Access Easy Controller 2.1

APC-AEC21-UPS1

en Software Manual

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1 Copyright, Safety and Warranty

1.1 Copyright notice

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The software is intended for use only with the hardware specified in this manual and in the absence of other software. Concurrent use with other software or with hardware not specified may cause the program to function improperly or not at all. BOSCH SECURITY SYSTEMS may not provide support for systems operating under such conditions.

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1.2 Important safety notes

Notice!
Read, Follow, and Retain Instructions - All safety and operating instructions must be read and followed properly before putting the unit into operation. Retain instructions for future reference

Notice!
Consider all Warnings - Adhere to all warnings on the unit and in the operating instructions.

Notice!
Accessories
Use only accessories recommended by the manufacturer. Do not use accessories that are not recommended by the manufacturer, as they may cause hazards.

Caution!
Installation precaution
Do not place this device on an unstable stand, tripod, bracket, or mount. The device may fall, causing serious injury to persons and damage to the device. Mount the device according to the instructions of the manufacturer.

Danger!
Service - Do not attempt to service this unit by yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified service personnel

Notice!
Damaged device
Whenever your device is damaged, disconnect the power supply, and contact your qualified service personnel.

Caution!
Spare parts
When spare parts are required, the service technician must use spare parts that are specified by the manufacturer. Unauthorized substitutions may result in fire, electrical shock or other hazards.

Notice!
Safety check
After the service technician completes the repair work on the device, ask the service technician to do safety checks to make sure that the device operates correctly.

Notice!
Power supplies
Only use the device with the power supply indicated on the label. If unsure which power supply to use, contact your dealer. For devices operating from battery power, refer to the Installation manual.

Notice!
Lightning
For added protection during a lightning storm, or when this device is left unused for long periods of time, disconnect the device from power. This will prevent damage to the device due to lightning and excessive power line surges.

Notice!
Installation in locations with restricted access
For the installation, provide locations with access that is restricted to authorized personnel only.

1.3 FCC information

This device complies with Part 15 FCC Rules and Industry Canada's license-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2 Introduction

Access Easy Controller 2.1 (AEC2.1) is a new generation IP web based security system that allows you to control and monitor access routes with flexibility and conveniences to suit individual needs.

Access Easy Controller 2.1 uniquely combines the features of a Web server, video integration and security system in one complete unit. Such powerful combination provides a highly cost-effective solution, which provides simplicity and ease-of-use associated with the popular Web interface while incorporating a rich suite of sophisticated security features essential for all businesses.

The design of Access Easy Controller 2.1 adopts the common desktop metaphor for all web based applications for consistency and ease of use.

Access Easy Controller 2.1 provides the necessary operation of an Access Control system and comes with its own Intrusion Detection system. The Access Easy Controller 2.1 can store up to **20,480** Card IDs in its database and hold up to **100,000** transactions/events. Features such as video integration, video verification, Email and Short text Messaging Service (SMS) are available in Access Easy Controller 2.1.

This software manual helps you understand the software interface and the different menu features available in Access Easy Controller 2.1.

2.1 Access Easy Controller 2.1 Functional Features

Access Easy Controller 2.1 Functional Features		
Item	**Description**	**Remarks**
1	Door access control	X
2	Intrusion alarm/input monitoring	X
3	Output device control (on/off)	X
4	Time attendance clocking	X
5	Email messaging upon triggered events	X
6	SMS messaging upon triggered events	X
7	View Live and Playback videos	X
8	Video verification for door access	X
9	Search event videos for verification	X
10	Backup database (parameters, activities & audit log) into compact flash	X
11	Integrate to Access Easy Master Controller	X
12	Priority anti-passback zone (254 zones) operation and only registered if door contact detect door being open by cardholder	X
13	Door forced open alarm delay	X
14	Door held open pre-warning	X
15	Reader lockout after a pre-define invalid card event	X
16	Elevator access control	X
17	Integrated door access reader with arm/disarm function (using same reader)	X
18	Special cardholder with extended duration for door strike and keypad	X
19	One time access	X
20	Dual card entry (2 man rule)	X
21	Card enrollment function for any card with unknown card format	X
22	Option to unlock door by schedule only after a valid access card is presented	X
23	Input monitoring (door contact, request-to-exit, alarm input points) supports configurable 2 state non-supervise, 2 state supervise and 4 state supervise for all input points in the controller.	Configurable:- 2 state nonsupervise (no EOL), 2 state supervise (6.8K

Access Easy Controller 2.1 Functional Features		
Item	**Description**	**Remarks**
		EOL), 4 state supervise (12K & 15K EOL)
24	Card database import and export function (in CSV format)	X
25	Real time activities and status update	X
26	Department field in the card assignment	30 alpha-numeric characters
27	Advance IO (guard tour, feed through, OR, AND, XOR, NAND, up/down counter, exit door, one shot and intrusion)	X
28	Support interlock/mantrap operation using advance IO configuration.	X
29	Browser login encryption	128 bits SSL

Maximum Capacities		
Item	**Description**	**Capacity**
1	Wiegand reader support	32
2	Input monitoring points	64
3	Relay outputs	64
4	Cardholder	20480
5	Transaction history	100,000
6	Audit log	1023
7	Compact flash size	512 MB
8	Video camera to a reader or input/output point or advance IO function block	3

2.2 Powering up Access Easy Controller 2.1

Access Easy Controller 2.1 is incorporated with some beep sounds in the system for you to identify the stages/faults in the system/events etc. The table below lists the beep sounds that you may encounter while booting the system.

Types of Beep during Boot up	Significance/Stages in Booting Sequence
2 short beeps	When the panel is powered up, a boot up check will be carried out. The CPU will authenticate with its security key before proceeding to run the software
Continuous beep for 60 seconds	Occurs after boot up check and if verification of the security key fails.
3 short beeps	Occurs when the system starts to launch the back end program.

Types of Beep during Boot up	Significance/Stages in Booting Sequence
Continuous beep for 30 seconds	Occurs when any decrypting failure takes place.
5 beeps in ascending tune	Occurs when all the back end programs are launched successfully.
8 beeps	Occurs when the boot up is complete.

Notice!
The software errors are auto fixed in the program.

3 Overview of Access Easy Controller 2.1

The basic AEC2.1 system consists of a single metal enclosure with three components: CPU, 4-Reader board, and Power Supply Unit (PSU). Space is provided for a 12-volt standby battery to sustain the system in event of a power failure. The PSU in the controller has an input power of 100~240 VAC.

The enclosure is key locked and is equipped with a tamper switch to detect any tampering of the panel, and/or when the controller door is being opened.

Figure 3.1: AEC2.1 Main Enclosure

In its minimum configuration, an AEC2.1 system supports one 4-Reader board. The board comes with, 4 card reader, 8 input, and 8 output ports to support all necessary hardware (door lock/strike outputs, door contact inputs and request-to-exit inputs). A full AEC2.1 system supports up to a maximum of 16 interface boards (eight 4-Reader boards and eight 8-IO boards). This allows the AEC2.1 system to support up to 32 card readers, 64 alarm type input and 64 controllable output points.

CPU Board - The CPU board contains a microprocessor, RAM memory and all necessary electronic circuitry to interact with other circuit boards. The CPU board contains the hardware and software needed to interface to an Ethernet-type network and to communicate with host computers using TCP/IP protocol.

4-Reader Board - The 4-Reader board is an interface board for AEC2.1. The reader board contains all circuitry necessary to interface with, and operate, up to four card readers. The reader board also provides wiring termination points for the readers, door strikes or magnetic locks, door contacts and request-to-exit devices. The first interface board of the system communicates with the CPU board via the RS232 channel. The subsequent interface boards are linked through a multi-drop communication channel, RS485, to form the system. The PSU supplies the required 12V DC power to the board.

8-Input-Output Board -The 8-IO board is an interface board for AEC2.1. The 8-IO board provides the necessary circuitry to monitor 8-alarm type (non-reader) inputs, and to control up to eight external devices, such as bells, fans, lights, etc. The board also provides wiring termination points for the input and output devices. The first interface board of the system communicates with the CPU board via the RS232 channel. The subsequent interface boards are linked up through a multi-drop communication channel, RS485. The PSU supplies the required 12V DC power to the board.

Access Easy Extension - Access Easy Extension is a metal enclosure identical in size to the basic AEC2.1. The Extension unit contains a Power Supply Unit, and space to install up to two additional 4-Reader boards and/or 8-IO boards. Space is provided for an optional 12V, 7AH standby battery to sustain the system in time of power failure.

Notice!
AEC2.1 does not come with the 12V DC standby battery.

4 Accessing Access Easy Controller 2.1

This chapter explains the basic information on how to access the AEC2.1 and log onto the software.

A standard web browser program such as Internet Explorer is required to access or monitor the AEC2.1.

4.1 Connecting to Access Easy Controller 2.1

Before accessing the AEC2.1, it must be configured and integrated to the existing computer network.

As this integration requires knowledge on networking, it is the responsibility of the System Installer to work closely with your company's Network Administrator to do the initial set up.

However, for general knowledge, a description is presented in *APPENDIX A, page 205*. For users accessing the AEC2.1 using their own computer, refer to the section ‘Setting to be made to the Web Browser’.

4.2 System Requirements

Check the following minimum hardware and software requirements on the Remote PC to access the AEC2.1.

- 10/100Base-T Ethernet card
- CD drive
- Operating System (Windows)
- Windows 10/7/XP
- Standard Web browser (e.g. Internet Explorer)

Video Requirements:

- .NET Framework 3.0 (.NET Framework 3.5 for VideoSDK 5.x)
- DirectX
- Video card that supports DirectX
- Internet Explorer

The AEC2.1 can be accessed after all the preceding system requirements are met.

Notice!
Video integration features are available on Windows 10/7/XP OS only.

4.3 Accessing Access Easy Controller 2.1 Software

A working knowledge of Windows and Internet Explorer is required to access the AEC2.1.

To get connected to AEC2.1, launch the web browser program and key in the AEC2.1's URL address followed by the <Enter> key. The factory default URL for AEC2.1 is 192.168.0.41.

The screen below shows an example of the web browser with the default URL address for the AEC2.1.

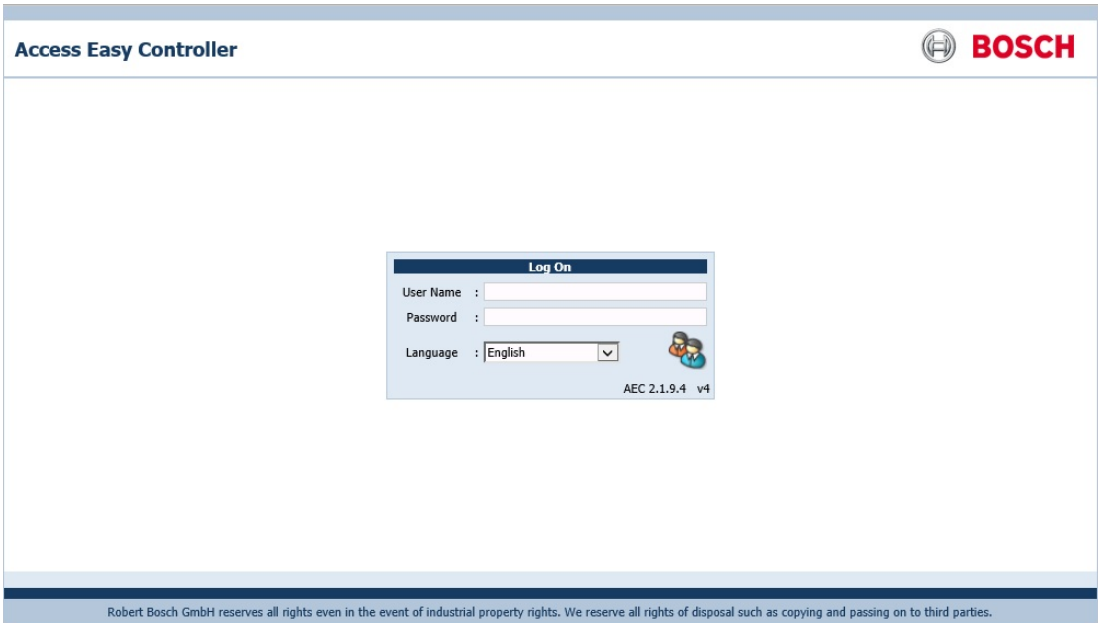
Figure 4.1: AEC2.1 Default URL address

Note: All screens are presented in Internet Explorer 7.0.

This will bring up the login page.

4.4 Logging into Access Easy Controller 2.1

The login screen appears as shown below.



This **Log On** dialog box provides a security control that protects the AEC2.1 from unauthorized access. Enter your user ID and password in the **User Name** and **Password** fields to gain access to the AEC2.1. Select the required GUI language from the **Language** drop-down list.

The system allows up to 8 users to logon the same AEC2.1 using different computers.

Notice!
The user ID and password are case-sensitive and can be changed.

When the AEC2.1 is first installed, there is only one assigned user ID and password. This default user ID is known as the Superuser and usually assigned to the AEC2.1 System Administrator. The Superuser has full access rights to all features of the AEC2.1, including the AEC2.1 Utility programs. The user ID and password of the Superuser can be changed but the access rights cannot be changed.

Notice!
The AEC2.1 Utility programs are no longer supported from version 2.1.9.4 v4 and above.

The default IP Address = **192.168.0.41**, user ID = **user1** and password = **8088**

Notice!
Once the system is commissioned and handed-over, change the default user ID and password as soon as possible to prevent unauthorized access.

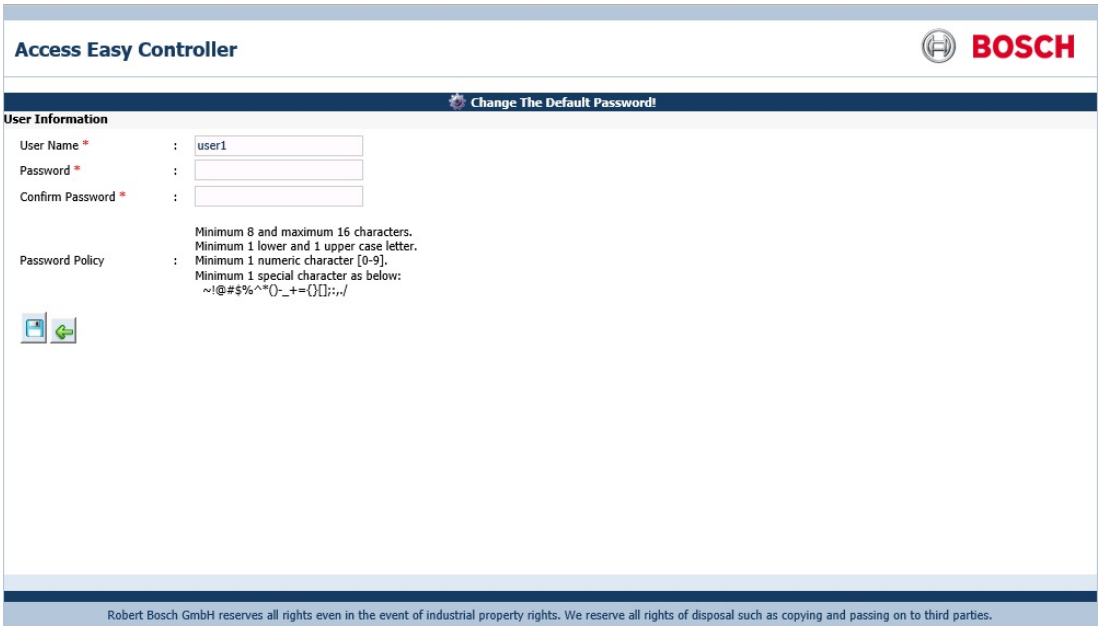
4.4.1 Logging in to Access Easy Controller 2.1

1. Enter your assigned user ID in the **User Name** field.
2. Enter your assigned password in the **Password** field.
3. Select the required GUI language from the **Language** drop-down list box.
4. Click the login button to log into AEC2.1.

Notice!
Changing the language in the login page changes the GUI language interface and not the data in the database.

If you do not know your user ID and password, contact your AEC2.1 System Administrator to obtain them. User IDs and passwords are configured by the AEC2.1 System Administrator.

Logging in using the default password
If you are logging in using the default user ID and default password, you will be redirected to **Change The Default Password** page to change the user ID and/or password immediately.



1. Enter your new user ID in the **User Name** field if you wish to change the user ID. Otherwise, ignore the field.
2. Enter your new password in the **Password** field.
3. Re-enter your new password in the **Confirm Password** field.

Caution!
The user ID and password are case-sensitive. For security reasons, every character entered in the password fields is represented by a dot.

The passwords must meet the following requirements:
minimum length is 8 characters
maximum length is 16 characters
must consist of at least
- 1 lowercase letter,
- 1 uppercase letter,
- 1 number, and
- 1 special character from ~` !@#$%^*()-_+={}[];:,./

4. Click the **back** button to return to the **Log On** page without changing the user ID and password. You will not have access to AEC2.1 until you have changed the default password.

5. Otherwise, click the **save** button to save the changes. If the passwords in the **Password** and **Confirm Password** fields match and meet the password policy requirements, a change confirmation message appears.

6. Click the **back** button to return to the **Log On** page.
7. Log in using the new credentials. You will now have access to AEC2.1.

4.4.2 Progressive delays between login attempts

The system utilizes progressive delays between login attempts for better security and protection from unauthorized access. Progressive longer delays are enforced between subsequent logins after a number of unsuccessful login attempts. The section below describes the progressive delay operation.

After the third unsuccessful login, a 20 seconds' delay kicks in before the user can attempt the fourth login. This delay duration appears within the log on screen and starts counting down. The user may attempt to login during this duration but the system will ignore these login attempts. After the countdown has completed, the user can then attempt to login again. Note that each subsequent unsuccessful login will trigger a delay duration that is twice longer than the previous delay.

Clearing the progressive delays

Clear the progressive delay by performing one of the following:

– Log in successfully with the correct credentials.
– Restart the AEC panel.
– Administrator changing the password or username of the user who failed the login attempts.

4.4.3 Logging off from Access Easy Controller 2.1

After you have finished your session with AEC2.1 or need to be away from the computer, it is recommended to log off from the AEC2.1.

To log off, click the logout [Logout] link on the top of the page.

Notice!
Always log off before leaving the computer!

5 Installing ActiveX and VideoSDK

Install ActiveX and VideoSDK to access the video features of AEC2.1.

The ActiveX and Video SDK is installed automatically when the AEC2.1 system is set. If the Video SDK is not installed automatically then you can install it from the Utility CD or retrieve the files from the VideoSDK page. Refer to *Video SDK, page 171* in Advance settings for more information.

Tips: If the ActiveX control is not shown correctly after auto-installation of ActiveX / Video SDK, please restart the browser and try again. If problem still persists, please follow the *Uninstall Procedure for ActiveX and VideoSDK, page 25* and proceed with manual/auto installation.

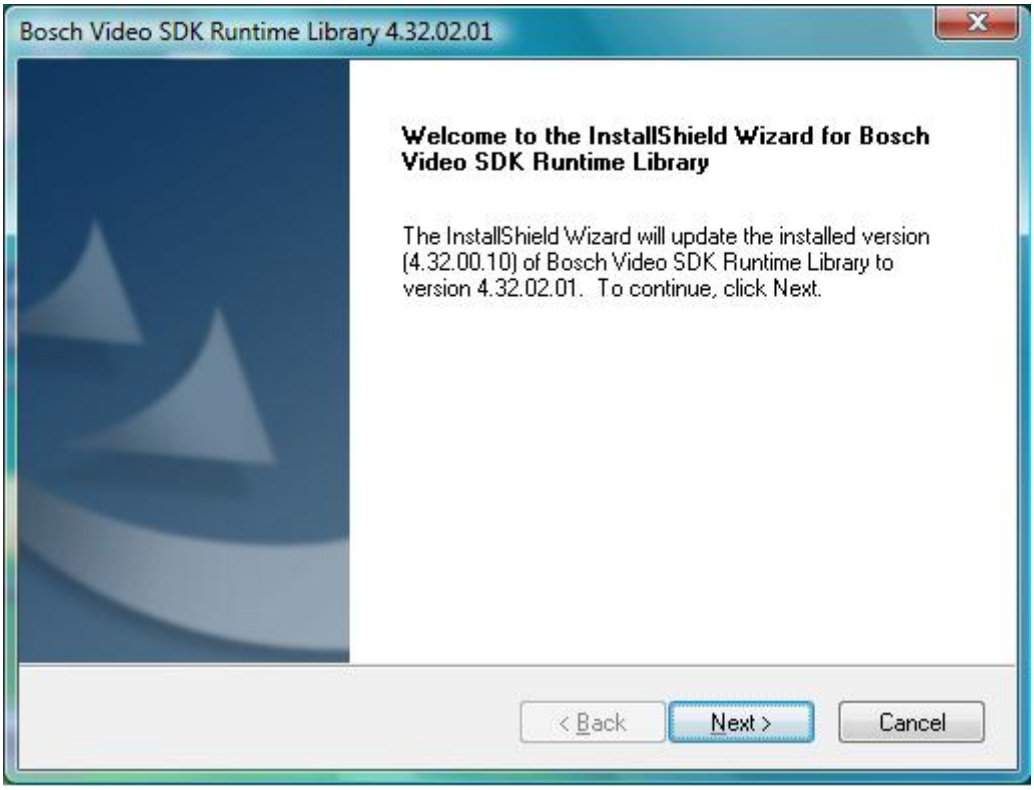
Refer to the section below for installing VideoSDK from the utility CD.

Notice!
The system will auto install VideoSDK only if a camera is configured.

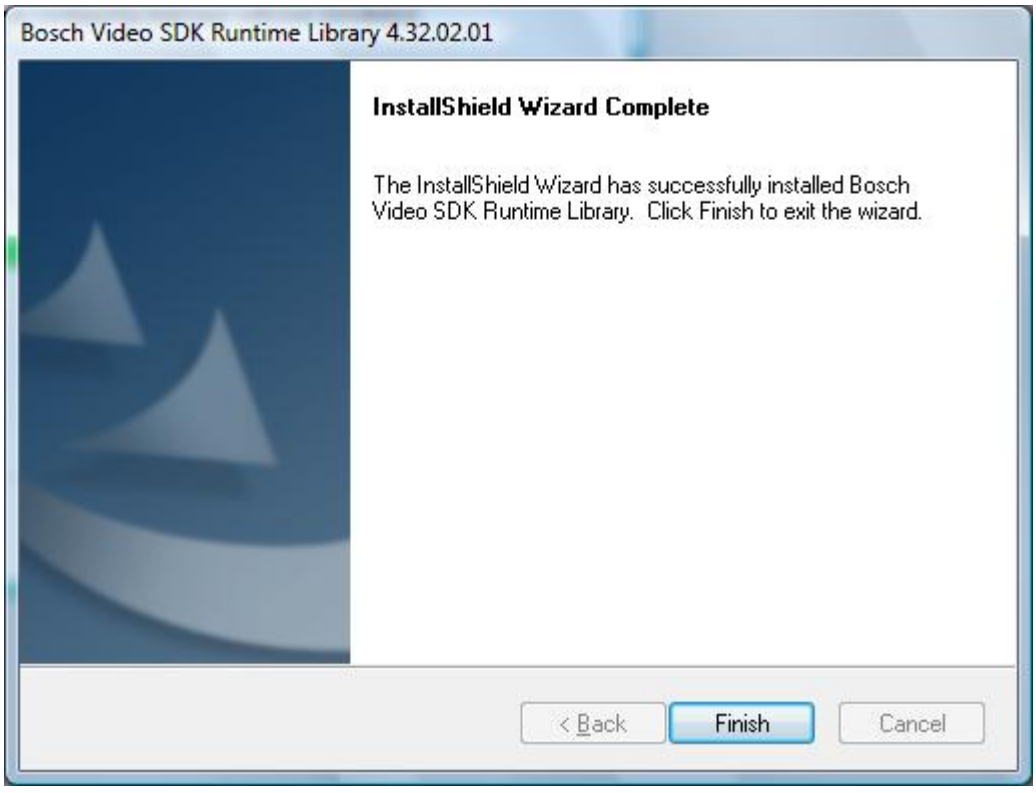
5.1 Installation Procedure for VideoSDK

The steps below will guide you through the installation of the Video SDK.

1. Place the CD in the CD-ROM and open the folder **BOSCH VideoSDK**. In the BOSCH VideoSDK folder look for the **.exe** file in the installer folder.
2. Double click the .**exe** file. The screen below appears. Click the **Next** button to proceed with the installation.



3. Follow the instructions in the install Shield window to complete the installation. After the installation is completed successfully the screen below appears.



This completes the **BOSCH VideoSDK** installation.

5.2 Uninstall Procedure for ActiveX and VideoSDK

Follow the procedures below to uninstall ActiveX and VideoSDK based on the version of VideoSDK.

Please close all the browsers and any other applications that is using ActiveX and/or VideoSDK.

Procedure for Video SDK 4.x
Uninstall AEC ActiveX

– For 64 bit system:
  Go to “C:\Program Files (x86)\Internet Explorer” and delete AECVideoActiveX.ocx
– For 32 bit system:
  Go to “C:\Program Files\Internet Explorer” and delete AECVideoActiveX.ocx

Uninstall VideoSDK 4.x

– In ‘Control Panel’ > ‘Programs’ > ‘Programs and Features’, remove/uninstall ‘Bosch Video SDK Runtime Library 4.X’

Procedure for Video SDK 5.x
Uninstall AEC ActiveX

1. Go to '(OS installation Drive)\ProgramData\BOSCH\AEC2.1' folder. Run Uninstall ActiveX.bat as Administrator.

2. Delete '(OS installation Drive)\ProgramData\BOSCH\AEC2.1' folder. (Please make sure Browser is closed).

Notice!
If ProgramData folder is not visible, make sure that you have enabled the option to show hidden files and folders. It can be done in Windows Explorer, press 'Alt' > 'Tools' > 'Folder options...' and select 'Show hidden files, folders and drives'.

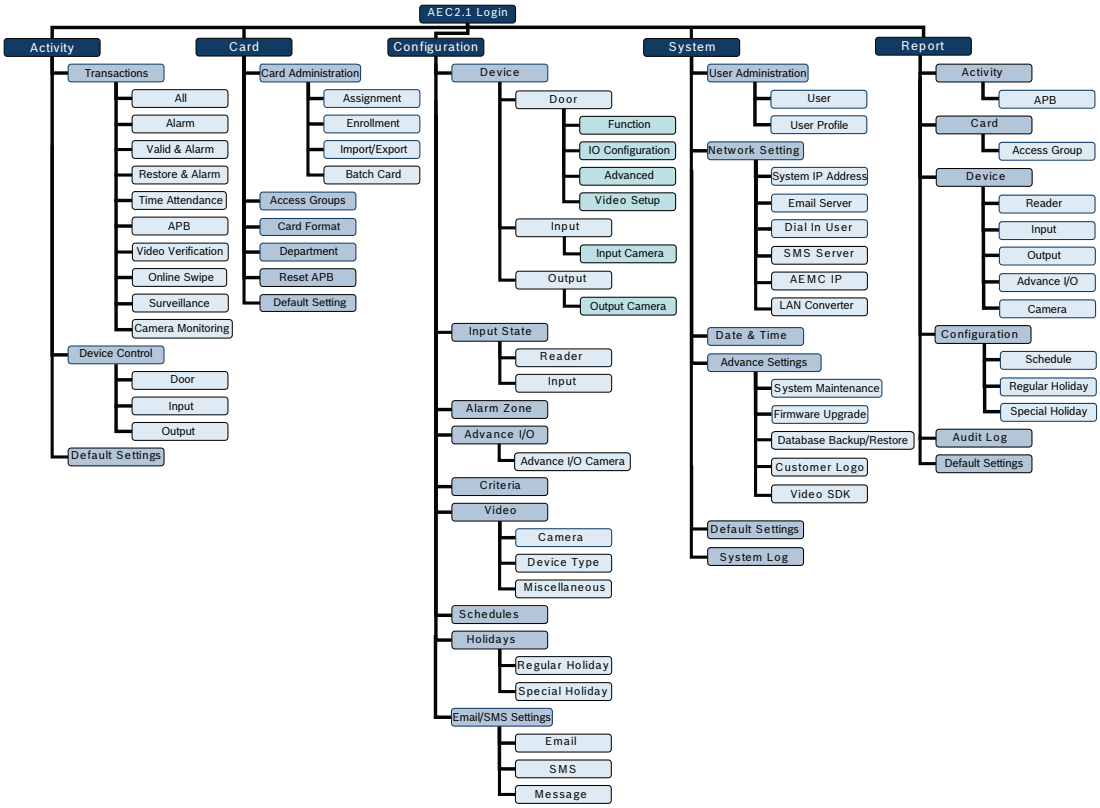
Uninstall VideoSDK

– In ‘Control Panel’ > ‘Programs’ > ‘Programs and Features’, remove/uninstall ‘Bosch Video SDK 5.X’

6 Main Menu Groups

The AEC2.1 home page shows a list of the main menu features available in the AEC2.1 system. The **Alarm Transactions** page is the default home page for AEC2.1.

The diagram below shows the structure of the menus and submenus available in the AEC2.1 software interface.



The main menus and its features are explained in detail in the following chapters. A brief description of each menu is explained below.

6.1 Menu Description

Following are the main sections of Menu Description:

6.1.1 Activity

The Activity menu shows all the transactions generated due to access control, system control and alarm conditions. Based on the transaction type the transactions are categorized into the following groups: **All, Alarm**, **Valid & Alarm**, **Restore & Alarm**, **Time Attendance**, **APB** and **Video Verification**. You can select a specific transaction group tab or view **All** Transactions.

The Transactions page also shows the **online swipe**, **surveillance** and **cameramonitoring**. The **onlineswipe** function lists the last three valid cardholders who tried to access the AEC2.1 system. The **surveillance** window displays the live event video, when an alarm event is triggered in the camera configured location. In the surveillance window you can view the **Live** video, **Playback** video, and compare the two videos. The **camera monitoring** function allows you to view the live streaming video of the camera for monitoring. You can also view the playback video of the camera for a selected date and time in the camera monitoring window. The **video verification** function enables automatic live video display of the access point for comparison with cardholder's photo for the operator to grant access or deny access to the cardholder.

The Activity menu relates to the manual control of the system hardware and consists of **Door Control**, **Input Control** and **Output Control**.

6.1.2 Card

The card menu relates to the card parameter set up, such as **Card Number**, **Cardholder's name**, **Cardholder's photo** etc including the right to **Arm/Disarm an alarm zone**.

The card menu also relates to the **Access Groups** that allows to categorize the Card Readers into different Access Groups for Cardholder's access rights. A cardholder can have access rights for a maximum of two access groups.

In the card menu option you can create **Card Formats**, **Departments** and **Reset the Anti Passback** settings for a cardholder.

6.1.3 Configuration

The configuration menu relates to the door settings and camera settings of the system. In the camera settings a maximum of three cameras can be configured to each reader or input/ output point or advance IO function block.

In the card menu option you can create alarm zones, criteria settings, configure Email, SMS and Message settings.

Advance IO setup is used to enable the rerouting of physical or logical information from one operation to another.

In the configuration menu you can add device types and configure cameras to the AEC2.1 system. The auto detect camera option lists the available cameras.

Schedules are used to set-up time intervals for use in access system and hardware control. Holidays are used to define and assign programmable holiday dates.

6.1.4 System

User ID's and Password including access rights to the various menu items are set in the system menu. You can configure the **Panel IP address**, **Dial In settings**, and the **AEMC IP settings**. The system menu allows you to set the **date and time** of the panel.

Database Backup is used to backup (write) all databases into the flash memory of the controller and further download to the hard disk of a PC. You can define a time in the AEC2.1 to perform an automatic backup to the flash memory. The database backup is also used for database recovery.

Firmware upgrade is used to upgrade firmware or program upgrade. Video update is used to update the video versions.

Reboot Panel function is used to reboot the AEC2.1 system. A reboot is usually performed after resetting the AEC2.1 IP Address or during a firmware upgrade. **Shutdown Panel** function is used to shutdown the AEC2.1 system. A shutdown is usually performed after hardware upgrades.

6.1.5 Report

This menu item allows you to print reports based on **transactions**, **cardholders violating the APB settings**, **access groups**, **schedules**, **user log**, **Input points**, **camera**, **holidays** etc.

You can provide a main header and sub headers for the reports generated from the AEC2.1 system.

6.1.6 Logout

The Logout option is used to log off from AEC2.1 system.

6.2 Navigating through Access Easy Controller 2.1 Page

Click the main menu followed by the sub menus to access the web page of the functions selected.

6.3 Usage of the Buttons

The table below shows the functions of the action buttons available in AEC2.1 webpage.

Button	Description
	The save button saves the current settings to the (Dynamic RAM) DRAM and refreshes the current web page
	The add button performs the following functions:- – carries out the addition process – adds selected parameter to the list window
	The delete button performs the following functions:- – deletes all configurable parameters and sets it to default – removes selected parameter from the list window
	The previous button performs the following functions – does not save the settings made on the current screen and – brings up the previous screen
	The edit button, edits the current parameter settings

Button	Description
	The move left button, moves a selected parameter from the right list window to the left list window
	The move right button, moves a selected parameter from the left list window to the right list window
	The reboot panel button, reboots the AEC2.1 system
	The shutdown button, shuts down the AEC2.1 system
	Time synchronization button, synchronizes the AEC2.1 system time to the server time or PC time
	The acknowledge alarm button, acknowledges the Alarm transactions
	The alarm audio on/off button, silents the audible tones on the CMC
	The download button downloads the files to the desired location on the PC local drive
	The upload button uploads the files from the PC to the system
	The send button, sends Email or SMS to the addressees mentioned
	The camera button is used to view the video clip of an event
	The reset APB button, resets the APB violation
	The grant access button is used in video verification to grant door access to the cardholder
	The deny access button is used in video verification to deny door access to the cardholder
	The play button, plays the Live or Playback video
	The stop button, stops the streaming of the Live or Playback video
	The pause button, pauses the streaming of the Playback video. The pause button is available in the playback mode only
	The fast forward button streams the video in a fast mode and streams the video in forward motion. The fast forward button is available in the playback mode only
	The rewind button streams the video in the backward direction. The rewind button is available in the playback mode only
	Downloads the current streaming video. The downloaded video is saved in the configured location. Refer to *Miscellaneous, page 110* for more information.

Button	Description
	The jump to event button starts the video streaming from the moment the event was triggered. In other words it ignores the pre and post event duration timing.
	The snapshot button is used to take a still image from the streaming video. The image file is saved in the configured location. Refer to *Miscellaneous, page 110* for more information.
	The view report button is used to preview the configured report.

7 Activity

The Activity menu relates to the transactions generated by the AEC2.1 system and the video features available in AEC2.1. The activity menu also relates to the manual control of the system hardware.

The different features of the activity menu are explained in the following sections.

The Activity main menu consists of the following submenus:

- Transactions
- Device Control
- Default Settings

The three submenus are explained in detail in the following pages.

7.1 Transactions

The transactions submenu lists all the transactions or events triggered by the AEC2.1. Every activity transaction such as **Door Forced Open**, **Door Held Open**, **Access Granted**, **Access Denied** etc. are captured by AEC2.1 and displayed on the transactions web page in real-time mode with the transaction occurrence date and time.

The transactions window consists of two window panes, the left pane and the right pane. The left pane displays the transactions performed by AEC2.1 and the right pane displays the **online swipe**, **surveillance** and **camera monitoring** features.

The transactions are categorized into different groups based on the event triggered or actions performed on the AEC2.1. The transactions are categorized as follows: **All**, **Alarm**, **Valid & Alarm**, **Restore & Alarm**, **Time Attendance**, **APB** and **Video Verification**. You can select a specific transaction event or view all the transactions by selecting the **All** tab.

AEC2.1 can store up to **100,000** activity transactions and the **Alarm** transactions window is the default screen for AEC2.1.

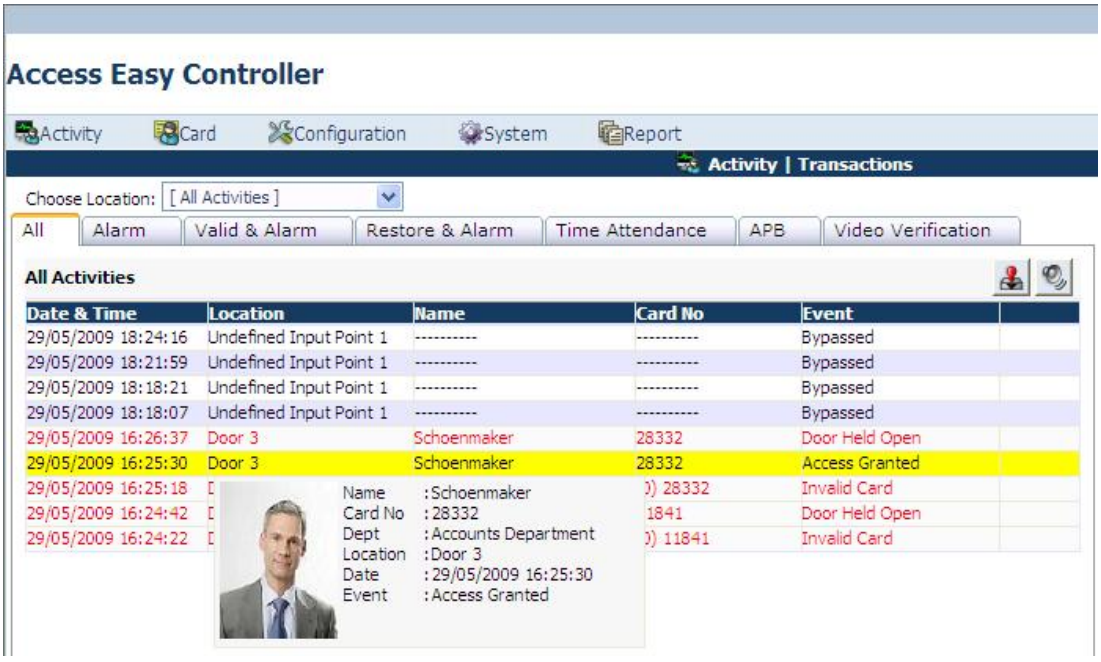
Note: The default view of the transaction screen can be changed in the default settings page of the activity menu. Refer to *Activity - Default Settings, page 53* for more details.

The screen below shows the transaction window with the **All** tab selected. You can select a transaction group by selecting the transaction group tab you want to view.

The transactions webpage displays the details of the event triggered or the action performed on the AEC2.1 system. The transactions webpage lists the **name**, **card number**, **location** where the event or action was performed, the **date and time** when the event or the action was performed and the **description** of the event or action performed.

A camera icon is displayed along the transactions row if a camera is configured for the location. Click the camera icon to view the recorded events or action video clip. These event videos can be downloaded to the PC for later investigation. The videos are recorded in the video device and not on the AEC2.1 system.

You can view the cardholder's profile by moving the pointer along the card number column. This feature is available in all the transaction groups. The screen below shows an example of the cardholder's profile details as you move along the card number column.



The cardholders profile window also shows the **Reset APB** button if a cardholder has APB violation. You can reset the Anti-Passback violation for the cardholder by clicking the **Reset APB** button.

Note: You should have the access rights to **reset the anti-passback** option. Refer to *Reset APB, page 79* for more details.

The features of activity transactions are as follow:-

– All Alarm transactions have red colored text wording while other transactions have black colored text wording.
– Click the acknowledge button to acknowledge the alarm transactions. Once the acknowledge button is clicked the alarm audio is silenced. The text of the alarm transactions remain red even after the transactions are acknowledged.
– When the web page refreshes or is acknowledged, either automatically or through user intervention the transactions background is replaced with grey background.

All the alarm transaction tabs (**All**, **Alarm**, **Valid & Alarm**, **Restore & Alarm**) consists of two action buttons namely the acknowledge button and the speaker on/off button . Click the acknowledge button to acknowledge the alarm transactions.

The AEC2.1 system sends a beep sound every time there is a transaction in the system. Click the speaker on/off button to mute the beep sound.

The available Transaction groups are explained in detail below.

7.1.1 All

Displays all the transactions performed by the AEC2.1 system. The screen below shows the **All** transactions window. The transactions page is explained in detail in the previous paragraphs.

The **Choose Location** dropdown at the top of the page lists all the doors configured to the system. You can configure a group of doors as a set in **Setting - Door Group**... option available in the **choose location** dropdown. Select **Setting - Door Group...** from the **Choose Location** dropdown as shown below.

The screen below appears to select the doors to be added to the Door Group.

Select the check box corresponding to the respective doors which has to be configured in the Door Group set. Click the save button to save the locations in the door group. Select the **All Items** option if you want to select all the doors in the locations list to the door group. After selecting the required doors click the save button to save the settings. Click the back button to cancel the settings and return to the transactions page.

Notice!
The configured location is user based and is available to the user who configured the door group.

After saving the settings the web page returns to the Transactions main page. Select a location from the **Choose Location** dropdown to view the transactions/events of the AEC2.1 system at the selected location.

In the **All** transactions window, all the alarm transactions have red colored text while other transactions have black colored text.

7.1.2 Alarm

Displays the alarm events triggered by the system. Examples of Alarm transactions include **Access Denied**, **Door Held Open**, **Panel Tamper**, **Duress** etc. For a detailed list on Alarm transaction, refer to Activity Transactions.

When any of the Alarm Activity transactions is transacted, an alert audio tone is sent to the Central Monitoring Computer (CMC). Ensure that the CMC's audio system is in working order and the volume is set to a reasonable level.

The working procedure and the features available in **Alarm** transaction group is the same as explained in the **All** transactions group. Refer to *All, page 34* for more information about the software interface and the features available in the **Alarm** tab.

7.1.3 Valid & Alarm

Displays transactions performed by the system. Examples of Valid transactions include **Access Granted**, **Turn On**, **Disarmed**, **Duration On** etc. For a detailed list on Valid transaction, refer to *Valid Activity, page 219*.

The working procedure and the features available in **Valid & Alarm** is the same as explained in the **All** transactions group. Refer to *All, page 34* for more information about the software interface and the features available in the **Valid & Alarm** tab.

7.1.4 Restore & Alarm

Displays the Alarm and Restored transactions performed by the system. Examples of Restored transactions include **Door Closed**, **Tamper Restored**, **Alarm Restored** and **PowerRestored**. For a detailed list on Restored transaction, refer to *Restore Activity, page 219*.

The working procedure and the features available in **Restore & Alarm** is the same as explained in the **All** transactions group. Refer to *All, page 34* for more information about the software interface and the features available in the alarm tab.

7.1.5 Time Attendance

Displays only Time Clocking transactions. Examples of Time Attendance transactions include **Clock In** and **Clock Out**.

The working procedure and the features available in **Time Attendance** is the same as explained in the **All** transactions group. Refer to *All, page 34* for more information about the software interface and the features available in the **time attendance** tab.

7.1.6 APB

Displays the list of cardholder's name who are currently present in the APB zone. Refer to the *Reset APB, page 79* for more information about Anti Passback.

The **APB Zone** dropdown at the top of the page lists all the **APB Zones** configured in the system. Select a Zone from the **Alarm Zone** dropdown to view the list of cardholder’s who are in the selected APB zone. Refer to *Understanding the APB Zone, page 95* for details of the zones.

7.1.7 Video Verification

The **video verification** page displays the live video of the access point for comparison with the cardholder's photo. This allows the door operator to grant or deny access to the cardholder via webpage manually after verification. In an event where there is no action and the time-out occurs, grant access or deny access is provided based on the option configured in the door settings menu. Refer to the *Door Settings (Card Reader Settings), page 81* for more information.

If the user is in transaction view page (**All**, **Alarm**, **Valid & Alarm**, **Restore & Alarm**, **Time Attendance** or **APB**) and upon receiving access request event the tab will automatically switch to the video verification tab.

Video verification feature can be enabled or disabled based on schedules. Refer to *Verification Camera Setting, page 97* for more information.

Note: A maximum of three cameras can be configured to a card reader, input/output point or advance IO function block.

The screen below shows the video verification page.

Click the grant access button to grant door access to the cardholder or click the deny access button to deny door access to the cardholder.

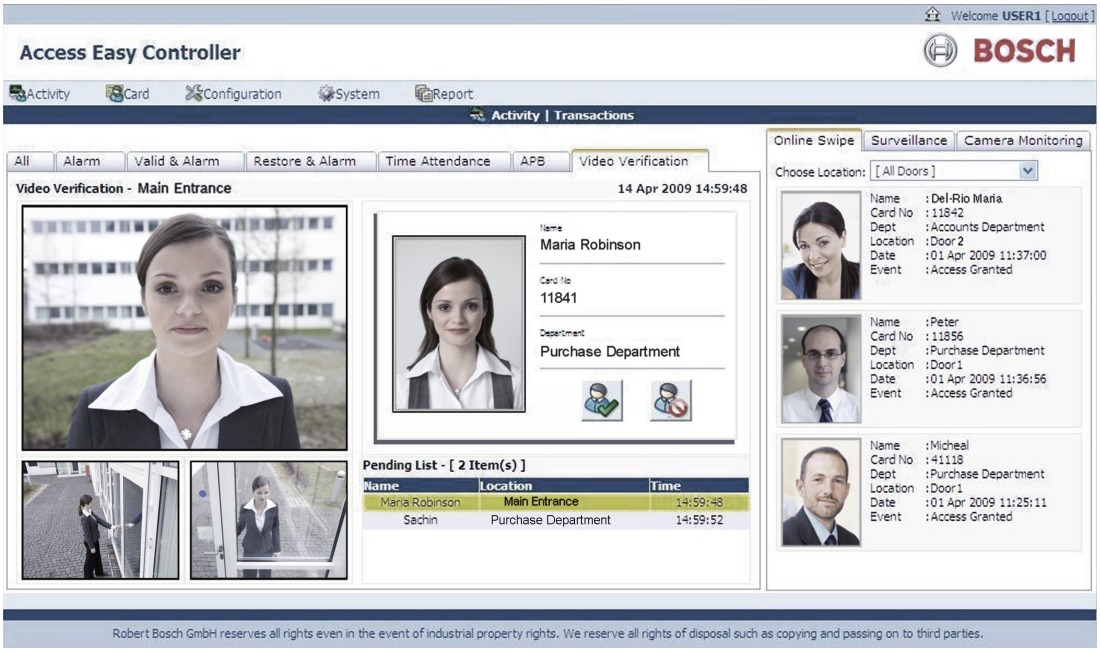
This view shows the **Live** video of all the cameras configured to the reader. Double click on the main video to view the full screen video or select any small video at the bottom to view the video in the main window.

The pending list at the bottom of the video verification tab lists the name and location of the cardholder waiting for door access at different configured locations. Select each cardholder from the list to grant or deny door access. The number of items is equal to the number of cardholders waiting for access rights.

The grant access and deny access button will be disabled if the cardholder in the pending list has been granted or denied access by another user.

Before the cardholder in the pending list is granted or denied access, another user flashes the card on the same location it will overwrite the existing cardholder details in the pending list to the latest cardholder details.

The current date and time is displayed at the top right of the page and the location of the cardholder waiting for door access is described besides the video verification text. A sample video verification window is shown below for reference.



In the earlier example as soon as **Maria** is granted or denied access her transaction can be viewed in the online swipe window and Sachin's video clips are displayed in the video verification window.

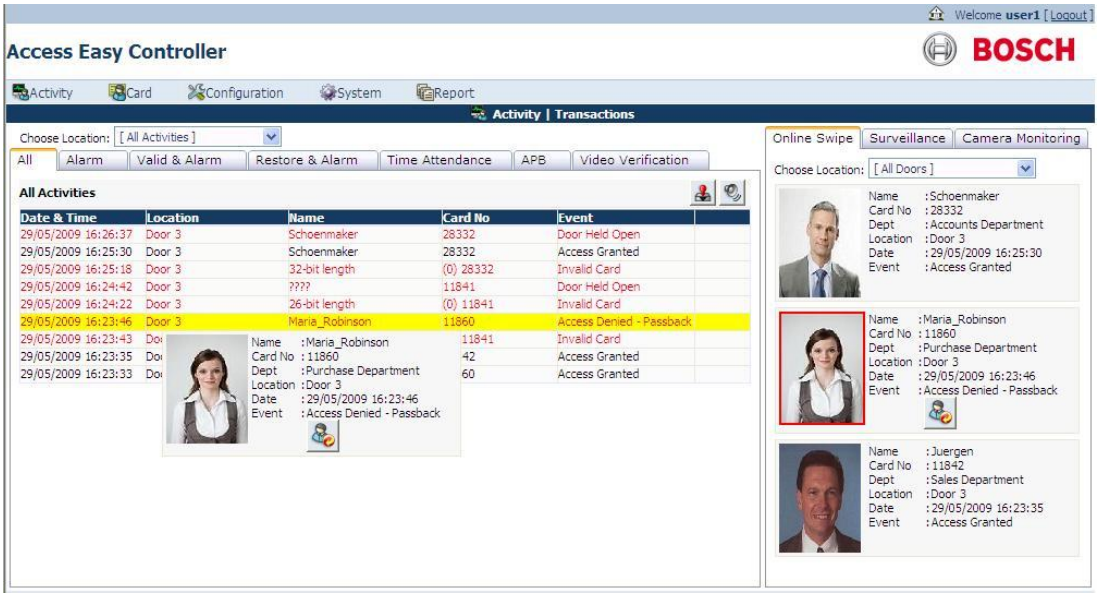
7.1.8 Online Swipe

The online swipe function lists the last three valid cardholders with photo who tried to access the system. The online swipe tab lists the cardholder's profile and a button to reset APB if the cardholder has APB violation.

The screen below shows the **Online Swipe** window.

In the online swipe window all the alarm transactions and access denied events, APB violating transactions are represented with a red border along the cardholder's photo as shown below. The invalid card actions are not recorded or represented in the online swipe window.

For example in the preceding screenshot **Maria Robinson** is denied access due to APB violation, click the Reset APB button to reset her APB violation. After resetting the APB settings the cardholder can use the card again with the same access rights provided. The screen below shows the reset option in the transactions and online swipe window. You can reset the APB settings in the transactions and online swipe window.



Note: Only authorized users can reset APB violation.

This tab also provides an option to see the list of cardholder's who tried to access the system at a particular door or group of doors.

The **Choose Location** dropdown at the top of the page lists all the doors configured to the AEC2.1 system. You can configure a group of doors as one door group in **Setting - Door Group...** option available in the **Choose Location** dropdown. Select **Setting - Door Group...** from the **Choose Location** dropdown as shown below.

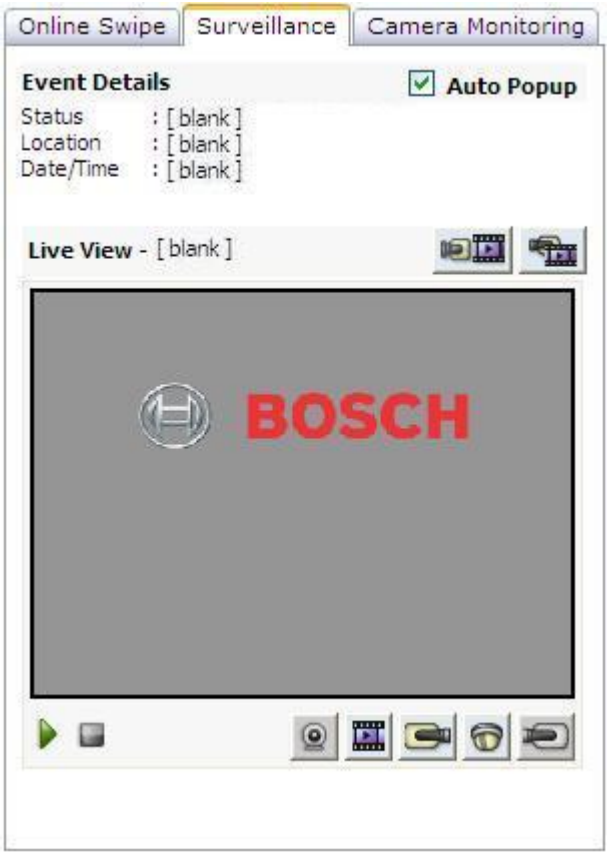
The screen below pops up to select the doors to be added to the Door Group.
Select the check box corresponding to the respective doors which has to be configured in the Door Group set. Click the save button to save the locations in the door group. Select the **All Items** option if you want to select all the doors in the location list to the door group. After selecting the required doors click the save button to save the settings. Click the back button to cancel the settings and return to the transactions page.

7.1.9 Surveillance

When an alarm event is triggered the surveillance window will automatically display the surveillance **Live** video of the event location and the event details, if a surveillance camera is configured for the event location. In the **surveillance** window you can view the **Live** and **Playback** videos of the configured cameras. You can also compare the Live and Playback videos in the surveillance window. The surveillance camera for door is set in the door settings option, refer to *Door Settings (Card Reader Settings), page 81* for more information.

Notice!
If an optional camera is configured for the event location without configuring a surveillance camera, it is considered as no surveillance camera is configured for the event location.

The screen below shows the surveillance screen in the **Live** mode.



The table below lists the function buttons available in the **surveillance** window of the AEC2.1 system. The buttons mentioned in the table below have the same functionality in all the video feature tabs.

Button	Function
	Compares the **Live** and **Playback** video
	Toggles between the **Live** and **Playback** video
	Plays the video. Starts the video streaming
	Pauses the video streaming and this option is available in the **Playback** mode only
	Stops the video display or video streaming
	The rewind button streams the video in the backward direction. The rewind button is available in the **Playback** mode only
	The fast forward button streams the video in a fast mode and streams the video in forward motion. The fast forward button is available in the **Playback** mode only
	Downloads the current streaming video. The downloaded video is saved in the configured location. Refer to *Miscellaneous, page 110* for more information.

Button	Function
	The jump to event button starts the video streaming from the moment the event was triggered. In other words it ignores the pre and post event duration timing. Refer to *Miscellaneous, page 110* for more information.
	The snapshot button is used to take a still image from the streaming video. The image file is saved in the configured location. Refer to *Miscellaneous, page 110* for more information.
	Camera 1 configured to the system. This camera is also known as main surveillance camera.
	Camera 2 configured to the system. This camera is also known as Optional camera 1.
	Camera 3 configured to the system. This camera is also known as Optional camera 2.

The **Auto Popup** checkbox must be selected for the window to automatically switch to surveillance window when there is an alarm event. If this check box is not checked then the surveillance window will not switch automatically when there is an event. It is always advisable to check this box as this helps in monitoring the events.

The event details section specifies the **status**, **location** and **Date/Time** of the triggered event. The **Status** field refers to the current status of the event for example **AccessDenied** etc. The **Location** field refers to the location where the event is triggered. The **Date/Time** field refers to the date and time when the event is triggered.

You can view the **Live** and **Playback** mode in this window. Along the mode description field you can see two function buttons namely the **Compare button** and the **Toggle Live/Playback** button.

The toggle button toggles between the **Live** and **Playback** mode. The toggle button switches between Live mode and Playback mode . The function buttons in the **Live** and **Playback** mode are explained in the earlier table. The **Live** video option displays the live video of the selected camera and the **playback** option displays the event video with the pre and post event duration. Refer to *Miscellaneous, page 110* for more information.

You can view the **live** or **playback** video of all the cameras configured to the same reader as the surveillance camera. The camera selection icons are available at the bottom of the surveillance window.The default surveillance camera is set in the door settings menu. Refer to *Door Settings (Card Reader Settings), page 81*.

The screen below shows the surveillance window in **Playback** mode.

At the bottom of the surveillance window you will see the **play**, **stop, snapshot** and **export video clip** buttons. Click the **play** button to start the video streaming, **stop** button to end the video streaming, **snapshot** button to capture a still image from the streaming video and **export video clip** to download the streaming video.

