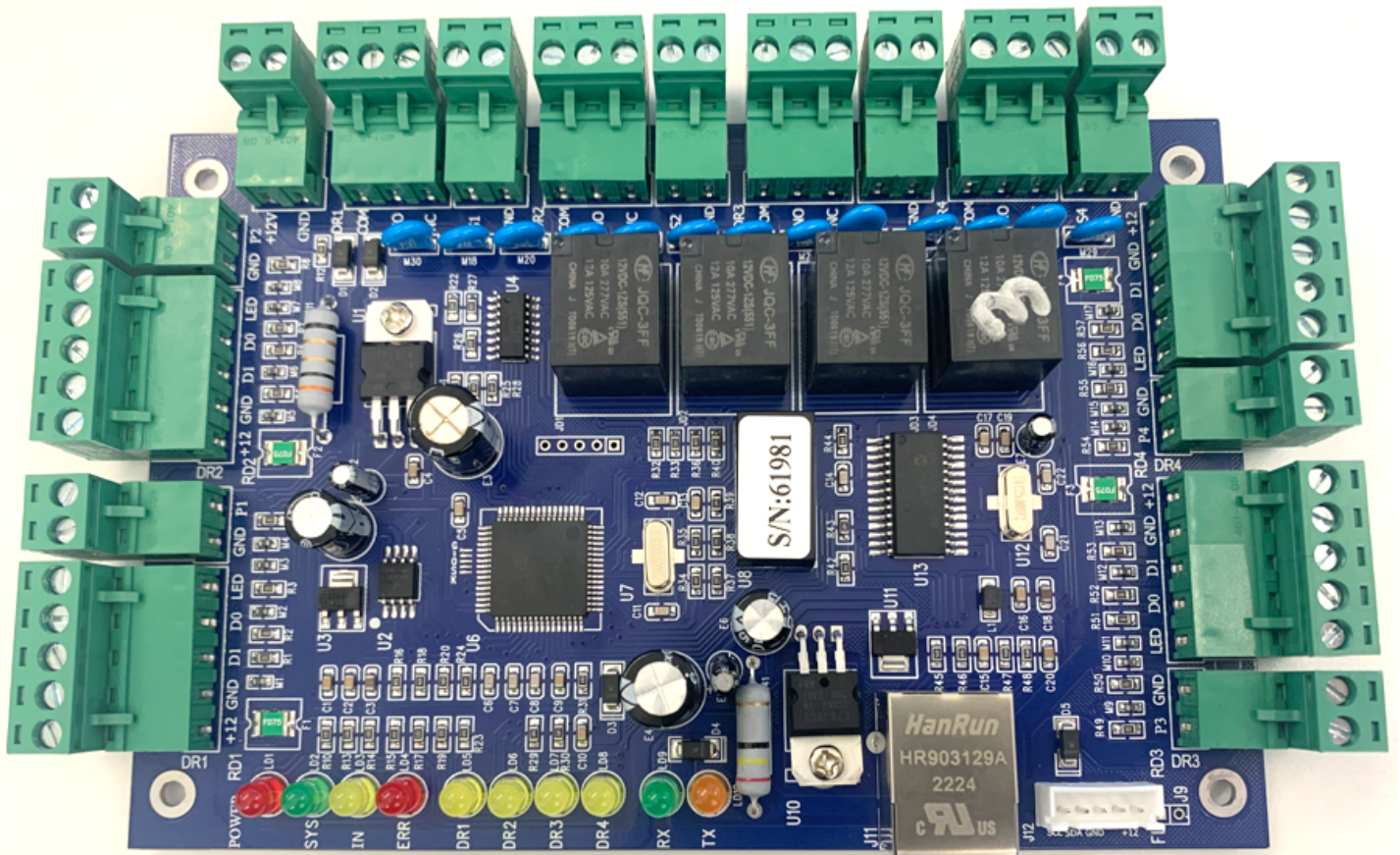# Access Control Management

Software Suite Guide

This document is made available to **EMX** product owners and users for integration purposes. The information contained in this document is constantly subject to revision.

Table of Contents

Preface

Purpose of this Document

The Software Suite Guide provides the procedures and information necessary to use Version 6.9 of the Access Control System with the EMX-DEFENDER. These procedures will guide you to use the following groups of functions:

- **Badging**
- **Hardware configuration**
- **Database configuration**
- **Monitoring**
- **Reporting**
- **Administration**

Audience

This document is written for two kinds of users. **Part 1** is designed for the actual installation of the Access Control System's program, such as security personnel who will be setting up the system. **Part 2** is designed for the administrator who will be configuring and maintaining the system.

EMX-DEFENDER Specifications

- Network Communication: TCP/IP
- Communication mode: 10Mbps/100Mbps adaptive
- Controller: supports up to four readers for gate/door control
- Controls up to four gates/doors (4 output relays) per controller: controls each gate/door by
- card in/card out or card in/exit out using exit device
- Controller supports User Memory: up to 20,000 users
- Controller supports Event Buffer: up to 100,000 events
- Controller supports Reader input protocol: wiegand standard 26-bit
- Controller supports up to four wiegand devices
- Controller supports up to four request to exit inputs: push-button, motion sensor, etc
- Controller supports four output relays for door strike and/or magnetic lock (or gate
- operator) control: 2 each 10A, SPDT relays, N/O-Com-N/C
- Controller supports gate/door position input: 2 each SPST relay, N/O, input (10A)
- Power consumption: less than 100mA
- Power consumption of circuit board: TCP communication 225mA (without load)
- Power supply required: 12VDC @ 3A, if using a magnetic lock
- Controller to controller 328' maximum distance: dependent upon the network coverage
- Maximum number of networks: no limit
- Operating Temperature: -32º F to 149º F (-35º to 65º C)
- Operating Humidity: 10~90% RH Non-Condensing
- Size: 6.3" x 4.2" (160 x 106 mm

Part 1 - Setup and Remove Applications
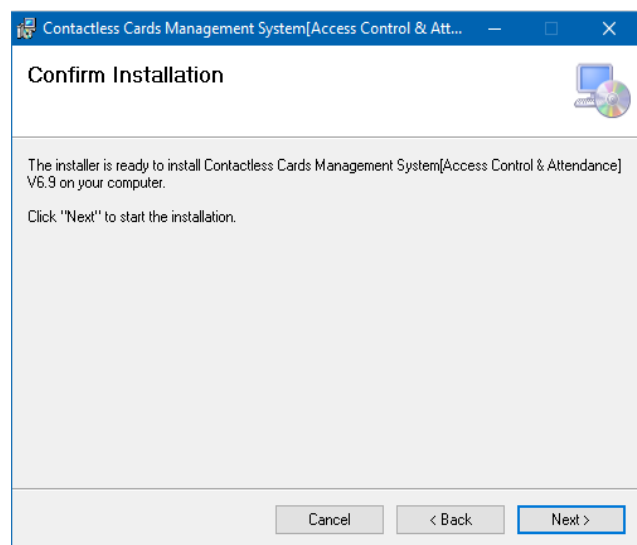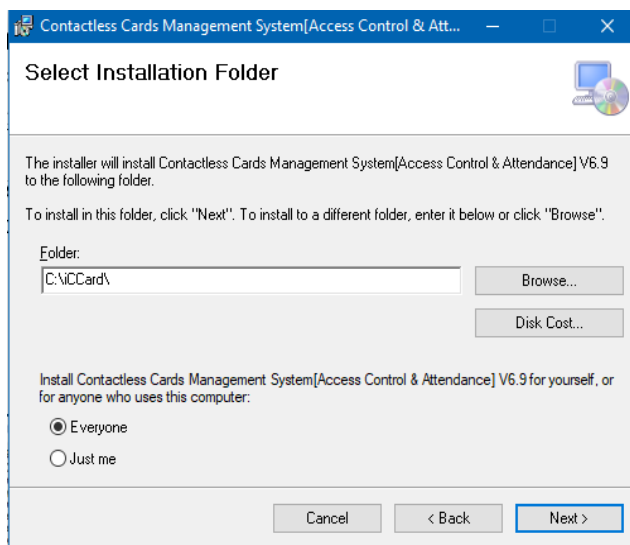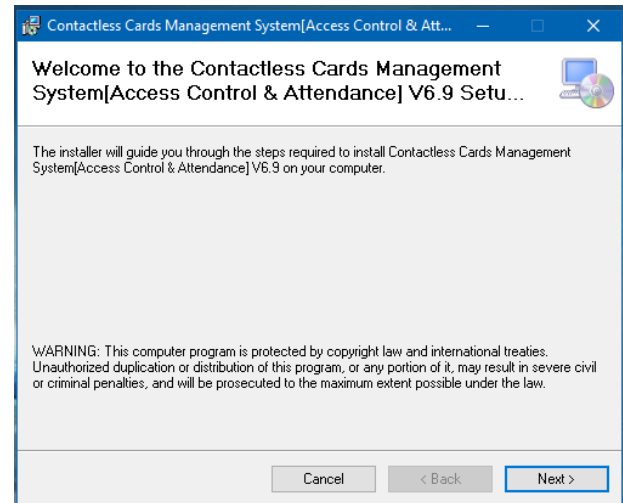
Setup Applications
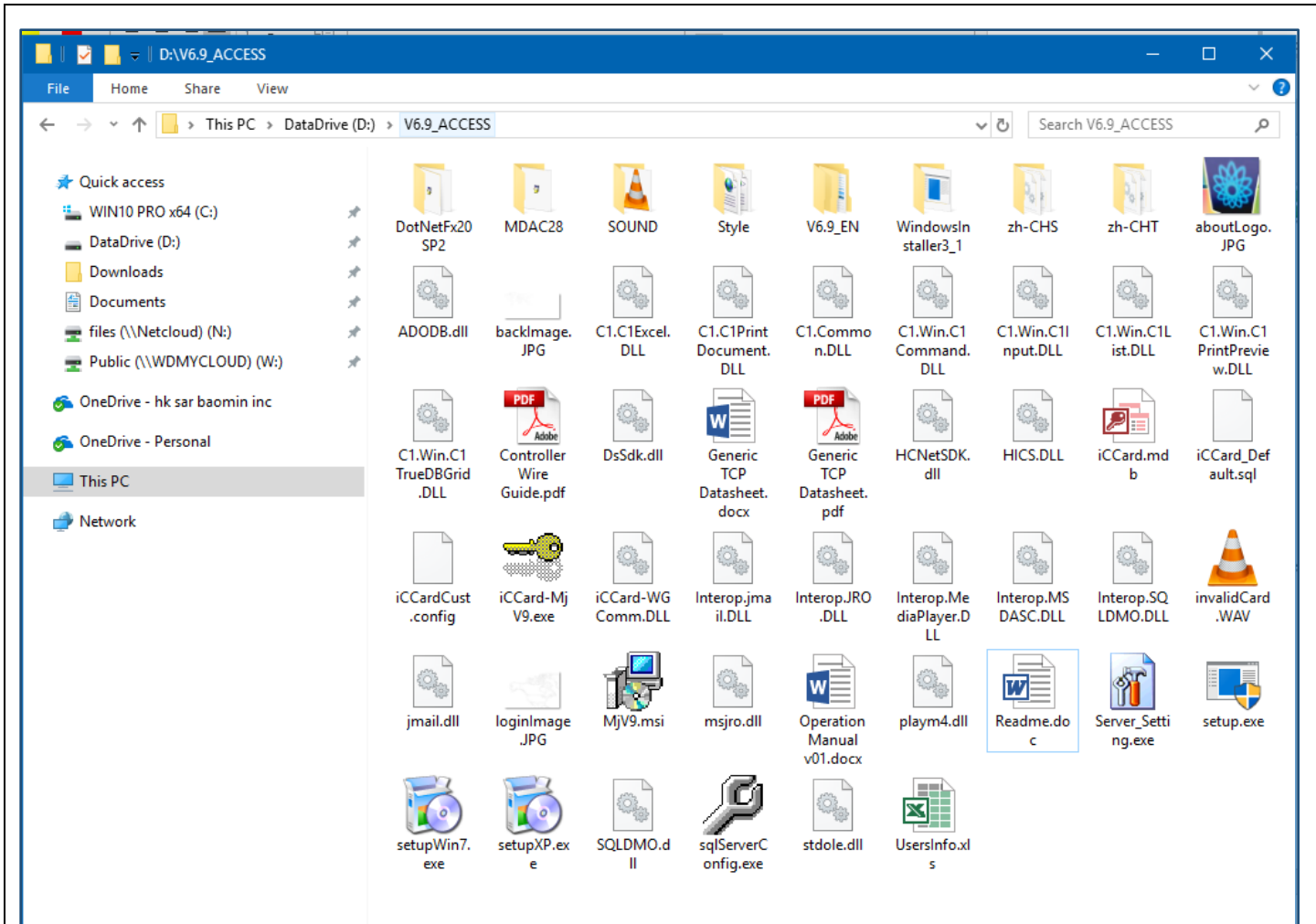
First download the 'Controller.zip' file from our website. Unzip the files and remember where you put them because you need them later to install the operating software.

