software is already self-explanatory.

2 ICAS Models

ICAS comes with two main models: Type A, Type B and ICAS Lite.

2.1 ICAS – Type A

Controller accepts all ICAS format cards of the **same Site ID**. To deactivate an ICAS card, the card serial number must be explicitly uploaded to the controller and stored in the black-list or void-list.

As the controller only recognizes the Site ID of the card, it has no limitation on the number of cards supported. The void-list size, however, is limited to 1024 cards.

To deactivate an ICAS card, upload the card onto the blacklist of ICAS-A. ***Starts from ICAS version 2.08, when an ICAS card is flashed at an ICAS-A station which contains the card in its blacklist, the card will be voided. The card will then be denied in all other ICAS stations. To reactivate the card, just reissue the card.***

2.2 ICAS – Type B

Controller accepts only pre-registered **NON-ICAS** format cards. This includes the popular MyKad and Touch & Go cards in Malaysia. To activate a NON-ICAS format card, the card serial number must be explicitly uploaded to the controller and stored in the allow-list.

The limitation of number of cards supported in type B is 1024.

Note: When configured as Time Recorder, the controller accepts any NON-ICAS Mifare card, pre-registration of the card is not required.

2.3 ICAS Lite

ICAS Lite is a complimentary and compact system to ICAS Type B, suitable for door which has about 120 users and run standalone without online features.

ICAS Lite has the following features:

- Easy to use
ICAS Lite is easy to setup and install. No computer or software is needed in setting up the system. Keypad or LCD is not used during installation. By merely flashing two configuration cards at the device, the device is ready to run.
- High security
ICAS Lite is using Mifare Contactless Smartcard technology. Each card is having its own universal unique serial number and the card is tightly controller by two 48 bits PIN. Duplication of card is impossible.
- Low maintenance
Being Contactless means the device has no exposed and mechanical parts, basically the device needs minimum or zero maintenance.
- Economical
The cheapest among all other token type door access methods.
- Compatibility
ICAS Lite is compatible with ICAS. ICAS format cards are accepted by ICAS Lite.

ICAS Lite is suitable for:

- Cost conscious customer who has small number of users (< 50) and doors (< 5)
- ICAS users which has “private” doors and are limited to few personnel only.

ICAS Lite is not a replacement of ICAS. It is just a simpler / economical alternative for ICAS.

It has the following limitations:

- Limited memory

ICAS Lite stores only 64 transactions (without time stamp). Access records has to be flushed out immediately after the access to have accurate time stamp.

- ❑ Limited users

ICAS Lite allows only 120 UC to be registered.

- ❑ No RTC

No Real Time Clock. So, ICAS Lite does not support Time Windows.

- ❑ No LCD

- ❑ No keypad

3 Installation & Configuration

To install the ICAS software (CAMS), run the setup.exe included in the CD.
The setup program will then guide you through the rest of the procedure.

3.1 Hardware and Software Requirements

PC:

64M RAM

1 Serial Communication Port, recommended two, for MFR1000 and Smart-I, respectively.

20M Hard Disk.

Operating System:

Windows 9x, 2000, XP (Home or Professional Edition), Me.

Other device:

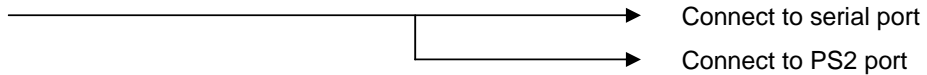
1 MFR1000 Mifare Contactless Card Reader / Writer.

For PC or notebooks that have USB ports but not serial port, a USB to Serial Port Converter is needed .

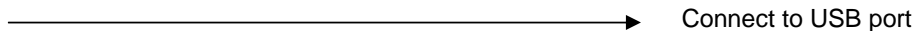
3.2 Connect MFR1000 Reader/Writer to your PC

The serial reader is drawing power from the PS2 port of PC, please make sure both the serial port and PS2 ports are connected to the PC.

Serial version

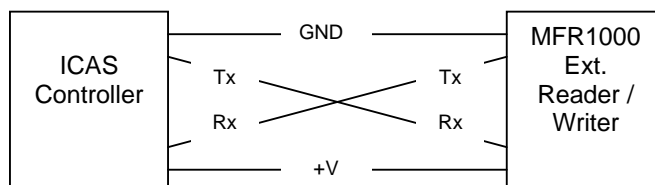


USB version



3.3 Connect an external MFR1000 Reader/Writer to ICAS Controller

Besides the built-in MFR1000 in ICAS Controller, one more external MFR1000 can be connected to the controller:

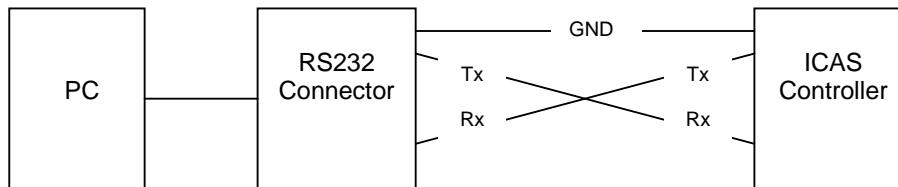


3.4 Connect ICAS Controller to your PC

The ICAS controller is a standalone unit that can operate without a PC. However, for configuration or data transferring purposes, you can connect the controller to a PC via RS232, RS485 or USB port

3.4.1 Connection using RS232

Make sure the 2 jumpers at the back of ICAS Controller are set to RS232.

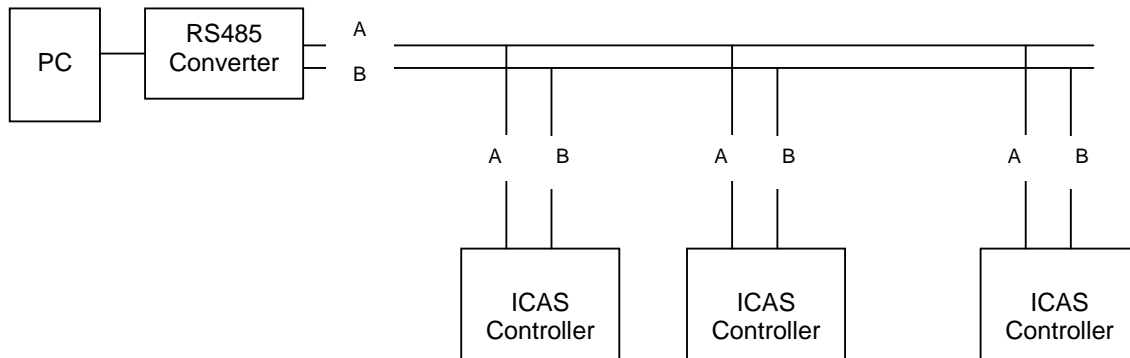


3.4.2 Connection using RS485

Make sure the 2 jumpers at the back of ICAS Controller are set to RS485.

For multi-drop connection, please make sure each linked controller is having a unique Controller ID before start transferring data or configuration.

The diagram below shows a PC connected to multiple ICAS Controller in a multi-drop manner using RS485 Converter that is connected to the COM Port or USB Port of PC:



3.5 Configure and manage ICAS controller using master engineering cards

The following master cards are given for configuration and management purposes:

3.5.1 MASTER RESET CARD

This card removes ALL settings and data in the controller. It brings the controller back to factory default settings **Use this card with care.**

3.5.2 CONTROLLER ID SETTING CARD

When multiple ICAS are installed and linked, they must have a unique ID. The CONTROLLER ID SETTING CARD provides a convenient way to set the ID.

To use the card, place the card near the controller, let the controller ID rolls, starts from 1 and auto-increments by 1, when it reaches the number you want, remove the card before it rolls to next number. Just repeat the process if you miss the number you want.

3.5.3 TIME SETTING CARD

This card adjusts the real time clock setting.

Use the card similar to CONTROLLER ID SETTING CARD. The date and time will be set in the order of Year (0 ~), Month (1 ~ 12), Day (1 ~ 31), Hour (0 ~ 23), Minute (0 ~ 59), Second (0 ~ 59), Weekday(1 ~ 7, MON ~ SUN), Week number (1 ~ 52, not used, simply set a dummy number)

3.5.4 VOID / ACTIVATE CARD

With this card, user can void or activate issued cards.

Note: Void/Activate Card is equivalent to a User Control Card (UCC) in ICAS Lite.

3.5.5 DOWNLOAD CARD – FROM BEGINNING

Use this card to download access transactions from the controller. The download starts from the beginning.

Use this card with care as it resets the transaction pointer back to the beginning. Though this will not cause any data lost, however, the downloaded transactions will be downloaded again and this may be time consuming if there is a lot of transactions in the controller. User rarely has to use this card.

3.5.6 DOWNLOAD CARD – CONTINUE

Using this card to download access transactions from the controller. The download continues from the previous download.

Note: For download card (FROM BEGINNING and CONTINUE), 4K MIFARE card is used to hold more transactions. In this case, 4K Card holds 210 access transactions. In the process of downloading the transactions, beep sounds are played for indication purpose.

4 Card Access Management System – (CAMS)

4.1 Introduction

CAMS is a software application manages and programs cards issued to the users. It defines the users' accessibilities to the doors. It has the following functionalities:

- Issues and voids the user cards.
- Defines the door (normal door, lift, car park) accessibilities.
- Defines the time windows (time range that the user is allowed to access the door), up to eight time windows per user are supported.
- Transfers access transactions from the controller using Master Download Cards.
- Retrieve the access transactions.

4.2 Program in details

4.2.1 General functionalities of the buttons used in ICAS

Unless otherwise specified, the general functionalities of the commonly used buttons are as follows:

Clear/New

Clear all input fields and prepare for input of a new record.

Save

Save the editing record.

Delete

Delete the current record.

Refresh

Refresh the screen. This will redisplay the screen from the database.