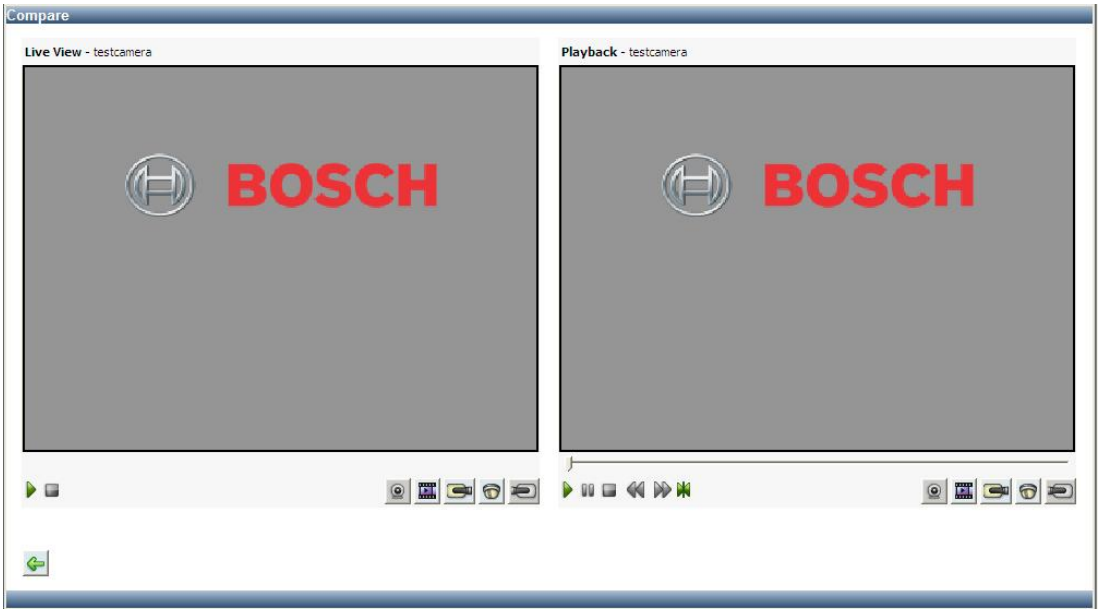
The Playback mode consists of more function buttons namely **pause, rewind, forward** and **jump to event**. Click the **pause** button to pause the video streaming, **rewind** button to stream the video in the backward direction, **forward** button to stream the video in the forward direction, **jump to event** button to start the video streaming from the moment the event was triggered.

Notice!

The pause button , rewind button , forward button and jump to event are available in **Playback** mode only.

A compare option is provided in the surveillance tab to compare the **live** and **playback** video of the selected camera. Click the compare button to compare the **Live** video and **Playback** video simultaneously. The playback video starts and ends the video display with the pre and post timer settings. Refer to *Miscellaneous, page 110* for setting the pre and post timer settings.

The screen below shows the **compare** window.



The function buttons have the same functionality as explained in the earlier paragraphs. Click the back button to return to the **Transactions** | **surveillance** page.

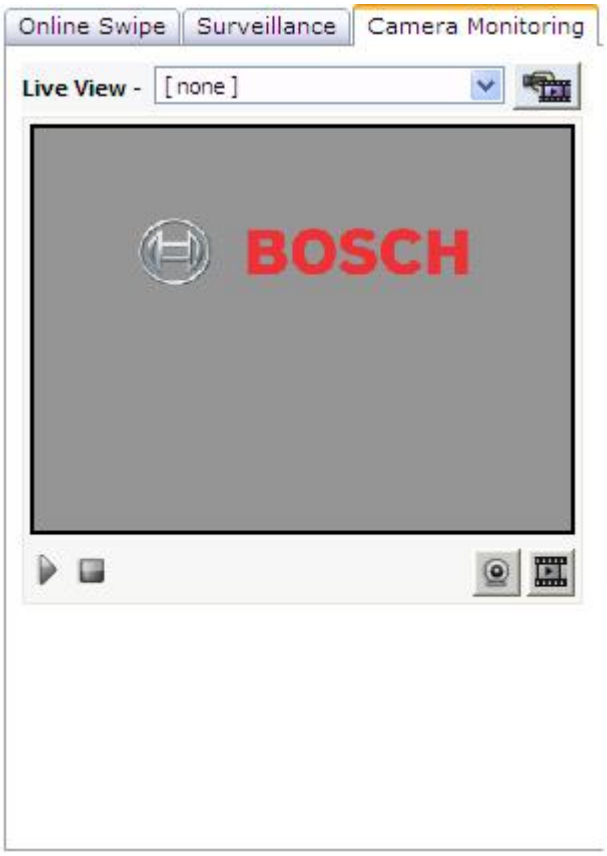
Note: Double click on the video in the **Live** and **Playback** mode to view the enlarged video.

Note: The exported videos can be viewed using the player available in **BOSCH VideoSDK** folder on the utility CD.

7.1.10 Camera Monitoring

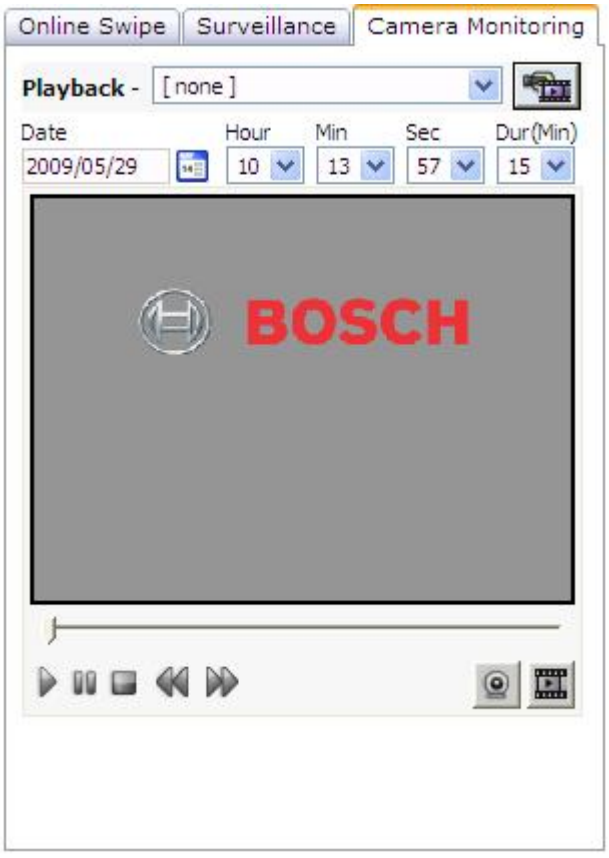
The camera monitoring tab is used to monitor the cameras configured to the AEC2.1 system. When you select the camera monitoring tab you can view the **live** or the **playback** video for a selected date and time.

The screen below shows the camera monitoring screen in the **Live** mode.



Select a camera from the **Live View** dropdown, the dropdown lists all the cameras configured to the AEC2.1 system. The function keys at the bottom of the preview window is the same as explained in the **surveillance** menu. Refer to *Surveillance, page 41* for more information about the function keys.

The screen below shows the camera monitoring window in the **playback** mode.



Select a camera from the **Playback** dropdown, the dropdown lists all the cameras configured to the AEC2.1 system.

When you are in the **playback** view, a date and time text box appears as shown above to view the earlier recorded event videos. Click the Date Selector button to select a date, and a pop up appears as shown below.

Select the date to view the video of a recorded event. The selected date appears in the **Date** box. Select the **hour**, **minute** and **second** from the respective dropdowns. Select a **duration** from the duration dropdown. After all the settings are made the surveillance window will start streaming the video.

If a duration is set the surveillance window will play video for the set duration only. If there are no videos in the selected date and time then the AEC 2.1 did not encounter any event on the selected date or time, try again with another date and time.

The function keys at the bottom of the preview window is the same as explained in the surveillance menu. Refer to *Surveillance, page 41* for more information about the function keys.

Note: Double click on the video in the **Live** and **Playback** mode to view the enlarged video.

Note: The exported videos can be viewed using the player available in **BOSCH VideoSDK** folder on the utility CD.

7.2 Device Control

The device control is a submenu of the **Activity** menu. The device control submenu refers to the manual door settings of the AEC2.1 system. The device control menu consists of three tabs namely **Door Control**, **Input Control** and **Output Control**.

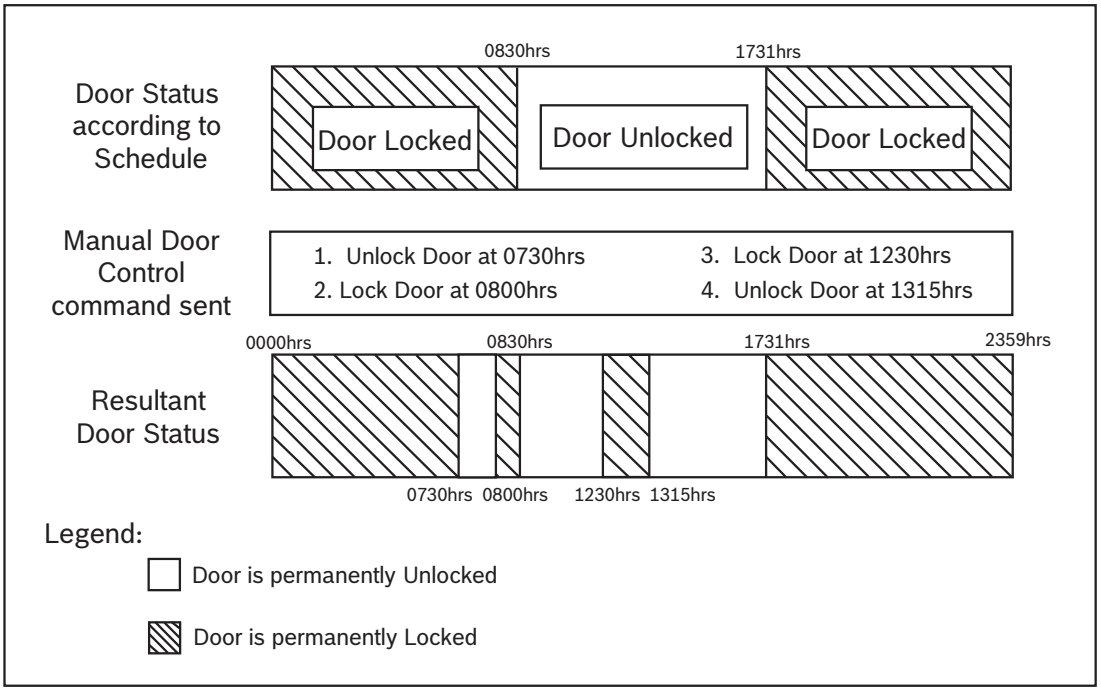
The three submenus are explained in detail in the following pages.

7.2.1 Door Control

The Door Control option allows you to check the status of the doors and momentarily unlock/ lock the door without having to be present at the door location. This is a manually operated control and has priority over the system control. However, the system will resume normal operation once it encounters a valid schedule interval.

Let's explain this with an example:
The door is scheduled as follows Unlock Door Start - 0830 hrs and End - 1730 hrs.
The manual control is as follows
Unlock door 0730 hrs and Lock door at 0800 hrs
Lock door at 1230 hrs and Unlock door at 1315 hrs

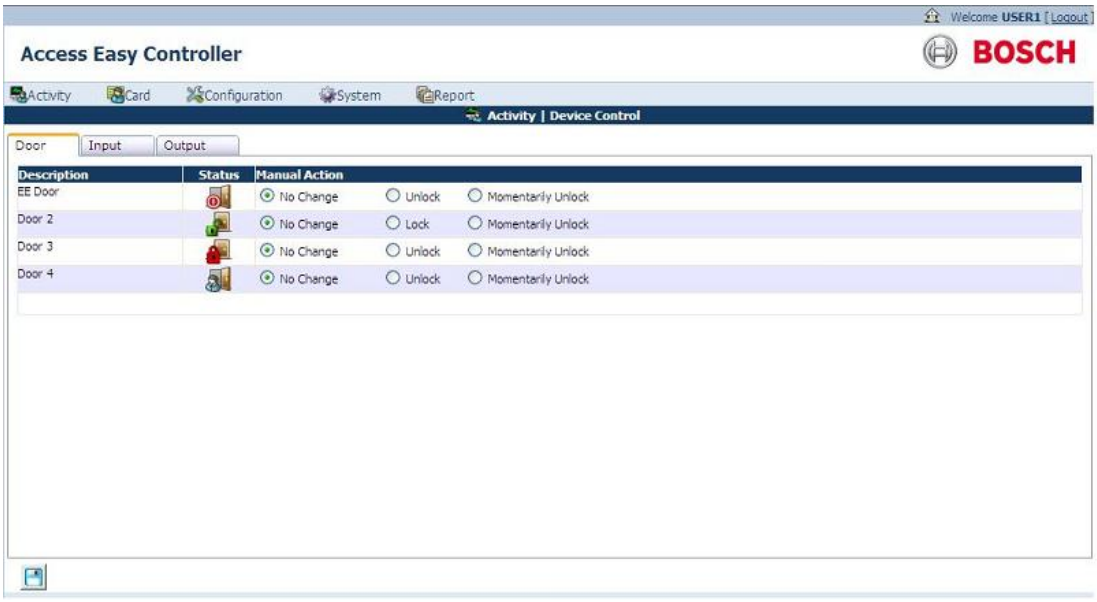
The figure below shows the status of the door during the schedule time and when there is a manual door control.



Notice that the system resumes normal operation according to Schedule at **0830** hrs and **1731** hrs.

To activate Door Control

Click the link Activity > Device Control. In the **Device Contro**l main page select the tab Door to set the manual door settings for the door. The **Door** tab is the main page of the **device control** menu. The screen below shows the **Door Control** page.



The door control page mainly consists of three columns namely **Description**, **Status** and **Manual Action**. The **Description** column provides the door description.

The **Status** column refers to the current status of the door. Move along the icon in the status column to see the icon representation or tool tip.

The **Manual Actions** column provides radio buttons to select the manual action to be performed. The description of the first radio button is to retain the door action and by default the **No Change** radio button is selected. The description of the second radio button is the opposite of the current status and toggles between **Lock** and **Unlock**. The third radio button, **Momentary Unlock**, is used to send a command to momentarily unlock the door for the duration as specified in the **Door Strike Timer**. This command is only effective when the current status of the door is locked.

Notice!

Only readers configured as Entry Readers will be shown in the **Device Control** > **Door** web page.

To control the Doors manually

1. Select the desired action radio button (see the **NOTICE** below).
2. Click the save button to send the command. The web page refreshes and reflects the new status.

Notice!
Select only door(s) that you want to send command to. The current status of the door for a Momentarily Unlocked command will not show the status.

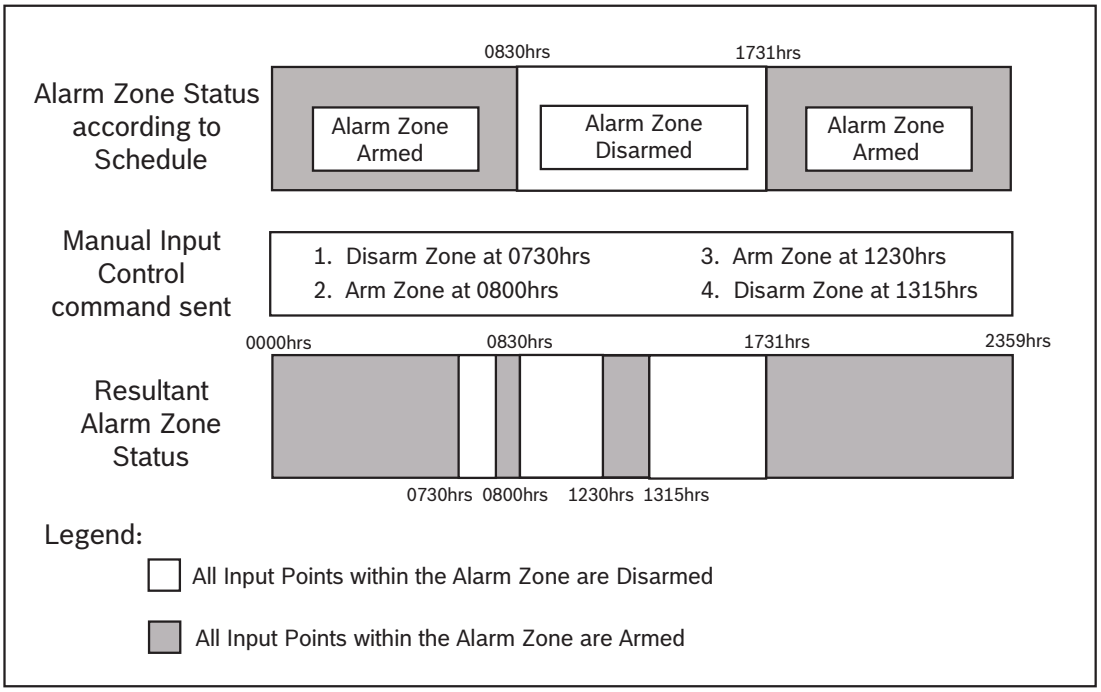
7.2.2 Input Control

The Input Control menu allows you to check the status of all the Input Points and sends a command to Arm/Disarm the device manually. This is a manually operated control and has priority over the system set control. However, the system will resume normal operation once it encounters a valid schedule interval.

For configuration of system control, refer to *Input State, page 135*.

Let's explain this with an example
The door is scheduled as follows Unlock Door Start - 0830 hrs and End - 1730 hrs.
The manual control is set as follows
Disarm device 0730 hrs and Arm Device at 0800 hrs
Arm Device at 1230 hrs and Disarm device at 1315 hrs

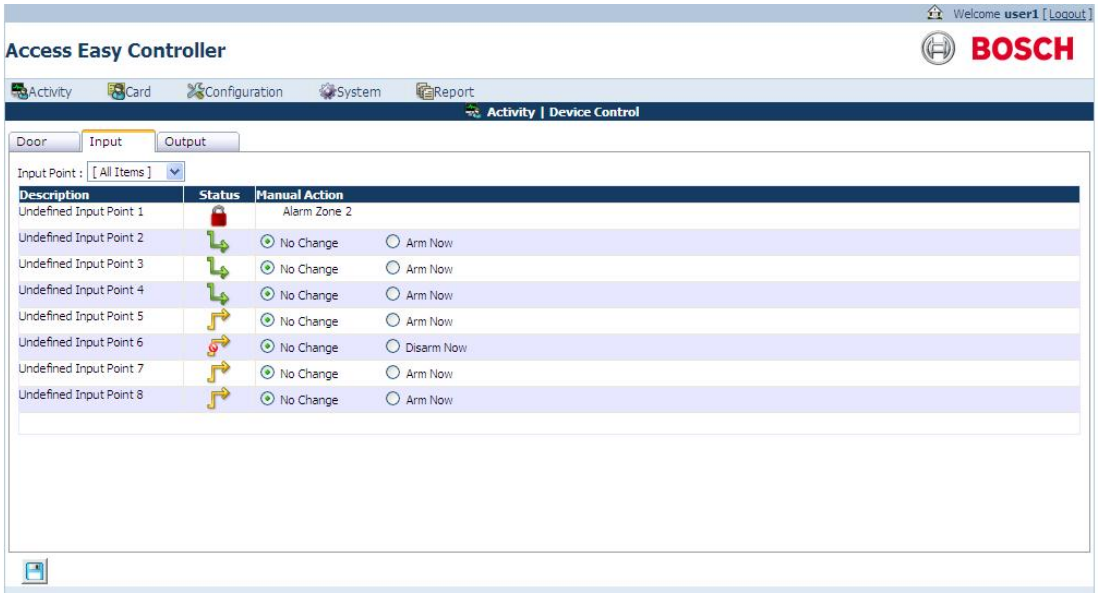
The figure below shows the status of the door during the schedule time and when there is a manual door control



Notice the system resumes normal operation according to Schedule at **0830** hrs and **1731** hrs.

To activate Input Control

Click the link Activity > Device Control. In the **Device Control** main page select the Input tab to set the manual input point settings. The screen below shows the **Input Device Control** page.



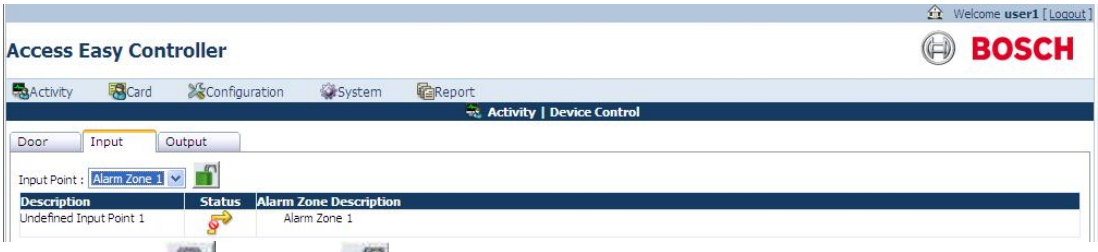
The input control page allows you to view the current status of all assigned Input Points.

The input control consists of mainly three columns namely **Description**, **Status** and **ManualAction**. The **Description** column provides the door description.

The **Status** column refers to the current status of the input point. Move along the icon in the status column to see the icon representation or tool tip.

The horizontal strip provides the **Alarm Zone** to which the **Input Points** belong. In this case, **Undefined Input Point 1** belongs to **Alarm Zone 1** and **Undefined Input Point 2** is an independent input point.

In the preceding example **Undefined Inpoint 1** belongs to **Alarm Zone 1.** Select a zone from the input points dropdown to arm or disarm the input points in an alarm zone. The screen below shows an example of an input point set in an alarm zone.



Click the arm or disarm button to arm/disarm the input points set in the alarm zones.

The **Manual Actions** column provides radio buttons to select the manual action to be performed. The description of the first radio button is to retain the door alarm zone and by default the **No Change** radio button is selected. The description of the second radio button is the opposite of the current status and toggles between **Disarm now** and **Arm now**.

To control the Input points

1. Select the desired action radio button

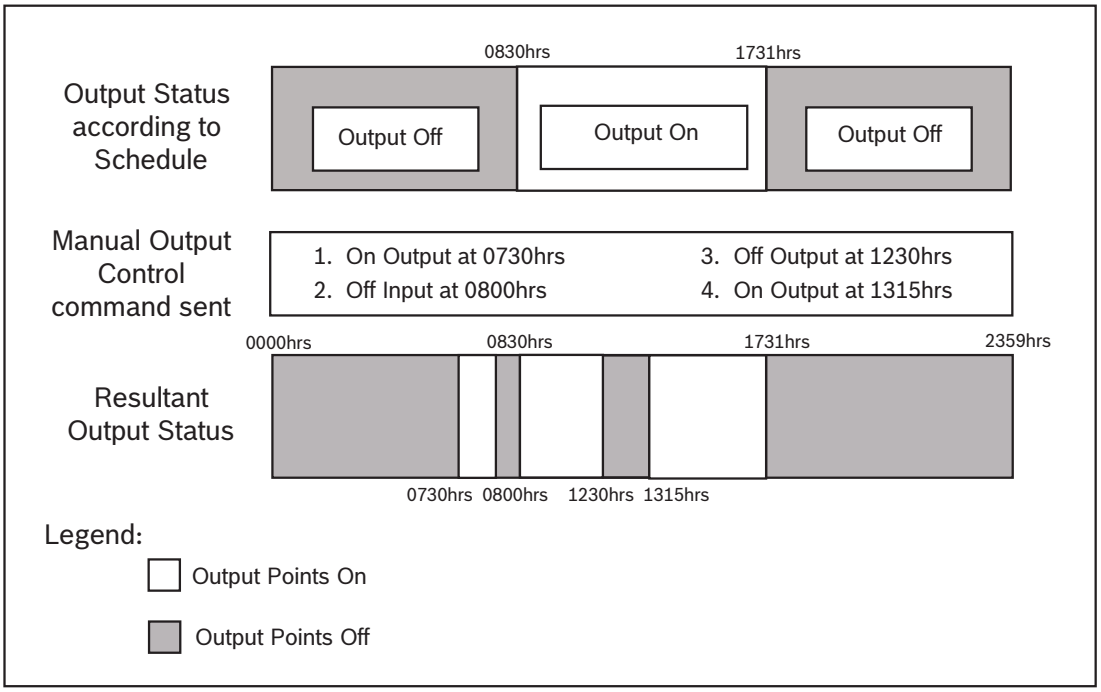
2. Click the save button to arm the Input Points. The web page will refresh to reflect the new status.

7.2.3 Output Control

The Output Control menu allows you to check the status of all the Output Points and sends a command to turn on/off the output points manually. This is a manually operated control and has priority over the system set control. However, the system will resume normal operation once it encounters a valid schedule interval.

Let's explain this with an example:
The door is scheduled as follows Unlock Door Start - 0830 hrs and End - 1730 hrs.
The manual control is as follows -
On Output 0730hrs and Off Input at 0800hrs
Off Input at 1230hrs and On Output at 1315hrs

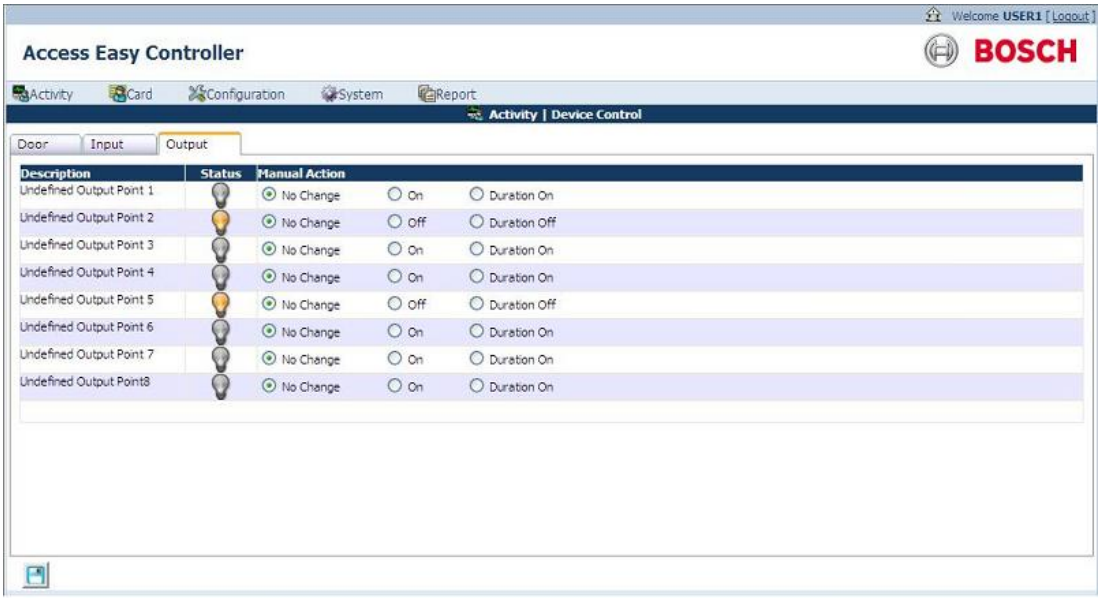
The figure below shows the status of the door during the schedule time and when there is a manual door control.



Notice the system resumes normal operation according to Schedule at **0830** hrs and **1731** hrs.

To activate Output Control

Click the link Activity > Device Control. In the Device control main page click the Output tab to set the manual output settings. The screen below shows the **Output Device Control** page.



The output control main page consists of mainly three columns namely door **Description**, **Status** and **ManualAction**. The **Description** column provides the door description.

The **Status** column refers to the current status of the output point. In the status column **On** (glowing output point) status indicates that the Output Point is **On** and **Off** status indicates that the Output Point is **Off**. The manual actions column provides radio buttons to select the manual action that can be performed on the device. The second radio button is the opposite of the current status and toggles between **On** and **Off**.

The third radio button, **Duration On** or **Duration Off** reflects the opposite of the current status, and is used to send command to turn on or turn off the Output Point for duration as depicted in the **Duration field** in **Output Setup** menu item. Refer to the Chapter on Output Setup for details.

To control the Output Points

1. Select the desired radio button(s) (see the **NOTICE** below).
2. Click the save button to save the settings. The web page will refresh to reflect the new status.

Notice!
Select only Output Point(s) that you want to send command to. The current status of the Output Point for a Duration On or Duration Off command will not show the true status after the Duration has elapsed, unless you refresh the web page by clicking the save button.

7.3 Activity - Default Settings

The activity menu consists of the default settings submenu, which controls the settings of the transactions window. In the default settings window you can edit the number of transactions to view and the default transaction view. The screen below shows the default settings screen.

7.3.1 To Edit Transactions Setting

1. Select the number of transactions to view from the **Number of Transactions to View** dropdown list. The number selected here is the number of transactions you will be able to see in the transactions page. Number of transactions can range from 10 to 70 in the steps of 10.

2. Select the appropriate view from the **Default Activity View** dropdown list. There are 5 types of transaction views namely; All, Alarm, Valid & Alarm, Restore & Alarm and Time Attendance.

   The selected view is the default page for the transactions menu and the default screen of AEC2.1.

3. Click the save button to save the settings.

Note: The number of records to view on screen is configurable to a maximum of 70 records. These settings are effective immediately and is reflected the next time you log on the transactions page.

8 Card Administration

Card administration refers to the parameters that control the access rights of the cards. Card parameters contain information such as which card reader a cardholder can access at a specified schedule. The card parameters are used to configure additional card information like **Department**, **Arm/disarm**, **Access Group** ...etc.

This chapter describes the features of the Card parameter function and the card assignment, enrollment, adding batch cards and database import/export procedure.

Notice!
AEC2.1 supports a maximum capacity of **20,480** cardholders.

Notice!
As the AEC2.1 supports different types of Card Formats, such as BOSCH 37-Bits, 26-Bits, 34-bits or other customized format, there will be an overlapping of card number range. There is a possibility to assign the same Card Number(s) with different Facility Code. The AEC2.1 processes the card number along with the Facility code.

The cards main menu consists of the following submenus:-
- Card Administration
- Access Groups
- Card Format
- Department
- Reset APB
- Default setting

The above submenus are explained in detail in the following pages.

Card Administration refers to the access rights of the cards and the cardholder. Card administration consists of the following card functionality parameters
- Assignment
- Enrollment
- Import/Export
- Batch Card

The above card parameters are explained in detail in the following pages.

8.1 Card Assignment

Card Assignment refers to adding or editing card details. The card assignment parameter also refers to the access rights of the card and the schedule when a card can be accessed by the card reader.

Card assignment menu consists of the following card parameters: -

Card Details
- Card Number
- User Name
- Facility Code

- Card Format
- Department
- User Field 1 and User Field 2 (user definable field)
- Access Groups A and B

Card Functionality
- Cardholder Arm/Disarm rights
- Card Operations
- Card + PIN Operations
- User PIN
- Card Validation Period
- Dual Card Assignment
- Enrollment operation

The following pages explain the card details and card functionality features in detail.

To access the card assignment parameter click the link **Card** > **Card Administration**. In the card administration main page, select the **Assignment** tab. The assignment tab is the default page for the card administration menu.

The screen below shows the **card assignment** main page.

The card assignment main page provides an option to search for a card based on the **card number**, **name** and the **user fields**. The search option is explained in detail in *The Search Function, page 64*.

The card assignment main page shows 20 card numbers in the page. To view different ranges of card numbers click the card range links at the top right of the page.

Note: AEC2.1 supports a maximum of **20,480** cardholders.

To add or edit card number and its parameters

When the AEC2.1 is first installed, there is only one assigned user ID and password. This default user ID is called the Superuser and is usually assigned to the AEC2.1 system administrator. The AEC2.1 system administrator must configure the card parameters in the AEC2.1 card database for the cardholder to gain access.

Card assignment is frequently used to assign card number and access right to new employees or block cards for employees who have resigned from the company.

8.1.1 Card Details

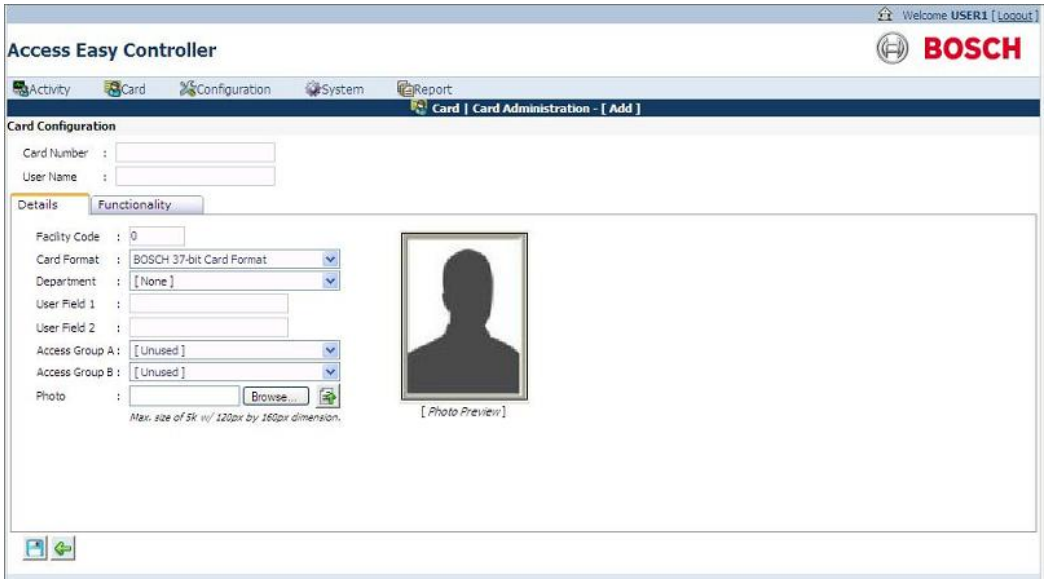
Card details refer to the **card number**, **user name**, **department** and the **profile** of the cardholder. Follow the steps below to add a new card and to assign access rights to the cardholder.

1. Click the add button in the card assignment main page to add a new card. The **CardAssignment** > **Add** main page shows the card number and user name text boxes.

2. Enter a card number in the **Card Number** field.

3. Enter the Cardholder's (User) Name in the **User Name** field.

4. The **CardAssignment** > **Add** main page consists of two card parameters or tabs namely **Details** and **Functionality**. Click the **Details** tab and the screen below appears.



5. Enter the facility code in the **Facility code** field. The Facility code is configured in the **Card** > **DefaultSettings** page. Refer to *Card - Default Settings, page 80* for more information.

6. Select the **Card Format** from the card format dropdown list. The card format is configured in the **Card** > **CardFormat** page. Refer to *Card Format, page 75* for more information.

Notice!
The Card Number together with the Card Format and Facility Code is a unique field, so do not enter duplicate information. The card number and the facility code are mandatory fields.

7. Select the **Department** from the department dropdown list. The department is configured in the **Card** > **Department** page. Refer to *Department, page 78* for more information.

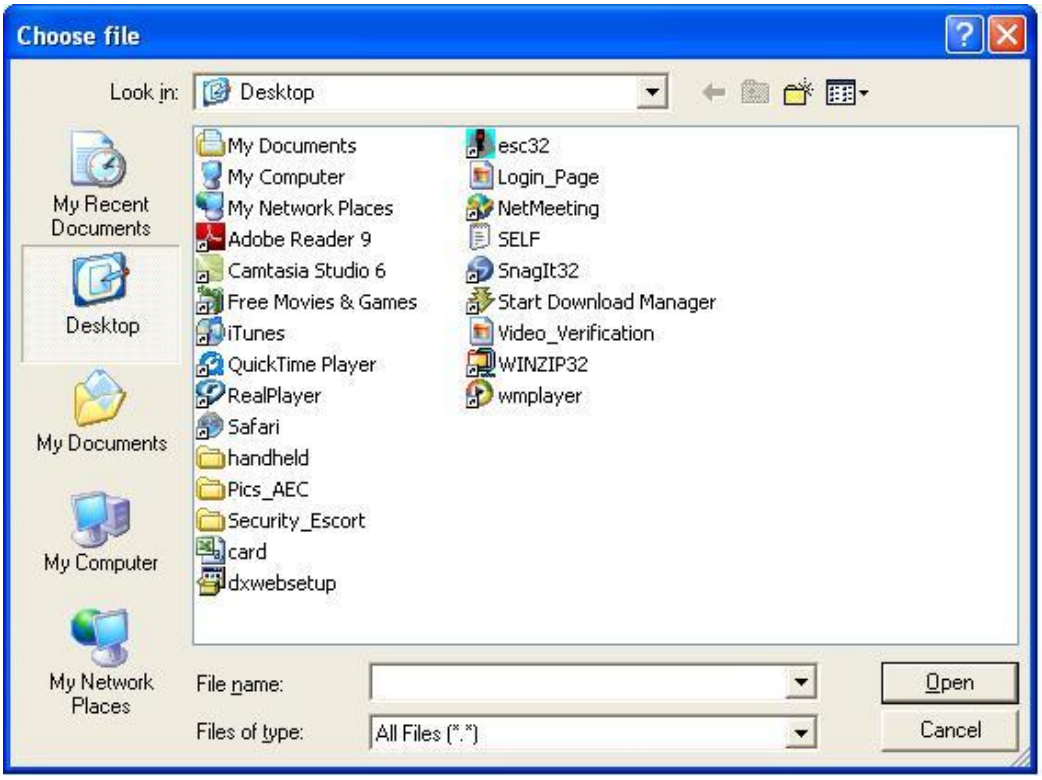
8. Enter the required details in **User Field 1** and **User Field 2**.

Notice!
The User Field 1 and User Field 2 are configured in **Card** > **Default Settings** page. Refer *Card - Default Settings, page 80* for more information.

9. Select the Access Grouping for the cardholder in **Access Group A** and/or **Access Group B** from the dropdown list. Leave the entry blank if there is only one or no assignment. The access group is configured in **Card** > **Access Group** page. Refer to *Access Groups, page 74* for more information.

Notice!
Setting the access group allows the cardholder to access the door as scheduled in the access group settings.

10. The cardholder photo uploaded here is used for the video verification feature. If this photo matches with the cardholder's video from the identification camera at the access door, then the door operator grants or denies door access according to the cardholder's access rights. Click the **browse** button to upload the cardholder photo. A browse window pops up as shown below.



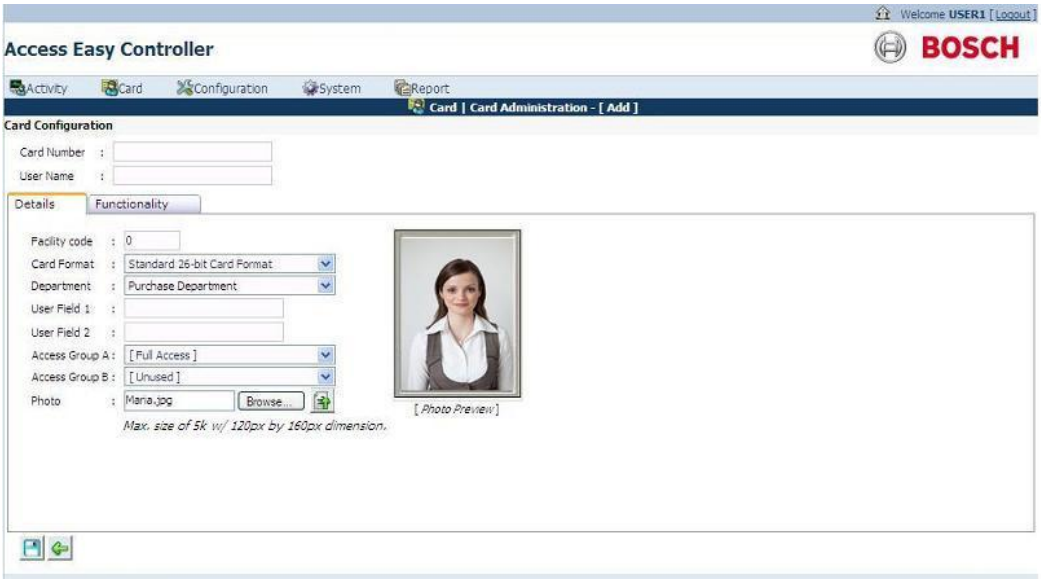
a. Select a file and click the upload button. The following error message will pop up

if the file size is more than 5 KB.

b. Click the **OK** button and browse another file with a smaller file size.

Notice!
AEC2.1 supports image files with format **JPEG** and **BMP**

11. Upload the photo and a preview can be seen in the Photo preview window as shown below.



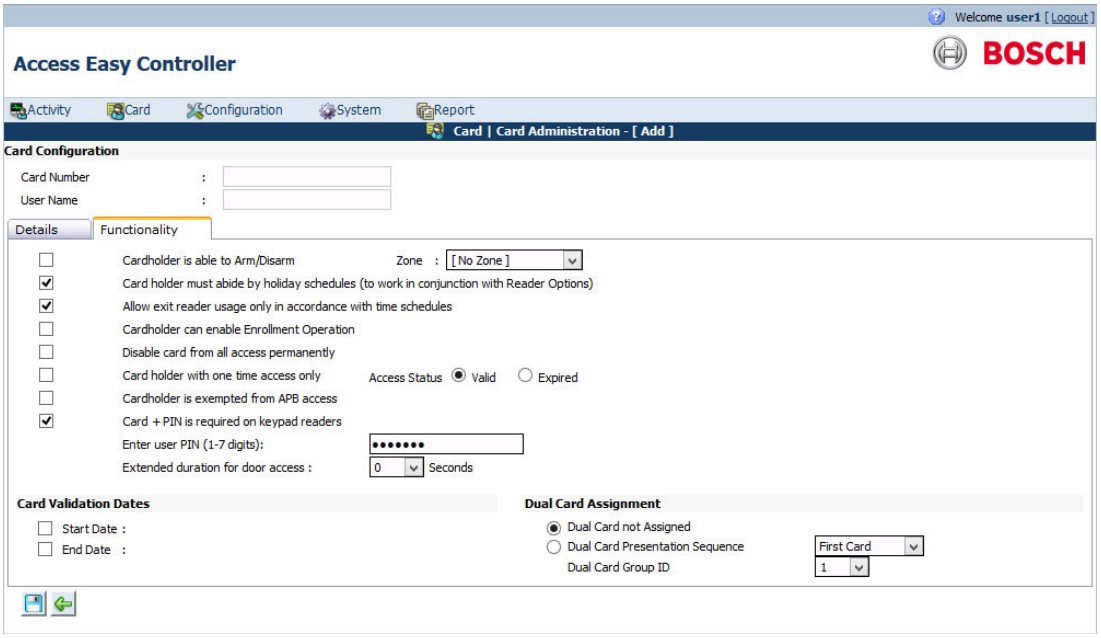
Notice!
The photo is necessary for the **video verification** feature. Refer to *Video Verification, page 37* for more details.

12. Click the save button to save the settings. Click the back button if you want to cancel the settings and return to the card assignment main page.

8.1.2 Card Functionality

Card Functionality refers to the access rights and functionality of the cards such as Arm/ Disarm the door, access behavior and validation dates. Each card can be configured with different access rights. Some of the settings of the card can be activated in co-ordination with the card reader parameters such as **Card + PIN** mode. These settings can be modified at any point of time.

The screen below shows the card functionality page.



All the card functions are explained in detail below

Cardholder is able to Arm/Disarm

If this feature is checked, it implies that the cardholder is given the authority to arm/disarm a specific Alarm Zone or All Alarm Zones as defined in the field. Select the alarm zone from the **Zone** dropdown list.

This functionality works in conjunction with the reader that is set to arm/disarm the alarm zone. Refer to *Door Output Settings (for Entry Reader, Entry and Arm/Disarm Reader), page 88* for more details.

If this function is enabled on the cardholder, then the alarm zone will toggle from arm to disarm or vice versa when the cardholder presses 0 before presenting the card to the card reader. However if the cardholder presents the card to the reader without activating the arm/disarm function on the reader keypad, it will unlock the door and disarm the alarm zone depending on the cardholders access right.

Cardholder must abide by holiday schedules (to work in conjunction with Reader Options)

If this feature is checked, it implies the cardholders' access rights are different during holidays. It works in conjunction with the Reader Options on holidays followed by the holiday schedules. If checked, the 4 sets of Regular or Special Holiday schedules are used to operate the access mode, e.g. Cardholder is allowed to access the controlled area during weekdays and during office hours. However during holidays, the cardholder is allowed to access this area as defined by the Holiday schedule intervals.

Allow exit reader usage only in accordance with time schedules

This mode is valid only if there is an exit reader. If this function is checked, the Reader will allow the cardholder to exit the area within the valid Schedule intervals. When the function is unchecked, the reader will allow the cardholder to exit the area at all times.

Card holder can enable enrollment operation

If this feature is checked, it implies the selected cardholders have the right to use their card to activate a Reader to be in enrollment mode. Refer to *Card Enrollment using Pre-assigned Enrollment Card, page 68* for more details.

Disable card from all access permanently
If this feature is checked, it implies the cardholder will be denied access from the system immediately. This feature is useful to prevent illegal access to the system if the cardholder loses or misplaces the card.

Card holder with one time access only
If this feature is checked, it implies the cardholder will have only one time access to the system. This means that after the card holder has gained access, the cardholder's access will become invalid immediately. To gain access again, the AEC2.1 system administrator has to reactivate the one time access right. This function is useful in a remote station delivery application.

Ensure the **Valid** radio button is selected for the **Access Status**. After the card has been used for one time access, the **Access Status** will expire immediately and the Access Status will be updated to **Expired** automatically.

Cardholder is exempted from APB access
If this feature is checked, the selected cardholders will not be subject to APB access rules. The cardholders would be able to enter via the same entry reader without requiring to exit via the exit reader first.

Card + PIN is required on Keypad readers
This mode works only when the Card Reader's PIN mode is set. If this feature is checked, it implies the cardholder must enter the PIN after presenting the card to the reader to gain access. The cardholder can configure up to 7 digits for the PIN.

When using it on the reader, the cardholder must enter the PIN followed by the ‘E’ key for C3 readers and S-Series reader or ‘#’ for HID compliant readers. For example, if the cardholder configures less than 7 digits as the pin, for example ‘5566’, then the cardholder must enter ‘5566#’ for the PIN.

Enter user PIN (1-7 digits)
This field is to be used for the **Card + PIN** mode (default PIN code 1234000).

Extended duration for door access
This function is to facilitate special card holders to have extended duration for Door Strike and Keypad Time-out. If this feature is checked, it allows the cardholder to keep the door open for a longer time after a successful access is granted before a Door Held Open alarm is activated. The Keypad Time-out duration is also extended by the selected time on top of the normal Keypad Time-out duration. An example of such an application is for the handicapped people who need a longer time to access the door.

To select the extended time duration, select the time in seconds from the dropdown list beside the **extended duration for door access**. The range is from **0 to 255** seconds.

Card Validation Dates
This feature defines the start and end date parameters.

The **Start Date** is the date from when the card is valid and **End Date** is the date from when the card is no longer valid. The card will not be able to access any door before the **Start Date** and after the **End Date**.

Cards having such parameter settings are normally issued to contractors or temporary staff who will only be allowed to access the controlled area for a known period of time. The usage of this feature can be either one or the combination of both. You can define a card that only allow access after a specified future date but doesn't have an expiry date. In this case, you only select and set the **Start Date** but leave the **End Date** unchecked.
Alternatively, you can define a card that is valid with immediate effect but is valid only for 2 days; in this case you can leave the **Start Date** unchecked but check and select the **End Date**.

Notice!
You must check the respective box for **Start Date** or **End Date** in order for it to be effective.

Dual Card Assignment
This mode is useful if 2 cards are required to be presented in sequence to the Reader to unlock the door. This mode works in conjunction with the **Dual Card Configuration.** Refer to *Dual Card Configuration, page 96* for more information. The First Card has to be presented first before the Second Card is presented, else the door will not unlock. A **Don't Care Card** can act as the first or second card. In this setup here, you will need to define whether a card is a **First Card**, **Second Card** or **Don't Care Card**, and which group it belongs to. Cards from different groups cannot unlock the door.

Select the radio button besides **Dual Card presentation sequence** to enable this mode. You will need to define whether a card is a **First Card**, **Second Card** or **Don't Care Card** from the dropdown list. You will also have to select the **Dual Card Group ID** from the dropdown list. 2 cards from the same Dual Card Group ID must be presented to the Reader to unlock the door. The table below shows all the possible card combinations that can be presented to the Reader.

Possible card combination	
First card	**Second Card**
Don't Care	Don't Care
First Card	Don't Care
Don't Care	Second Card
First Card	Second Card

To select Card Functionality
1. Select the Card **Functionality** tab and click the corresponding check boxes to show a tick mark. To de-select the function click the checkbox again.

2. To assign the **Alarm Zone**, select the appropriate Alarm Zone from the **Zone** dropdown list.

3. Click the appropriate radio button to show if the card is a **valid** card or an **expired** card.

4. To edit User PIN code, highlight the default PIN code and enter the new User PIN code.

Notice!
You can enter 1 to 7 digits for the User PIN code. For security reason, every character entered for the PIN code is represented by an dot.

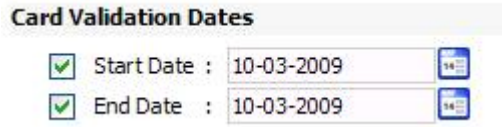
To select and edit Card Validation Period

1. To enable the Start Date, click the **Start Date** check box to show a tick mark. To deselect, click the checkbox again.

2. Select the appropriate Day from the calendar picker.

3. To enable the End Date, click on the **End Date** check box to show a tick mark. To de-select, click the checkbox again.

4. Repeat step 2 for **End Date**. An example is shown below for your reference.



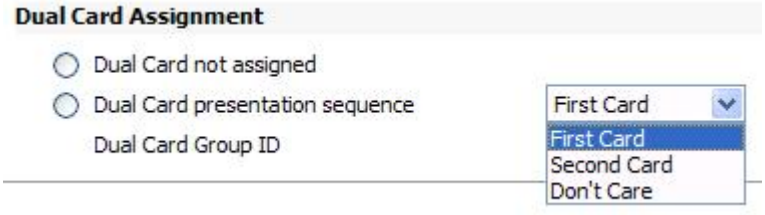
Notice!
Date setting will not be updated if the corresponding check box is not checked. It will return to the previous setting.

To select and edit dual card assignment

This option is applicable for using two cards to initiate the access. This option allows the system to switch back to single card access after using dual card for the first time or set to Dual Card access at all time.

1. Click the link **Card** > **Card Administration** > **Assignment** > **Functionality** tab and **Dual Card Assignment** option.

2. Select the **Dual Card presentation sequence** radio button and choose the card sequence to set if the card is a **First Card** or **Second Card**. Select **Don't care** option is no sequence is required.



3. Also select the **Dual Card Group ID** from the drop-down box.

4. If dual card is not assigned, click the radio button **Dual card not assigned**.

Click the save button to save the settings. Click the back button to cancel the settings and return to the card assignment main page.

The card assignment main page consists of the edit and delete button. Click the edit button to edit the card details and the card functionality settings. The edit card page is same as the add card details and functionality web page.

Click the delete button to delete an existing card details.

Notice!
Deleting a configuration will delete the item from the current setting and everywhere it is configured.

8.1.3 The Search Function

The Card Assignment main page allows you to search the card database for a particular card. You can search the card either by **Card Number**, **Name**, **User Field** or any of the card details value.

To find a particular Cardholder based on Name.

1. If you wish to find a Card Number whose Name is known, select the option **Name** from the **Option** drop down box.

2. Enter the first few characters of the person's name in the **Search** field and click the search button. If you know the full name of the cardholder enter the full name in the search field.

   During the Search function, one of the following cases can happen:
   a. If the name specified is not found in the card database, the **No records found** message appears, or
   b. If the result has only one match, the Card assignment page with the cardholders name will appear, or
   c. If the result yields more than one match, a window will appear below the function field for further selection.

   We will elaborate on case c. For example, let's search the database for Cardholder with the name "**Maria**".
   a. Enter the word **Maria** in the **Search** field.
   b. Click the search button and the following result will be displayed.

   The database contains two Cardholders whose name satisfies the word "**Maria**".
   c. Click the edit button along the desired name to view and edit the cardholder details.

To find a particular Cardholder based on Card Number.
If you want to find a Cardholder's details whose Card Number is known, use the Search function as shown below.

1. Select the **Card Number** option from the **Option** dropdown list.

2. Enter the exact Card Number in the **Search** field.
3. Click the search button.
4. The card assignment main page appears with the list of card numbers entered.

Notice!
If the card number specified is not configured in the card database, than **No records found** message appears.

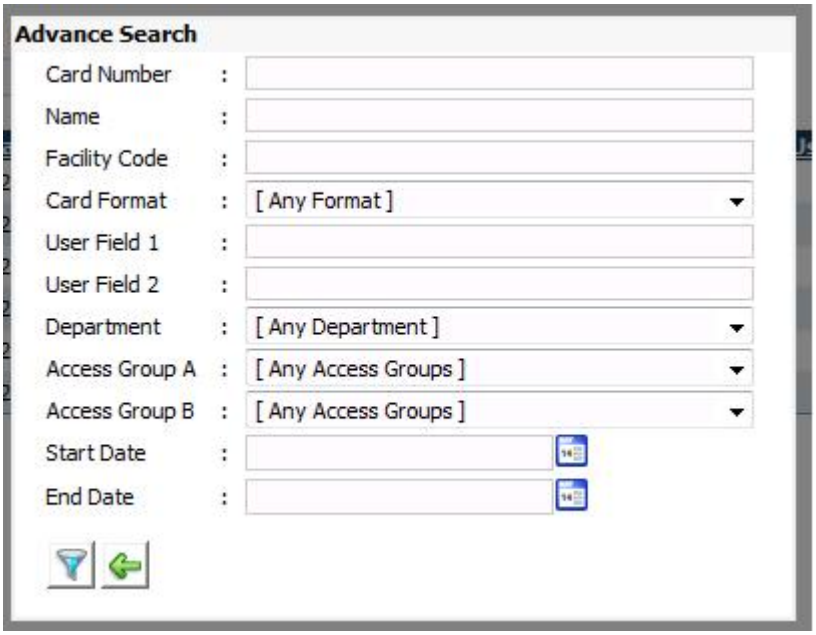
To find a particular Cardholder based on User Field 1 or User Field 2.

1. If you wish to find a Card Number whose user field 1 or user filed 2 is known, select the option **User Field 1** or **User Field 2** from the **Option** drop down box.

2. Enter the value in search field.
3. Click the search button.
4. The card assignment main page appears with the list of card numbers entered.

Advance Search

The advance search window allows you to search the card database more easily. The **Advance Search** window is shown below.



Enter a value in any one field of the search window. You can search the card database on the following parameters **Card Number**, **Name**, **Card Format**, **Facility Code**, **User Field 1, User Field 2**, **Department**, **Access Group A, Access Group B**, **Start date** or **End date**. After entering the value click the **search** button. The search result is displayed in the card assignment main page.

Click the back button if you do not want to continue with the search option.

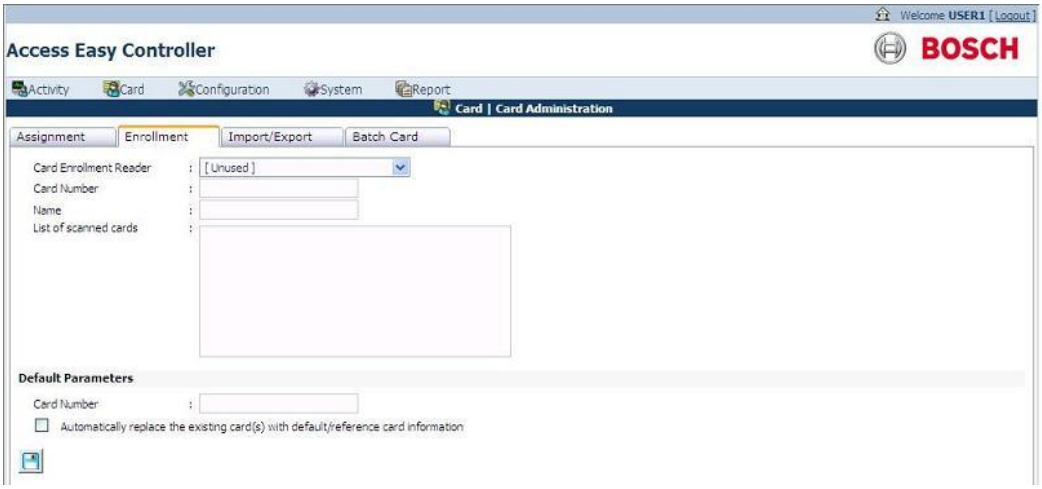
8.2 Card Enrollment

The card enrollment option allows the use of any unknown proprietary wiegand card format, where an administrator can activate a Reader, either by pre-assigned enrollment card or by web page, to be in enrollment mode and enroll any card into the card database (maximum bit length is 64). The sections below will guide you on how to activate a Reader to be in enrollment mode, both by enrollment card feature and by web page feature.