Software Setup

Find in the directory called 'V6.9_ACCESS', the program called setupWin7.exe (on computer running Windows 7 or newer) and run this program. You will get the windows screen right of this text. You can also run the 'setup.exe' program, it may ask you to run in compatibility mode.

Press the 'Next >' button and you will see the following screen which will allow you to install the software where you want it installed.

You will then get a 'Confirm Installation' screen that will let you know everything is ready to install. Just select 'Next >' to install the software.


Next you will see the following screen below to the left to let you know that you are now installing the software and once competed, you will see the screen below to the right.
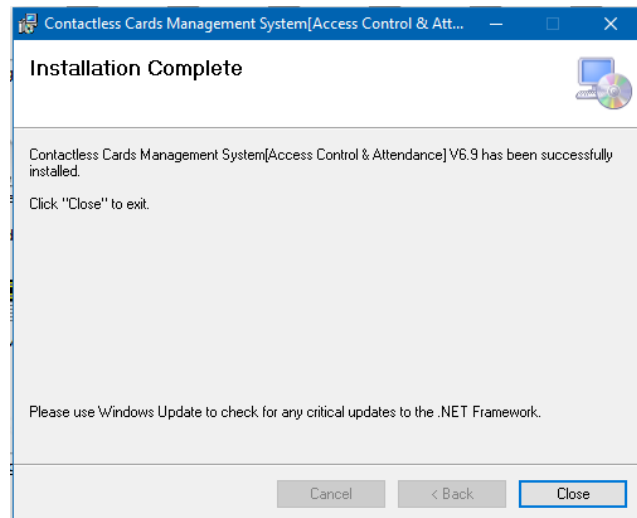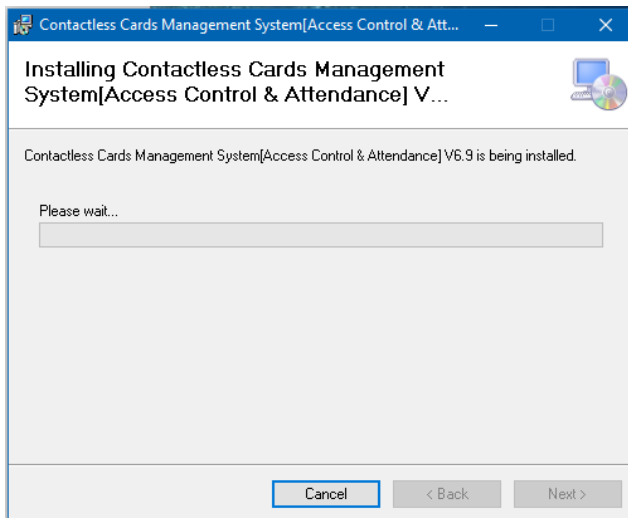
You will also see the following icon displayed on your computer screen which will be a shortcut for starting the program. If you want to delete the program from your computer, then you would need to go into your control panel and remove the program. We now have loaded a copy of the operating software on our computer, let's get started.

Register Software

First download the 'Controller.zip' file from our website. Unzip the files and remember where you put them because you need them later to install the operating software.
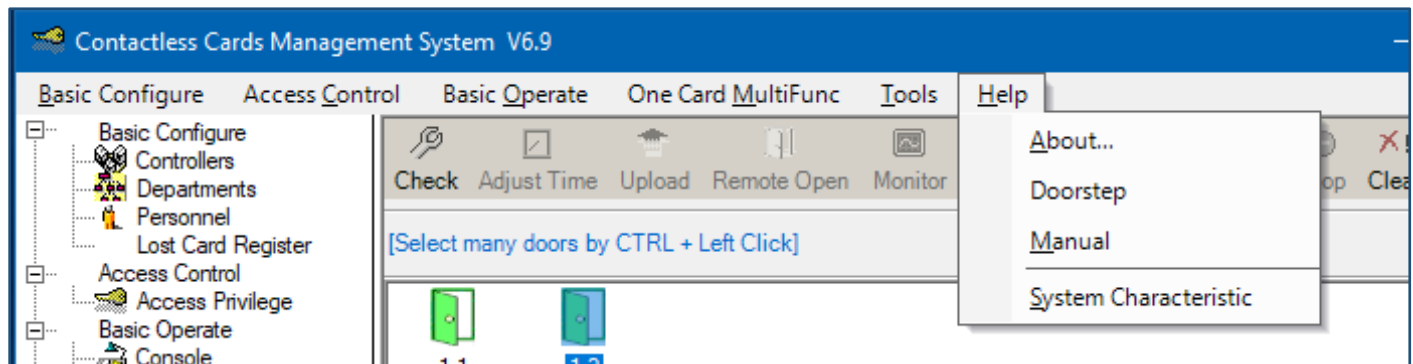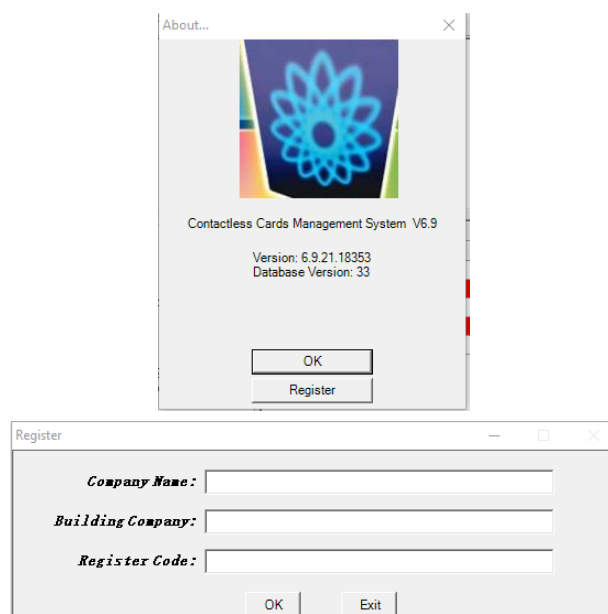

Once you select About, you will see the following

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In order to fill out this correctly, enter the following:

- Company Name: does not matter what is entered here
- Building Company: does not mater what is entered here
- Register Code: you must enter '2004'

Then press the OK button, and your done.

Part 2 – Login and Setup Software

Now that the software is installed properly, let's click the Management Center V6.9 icon to run the Access Control & Attendance V6.9 software.

The first screen you will see is the login screen. It will open as pictured to the right of this text and let you Login to the Access Control Software.

By default, the username is 'abc', the password is '123'. It is normally recommended that you change this once you have configured the system.

Once you first login, the screen will display a basic guide. If you do not have the experience, or this is your first time setting up the system, just 'Close Guide' for now it is more useful once the system has been fully installed. This guide will give you the main functions needed to quickly operate the system once configured.
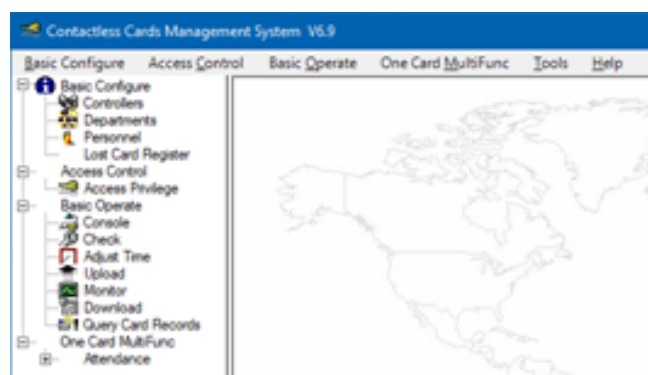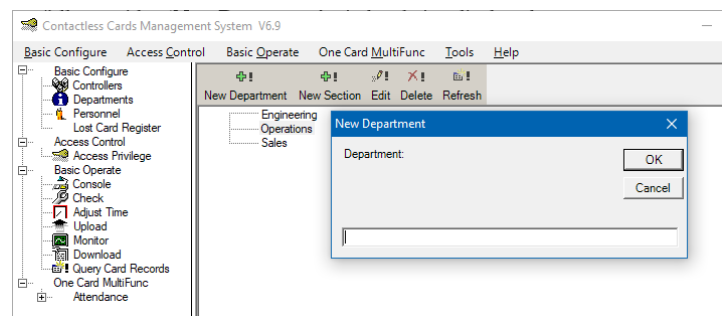
|	
After closing the 'basic guide', the operation windows menu is as follows.	
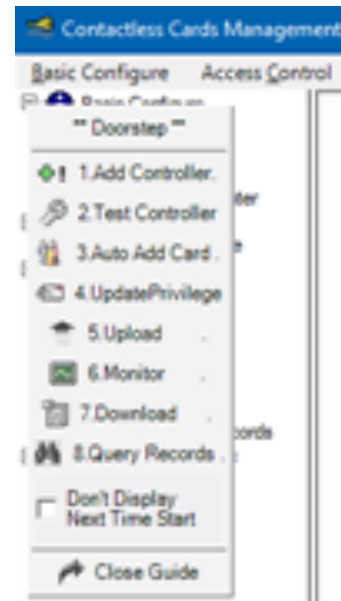
Part 3 Adding and Editing Basic Information
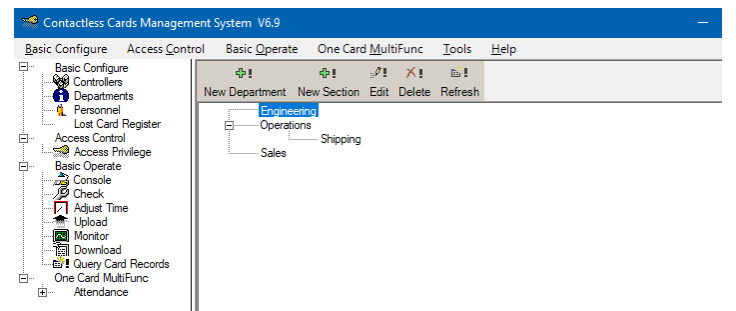
Add Departmental Information

|	
First you must select the 'Departments' from the 'Basic Configure' Menu option. It should look as follows with a 'New Department' window being displayed. You may also create a specific Department name of your choosing	
Once you have entered all the Departments, you can make Sections in each department if you wish by highlighting the department and clicking on the 'New Section' option. You may also create a specific Section name of your choosing.	
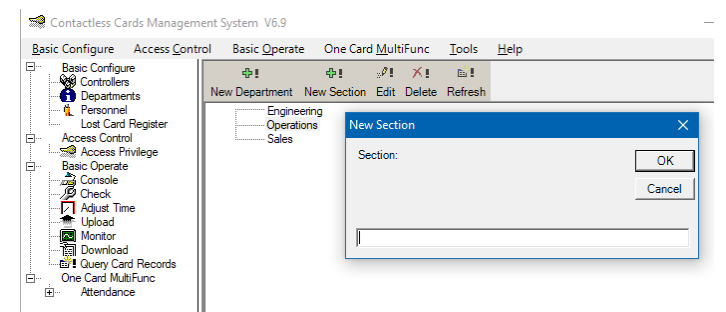
This will look as:	