Search *

Search from the grid database, the search criteria are from the items marked with *

Show All

Resets the filtered result (by **Search ***) and shows all records.

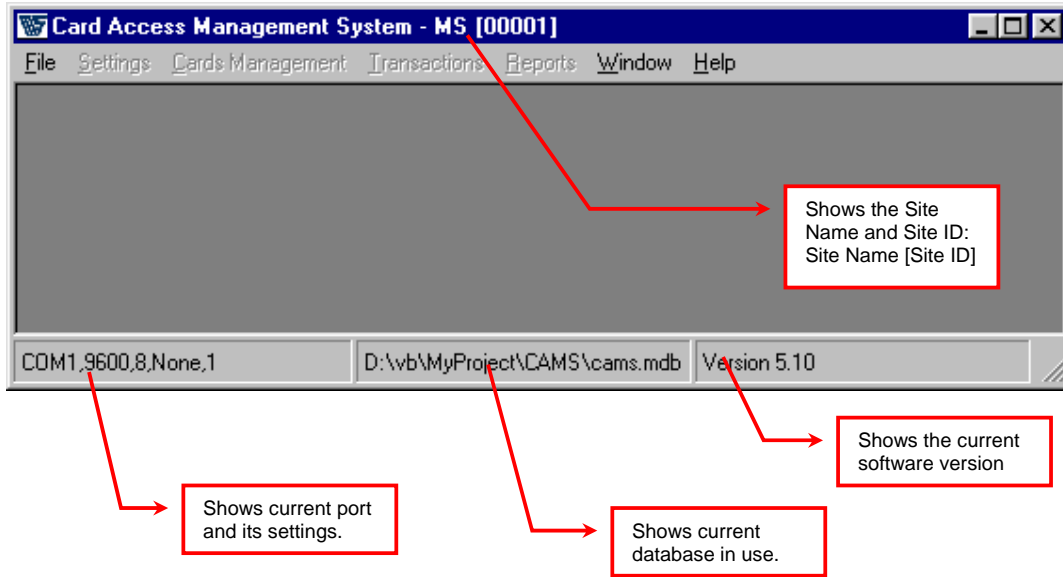
Read Card

Read and display the content of the card.

Write Card

Save the screen data and to the card.

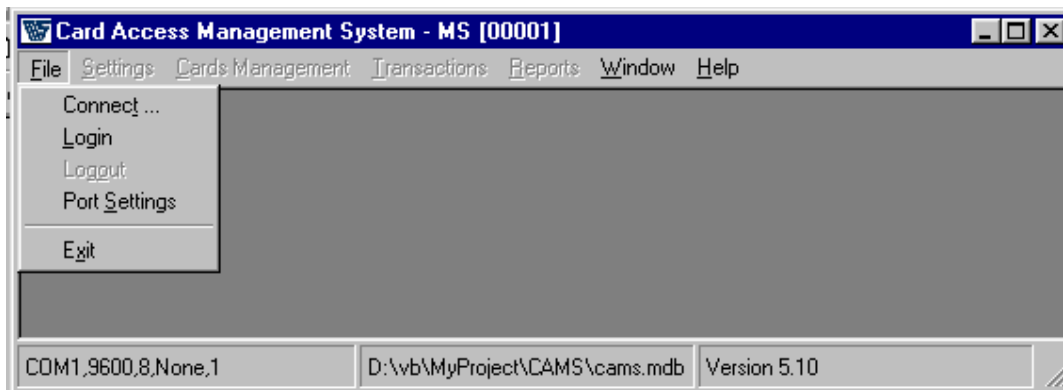
4.3 Main Screen / Window



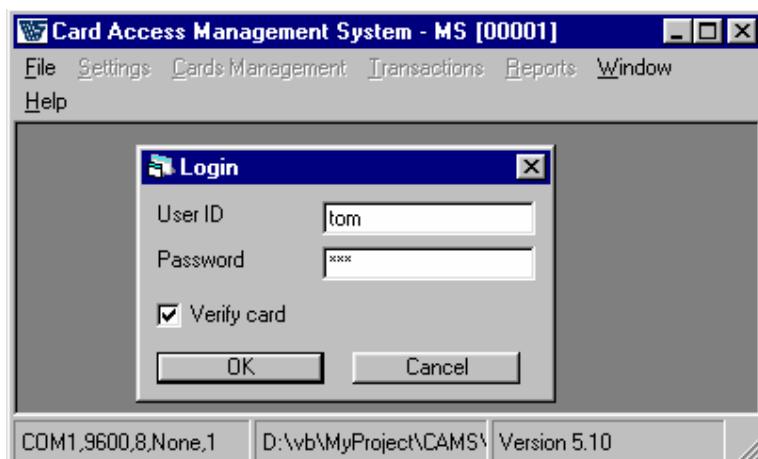
The main window caption always shows the site name and site ID in the following format:

Site Name [Site ID]

4.4 File



4.4.1 File → Login Screen



This allows the user to logon to the system.

[User ID]

Specify the user login ID.

[Password]

Specify the user login password.

[X] Verify card

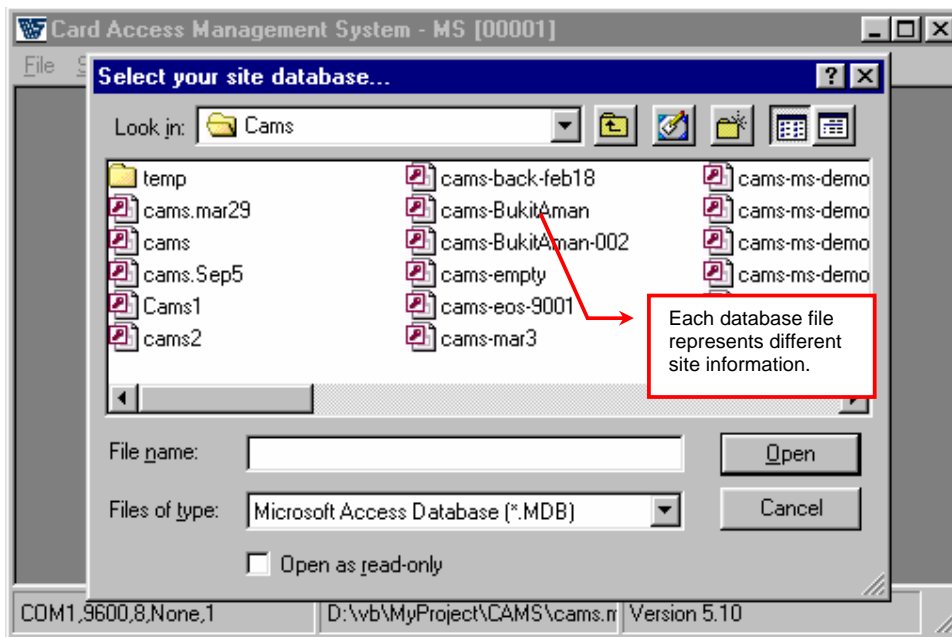
For security reason, **SITE LOGIN CARD** is needed when login. Just place the **SITE LOGIN CARD** on the reader before you click on **OK**.

Note: The user still can logon to the system without the SITE LOGIN CARD, however, he will not be able to use the Mifare Smart card reader/writer.

For first time logon after installation, use **admin** as User ID and **admin** as password to logon to the system.

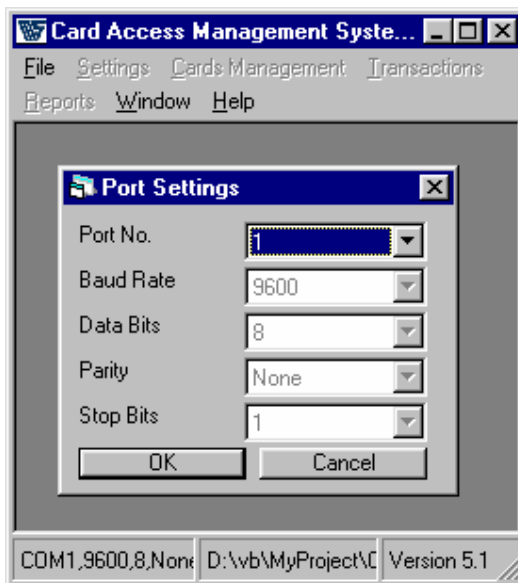
4.4.2 File → Connect ...

This allows the user to connect to another database



By default, **CAMS** opens CAMS.MDB. This **Connect...** allows the user to open another database. However, the Site ID of the database must match the Site ID of *SITE LOGIN CARD*. Once successfully connected, the system remembers the connected database and the database will be automatically connected upon the next start up.

4.4.3 File → Port Settings

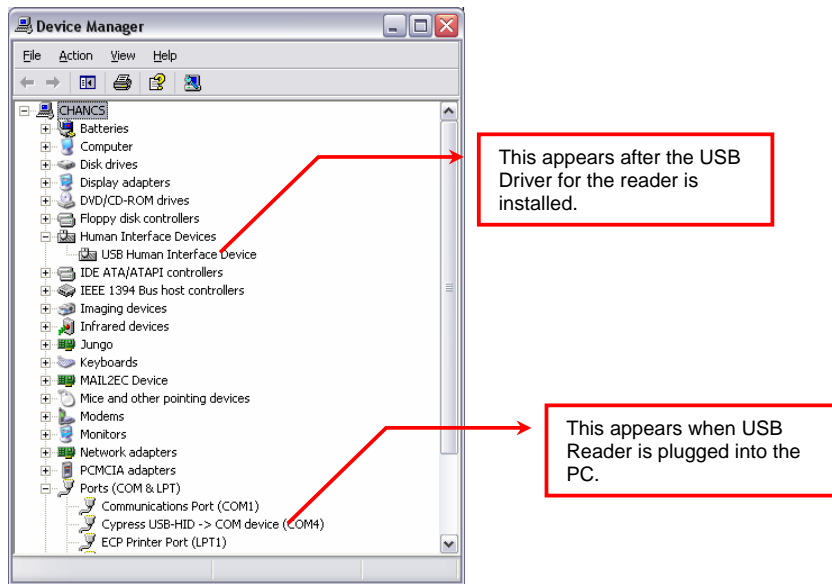


This defines the COM port used to connect to the **MFR1000 Reader/Writer (not ICAS Controller)**.