8.2.1 Card Enrollment using Web Page

Follow the steps below if you wish to enroll a card of unknown proprietary wiegand card format using the web page.

1. Select the link **Card** > **Card Administration** menu. In the card administration main page select the **Enrollment** tab and the screen below appears.

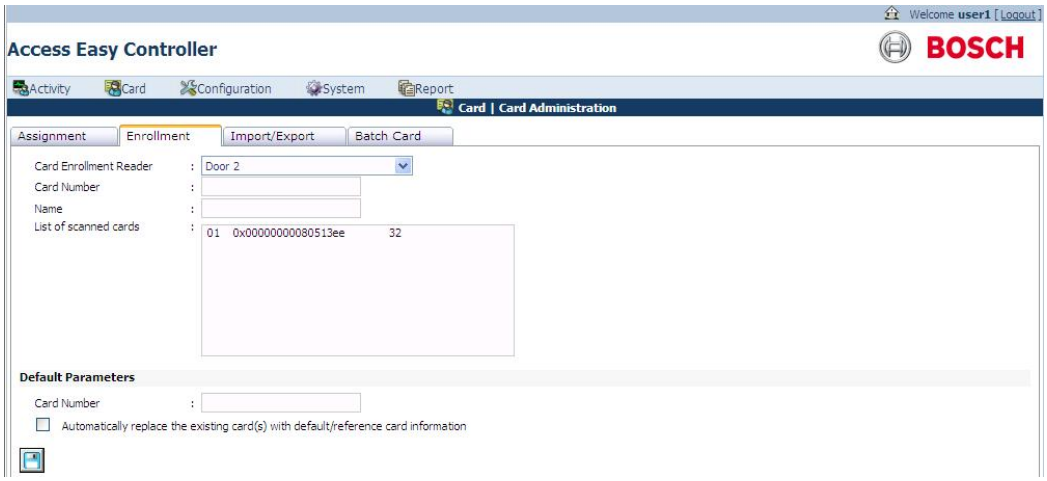


   Select a door from the **Cards Enrollment Reader** dropdown list. This reader can be a dedicated reader or a door access reader. However, if a door access reader is selected as an Enrollment reader, the reader will only function as an enrollment reader and the door access functions will be temporary disabled until the reader is set back as a door access reader.

2. Select a Reader from the **Cards Enrollment Reader** dropdown to be the enrollment Reader. In this example, we select **Door 1** to be the enrollment Reader.

3. Click the save button to activate the selected Reader as the enrollment Reader.

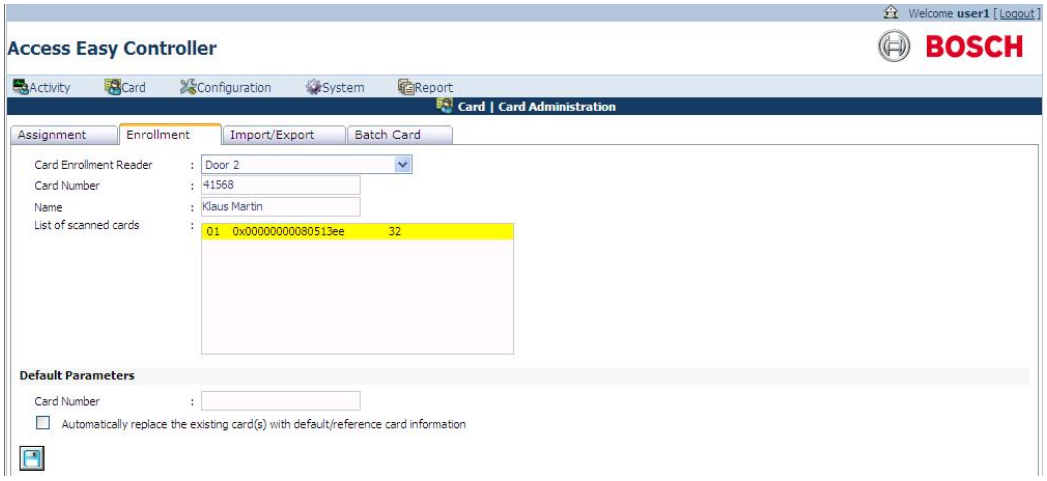
4. Present the card with unknown Wiegand Format to the enrollment Reader. The card that has been presented to the enrollment Reader will appear in the box **List of scanned cards**.



5. You can now assign any **Card Number** and **Name** to the card.

Notice!
It is recommended that you assign a number to the card of unknown wiegand format beforehand and stick a label on the card, so that it is easier to refer to the card number during the card enrollment process.

6. Highlight the card in the List of scanned cards that you are assigning the **Card Number** and **Name** to and enter the card number and name in the appropriate field as shown below.



7. Click the save button to save the card details.

Notice!
If you are using a door access reader as a temporary enrollment reader, after enrolling the unknown wiegand card, it is required to reset the reader back to a door access reader.

8.2.2 Card Enrollment using Pre-assigned Enrollment Card

Cardholders can use their cards to activate a reader in enrollment mode if such functionality is assigned to the cards. This functionality is assigned by enabling the **Card holder can enable enrollment operation** check box. Refer to *Card Functionality, page 59* for more details.

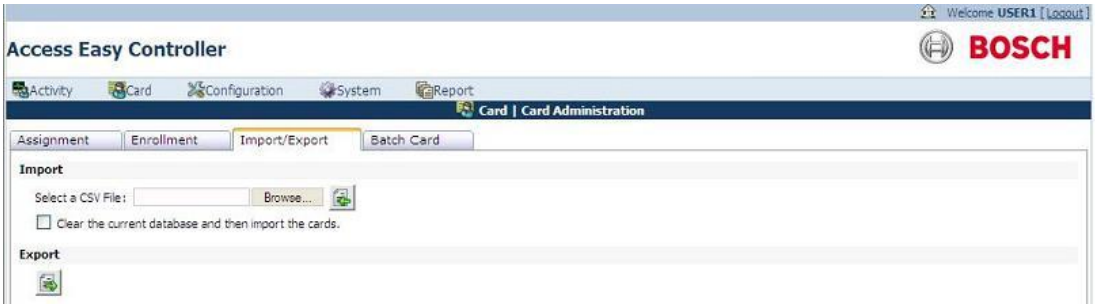
Follow the steps below if you wish to use the pre-assigned enrollment card to enroll a card of unknown proprietary Wiegand format.

1. Find the reader that you wish to use for enrollment.
2. Press the '7' key on the reader keypad.
3. Flash the pre-assigned enrollment card to enable the reader in enrollment mode. The reader will remain in enrollment mode until the keypad time out period has passed (default is 10 seconds).
4. Present cards with unknown Wiegand format to the enrollment reader during this period to enroll them in the system.
5. The enrollment reader reverts back to normal state/operation after the keypad time out period has passed.
6. Refer *Card Assignment, page 55* to configure the information of the enrolled cards accordingly.

8.3 Import/Export Function

This feature allows you to export or import the card database in a familiar CSV format.

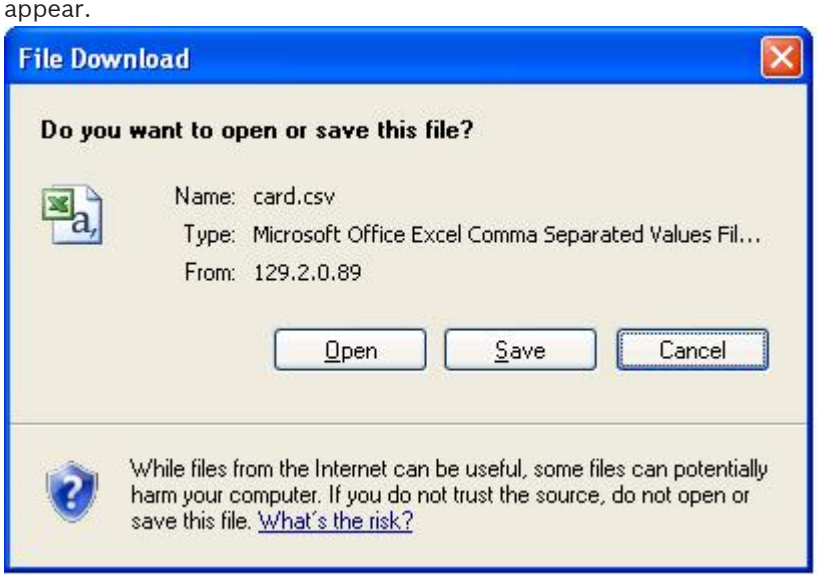
The import/Export function is also used as a backup and restores utility. Select the link **Card** > **Card Administration** and in the card administration page select the tab **Import/Export**, the screen below appears.



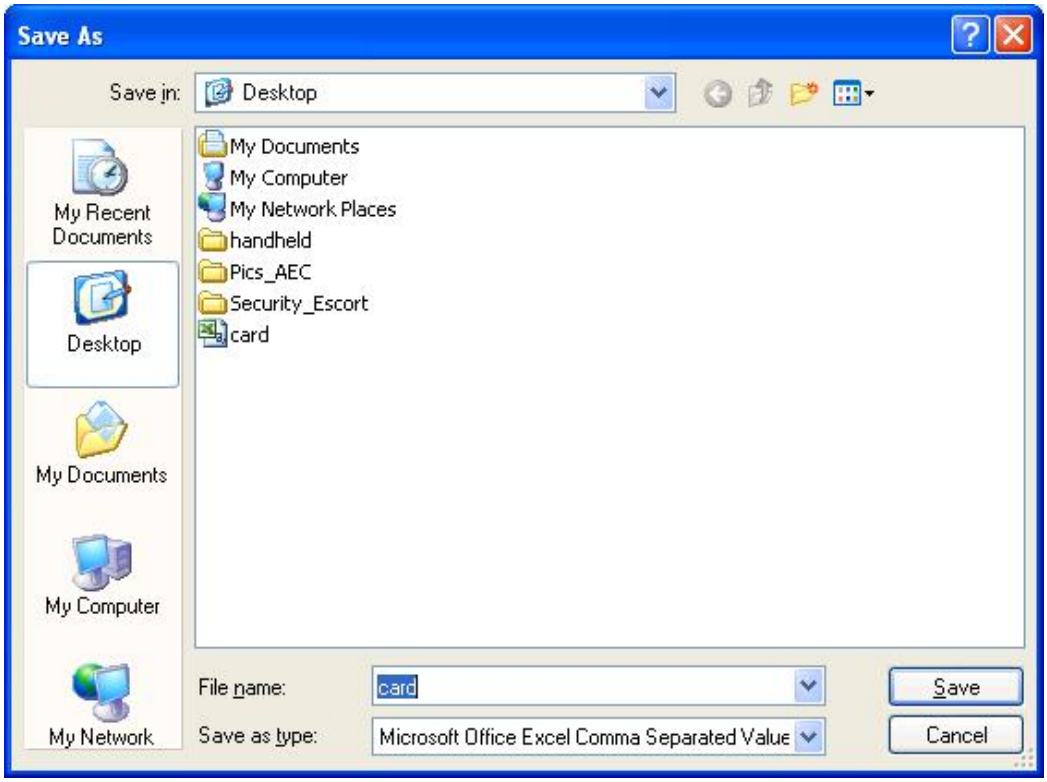
8.3.1 Exporting the Card Database

Follow the steps below to export the card database.

1. To export the card database, click the export button. A screen as shown below will appear.

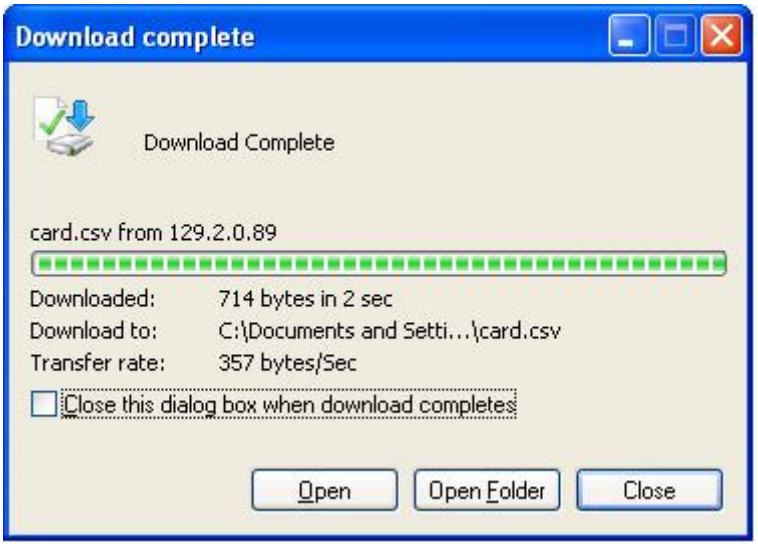


2. Save the file to a local hard disk or an external drive. Click the **Save** button and the screen below appears.



3. Select the drive you want to save the file in and give an appropriate File Name. Click the **save** button to save the file.

4. Once the download is complete the screen below appears.



5. Click **Open** to view the file else click the **Close** button to close the window.

8.3.2 Importing the Card Database

Follow the steps below to import the above edited CSV file.

1. To import the card database, select a .CSV file using the **Browse** button or enter the directory and the file name directly in the space provided beside **Select a CSV file**.

2. Select the checkbox besides **Clear the current database and then import the cards** if you want to delete the existing database and import the new database.

3. Click the Import button to import the database to the system.

8.4 Batch Cards

Below sections describe the adding and deleting processes for Batch Cards.

8.4.1 Adding Batch Cards

1. Select the link **Cards** > **Card Administration**. From the card administration main page select the **Batch Card** tab.

2. Enter the card number in the **Card Number** field (the number specified here will be the starting number of the batch card operation and will be included).

3. The number in the Facility code is configured in **Card** > **Default Settings**, if the code is different from the default, then change the facility code. Refer to *Card - Default Settings, page 80* for more details. Enter 0 if the Card Format doesn't support Facility Code.

4. Select the appropriate **Card Format** from the dropdown list. The Card format is configured in the section **Cards** > **Card Format** menu. Refer to *Card Format, page 75* for more details.

5. Enter the number(s) of card number to add in the **Number of Cards** field.

6. Click the add button. If there is no error during the card numbers addition, the Cards added successfully message will be shown. Refer to *System Messages, page 72* if other message are displayed.

7. Click the save button to return to the menu item first page.

8. Proceed to edit the newly added card number parameters.

8.4.2 To Delete a Batch of Card Number

The procedures to delete a range of card numbers is similar to adding a batch of card numbers. Instead of clicking the add button, click the delete button.

Warning!
This function must be used carefully as it is not reversible. The delete option will delete all the information permanently from the database.

8.4.3 To Add a Batch of Card Number with Same Data Entries

This function allows addition of a range of card numbers with data entries copied from a reference card number (see **NOTICE** below). All card number(s) added will be copied with the data/parameters of the reference card. However, the following parameters will not be copied, **Facility code**, **Card Format** and **Username** as all these parameters relates to the individual card and cardholder.

Notice!
In order for the process to be carried out, the reference card number entered must be exact in term of **Card Number**, **Facility Code** and **Card Format**. The Controller will prompt the user with an error message if a non-existence reference card number is specified.

This is very useful and time saving when assigning a batch of card number to a specified department staff.

Notice!
The Card Number 18020 is of BOSCH-ADC Proprietary Card Format with Facility Code of 0. It is used as a reference as we wanted to set similar parameters for the new card numbers such as Access Group(s), ...etc.

1. In the batch card main page enter all the details as described in Add batch card section. In the default parameter window enter the card number in the card number field from which you want to copy the card parameters.

2. Click the add button to proceed. A message will appear. Refer to *System Messages, page 72* to interpret the meaning of the message.

Using automatically replace the existing card(s) with default/reference card information function

This function will overwrite all data within a card number when the software encounters existing card number (with same **Card Format** and **Facility Code**) during Batch Cards function. It allows recycling of card number allocation when employee resigns.

The function will be activated when a tick appears in the check box.

Warning!
This function should be used carefully as it is not reversible. All information on the existing card number in the database will be permanently overwritten once this option is carried out.

8.4.4 System Messages

The following are the sample messages that are displayed when batch card function is carried out.

Card numbers already exist.
This message indicates that the card number, having the same Facility code and Card Format, already exist in the database and the Overwrite function was not activated.

Card database full. 3 cards starting from card number 20479 were not added.
This message appears when an attempt is made to add in more Card number when the card database is already full. It indicates the card number and number of card(s) not added, in this example; card number 20480, 20481, and 20482 was not added.

Card not found.
This message indicates that the Card number specified during a batch card deletion does not exist and the deletion could not proceed.

Cards deleted successfully.
This message indicates that all Card Numbers specified during a batch card deletion has been carried out successfully.

5 cards deleted.
This message indicates that only 5 Card Numbers out of the Number of Cards specified during a batch card deletion was carried out successfully. The remaining card numbers doesn't exist in the database.

3 cards added successfully.

This message indicates that only 3 Card Numbers out of the Number of Cards specified during a batch card addition was added successfully. The remaining card numbers already exist in the database and the Overwrite function was not activated.

Unable to perform add operation.
This message appears when the Card Number or the Number of Card field was not specified during the add operation.

Unable to perform delete operation.
This message appears when the Card Number or the Number of Card field was not specified during the delete operation.

Reference card not found.
This message shows that the reference card number does not exist.

9 Card Fields Configuration

This chapter explains the configuration of the card information fields.

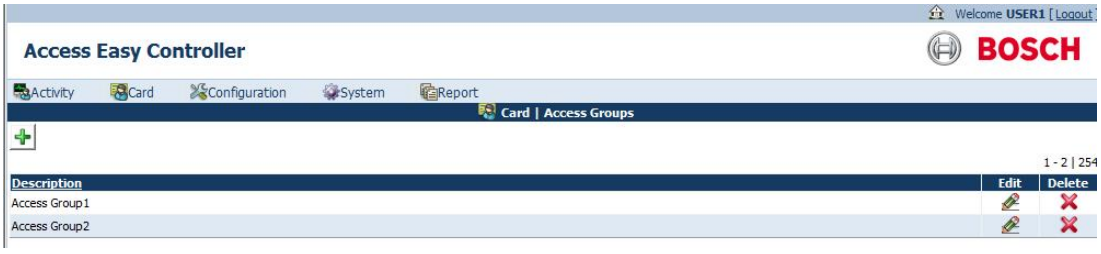
9.1 Access Groups

An Access Group defines a list of readers that the cardholders can access within certain authorized time periods (pre-defined Schedule). This means that only within this Schedule, cardholders in this access group can access this reader. AEC2.1 supports upto 254 programmable Access Groups.

In addition, there are two more unique access groups. They are the **Full Access** group that allows cardholders to access all readers at all times, usually reserved for the President, Chairman or Directors of the company and the **Unused** group that prohibits cardholder to access any reader at all times. All these features are explained in this chapter and this chapter covers a step by step guide to set up the Access Groups.

Access Group is implemented to simplify the process of assigning cardholder's access rights to each reader. Usually a group of cardholders can access the same group of readers, using a common Schedule. Assigning access groups reduces the pain of going through the same steps repeatedly. Rather than assigning each reader to one of the cardholder and going through the same steps repeatedly, grouping of Access Group is implemented. It is highly recommended that detail planning be done before setting up the Access Groups. Each Access Group can configure up to 32 readers with each reader linked to a Schedule.

Click the link **Card** > **Access group** to access the access group page. The screen below shows the **Access Group** main page.



Click the corresponding range link at the top right to view the access groups.

9.1.1 To Configure/Edit Access Group Parameters

1. Click the add button to add a new access group. The screen below appears.

Notice!
The Reader's Description shown above is configured in Card Readers setting. Refer to *Door Settings (Card Reader Settings), page 81* for more information.

2. Enter a description for the access group in the **Description** field.

3. Select the appropriate check boxes besides the door description to be assigned to this Access Group.

4. Select the appropriate **Schedule**, from the dropdown list, for each selected Reader. Refer to *Schedules, page 145* for more information about schedule configuration.

5. For an Elevator Reader, you need to select the Floor List and assign appropriate Floor level that you want to allocate to this access group.

Notice!
You need to assign a Reader as an Elevator Reader in Card Reader Setup and assign Floor Relay in the Floor Output Settings before assigning any access group for elevator reader. Refer to *Door Settings (Card Reader Settings), page 81* for more information.

6. To confirm the Floor List, click the **OK** button.

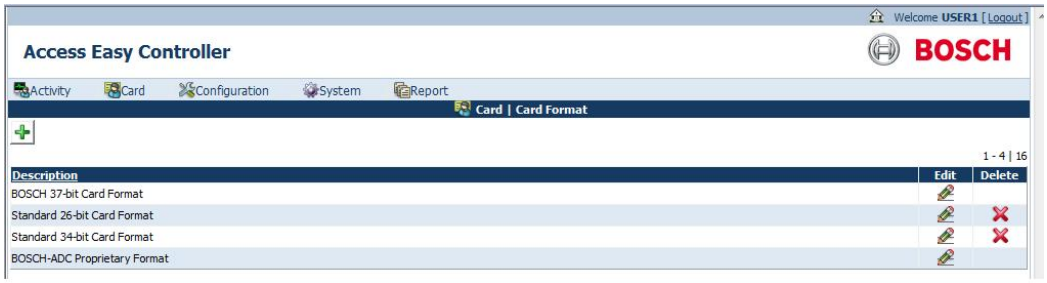
7. Click the save button to save the settings.

9.2 Card Format

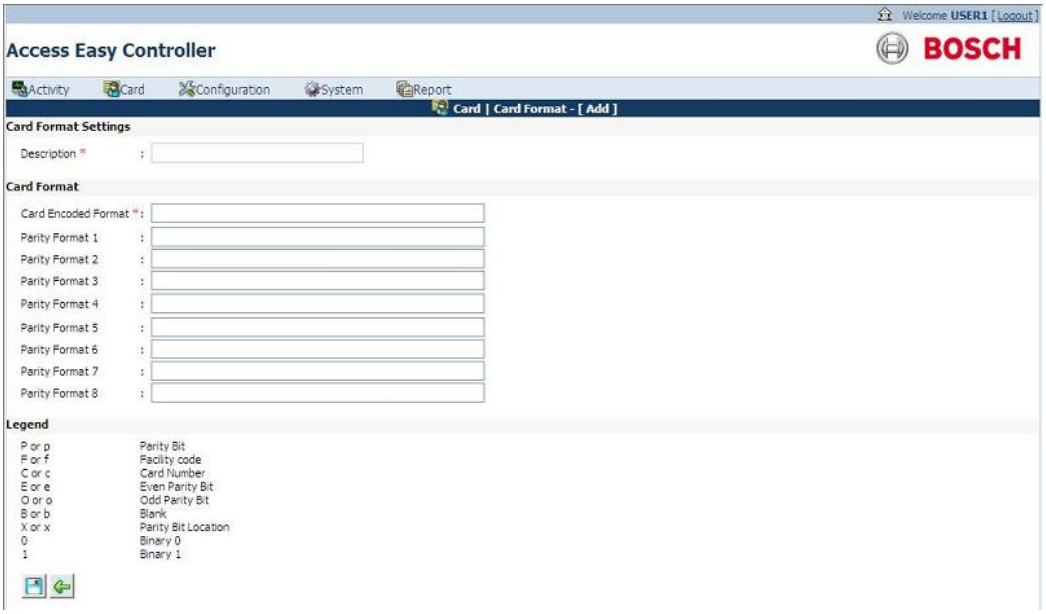
The card format feature allows you to customize the AEC2.1 to accept up to 16 different types of Wiegand Card Format. AEC2.1 supports up to a maximum of 64 bit card format and up to 8 Parity Format.

To activate Card Format

1. Click the link **Card** > **Card Format** to access the card format page. The screen below shows the **Card format** main page.



2. Click the add button to add a new card format. The screen below shows the add Card format main page.



3. Enter a Description for this Card Format in the **Description** field.

4. Enter the format for the **Card Encoded Format** field accordingly.

5. Repeat for **Parity Format 1** (see NOTICE).

6. Repeat for **Parity Format 2** (Apply the condition in **NOTICE** here and for subsequent Parity Format fields).

Notice!
The entries to this field must not contain Parity Bit Location that depends on the resultant Parity Bit of the next or higher (Parity Format 2 to 8) Parity Format field entries.

If the Card Format doesn't support Parity checking, leave the All Parity Format fields blank.

In order to understand how to configure the different format, the standard 26-Bit Wiegand Card Format will be used as an example.

Example: 26-Bit Wiegand Card Format
The 26-bits of transmission from the reader to the AEC2.1 consist of two parity bits and 24 code bits. The first transmitted bit is the even parity bit E, it is calculated over the first 12 bits. The last bit transmitted is the Odd parity O, it is calculated over the last 12 bits.

The string of bits for this code format is shown in the following tables. Due to the lack of space, the 26-Bits are split into two separate rows of 13 each.

Code Format

1	2	3	4	5	6	7	8	9	10	11	12	13

E	F	F	F	F	F	F	F	F	C	C	C	C

14	15	16	17	18	19	20	21	22	23	24	25	26
C	C	C	C	C	C	C	C	C	C	C	C	O

Legend:
E: Resultant Even Parity Bit
F: Facility Code Bit
C: Card Number Bit
O: Resultant Odd Parity Bit

Parity Format

1	2	3	4	5	6	7	8	9	10	11	12	13
P	E	E	E	E	E	E	E	E	E	E	E	E

14	15	16	17	18	19	20	21	22	23	24	25	26
O	O	O	O	O	O	O	O	O	O	O	O	P

Legend:
E: Even Parity Bit Location
P: Resultant Even and Odd Parity Bit
O: Odd Parity Bit Location

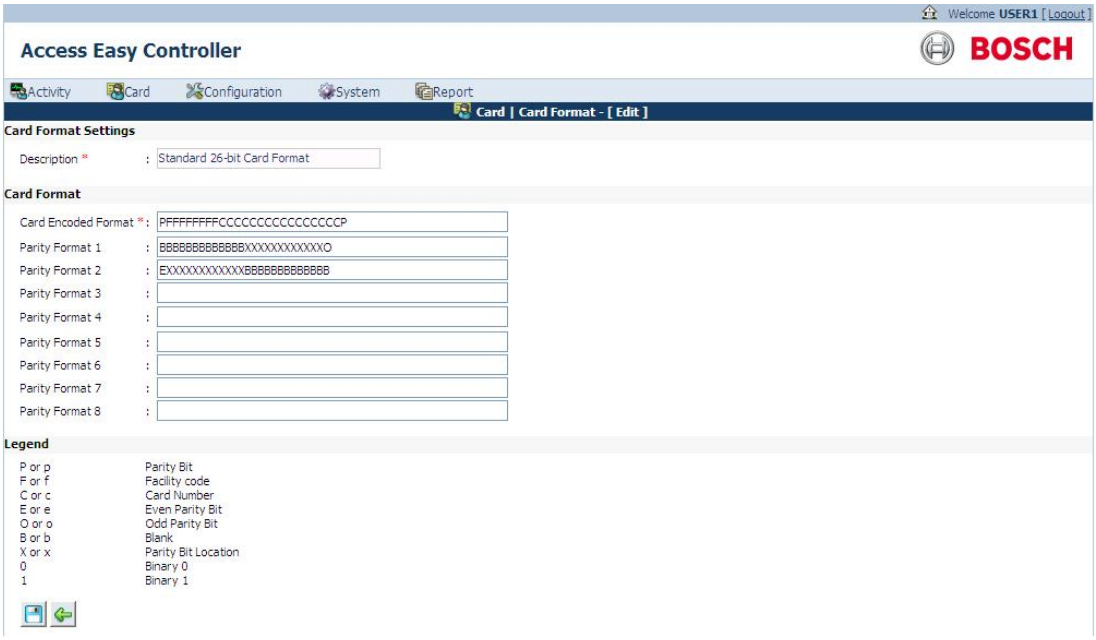
In order for the AEC2.1 to decode the data string correctly, we need to configure the code accordingly.

Referring to the Code Format Table
For Card Encoded Format
1. Enter P or p for the resultant Even (E) and Odd (O) Parity Bit
2. Enter F or f for the Facility Code Bit (F)
3. Enter C or c for the Card Number Bit (C)

Referring to the Parity Format Table
For the Odd Parity Format (Parity Format 1).
1. Enter O or o for the resultant Odd Parity Bit (O)
2. Enter X or x for Odd Parity Bit Location.
3. Enter B or b otherwise.

For the Even Parity Format (Parity Format 2).
1. Enter E or e for the resultant Even Parity Bit (E)
2. Enter X or x for Even Parity Bit Location.
3. Enter B or b otherwise.

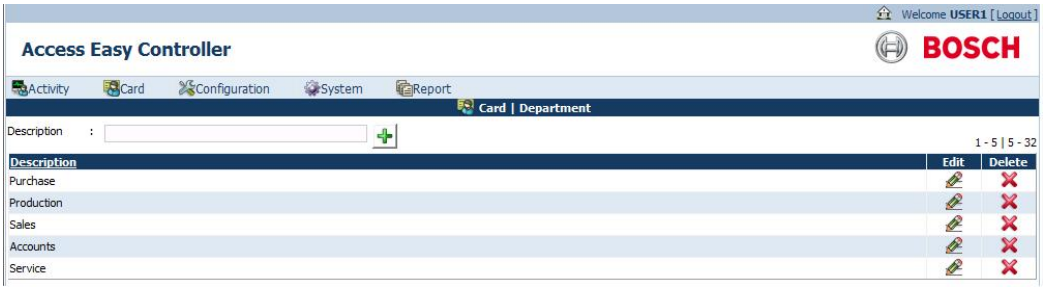
With the information, proceed to configure the Card Format as shown below.



Notice!
The system will not allow you to delete a card format if the card format is already in use.

9.3 Department

1. Click the link **Card** > **Department** to edit or add a new department. The screen below shows the department page.



2. Enter the department description in the **Description** field and click the add button to add a new department.

3. The added department appears in the department main page table.

4. Click the edit button to edit the description of the existing department. The edit screen is as shown below.

After editing the department description click the save button to save the settings. Click the delete button to delete the department from the database.

5. After adding the department, this department can be seen in the Department drop-down list on the page **Card** > **Card Administration** > **Card Assignment** > **Card Details** tab.

9.4 Reset APB

The Reset APB menu allows you to reset the Anti-Passback (APB) feature once it is violated. Refer to *Anti-Passback (APB) Settings, page 93* for more information about Anti-Passback Settings.

If **Full APB** is used, this command will reset the violation and allow violator(s) to access or exit the controlled door. However, if **Soft APB** is used, this command will reset the Activity transactions for "**Access Granted, Soft APB**" and "**Exit Granted, Soft APB**" for violator's subsequent access or exit respectively.

User is given the option to reset the APB violation with the following combination: -

– By All Cards
– By Individual Card

To reset APB by All Cards

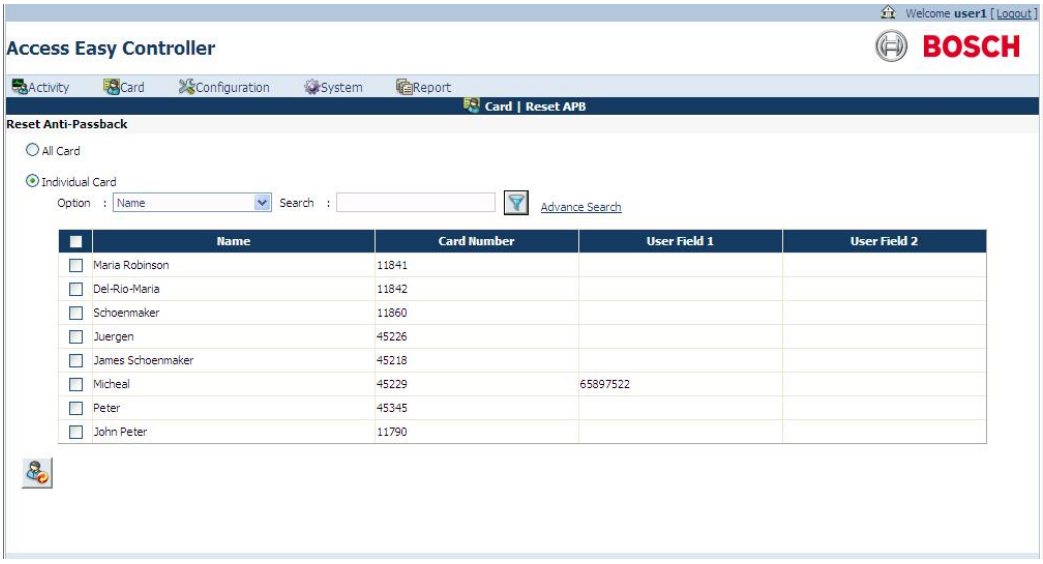
1. Select the radio button **All card** to reset APB for all the cards in the database.
2. Click the reset APB button to proceed. If the command is executed successfully, a message indicating APB reset for card number is displayed.

To reset APB based on Individual Card

You can Reset APB of an individual card based on **Name**, **Card Number**, **User Field 1** and **User Field 2**. To Reset APB based on Card Number, you should know the Card Number, its Facility Code, and its Card Format.

The reset APB window lists all the cardholders name and details in the main page.

1. Click the radio button **Individual Card** to reset APB for a particular card as shown below.



2. Enter the **Name**, **Card Number**, **User Field 1** or **User Field 2** of the APB violator in the **Search** field.
3. The Reset APB main page displays the result of the search criteria.
4. You can also select the cardholder name from the existing list and click the reset APB button to Reset the APB settings.

9.5 Card - Default Settings

This setting allows you to define the descriptive Name for the two user fields and the global Facility Code that appear under the title **Card Details** in **Card Assignment** page. These user fields are limited to 20 character entries each while the Facility code range depends on the Card Format in use.

9.5.1 To Edit the User Definable Fields and Facility Code

1. In the User Definable Fields window enter the Description for User Field 1in the **User Field 1** field.

2. Repeat for **User Field 2**.

3. In the facility code window enter the default Facility Code (you can obtain this code from your card supplier; enter "0" if the Card Format doesn't support Facility Code).

4. Click the save button to save the settings.

The changes done here are updated in the **Card** > **Card Details** > **Assignment** page.

10 Door Settings (Card Reader Settings)

AEC2.1 software is designed to integrate with its hardware to provide a total solution as an integrated Access Control System.

Before the System is fully functional, we have to set up the hardware-related parameters. This chapter explains how to setup the most essential parameters of the AEC2.1 system, namely the Card Reader parameters, comprising of the following sections: -

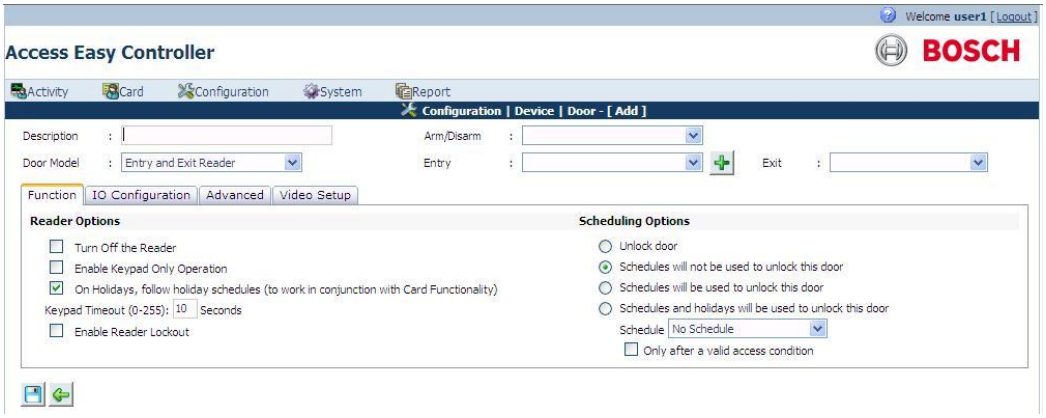
- Reader Function
- Reader Options
- I/O Settings
- PIN Code Settings
- Anti-Passback (APB) Settings
- Dual Card Configuration

All AEC2.1 Card Readers can be configured to work either as an **Entry Reader**, **Entry and Exit Reader** or an **Elevator Reader**.

10.1 To Setup the Card Readers

1. Click the link **Configuration** > **Device** > **Door** to access the door settings page. The screen below shows the door settings main page.

2. Click the add button to add a new door setting, the screen below appears. The door function tab is the default page of the door settings menu.



3. Enter a description for the door in the **Description** field.

4. Select a door type from the door model dropdown list. The system provides two types of door models namely **Entry and Exit reader** and **Elevator reader**.

Entry and Exit Reader

All 64 readers are configured as Entry Reader allowing Door Access. When this mode is selected you can define an Entry and Exit reader. A reader must be assigned to the Entry reader and assigning an Exit reader is optional. This Exit Reader will follow the operational behavior of the Entry Reader such as **Door Open Timer** and **Door Strike Timer**. If the Entry Reader for this Exit Reader is also a Arm/Disarm Reader, you can also arm/disarm the same Alarm Zone at the Exit Reader, as the Exit reader now has the operational behavior of the Entry Reader.

Notice!

Once a Reader is configured as an Exit Reader, the Reader will only be accessible to Reader Functions. The rest of the configuration, such as Reader Options, I/O Settings, PIN Code Settings, Anti-Passback (APB) Settings and Dual Card Configuration will not be available until it is changed to an Entry Reader, or an Entry and Arm/Disarm Reader.

Elevator Reader

Similar concept of door access right assignment in door Readers is also implemented in the Elevator Reader floor assignment. However, there are a number of differences between an Elevator Reader and an Entry & Exit Reader. The differences are listed below:-

- No Anti-Passback Setting
- Floor Output Settings instead of Door Output Settings and Door Input Settings
- Output Link can control only Invalid Card Output
- Cannot be used as a arming/disarming reader

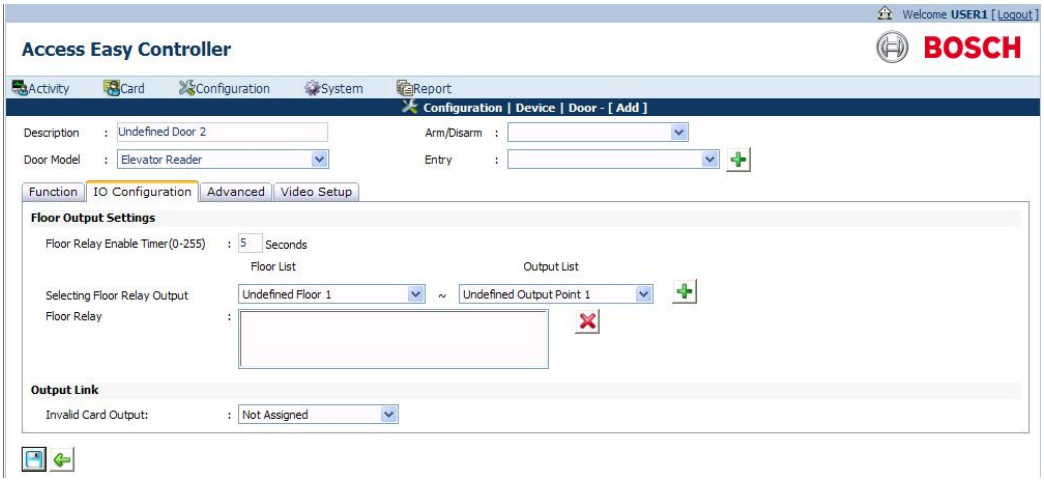
Each item is explained in detail below.

- **No Anti-Passback (APB) Setting**

  Elevator Readers do not have the function Anti-Passback (APB) Settings. This is because it would be complicated to register a zone for the cardholder after entering the elevator and flashing the card to the elevator reader, as the elevator has exit to more than one floor. (You can consider the Elevator has more than one exit).

- **Floor Output Settings instead of Door Output Settings and Door Input Settings**

  The settings of an Elevator Reader is also different from that of an Entry and Exit Reader. Elevator Reader only has Floor Output Settings whereas an Entry and Exit Reader has Door Output Settings and Door Input Settings. This can be seen in the screen below.



To access this page, select **Configuration** > **Device** > **Door**. Enter a reader as an **Elevator Reader**. Then select **IO Configuration** tab. This feature allows you to set any of the 64 programmable Output Point to the selected Floor.

- To configure the **Selecting Floor Relay Output**, select a Floor from the **Floor List**.
- Select an Output Point from the **Output List**.
- Click the add button to add the selected Output Point to the selected Floor. The selected items would appear on the Floor Relay list box. Each Floor and Output Point can only be selected once.
- To delete any selected items from the Floor Relay list box, highlight the item and click the delete button.
- To configure the Floor Relay Enable Timer, delete the default timing in seconds and enter a new timing for it. The default timing is 5 seconds.

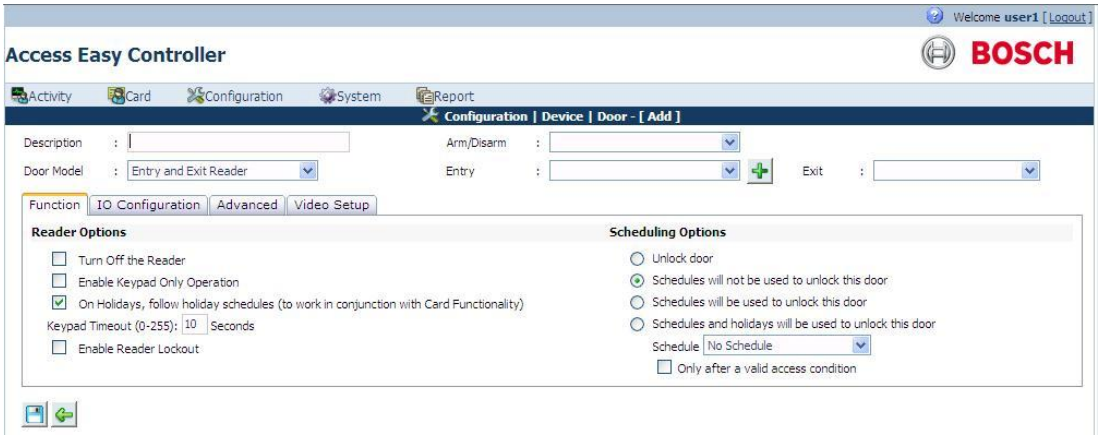
- **Output Link can control only Invalid Card Output**
  For an Elevator Reader, the Output Link is used to control Invalid Card Output only.

  When the Elevator Alarm Output is assigned to an Invalid Card Output it means that when an invalid card is presented to the Elevator Reader, it will trigger Elevator Alarm Output, so that the security will be alerted.

10.2 Reader Function

This section allows you to define the use of the Reader in an Entry and Exit Reader or an Elevator Reader.

A screen of the Reader Function page is shown earlier.



Arm/Disarm
When this mode is selected, this can be used for Arming and Disarming a specific Alarm Zone. Select an Alarm Zone from the **Arm/Disarm** drop-down list.

To arm an Alarm Zone using the same access Reader, a card holder with the Arm/Disarm control just has to press the <0> key on the Keypad before presenting the card. During an Arm state, all valid access cards will be disabled. Only a Arm/Disarm card (Card must be checked at **Card holder is able to Arm/Disarm** under Card Assignment.) can disarm the Alarm Zone and enable the door back to normal card access operation or manually disarm the alarm zone through input control.

During Arm state, if the door is unlocked by Schedule or manually from Door control page, the alarm zone will be disarmed first before door is unlocked. If the Reader is ONLY used for Arm/Disarm purpose, you just have to assign the cardholder with Arm/Disarm function without giving access right to the Reader. This will allow the cardholder to arm the Alarm Zone without pressing the <0> key.

To disarm the alarm zone, present the arming card to the reader, if the card has access rights, the door will be unlocked as well.

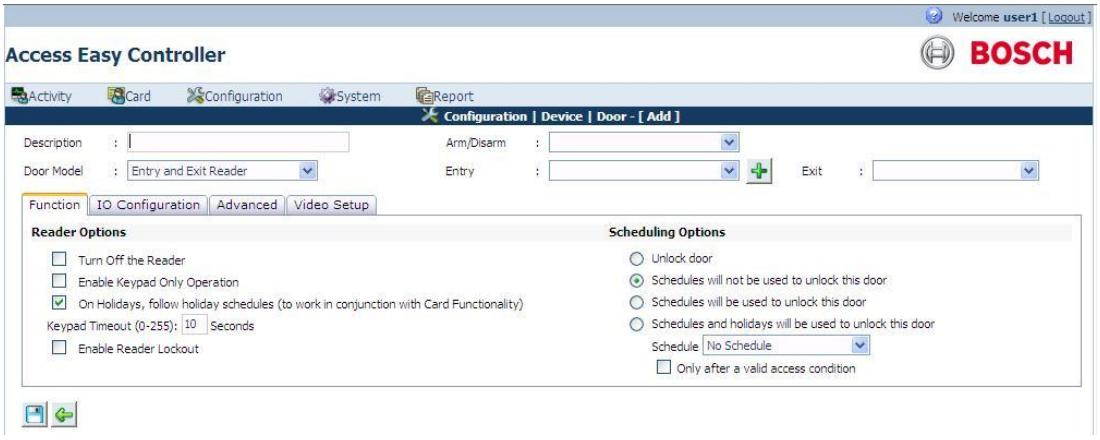
Notice!
In order for the Reader to work properly, additional wiring is required. Please consult your System Installer for advice.

Entry
The door settings option consists of the following tabs:
– Function
– IO Configuration
– Advanced
– Video Setup

The reader function tab consists of two options namely **Reader Options** and **Scheduling Options**. The two options are explained in detail in the following pages.

10.2.1 Reader Options

This section allows you to configure parameters in relation to the Reader. You can de-activate the Reader to prevent access to anyone, or allow access by entering the Card Number manually, and/or access in accordance to Holiday Schedules.
A screen of the **Reader Options** page is shown below.



The Reader Options are explained in detail below.

Turn off the reader
If selected, it turns the reader off and does not read any card. The door will be locked and all access will be denied. For Arm/Disarm Reader, turning off the reader prevents arming and disarming through the Reader.

Enable Keypad Only Operation
If selected, the cardholder need not present the card to gain access or Arm/Disarm the Alarm Zone (see **NOTICE 1**). Instead, the cardholder has to key in the card number, (see **NOTICE 2**) followed by its PIN code (Only if PIN function is required) using the keypad.

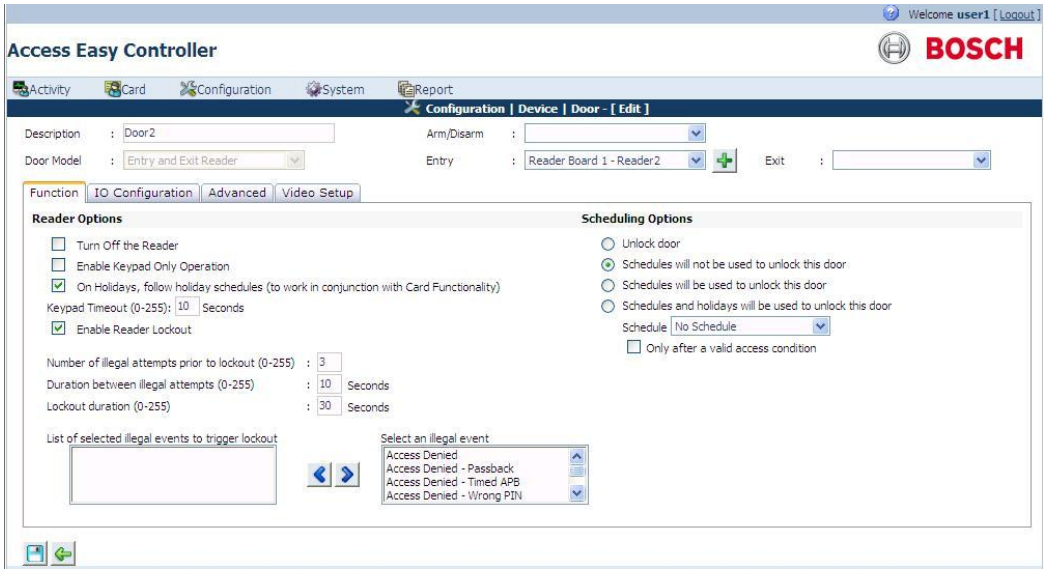
Notice!
NOTICE1: Cardholder can still present the card to gain access or Arm/Disarm. If PIN code is required, cardholder has to present card followed by PIN code.
NOTICE2: Cardholder has to activate the key first before entering the card number.

On Holidays, follow holiday schedules (to work in conjunction with Card Functionality)
This mode works in conjunction with the Card assignment, Cardholder must abide by holiday schedules. If both are selected and the current date is a holiday, the controller will apply the 4 sets of Schedule intervals setting in the Regular or Special Holiday, depending on which Holiday Type the current date setting is on, for access right processing (for each cardholder).

Keypad Timeout
Keypad Time-out relates to the interval where the Controller expects key entry via the reader's keypad from the cardholder. If the cardholder does not press any key within this duration or when the cardholder forgets to quit from a specific operation, the Controller will return to the normal mode to wait for card presentation or cardholder action during a PIN change or Manual Card Number Entry operation. To edit the Keypad Time-out, enter the time-out value. The keypad time-out can range from 0 - 255. The factory default is 10 seconds.

Enable Reader Lockout
When this mode is selected, there is a restriction on the number of times a cardholder with invalid access can present the card at the Reader.

1. Select the checkbox beside **Enable Reader Lockout**. The screen below appears.



2. Choose the events that you would like to lock the cardholder out by selecting from **Select an illegal event** and click the add button.

3. The illegal events will appear on the **List of selected illegal events to trigger lockout**.

4. To remove the illegal event from the **List of selected illegal events to trigger lockout**, highlight the event and click the delete button.

5. Enter the Number of illegal attempts prior to lockout. The default is set to 3. The number of attempts can range from 0 to 255.

6. Enter the **Duration between illegal attempts**. The duration can range from 0 to 255 seconds. By default it is set to 10 seconds.

7. Enter the **Lockout** duration. The lockout duration can range from 0 to 255 seconds. By default it is set to 30 seconds.

In the above example, the cardholder will be lockout after the 3rd attempt when the cardholder uses an Invalid Card to access the Reader, 3 times within 10 seconds. The cardholder will not be able to access the Reader for 30 seconds, meaning the Reader will lock out for 30 seconds. However, if the cardholder only attempted 2 times with an invalid card, the Reader will reset the illegal attempt counter 10 seconds after the very first time the cardholder uses an invalid card to access the Reader.

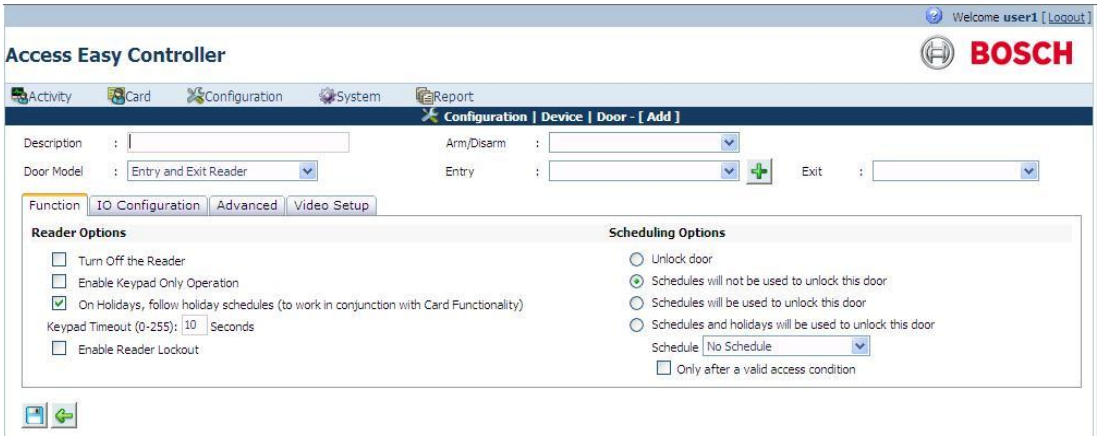
Notice!
Once a reader is lockout, it will not be accessible by any cardholder. The reader can be used only after the reader lockout duration.

10.2.2 Scheduling Options

The AEC2.1 can be programmed to activate or de-activate the reader based on pre-programmed Schedules. This is particularly useful if the reader is used for controlling door access and the door is required to be unlocked during certain period of the day, but to be locked back at different time period for the same day.

The above scenario is a typical operation of a Main Entrance Door of a building. During the time when staffs normally come to work, you might want to unlock the door throughout the office working hours and automatically lock back after work.

A screen of the **Scheduling Options** page is shown in the section **Reader Options**.



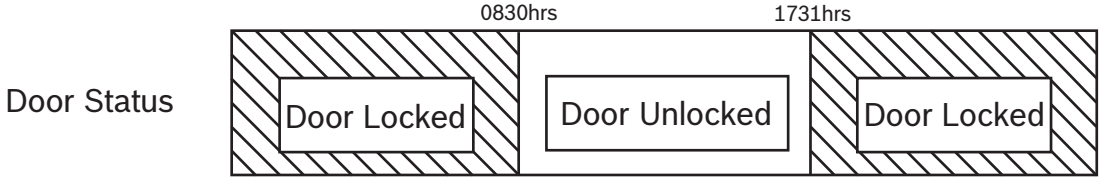
Unlock door
If selected, the door controller by the particular reader is permanently unlocked. There is free access to everyone. This function is applicable to Entry Reader. For Elevator Reader, this function is replaced by a similar function Disable Elevator Reader, in the below section.

Disable Elevator Reader (For Elevator Reader Only)
If selected, the elevator that is controlled by the particular reader is permanently unlocked. There is free access to everyone. This function is applicable to Elevator Reader only. For Entry Reader, and Entry and Arm/Disarm Reader, it is replaced by a similar function Unlock door, in the above section.

Schedules will not be used to unlock this door
If selected, the reader access mode will be activated. Gaining access will require the cardholder to present the card and enter the PIN code (if PIN code is required).

Schedules will be used to unlock this door
If selected, the Reader access mode will function based on the Schedule intervals setting. To set the scheduling options, refer to *Schedules, page 145* for more information.

For example: - The Start and End time for Interval 1 of Schedule settings is set to **0830** hrs and **1730** hrs respectively. In this period, the door will be unlocked between **0830** hrs to **1731** hrs. The drawing below provides a pictorial representation of the function.



Notice that the Door is locked only at **1731** hrs instead of **1730** hrs. The reason is that AEC2.1 takes **17:30:59** hrs as a valid End time for **1730** hrs.

Schedules and Holidays will be used to unlock this door
If selected, the Cardholder will be allowed to access this Reader during the specific period as defined in Schedule intervals setting for holiday.

To set the Scheduling Options (Schedules and Holidays will be used to unlock this door)

1. To assign the Scheduling Options, click the desired radio button. To de-select a scheduling option, click the radio button again. By default, it is set at **Schedules will not be used to unlock this door**.

2. If the selection is made on either Schedules will be used to unlock this door or Schedules and Holidays will be used to unlock this door, please proceed to step 3 to select the Schedule.

3. Select the desired Schedule from the Schedule dropdown list.

4. When Schedules will be used to unlock this door or Schedules and Holidays will be used to unlock this door is selected, the door will unlock on time even if nobody is in the premises. However, with the **Only after a valid access condition** selected, the system will only unlock the door after a valid access card is presented during the schedule time period.