Add and Edit a Card Holders

First you must select the 'Departments' from the 'Basic Configure' Menu option. It should look as follows with a 'New Department' window being displayed. You may also create a specific Department name of your choosing
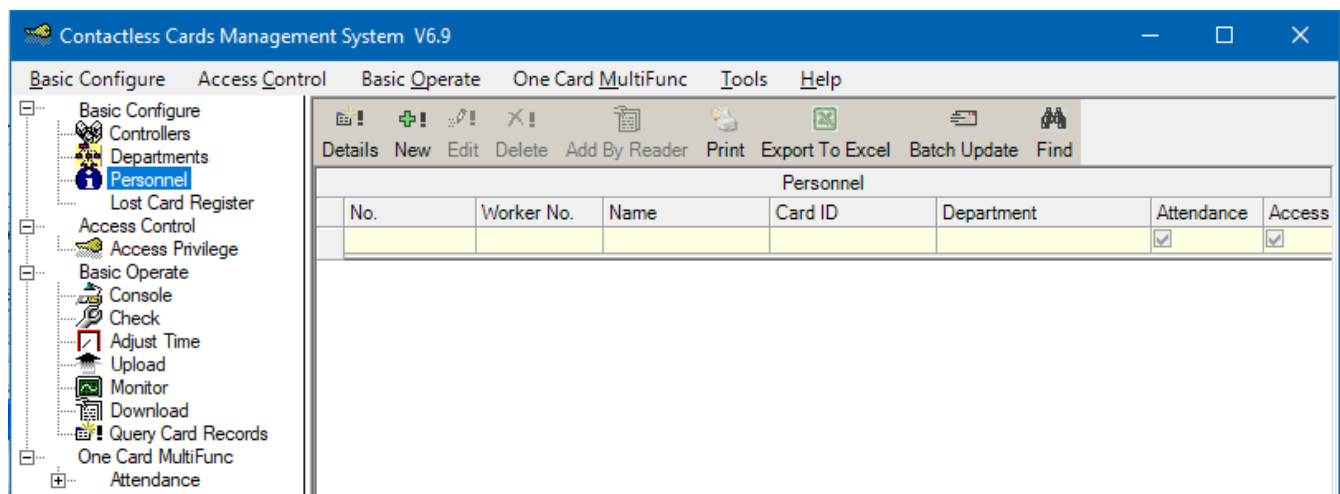

In order to add new Personnel, you must click on the 'New' icon. You can continue adding cards by once filled out, select the 'Add' button, this will increment to the next card holder. You may also choose to add card holders by selecting 'Add By Reader' button to enroll by using any connected reader and 'reading' the credential into the system.

Note: It is important to change the default **'Deactivate'** date beyond the year 2020 or you will receive a Time Zone error when trying credentials and the credential(s) will not be allowed access until corrected. To correct it – under 'BASIC OPERATE' click on the 'Check': icon to verify proper setup. Once here, click on 'Select All' and then click on 'Check'. If incorrect a 'Time-Zone' error will occur. To correct this, go to 'Basic Configure' then go to 'Personnel' and click on 'Batch Upload', check off 'Valid Date' and apply new year (example, 2030) and hit 'OK'. Next go to 'BASIC OPERATE' and click on 'Upload', then click on 'Select All' and hit 'OK'. Re-check credentials to confirm access now.
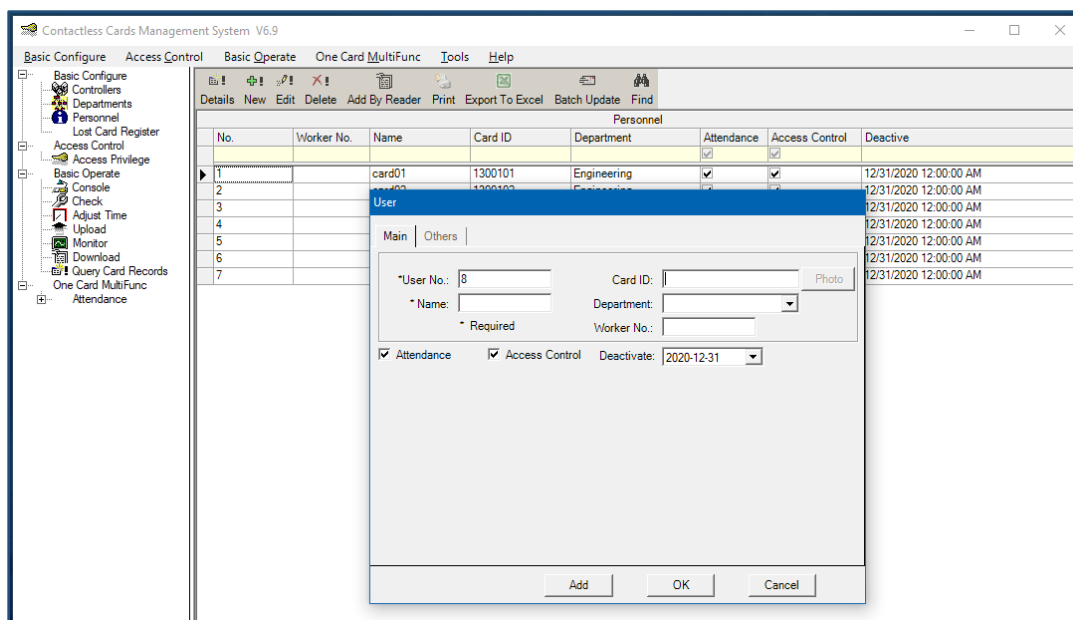

Note: The Card ID consists of the Facility Code + the Card ID, example 01300101 for facility code 13 and ID number 00101

If you want to add a photo, you can just select the 'Photo' button, just right of the 'Card ID'. You can also add other information about the card holder by selecting the 'Others' tab, just right of the 'Main' tab. The information screen will look as:
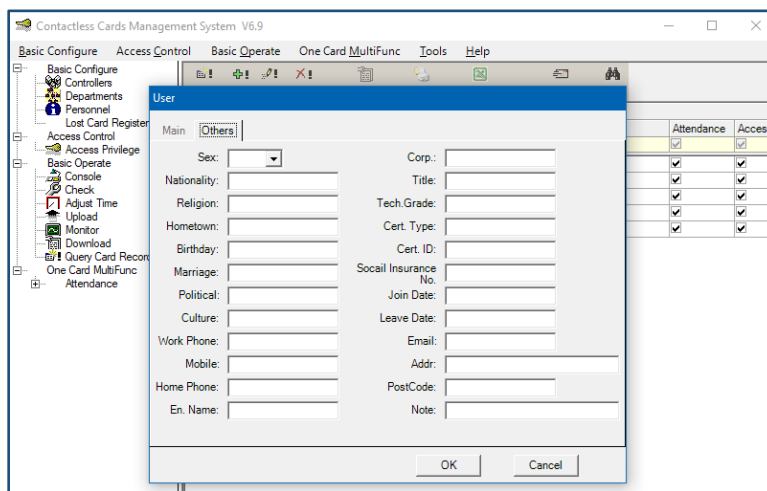
Import Card Holders Information from Excel

In order to Import from an Excel file, you must push the following keys on your keypad to open the menu: **'Ctrl + Shift + Q'**, you will now, have the ability to Import from Excel.
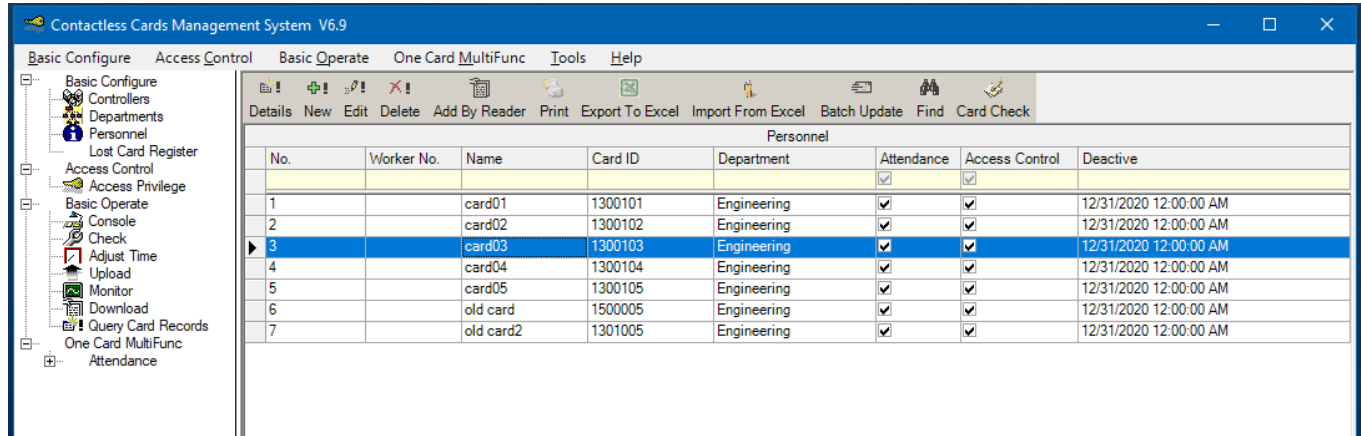
If you want to use an Excel template for importing customer's information, just edit the document called 'userinfo.xls' located on your computer directory where the program was installed. Example: 'C:\iCCard'. A sample of the information needed for loading card users in Excel are:

Worker No.	Name	Card ID	Department
car01	emxtest01	1301005	Engineering
car02	emxtest02	1500005	Engineering

Once you have completed editing all card holders, you can also Export then to an Excel file for later editing.

Access Control Configuration

Your organization can prevent material or information robbery, by limiting / supervising the access to all or part of your facility (lab, computer room, or storage areas) to authorized persons, during specific time periods.

Smart multi-technology controllers, linked to advance identification systems, are programmed to control "who is going where and when". Each person is equipped with a personalized card or

another ID that controls access.

When a badge holder needs permission to access a particular area, the information is relayed
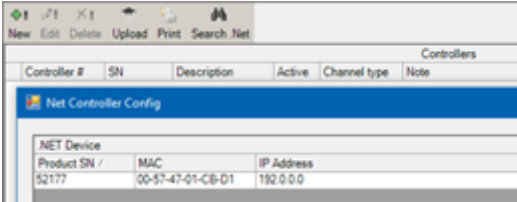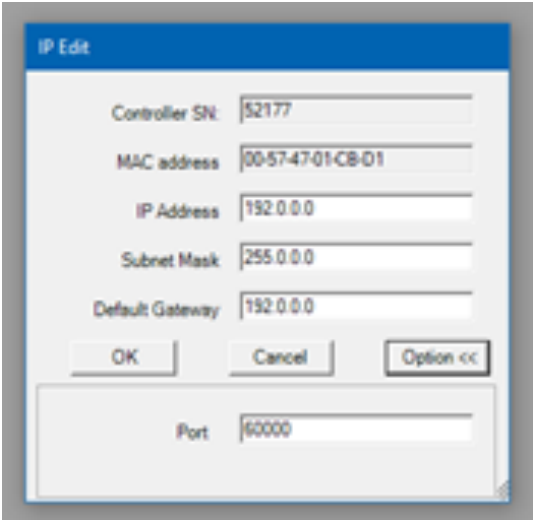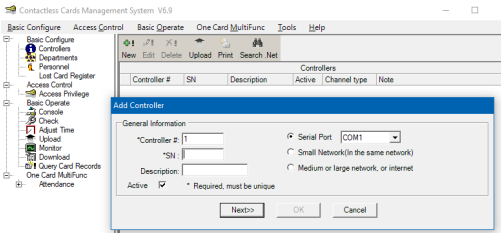
from the reader to the controller. The controller either grants or refuses access according to the

parameters defined (access levels, time zones, etc.) The operations are then sent to the

PC and listed in the backlog and the journal.