After installation, by default, the system uses COM1 to connect to MFR1000. ***If you are not using COM1 for such purpose, change this first before you logon to the system. Using an invalid COM PORT might crash the program or system.***

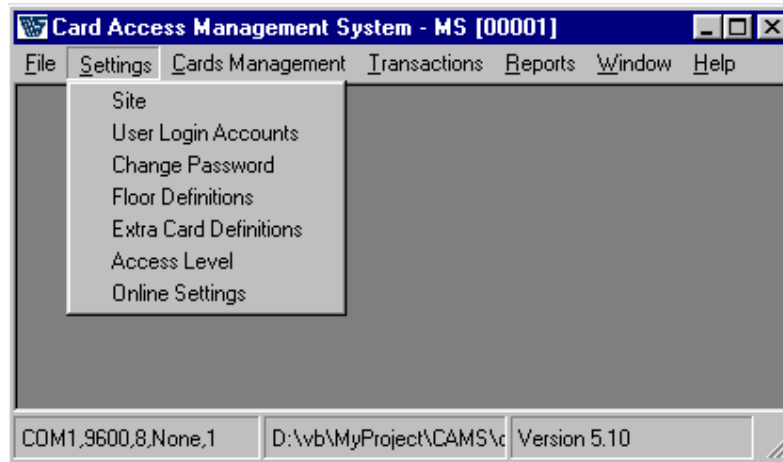
For USB users, please refer to Windows' Control Panel to get the port number assigned to the reader USB port.

E.g., with Windows XP Professional, the Device Manager of Control Panel shows the COM Port assigned to the USB Reader:



In this case, set your COM Port Number to 4.

4.5 Settings



This allows the user to define site information, program and system parameters.

4.5.1 Settings → Site

Card Access Management System - MS [00001]

File Settings Cards Management Transactions Reports Window Help

Site

ID 1

Name MS

Address

State Zip Code

Country

Phone Fax

Person In Charge

Phone

OK Cancel

COM1,9600,8,None,1 D:\vb\MyProject\CAMS\cams.n Version 5.10

Company Name and ID will always be shown at the CAMS windows title.

This allows the site user to register the site related information.

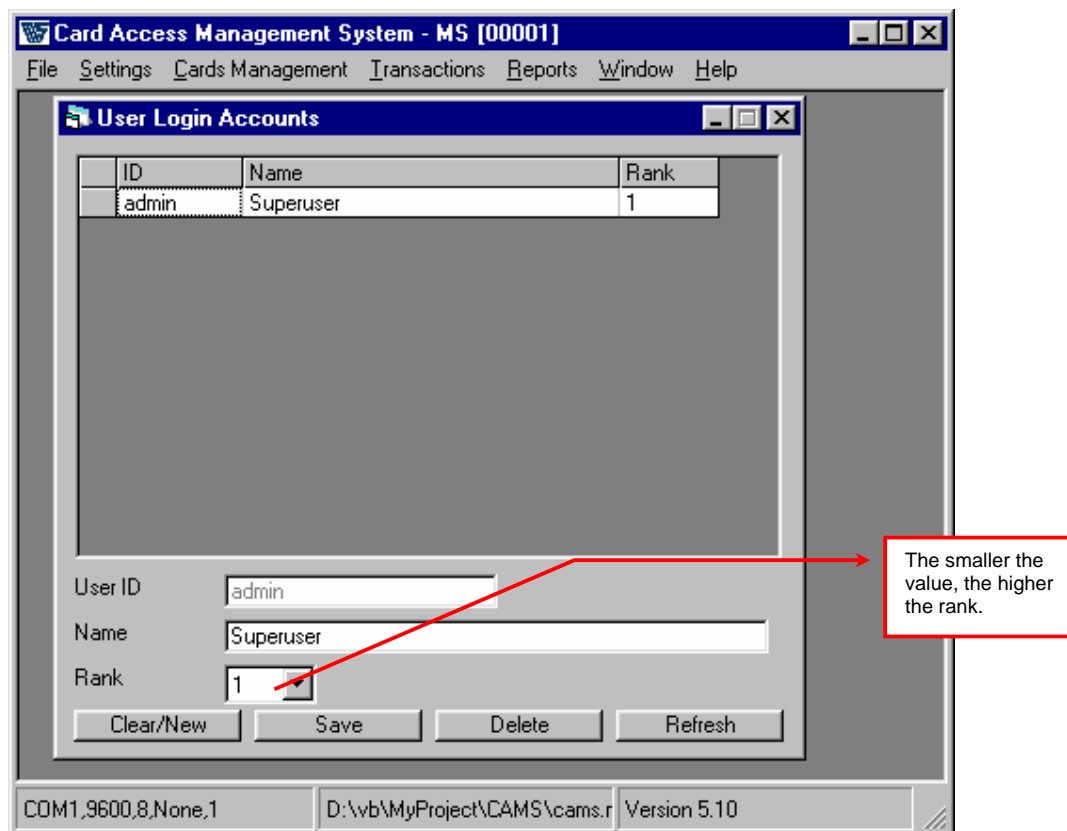
[ID]

Read-only.

This is the Site ID given by your supplier. Each site is having its own unique Site ID. This unique Site ID ensures that one site's card cannot be used in another site.

All settings in Site Windows have no effect on ICAS behaviour. The Site ID and Site Name, however, will be used in displaying the ICAS Main Windows caption and reporting:

4.5.2 Settings → User Login Accounts



This allows the maintenance of the ICAS Software user profile.

[User ID]

User's login ID.
This must be unique across the system.

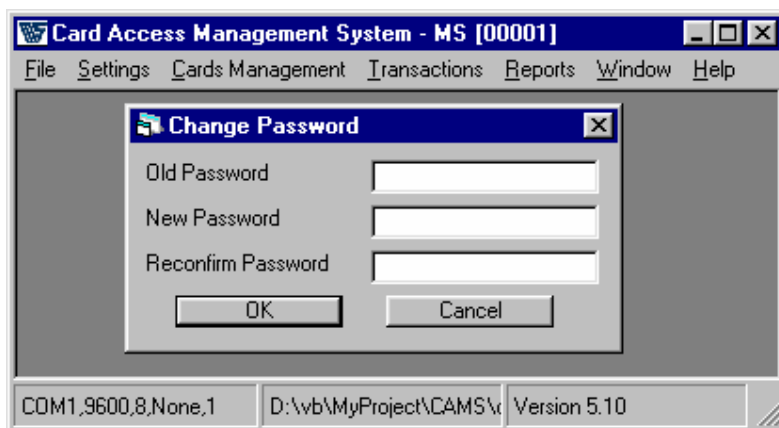
[Name]

User name.

Note:

- ❑ *The term user here refers to the user of the system. It has nothing to do with the cardholder*
- ❑ *The system assigned default password is "password" (without ""). Users are advised to change their default password upon the first logon.*

4.5.3 Settings → Change Password



This allows the user to change his password.

[Old Password]

User's current password.

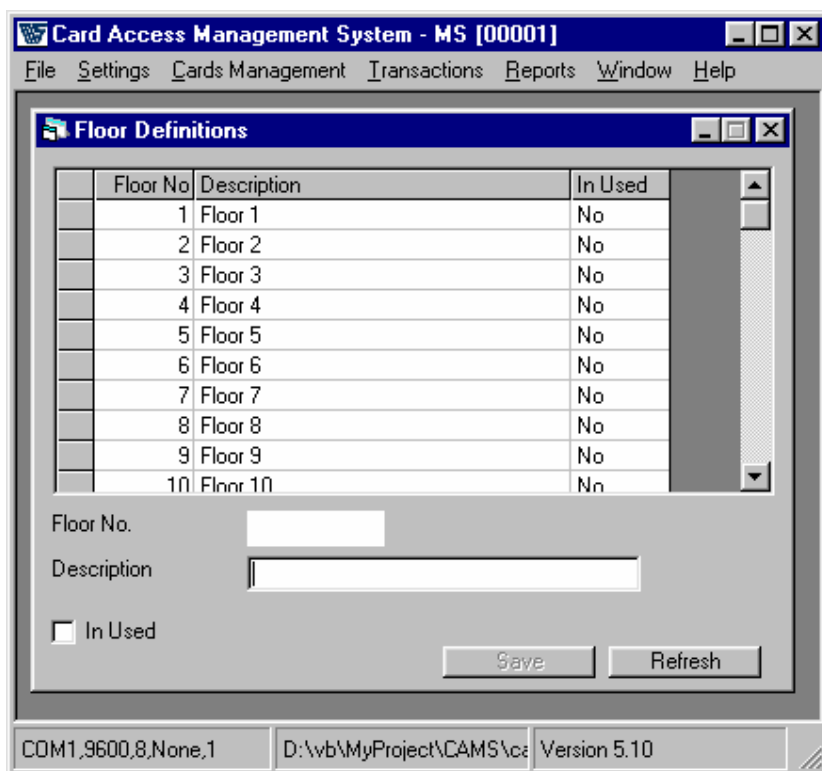
[New Password]

User's new password.

[Reconfirm Password]

Key in once more to confirm the new password.

4.5.4 Settings → Floor Definitions



This allows the user to describe each floor, applicable only in Lift Access.

Examples:

4th Floor → 3A Floor

13th Floor → 12A Floor

[Floor No.]

Read-only. Just click on the grid above, the respective floor number will be displayed here.