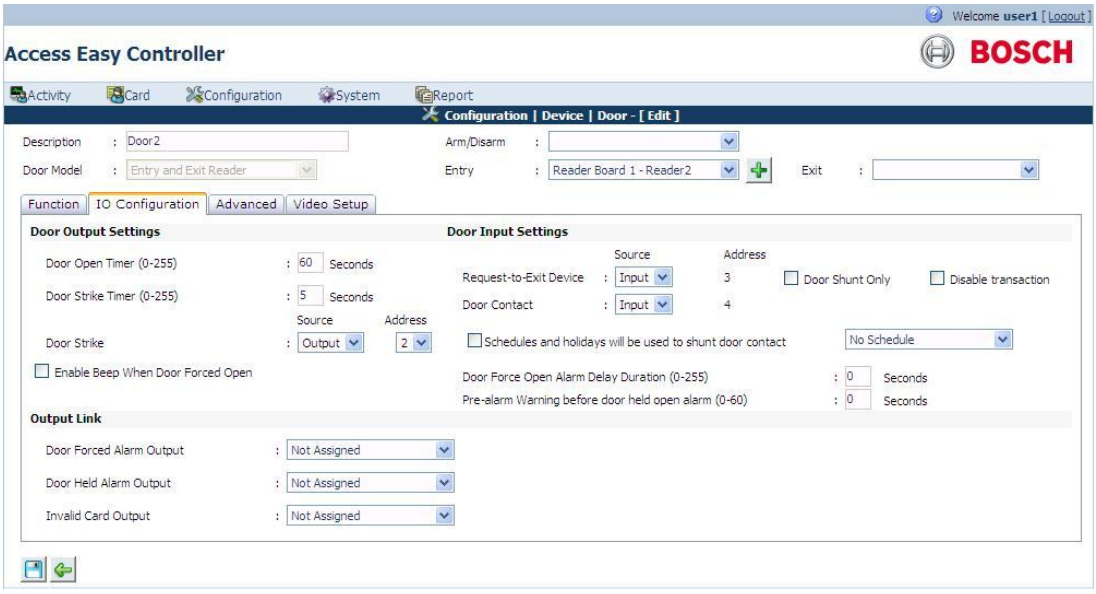
10.3 IO Configuration

Following are the settings for Input Output devices:

10.3.1 Door Output Settings (for Entry Reader, Entry and Arm/Disarm Reader)

This parameter allows you to set the timer duration that is related to the door.

A screen of the **Door Output Settings** page is shown below.



Door Open Timer

This setting defines how long the door can be held open, after an access/exit is granted, before the Controller registers it as Door Held Open transaction. If the reader has a built-in buzzer, it will generate a beeping alert signal and will stop once the door is closed back. The door open timer can range from **0 to 255** seconds. The factory default is **60 seconds**.

Door Strike Timer

This setting defines the duration to de-energize the Door Strike when the Momentarily Unlock command is sent via the Door Control web page or when an access/exit is granted. When access is granted to a Cardholder, sufficient time must be given for the person to open the door before the Controller locks it back again. The door strike timer can range from **0 to 255 seconds**. The factory default is **5 seconds**.

Notice!

When the Door Strike Timer is set to 0, and a valid card is presented at the Reader, the door is unlocked (Transactions shows **Door Unlocked**) until the same card or another valid card is presented at the Reader, only then the Reader will go back to locked mode (Transactions shows Door Locked). Presenting an invalid card will not change the status. Transactions will only show Invalid Card.

Door Strike

For the Output device, such as Door Strike, though it is pre-defined, you can still change the default address to other available addresses within the same reader board, should the original output relay is defective.

To allocate an Output Address for Door Strike, select Output for Source, else select none. After allocating Output to Source, select an Address for it. Each reader has a predefined output, however, if the allocated output is faulty, you can select other available output.

Output
It defines the physical output on the reader board. The output channels are applicable for **Door Strike**, **Door Forced Alarm Output**, **Door Held Alarm Output** and **Invalid Card Output**. Output channel assignment for devices connected in relation to the Reader is selectable within the spare Output channels of the card. You can disable the Output channel by selecting None.

None
This setting will disable the Output channel.

An additional feature is the enabling schedules and holidays to be used for shunt door contact. If a schedule is selected, during the time interval, the door contact will be ignored. This is the same as setting the door contact to **None**. If the door contact is ignored, there will not be any alarms like **Door Held Open** or **Door Forced Open** on that particular reader.

Notice!
Address for Door Strike is selectable only within the Card's spare Output channels. Door Forced Alarm Output, Door Held Alarm Output and Invalid Card Output are selectable only within the user programmable 64 outputs.

10.3.2 Door Input Settings (for Entry Reader, Entry and Arm/Disarm Reader)

A screen of the Door Input Settings page is shown in the section Door Output Settings.

The AEC2.1 has the capability to support a maximum of 32 wiegand card readers, 64 input (I) monitoring points, and 64 relay output (O) points. Of the 64 I/Os, 64 Inputs and Outputs are user programmable, 32 I/Os are assigned to the Readers.

The addresses for Input devices (Request-to-Exit device and Door Contact) connected in relation to the Reader, are pre-defined and cannot be changed. The following is the list of hardware to configure: -

- Request-to-Exit Device,
- Door Contact,
- Door Forced Open Alarm delay duration,
- Pre-alarm Warning before door held open alarm

Request-to-Exit Device
To allocate an Input Address for Request-to-Exit Device, select Input, else select None. The Address for Request-to-Exit Device is fixed and cannot be changed.

Door Contact
To allocate an Input Address for Door Contact, select Input for Source, else select None. The Address for Door Contact is fixed and cannot be changed.

Input
It defines the physical input on the interface board. The input channels are applicable to Request-to-Exit device and Door Contact. Input channel assignment for devices connected in relation to Reader is fixed and cannot be changed. However, you can disable the Input channel by selecting None.

None
This setting will disable the Input channel. If the door contact is ignored, there will not be any alarms like ‘Door Held Open’ or ‘Door Forced Open’ on that particular reader.

Door Forced Open Alarm delay duration
This feature is available for Entry Reader, and Entry and Exit reader only.

This is to facilitate some special exit requirement. You may just want to open the door to exit without pushing any exit button. This is also to prevent Door Forced Open false alarm due to poor mechanical problem.

Enter the timing in seconds at the Door Forced Open Alarm delay duration if desired. The timing can range from 0 to 255 seconds.

Schedules and holidays will be used to shunt door contact
An additional feature is the enabling schedules and holidays to be used for shunt door contact.

If a schedule is selected, during the time interval, the door contact will be ignored. This is the same as setting the door contact to "None".

If the door contact is ignored, there will not be any alarms like Door Held Open or Door Forced Open on that particular reader.

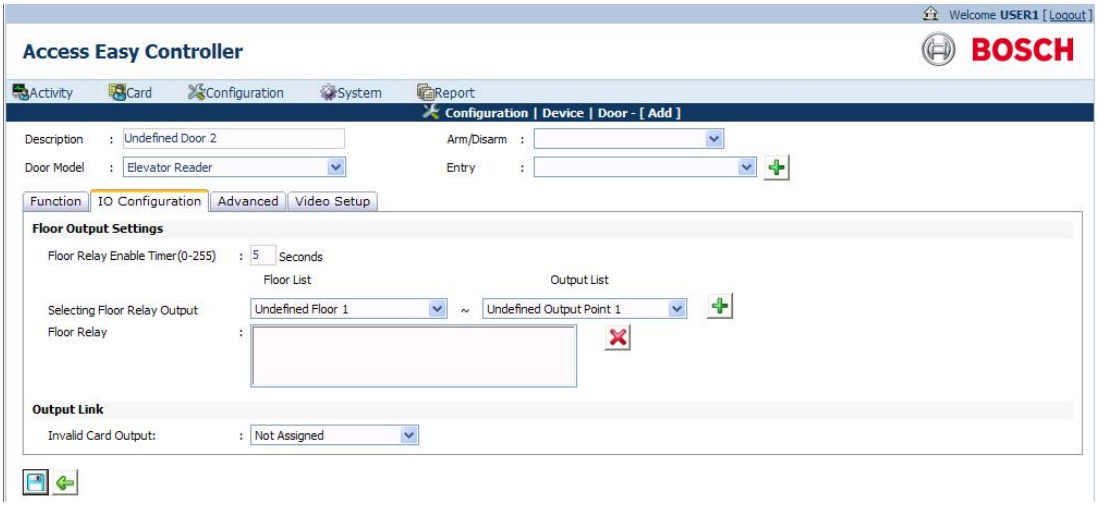
Pre-alarm Warning before door held open alarm
This feature is available for Entry Reader, and Entry and Arm/Disarm Reader only.

With the pre-alarm function, you will be reminded with a slow beeping that the door the cardholder has just gained access is still open. An example is the cardholder can set Pre-alarm Warning before door held open alarm to 5 seconds so that the cardholder will be alerted to close the door on time before the Door Held Open Alarm. The timing can range from 0 to 60 seconds.

Notice!
Address for Request-to-Exit Device and Door Contact is fixed and cannot be changed. If the Input channel is disabled, the address will not be.

10.3.3 Floor Output Settings (for Elevator Reader only)

This section allows you to set any of the 64 programmable Output Point to the selected Floor. These setting will only appear if the reader is configured as an elevator reader.



A screen of the Floor Output Settings page is shown above.

1. To configure the **Selecting Floor Relay Output**, select a Floor from the **Floor List** dropdown.

2. Select an Output Point from the **Output List** dropdown.

3. Click the add button to add the selected Output Point to the selected Floor. The selected items would appear on the **Floor Relay** list box. Each Floor and Output Point can only be selected once.

4. To delete any selected items from the **Floor Relay** list box, highlight the item and click the delete button.

5. To configure the Floor Relay Enable Timer, delete the default timing in seconds and enter a new timing for it. The default timing is 5 seconds.

10.3.4 Output Link

A screen of the Output Link page is shown in the section Door Output Settings for Entry and Exit Reader. These output links allow you to configure individual outputs to trigger when a Door Forced Open, Door Held Open or Invalid Card alarm occurs at the Reader.

In an Entry Reader, and Entry and Exit Reader, it allows you to set any of the 64 programmable Output Point to Door Forced Alarm Output, Door Held Alarm Output and Invalid Card Output. By default, all the 3 are set to **Not Assigned**.

However, in an Elevator Reader, this section only allows you to set any of the 64 programmable Output Point to Invalid Card Output. By default, it is set to **Not Assigned**.

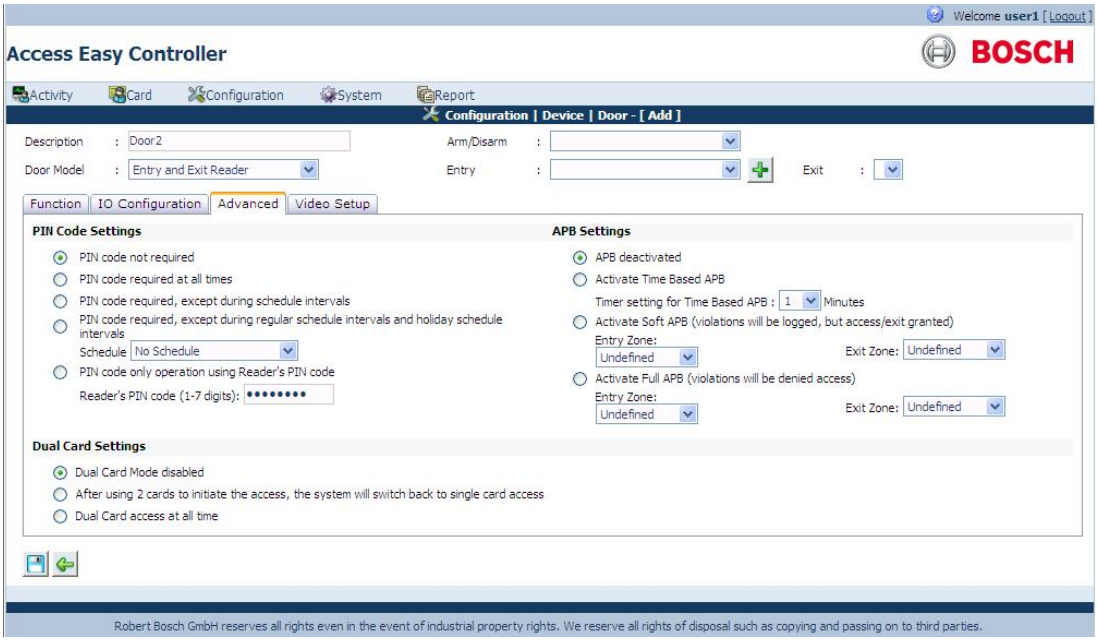
10.4 Advanced

Following are the advanced settings for Input Output devices:

10.4.1 PIN Code Settings

This section allows you to set the parameter on when the Personal Identification Number (PIN) is to be used.

A screen of the PIN Code Settings page is shown below.



PIN code not required

When this mode is selected, cardholders accessing this Reader do not have to key in the PIN code.

PIN code required at all times

When this mode is selected, cardholders are required to key in the PIN code.

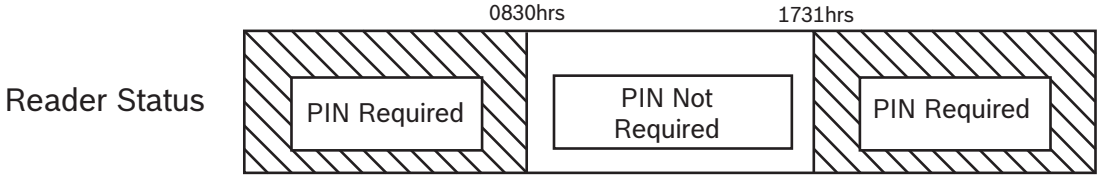
Notice!

In order for the feature to work, the Cardholder's Card + PIN is required on keypad readers mode must be activated, and the PIN must be set at the card in **Card Assignment** > **Card** functionality page. For the setting of the PIN, refer to *Card Functionality, page 59*.

PIN code required, except during schedule intervals

When this mode is selected, cardholders are not required to key in the PIN code except during specific periods defined in the Schedule settings.

As an example, the Start and End time for Interval 1 of the Schedule is set to **0830hrs** and **1730hrs** respectively. The Reader status will be set accordingly. The following drawing provides a pictorial representation of the function.



Notice that PIN is required at 1731hrs instead of 1730hrs. The reason is that AEC2.1 takes 17:30:59hrs as a valid End time for 1730hrs. This mode is not affected by Holiday setting, i.e. during holiday; it will still use the Day of Week schedule.

Notice!

To use this feature as intended, the cardholder must be given access rights to the reader(s). In order for the feature to work, the cardholder's Card + PIN is required on keypad readers mode must be activated.

PIN code required, except during regular schedule intervals and holiday schedule intervals
When this mode is selected, the operation is the same as the previous mode, except that during holiday the Holiday schedule is used instead of the normal Day of Week schedule.

To set the Schedule

1. If selection is made on PIN code required, except during schedule intervals or PIN code required, except during regular schedule intervals and holiday schedule intervals, the Schedule field must be set.

2. To edit the Schedule, select the appropriate schedule from the Schedule list box.

PIN code only operation using Reader's PIN code
When this mode is selected, all cardholders will use a pre-defined Reader's PIN code (default code 1234000) to gain access to the controlled area or to arm/disarm the Alarm Zone. No card is required.

The Reader's PIN code is defined in the Reader's PIN code (1-7 digits) edit field.

Notice!
The PIN code only operation is not supported on the exit reader

To set the Reader's PIN Code

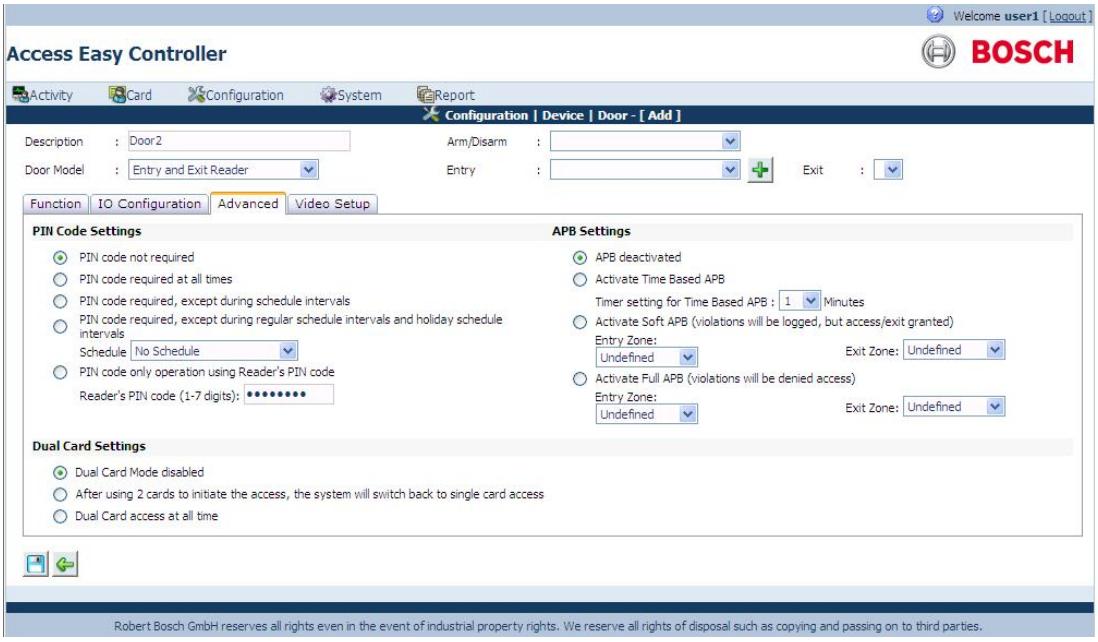
1. If the selection is made on PIN code only operation using Reader's PIN code, the Reader's PIN code (1-7 digits) field be entered.

2. To edit the Reader's PIN code, delete the default PIN and enter the new Reader's PIN code, limited to 7 digits. See NOTICE 1 and 2.

Notice!
NOTICE1: Cardholder can enter from 1 to 7 digits for the Reader's PIN code (default code 1234000).
NOTICE2: For security reason, every character entered for the PIN code is represented by an asterisk.

10.4.2 Anti-Passback (APB) Settings

A screen of the Anti-Passback (APB) Settings page is shown below.



Anti-Passback (APB) function prevents a cardholder from passing the card to another person to gain access to the door after accessing through it. It is normally implemented in sensitive area having high security.

Three types of APB modes are available namely: - **Time Based APB**, **Soft APB**, and **Full APB**. Each mode provides different level of security and is explained in detail in the following pages.

APB deactivated

If selected, indicates there is no APB setting for the readers in this AEC2.1. By default, APB deactivated is checked.

Activate Time Based APB

Time Based APB relates to Entry Readers only. If selected, implies the Controller will not accept the same card until the time set in '**Activate time based schedule**' has elapsed.

After selecting the option, select the time from the dropdown list provided, the time period ranges from 0 to 60 minutes.

Activate Soft APB

Soft APB mode requires a cardholder to present the card at the Entry Reader and Exit Reader at all times. However, if the cardholder follows another person in or out the controlled area, the transaction "**Exit Granted, Soft APB**" or "**Access Granted, Soft APB**" will be shown on the cardholder's next exit or entry respectively. The administrator has to Reset APB in order to clear the above transaction. Refer to *Reset APB, page 79* for more information.

Select the radio button besides '**Activate Soft APB**' to activate this option. After selecting this option, select the Entry Zone and Exit Zone from the dropdown for this mode to work properly.

Activate Full APB

When this mode is selected, the cardholder must first enter using the Entry Reader in order to exit from the corresponding Exit Reader. If cardholder violates this, access will be denied. The administrator has to Reset APB before the cardholder can have access again. Refer to *Reset APB, page 79* for more information.

Select the radio button besides '**Activate full APB**' to activate this option. After checking this option, select the Entry Zone and Exit Zone from the dropdown for this mode to work properly.

The main difference between the Soft APB and Full APB is that, for Soft APB, the cardholder is allowed to exit the controlled area via the Exit Reader even if the cardholder entered the controlled area previously by following another person. Full APB does not allow that.

Understanding the APB Zone

APB Zone is applicable to Soft APB and the Full APB mode. AEC2.1 is able to support up to 254 Soft APB Entry Zones, 254 Soft APB Exit Zone, 254 Full APB Entry Zone and 254 Full APB Exit Zone.

Any Reader assigned to operate Soft APB mode or Full APB mode will be given an Entry Zone and Exit Zone. When a cardholder presents card at Entry Reader #1, the system will verify whether the cardholder has been registered in Zone 1. If the cardholder has been registered in Zone 1, access is granted to the cardholder. When the cardholder opens the door to gain access such that the door contact sensing is opened, the cardholder is registered to be in Zone 2. However, if the cardholder is verified to be in other zones instead of Zone 1, access will be denied to the cardholder.

Notice!
By default all APB settings are based on Door Sensor.
Select **Door Contact** as **None** in **Device** > **Door** > **IO Configuration** > **Door Input Setting** if you do not want the the APB settings to be based on Door Sensor.

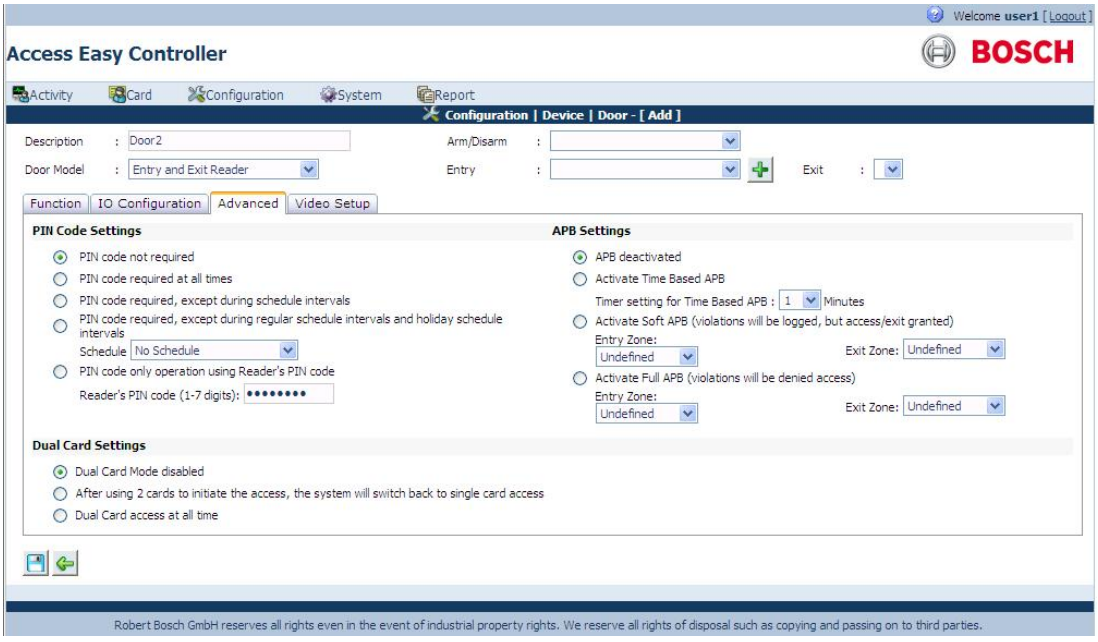
Notice!
In the case that the cardholder is verified to be in Zone 1 and is granted access but the cardholder did not open the door to gain access, then the cardholder will not be registered in Zone 2. The cardholder will only be registered in Zone 2 when access is granted. Using this verification method, no card can bypass any zone to gain access to any other zone. In addition, zone will only be registered into the card if the cardholder has opened the door physically (based on door contact sensing).

Notice!
In the case that the cardholder is verified to be in Zone 1 and is granted access, the cardholder then opens the door (door contact sensing is opened) and enters Zone 2. However, if the system is unable to detect that the door contact sensor has been opened, the system will erroneously determine that although access has been granted, there has been no entry to Zone 2. Once the system detects such a “No Entry” event on an APB reader, the cardholder will be registered in Unknown Zone, and the system will perform an APB reset for the cardholder.

Notice!
For cardholder who is configured to be exempted from APB access, the cardholder will be registered in Unknown Zone.

10.4.3 Dual Card Configuration

In the Dual Card Configuration, the Reader can either be configured as Dual Card Mode disabled, After using 2 cards to initiate the access, the system will switch back to single card access or Dual Card access at all time.A screen of the Dual Card Configuration page is shown below.



Dual Card Mode disabled

If selected, it implies that no 2 cards are needed to activate the Reader.

After using 2 card to initiate the access, the system will switch back to single card access

If selected, it implies that after two cards are presented to the same Reader to unlock the door, the Reader will switch back to single card access.

An example of the scenario would be as follows:

In the morning, 2 authorized personnel with dual card function have to present their card at the high security door Reader before the door can be accessed normally. Subsequently the rest of the employees would access the door using their own card. At the end of the day, either of the 2 authorized personnel holding the dual card will have to revert the system back to dual card mode by pressing the <3> key on the Keypad before presenting their cards.

Dual Card access at all time

If selected, implies that two cards should be presented to the Reader at all times to unlock the door.

This mode works in conjunction with the Dual Card Assignment under the chapter Card Assignment as to check if there is any order in the presentation of cards.

Notice!

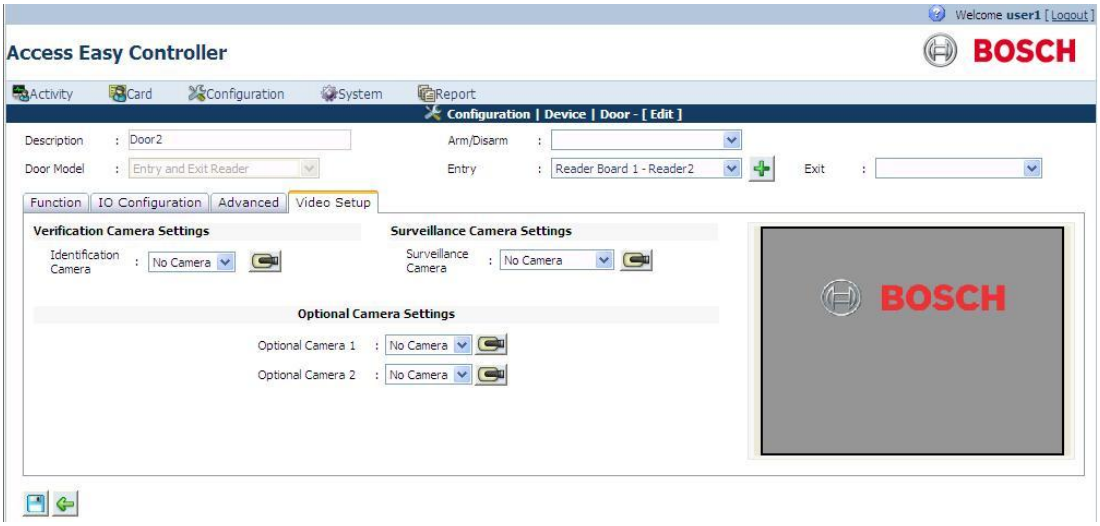
When a reader is set with Dual card mode, the cardholders should be configured with either 1st card, 2nd card or don't care card. Accessing the door will require cardholder to present their cards in the correct order. Example, 1st card followed by 2nd card.

10.5 Video Setup

The video setup tab is used to configure cameras to the readers. The video verification camera and the surveillance camera, for the reader are set in the video setup tab.

A maximum of three cameras can be configured to a reader.

The following screen shows the **video setup** window.



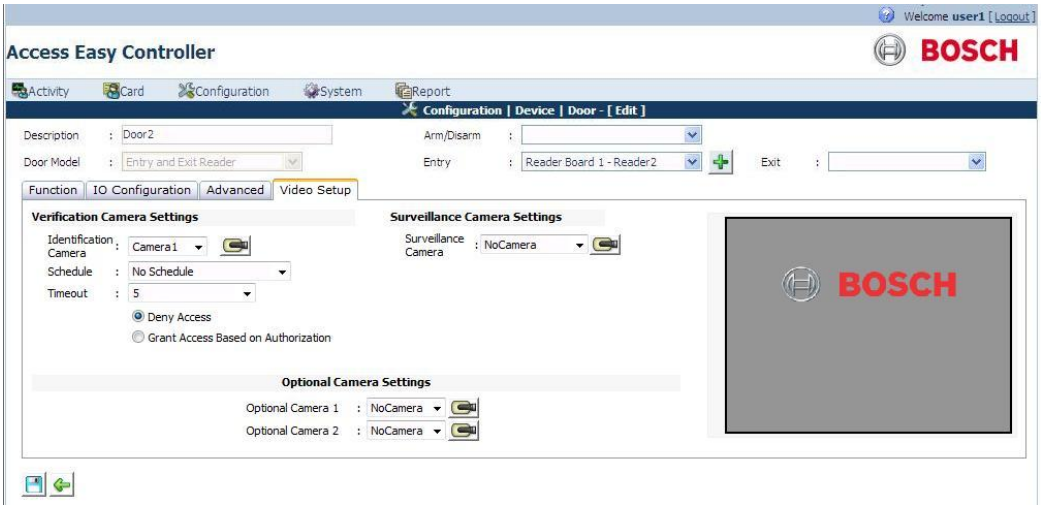
The video setup window consists of **verification camera**, **surveillance camera** and **optional camera** settings.

10.5.1 Verification Camera Setting

The camera set in the verification camera setting can be viewed in the **video verification** tab of the transactions menu. The video verification function enables automatic live video display of this camera, of the access point for comparison with cardholder's photo. The video verification camera is configured to the identification camera.

The video verification function can also be enabled by schedules set in this window. Follow the steps below to setup the video verification camera.

1. Select a camera for the video verification function from the **Identification Camera** dropdown list. The screen below appears with additional functions assigned with the camera. The identification camera dropdown lists all the cameras configured to the AEC2.1 system.



2. Click the camera button displayed next to the identification camera dropdown list to view the preview of the live video of the camera in the preview window.

3. Select a schedule from the **Schedule** dropdown to activate the video verification function at the set schedule. When a schedule is set, the video verification feature will be active during the set time only and at other times the door behaves like a normal access door. Select **No Schedule** if you do not want to set a schedule for the activation of the video verification feature.

4. Select a time from the timeout dropdown. This timeout period is set for the operator to grant or deny access to the cardholder within the set time. If the time-out occurs, grant access or deny access is provided according to the cardholder's access permissions. The time-out period can range between 0 and 60 seconds.

5. Select the radio button **Deny access** if you want to deny door access to the cardholder after the time out duration. If this option is enabled the cardholder will be denied access even if the cardholder has the access rights to the door. If this option is enabled the cardholder can access the door only if the operator grants access manually.

6. Select the radio button **Grant Access based on Authorization** if you want the cardholder to access the door after the time out duration.

Refer to *Video Verification, page 37* for more details on video verification functions

10.5.2 Surveillance Camera Setting

The camera set in the surveillance camera setting is used for the **surveillance** tab in the transactions window. The surveillance window will pop up automatically when an alarm event is triggered by the AEC2.1 system in the configured location. Refer to *Surveillance, page 41* for more information about the surveillance window functions. Follow the steps below to setup the video surveillance window.

1. Select a camera for the video surveillance function from the **Surveillance Camera** dropdown list. The surveillance camera dropdown lists all the cameras configured to the AEC2.1 system.

2. Click the camera button to view the preview of the live video in the preview window.

10.5.3 Optional Camera Setting

AEC2.1 system supports a maximum of three cameras to a reader. The set optional cameras are available in the video verification and surveillance function. Follow the steps below to set the remaining cameras to the AEC2.1 system.

1. Select a camera from the **Optional Camera 1** dropdown list. The Optional camera dropdown lists all the cameras configured to the AEC2.1 system.

2. Click the camera button to see the preview of the live video in the preview window.

3. Repeat step 1 and 2 for the **Optional camera 2** option. Leave the optional cameras setting as **No Camera** if the reader is not configured to other cameras.

This section completes the Door settings for the AEC2.1 system.

Notice!
If an optional camera is configured for the event location without configuring a surveillance camera, it is considered as no surveillance camera is configured for the event location.

11 Videos

AEC2.1 provides seamless integration with selected IP cameras, encoders, digital video recorder and network video recorder. The video features include viewing **Live** and **Playback** video, and comparing the live and playback videos. The video verification feature enables automatic live video display of the access point for comparison with cardholder's photo.

Notice!
Video integration features are available on Windows 10/7/XP OS only.

AEC2.1 supports up to a maximum of three live video cameras for each device. The videos are recorded in the video device and not on the AEC system.

The following software tools must be loaded in the remote PC before using the video features in AEC2.1:

- DirectX
- Video card that supports DirectX
- Microsoft .NET Framework 3.0
  (Microsoft .NET Framework 3.5 is required for VideoSDK 5.x)

Note: The ActiveX and Video SDK is installed automatically when the AEC2.1 system is configured to a camera. If the Video SDK is not installed automatically then you can install it from the utility CD or retrieve them from the VideoSDK page. Refer to *Video SDK, page 171* in Advance settings for more information.

The AEC2.1 integrates with the following video devices.

IP Camera : AutoDome IP, Dinion IP, FlexiDome IP

Encoders : VideoJet X10, VIP10, VIP-X

DVR/NVR : DiBos, DivarXF, Vidos NVR4.0, Divar 400/600/700, BRS

HD Camera : Works with VideoSDK 5.x only

11.1 Installing DirectX and Video SDK

DirectX and Video SDK must be installed in the system for the video features to be accessible. Video features are available in Windows 7/XP OS only.

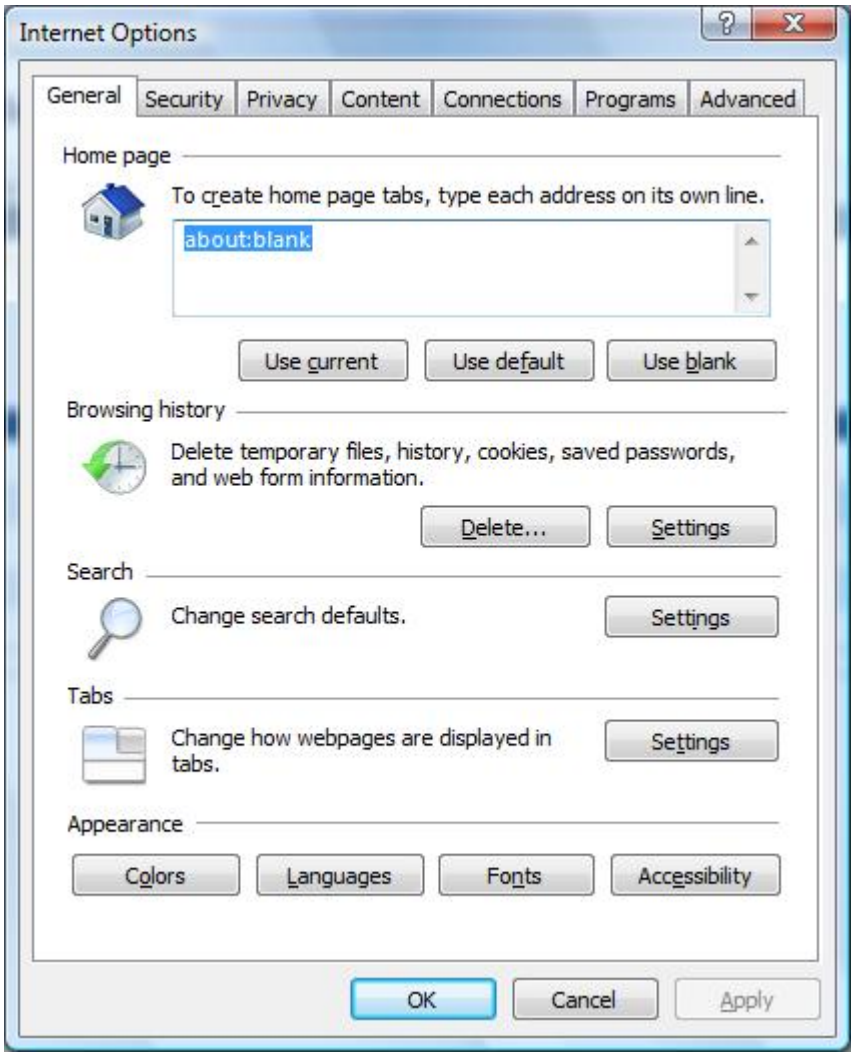
11.1.1 Installing Video SDK

Refer to *Installation Procedure for VideoSDK, page 24* to install VideoSDK.

11.2 Web Browser Settings for Accessing Video Features in AEC2.1

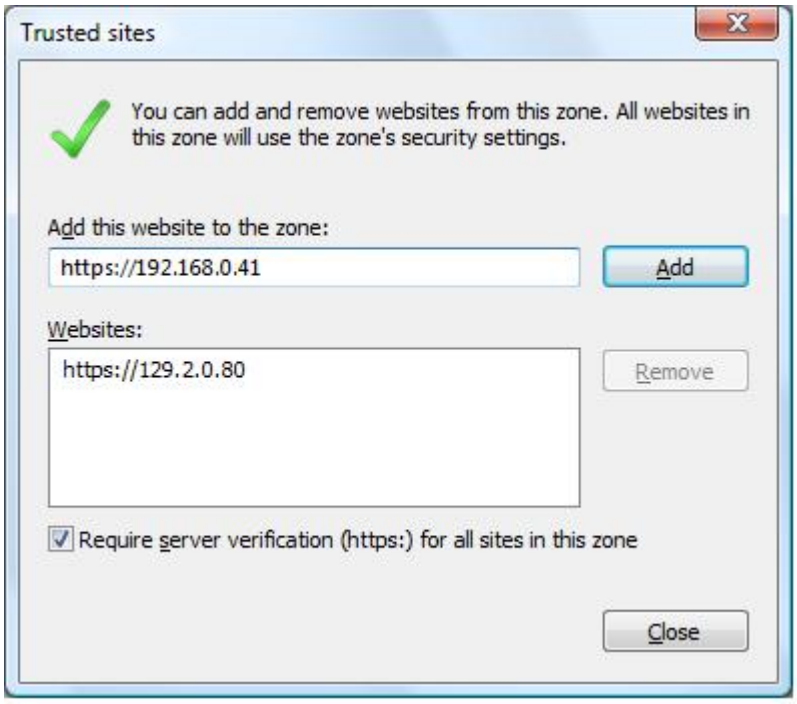
Proceed as follows to make the necessary web browser settings for the working of the video features available in AEC2.1.

1. Launch **Internet Explorer** and in the menu bar select **Tools** > **Internet Options**. The screen below appears.

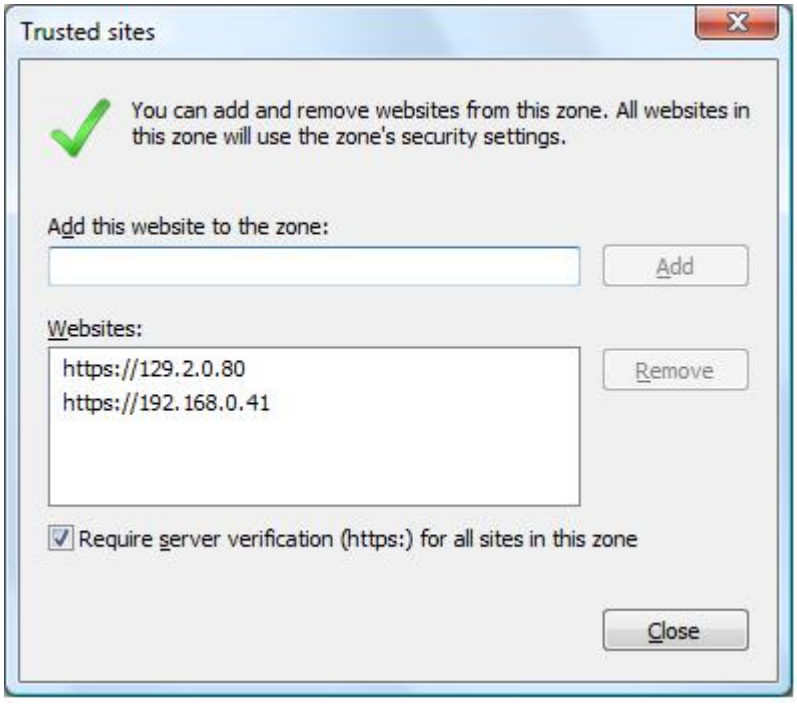


2. In the Internet options window select the tab **Security** and select the icon **Trusted Sites** in **Select a zone to view or change security settings** as shown below.

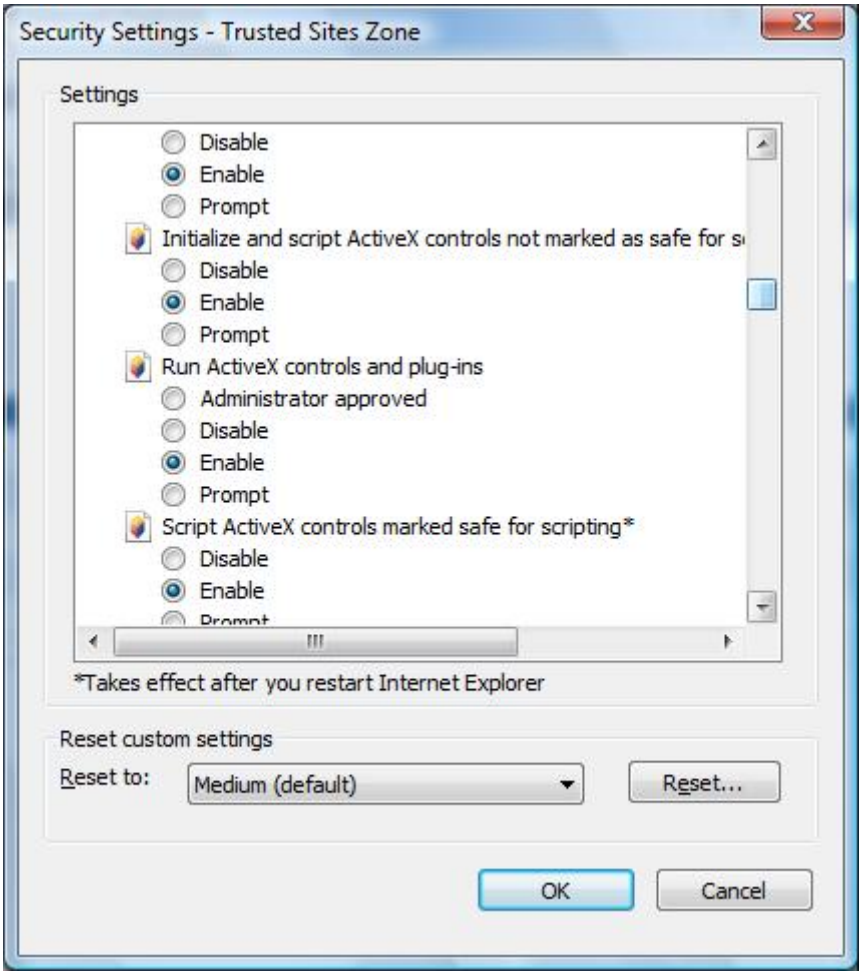
3. Click the button **sites** and the **Trusted Sites** window pops up as shown below. Enter the IP address of the panel in the **Add this website to the zone** window. Click the **Add** button.



4. The added IP address now appears in the **Websites** window as shown below.



5. Click the **close** button to return to the **security** tab in the **Internet Options** window. Click the button **Custom Level** in the **Security level for this zone window**. The screen below appears.



Select the checkbox besides **Enable** for all the functions below **ActiveX controls and plug-ins**. Click the **OK** button repeatedly to exit from the **Internet Options** window.

11.3 Video Configuration

This section describes the steps to setup a camera on the AEC2.1 system. The video configuration menu consists of three tabs namely **Camera**, **Device Type** and **Miscellaneous**. The three submenus are explained in detail in the following pages.

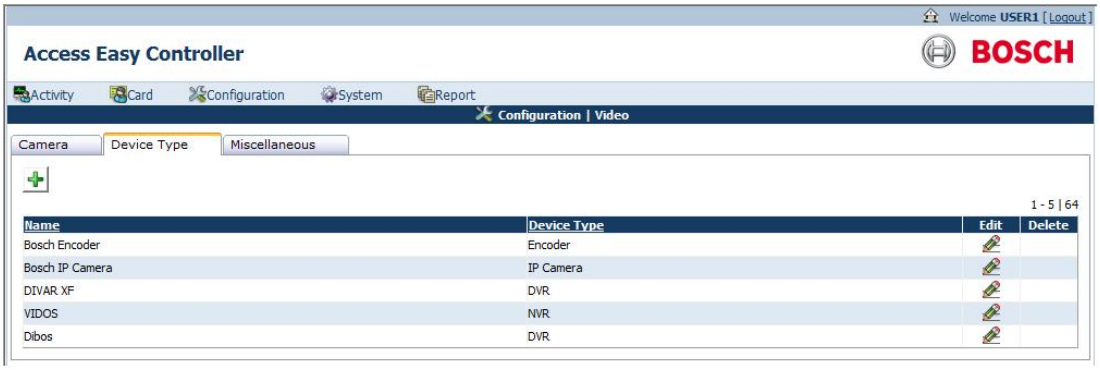
11.3.1 Device Type Addition

The device type refers to the type of the camera being used, it can either be a **IP Camera**, **Encoder camera** etc. Camera device type is necessary to add a camera to the AEC 2.1 system. By default some of the camera types are defined in the AEC2.1 system.

Notice!
Contact the nearest **BOSCH Security Systems** representative to add a new Device Type to the AEC2.1 system.

Notice!
Follow the steps below to configure the device type only if the **Auto Detection option** is not available.

Click the link **Configuration** > **Videos** to add a new camera device type to the AEC2.1 system. In the **Configuration** | **Video** main page select the tab **Device Type**. The screen below appears.



The Device type main page lists the existing **Device name** and **Device type** available in AEC2.1 system. Cardholder's having the access rights to add video devices can add new device type to the system.

Click the add button to add a new video device. The screen below appears.

Enter the **Device Name** in the device name field, **Device ID** in the device ID field, and select a **Device Type** from the device type dropdown provided. Click the save button to save the values added. Click the back button to cancel the changes and display the device settings main page.

Notice!
The Device ID is provided by the **BOSCH Security Systems**. Contact the nearest **BOSCH Security Systems** representative to obtain a Device ID.

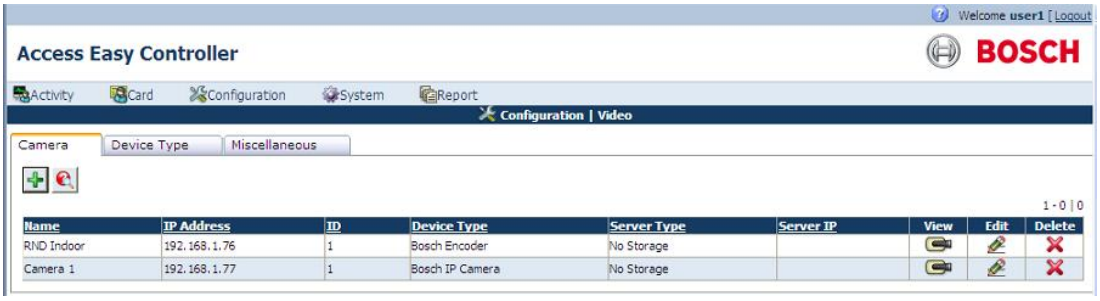
In the **Device Settings** main page you can edit or delete an existing video device. Click the edit button to edit the settings of the existing video device. The edit device page is same as the **add** device web page. Refer to the previous paragraphs for more information.

Click the delete button to delete an existing video device.

11.3.2 Adding Camera to AEC2.1

After adding the camera device type, cameras can be configured on the AEC2.1 system. Select the Camera tab from Configuration > Video main page to add cameras to the AEC2.1 system.

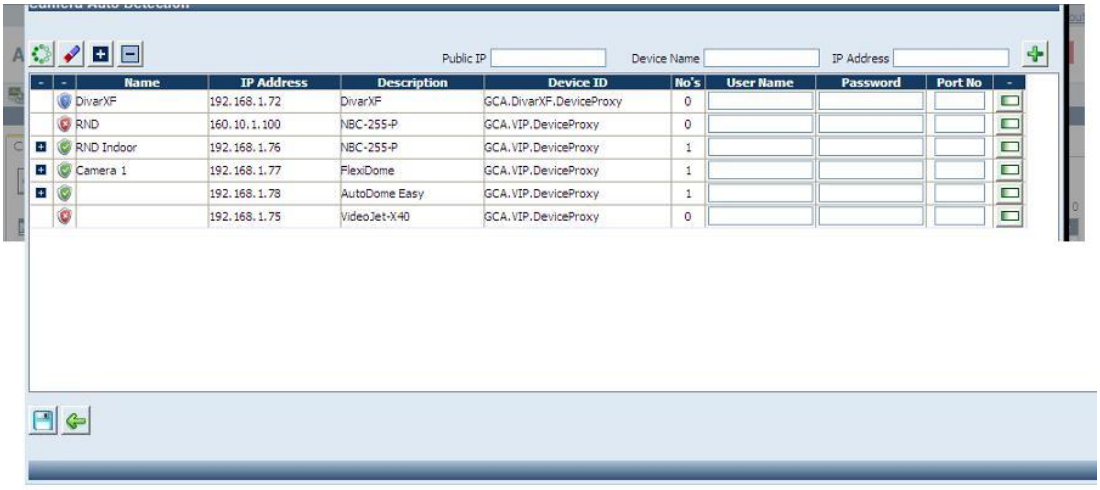
The screen below shows the default page for the camera tab.The **camera** tab is the default page for **Video Configuration** menu.



The Camera main page shows a list of cameras configured in AEC2.1 system. The camera main page consists of two function buttons namely the add button and the Auto Detection Camera button .

Auto Detection

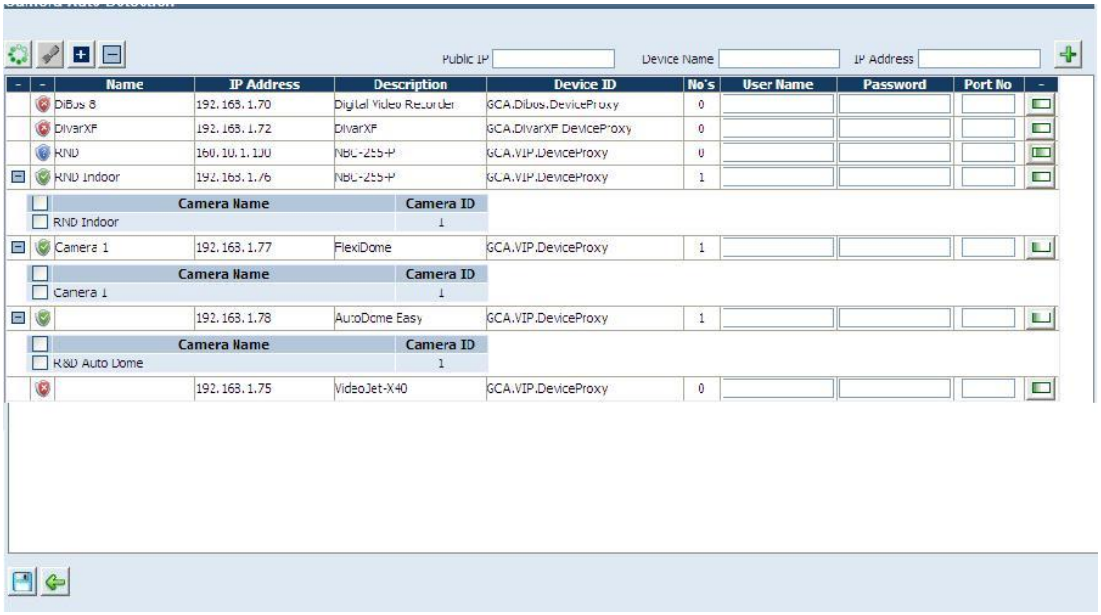
Click the **auto detection** button to detect the cameras available in the system. The screen below shows the auto detection camera page.



Note: For Video SDK 5.x, **Device Type** will be shown in place of **Device ID** in the list detected cameras.

Once the Auto detection button is clicked the above window pops up and starts searching the device types available. Enter the username and password for the device types in the username and password field. You can search cameras without entering the username and password, but PTZ cameras require a username and password. Click the search cameras icon to search the cameras available in the selected device type.

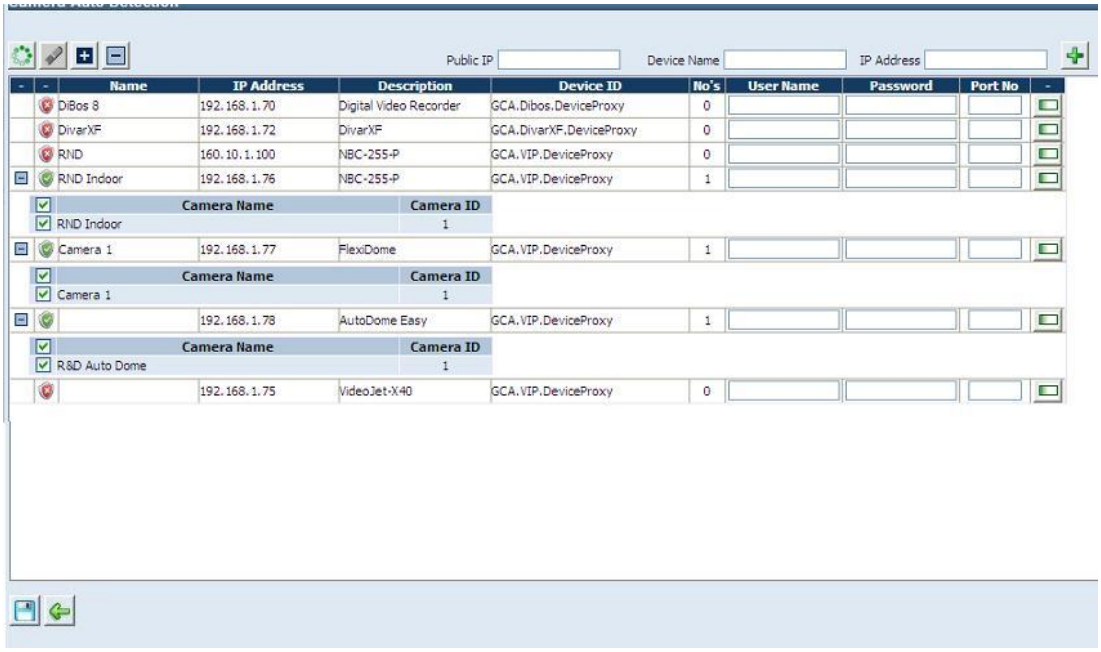
The screen below shows the auto detection window with the list of cameras available.



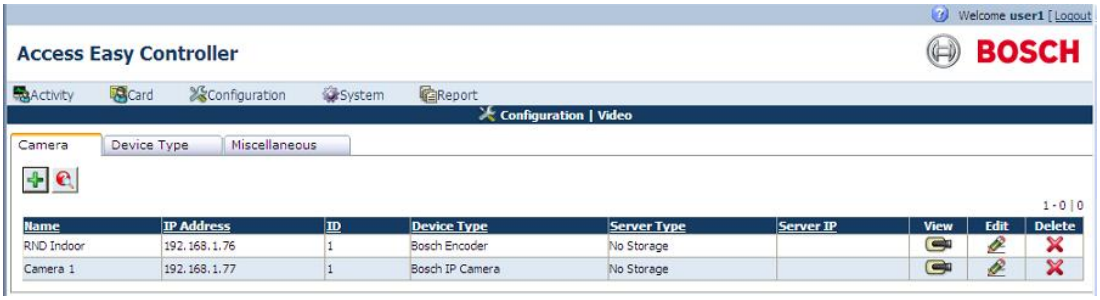
Notice the colored icons besides the device type. The **green** icon shows the search was successful, the **red** icon shows that the device is not compatible with the VideoSDK. The red icon shows that the search failed and the **blue** icon shows no status or requires user ID and password to search for cameras. Move along the icons to know the icon representation.

Enter the **Device Name** and **IP address** of the device in the device name and IP address field if you want the system to search for a particular device type. Click the add button to add the device type in the search list. If the camera is at remote location then add **Public IP** and **Port No**. also.