Access control parameters are mainly defined in the 'Parameter' section of the application.
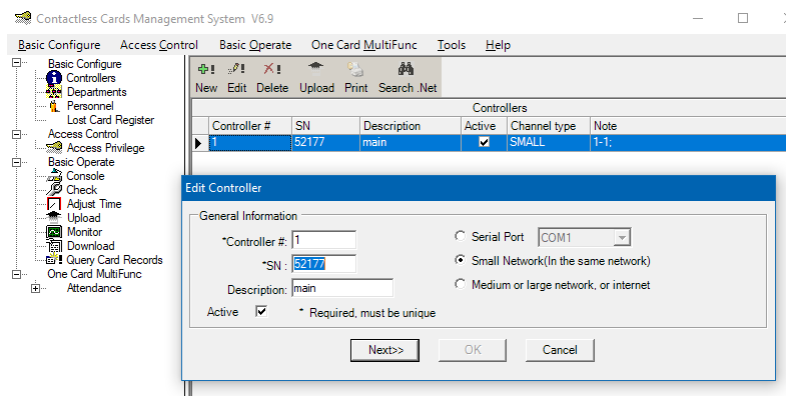
Hardware Configuration

The first thing you should do is to turn off your firewall for a few minutes.

Then you must select the 'Controllers' from the 'Basic Configure' Menu option. It should look as pictured on the next page below this text.

Click on the Search.Net icon, this will search for your controller. Once you get the popup window as seen below, click on the Search icon on the bottom of the window. You should then see your controller information as pictured to the right.	
You can view this information on the controller by highlighting the controller and clicking on the IP Edit icon, as shown to the right. You can now edit the information or just close the window by clicking on the Exit icon. In order to add new Controller, you must click on the 'New' icon. You will see the popup to the below right (Add Controller). The product S/N, (each controller has a serial number) just check on the PCB's label S/N:***** of the controller . This number will go into the box labeled '*SN'	
Note: If you insert the incorrect serial number, it will cause the software not to communicate with the controller. Also, to setup the controller as a 'Small Network', see example below.	

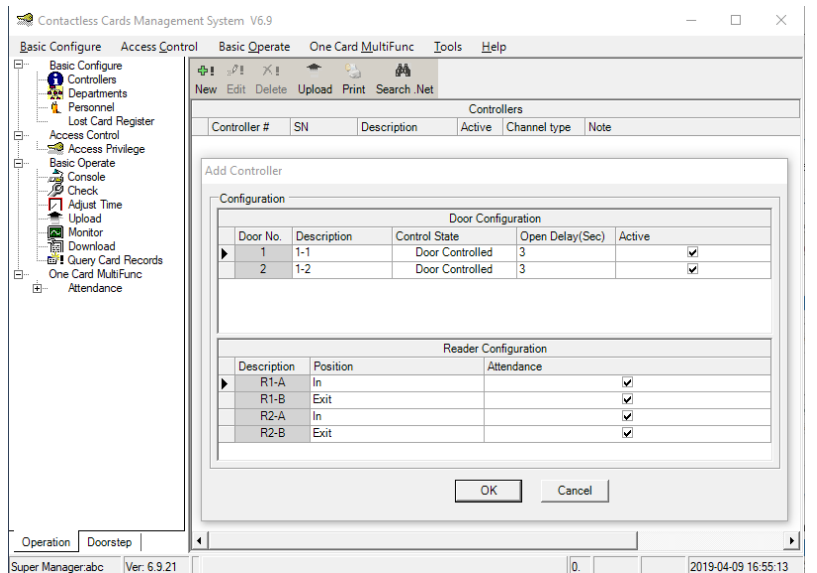# Connecting EMX Defender as Small Network

If you want to configure your controller for a Medium to Large Network. Skip the below setup for a small network and proceed to the next Heading of Connecting EMX Defender as Medium to Large Network Appliance below. Under "Description" you may choose to Create a specific name to identify the controller	
Now you can click the Next icon and you will see the following window. Once you hit the OK icon you are ready to configure the controller with IDs'. Here you may also choose to modify the names of the "Reader Configuration" by adding descriptive text under the 'Position' rows, such as 'In – Main Door' or 'Exit – Main Door', etc.	

Note: Remember to turn ON your Firewall when done.

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Connecting EMX Defender as Medium to Large Network Appliance

First thing you should is go into your network settings as shown below and make sure to verify and set the IP address, so you will know what you should set the controller address to.
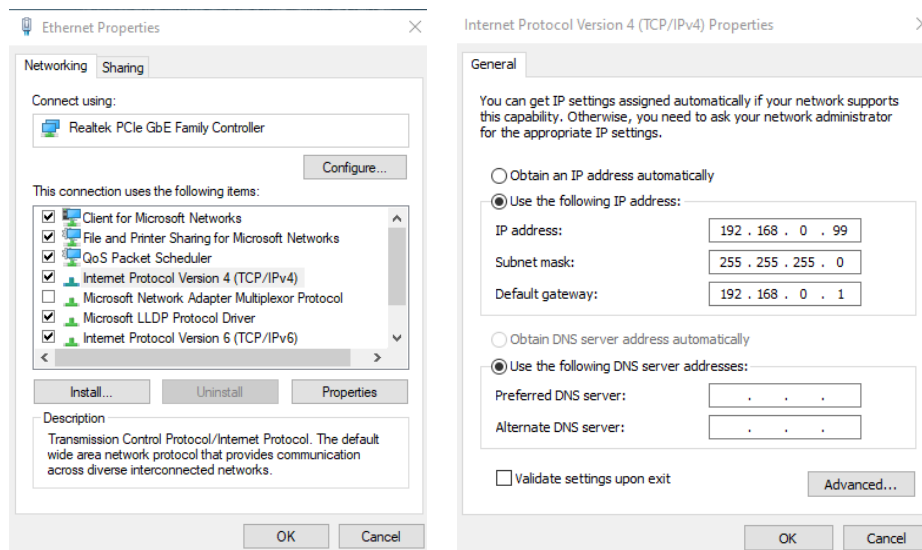
Above is an 'example' so remember your settings when you go to setting up the controller's address. Once you have this setup, you can close out the windows showing the information. Moving forward, you may have to shut down the firewall temporarily in order to add the network appliance. Note: You may also have to shut off your Wi-Fi on your computer.

Now go into you controller software and search for networks 'Search Net' ICON. The following may be displayed:

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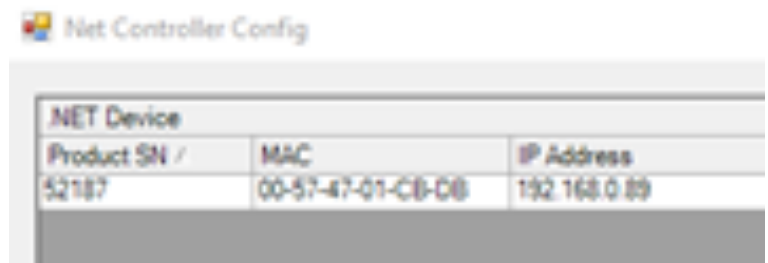
Select the 'Edit' ICON and enter you IP information for the controller, remember do not use the same IP address as your system. The 'example' is to set your IP address to 192.168.0.99 and then the controller could be set to 192.168.0.89. Now save your settings by selecting the 'Ok' ICON.	
After you close the window, you can now add a new controller by selecting the 'New' ICON. As you can see below, you select the Medium or Large Network, or Internet option. Enter all your information for this controller and not your IP address again and serial number on the controller. After you have entered all your info, select the 'Next' ICON and edit your door configuration.	
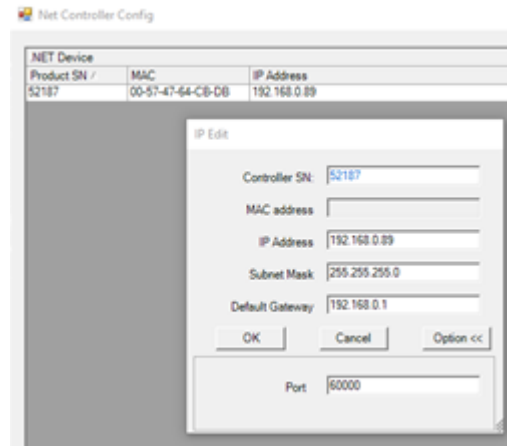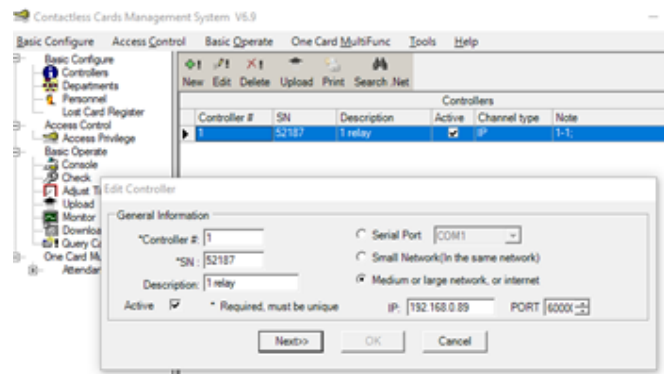
Note: Remember to turn ON your Firewall and Wi-Fi when done.

Access Privileges

First you must select the 'Access Privilege' from the 'Access Control' Menu option. It should look as pictured to the right of this text. This feature may also be used to add, delete or restrict a user and access points either allowed or disallowed for one or more users.
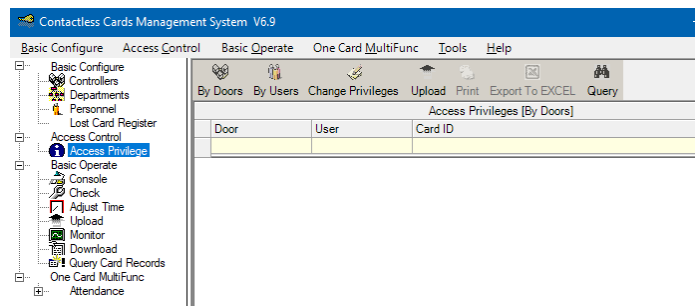
You will now select by clicking on the Change Privileges icon, you will see the window to the right of this text. For the Optional Users screen you may select one or more users using the Right single arrow button, and to select all users, use the Right double arrow button.

You may use a reverse process to remove Users or Doors during this process.
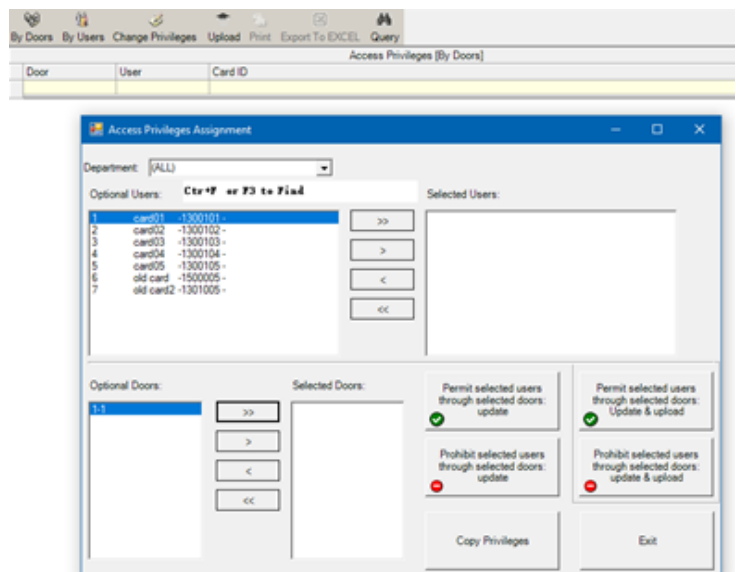
You will now select card holders and doors by either selecting individual Users for each door, or just copy all Uses for all doors as pictured below. For the Optional Doors screen you may select one or more doors using the Right single arrow button, and to select all doors, use the Right double arrow button.