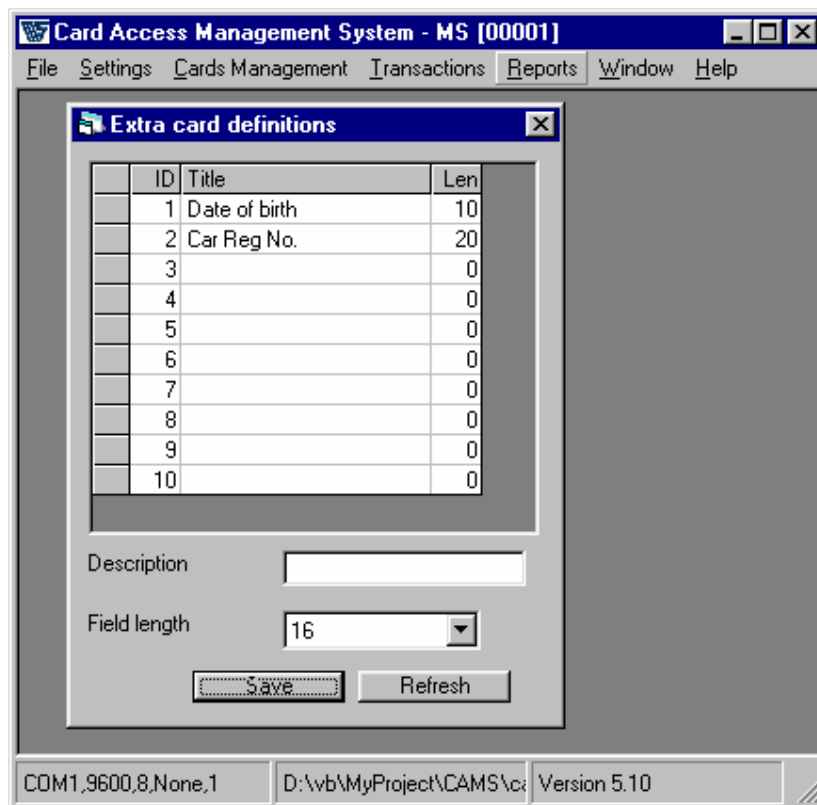
[Description]

Describe the floor here.

[X] In-Used

Uncheck this if the floor is not in used or not applicable.

4.5.5 Settings → Extra Card Definitions



CAMS allows the user to define his own data.

Examples:

- Date of birth,
- Car registration no., etc.

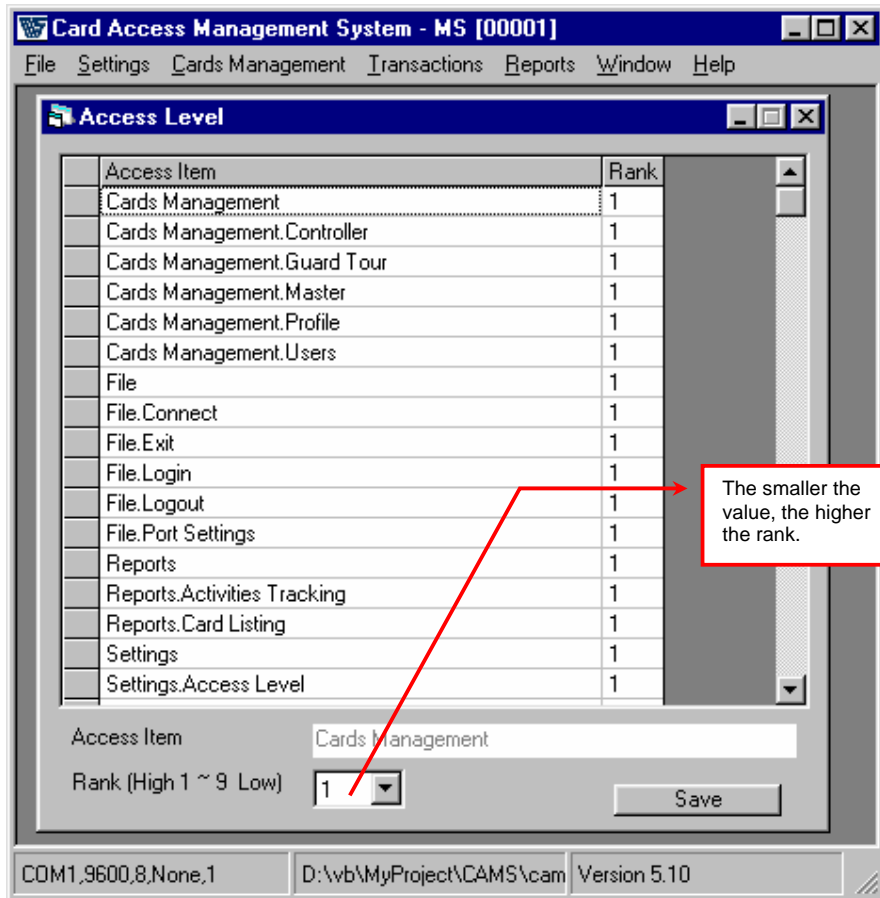
[Description]

Field description.

[Field length]

Field size in characters. If 0, the field is not used.

4.5.6 Settings → Access Level



This defines the access level for all menu items. Each menu item is assigned an access level. Only user with equal or higher rank (smaller Rank value) can access the item.

E.g.,

If menu item “Settings → User Login Accounts” is having access level of 2 and User A’s rank is 3, then he is not authorized to access this item.

Note:

For the rank value, the smaller the value, the higher the rank is, thus,

1 > 2 > 3 > 4 > 5 > 6 > 7 > 8 > 9

i.e., 1 is the highest rank and 9 is the lowest.

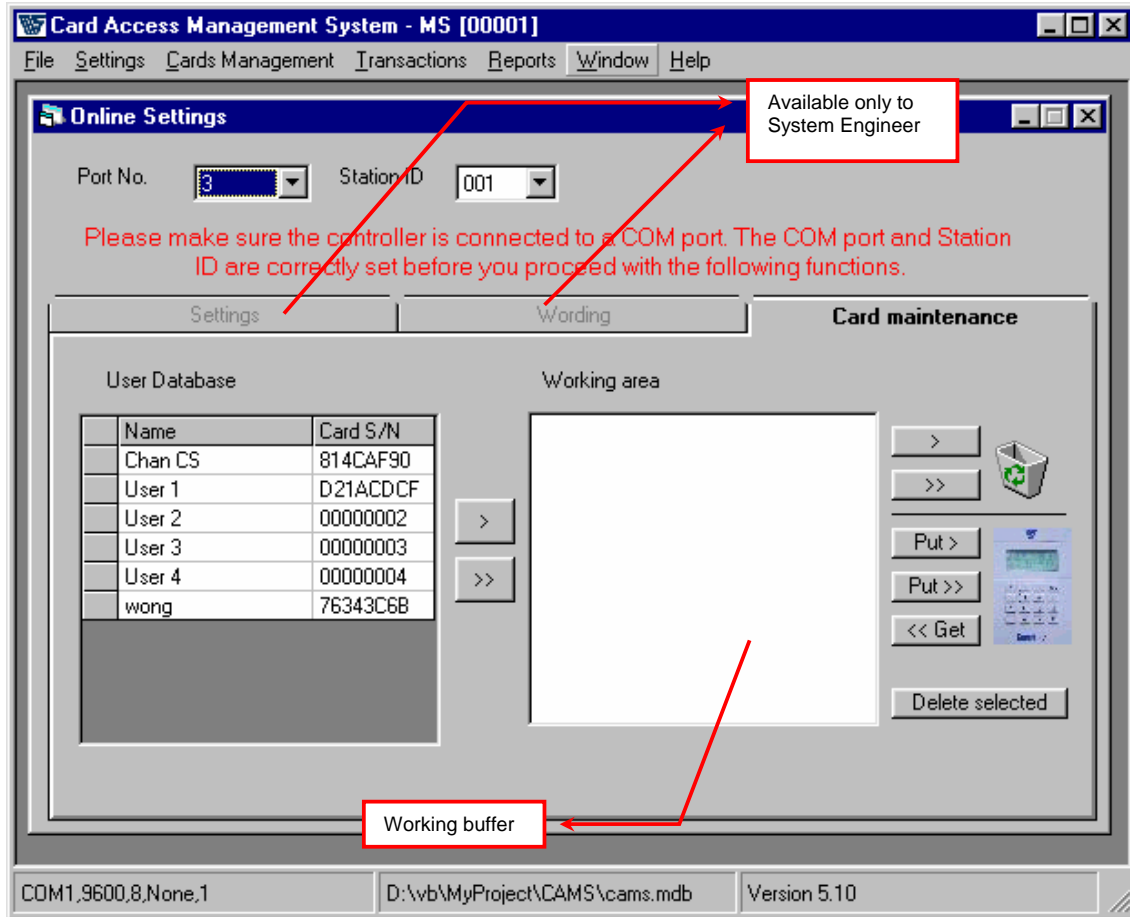
[Access Item]

Read-only menu access item. Just click on the grid above, the respective menu item will be displayed here.

[Rank]

Specify the rank for the menu item here.

4.5.7 Settings → Online Settings



[Port No.]

The COM Port linked to the **Controller (not reader)**.

[Station ID]

This is the station ID of the ICAS that the system is communicating with. Every controller is having a unique ID. ID ranges from 1 to 254.

4.5.7.1 Card Maintenance

This allows user to manage the cards online.

[Port No.]

The COM port number used for online connection.

[Station ID]

The unique ICAS controller ID.

[User Database]

Registered cardholders (card S/N) will be listed here for selection to be added to the ICAS controller.



Copy the highlighted card S/N to the list box on the left.



Copy all card S/N to the list box on the left.

V

Removes the highlighted card S/N from the working buffer.

VV

Removes all card S/N from the working buffer.

Put >

Stores the card highlighted S/N into the ICAS controller.

Put >>

Stores all card S/N into the ICAS controller.