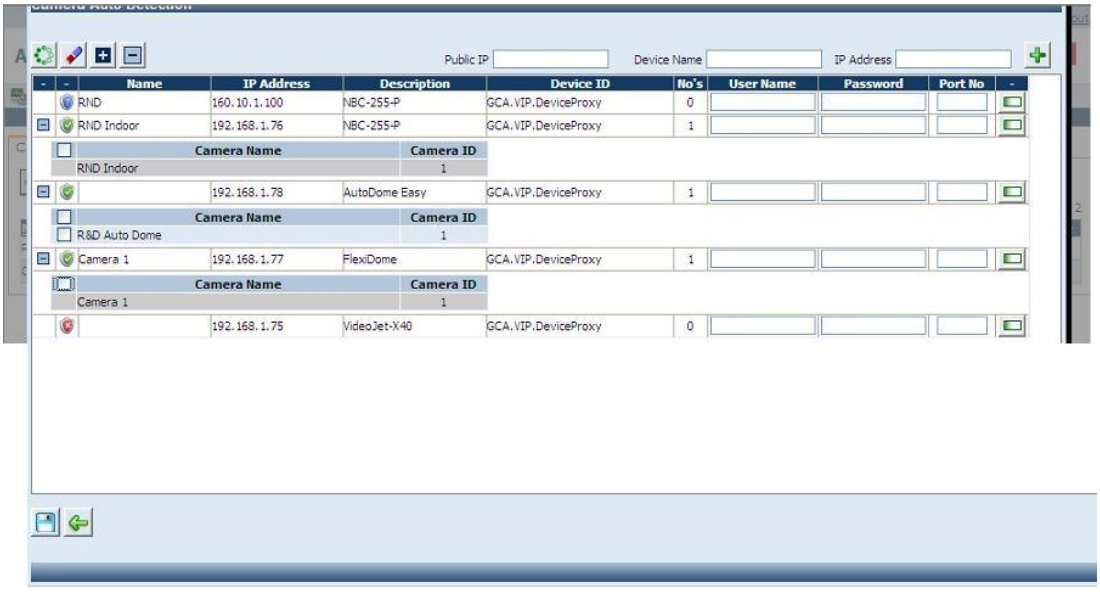
Select the checkbox besides the required camera as shown below and click the save button. Click the back button to cancel the search function and return to the camera main page.



The selected cameras are now available in the camera main page as shown below.

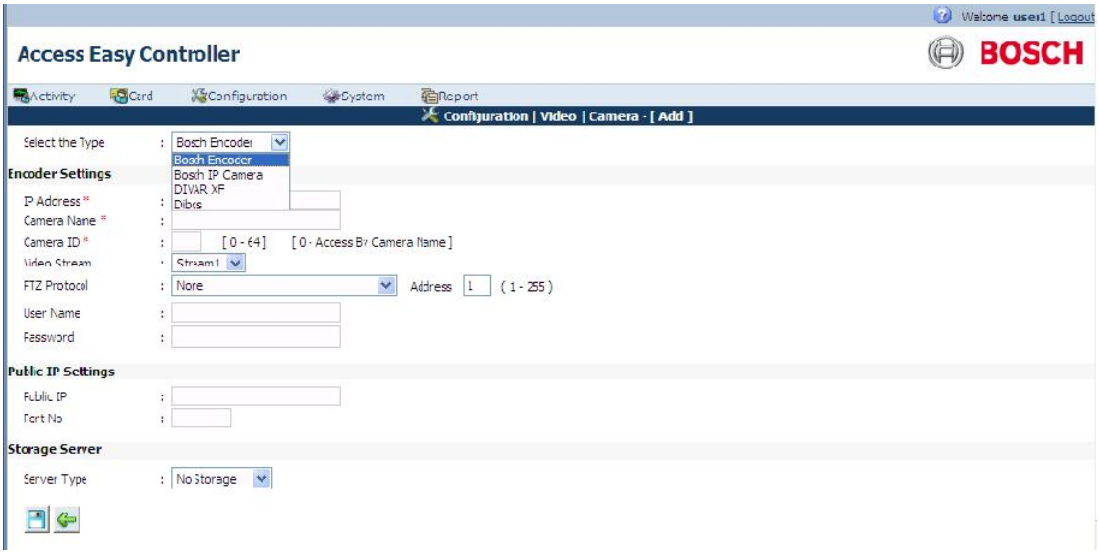


If you click the auto detection button again you will notice that the checkbox besides the selected cameras will be disabled as shown below.

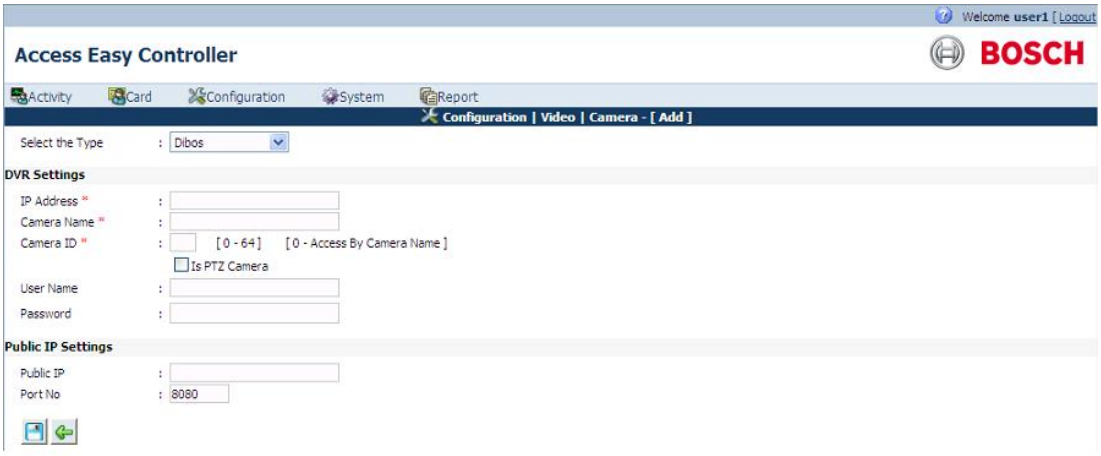


Manual Addition

Click the add button to add a new camera to the AEC2.1 system. The screen below appears.



Select the device type from **Select the type** dropdown. Refer to the Section 13.3.1 Device Type addition, Page 128 for more details on adding new device type to the AEC2.1 system. If the user selects **Dibos** then the port no automatically sets to 8080.



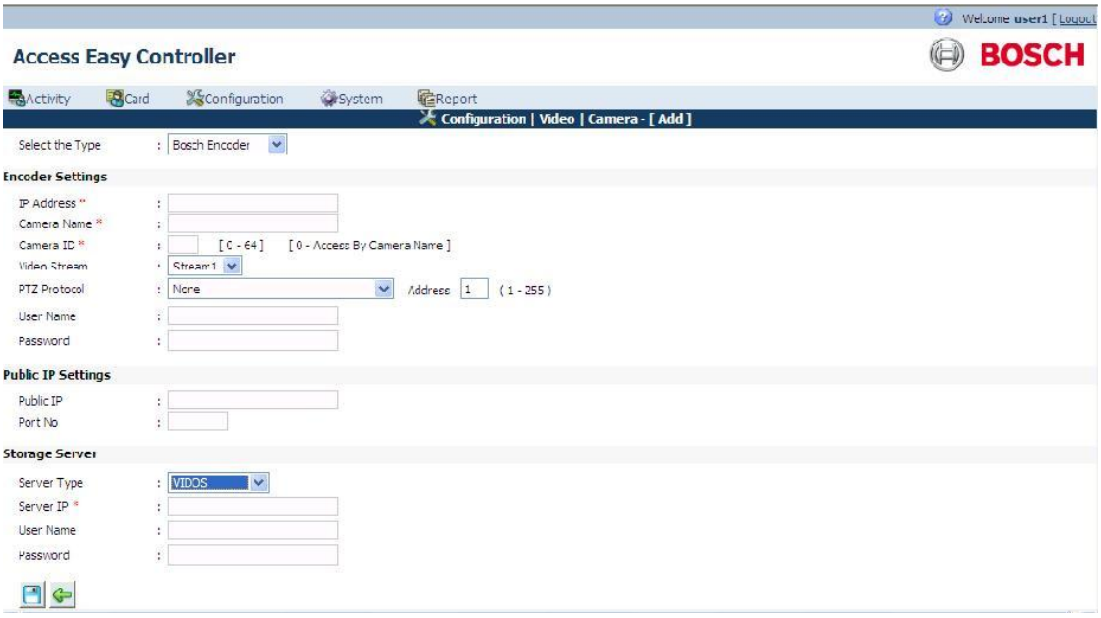
In the Encoder Settings window enter the **Camera Name** in the camera name field, **Camera's IP address** in the camera IP field, and the **Camera number** in the camera no. field.

The camera number can range from 0 to 64. If the camera ID is set to 0 the system will access the camera by camera name. The exact camera name has to be entered to access the camera.

Notice!
A maximum of **128** cameras can be configured in the AEC2.1 system.

Select the checkbox besides **Is PTZ Camera** if the camera is a Pan Tilt Zoom camera. Enter a **user name** and **password** for the camera. This user name and password is necessary to control the camera and to view the video of this camera.

The server type refers to the storage of the recorded videos. Select a storage place for the recorded videos from the dropdown. If you select the server type as **VIDOS** the following screen appears. Enter the **Server IP**, **Username** and **password** in the appropriate fields.



Select **No Storage** option from the **Server type** dropdown if there is no video storage device.

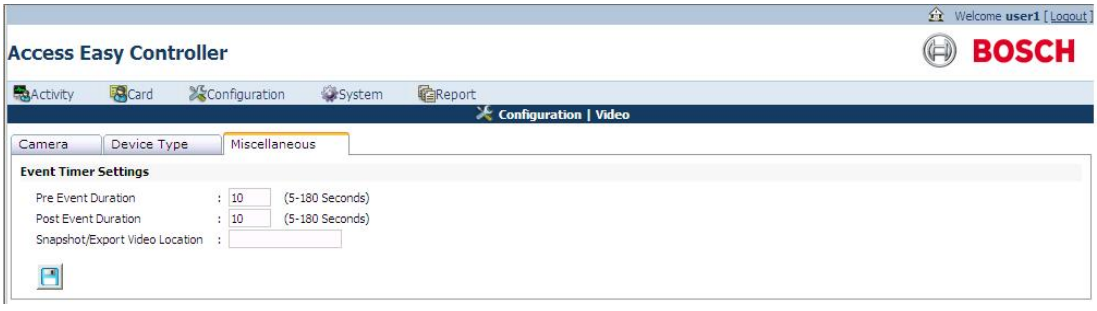
After entering all the values click the save button to save the settings. Click the back button to cancel the changes and return to the camera main page.

In the Camera main page you can edit or delete an existing camera. Click the edit button to edit the existing camera settings. The edit camera page is same as the add camera page. Refer to the earlier paragraphs for more information.Click the delete button to delete an existing camera.

11.3.3 Miscellaneous

The miscellaneous tab in Configuration > Video main page refers to the event pre and post recording timer settings and the location configuration for snapshot and export video.

The pre and post timer settings are used in the **playback** option of the video settings. The screen below shows the main page for the miscellaneous option.



In the event timer settings window enter the **pre event** and **post event** duration. For example set 10 seconds in the pre timer and post timer settings. At any time if you view a playback video, the video will start playing the video 10 seconds before the event and stop 10 seconds after the event. The maximum number of seconds for pre event and post event duration is 180 seconds.

Type in a location for storing the snapshot and exported videos from the AEC2.1 system to the PC in the **Snapshot/Export Video location** field. Click the save button to save the settings.

Notice!
The **Snapshot/Export Video location** field must not be any drives, for example "C:\", "D:\" and so on. It should be some folders inside the drives, for example "C:\Temp\" and so on.

After adding the video device and camera to the AEC2.1 system you can now go ahead and configure the camera to a reader.

12 Input/Output Setup

This chapter explains the steps to set the Input and Output points.

12.1 Input Setup

The AEC2.1 has 64 user programmable Input Points that will be used for Alarm Monitoring purposes. The address for these Input Points ranges from 33 to 64 and is available on the 8-I/O board. Each board provides up to eight Input Points.

These Input Points can be assigned into a Group (called an Alarm Zone) or as an Individual. Both the types provide the same function, the only difference is the way each is being armed/disarmed. AEC2.1 allows you to configure up to eight Alarm Zones.

An Alarm Zone (see **NOTICE**) can be armed/disarmed by the following methods: -
- manually via a dedicated Arm/Disarm Reader, or
- manually via the web page (Input Control), or
- system control based on Schedule Intervals.

An Individual Input Point can be armed/disarmed only by Schedule intervals.

All Input Points, Group or Individual, can be configured to trigger 1 to 4 Output Points (of the8-I/O board) for the purpose of status indication. The Outputs are labelled as: -

Status	**Description**
Alarm Status	Turns “ON” during an Alarm condition.
Arm/Disarm Status	Turns “ON” when it is Armed.
Ready Status	Turns “ON” when the Input Point is not in the normal condition. It is said to be Not Ready for Arming.
Bypass Status	Turns “ON” when the Input Point is Bypassed.

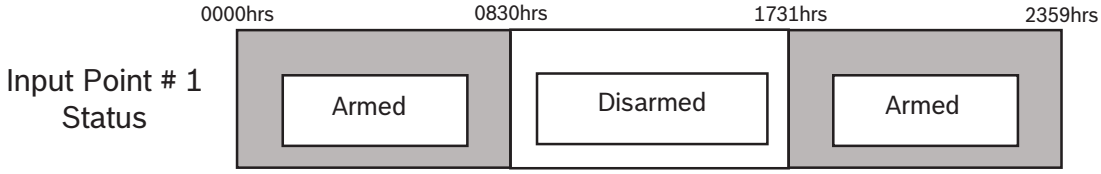
Any alarm detected by any of the Input Points would also trigger the Common Alarm Output relay, at address 8, and is only restored when all the Input Points is restored back to Normal state.

Notice!
The Input Control web page displays the status of the Alarm Zones only, and status of Individual Input Points will not be displayed.
All Input Points configured to an Alarm Zone follows the First Input Point's setting for Arm Delay, Alarm Delay, and Schedule of that Zone.

The paragraph below provides a brief description of how the AEC2.1 interprets the Schedule Intervals for Input Points arming and disarming statuses.

For example,If the setting for Schedule is: -Interval 1 Start **0830** hrs End **1730** hrsInterval 2, 3, and 4 has no setting.

When the Schedule is tied to Input Point #1, the point will arm and disarm accordingly.

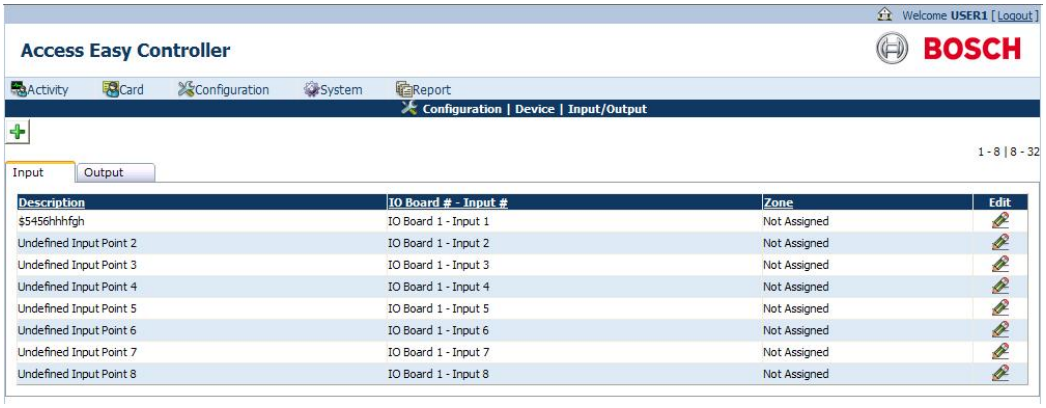


Take note that the Input Point is disarmed at exactly **0830** hrs but re-armed at **1731** hrs a minute delay as compared to the Schedule setting. The reason is that AEC2.1 takes **17:30:59** hrs as a valid End time for **1730** hrs.

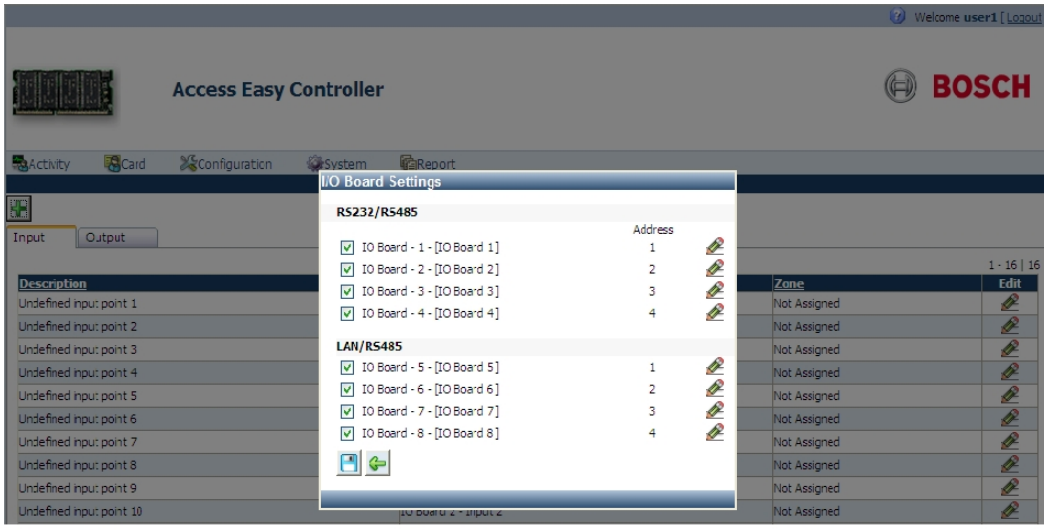
Notice!
Before you configure any Input Point(s), please ensure that the Alarm Monitoring Device with the EOL resistor is in place with the necessary logic inversion on the Input Point Configuration web page.

12.1.1 To Activate the Input Setup

1. Click the link **Configuration** > **Device** > **Input/Output**. In the **Input/Output** main page select the tab **Input**. The **Input** page is the default page of the **Input/Output** menu. The screen below shows the main page of the Input Point menu.



2. In the Input main page click the button to add a new input point. The screen below appears.

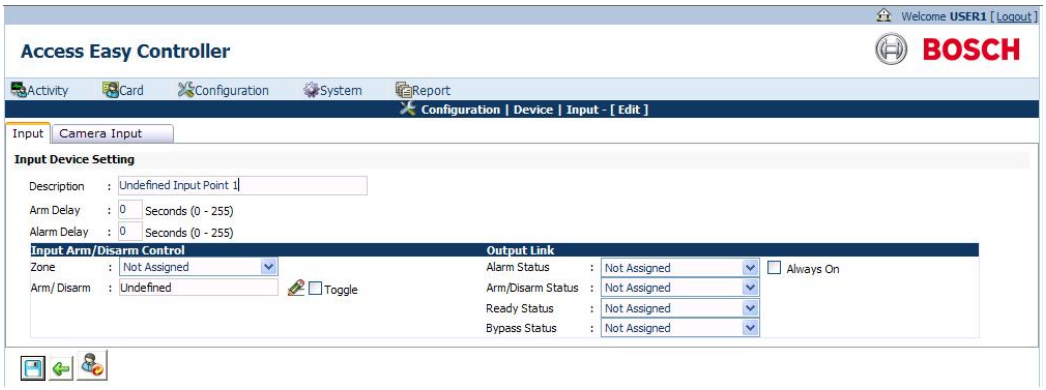


3. Select the check box besides the Input points to be configured. Click the edit button to edit the description of the input point. Click the save button to save the input point settings or click the back button to return to the Input point main page.

   The added Input point is now available in the Input point main page. After adding the input point to the device click the edit button to edit the settings of the configured input point.

4. New input points can also be configured by clicking the edit button besides any Undefined Input Point. The input point main page consists of two tabs namely **Input** and **Camera Input**. Select the tab **Input**.

The screen below shows the edit **Input point** > **Input page**.



5. Highlight the default text in the **Description** field and enter the new Description.

6. Highlight the default entry for Arm Delay and enter the new Arm Delay (this field is a hyperlink to the first Input Point if this is the second or subsequent Input Point of an Alarm Zone). If you want immediate arming/disarming, leave it as 0. The arm delay duration can range from 0 to 255 seconds. The arm delay will cause a delay before the Alarm Zone is armed, during this delay any triggering of the Input Points will not be considered as an Alarm.

7. Highlight the default entry for Alarm Delay and enter the new Alarm Delay (this field is a hyperlink to the first Input Point if this is the second or subsequent Input Point of an Alarm Zone). If you want the Alarm to be activated immediately when the Input Point is triggered during Arm condition, leave it as 0. The alarm delay duration can range from 0 to 255 seconds. This alarm delay will cause a delay before Alarm activation, during this delay period, if the Input Point is restored to normal or user Disarms the Alarm Zone, no alarm will be activated. Alarm activation will cause the Output Relay configured in the Alarm Status and the CAO to turn on.

Notice!
The Alarm status Output Relay assigned here is the same that is listed at the Output Setup. By setting the Duration to a value other than 0 at the Output Setup, will cause the Alarm status Output Relay to turn on for the configured duration only. Leaving it as 0 will cause the Output Relay to remains on till the Alarm Zone is disarmed or the Input Point has restored to normal condition.
I**f the checkbox for Alarm Status is selected in the Output Link window, the output point assigned to the Alarm Status will be turned on the instant an alarm is triggered at the input point and will remain on even after the alarm is restored, until the user manually disarms the input point at the Input Control settings or turns the output off at the output control settings**.

8. Select the Alarm Zone to which this Input Point is to group with, from the **Zone** dropdown list. If you do not wish to assign it to Alarm Zone, just select **Not Assigned**, however, it should at least be assigned to an **Arm/Disarm** input control for this configuration to function.

Notice!
Refer to *Advance IO Setup, page 121* for more details on setting up the various Arm/Disarm input control.

9. Select the desired Arm/Disarm input control from the list. If you do not wish to assign it to a Arm/Disarm input control, just select **undefined**, however, it should at least be assigned to an **Alarm Zone** for this configuration to function. (This field is disabled if this is the second or subsequent Input Point of an Alarm Zone).

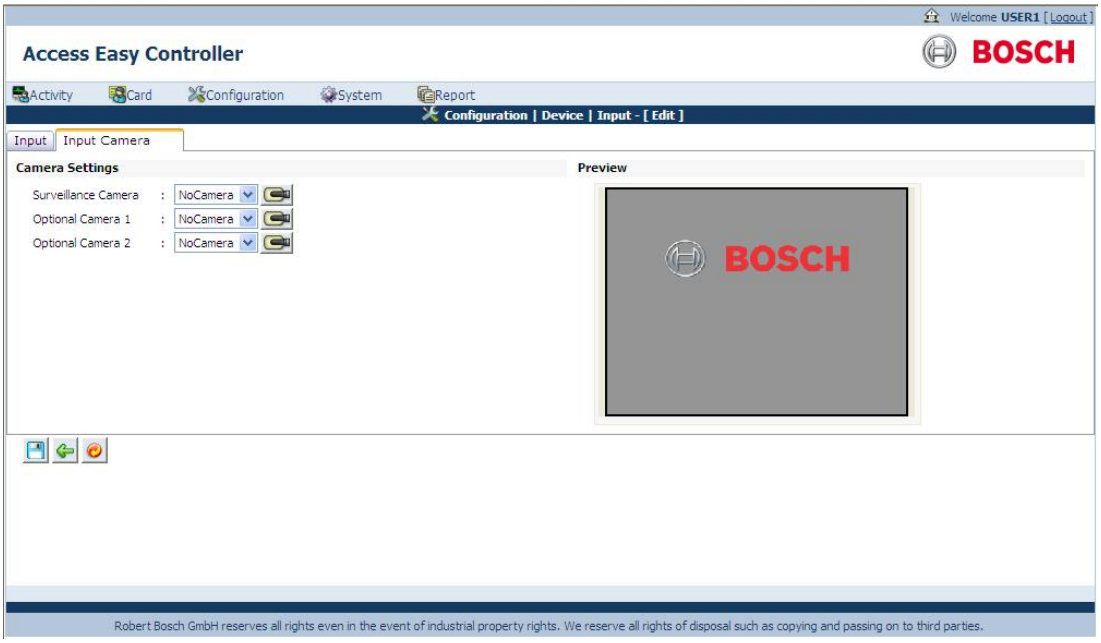
10. Select the appropriate Output Point, for the various Status Outputs, from the list. By default, these Outputs are Not Assigned.

Notice!
The Output Points listed/assigned here are the same one that is listed in the Output Setup. By setting the Duration to a value other than 0 at the Output Setup, will cause the Status Output Relays to turn on for the configured duration. Leaving it as 0 will cause the Output Relays to remains on till the Status has changed.

11. Click the save button to save the settings (see **NOTICE**).

Notice!
Note1: Activating the button will cause all active (Armed) Input Points within the Alarm Zone to be set to default, i.e. Disarmed.
Note2: Activating the button outside the pre-defined Schedule intervals will cause the Input Point to be Armed.
Note3: When an Alarm Zone is also armed/disarmed by Schedule, the condition similar to Note 2 has the priority over Note 1.

After saving the settings in the Input tab select the tab **Input Camera**. The screen below appears.



Each Input Point can be configured with three cameras.

1. Set one of the camera as the surveillance camera. The surveillance camera pops up whenever an event is triggered in the configured location. Refer to *Surveillance, page 41* for more information. Select a camera from the Surveillance camera dropdown list. Click the camera button to view the preview of the video. The video preview can be seen in the **Preview** window.
2. Select the second camera from the Optional Camera1 dropdown list. Click the button to view the preview of the video. The video preview can be seen in the **Preview** window.
3. Select the third camera from the Optional Camera2 dropdown list. Click the button to view the preview of the video. The video preview can be seen in the **Preview** window.

Click the save button to save the settings. Click the back button to cancel the settings and return to the **Input** main page. At any point of time click the reset to factory default to reset the input points to factory default.

12.2 Output Setup

The AEC2.1 has 64 user programmable Output Points that will be used for Utility Triggering purposes. The address for these Input Points ranges from 33 to 64 and is available on the I/O Card. Each card provide up to 8 Output Points.

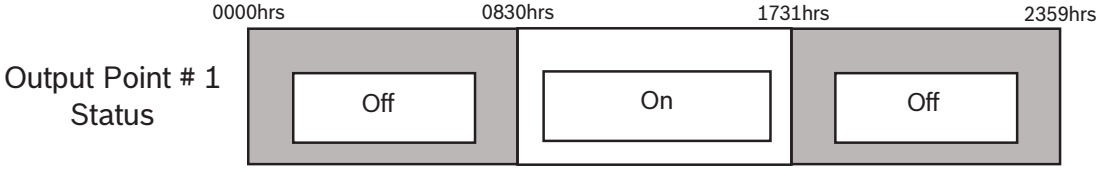
The Output Points are triggered manually via the web page, or based on Schedule Intervals, or is triggered by an Input Point as a Status indicator.

The status of all the Output Points is displayed in the Output Control web page except those points that are triggered by Input Points.

The paragraph below provides a brief description of how the AEC2.1 interprets the Schedule Intervals for Output Points triggering status.

For example,If the setting for Schedule is: -Interval 1Start **0830** hrs, End **1730** hrsInterval 2, 3, and 4 has no setting.

When the Schedule is tied to Output Point #1, the point will turn on and off accordingly.

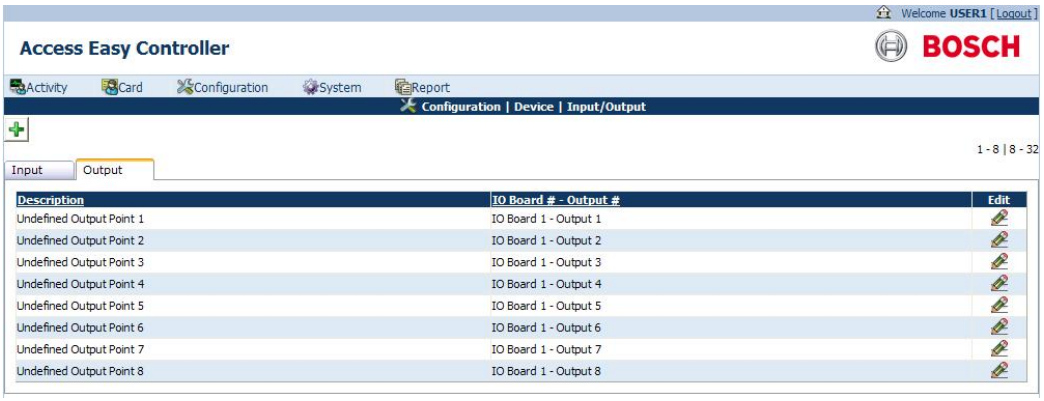


Take note that the Output Point switches On at exactly **0830**hrs but switches Off at **1731**hrs aminute delay as compared to the Schedule setting. The reason is that AEC2.1 takes **17:30:59** hrs as a valid End time for **1730** hrs.

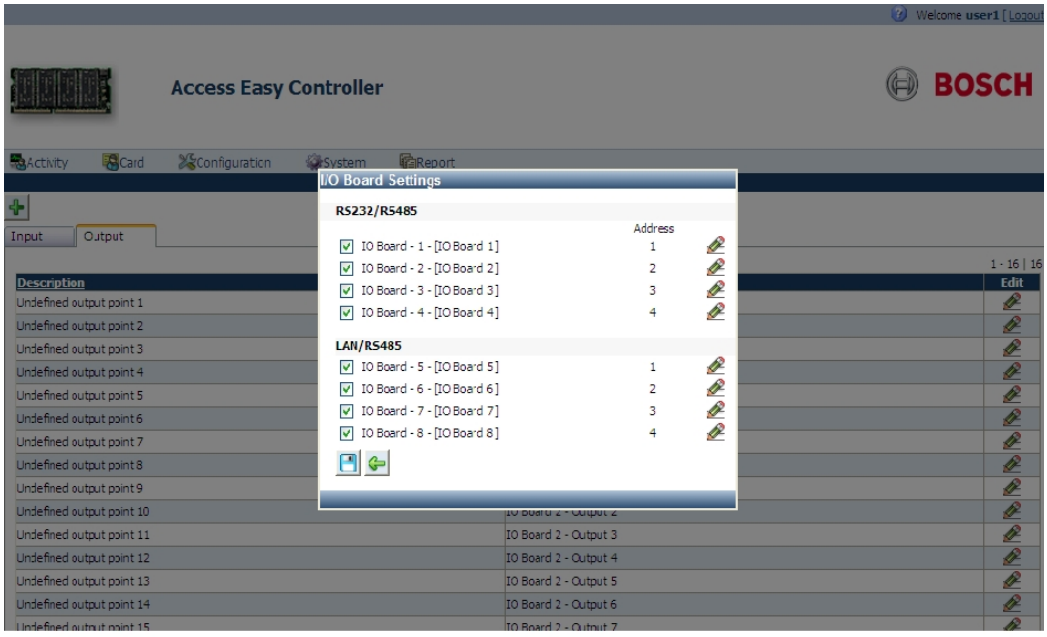
12.2.1 To Activate the Output Setup

The Input Setup can be activated only from the menu item page.

1. Click **Configuration** > **Device** > **Input/Output**. In the Input/Output main page select the tab **Output**. The screen below shows the main page of the **Output Point** menu



2. In the Output main page click the button to add a new output point. The screen below appears.

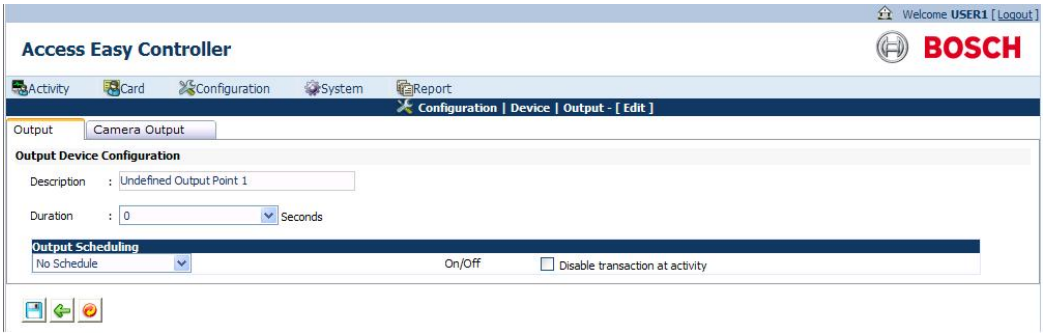


3. Select the check box besides the output points to be configured. Click the edit button to edit the description of the output point. Click the save button to save the output point settings or click the back button to return to the output point main page. The added output point is now available in the output point main page.

   After adding the output point to the device click the edit button to edit the settings of the configured output point.

4. New output points can also be configured by clicking the edit button besides any Undefined Output Point.

   The screen below shows the edit Output point page.



5. Highlight the default text in the **Description** field and enter the new Description.

6. Highlight the default entry for Duration and enter the new Duration (see NOTICE).

Notice!
This setting for the Duration field is applicable for Manual Output Control (refer to the Chapter on Output Control). User can force the Output Point(s) to toggle its current state for the duration specified here. User could also assign the Output Point as a Status Output for the Input Point, however, if the Duration field has a value other than 0, the Output Point will not remains on when the respective status is activated, instead, it will turns on only for the duration as specified here.
I**f Duration Field is Always On, output point will be turned on infinitely when triggered until the user turns it off manually at the Output Control settings. E.g. If Output Point 1 is assigned to Door Forced Alarm Output of Reader 1, when door at Reader 1 is forced open, Output Point 1 will be turned on, and will remain on even after the door is closed, until the user turns it off manually at the output control settings.**

7. Select the appropriate Schedule from the list. By default, an unused Output Point is tied to No Schedule i.e. the Output will not be triggered.

8. Click the save button.

Notice!
Activating the button within the pre-defined Schedule intervals will cause the Output Relay to turn On.

9. Click the save button to save the settings or click the back button to return to Output main page. At any point of time click the reset to factory default button to reset the output points to factory default.

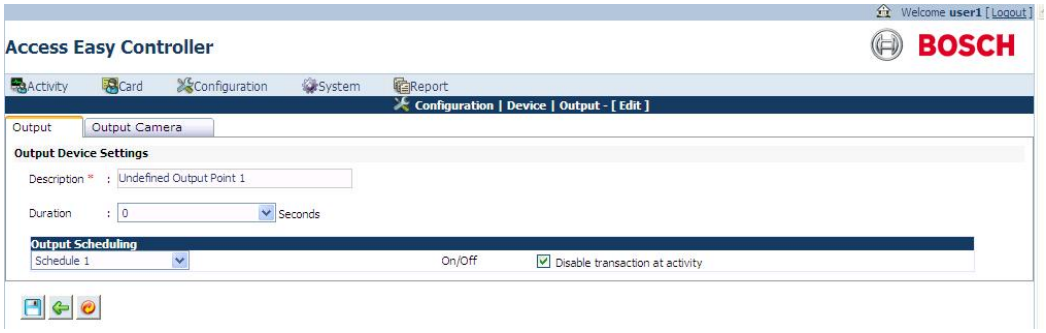
12.2.2 Disable Activity from Output Point

This will allow the user to disable any of the 64 output points activity to be logged, especially when they are activated by other type of function or elevator operation which do not require logging. This means that the activity transactions associated with the Output Point will not belogged at the Transactions page.

1. To use this feature, select an Output Point that you do not want its activity transactions to be logged.

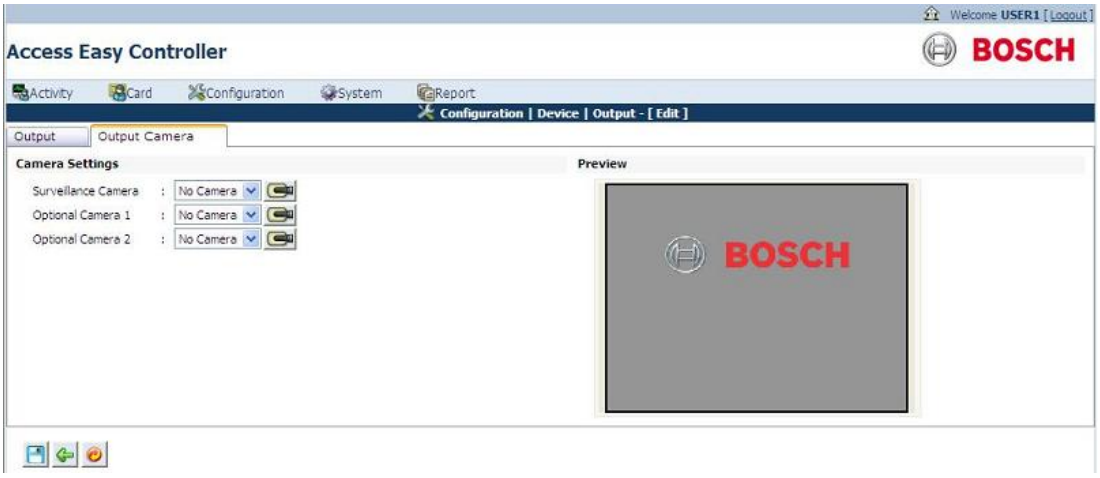
2. Select a schedule from the output scheduling dropdown list.

3. Select the **Disable Transaction at Activity** checkbox besides the schedule dropdown as shown below.



4. Click the save button to save the settings or click the back button to return to the output point main page. At any point of time, click the reset to factory default button to reset the output points to factory default.

After saving the settings in the output tab select the tab **Output Camera**. The screen below appears.



Each Output Point can be configured with three cameras.

1. Set one of the camera as the surveillance camera. The surveillance camera pops up whenever an event is triggered in the configured location. Refer to *Surveillance, page 41* for more information. Select a camera from the Surveillance camera dropdown list. Click the button to view the preview of the video. The video preview can be seen in the preview window.

2. Select the second camera from the Optional Camera1 dropdown list. Click the button to view the preview of the video. The video preview can be seen in the preview window.

3. Select the third camera from the Optional Camera2 dropdown list. Click the button to view the preview of the video. The video preview can be seen in the preview window.

Click the save button to save the settings or click the back button to return to the output point main page. At any point of time click the reset to factory default button to reset the output points to factory default.Click the save button to save the settings.

13 Advance IO Setup

The basic need for such an operation is to enable the rerouting of physical or logical information from one operation to another. Due to its flexibility, the type of operation it can achieve is dependent on the installer. Besides normal input, output and schedule selection, some functions allow:-

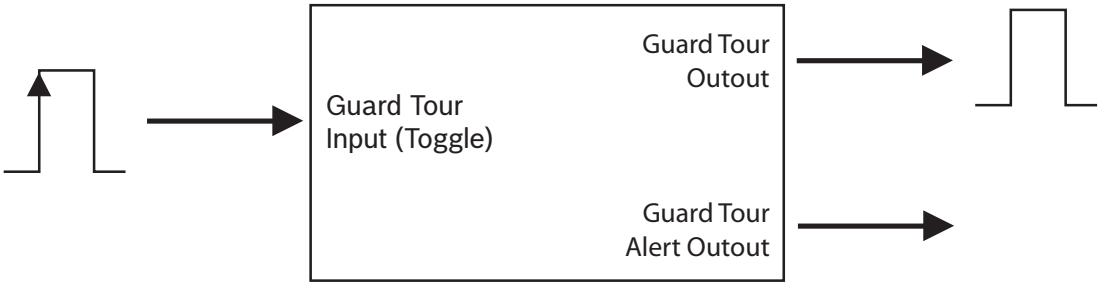
- Inter-connection with other functions.
- Criteria to select 'Where', 'What' and 'Who' (individual and access group) as well as Key input.
- Always 'On' or 'Off'.

Some of the advance functions that it can support are:-
- Guard Tour
- Feed Through
- OR Logic
- AND Logic
- XOR Logic
- NAND Logic
- Interlock
- Up-Down Counter
- Exit Door
- One Shot
- Intrusion Function

A description of each item will be given below.

13.1 Guard Tour

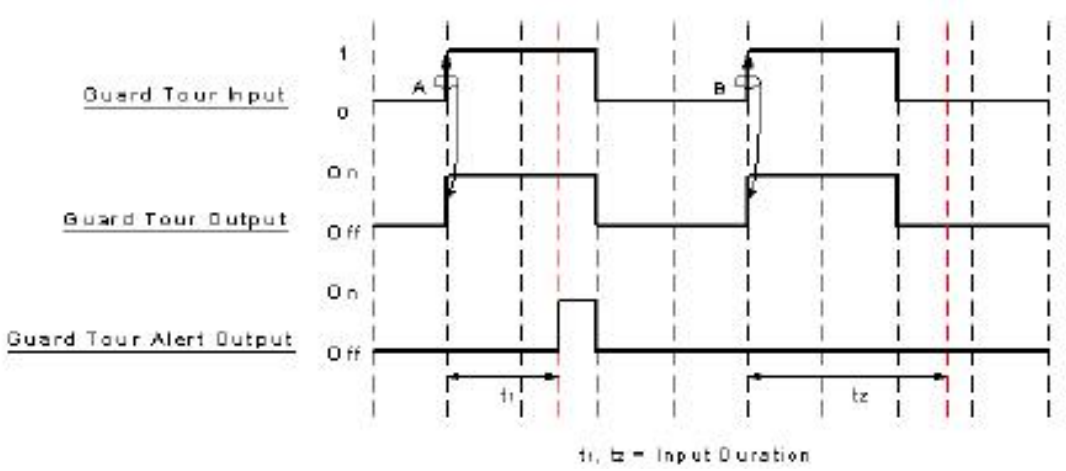
This function is used when the block, is used as one of the guard tour stations in the guard tour routes.A toggle key switch can be used to activate guard tour registration. If key is switched to ON state and is not removed, a reminder alarm will be activated.



Input/Output	Description
Guard Tour Input	This input is edge triggered from '0' to '1' (leading edge) & toggling.A key switch can be connected to this input.
Guard Tour Output	A LED is normally connected to this output. The LED will be turned on for the duration when the guard tour input is triggered.

Input/Output	Description
Guard Tour Alert Output	A LED is normally connected to this output. The LED will be turned on when the Input Duration has lapsed and the key switch, which is switched to ON state, is still not removed. A reminder alarm will be activated.

The timing diagram below gives a graphical description of the function.



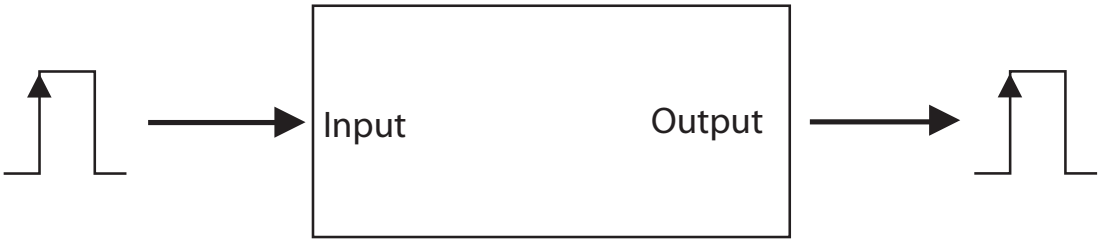
In the timing diagram above, Guard Tour Input at transition A and B will cause the Guard Tour Output to be turned On for the duration when the Guard Tour Input is triggered. When the Input Duration, t1, has lapsed and the Guard Tour Input is still at High (1), the Guard Tour Alert Output will be turned On until the Guard Tour Input is switched to Low (0). Whereas for t2, the Input Duration is such that the Guard Tour Input has already been switched to Low (0) before the Input Duration, t2, has lapsed. Therefore the Guard Tour Alert Output is not triggered.

In practical scenario, a key switch is normally connected to the Guard Tour Input, a LED connected to Guard Tour Output and a LED and/or an alarm is connected to the Guard Tour Alert Output. When the guard goes for his daily routine, he would turn his key switch to On state. This will cause the LED in the Guard Tour Output to be turned On. And if the key is not removed after the Input Duration has lapsed, the LED in the Guard Tour Alert Output will be turned On and the alarm will be activated to remind the guard that he has not removed the key from the key switch.

13.2 Feed Through

This function is used when the output of a function block has to be fed into the input of another function block for further action.

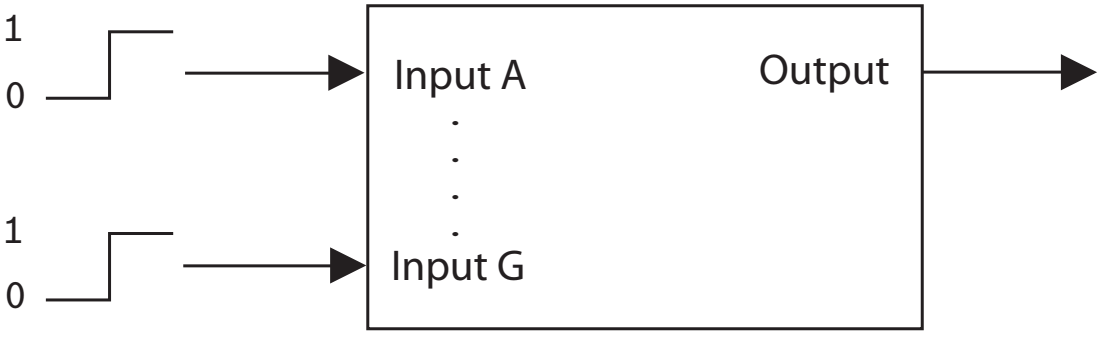
This function will enable any type of output such as physical output, link or reader control to follow the input such as physical input, physical output, link, criteria or schedule. Each item is explained in the above section Input Point Able to Arm/Disarm by Other Type of Input. Level or toggle input behavior can be selected.



Input/Output	Description
Input source	The input will be linked to the output directly.It is edge triggered from '0' to '1' (leading edge) & toggling.
Output	The output is a direct link of the input.

13.3 OR Logic

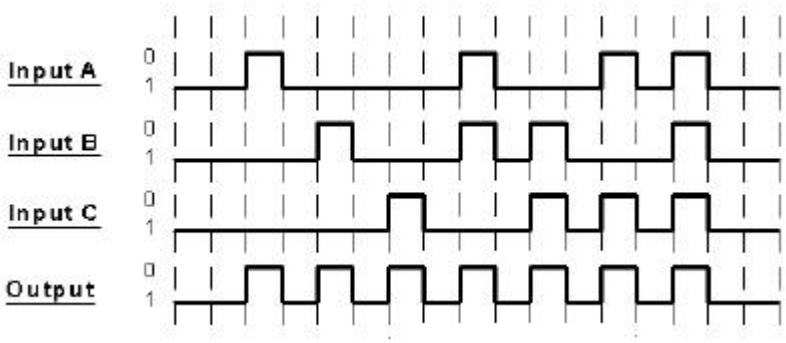
This function is used in cases whereby the output of a function block is to be triggered when any one or more of the stated conditions is fulfilled. In Advance I/O Setup, a maximum of 7 conditions is allowed.



The output is set to high when one or more of the stated inputs is set to high. The following table depicts the OR logic operation, assuming only 3 inputs are used.

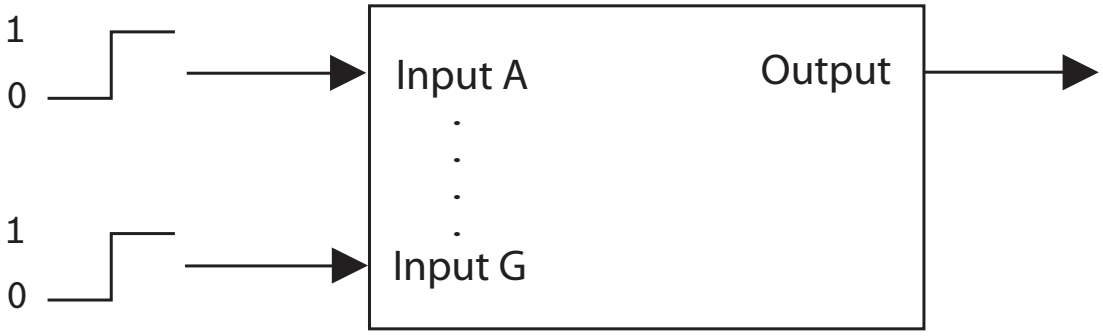
Input A	Input B	Input C	Input D
0	0	0	0
1	0	0	1
0	1	0	1
0	0	1	1
1	1	0	1
0	1	1	1
1	0	1	1
1	1	1	1

The timing diagram below gives a graphical description of the function.



13.4 AND Logic

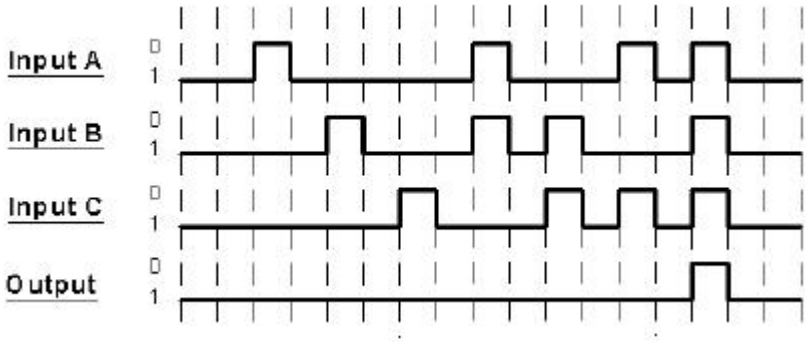
This function is used in cases whereby the output of a function block is to be triggered when all the stated conditions are fulfilled. In Advance I/O Setup, a maximum of 7 conditions is allowed.



The output is set to high when all of the stated inputs are set to high. The following table depicts the AND logic operation, assuming only 3 inputs are used.

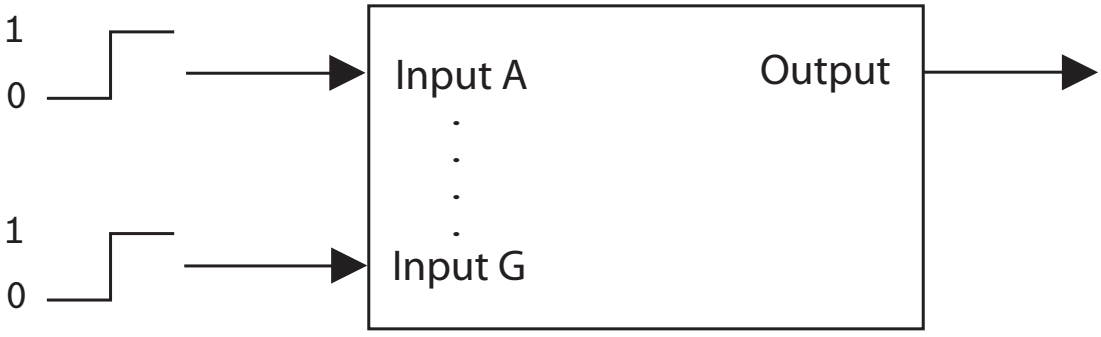
Input A	Input B	Input C	Input D
0	0	0	0
1	0	0	0
0	1	0	0
0	0	1	0
1	1	0	0
0	1	1	0
1	0	1	0
1	1	1	1

The timing diagram below gives a graphical description of the function.



13.5 XOR Logic

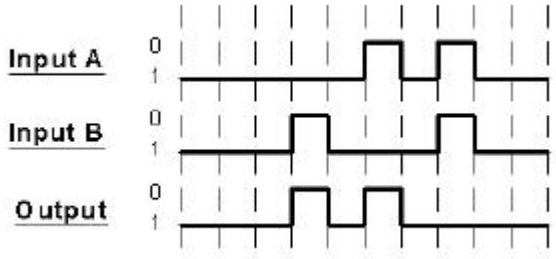
This function is used in cases whereby the output of a function block is to be triggered when all the stated conditions are different. In Advance I/O Setup, a maximum of 7 conditions is allowed.



The output is set to high when all the stated inputs are at different states. The following tabledepicts the XOR logic operation, assuming only 2 inputs are used.

Input A	Input B	Input C
0	0	0
0	1	1
1	0	0
1	1	0

The timing diagram below gives a graphical description of the function.



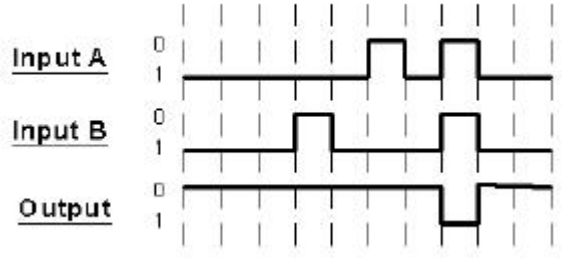
13.6 NAND Logic

This function is used in cases whereby the output of a function block is to be triggered when one or more of the input states is low.

The output is set to high when one or more of the input states is low. The following table depicts the NAND logic operation, assuming only 2 inputs are used.

Input A	Input B	Input C
0	0	1
0	1	1
1	0	1
1	1	0

The timing diagram below gives a graphical description of the function.

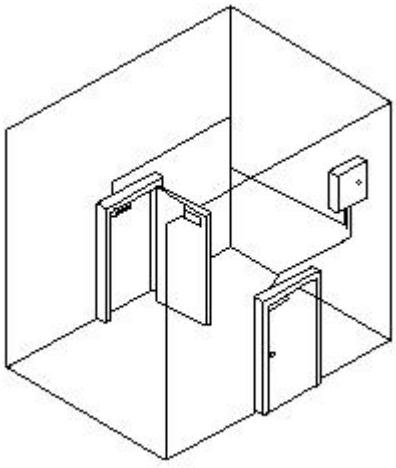


13.7 Interlock/Man Trap

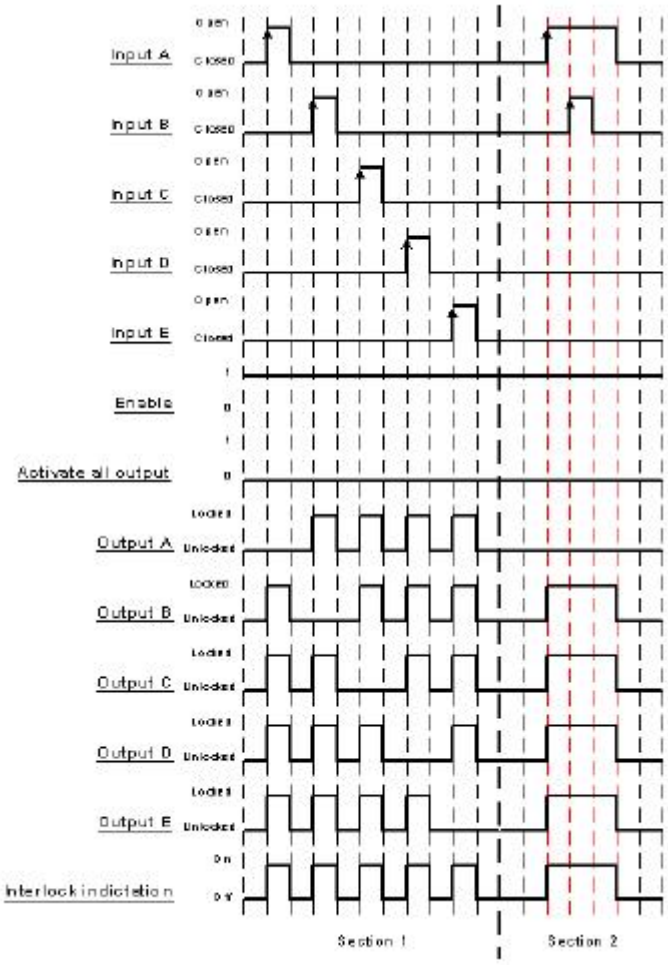
1. **Interlock Operation**
   All doors will remain closed and unlocked. Opening any of the doors will cause all other doors to be locked until the opened door returns to the closed position. In AEC2.1, a maximum of 5 doors can be configured.

   Examples of such applications are darkrooms, laboratories, clean rooms, airlock rooms, X-ray or other treatment rooms.

The figure below shows an illustration of Interlock Operation for 2 doors



The timing diagram below gives a graphical description of the function.



– Section 1
  In Section 1, a leading edge from '0' to '1' is detected at Input A first. This means that the door at A is opened. This causes the door at A to be unlocked (Output A-Low) and the rest of the doors to be locked (Output-High) until door at A is closed. The same applies when each door is opened in turn.

Enable is always high (In AEC2.1 configuration, Enable can be configured as “Always On”). Activate all output is always low (In AEC2.1 configuration, Activate all output can be configured as “Always Off”).