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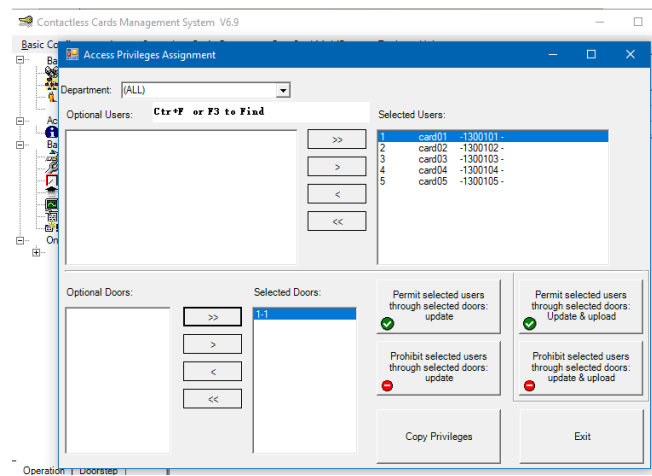
Once you have the Users and Doors selected you will need to do the following:
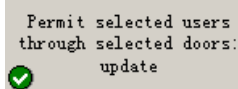
Permit selected users through selected doors: update After you click this button, then the selected users will be assigned to the selected doors. This information will be saved into the software's database.

Permit selected users through selected doors: Update & upload After you click this button, then the selected users will be assigned to the selected doors. This information will be uploaded to the controller's firmware's database.

Prohibit selected users through selected doors: update After you click this button, then the selected users will be deleted from the selected doors. This information will be saved into the software's database.

Prohibit selected users through selected doors: update & upload After you click this button, then the selected users will be deleted from the selected doors. This information will be uploaded to the controller's firmware's database.
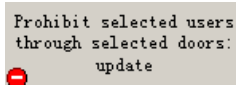
Copy Privileges If user A and the user B have the same privileges, we can copy user A's privileges to user B. This can be seen below.
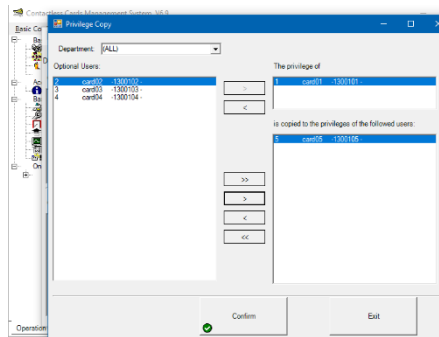
Once these steps have been completed, you will see the following popup window.
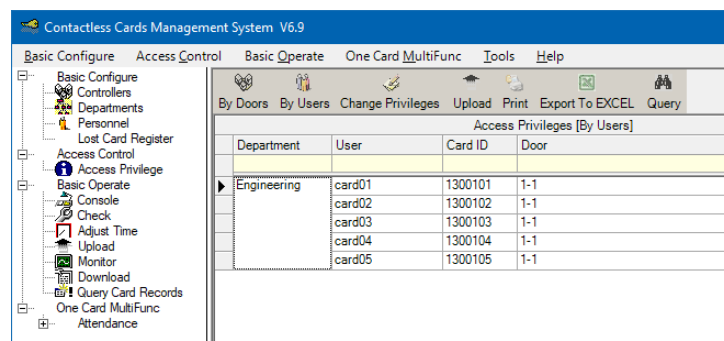
Rename Door

You can rename the doors by selecting 'Console' from the 'Basic Operate' Menu option. It should look as pictured to the below of this text. Once in the window, right click your mouse on the door and select from the popup window 'Rename' and the following will be observed.
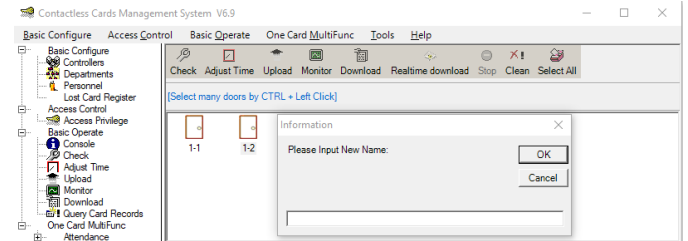
Set Open Delay

If you again right click you mouse on the door, you will be able to change your door delay as shown below
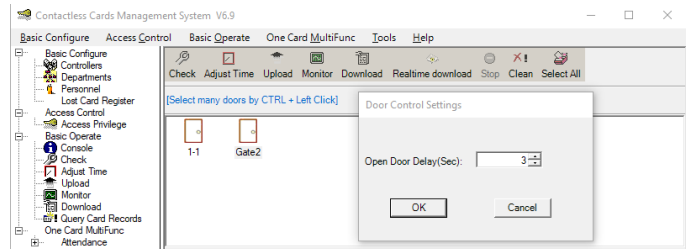
Basic Operation

You are still in the 'Console' from the 'Basic Operate' window.

Check Controller's Info

Select the door you want to check first, click on that door then click the Check icon

The door/gate status will be displayed as pictured at the bottom of the previous page. It will show the control's basic information such as the number of records and privileges, door/gate state, control state, open delay (sec), etc.
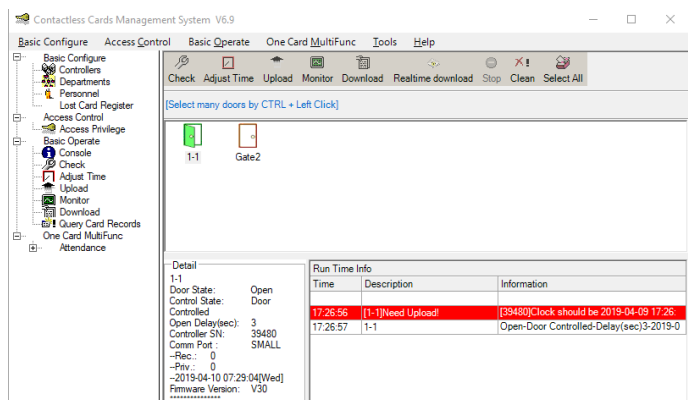
Upload Setting

After you set the access controller's information, you must upload the database' configuration to access controllers. Select the door you want to Upload first, click on that door then click the Upload icon and the following will be observed. However, you may also choose "select all" to upload to all door/gates at the same time.
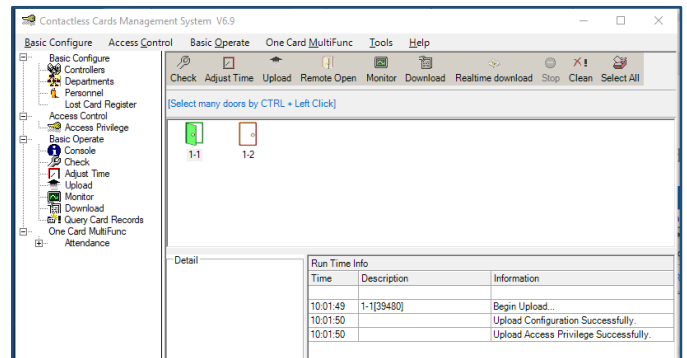
Monitor
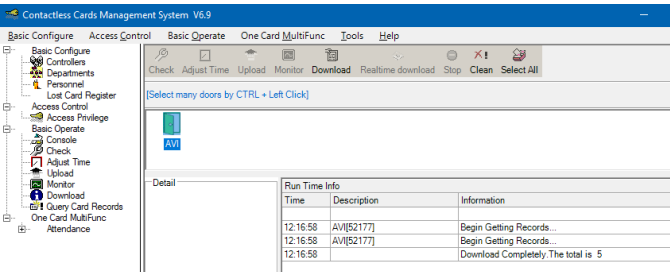
Again, select the door/gate(s) you want to Monitor, click on that door then click the Monitor icon. You can see, as the user presents a card ID, if valid they will be displayed in green and if an invalid card ID, they will show up in orange. If a photo was assigned to the ID, the photo will also be displayed.
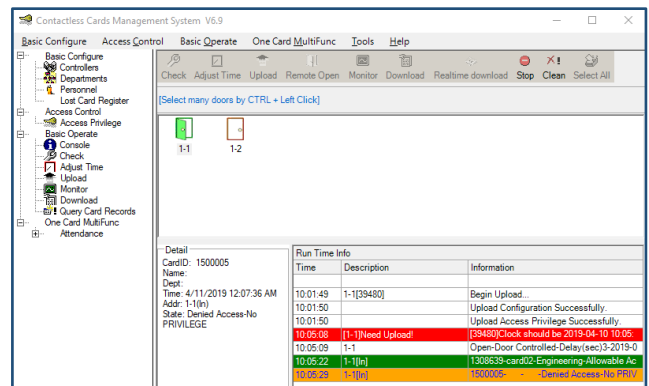
Download Database

There are two ways to download the database from the controller and save it onto the PC. One method is to select under Basic Operate then the Console selection, highlight the door / doors you want to take the info from, then click on the Download option. Or from the menu bar select under Basic Operate select the Download option.

After you highlight the doors and pressed the appropriate icons, you will see the following window. Later in this document you will be shown where these files are located and what you can do with them.
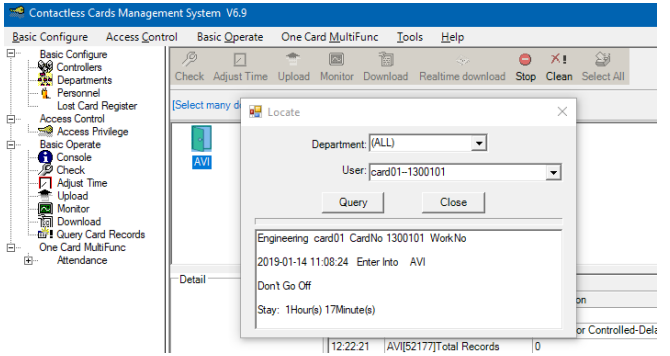
Locate

While in the Basic Operate, Console mode and running Realtime Download, if you right click on the door, a popup window will appear with the option to Locate Personnel. This will give you the last door that person was at and for how long.