<< Get

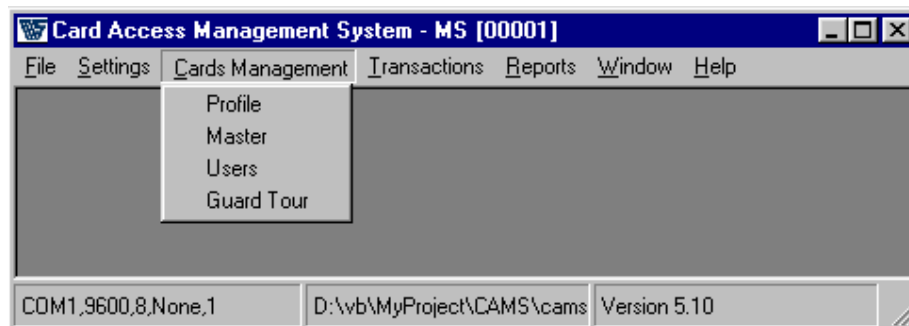
Retrieves all card S/N from the ICAS controller.

Delete selected

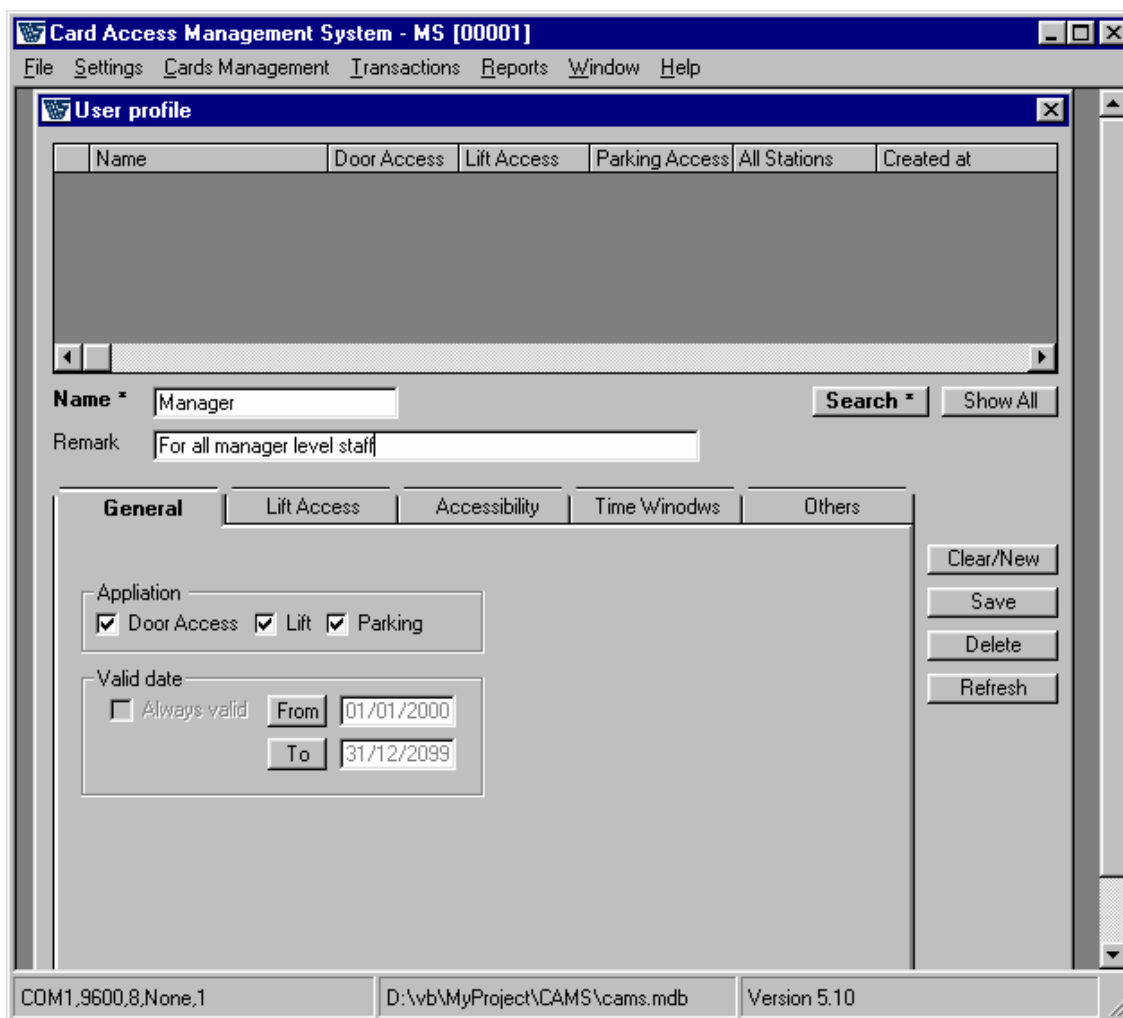
Removes the highlighted card S/N from the ICAS controller.

*Note: For ICAS-A, the cards that appear in the ICAS's card list are not be allowed to access the stations. For ICAS-B, **only** the cards that appear in the ICAS's list are allowed to access the stations.*

4.6 Cards management



4.6.1 Cards management → Profile



Defines the user profile.
User profile is useful for defining a group of users having the same or similar attributes.

[Name]
Name of the profile.

[Remark]
Remark for the profile..

4.6.1.1 General

Card Access Management System - MS [00001]

File Settings Cards Management Transactions Reports Window Help

User profile

Name	Door Access	Lift Access	Parking Access	All Stations	Created at
------	-------------	-------------	----------------	--------------	------------

Name * **Search ***

Remark

General | Lift Access | Accessibility | Time Windows | Others

Application

Door Access Lift Parking

Valid date

Always valid From To

COM1,9600,8,None,1 | D:\vb\MyProject\CAMS\cams.mdb | Version 5.10

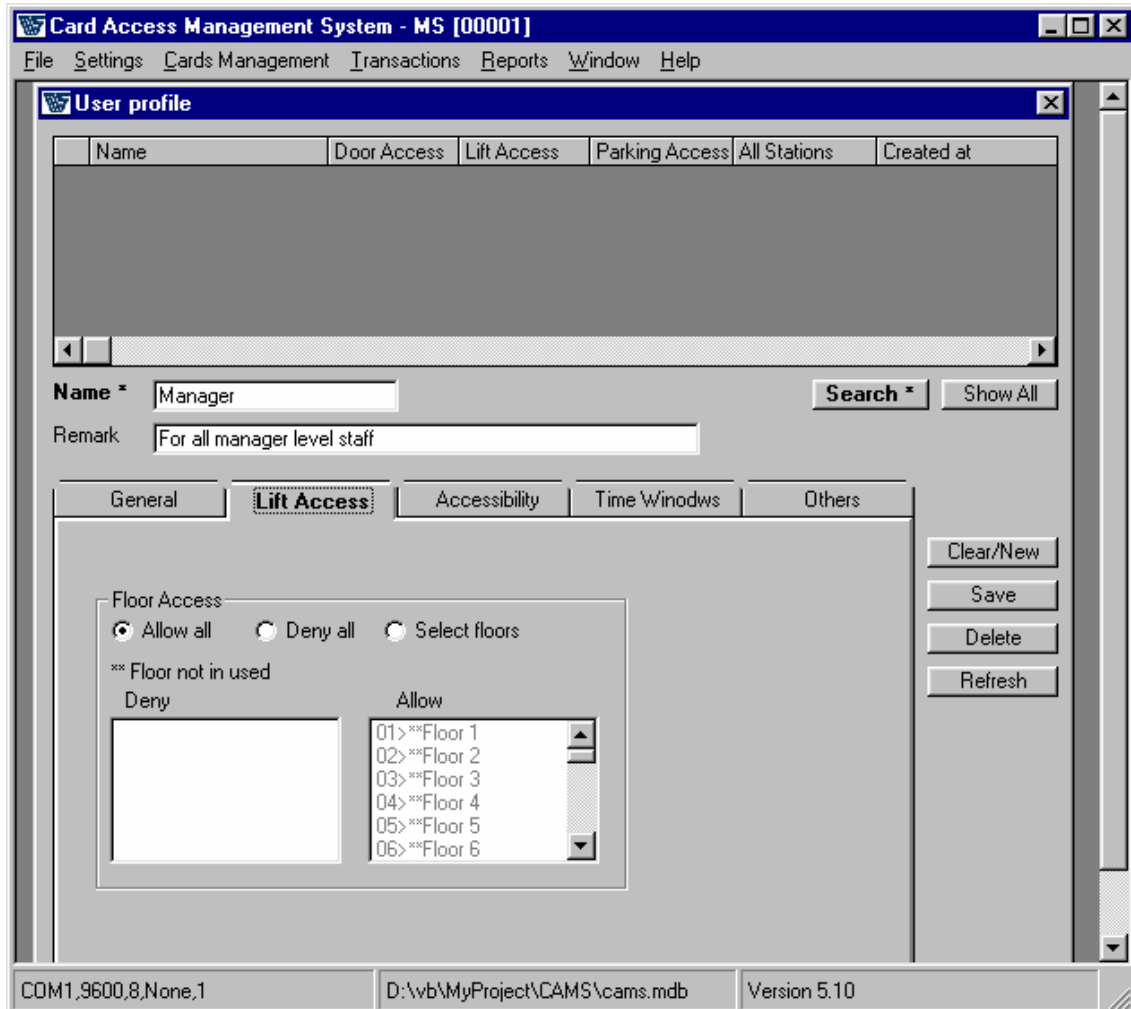
[Application]

Select application type from Door Access, Lift or Parking.
The application type here refers to the access type that the card can be used at.