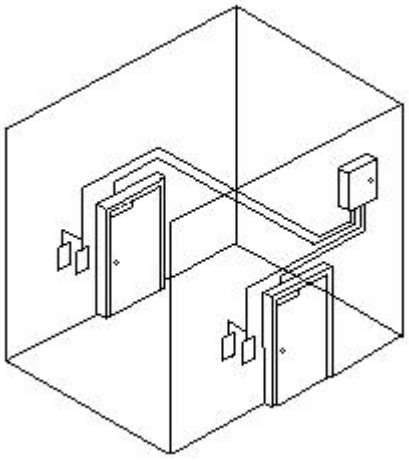
– Section 2
In Section 2, a leading edge from '0' to '1' is first detected at Input A. From Section 1, we know that the door at A is opened and this causes the door at A to be unlocked (Output A-Low) and the rest of the doors to be locked (Output-High) until door at A is closed.

But before door at A is closed, someone tries to open door at B. He cannot open the door at B as it is locked (Output B-High) as door at A has not been closed back to original position.

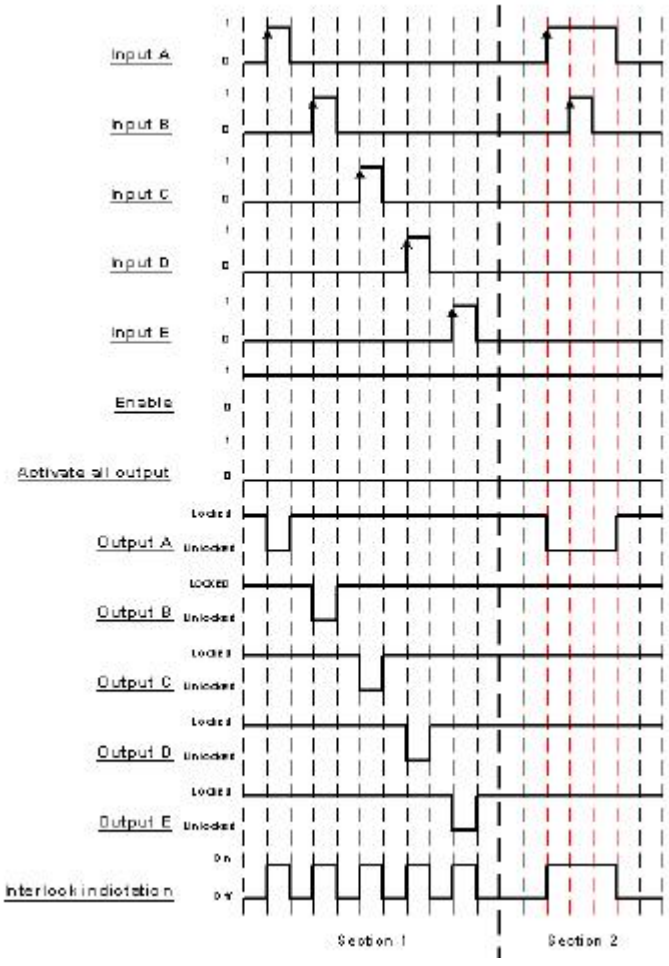
2. **Man Trap Operation**
All doors are normally closed and locked. Unlocking any door by reader causes the other doors to be incapable of being unlocked. In AEC2.1, a maximum of 5 doors can be configured.

Examples of such applications are restricted darkrooms, laboratories, clean rooms, airlocks, showers, money counting rooms and computer rooms.

The figure below shows an illustration of Mantrap for 2 doors.



The timing diagram below gives a graphical description of the function.



– Section 1
  In Section 1, a leading edge from '0' to '1' is first detected at Input A, i.e someone presents his card at reader for door A. This means that door A will be unlocked (Output A-Low) and the rest of the doors will be incapable of being unlocked (Output-High). The same applies when card is presented to the readers at the other doors in turn.

  Enable is always high (In AEC2.1 configuration, Enable can be configured as “Always On”). Activate all output is always low (In AEC2.1 configuration, Activate all output can be configured as “Always Off”).

– Section 2
  In Section 2, a leading edge from '0' to '1' is first detected at Input A. From Section 1, we know that when a cardholder the card at reader for door A, door A will be unlocked (Output A Low) and the rest of the doors to be incapable of being unlocked (Output-High).

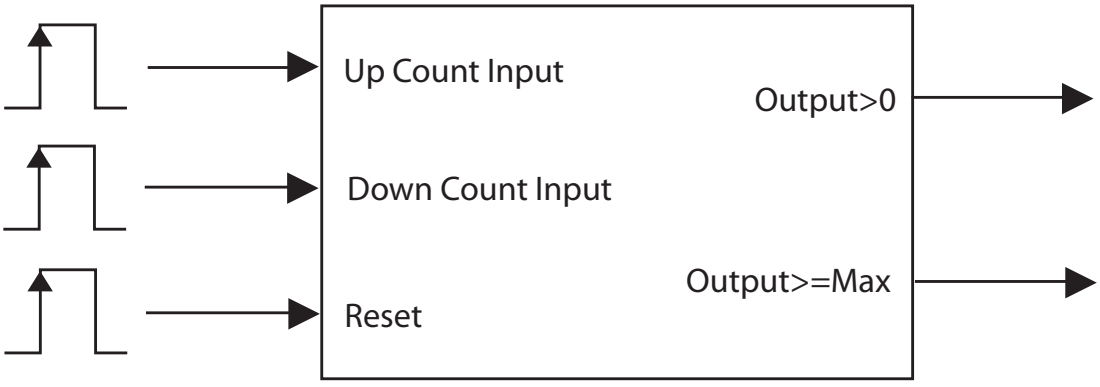
  But before door A is locked back, if a cardholder presents the card at door B. The cardholder cannot unlock door B as it is incapable of being unlocked (Output B-High).

Both the above operations, Interlock Operation and Mantrap can be easily configured by monitoring the door strike and contact status.

The number of doors that can be configured for these operations is only limited by the number of I/O and Reader available per controller.

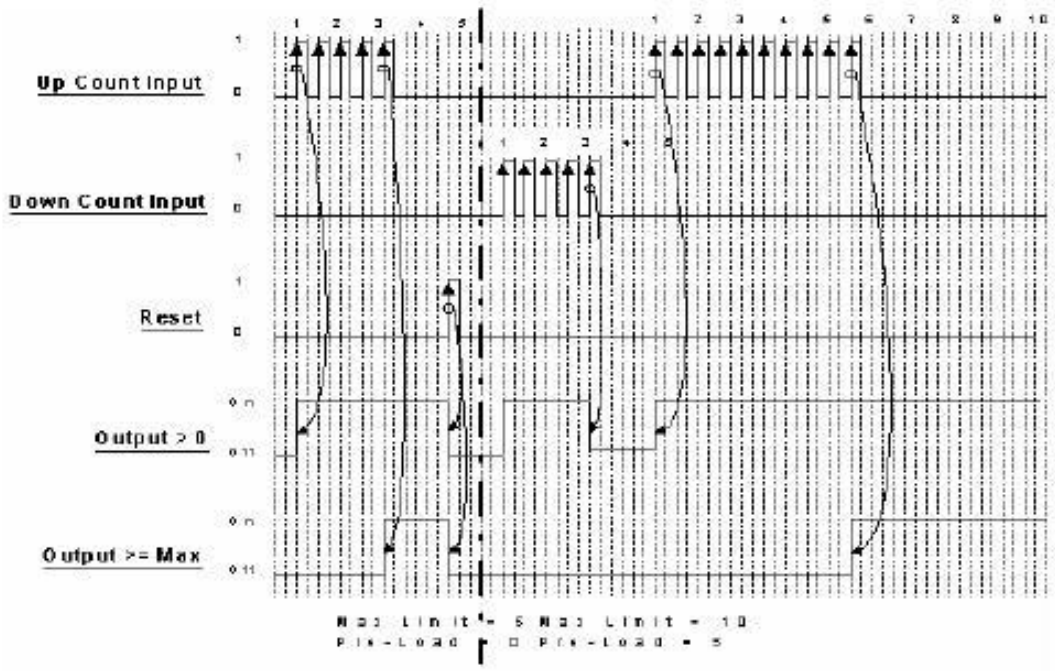
13.8 Up-Down Counter

This function enables the tracking of the number of card holder/event and is able to trigger output or control based on the maximum configuration limit.



Input/Output	Description
Up count Input	Increment the counter when a low to high edge is detected.
Down count Input	Decrement the counter when a low to high edge is detected.
Reset	Reset the counter to zero when a low to high edge is detected.
Output > 0	Set high when the counter is not zero, and set low when the counter is zero.
Output >= Max	Set high when the counter is greater than or equal to the maximum limit, else set low.

The timing diagram below gives a graphical description of the function.



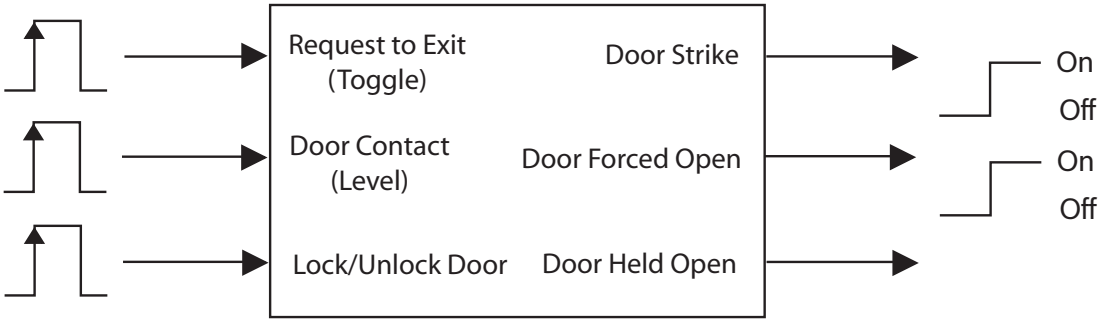
In the timing diagram, the basic operation of the function is outlined below: -
Max Limit = 5 and Pre-Load = 0With the 2 defined parameters, the Output>=Max will be driven high on the 5th pulse on the Up Count input. However, the Output>0 is driven high on the first pulse. A Reset pulse clears both outputs to zero.

Max Limit = 10 and Pre-Load = 5With a Pre-Load of 5 count, the Output>0 is driven high. This Output>0 will be cleared on the 5th pulse on the Down Count input.

A pulse on the Up Count input drives the Output>0 high again and the Output>=Max will be driven high on the 10th pulse.

13.9 Exit Door

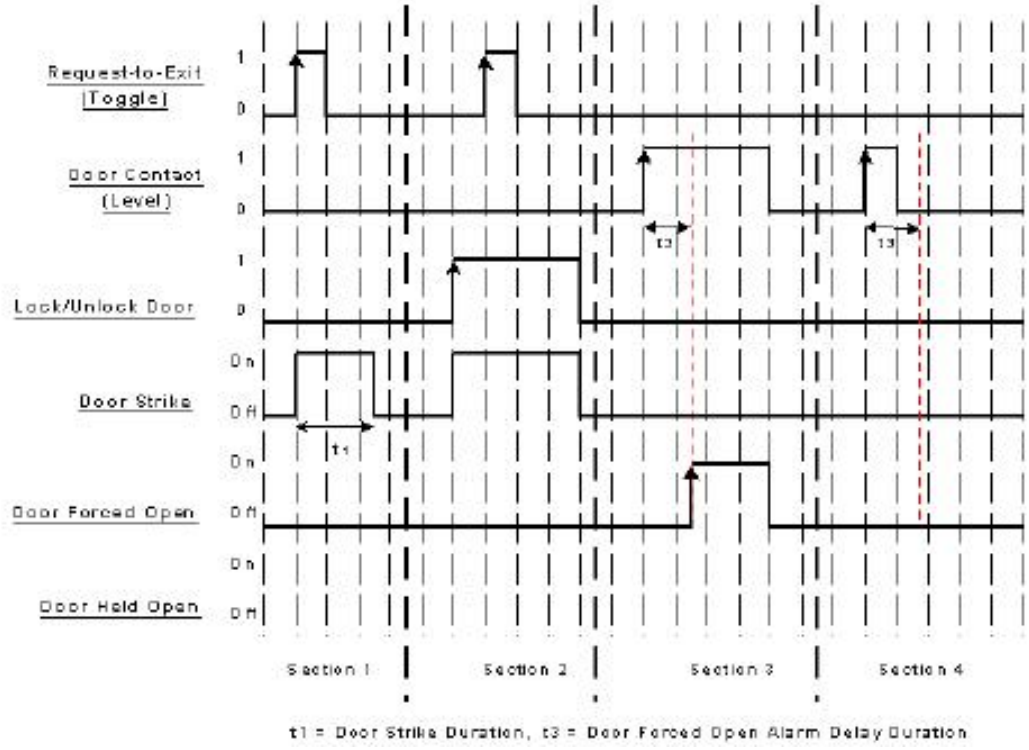
This function is mainly used to monitor and control emergency exit doors.



Input/Output	Description
Request-to-Exit (Toggle)	This input is edge triggered from '0' to '1' (leading edge) & toggling. It activates the Door Strike output for a period of the Door Strike Duration when a leading edge is detected.

Input/Output	Description
Door Contact (Level)	This input is edge triggered from '0' to '1' (leading edge). It activates the Door Forced Open output when a leading edge is detected and a period of the Door Forced Open Alarm Delay Duration has passed.
Lock/Unlock Door	Permanently locks/unlocks the door when activated.
Door Strike	Driven to high for a period of Door Strike Duration when a leading edge is detected at Request-to-Exit.
Door Forced Open	Driven to high for the duration when Door Contact is high when a leading edge is detected at Door Contact and the Door Forced Open Alarm Delay Duration has lapsed.
Door Held Open	Driven to high when the Door Strike Duration is over and subsequently, the Door Open Duration is over.

The timing diagram below gives a graphical description of the function



In the timing diagram, it is divided into 4 sections. The basic operation of each section is outlined below: -

– Section 1
  In Section 1, a leading edge from '0' to '1' is detected at Request-to-Exit. This causes the Door strike to be driven high for a duration of t1, the Door Strike Duration.

– Section 2

In Section 2, a leading edge is first detected at Lock/Unlock Door. This causes the Door strike to be driven high for the duration when the Lock/Unlock Door is triggered. Since the Door Strike is already at state high, meaning it is de-energized, when a leading edge is detected at Request-to-Exit, there is no difference in Door Strike.

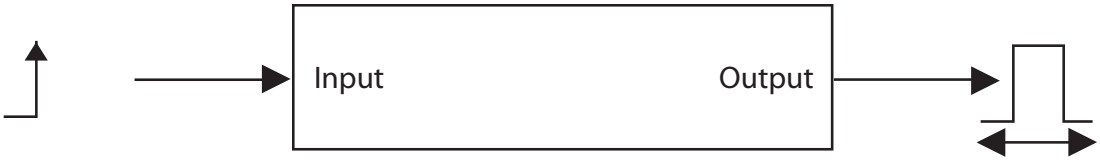
– Section 3
In Section 3, a leading edge is detected at Door Contact. However there is a Door Forced Open Alarm Delay Duration of period t3. Hence the Door Forced Open is driven high only after the Door Forced Open Alarm Delay Duration has passed and remains high until the Door Contact is triggered low. The Door Forced Open Alarm Delay Duration is to ensure that the alarm is genuine and not caused by noise or interference.

– Section 4
In Section 4, a leading edge is detected at Door Contact. However the signal lasts for a period less than the Door Forced Open Alarm Delay Duration of period t3. Therefore the Door Forced Open output is not activated. This is because the signal detected could be due to noise or interference.

13.10 One Shot

This function is similar to Feed Through except it is used when the output of a function block is triggered for a predefined duration when input state is high.

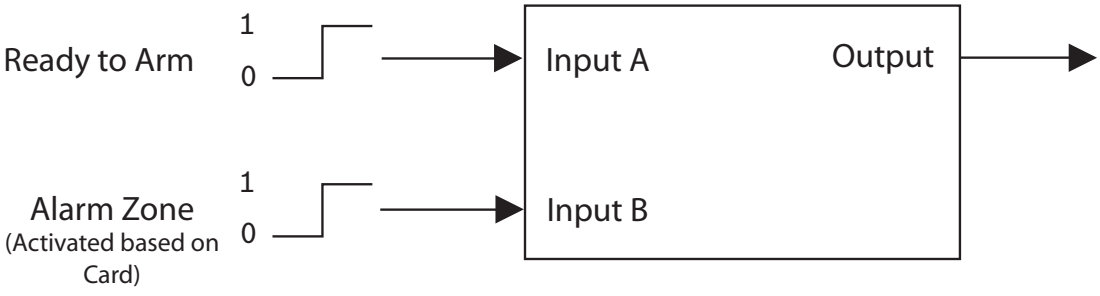
This function will enable any type of output such as physical output, link or reader control to follow the input such as physical input, physical output, link, criteria or schedule.



Input/Output	Description
Input source(Toggle)	The input will be linked to the output directly.It is edge triggered from '0' to '1' (leading edge).
Output	The output is a direct link of the input.

13.11 Intrusion Function

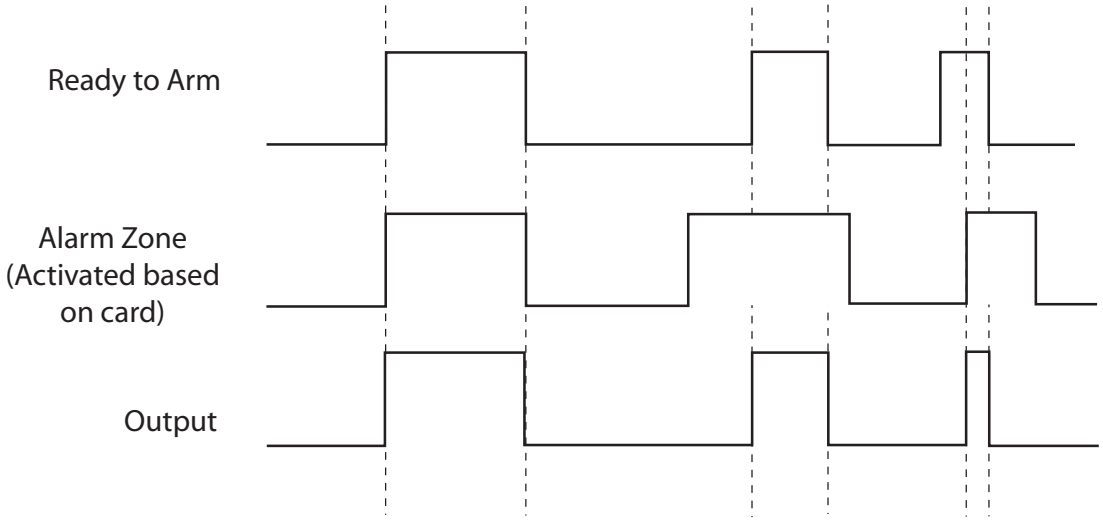
This function is used to integrate a 3rd party intrusion system to AEC2.1 using standard input/ output from the AEC.



Ready to Arm (3rd Party	Alarm Zone	Output
Ready to Arm	Armed	Armed

Ready to Arm (3rd Party	Alarm Zone	Output
Ready to Arm	Disarmed	Disarmed
Not Ready to Arm	Armed	Disarmed
Not Ready to Arm	Disarmed	Disarmed

The triggering function for a signal to Arm/Disarm the IDS panel is determined by the criteria that are set. When the IDS Status shows ‘ready’, and the criteria set is fulfilled, the AEC system will Lock/Unlock a 4R8IO Output. This change in the status of the 4R8IO Output will be used as a signal to Arm/Disarm the IDS panel.



This intrusion function works exactly like the AND gate used in digital logic. When the two inputs are both at logical ‘1’, output of the AND function will give a ‘1’. In this application, this AND function is used to control the Arming/Disarming of the IDS panel. According to the logic diagram when IDS status is ‘1 (Output LED of the 8IO turns on)’ and the criteria set is fulfilled (logic ‘1’), the AND function will output a logic ‘1’.

14 Input State

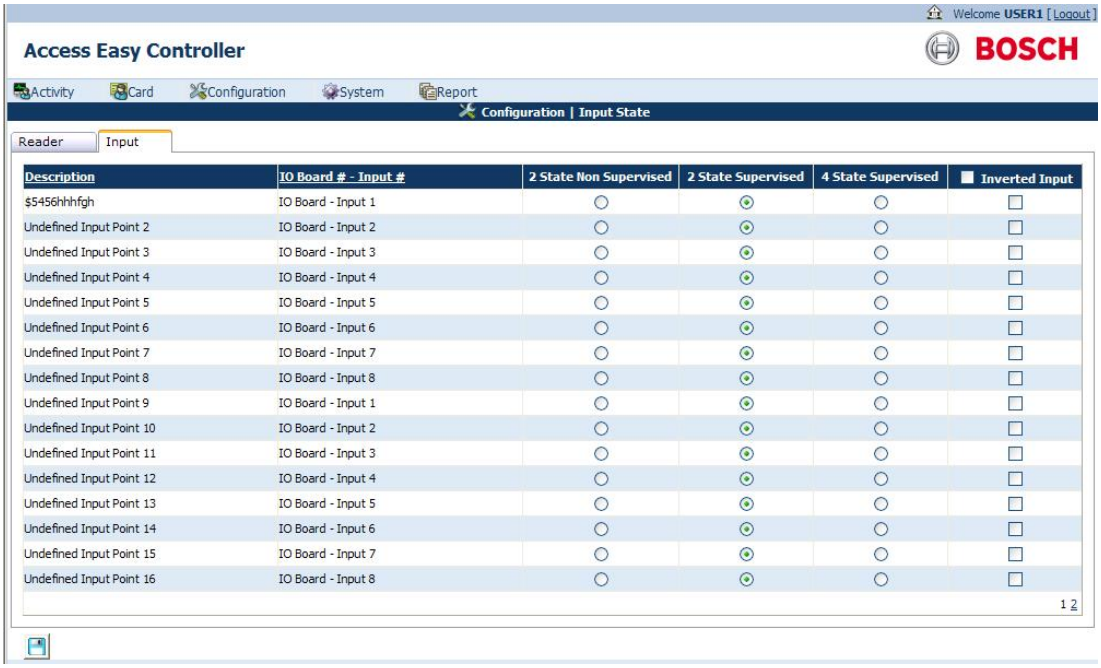
This chapter explains the steps to configure the input and output points.

14.1 Input Point Configuration

The state of each Input point must be closed for the AEC2.1 to treat it as normal state. However, there are some devices whose normal state is open thus, representing an activated/ alarm state.When such devices are connected to these Input points, without inverting an input to the normal state, it would cause unexpected or false alarm. In simple term, this configuration allows you to invert the logical state of the input that is seen in the AEC2.1 thus allowing such devices to be used. AEC2.1 allows all the Input Points to be inverted except those assigned to Exit Readers and Arm/Disarm Readers.

14.1.1 To Activate Input Point Configuration

Click the link **Configuration** > **Input State** to access the input point configuration.The screen below shows the input state page.



14.1.2 To Select Input Point Configuration

Support Configurable Non-Supervised/ Supervised for All Input Points

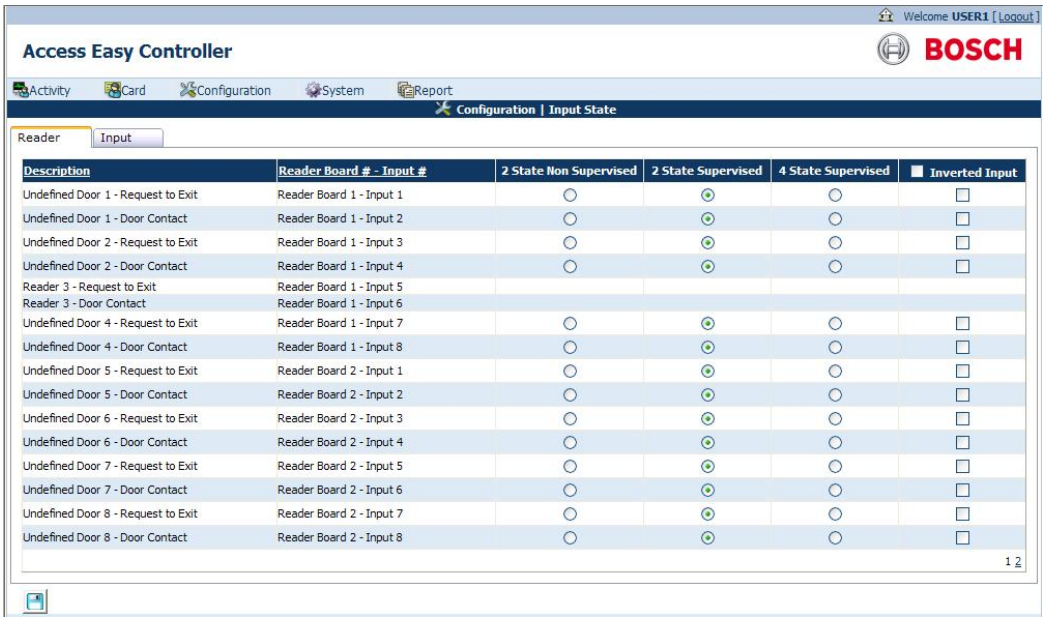
The input state menu supports configurable Non-Supervised/Supervised for All Input Points and Readers. This provides the system installer to have the flexibility to configure any input in the panel to be in any monitoring requirement.

Each input is programmable for 2 state or 4 state supervised

- 2 state non supervised or supervised is used to monitor normal conditions
- 4 state supervised is used to monitor normal, open and short conditions.

Example, a short condition is shorting the input wiring and open condition is a cut wire. The panel will report fault in open or short condition only when the input is configured as 4 State Supervised monitoring. Follow the steps below to configure the input points.

1. The screen below shows the **Reader** input state screen. To change the supervised mode for each input, select the radio button representing each mode.

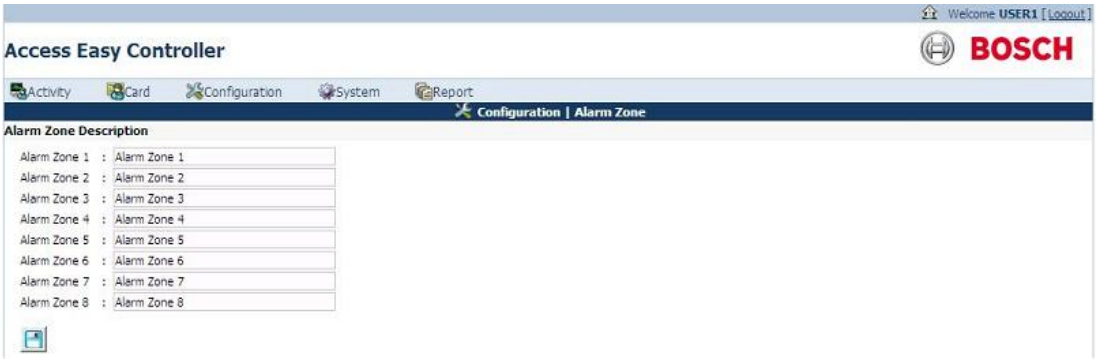


2. Click the save button to save the settings.

14.2 Alarm Zone Description

The Alarm Zone Description allows you to change the description for each Alarm Zone to describe the alarm zone location more clearly.

Click the link **Configuration** > **Alarm Zone** to access the **Alarm Zone Description** page. The screen below shows the alarm description page.



1. To change the Alarm Zone Description for each Alarm Zone, delete the default description from each **Alarm Zone** and enter the new description accordingly.

2. After making the changes, click the save button to save the settings.

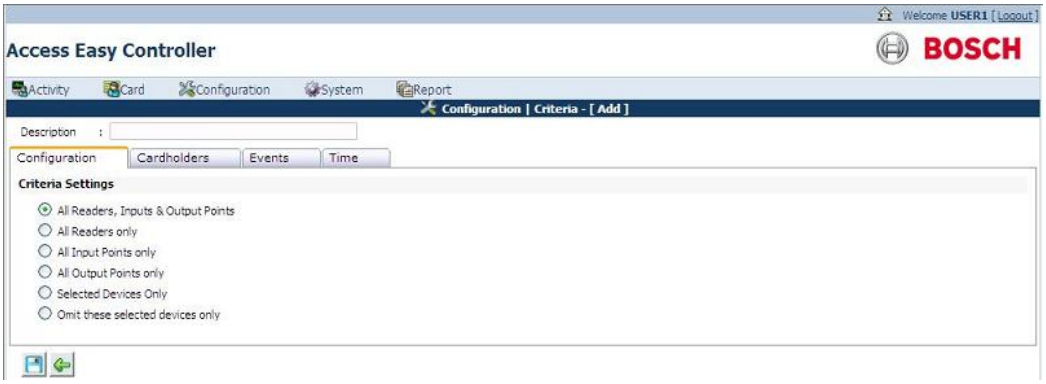
15 Criteria

Criteria are some of the conditions or limitations that are imposed on the input to the functional block. Conditions or limitations can be imposed on the devices, cardholders or events. You can choose to include items to trigger the output or omit items so that it will not trigger the output of the functional block. A table listing the choice that can be selected under each item is shown below.

Criteria Configuration	Choice that can be selected
Devices	– All readers, input & output points – All readers only – All input points only – All output points only – Selected devices only – Omit these selected devices only
Cardholders	– All cardholders – Selected cardholders only – Omit these selected cardholders only – Selected Access Group only
Events	– All events – Selected events only – Omit these selected events only
Time	– Based on Time

1. Click the link **Configuration** > **Criteria** to access the criteria page.

2. Click the button to add a new criteria. The screen below appears.



3. Enter a Description for the criteria in the **Description** field.

4. The criteria main page consists of four function tabs namely **Configuration**, **Cardholder**, **Events** and **Time**. Click the tab **Configuration**.

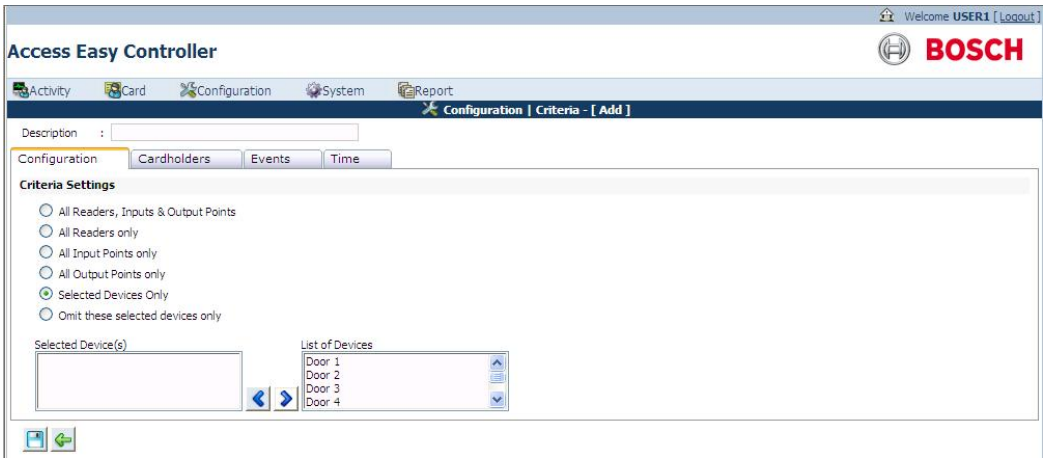
5. In the **Configuration** > **Criteria** settings select the appropriate radio button.

15.1 Configuration Setting

Click the **Configuration** tab in the criteria page to access the criteria setting details. In the configuration page, select the appropriate radio button.

When Selected devices only is chosen

1. The screen below shows the **Criteria** > **Configuration** page when **Selected devices only** is chosen.



   To add an item to the **Selected Devices** listbox, select an item from the **List of Devices** listbox and click the move left button to move the selected device to **Selected Device(s)** listbox.

2. Repeat Step 1 to add more items to the **Selected Devices** listbox. When the items are added to the **Selected Devices** listbox, it means that only these devices will be able to trigger an output.

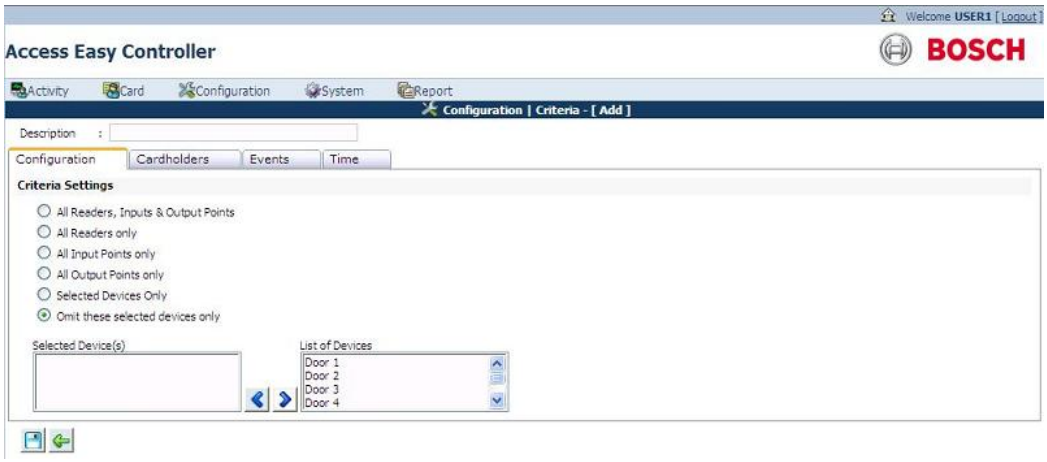
3. To remove a device from **Selected Device(s)** listbox, select the item and click the move right button to move it back to **List of Devices** listbox.

4. Repeat Step 3 to remove more items from the **List of Selected Devices**.

5. Click the save button to save the settings or click the back button to return to the Criteria main page.

When Omit these selected devices only is chosen

1. The screen below shows the **Criteria** > **Configuration** page when **Omit these selected devices** only is chosen.



   To omit an item to the **Selected Devices** listbox, select an item from the **List of Devices** listbox and click the button to move the selected device to **Selected Device(s)**.

2. Repeat Step 1 to add more items to the **Selected Devices** listbox. When the items are added to the **Selected Devices** listbox, it means that only these devices will be omitted and will not be able to trigger an output.

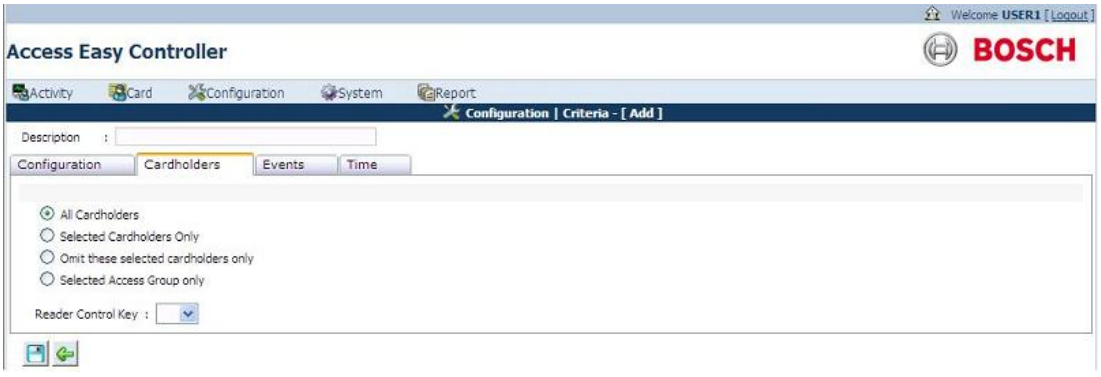
3. To remove a device from **Selected Device(s)** listbox, select the item and click the button to move it back to **List of Devices** listbox.

4. Repeat Step 3 to remove more items from the List of **Selected Devices**.

5. Click the **save** button to save the settings.

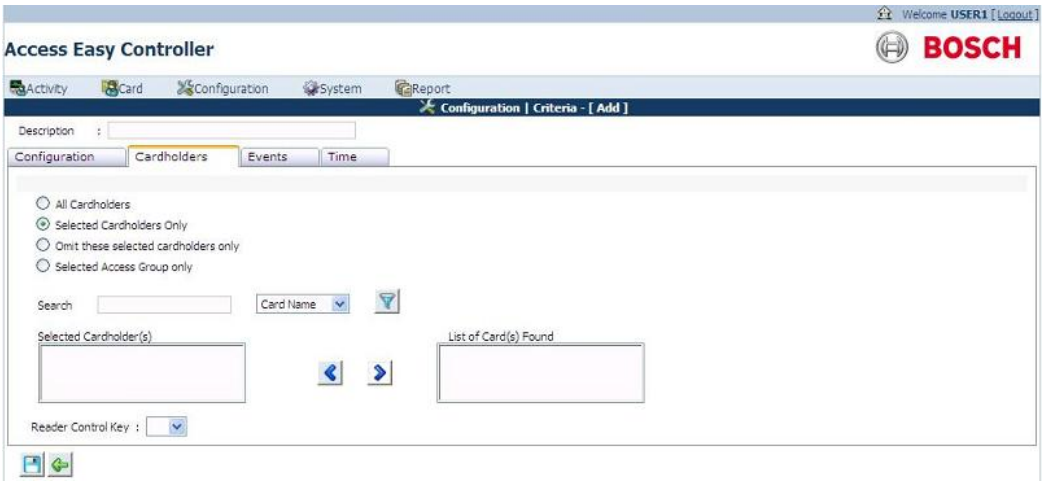
15.2 Cardholder Setting

Click the **Cardholders** tab in the criteria page to access the cardholder details. In the Cardholders page, select the appropriate radio button. The screen below shows the cardholder settings in the criteria page.



When Selected cardholders only is chosen

1. The screen below shows the **Criteria** > **Cardholder** page when **Selected cardholders only** is chosen.



   To add an item to the **Selected Cardholders** listbox, you can search for a cardholder using the search option based on Cardholder Name, Card Number, User Field 1 or User Field 2.

2. After selecting the appropriate option, enter the corresponding character in the Search field and click the search button. If you select Name in the dropdown, alphabet/s must be entered in the search field, and if you select Card Number in the dropdown, number/s must be entered in the Search field.

3. Select a cardholder detail and click the button. The selected detail will appear in the **Selected Cardholders** listbox.

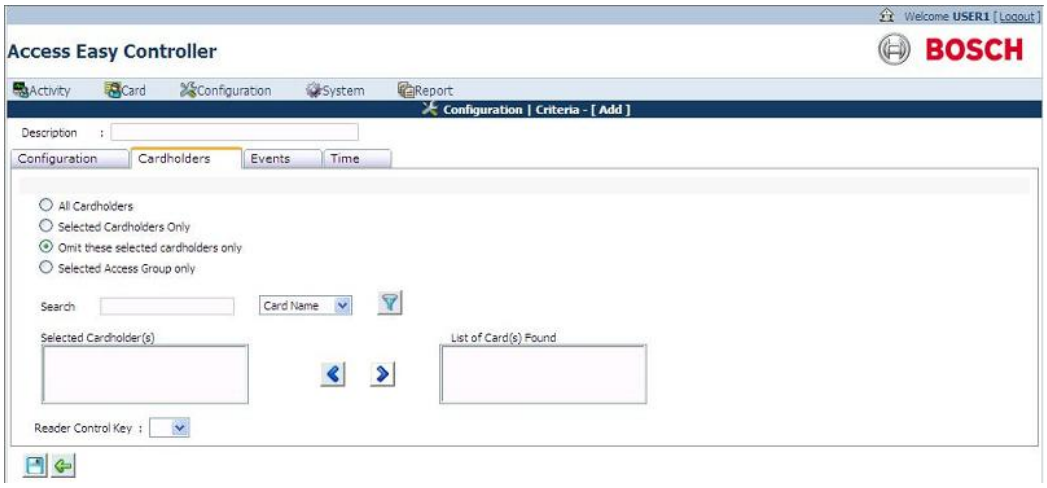
4. Repeat Step 1, 2 and 3 to add more items to the **Selected Cardholders** list. When the items are added to the **Selected Cardholders** list, it means that only these cardholders will trigger an output.

5. To remove an item from the **Selected Cardholders** list, select the item on the list and click the button.

6. Repeat Step 5 to remove more items from the **List of Selected Cardholders**

When Omit these selected cardholders only is chosen

1. The screen below shows the **Criteria** > **Cardholder** page when **Omit these selected cardholders** only is chosen.



   To add an item to the **Selected Cardholders** listbox, you can search for a cardholder using the Search Option based on **Cardholder Name**, **Card Number**, **User Field 1** or **User Field 2**.

2. After selecting the appropriate option, enter the corresponding character in the Search field and click the search button. If you select Name in the dropdown, alphabet/s must be entered in the search field, and if you select Card Number in the dropdown, number/s must be entered in the Search field.

3. Select a cardholder detail and click the move left button.

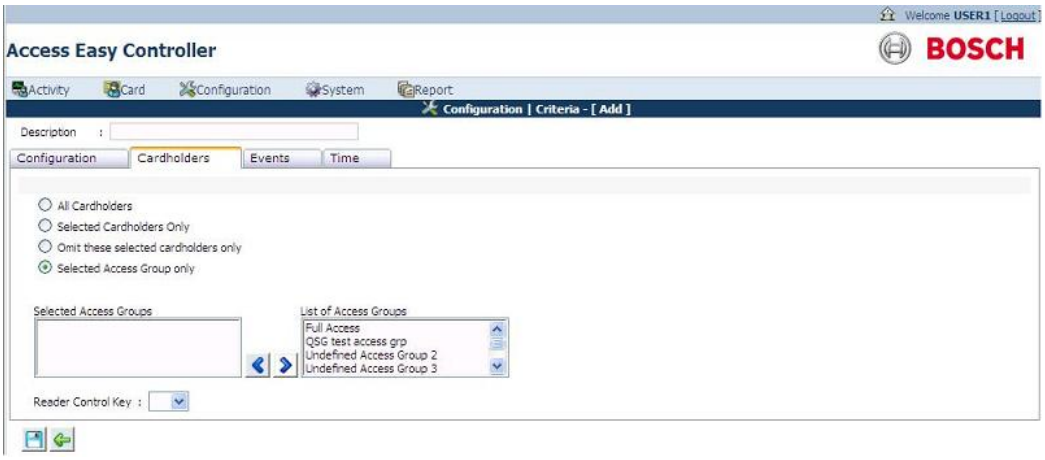
4. Repeat Step 1, 2 and 3 to add more items to the **Selected Cardholders** list. When the items are added to the **Selected Cardholders** list, it means that these cardholders will be omitted and will not be able to trigger an output.

5. To remove an item from the **Selected Cardholders** list, select the item on the list and click move right button.

6. Repeat Step 5 to remove more items from the **List of Selected Cardholders**.

When Selected Access Group only is chosen

1. The screen below shows the **Criteria** > **Cardholder** page when **Selected Access Grouponly** is chosen.



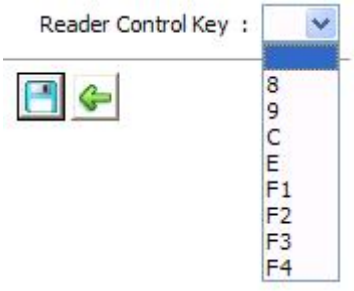
   To add an item to the list of **Selected Access Groups**, select an item from the **List of Access Group** and click the move left button.

2. Repeat Step 1 to add more items to the **Selected Access Groups** list. When the items are added to the **Selected Access Groups** list, it means that only cardholders in these access groups will trigger an output.

3. To remove an item from the **List of Selected Access Groups**, select the item on the list and click the move right button.

4. Repeat Step 3 to remove more items from the **List of Selected Access Groups**.

After selecting the appropriate radio button, you must select the **Reader Control Key**, as shown below.

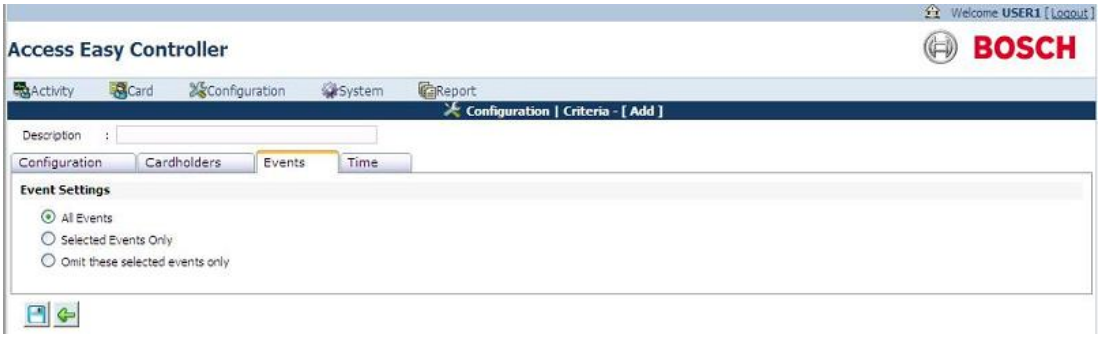


If it is not required, select the blank space. When the **Reader Control Key** is selected, for example, '8' is selected, it means that the user must press the key '8' on the reader keypad before presenting the card to the reader. Of course, all other conditions are to be satisfied.

Notice!
For C3 Smart Card Readers Series, the key is 'C' and 'E'. For ProxPro Reader with keypad, the key 'C' is replaced by '*' and the key 'E' is replaced by '#'.

15.3 Event Setting

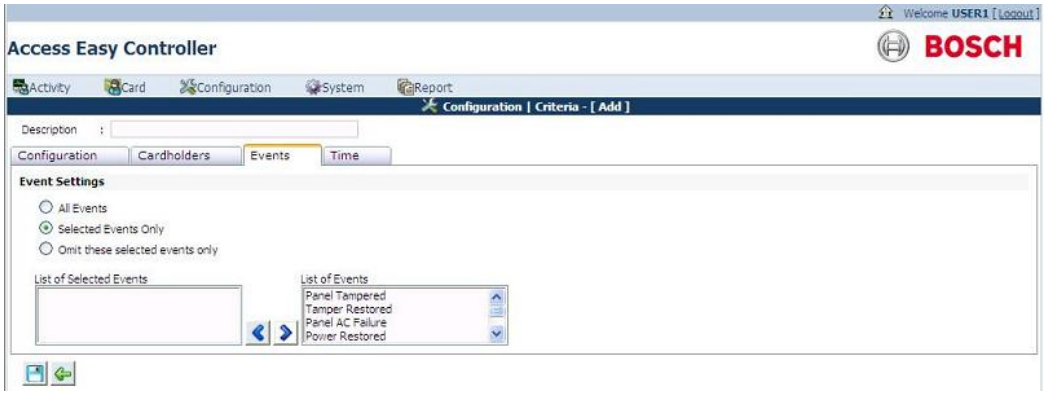
Click the **Events** tab in **Configuration** > **Criteria** window. The screen below shows the **Criteria** > **Event** page.



In the **Events** page, select the appropriate radio button.

When Selected events only is chosen

1. The screen below shows the **Criteria** > **Events** page when **Selected events only** is chosen.



   To add an item to the **Selected Events** list, select an item from the **List of Events** listbox and click the button.

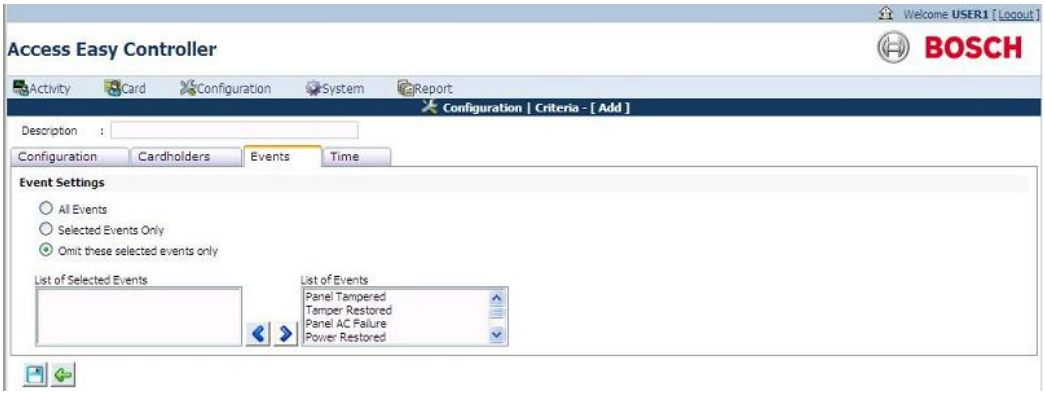
2. Repeat Step 1 to add more items to the **List of Selected Events**. When the items are added to the **List of Selected Events**, it means that only these events will trigger an output.

3. To remove an item from the **List of Selected Events**, select the item on the list and click the button.

4. Repeat Step 3 to remove more items from the **List of Selected Events**.

When Omit these selected events only is chosen

1. The screen below shows the **Criteria** > **Events** page when **Omit these selected events** only is chosen.



To add an item to the **List of Selected Events**, select an item from the **List of events listbox** and click the button.

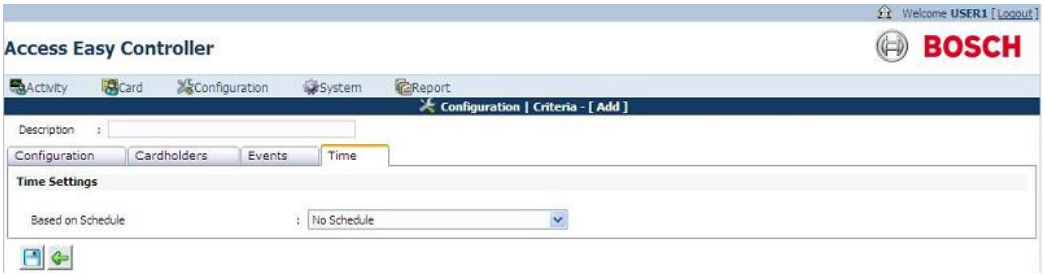
2. Repeat Step 1 to add more items to the **List of Selected Events**. When the items are added to the **List of Selected Events**, it means that only these events will be omitted and will not be able to trigger an output.

3. To remove an item from the **List of Selected Events**, select the item on the list and click the button.

4. Repeat Step 3 to remove more items from the **List of Selected Events**.

15.4 Time Setting

1. Click the Time tab in **Configuration** > **Criteria** window.The screen below shows the **Criteria** > **Time** page.



2. Select a schedule from the **Based on Schedule** dropdown. When a schedule is selected it means the events triggered during the selected schedule will trigger an output.

16 Schedules and Holidays

This chapter explains the steps to set a schedule and holiday.

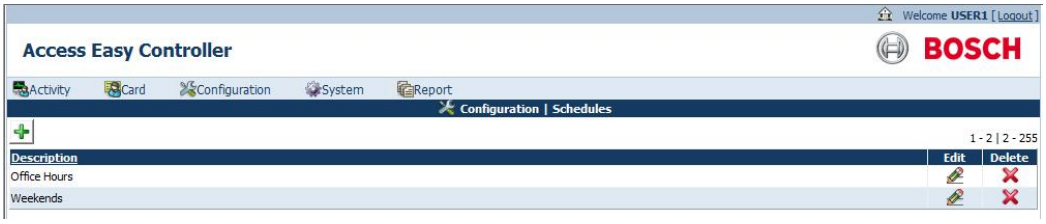
16.1 Schedules

Schedule defines 4 sets of start and end time for seven days a week. Regular and special holidays have a separate 4 sets of time intervals. There are 255 programmable Schedules. Schedules can be used in the following way:

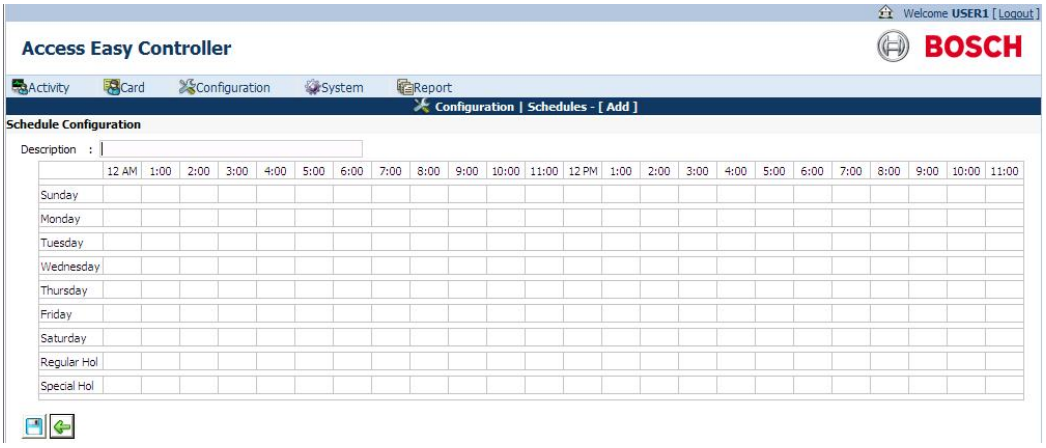
- Schedules are allocated to Card Readers for Access Groupings. Schedules are used to set a specific time when the cardholders can access specific readers or set a specific time when the cardholders need to enter PIN to access specific readers.
- Schedules are allocated to the Card Readers to activate or deactivate readers at specified time. Schedules are used to define the time intervals to Arm/Disarm Alarm Zone.
- Schedules are used to define the time intervals for triggering the Output Points. For example, this is used for scheduled triggering of lighting utility for an area.
- Schedules are used for enabling the video verification function.

The implementation of Schedule makes the system very flexible as its behavior can be programmed to be different for different time of a day, different days, or even during Holidays. A good example is, cardholders have to enter PIN only after office hours.

1. Click the link **Configuration** > **Schedules** to access the schedule page. The screen below shows the schedule main page.

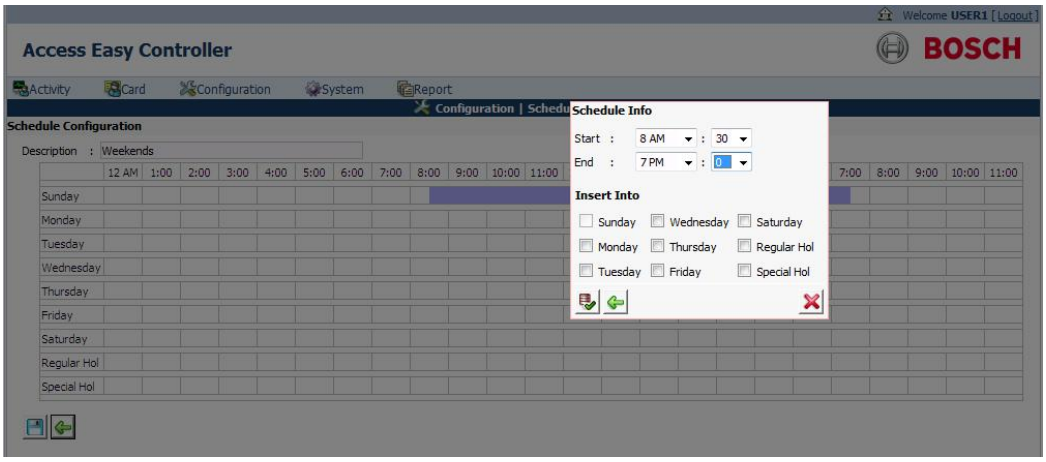


2. Click the button to add a new schedule. The screen below appears.

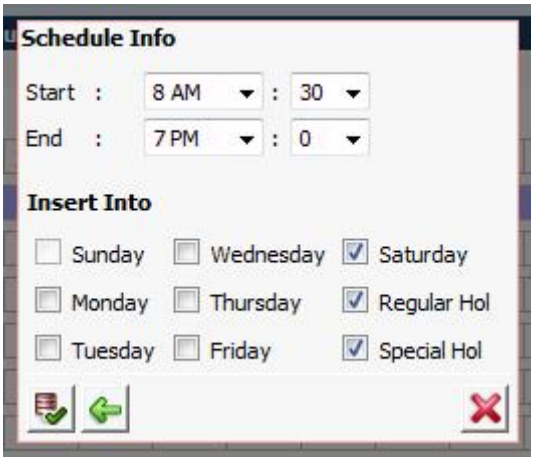


3. Enter a description for the schedule in the **Description** field. This is the name of the schedule that appears when a schedule is called.

4. Click and drag the cursor along the day and time chart to select the time. The screen appears as shown below.



The schedule info window is shown below.The selected day checkbox will be disabled in the schedule info window.
The schedule info will display the time scheduled by you in the date and time chart.