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Persons Inside

While still in the Realtime download, Select the door first and then Right Click, and another option for the pop-up menu would be the Person Inside, select this Persons Inside option, it will show in another window, the Persons Inside what door. As you can see from the image, it shows what card holder is in a department.
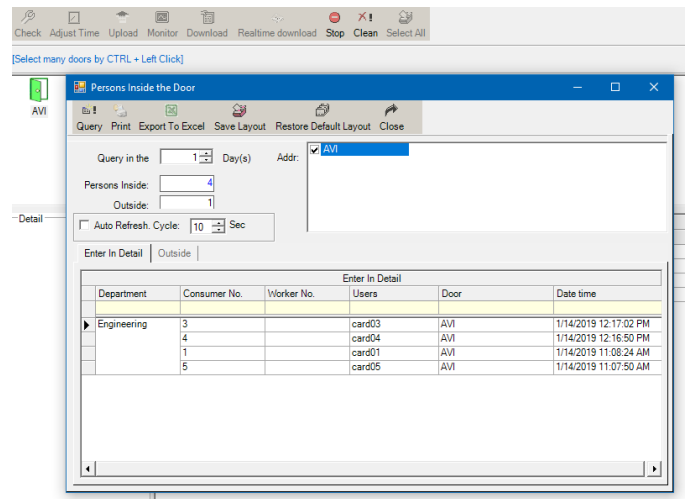
Query Records

This option will display the database you downloaded earlier from the controller. Under the Basic Operate menu, click on the Query Card Records from the menu bar. The following window is an example of the database items recorded earlier.
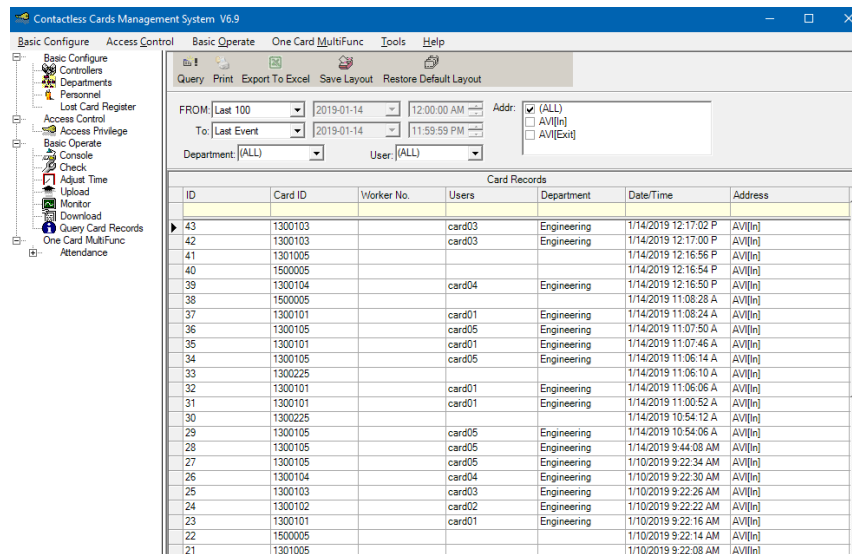
You can select individual doors, individual departments, or even individual users.

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Lost Card Register

When someone has lost his or her card, you can delete the old card, and then reissue a new card by using this option. The steps are as follows:

Select from the Basic Configure menu, select the Lost Card Register as seen below
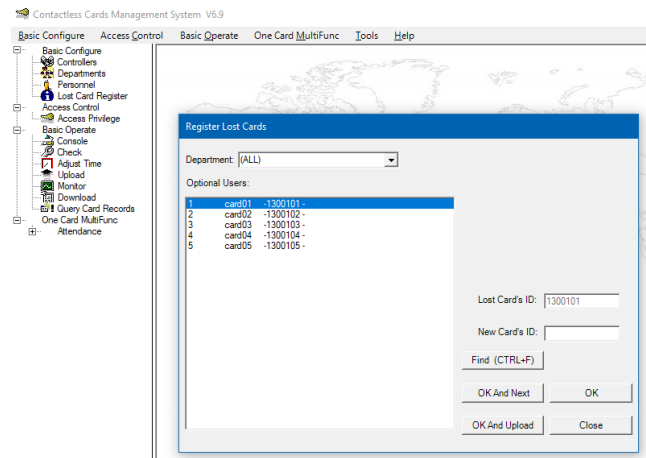
Tools

Operator Management

As you can see from the top menu, there is an option called Tools, click on that and select the Operator Management option. As you can see from this option, you can add operators, edit operators, delete, operators and set their passwords.

Change Password

To change operator's password. This function will change your passwords. As you can see from the top menu, there is an option called Tools, click on that and select the Change Password. Kind of self-explanatory, just enter the old password, then enter your new password and confirm. Remember your passwords.
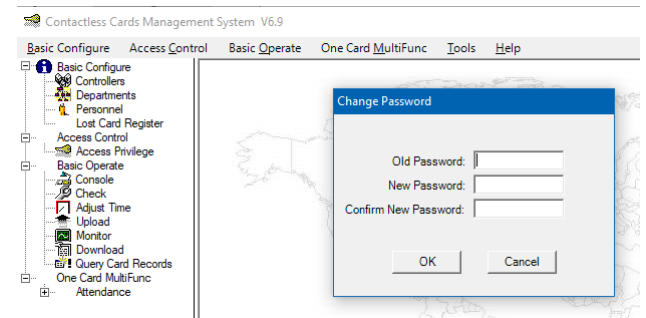
DB Compact/Repair

If you have issues with the user database, this function will repair it. Select the option under Tools, DB Compact/Repair.
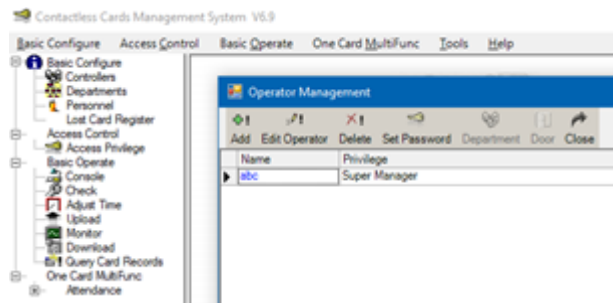
Interface Locked

If the operator is afraid that someone will operate the software after she or he has left, they can lock the interface, the application will run as normal, then they can unlock when return.

Select the option under Tools, Interface Locked. After he or she comes back, he or she inputs the password and continue working
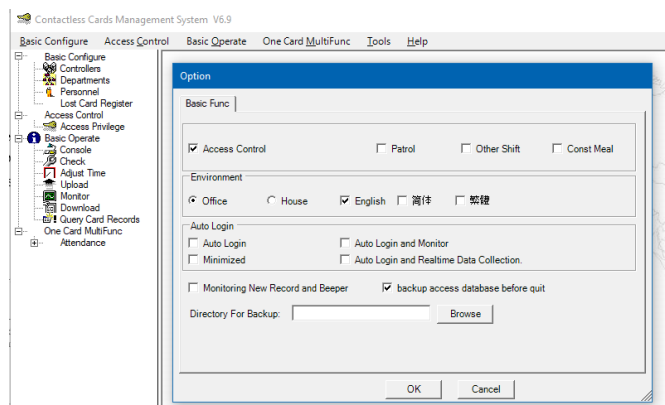
Software Extended Features

Look for the 'Tools' option on the top of the software window, when you click on it, the 'Extended Functions' will be available to select.

【tools】<<【Extended Functions】
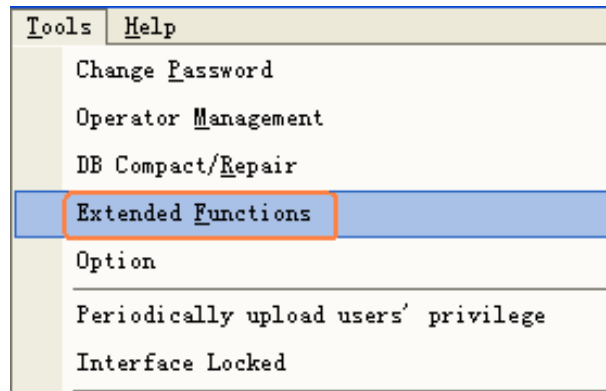
When you select this option from the menu, you will then need to enter the password in order to unlock the features. The password is '5678'
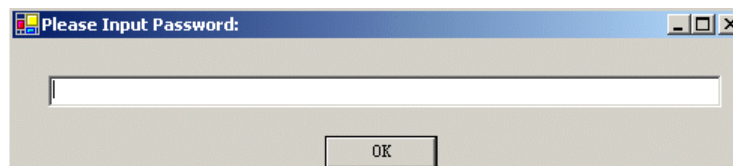
DISCLAIMER

Note: Care must be taken with the following Functions and Features of this section as they are not supported by EMX for any technical assistance. These functions are being offered to you as a 'use at your own risk' option as they are complicated Access Control features and should only be used by highly experienced installer/integrators.

The extended function option tabs are:

1. Events
2. Interface
3. Normal
4. Advanced
5. Others

Extended Functions — Event

Active	Description
☐	Save Button Operation History
☐	Record alarm & failure
☐	Log Query
☐	Door Status With Door Sensor

Extended Functions — Interface

Active	Description
☐	Multi-level operator privileges
☐	Display Patrol
☐	Don't Display Access Control
☐	Don't Display Attendance
☐	Display Other Shift Schedule
☐	Monitoring Map
☐	Camera Monitoring
☐	Active Const Meal
☐	Active Meeting Sign

Extended Functions — Normal

Active	Description
☐	Activate Time Profile
☐	Remote Control Openning Door
☐	Set Door State(NO/NC/ONLINE)
☐	Access Keypad
☐	Supervisor PIN
☐	Peripheral Control

Extended Functions — Advanced

Active	Description
☐	Timing auto-operation management
☐	Anti Pass Back
☐	InterLock
☐	Activate multi-card access
☐	First Card Open
☐	Active Check Access Inside

Extended Functions — Others

Active	Description
☐	Timing Download
☐	Don't backup database before quit
☐	Multi-card exit when multi-card entry
☐	Periodically Upload Privilege
☐	Open By Inputing "*Card*PIN#"
☐	Force password valid after swiping registered card

DISCLAIMER

Note: Most of the following features and functions on the following pages are normally used for complex access control systems that will not be used by the everyday site and/or user. Although this manual will help work with some of the more commonly used functions, this portion of the product is not supported by EMX for any technical issues. The stated purpose of this product and this software was to offer a simple door/gate control product that is low cost.

Remote control, Open Gate/Door via TCP/IP

If you want to open the gate or unlock a door manually using the control software, then you would need to set this function. This is useful when someone needs to enter and does not have a card or tag and you want to allow them inside.