[Valid date]

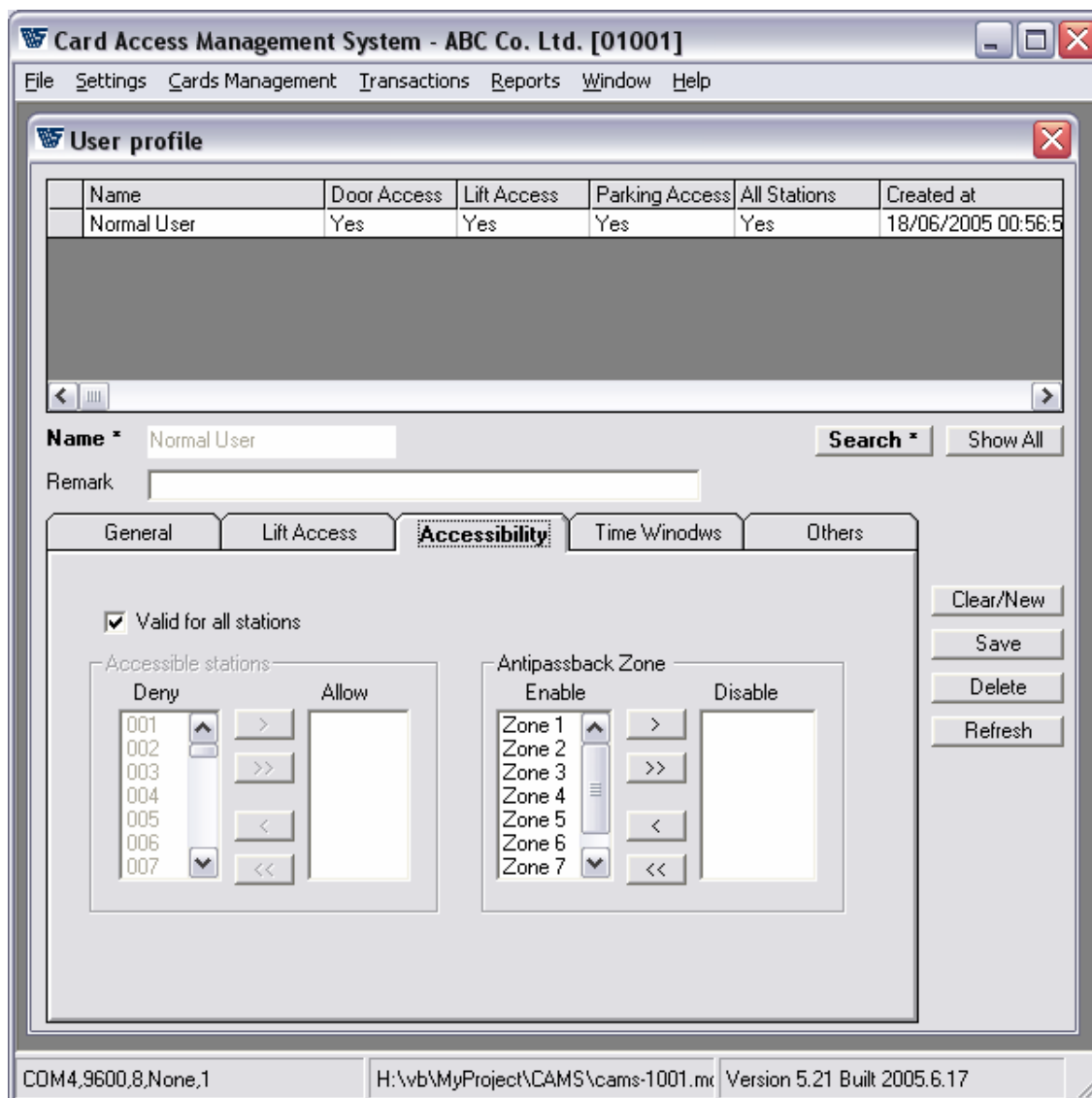
Specifies the date validity of the card.

4.6.1.2 Lift Access



Defines the floor accessibilities of the card on the lift.

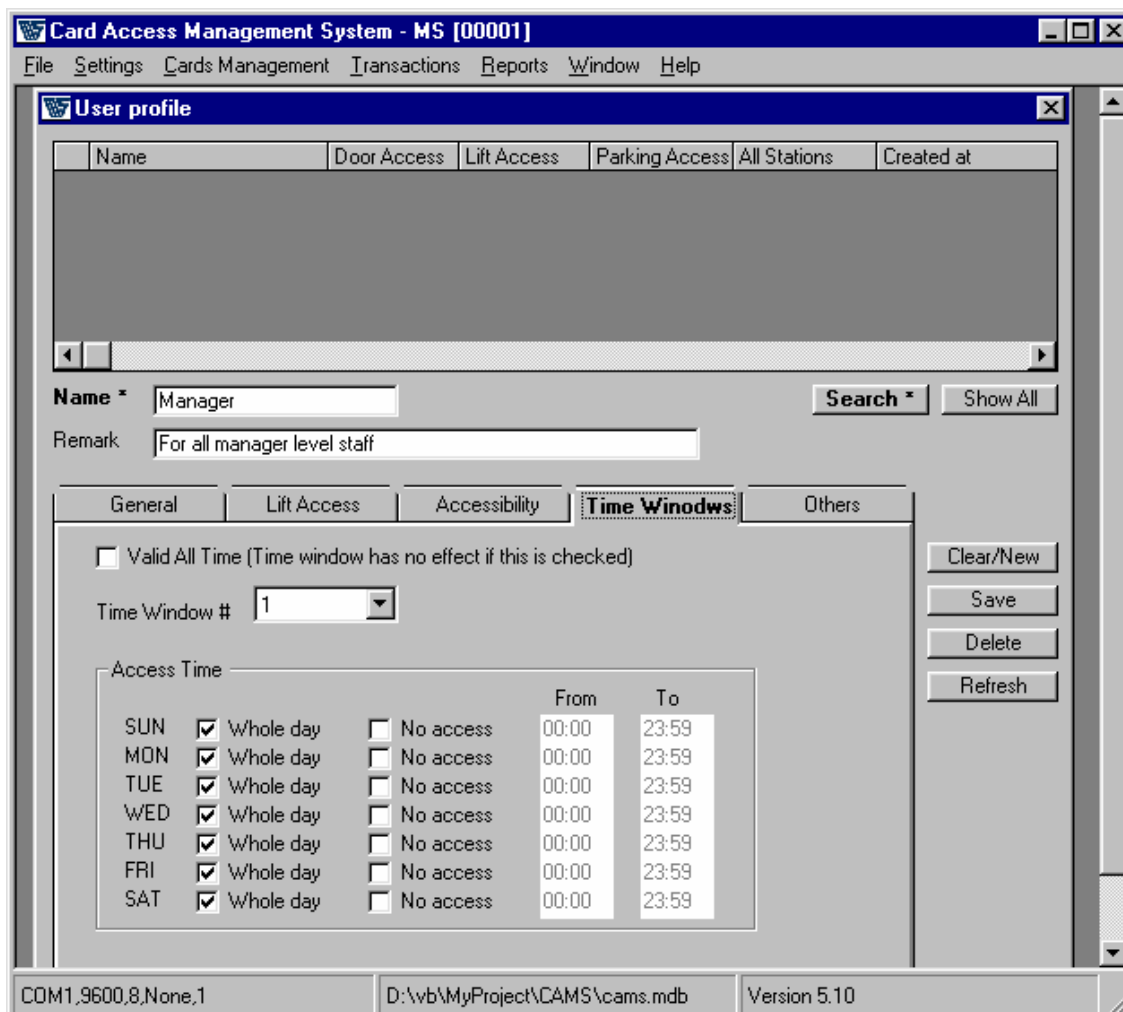
4.6.1.3 Accessibility



Defines the door accessibilities of the card on the controllers (door, car parking, lift or guard tour station).

The Anti-passback zone setting allows certain user cards to be exempted from certain zones even the ICAS Controller is configured to make use of anti-passback. By default all zone (1 ~ 8) are enabled (only effective if the anti-passback is enabled in the ICAS Controller).

4.6.1.4 Time Windows



Defines the time intervals in a week that the cardholder can use the card.

[X] Valid All Time

If checked, the card is valid 24 hours, 7 days per week, checking on the time windows is hence not needed.

[Time Window #]

Specifies the time window number to be edited or changed. The time window number ranges from 1 to 8.

[Whole day]

Allow whole day access for the day.

[No access]