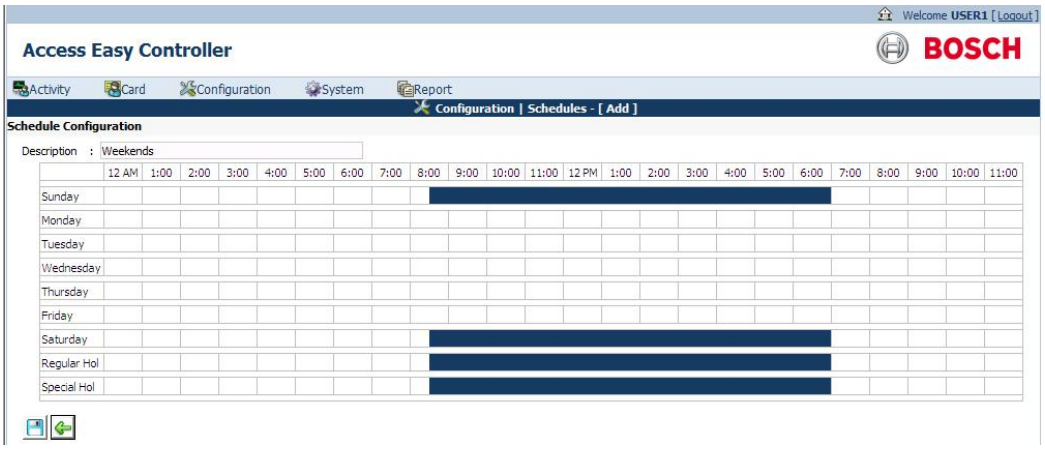


5. You can also edit the time by using the start and end time dropdown list.

6. To copy the same time setting to other days use the insert info selection checkbox.

7. Click the save button to save the settings. Click the back button to return to the schedule page without applying the changes or click the delete button to delete the settings and return to the schedule page.

8. After saving the settings the time of operation is copied to the selected days and a sample schedule window is shown below for reference.



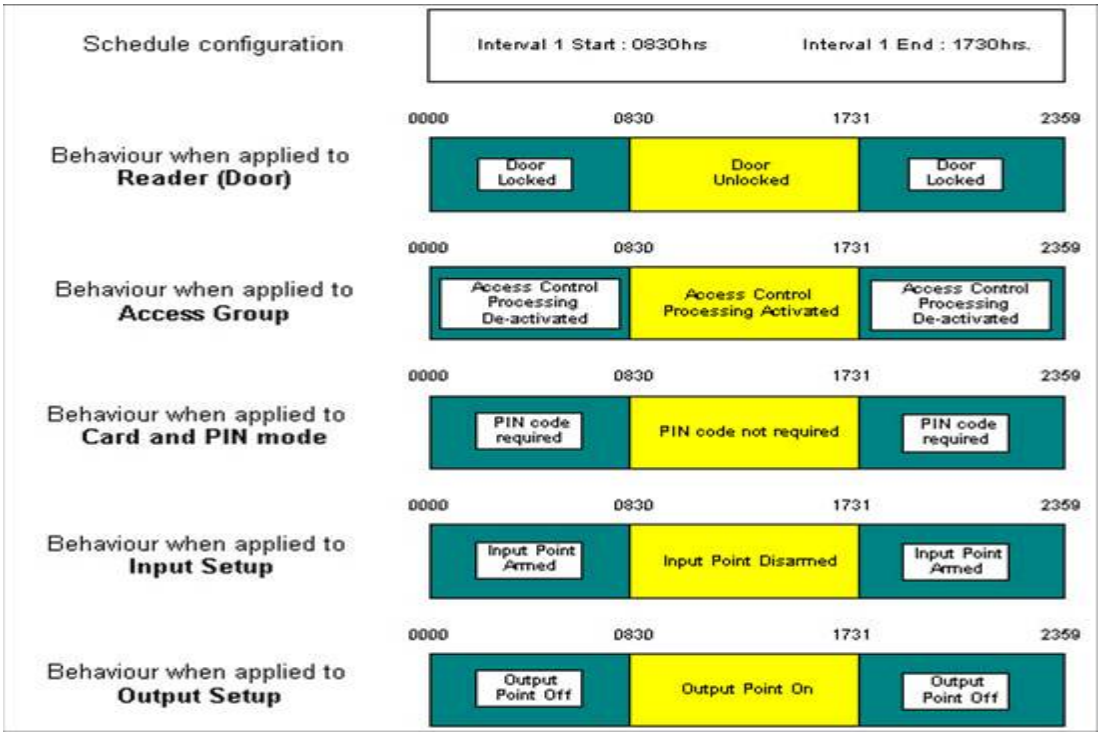
9. Click the save button to save the schedule. Click the back button to cancel the changes and return to the schedule main page.

In the **Schedule** main page you can edit or delete a schedule. Click the edit button to edit the settings of the existing schedule. The edit schedule page is same as the add schedule page.

Click the delete button to delete an existing schedule.

16.1.1 System Behavior when Using Schedule

The diagram below provides a graphical representation of the system's behavior when a Schedule is used on the various functions.



Notice that all the functions toggle its state only at **1731** hrs instead of **1730** hrs. The reason is that AEC2.1 takes 17:30:59hrs as a valid End time for 1730hrs.

16.2 Holidays

This chapter covers step by step procedure to set up Holiday parameters. Holiday parameters are set only if the system operation behavior is different during holidays. Some samples of how the parameters affect the system operation behavior are:-

– The controller unlocks a specific door during certain working hours of the day. However, during a holiday, the door will remain locked the whole day.

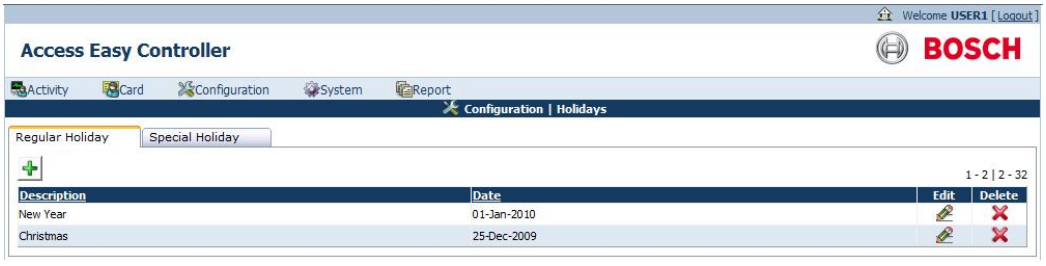
– A cardholder is allowed access to certain areas during working hours. However during a holiday, the cardholder is not allowed access.

Holidays set-up consist of 64 Holidays selection, of which 32 are assigned for Regular Holiday dates and the other 32 are assigned to Special Holiday dates. There is no difference between the operational behaviors of both types. For simplicity, you may treat the Special Holiday set up for use during the eve of a holiday.

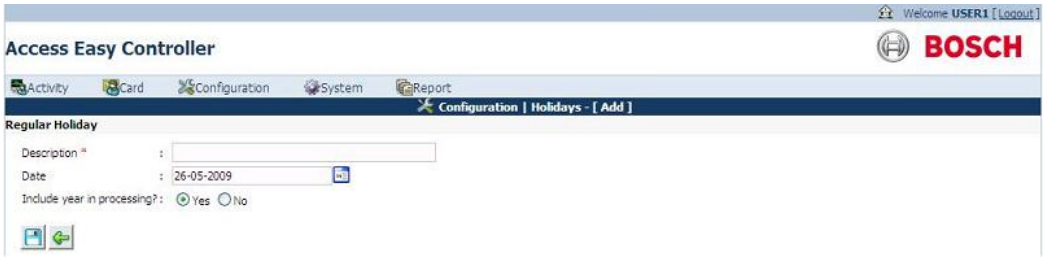
Each Holiday date has the feature '**Include year in processing?**', if it is set to **No**, the system will not consider the Year during a date check. This feature is useful if the holiday date falls on the same date year after year e.g. New Year day and Christmas Day. This date needs to be defined once and the holiday date is set on the same date every year. For those holiday dates that vary from year to year the date has to be updated at the beginning of the year, and '**Include year in processing?**' must be set to **Yes**.

You can use this feature to ease the updating of holiday dates every year by allocating the fixed holiday dates to regular holiday and the variable holiday dates to special holidays. In this way, you just need to update the variable holiday dates i.e. special holidays and skip the fixed holiday dates i.e. regular holidays at the beginning of the year.

1. Click the link **Configuration** > **Holidays** to access the holiday page. The screen below appears.



2. In the Holiday main page select the tab **regular holiday** and click the button to add a new holiday date. The screen below appears.



3. Enter a description for the holiday in the **Description** field.

4. Click the calendar picker to select the holiday date.

5. Click the radio button **No** besides **Include year in processing?** if the holiday date is fixed, else click **Yes**.

6. Click the **save** button to save the entries. Click the back button to cancel the entries and return to the holiday main page.

7. Repeat steps 2 to 7 for configuring special holidays also.

In the **Holiday** main page you can edit or delete a holiday. Click the edit button to edit the settings of the existing holiday. The edit holiday page is same as the add holiday page.

Click the delete button to delete an existing holiday.

17 Users

This chapter explains the steps to define different access controls to users.

17.1 User Administration

Each user is assigned access rights to access and carry out programming of certain or all functions of the AEC2.1.

The **User Administration** menu item allows the system administrator to define different access control to users, by selecting whether a particular user can have View and/or Edit/ Control rights to programming certain functions.

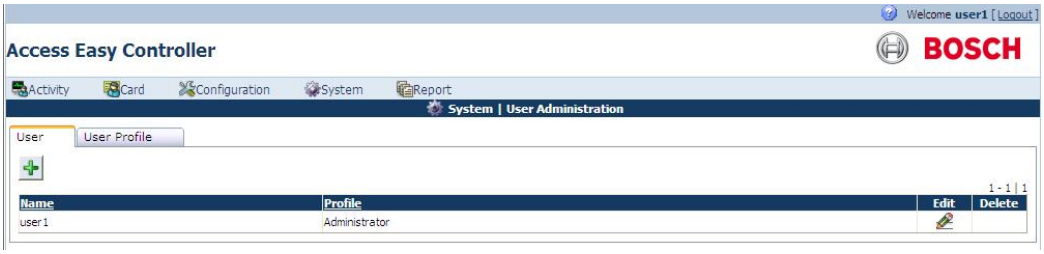
The system can assign 24 users. By default, **user1** is defined as the Superuser having access to all the AEC2.1 features. The user ID and password of the Superuser can be changed but the function rights of the Superuser cannot be modified or disabled.

The default Superuser can define the access rights (View and/or Edit/Control) of the remaining 24 users, up to the level equivalent to the Superuser.

The AEC2.1 software will not display the access button of the functions for the users who do not have the Supervisory Access Level rights login, implying that changes or settings made cannot be saved.

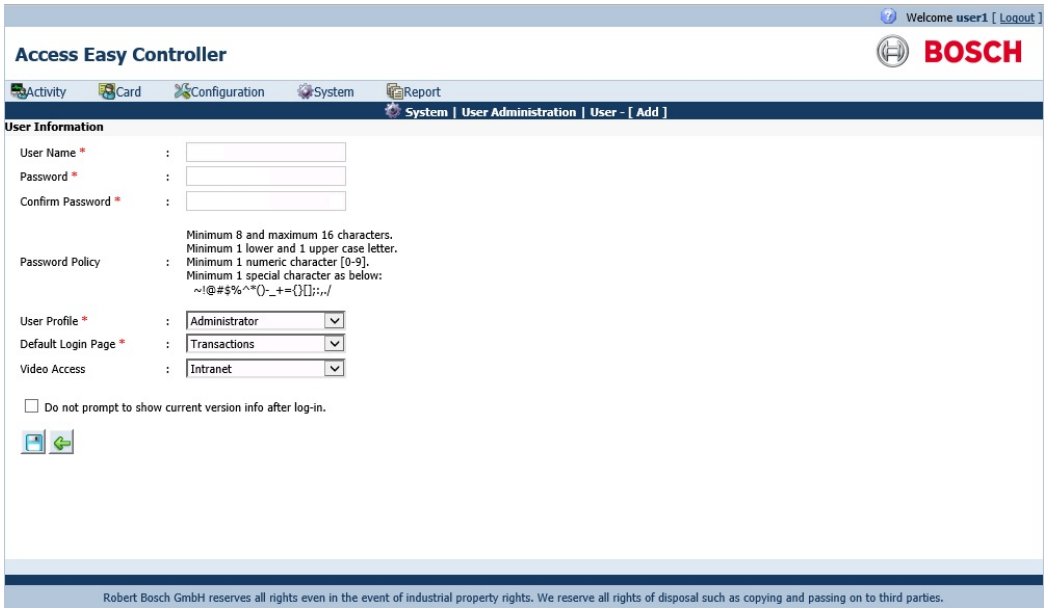
17.1.1 To Enter New User Information

1. Click the link **System** > **User Administration** to access the user details page. the screen below shows the **User Administration** home page. The **User Administration** main page consists of two tabs, namely the **User** and **User Profile**.



2. Select the **User** tab to add or modify user information.

3. Click the button to add a new user to the AEC2.1 system. The screen below shows the **Add** user page.



4. Enter a user ID in the **Username** field.

5. Enter the password in the **Password** field.

6. Re-enter the password in the **Confirm Password** field. The passwords entered in the **Password** and **Confirm Password** fields must match and meet the password policy requirements. Otherwise, an error message will appear.

Caution!
The user ID and password are case-sensitive. For security reasons, every character entered in the password fields is represented by a dot.

The passwords must meet the following requirements:
minimum length is 8 characters
maximum length is 16 characters
must consist of at least
- 1 lowercase letter,
- 1 uppercase letter,
- 1 number, and
- 1 special character from ~`!@#$%^*()-_+={}[];:,./

7. Select **User Profile** drop-down list. The **User Profile** lists the user profiles created in the **User Profile** page. This lists the predefined access rights for the user. A user can be assigned to a profile by selecting the profile from the drop-down list. This reduces the time to create individual user access rights.

8. Select the option for **Default Login Page** from the drop-down list. This action will take the user to the particular page as selected by the user.

9. Select **Video Access** options according to the location of the camera. If the camera is at a remote location, select **Internet** as the option. Otherwise, select **Intranet**.

10. Check or uncheck the **Do not prompt to show current version info after log-in.** checkbox accordingly. If you want the system to check the current AEC version and available updates each time you log into the system, do not select this option. Selecting it will disable the check for updates.

11. Click the **save** button to save the changes. Click the **back** button to cancel the settings and to return to the user main page.

17.1.2 To Maintain Existing Users

In the **User** tab, you can edit or delete a user configuration. Click the **edit** button to edit the settings of the existing user. The **Edit** user page is same as the **Add** user page.

Click the **delete** button to delete an existing user configuration.

17.1.3 To Select User Profile

Refer to the corresponding chapters to understand the various menu items before assigning the access rights to the user.

The **User Profile** page consists of the option View and Edit/Control.

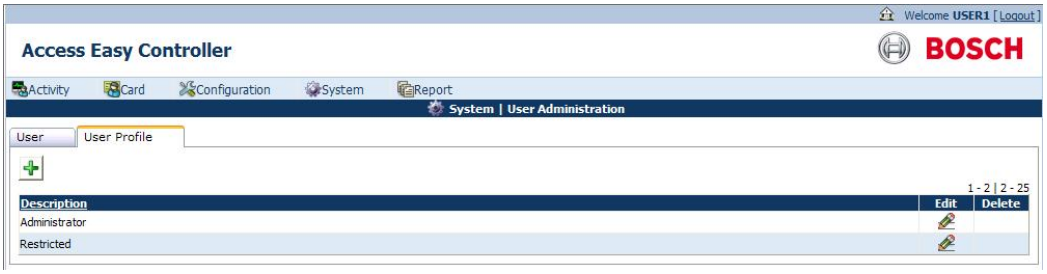
View

If checked, implies the user has rights to view the contents of that menu item.

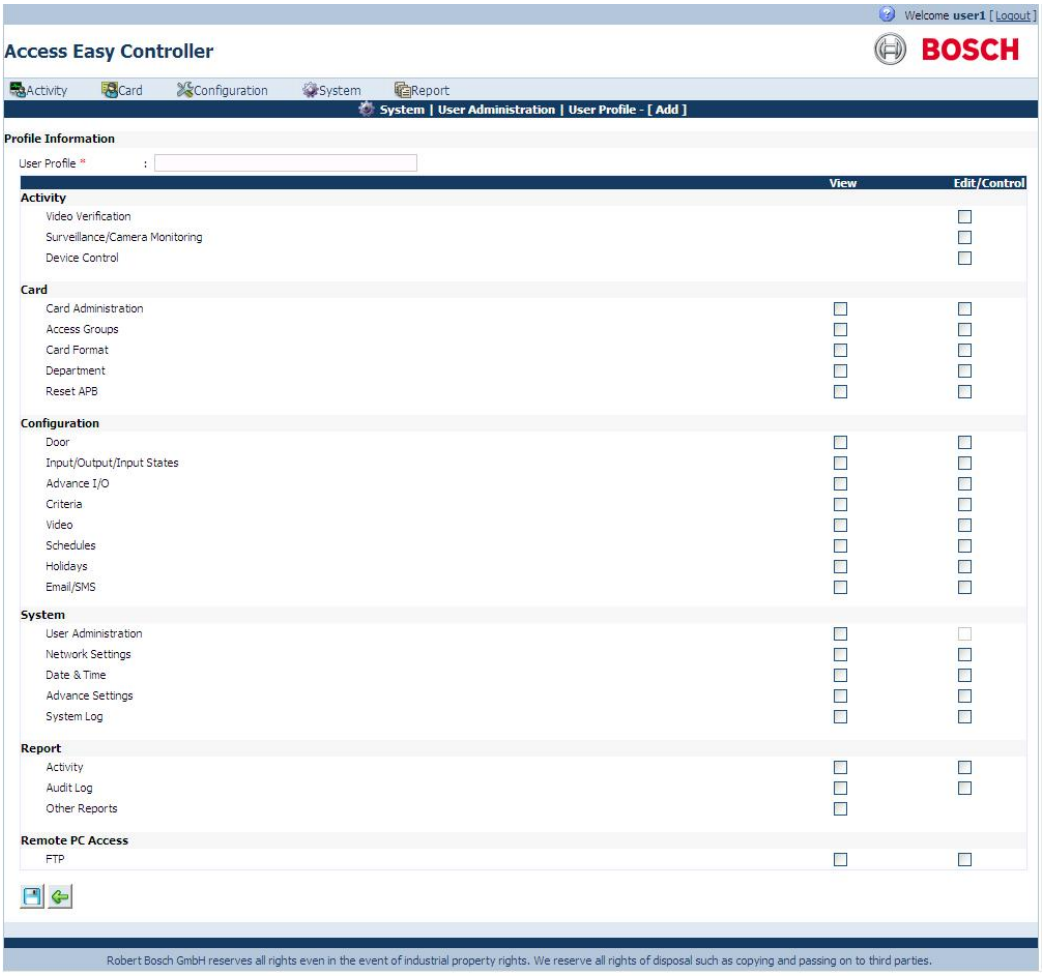
Edit/Control

If checked, implies the user has the right to access and edit the setting within the menu item

1. Click the link **System** > **User Administration** to access the user page. In the user administration page select the tab **user profile** to edit the access rights of the user. The screen below shows the **User Profile** page.



2. In the user profile main page click the button to add a new profile. The screen below shows the add user profile page.



3. Enter a description for the user profile in the **Description** field. This description is presented in the user profile dropdown list in the user information page.

4. Select the desired checkbox for the user to have access to view and/or Edit/Control the menu items. To de-select access rights, click the check box again.

   For example in the Reports heading, you can grant access to the user to save the report in a csv format. This option is available for the activity and audit log reports. For other reports you can only view the report preview.

5. Click the save button to save the settings. Click the back button to cancel the settings and return to the user profile main page.

In the **User Profile** main page you can edit or delete a user profile. Click the edit button to edit the settings of the existing user profile. The edit user profile page is same as the add user profile page.

Click the delete button to delete an existing user profile.

18 Network Settings

The network settings menu allows you to configure the panel's IP, netmask and gateway addresses. Each AEC2.1 comes with two LAN ports labeled LAN1 and LAN2. These LAN ports are physically individual ports that have their own IP address. LAN1 is connected to the network where the AEC2.1 is accessed by other workstations and is usually the office network and LAN2 is used for catering further expansion. In addition, you can define three remote PC addresses for FTP purposes and the address of the email server. User using DB Backup will also need to include the PC (IP address) running the DB Backup software as one of the remote PC.

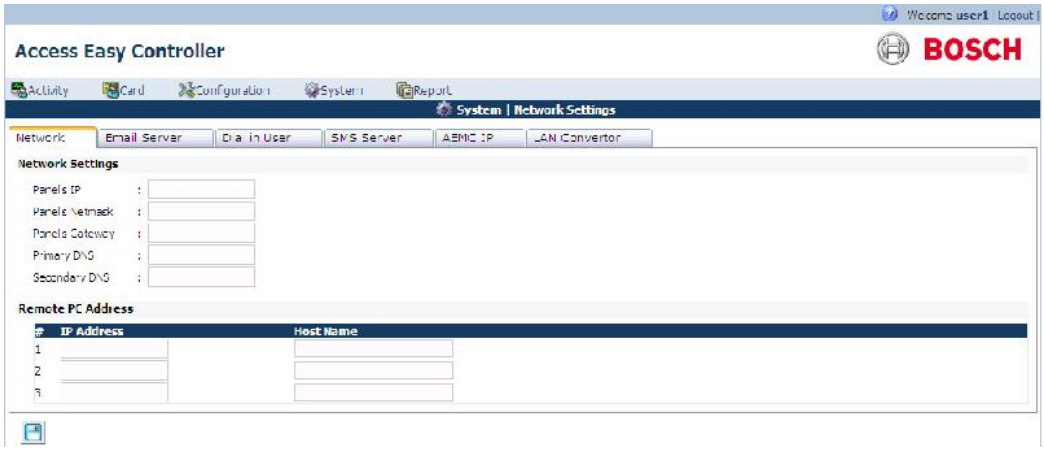
Notice!
The FTP feature is no longer supported from version 2.1.9.4 v4 and above.

18.1 Network

Following sections describe the configuration and settings for Network:

18.1.1 Network Setting

1. Click the link **System** > **Network Setting** and in the network settings main page click the tab **Network** to access the Network Setting page. The network page is the default page of network settings menu. The screen below appears.



2. Enter the Panel IP Address in the **Panel's IP** field.
3. Repeat the above step for the **Panel's Netmask** and **Gateway**.
4. Enter the primary and secondary DNS if you are using a DNS server.
5. Click the save button to save the settings.

Notice!
In order for the new IP Address to take effect, the Controller has to be rebooted.

Notice!
Always backup the Database before rebooting.

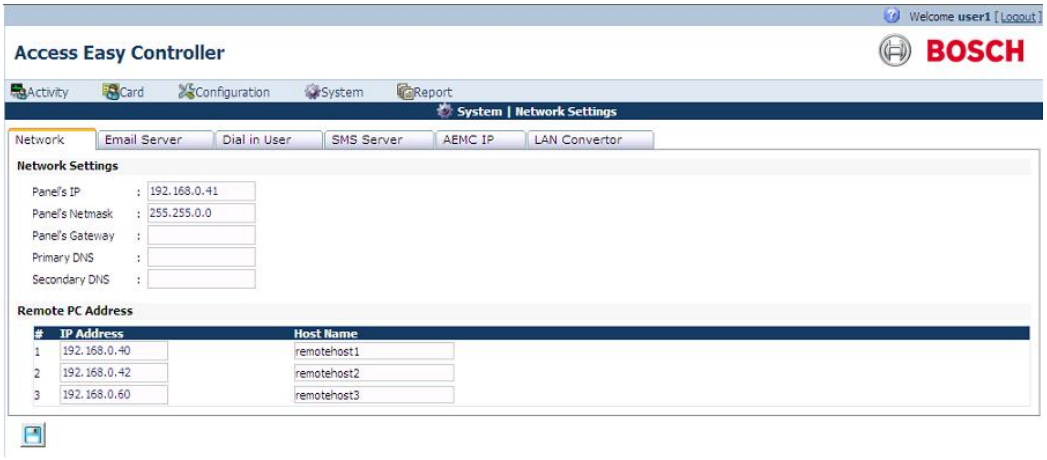
18.1.2 Remote PC Addresses

The remote PC addresses window in the network settings page allows you to enter the IP address of three dedicated personal computer's IP address to download parameters using the utility programs, DB backup, Report Generator and DB administrator. For usage of the utility programs, refer to the AEC2.1 Utility Programs Manual.

Notice!
The AEC2.1 Utility programs are no longer supported from version 2.1.9.4 v4 and above.

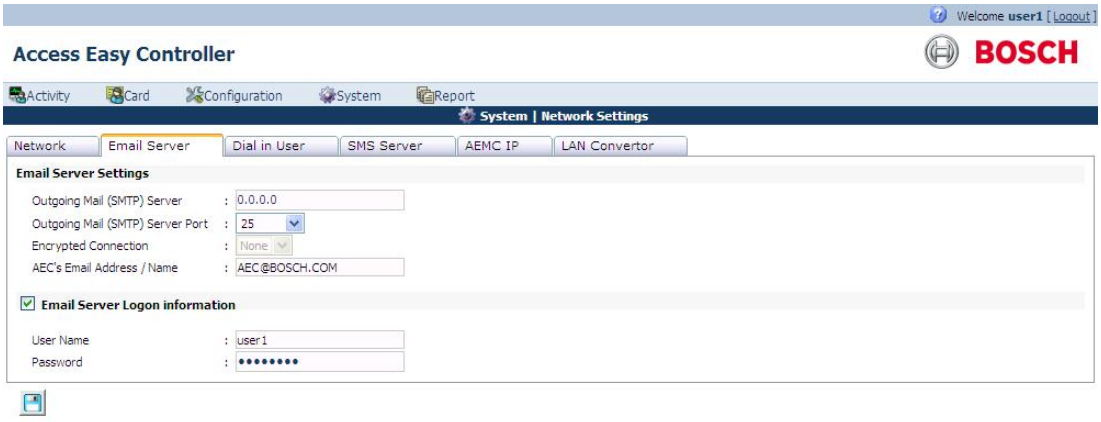
To edit Remote PC Addresses

1. Enter the IP addresses of the remote PC in the **IP Address** field.
2. Enter the PC name as a complete word, with no spacing in the **Host Name** field.
3. Click the save button to save the settings. The screen below shows an example of the network settings page.



18.2 Email Server Setup Information

This section allows you to define the IP address of the Outgoing Mail (SMTP) server, the SMTP port to use and the AEC2.1 Email Address/Name. Click the link **System** > **Network settings** and in the network settings main page click the **Email Server** tab to access the Email server information page. The screen below shows the Email server page.



The Outgoing Mail (SMTP) Server defines the server that provides your email facilities and the AEC2.1 Email Address/Name in the reply address for emails sent by the AEC2.1 that is, the name address that is to appear in the 'sent to' field of the dispatched email. Check the **Email Service Logon Information** icon for authentication. The user can key in the user name and password of upto 16 characters.

18.2.1 To Configure the Email Server Setup Information

1. Enter the Outgoing Mail Server IP address in the **Outgoing Mail (SMTP) Server** field.

2. Select the **Outgoing Mail (SMTP) Server Port** from the drop down list. The default number (25) is the commonly used port number. We suggest you skip this field unless your port is different.

3. If you have chosen a custom port number for the **Outgoing Mail (SMTP) Server**, you can select the **Encrypted Connection** from the drop down list. Otherwise, the default **Encrypted Connection** is based on the selected **Outgoing Mail (SMTP) Server Port**.

4. Enter the AEC2.1 Address/Name as a complete word, with no spacing in between. You can use the underscore (_) to denote spacing. The Address/Name specified in this field will be used together with the Domain name to form the email address of the AEC2.1. Referring to the diagram and with the Domain name "bosch.com.sg", the email address of AEC2.1 will be AEC@BOSCH.COM

5. Click the save button to save the settings.

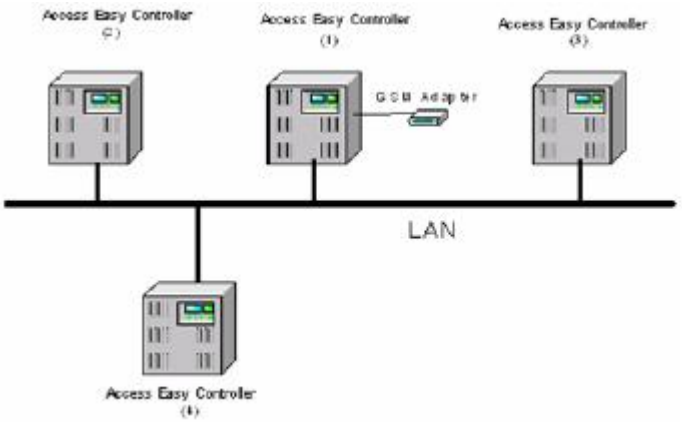
18.3 Dial In IP Setup Information

This feature is no longer supported.

18.4 SMS Server Settings Information

The SMS server menu allows you to define the IP address of the AEC2.1 that has a GSM adapter attached to its serial com acting as the SMS server. To briefly understand how the SMS feature works, we need to understand how the system must be configured.

The following diagram shows more than one AEC2.1 in the network. These controllers work stand-alone but share a common GSM adapter, which is attached to a dedicated AEC2.1 serial com port.



The AEC2.1 has a GSM adapter connected to its serial com port and acts as a SMS Server to help relay the other AEC2.1 messages to the Service Provider.

Whenever, there are any SMS messages that need to be sent, the respective AEC2.1 will send the SMS messages over to the AEC2.1 SMS Server and the SMS Server will send via the GSM adapter to the Service Provider. These controllers are defined as the SMS Client. Hence, there is a need to control the IP Address that is allowed to send SMS; this is to prevent unauthorized personnel sending SMS via your AEC2.1.

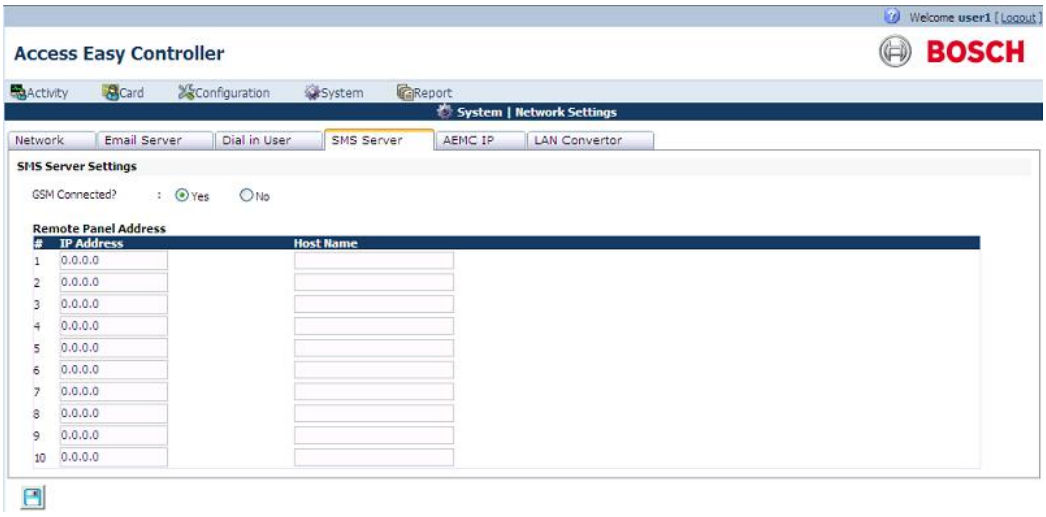
Notice!
AEC2.1 supports Sierra Wireless GL8200 and WAVECOM GSM modems. Please ensure that GSM adapter baud rate is configured at 115200bps, 8bit data, 1 stop bit and no parity settings.

18.4.1 To Configure Access Easy Controller 2.1 as an SMS Server

Click the link **System** > **Network Settings** and in the network setting page select the tab **SMS Server** to configure the SMS server setting of the AEC2.1. The screen below shows the SMS server settings page. By default, the SMS Server IP address is blank as shown below.

If this controller is attached to a GSM adapter, you will need to configure the IP address of other AEC2.1 that will send SMS message through it.

1. Since this is an SMS Server, select the radio button **Yes** besides **GSM Connected?**. The SMS Server Setting page is shown below:

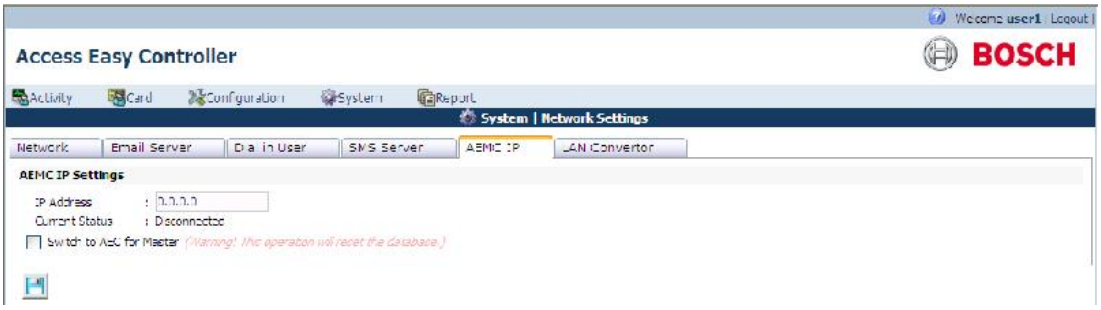


2. There are up to 10 Remote Controller addresses that you can configure. These addresses are the IP Address of those AEC2.1's that send SMS messages via the SMS Server. Be sure to include the IP address of the AEC 2.1 that is acting as the SMS server or else it will not be able to send SMS while the rest is able to.

3. Click the save button to save the settings.

18.5 AEMC Settings

Access Easy series come with an Access Easy Master Controller. The master controller enables you to connect to up to 20 AEC2.1 through a hub. This will greatly increase the capacity of the whole system. To differentiate between a stand-alone controller and one that is connected to a master controller, they will be referred as AEC2.1 and Access Easy Master 2 respectively.



18.6 LAN Converter

The LAN Converter tab will ask for the IP address of the LAN Converter. Connecting through the LAN converter, the system can be upgraded to 16 interface boards. The default IP address is 192.168.2.42. If the user is connecting it to the CPU LAN 2 then enter 192.168.2.X, where X can be any number except 41 since 192.168.2.41 is the reserved IP address for LAN 2.

The LAN converter support requires AEC2.1 firmware upgrade version 2.1.6.0 or later. Please check our online AEC software upgrade from our AEC2.1 product website.

Welcome user1 Logout
Access Easy Controller
BOSCH
Activity
Card
Configuration
System
Report
System | Network Settings
Network
Email Server
Dial In User
SMS Server
AEMC IP
LAN Convertor
LAN Convertor Settings
IP Address
192.168.2.42

19 System Settings

This chapter explains the steps to synchronize the system time to the PC time or server time, and to export the AEC system information to a log file.

19.1 Date and Time

Following sections describe the settings and activation of Date and Time:

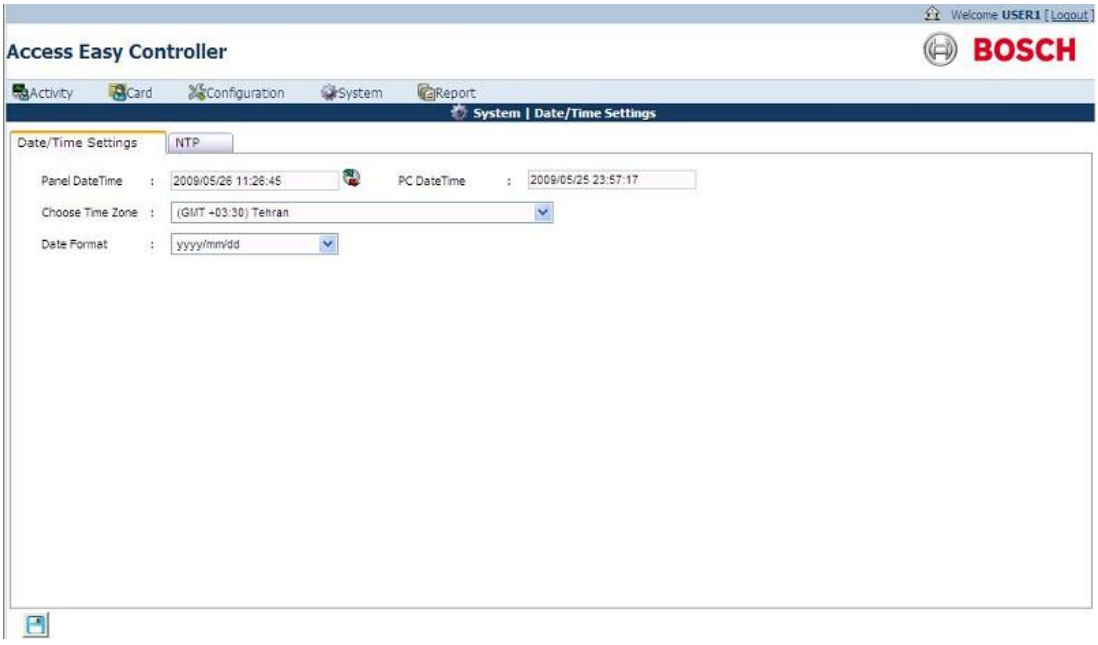
19.1.1 Set Date & Time

The AEC2.1 software allows you to set the Date and Time of the real-time clock within the controller. For countries that practice Daylight Saving Time, the feature is included. Time setting is in the 24-hour format.

An additional function is implemented to allow you to maintain date and time synchronization with a timeserver. With synchronization on all of AEC2.1, you can ensure that the events that happen in sequence on different controller can be analyzed correctly. AEC2.1 only support NTP Time server, it will performs synchronization with the NTP Time server every night at 3am.

19.1.2 To Activate Date & Time Setting

Click the link **System** > **Date and Time** and in the date and time main page select the tab **Date/Time** to access the date and time setting of the AEC2.1 The screen below appears.



19.1.3 To Set the Date & Time

1. The Date/Time main page shows the Panel Date/Time and the PC Date/Time. Click the synchronize button to synchronize the Panel time with the PC time.

2. Select the appropriate Time Zone corresponding to the country from **Choose Time Zone** dropdown.

3. Select the date format from the **date format** dropdown. Click the save button to save the settings.

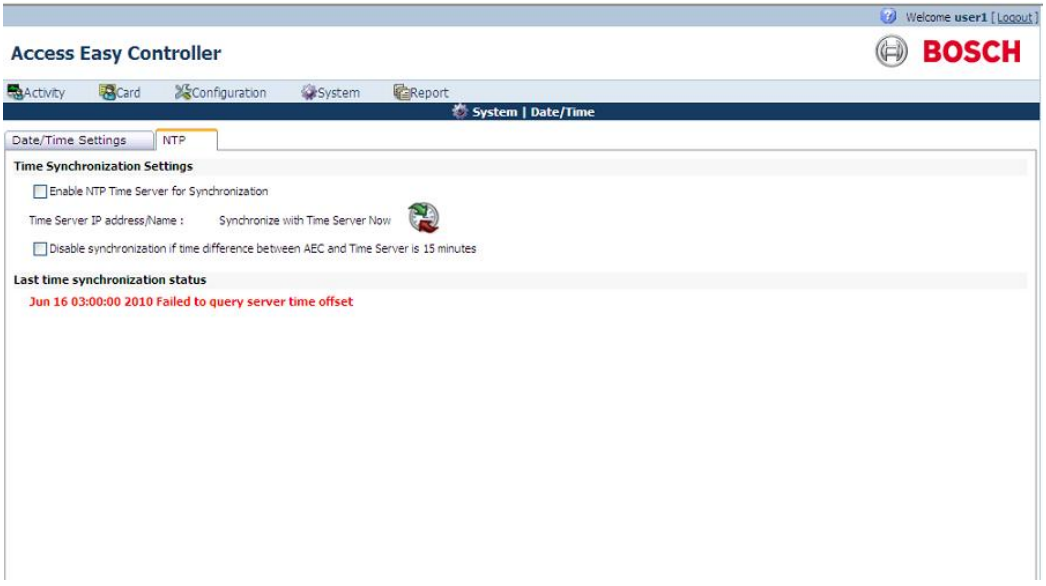
Notice!
If your country is not listed, please select an alternative country that uses the same Time Zone.

19.2 NTP Settings (Network Time Protocol Settings)

Following sections describe the synchronisation of Date and Time:

19.2.1 To Set the Time Synchronization

1. Click the link **System** > **Date and Time** and in the date and time settings page select the tab **NTP** to access the time synchronization settings page. The screen below shows the NTP settings page.



2. Select the checkbox besides **Enable NTP Time server for synchronization** and key in the IP address of the Timeserver PC in the **Time Server IP address/name**. Click the synchronize button to synchronize the AEC2.1 system time with the server time.

Notice!
Refer to the section on Setting up a Timeserver PC. Time Server Address/DNS input is the IP address of the PC being configured as a time server PC. AEC2.1 is only able to synchronize with a NTP time server and will sync at 3 am daily automatically. Auto Time synchronization at 3 am is only logged at transaction, however if you manually synchronize with the timer server, audit log will be logged.

3. Select the checkbox besides **Disable synchronization if time difference between AEC and Time Server is >15 minutes** if you do not want the AEC 2.1 to synchronize its time with the server even if the difference is more than 15 minutes. This is useful as it prevents the AEC2.1 from synchronizing the wrong time with the Time server that is not accurate or is not in time with the timezone.

Synchronizing date & time with a internet Time Server
Access Easy Controller 2.1 is not able to synchronize with an internet Time Server if it is behind a firewall or proxy server. If it is outside the firewall or in a DMZ, you can enter the IP address of the Time Server in the Time Server Address/DNS input. Do not enter the domain name of the Time Server (e.g. Time.windows.gov) in this input. AEC2.1 will not be able to resolve the name to an IP address.

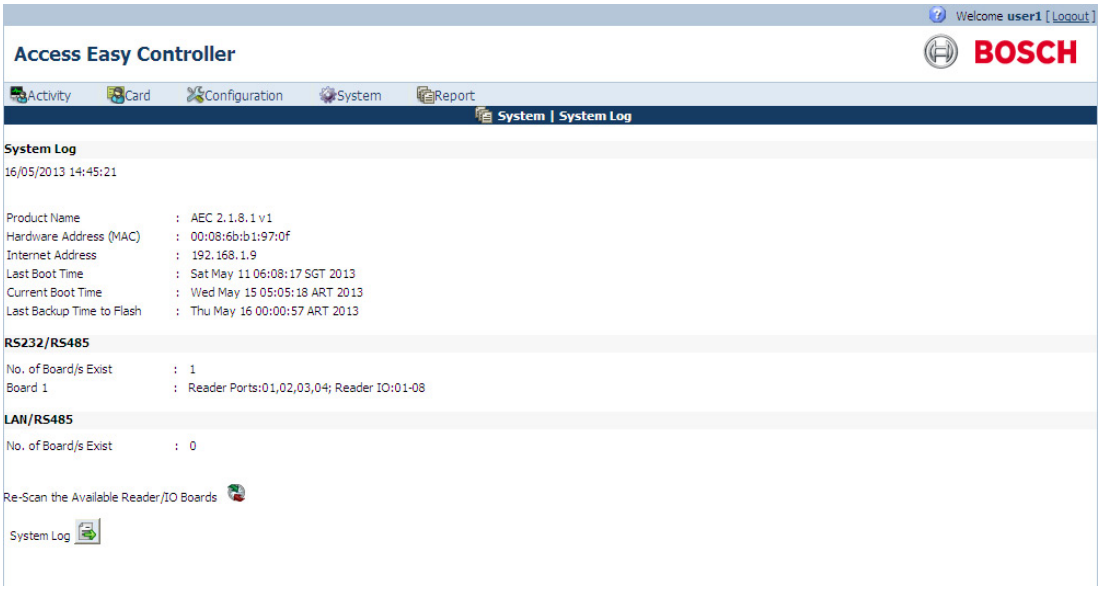
Synchronizing date & time with an intranet Time Server

It is recommended that AEC2.1 should synchronize its date & time to an intranet (internal) Time Server. Most of the office has an internal Time Server, this Time Server will synchronize its date & time with an internet (external) Time Server, while all other PCs in the office synchronize with this intranet Time Server.

If the office does not have an intranet Time Server, you can setup any existing PC on the network as a Time Server, hence, the AEC2.1 can synchronize its date and time with this PC. There are numerous freeware available that you could install in this PC to synchronize its date and time with an external Time Server.

19.3 System Log

This function allows you to view the system information at a glance and export all necessary information into a log file. Click the menu **System** > **System Log** to access the System Log page. Overview of the system including product name and version, hardware address, Internet address and others are displayed on the System Log page.



Click the **System Log** button to export all the system information in detail to a log file, which you can open or save to your desktop.

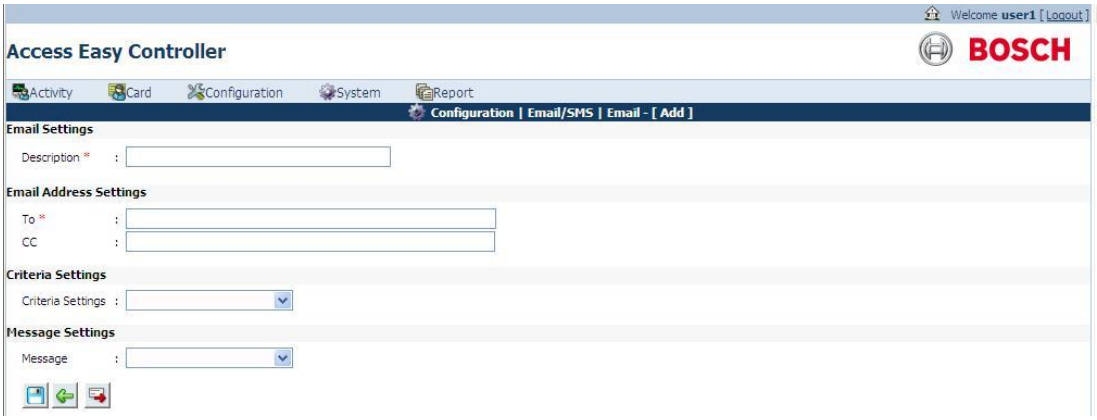
20 Email/SMS Configuration

This function allows you to configure the AEC2.1 to send out messages or Lateness Report using Simple Mail Transfer Protocol (SMTP) to email addresses. A total of eight groups and eight messages field are available for configuration. Each group has two "Send To" and two "Carbon Copy (Cc)" email addresses.

In order for the feature to work, you have to configure the Devices, Cardholders, and Events in an AND operation. To exclude/disable an item(s) from the operation, the option Selected Only or Omit Only must be used with nothing selected. While for the Lateness Report, the feature is disable if no selection is made on any of the day of week (DOW).

20.1 Email Configuration

Click the link **Configuration** > **E-mail/SMS** setting in the E-mail/SMS main page select the tab E-mail. In the Email page click the edit button besides any Undefined Email. The screen below shows the Email configuration page.



This web page allows you to configure the email addresses of the recipients. The AEC2.1 will ignore any configurations made for the group if there is no email address in the **To** field even if there is an email address in the **Cc** field. Each **To** and **Cc** must contain one email address, multiple email addresses are not allowed address, hence, will not send out the mail to the recipients.

20.1.1 To Edit the Email Configuration

1. Enter a Description for the mail in the **Description** field. This description is the subject of the mail.

2. In the **Email Address Setting** window enter the email address in the appropriate field.

3. In the **Criteria settings** window select a criteria from the Criteria Selection dropdown.

4. Select a message from the **Message** dropdown. The messages are configured in the message tab of the **Email/SMS settings** page.

5. Click the save button to save the email as a draft copy. Click the back button to cancel the settings and return to the main Email/SMS settings page. Click the send button to send the Email to the recipients in the email address window.

20.1.2 To Send the Email

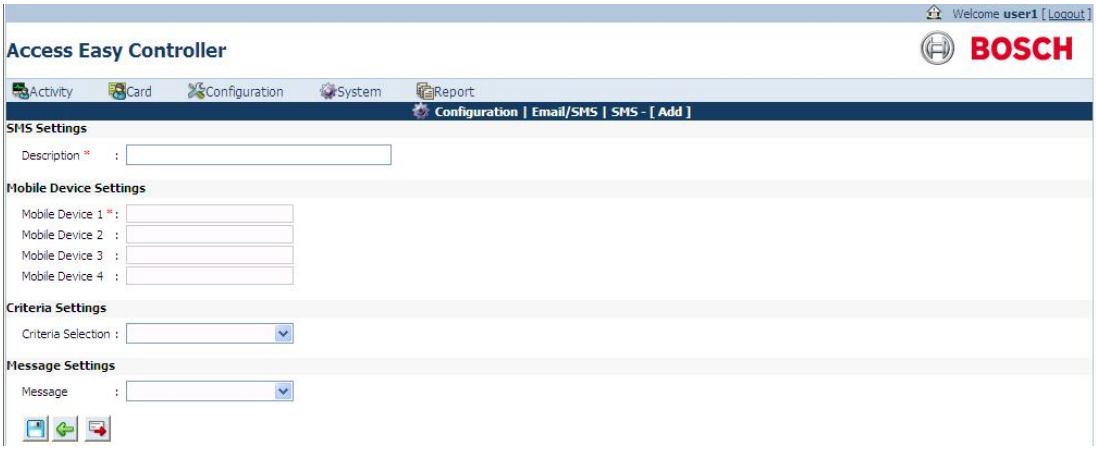
1. Click the send button to send the email.
2. A successful test message will appear.
3. Click the **OK** button to acknowledge the message.
4. If you are unable to send out the email, please check your Email Server Settings again.

In the **Email** main page you can edit or delete a Email setting. Click the edit button to edit the settings of the existing Email. The edit Email settings page is same as the add Email settings page.

Click the delete button to delete an existing Email setting.

20.2 SMS Configuration

Click the link **Configuration** > **Email/SMS setting** in the email/SMS main page select the tab **SMS**. In the SMS main page click the edit button besides any Undefined SMS. The screen below shows the SMS configuration page.



1. Enter a description in the **Description** field.
2. In the **Mobile Device Setting** window enter the mobile numbers to which the SMS has to be sent. The system can configure up to four mobile devices.
3. In the **Criteria settings** window select a criteria from the **Criteria Selection** dropdown.
4. Select a message from the **Message** dropdown. The messages are configured in the message tab of the Email/SMS settings page.
5. Click the save button to save the SMS as a draft copy. Click the back button to cancel the settings and return to the main Email/SMS settings page. Click the send button to send the SMS to the mobile devices in the Mobile device settings window.

20.2.1 To Send the Email

1. Click the send button to send the SMS.
2. A successful test message will appear.
3. Click the **OK** button to acknowledge the message.

In the **SMS** main page you can edit or delete a SMS. Click the edit button to edit the settings of the existing SMS. The edit SMS page is same as the add SMS page.

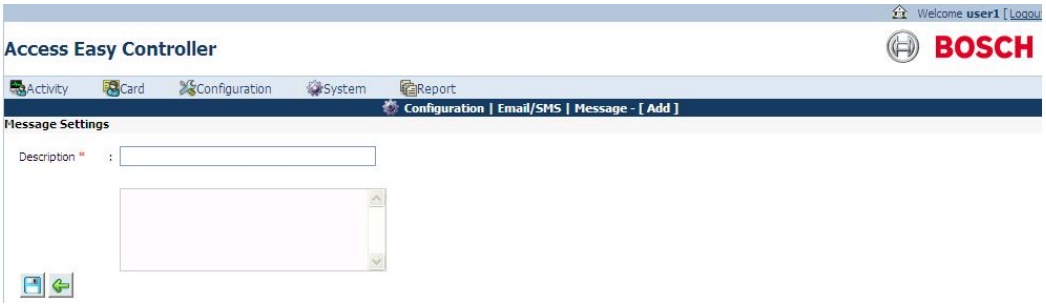
Click the delete button to delete an existing SMS.

20.3 Message Configuration

The Message field constitutes the 'body text' while the Event is to appear in the 'subject' field of the dispatched email.

20.3.1 To Edit the Message Field

1. Click the link **Configuration** > **Email/SMS Settings** and in the Email/SMS settings page select the **Message** tab. In the message main page click the edit button besides any Undefined Message. The screen below shows the message tab.



2. Enter a description in the **Description** field.
3. Enter the new message in the text box provided, limiting to 127 characters including punctuation.
4. Click the save button to save the message. This message is now available in the message dropdown list in the Email settings page. Click the back button to cancel the settings and return to the main page.

In the **Message** main page you can edit or delete a message. Click the edit button to edit the settings of the existing message. The edit message page is same as the add message page.

Click the delete button to delete an existing message.

21 Advance Settings

This chapter will guide you through some of the advance features available in AEC2.1.

21.1 System Maintenance

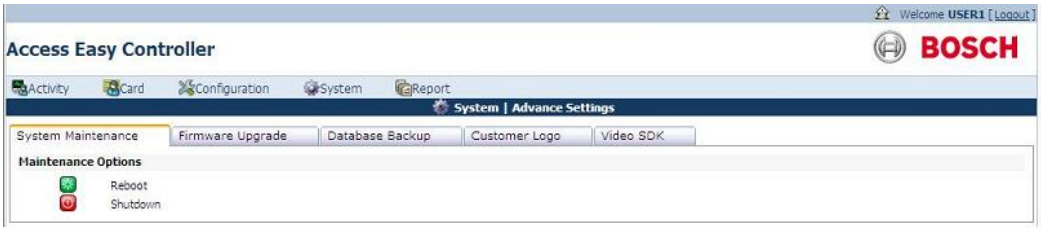
Following sections describe the various maintanence activities for the panel:

21.1.1 To Activate Reboot Panel

Since the AEC2.1's software is residing within its hardware. The Reboot Panel menu item allows you to reboot the controller after upgrading to the system software or in order to allow changes made to take effect, especially changes made to Network Setting, such as Panel's IP Address.

Caution!
During a Reboot Panel function, all settings and parameters are taken from the flash memories. In such a case, it is important that the Database Backup function is carried out before proceeding to reboot the AEC2.1.

1. Click the link **System** > **Advance Settings** and in the advance settings main page select the **System maintenance** tab to reboot the panel.The screen below shows the **Advance Settings** > **System Maintenance** page.



2. In the maintenance options window click the reboot button to reboot the panel.
3. The message box appears for confirmation. Click the **OK** button to proceed.
4. It takes about two minutes for the process to complete (see NOTICE).

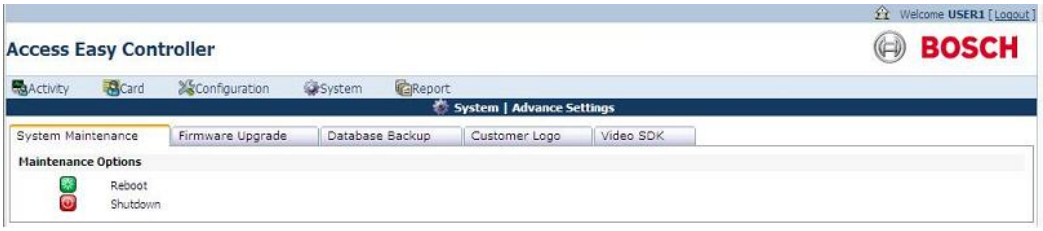
Notice!
During the rebooting process, the AEC2.1 disconnects itself from the computer and the web page on the computer screen might show an error message or be completely blank. You should close and re-launch the web browser program. Login to AEC2.1 again after the process is completed.

Once the AEC2.1 is up and running again, enter the AEC2.1 URL Address and proceed with the Login.

21.1.2 To Shutdown Panel

The Shutdown Panel function allows you to do a proper shutdown of the controller hardware. This is usually done when controller hardware requires a hardware upgrade or maintenance.