【Extended Functions】 << 【Normal】 << 【Remote Control Opening Door】

When you select this feature as seen in the picture to the right, and click on the OK button, you will be asked to restart the program. Once you re-log into the program, you will now have the option to open any door by way of a mouse click.
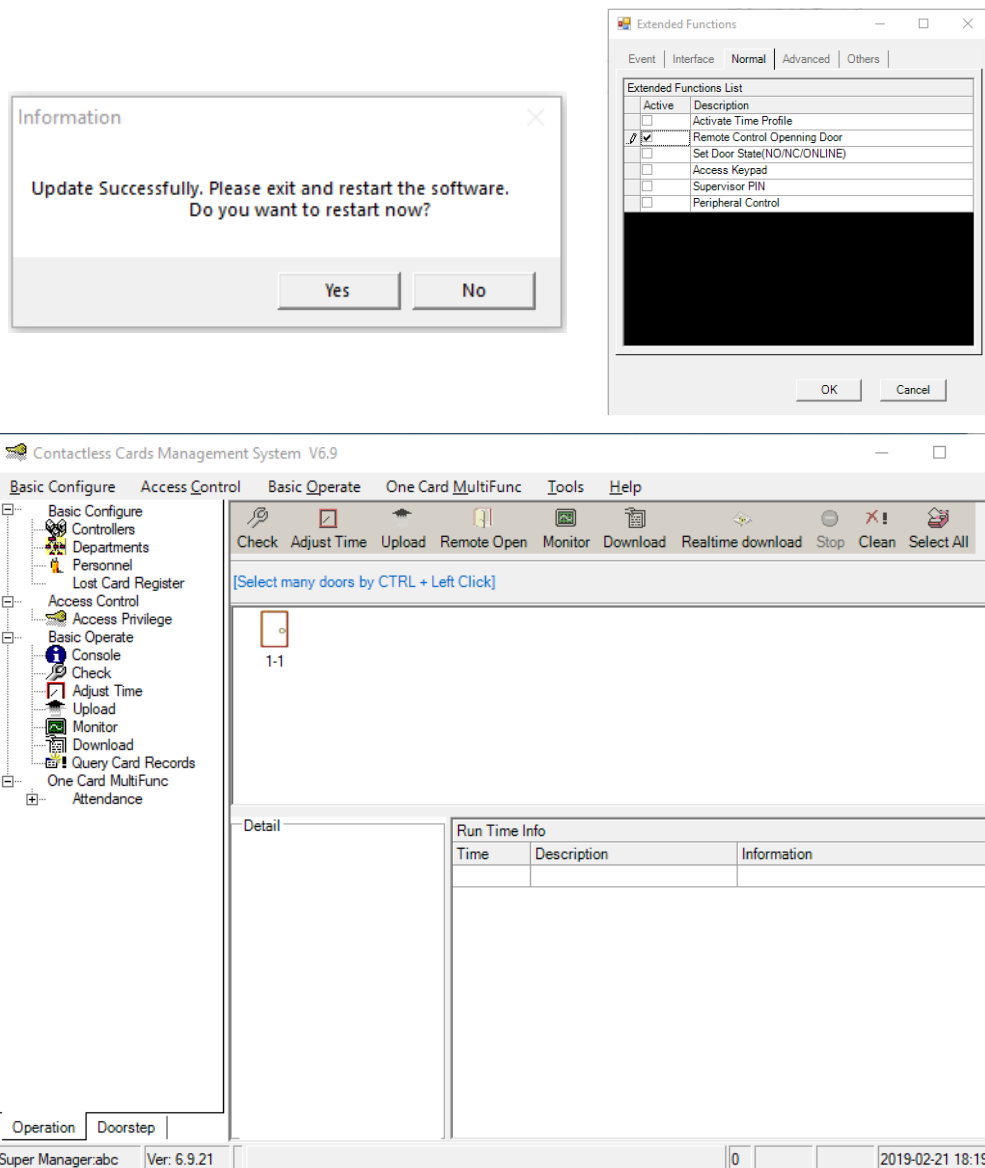
As you see in the Basic Operate + Console menu, you now have the option to 'Remote Open'.

【Extended Functions】 << 【Normal】 << 【Peripheral control】

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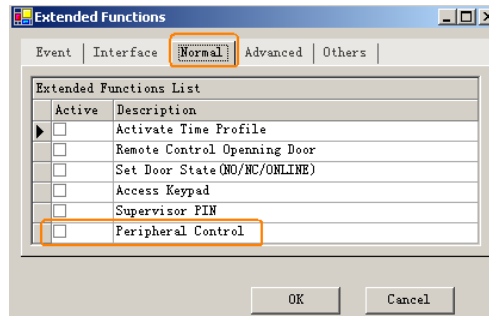
Select Basic Configure << Access Control << Peripheral control
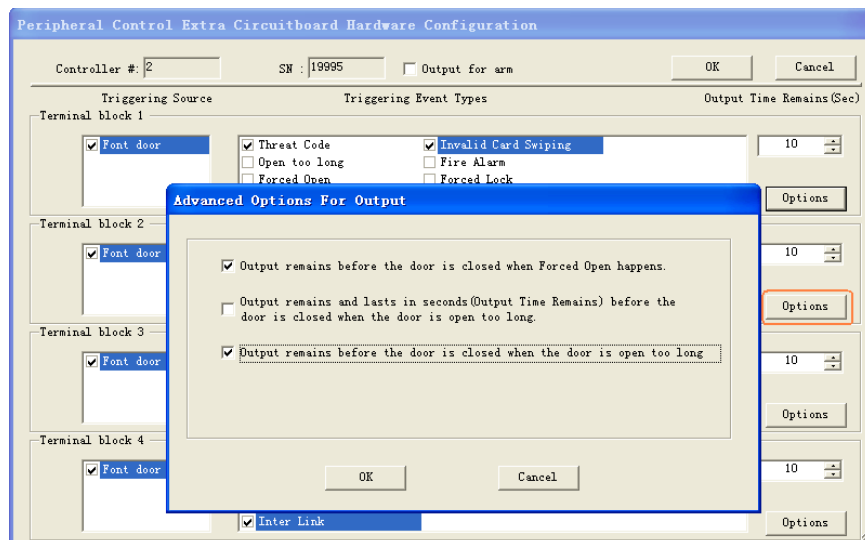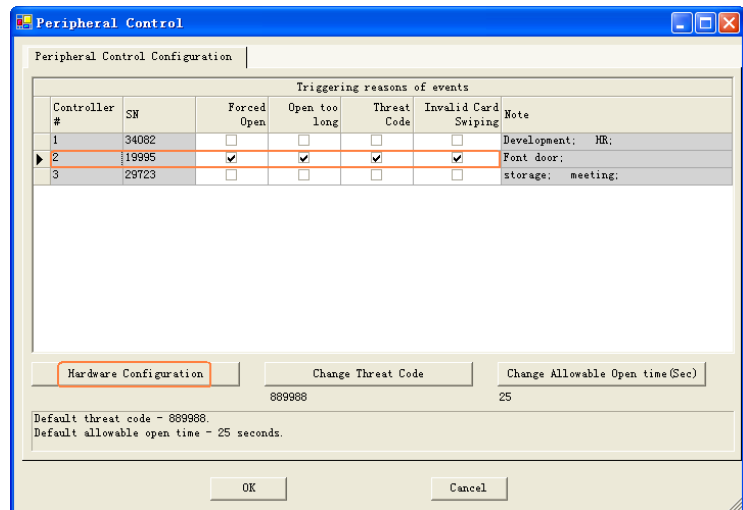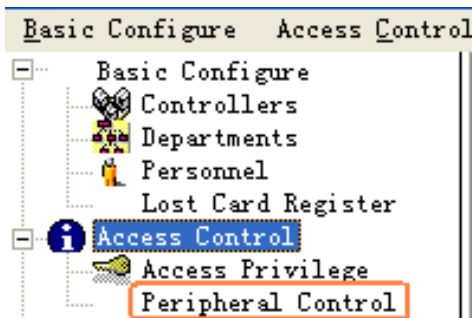
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Password Management

Select **Basic Configure<<Access Control<<Password Management**

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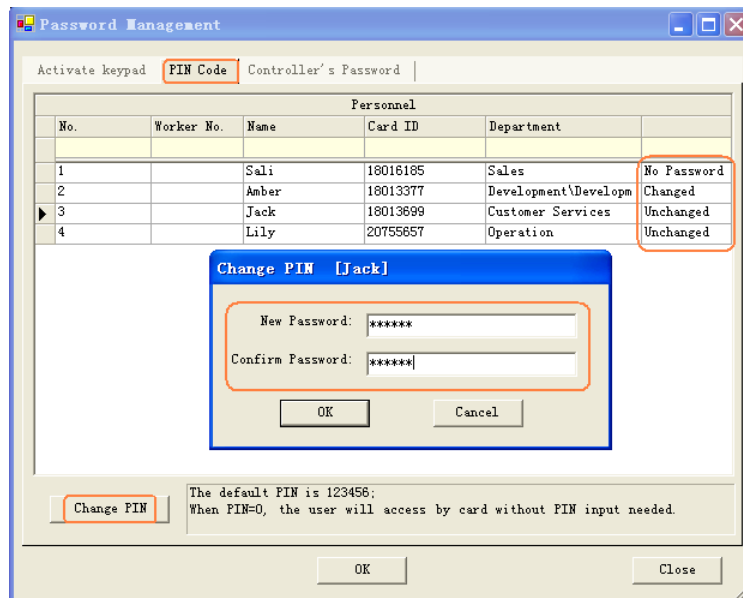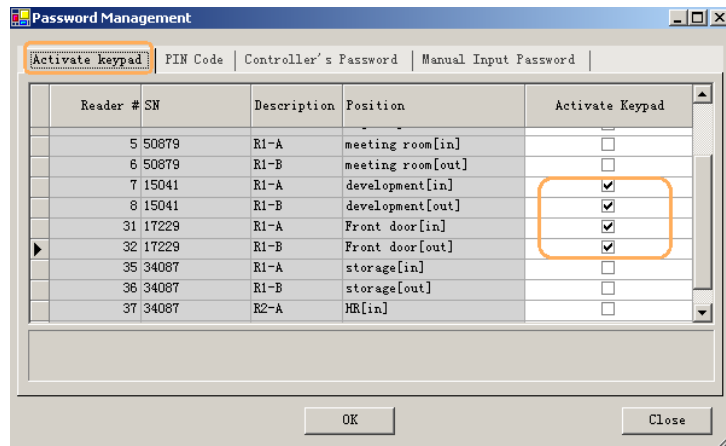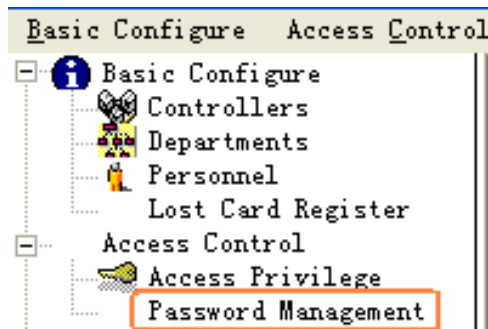
【Extended Functions】<<【Normal】<<【Supervisor PIN】

【Extended Functions】<<【Others】<<【Supervisor PIN】

Open By Inputing "*Card*PIN#"

Anti-Pass-back

【Extended Functions】<< 【Advanced】<< 【Anti-pass back】
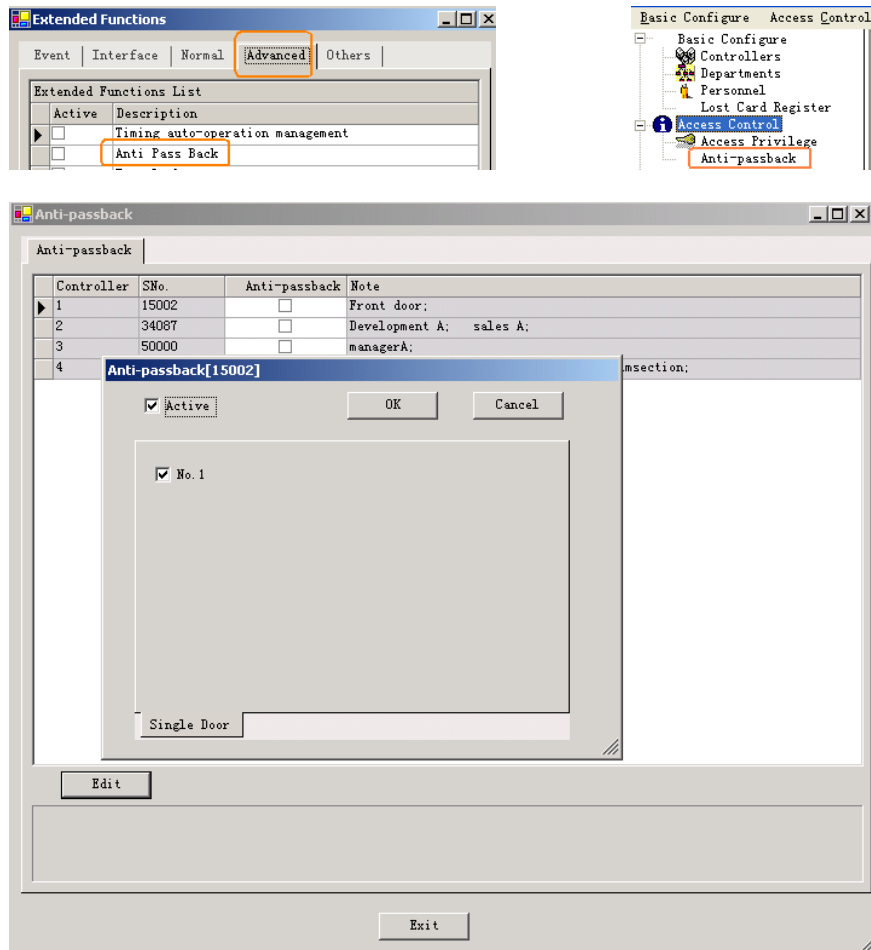
Camera Monitoring (IP Only)