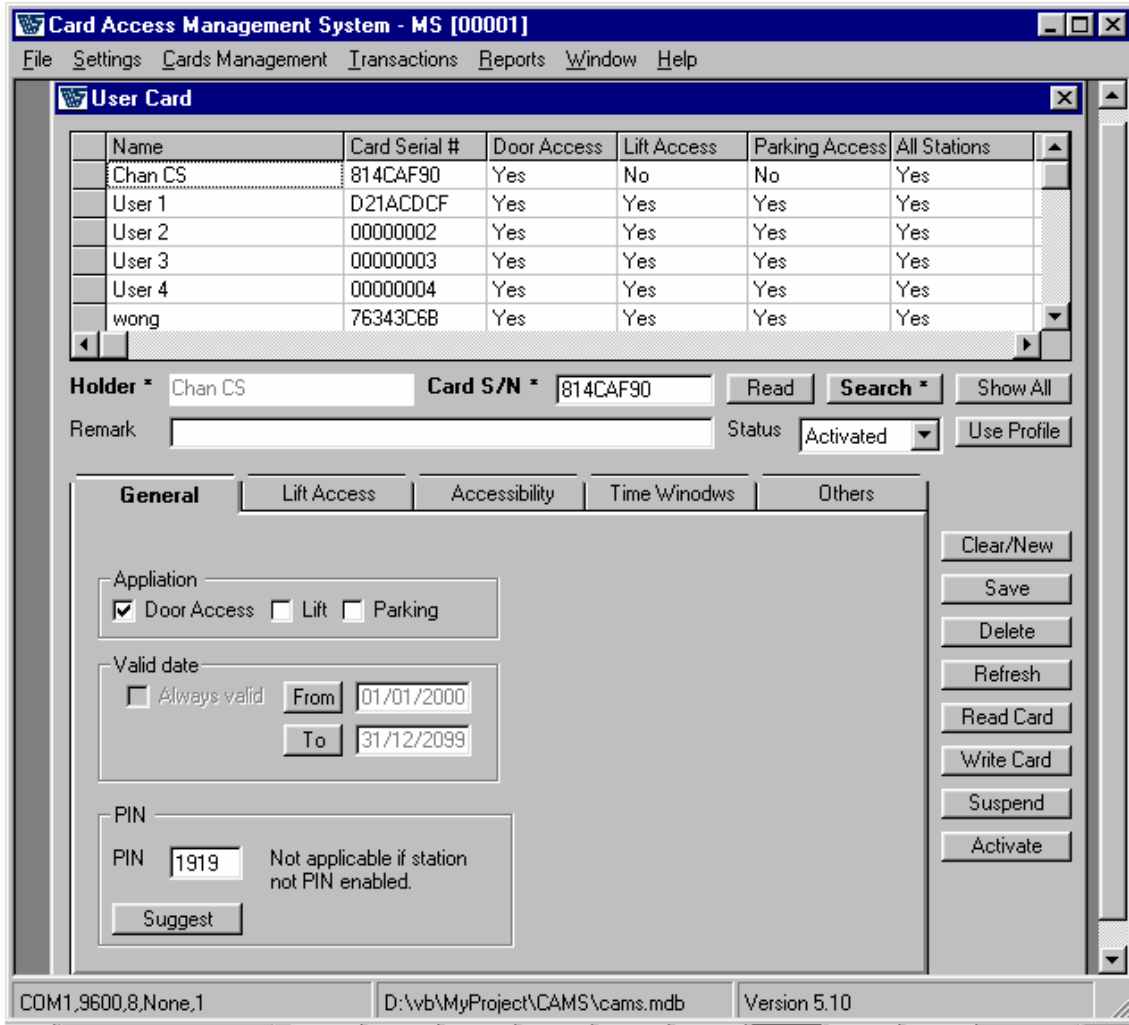
Deny access for the day.

4.6.1.5 Others

The screenshot displays the 'User profile' window within the 'Card Access Management System - MS [00001]'. The window features a menu bar with 'File', 'Settings', 'Cards Management', 'Transactions', 'Reports', 'Window', and 'Help'. Below the menu is a tabbed interface with 'User profile' selected. A table with columns 'Name', 'Door Access', 'Lift Access', 'Parking Access', 'All Stations', and 'Created at' is present but empty. Below the table, there are input fields for 'Name *' (containing 'Manager') and 'Remark' (containing 'For all manager level staff'). To the right of these fields are 'Search *' and 'Show All' buttons. A tabbed section below contains 'General', 'Lift Access', 'Accessibility', 'Time Windows', and 'Others' (which is active). Under the 'Others' tab, there are input fields for 'Date of birth' and 'Car Reg No.'. To the right of these fields are buttons for 'Clear/New', 'Save', 'Delete', and 'Refresh'. The status bar at the bottom of the window displays 'COM1,9600,8,None,1', 'D:\vb\MyProject\CAMS\cams.mdb', and 'Version 5.10'.

Inputs for the user defined fields.
Refer to 4.3.5 Settings → Extra Card Definitions on how to add a user defined field.

4.6.2 Cards management → Users



Defines and issues cards for users here

Read

Read the card S/N of the card by placing the card on the reader.

Suspend

Suspend the currently selected record. To suspend the card, place the **Void/Activate Card** on the reader and click the **Suspend** button.

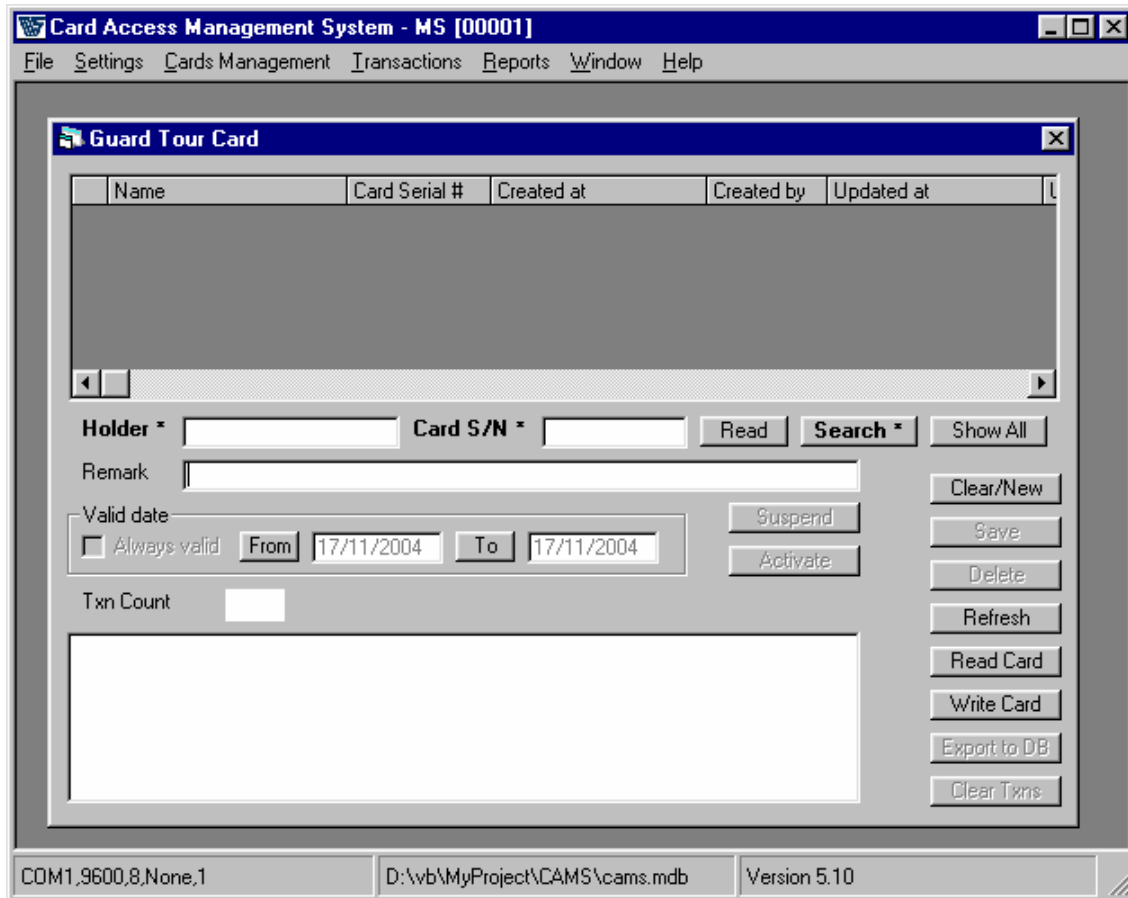
Activate

Activate the currently selected record. To activate the card, place the **Void/Activate Card** on the reader and click the **Activate** button.

FOR ICAS-LITE ONLY

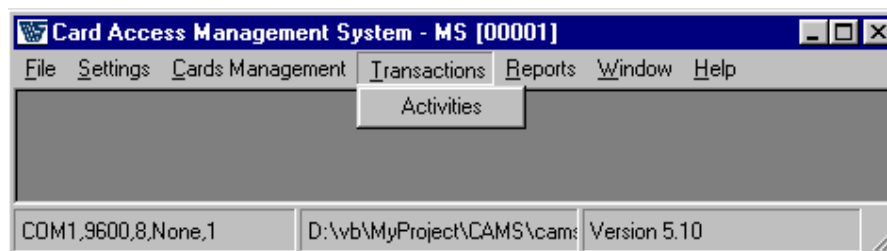
For ICAS-Lite users, **Suspend Card** is equivalent to a **User Control Card (UCC)**. The user can use **CAMS** to dynamically generate a **UCC** to deactivate a particular. By doing so, one need not have to keep a UCC for every user. However, each **UCC** can only deactivate one card holder in the controller. To reuse the card and remove another card holder, please reissue the Suspend Card by clicking on the **Write Card**.