【Extended Functions】<<【Interface】<<【Camera Monitoring】	
Select 【Tools】<<【Camera Management】	
To add an IP camera, click 'New', as shown:	
Set the Readers corresponding to the IP camera	

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Display Photo Compare Window. Select the Console】<<【Camera】	
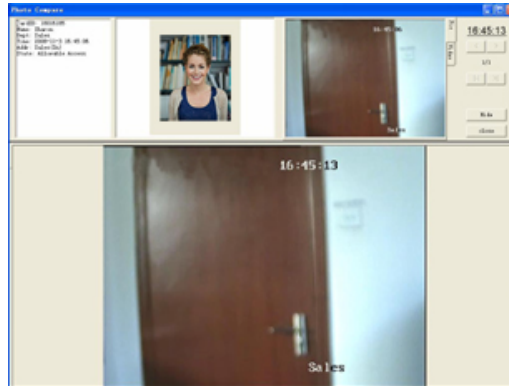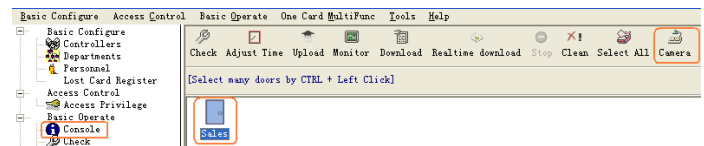
If you want to delete snap pictures and video files
【Tools】<<【Camera Management】<<【Delete Bmp-Video】

If you want to set up video server's IP address, do the following
【Tools】<<【Camera Management】<<【Set Video IP】

Next, input 'New IP Address' and re-input 'Confirmed New IP'.	
If you set the Video IP, Successfully, the image on the left will be displayed.	
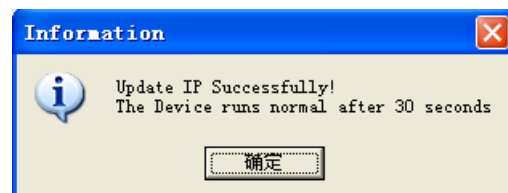
If the Set Video IP Failed, you will see the display in the left.	

Query Camera View

【Query Card Records】 << 【Camera View】
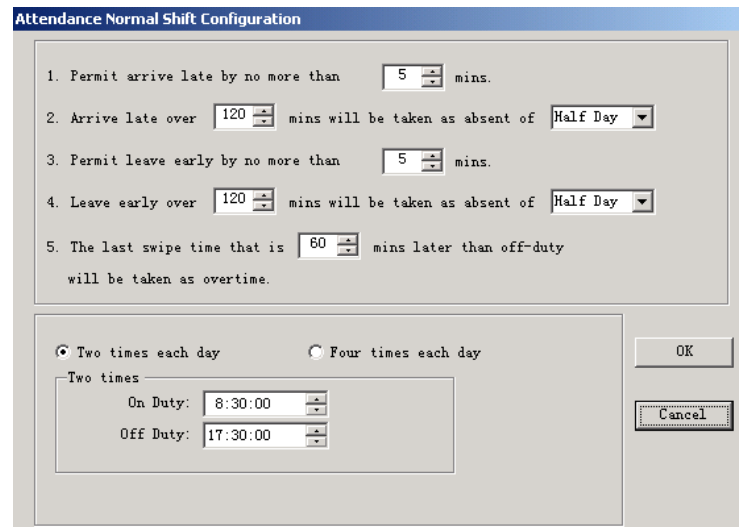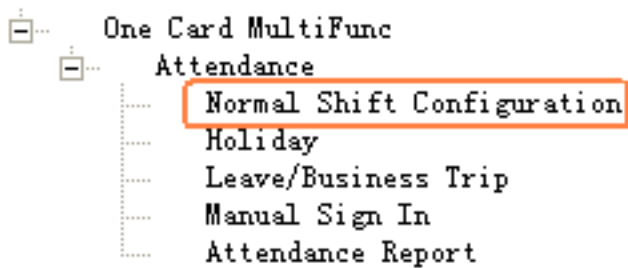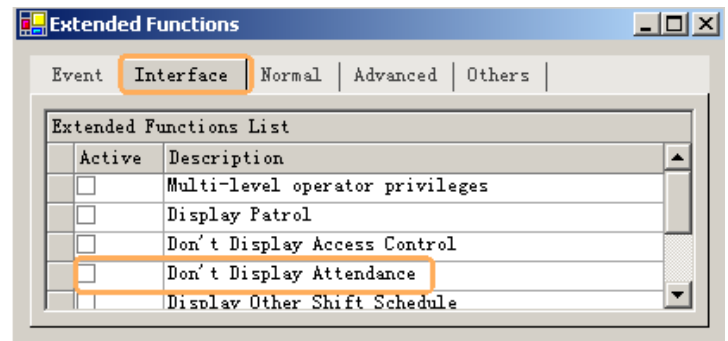
Attendance Module

The Access Control System activated the Attendance by default. If you want to cancel this function, then do the following

Normal Shift Configuration

【Extended Functions】<<【Interface】<<【Don't Display Attendance】	

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Holiday

How do you 'reset' a board to factory default?

To restore factory settings: When the software and controller communication are normal, select the controller that needs to be restored to the factory settings in the main console, press: Shift+F6 button, enter the extended password: '5678', click to confirm the factory settings

Is It Better to set static IP address to Large Network or Small Network?

A small LAN does not need to set an IP address, but the setting is also possible. For a large LAN (cross-network segment), an IP address must be set.
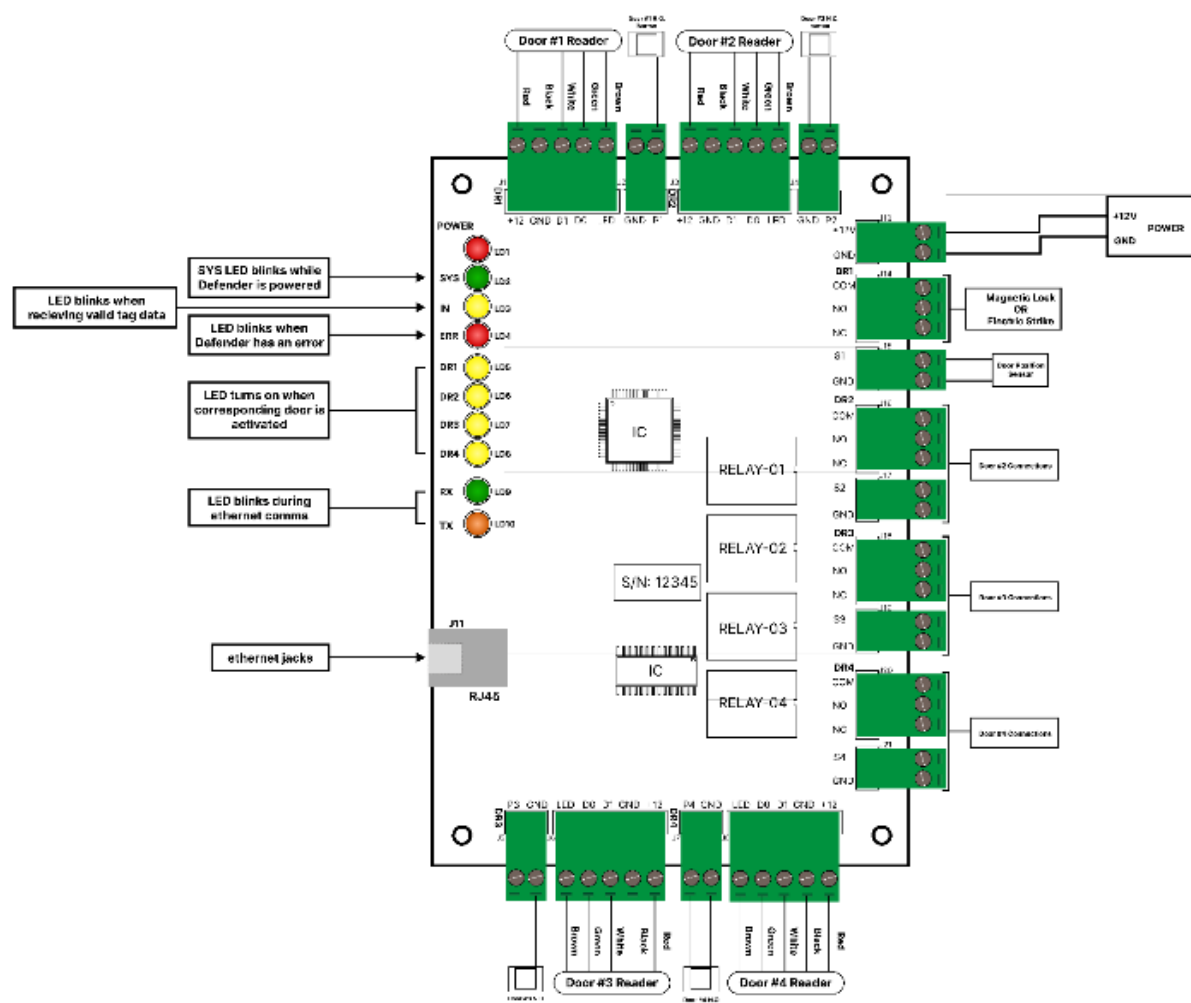
How many Facility Codes can be held and use at same time?

Theoretically, the number of controllers that can be used in the same software is unlimited.

Is the identification made by the printed Serial Number or by MAC address?

The controller of the same system (a small/medium network) is identified by the serial number (SN code)!
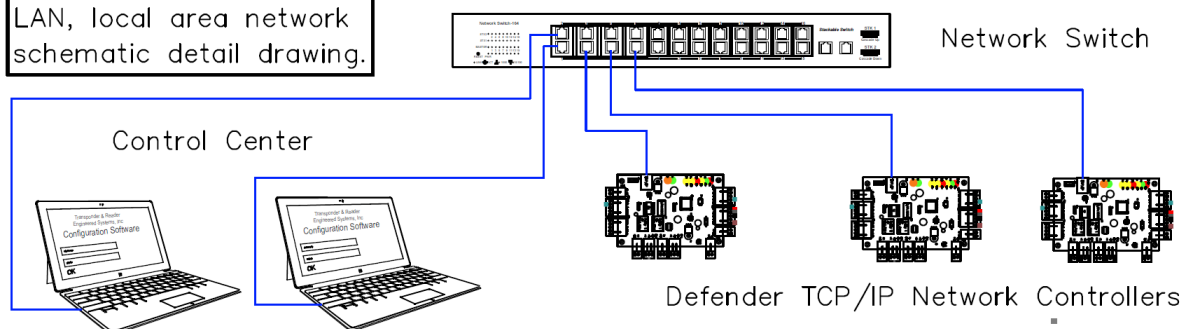
Controller Wiring Diagram

EMX Reader Wiring	
Connection	**Function**
Red	12V+
Black	GND
White	Wiegand D1
Green	Wiegand D0
Brown	LED+

Controller Network Configuration

LAN, local area network schematic detail drawing.

Network Switch

Control Center

Defender TCP/IP Network Controllers

Using LAN network connection it is similar to adding another computer (or workstation) to your existing internal LAN. Simply plug Defender into network and you may use virtually any local computer (with Defender software loaded) to unified local area network Defender system management and control.

WAN, wide area networking schematic detail drawing

InterNet

ASDL

ASDL

Router

Network Switch

Router

Defender TCP/IP Network Controllers