4.6.3 Cards management → Guard Tour

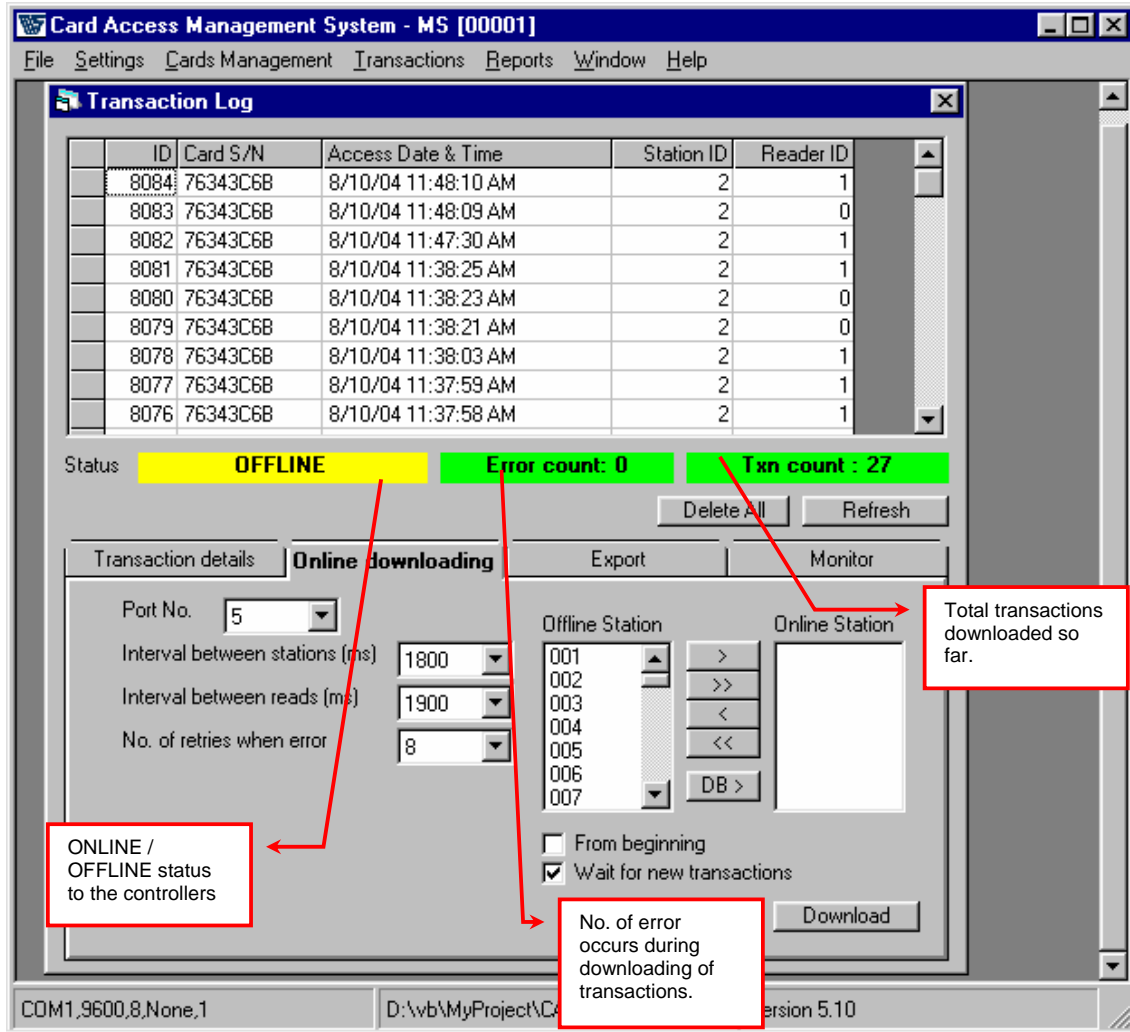


Refer to Cards management → Profile or Cards management → Users.

4.7 Transactions



4.7.1 Transactions → Activities



Allows the user to download the access transactions from the controller.

[Port No.]

The COM Port that the ICAS Controller is connected to the PC.

[Interval btw stations (ms)]

Specifies the time delay in milliseconds when switching from one station to another during the reading of transactions in a multi-drop environment. Increase this value if having difficulties in reading transactions from the stations.

[Interval btw reads (ms)]

Specifies the time delay in milliseconds between reads when reading transactions in a station. Increase this value if the transactions are not read correctly from a station.

[Filename]

Specifies the export filename.

[Date / Time Format]

Specifies the date / time format used when export the transactions to text file.

[X] From beginning

Always download from the beginning.

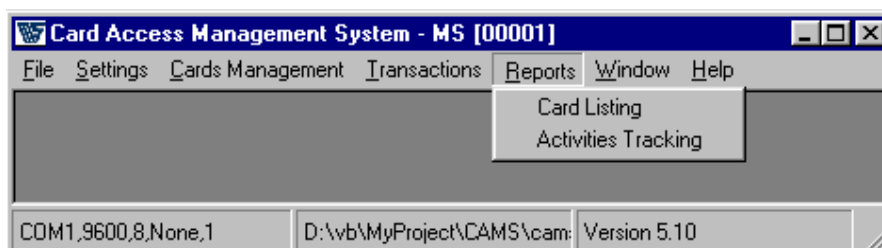
[X] Wait for new transactions

Do not exit from the download, wait for the new transactions.

[Delete All]

Delete all transaction stored in the database.

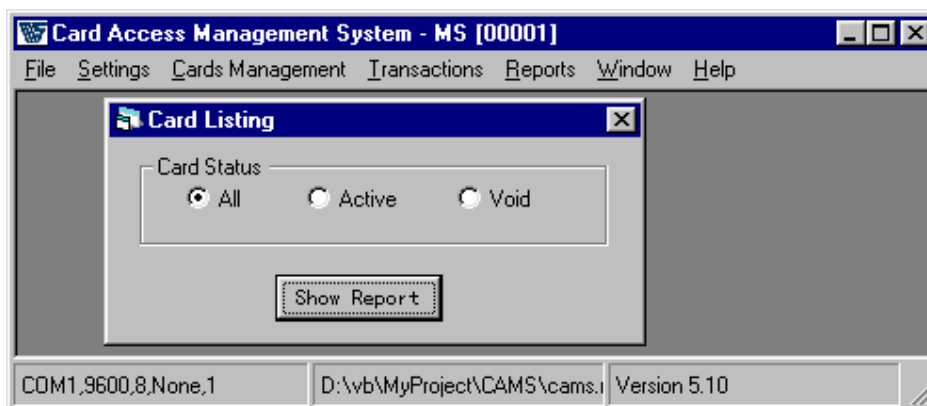
4.8 Reports



To generate and print reports.

4.8.1 Reports → Card Listing

Reports on the card usage.

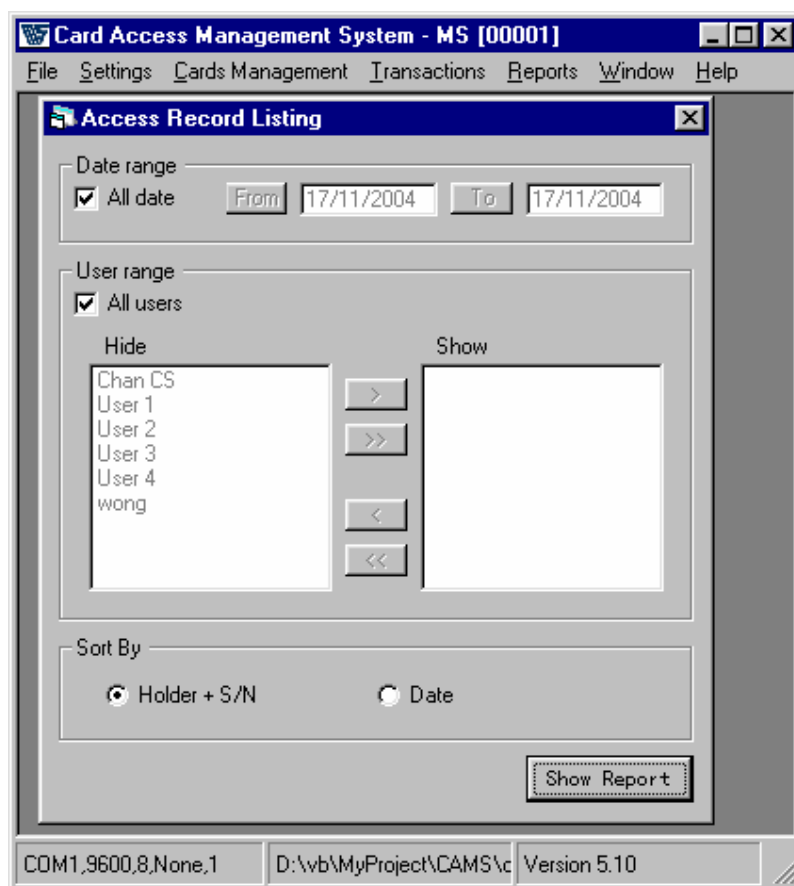


Three types of Card Listing can be printed:

- i. Card Listing for both active and voided card,
- ii. Card Listing for active card only,
- iii. Card Listing for voided card only.

4.8.2 Reports → Activities Tracking

Reports on the access activities.



[X] All date

Check this if to print report on all transactions.
Otherwise press button **From** and **To** to specify the date filtering criteria.

[X] All users

Check this if to print report on all transactions belong to all card holders.
Otherwise select the card holders from the Hide list box into Show list box.

[Sort By]

- Holder + S/N
Transactions sorted by Holder name and card Serial Number.
- Date
Transactions sorted by accessing date.

5 To void / activate a user card

Section 4.6.2 explains how to prepare a **void / activate card**. The process allows the user to prepare a list of card S/N and store in the **void / activate card**.

To void or activate cards whose S/N are stored in the **void / activate card**, just hold the card near to the ICAS station. The S/N will then be read from the **void / activate card** and stored in the ICAS station.

*In the environment where multiple ICAS are installed, the user has to decide which ICAS stations should store the void list. Usually this is the ICAS that installed at the main entry: main door, main gate, main exit, etc. When a card is found in a void list, entry will not be granted and at the same time, **the card will be voided**. The card will then be denied in all other ICAS stations, with or without void list. To activate the card, simply issue the card again and remove the card from the void list.*

6 Backup and restore

CAMS related data is stored in a single access database file named CAMS.MDB. By default, the file is located in the same directory as the CAMS application. The user should periodically copy or duplicate this file for backup purpose. To restore, just overwrite the current CAMS.MDB with the backup copy of CAMS.MDB. User can also use **File | Connect ...** to open any existing CAMS database.

7 Terminologies, Acronyms And Abbreviations Used

ICAS	Intelligent Card Access System
CAMS	Card Access Management System - The card management software for ICAS
Card S/N	Card serial number.
Station	An ICAS controller, equivalent to a door. An ICAS controller can have an extra card reader.
ms	Milliseconds.

8 References

To obtain more information about this program or future developments of ICAS/CAMS or Mifare related product, please contact :



By Mail



By Phone

SUMMIT ELECTRONICS Sdn. Bhd.

75-2, Jalan USJ 21/10,
47630 UEP Subang Jaya,
Selangor D.E. Malaysia

TEL: +603-8023 3385 FAX: +603-8023 3390

URL: <http://www.summit-group.com.my>



By E-Mail

info@summit-group.com.my