1. Click the link **System** > **Advance Settings** and in the advance settings main page select the **System maintenance** tab to shutdown the panel. The screen below shows the **Advance Settings** > **System Maintenance** page



2. In the maintenance options window click the shutdown button to shutdown the panel.

3. A message box appears for confirmation. Click the **OK** button to proceed.

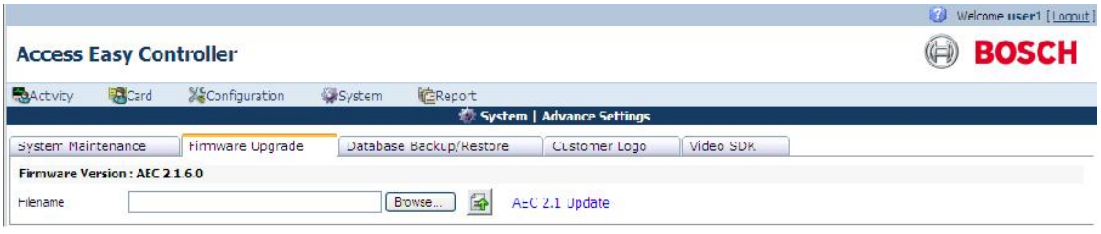
4. You need to manually switch on the power at the controller once the necessary changes are done at the controller.

21.2 Firmware Upgrade

This function allows AEC2.1 parameters update (database recovery) to the flash to be carried out merely by a few clicks of the mouse button. You can upgrade the software at AEC.

Notice!
Notice 1: Check with BOSCH SECURITY SYSTEMS or its authorized dealers for the upgrade.
Notice 2: For Database Recovery, you must have the previous parameters setting in encrypted zipped format (db_tar.gz) in their local hard disk. Refer to the Chapter on Database Backup for more information.
Notice 3: Before attempting to FTP to the AEC2.1, the Remote PC IP needs to be firstly configured in the **Network Settings** window. Otherwise, the panel will not allow connection. The FTP feature is no longer supported from version 2.1.9.4 v4 and above.

Click the link **System** > **Advance Settings** and in the advance settings main page select the **Firmware upgrade** tab to upgrade the firmware. The screen below shows the firmware upgrade page.



Notice!
The uploading of db_tar.gz will replace all settings and configurations IP address. This action is irreversible. Make sure that the current settings and configurations are backed up before commencing.

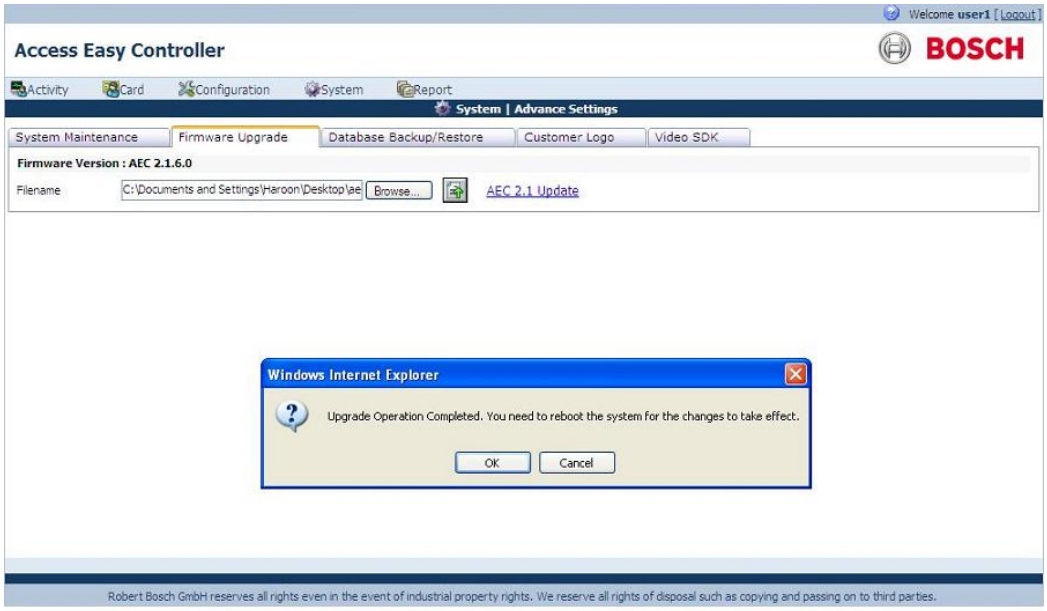
21.2.1 To Upload Settings and Configurations on the Panel

1. Click the **browse** button to select the file you wish to upload.

2. Click the upload button to upload the file.

3. A message box appears for confirmation. Click the **OK** button to proceed. Once the process is completed without error, the confirmation message will appear.

4. Reboot the AEC2.1.



5. Click on the browser link AEC2.1 Update to download the latest patch from the Bosch intranet.

21.2.2 To Update Panel Software

Due to the constant development of the software, the software is designed to allow you to upgrade to the newest version by uploading a file. To differentiate between uploading settings and configurations, and updating the panel software, the names of the files to upload are fixed. For uploading settings and configurations to the panel, you will upload a db_tar file. To update the panel software, a file named aec_sys will be uploaded.

Notice!
Upload db_tar file for uploading settings and configurations
Upload aec_sys file for updating the panel software

21.3 Database Backup

The database menu allows you to choose two options, Backup Database to the Flash Memory or to the Desktop. Backup Database To Flash Memory allows you to overwrite the database in the flash memory with the current parameters in the Dynamic Random Access Memory (DRAM). The flash memory acts as a permanent storage just like the computer's hard disk drive. Every time a Reboot is initiated, the AEC2.1 software will access the flash memory for parameter setting, card database ...etc. You are given the option to allow the AEC2.1 to carry out an automatic backup at specific time of the day or to do it manually.

The backup database contains the entire database of the AEC2.1 inclusive of activities and logs. Backup Database To Desktop provides downloading of information which relates to the setting up of AEC2.1, for example: - Schedules details, Card Readers parameters...etc. It also allows you to download the history of the Activity and Attendance in Comma Separated Variable (CSV) format.

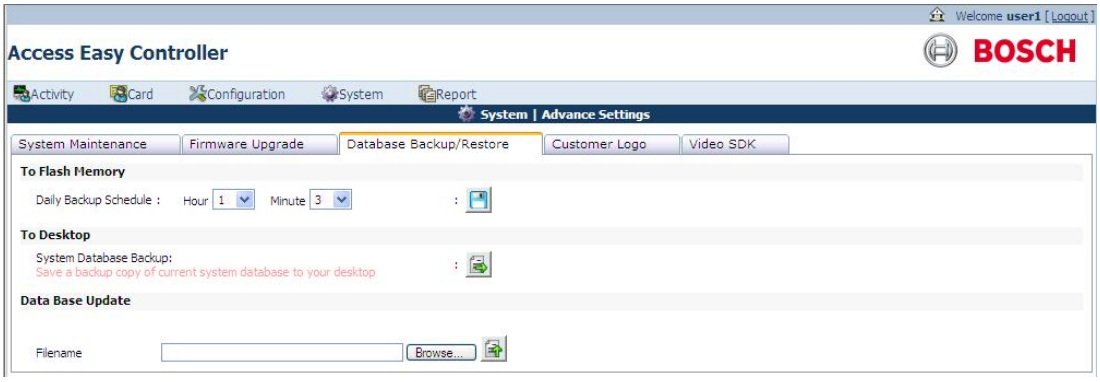
Notice!
The database backup functionality is inclusive of activities, events and logs. Please note that cardholder's photos or pictures are **not included** in the backup.

With the downloading, you can save the parameters (in encrypted zipped file) and the transactions as a backup on your computer hard disk or other external storage media, or floppy diskette.

Warning!
This function requires at least 2-3 minutes to complete the download. During this period, please do not switch off power to the AEC2.1 or close your Web Browser application. You MUST wait till the downloading page appears before you could proceed to other page or close the Web Browser application. If this step is not followed, the backup operation will not be completed.

21.3.1 To Activate Database Backup

Click the link **System** > **Advance Settings** and in the advance settings main page select the **Database Backup** tab to access the Database backup page. The screen below shows the database backup page.



21.3.2 To Define Daily Backup Schedule

1. Select the appropriate hour and minute from the dropdown list besides **Daily backup schedule**.

2. Click the save button to save the backup settings.

If you wish to disable this feature, select the "blank" for both Hour and Minute field as illustrated above.

21.3.3 To Backup System Database to Desktop

This process involves two stages, when activated; the software will collect all parameter settings and zipped them up in an encrypted file called db_tar.gz. This encrypted file is only recognizable by the AEC2.1 thus providing security of its contents.

Warning!
This function required at least 2-3 minutes to complete. During this period, please do not switch off power to either the computer or the AEC2.1.

1. Click the **System Database Backup** button and the system will start backing up the System Database into the encrypted file. Once that is done, the Save As dialog box appears.

   The function of the Save As dialog box is the same as any Windows software application, so it is very easy to select the destination location of the zip file.

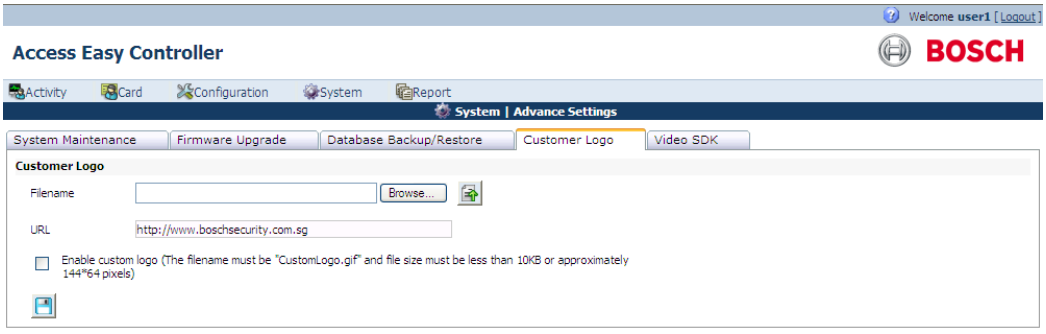
Notice!
Do not change the default file name of the file. The AEC2.1 will not recognize it when you import it back for database recovery purpose.

2. Click the save button to proceed.

Notice!
Some of the Web Browser application needs only to click the icon and it will prompt you immediately to save or to open the file. If that is the case choose the save option.

21.4 Customer Logo

1. Click the link **System** > **Advance Settings** and in the Advance Settings page select the **Customer Logo** tab. The screen below shows the customer logo page.



2. Click the browse button besides the logo field to select the logo file from the system.

   Click the upload button after selecting the logo.

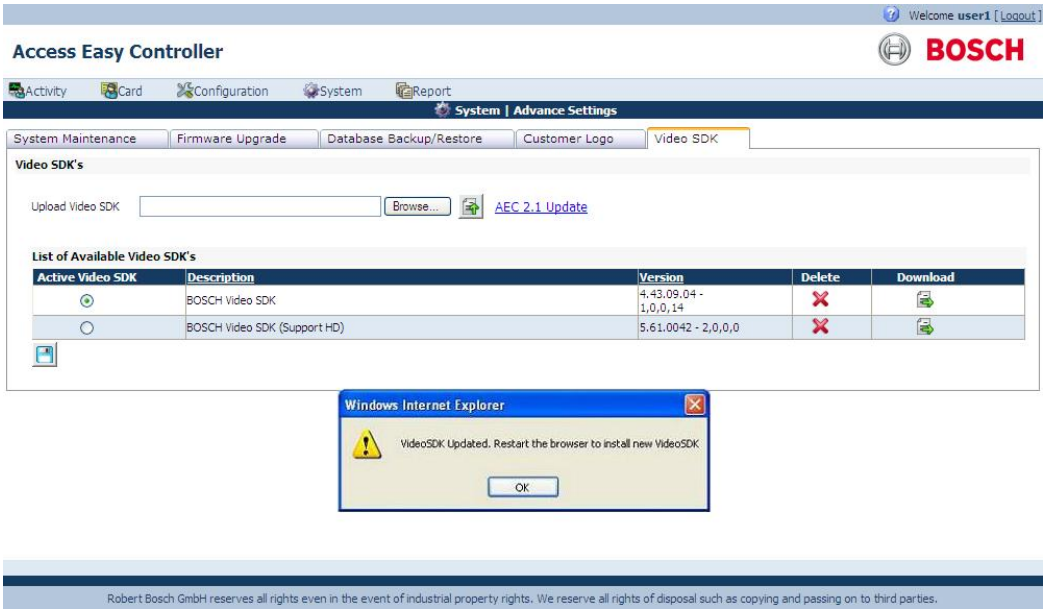
Notice!
The file to upload MUST be named "CustomerLogo.gif" with a file size of less than 10KB.

21.5 Video SDK

This function is necessary to access the video features available in AEC2.1. A Video SDK should be selected if you want to view the videos. If a Video SDK is not selected you will not be able to view the video features and the transactions page will not display the **surveillance**, **camera monitoring** and **video verification** function tabs.

1. Click the link **System** > **Advance Settings** and in the advance settings page select the **Video SDK** tab.

2. Select the latest Video SDK version and click the upload icon. Once it is updated the message to restart the browser appears, as shown in the figure. **Restart the browser to get the latest patch**.



3. The Video SDK page lists all the available Video SDK's. In the **List of Available Video SDK's** window the **BOSCH Video SDK** is selected by default. If any camera is configured then the selected Video SDK is automatically downloaded.

   Note: If the auto installation fails or has some issues due to some reasons, please **uninstall the existing ActiveX** (refer to *Uninstall Procedure for ActiveX and VideoSDK, page 25*) and try again. If problem still persists, you can manually download the package using the download button in the **Download** column, or you can get it from the utility CD. Contact the system administrator for installation, or alternatively, follow the uninstall and installation procedures as mentioned in the "readme.txt" file.

Notice!
At least one Video SDK has to be selected to view the video features and the video related software interface pages in the AEC2.1 system.

4. To select a different active Video SDK, click the radio button corresponding to the Video SDK. Click the save button to save the settings. **Close or restart the browser.**

Notice!
Multiple Bosch Video SDKs might cause failure in auto installation, auto scan of video devices and others. Therefore, it is recommended not to have multiple Bosch Video SDKs on the client machine. Please follow the instructions to **uninstall the Bosch Video SDKs** (refer to *Uninstall Procedure for ActiveX and VideoSDK, page 25*).

5. To delete any uploaded Video SDK version, click the delete button. Click the save button to save the settings.

21.5.1 Upload Video SDK

The Video SDK window allows you to upload a Video SDK from the remote PC to the AEC2.1 panel. The upload option is used to upload a Video SDK upgrade or insert a new SDK.

Follow the steps below to upload a Video SDK file to the AEC2.1 system.

1. Click the **Browse** button to browse for the Video SDK file in the PC.

2. After selecting the file, click the upload button to upload the Video SDK from the PC to the AEC2.1 system.

If a Video SDK upgrade is uploaded, the version of the Video SDK will be automatically updated in the **List of Available Video SDK's** window once the upload is successful. The upgrade is automatically downloaded to the PC the next time you access the video pages in the AEC2.1 software interface.

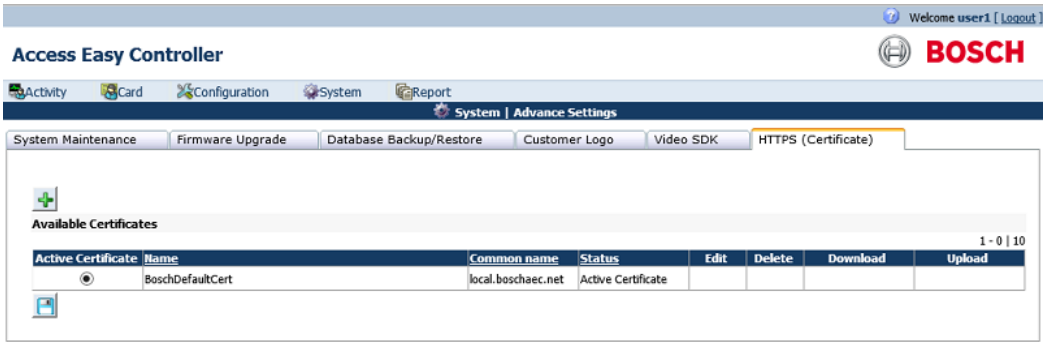
21.6 HTTPS (Certificate)

The following sections describe the functions to manage, create and maintain the SSL/TLS certificates for secure communication over the network using HTTPS.

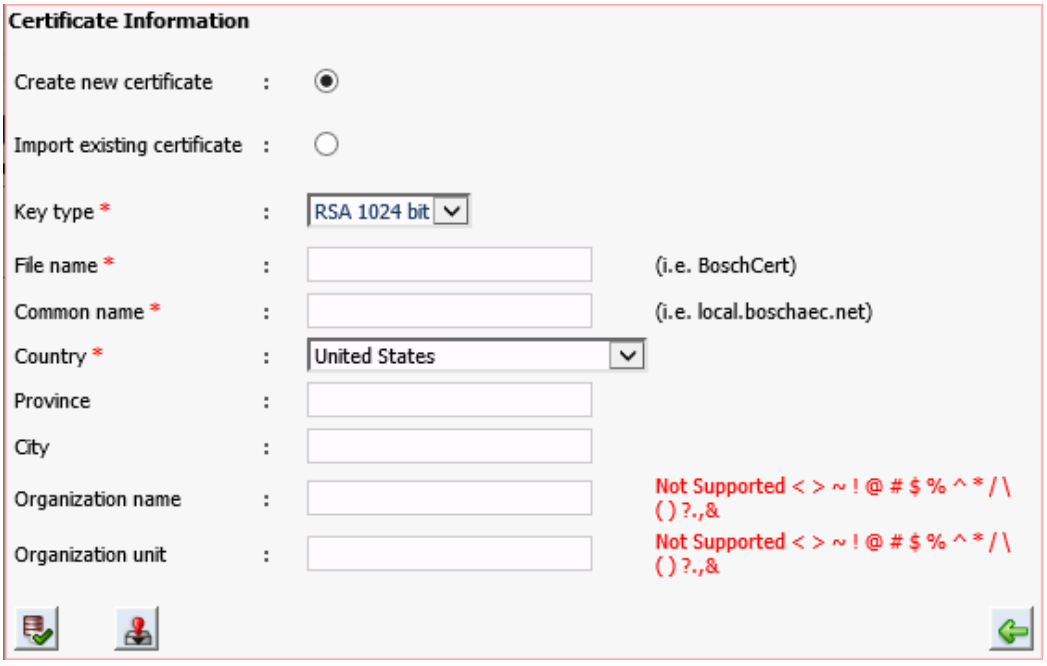
Caution!
The system may be rebooted during the processes below, so that the changes can take effect.

21.6.1 To Generate Certificate Signing Request

1. Go to **System** > **Advance Settings**. To generate a certificate signing request, select the **HTTPS (Certificate)** tab in the **Advance Settings** main page. You can see a default certificate by the name of "BoschDefaultCert" in the **Available Certificates** list.

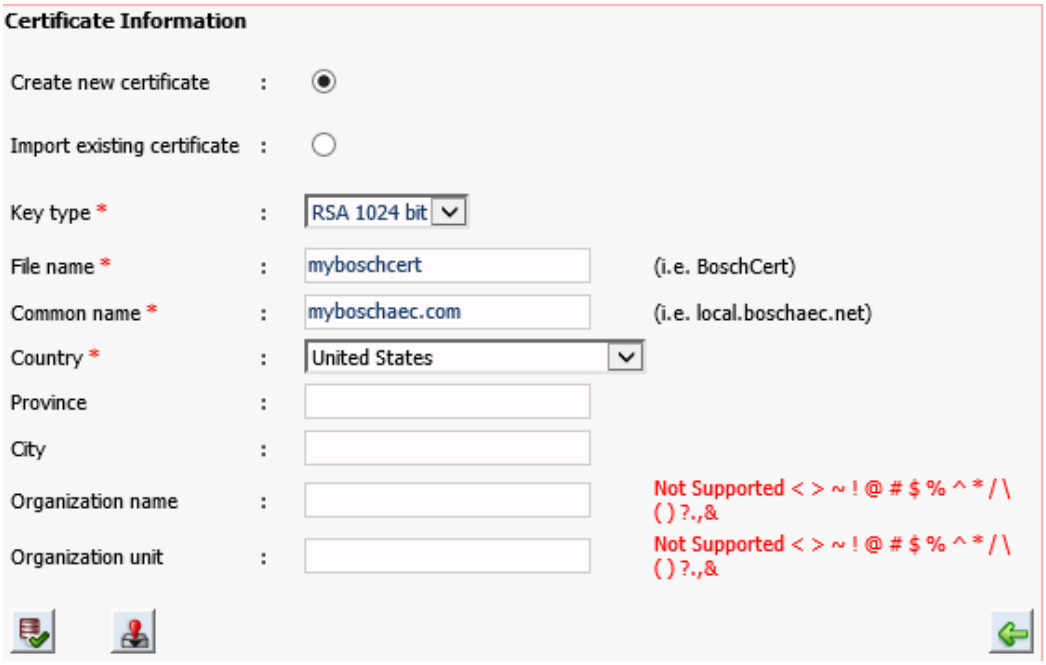


2. Click the add certificate button to generate a new certificate signing request. The following dialog window appears.



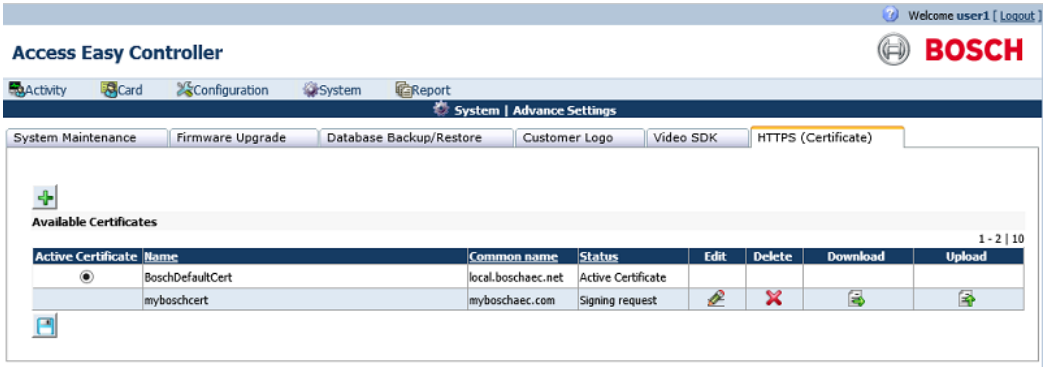
3. Select the **Key type** from the drop-down list. The **Key type** supports: RSA 1024 bit, RSA 2048 bit, and RSA 4096 bit.

4. Fill in the rest of the certificate information accordingly (see example below).



Notice!
The **File name** provided must be unique within each AEC system.
The **Common name** provided must be unique to the network.

5. Click the Generate certificate signing request button to generate the certificate signing request. Be patient as it will take some time for the process to complete. The new certificate signing request will then be visible in the **Available Certificates** list.



6. Click the download button of the corresponding certificate signing request to save the CSR file to the local computer. Send this file to your trusted certificate authority to be signed and validated.

Notice!
Do not delete the certificate signing request. If it is somehow deleted, you will not be able to use the signed certificate (Root CA) you received from your trusted certificate authority.

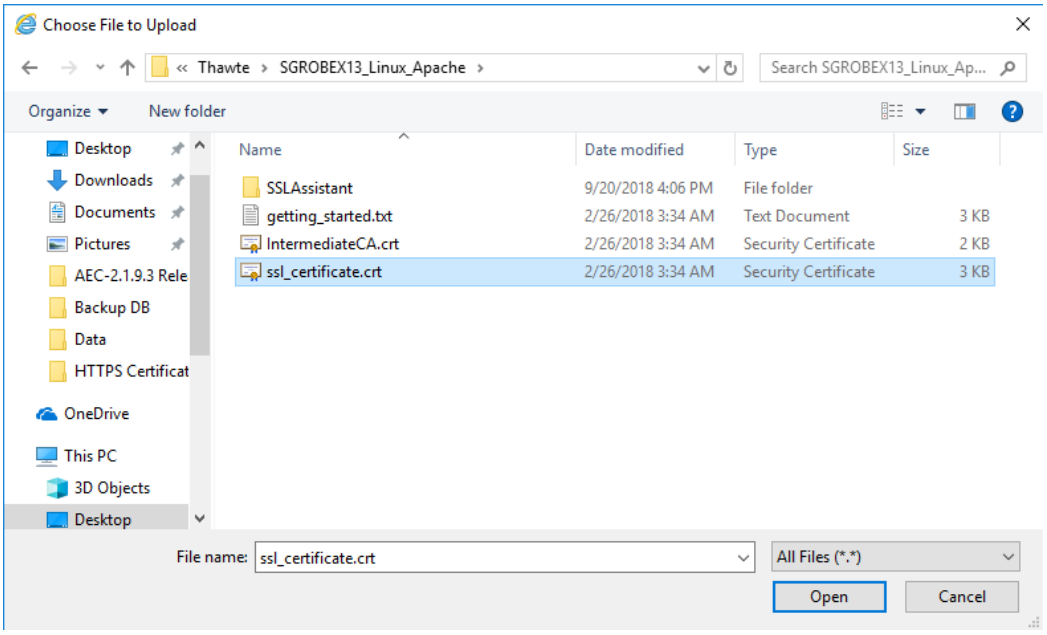
7. Proceed to upload the signed certificate upon receiving the file from your trusted certificate authority in the next section.

21.6.2 To Use a New Signed Certificate

1. Upon receiving your newly signed certificate from your trusted certificate authority, copy it to the local computer.

2. Go to **System** > **Advance Settings > HTTPS (Certificate)** tab.

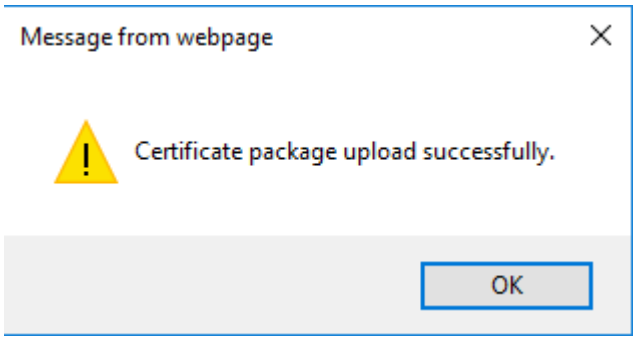
3. Click the Upload button of the corresponding certificate signing request. The **Choose File to Upload** dialog window appears.



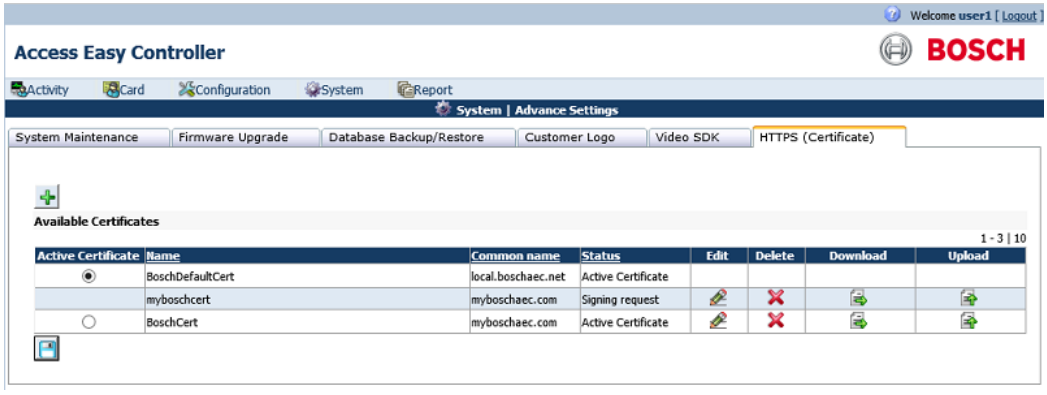
4. Navigate the folders and select the newly signed certificate to be uploaded to the system. Click the **Open** button to start the uploading process.

5. If the upload is unsuccessful, an error message dialog window will appear. If you encounter an error, check if the correct file has been uploaded correctly, or if there are other issues.

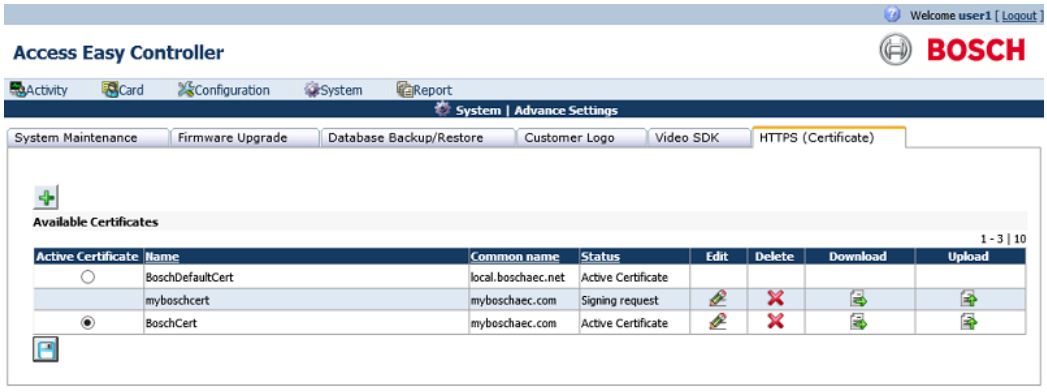
6. If the upload is successful, a completion successful message will appear. Click the **OK** button.



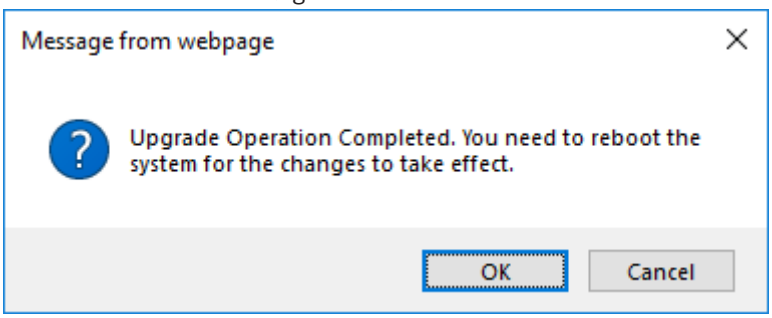
7. You will see the newly uploaded signed certificate in the **Available Certificates** list with an unselected radio button.



8. Select the radio button of the signed certificate to enable it as the active certificate.



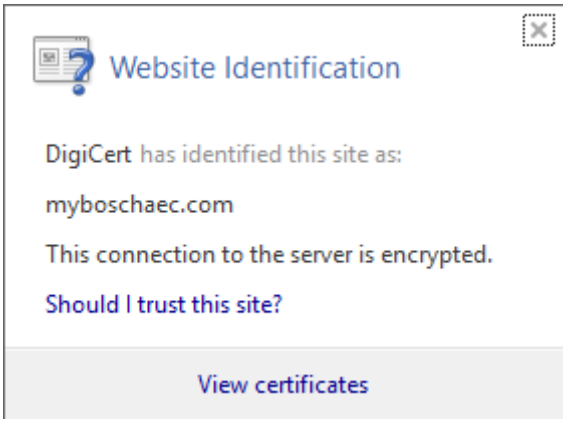
9. Click the save button, and the following dialog window appears. The system needs to be rebooted for the changes to take effect. Click the **OK** button to reboot the system.



10. Wait a while (no longer than 3 minutes) for the system to reboot. After rebooting, the web browser will automatically refresh itself, and return to the login page.

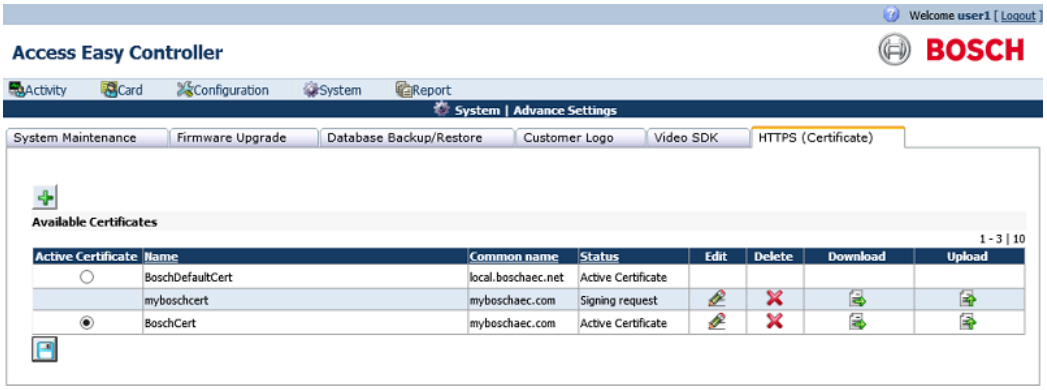
11. From the web browser, enter the https protocol and your website name. You should see a lock icon on the web browser address bar. The certificate has been successfully installed.

12. You can click on the lock icon to view details of the certificate from the **Website Identification** dialog window.



21.6.3 To Backup and Restore an Existing Certificate

1. To back up the signed certificates, go to **System** > **Advance Settings > HTTPS (Certificate)** tab. You will see the signed certificates in the **Available Certificates** list.

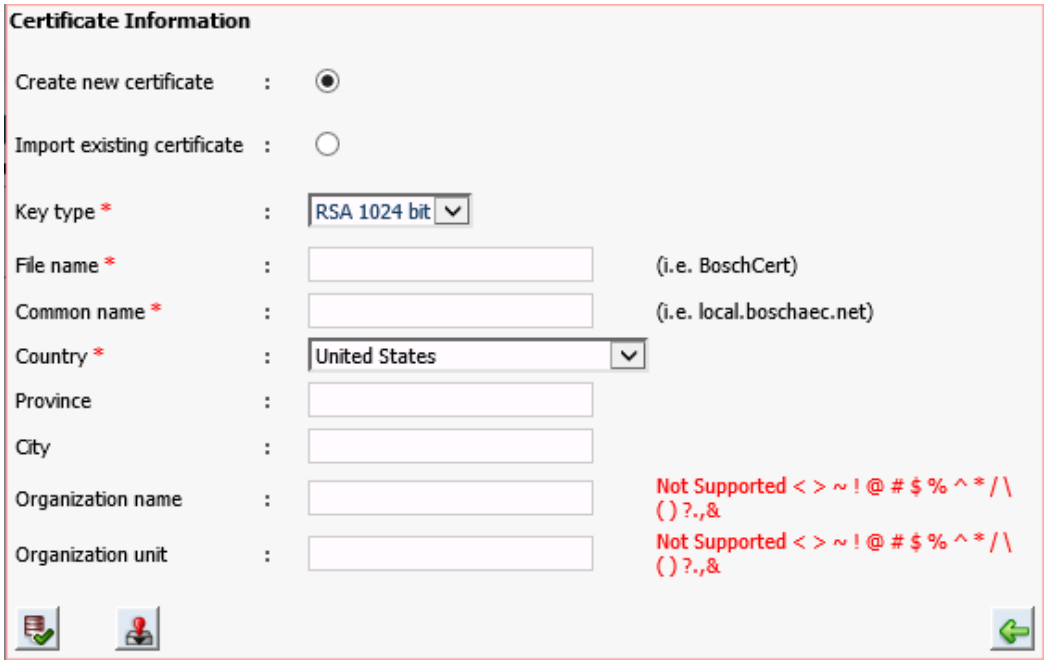


2. Click the Download button of the signed certificate to create a backup copy. This file "certificate_tar.gz" should be stored elsewhere as a backup.

Notice!
The AEC system backup function only back ups the AEC database. SSL/TSL certificates are not included in the backup. Therefore, it is important that you back up the signed certificates as above.

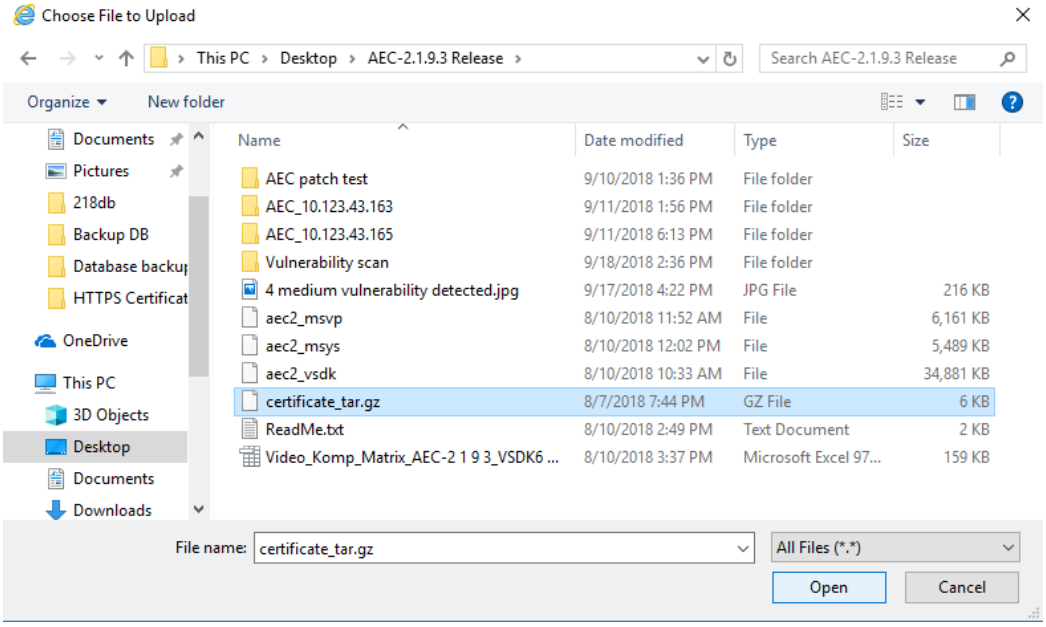
3. If the signed certificate has been deleted, you can restore the signed certificates using the backup certificate file "certificate_tar.gz". Go to **System** > **Advance Settings > HTTPS (Certificate)** tab.

4. Click the add certificate button. The following dialog window appears.

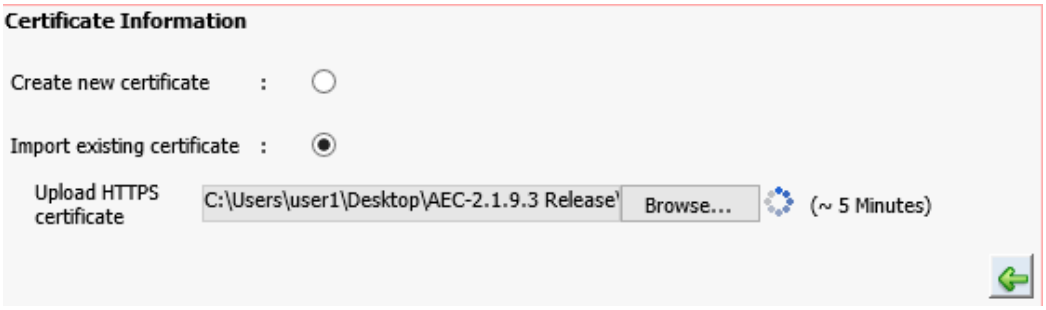


5. Click the **Import existing certificate** radio button and the following dialog window appears.

6. Click the **Browse** button to navigate the folders, and select the backup certificate file "certificate_tar.gz" to be uploaded to the system.

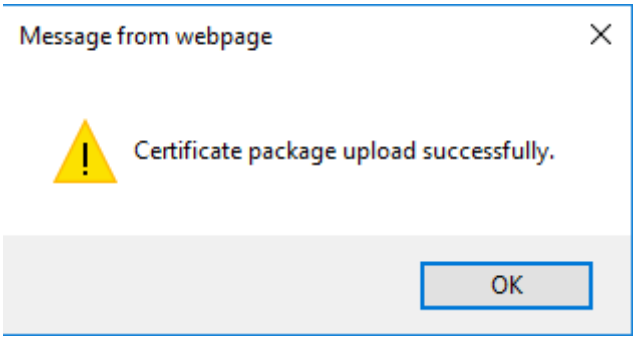


7. Click the upload button to start the uploading process.

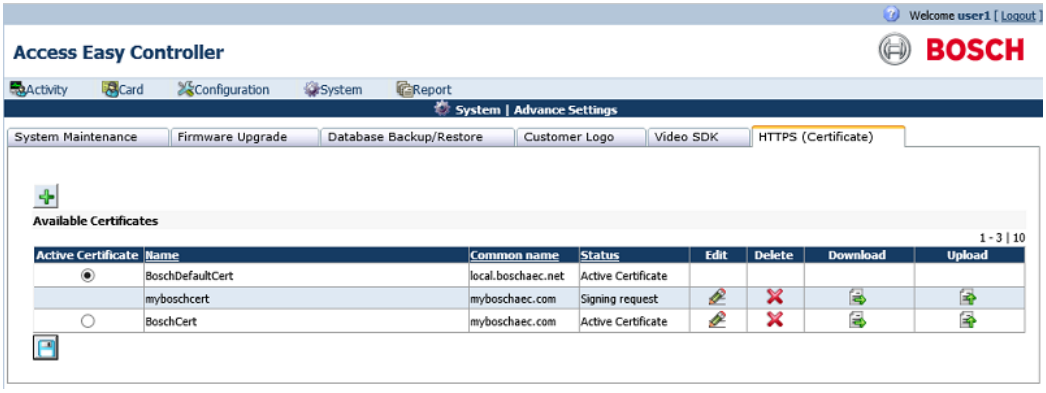


8. If the upload is unsuccessful, an error message will appear. If you encounter an error, check if the correct file has been uploaded correctly, or if there are other issues.

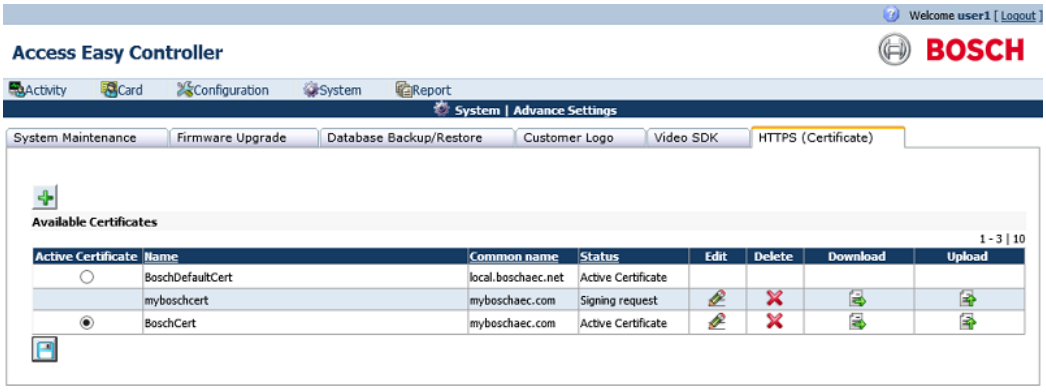
9. If the upload is successful, a completion successful message will appear. Click the **OK** button.



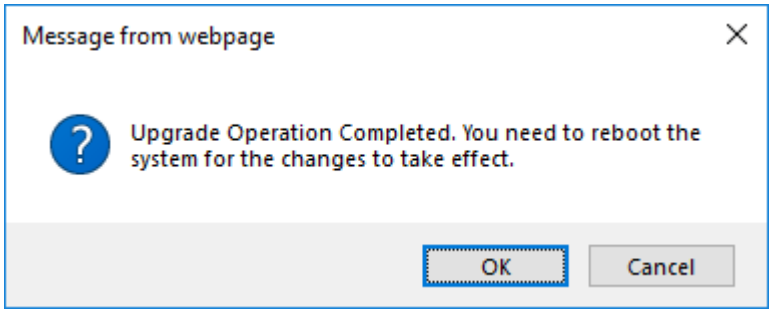
10. You will see the signed certificate in the **Available Certificates** list with an unselected radio button.



11. Select the radio button of the signed certificate to enable it as the active certificate.



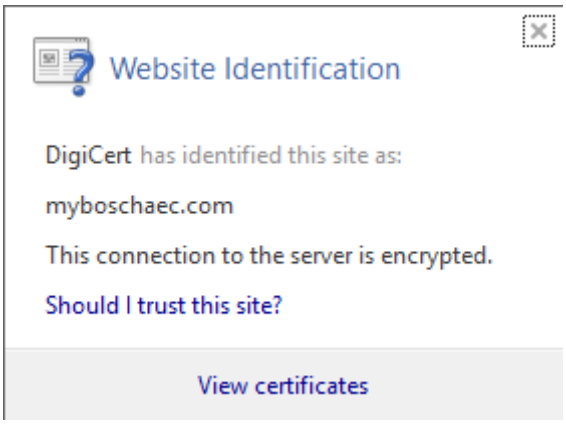
12. Click the save button and the following dialog window appears. The system needs to be rebooted for the changes to take effect. Click the **OK** button to reboot the system.



13. Wait a while (no longer than 3 minutes) for the system to reboot. After rebooting, the web browser will automatically refresh itself, and return to the login page.

14. From the web browser, enter the https protocol and your website name. You should see a lock icon on the web browser address bar. The certificate has been successfully installed.

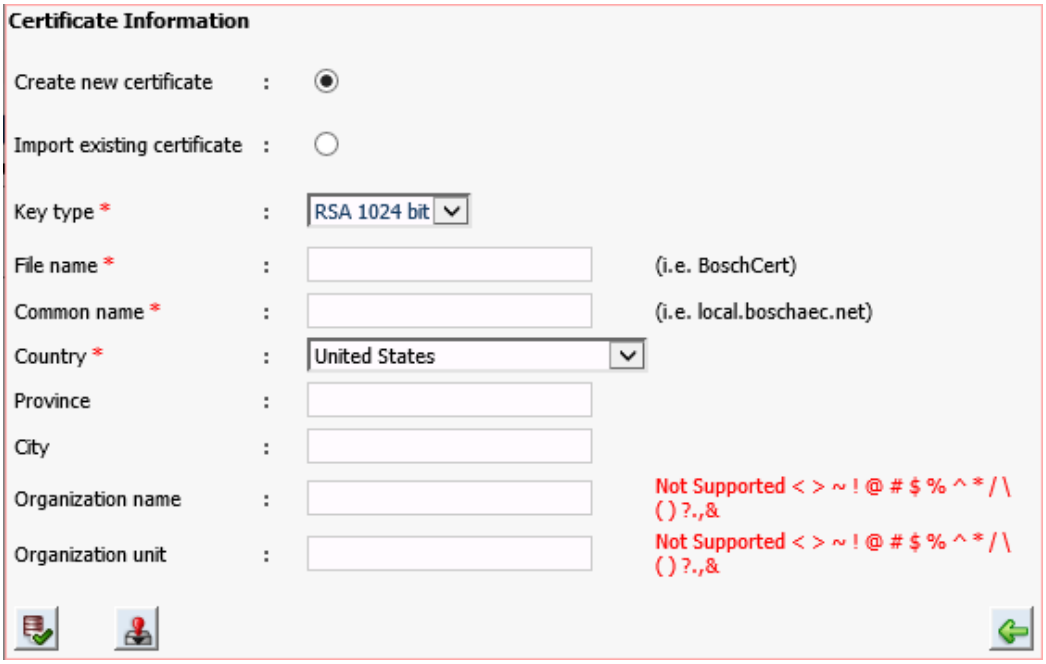
15. You can click on the lock icon to view details of the certificate from the **Website Identification** dialog window.



21.6.4 To Create a Self Signed Certificate

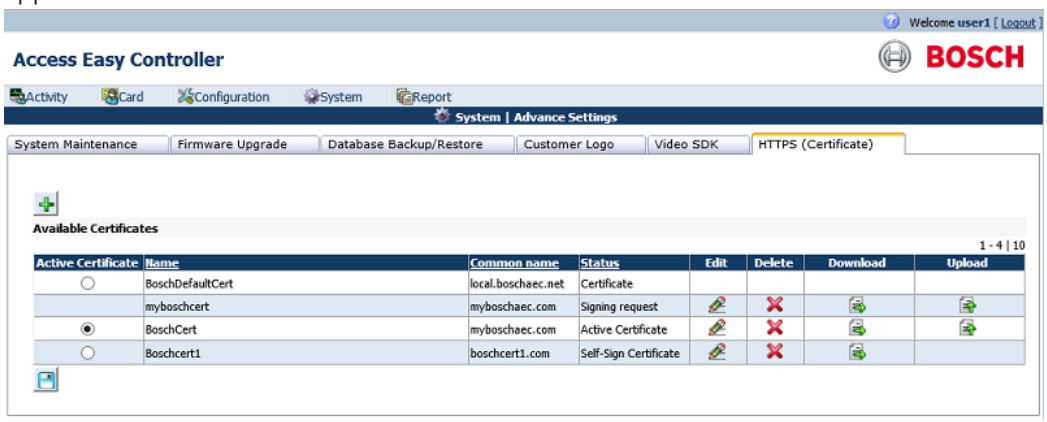
1. Go to **System** > **Advance Settings > HTTPS (Certificate)** tab.

2. Click the add certificate button. The following dialog window appears.



3. Fill in the necessary information to create a self signing certificate.

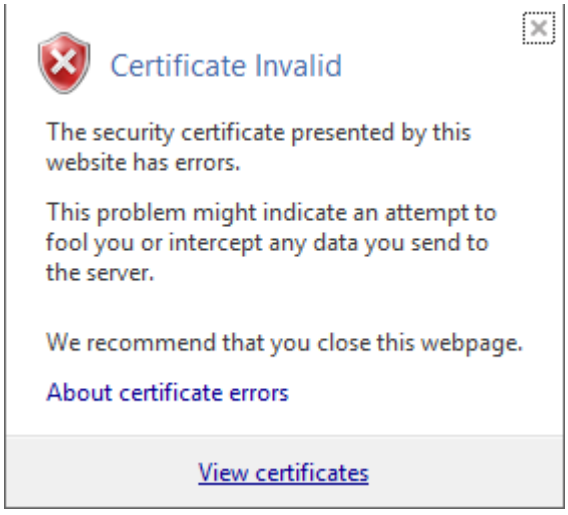
4. Click the create self signing certificate button. The self signing certificate now appears in the **Available Certificates** list.



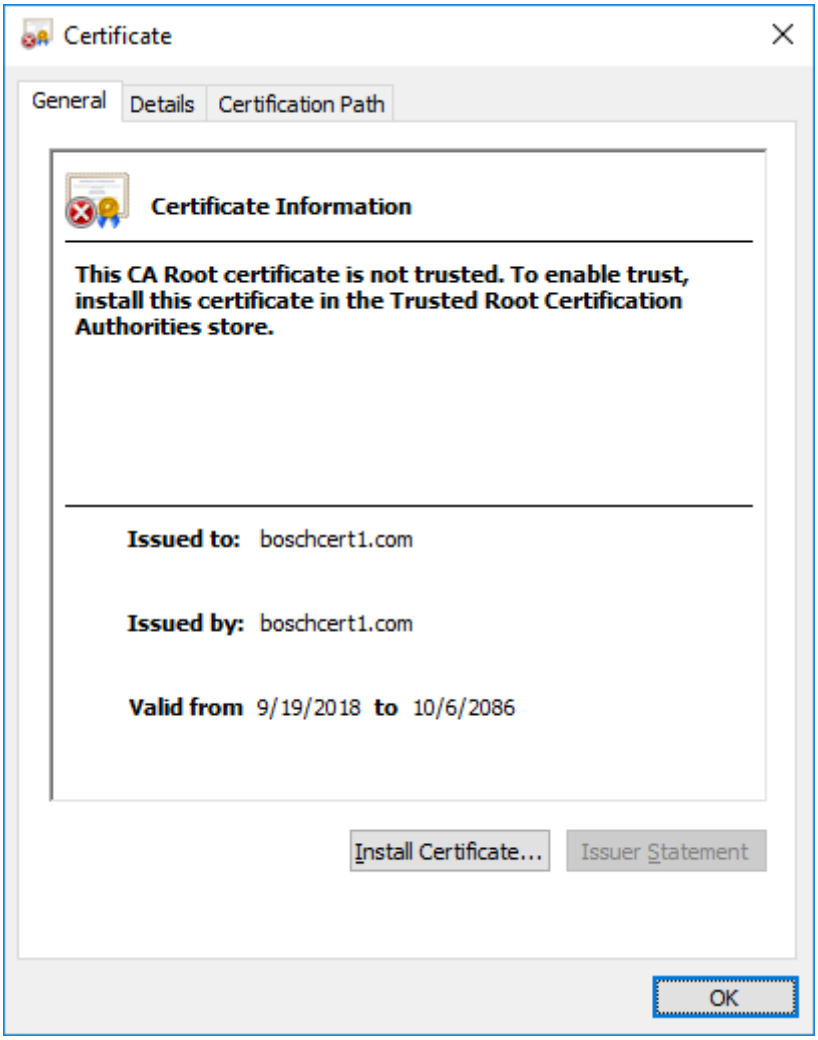
5. Select the radio button of the self signing certificate, and click the save button. The system will automatically reboot for the change to take effect.

6. Wait a while (no longer than 3 minutes) for the system to reboot. After the reboot, the web browser will automatically refresh itself, and return to the login page. From the web browser, you will see a certificate error indication on the address bar.

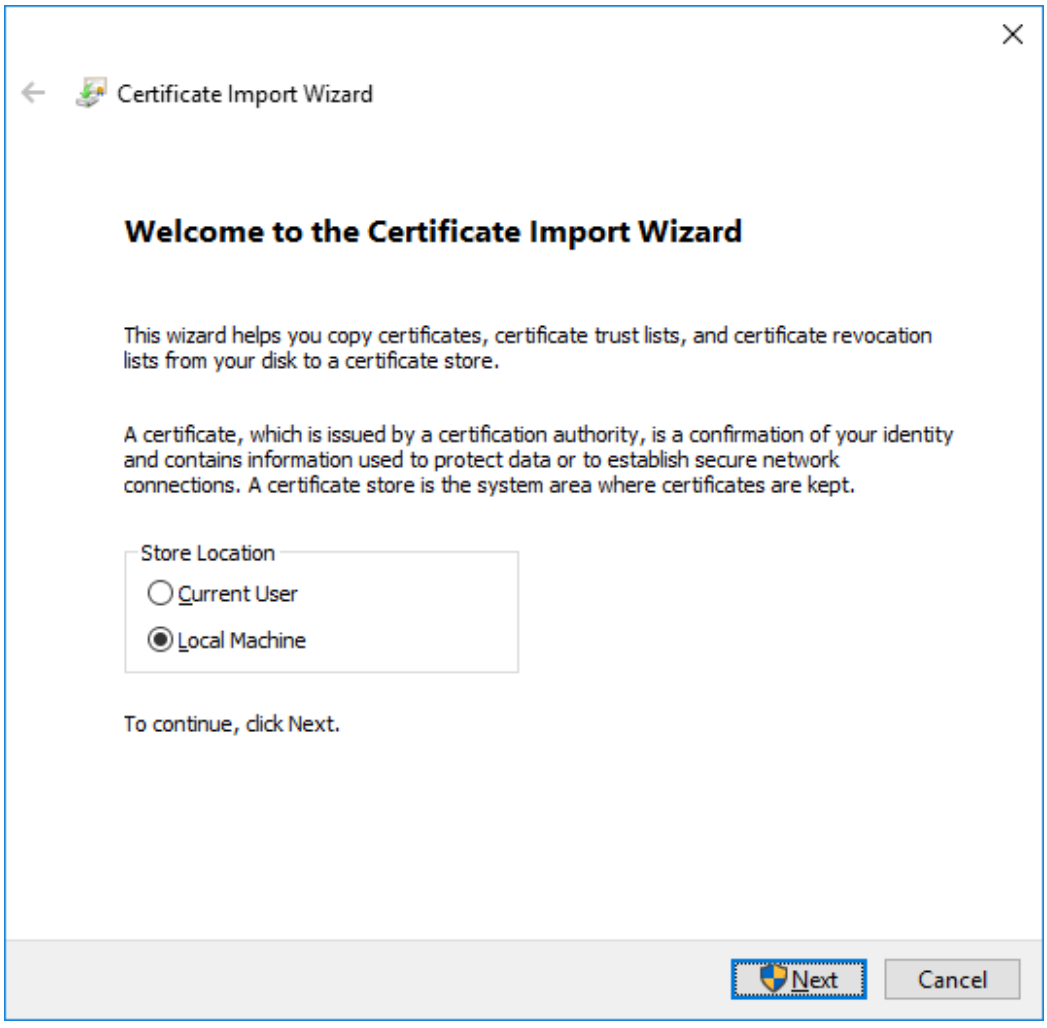
7. Click the certificate error indication to open the **Certificate Invalid** dialog.



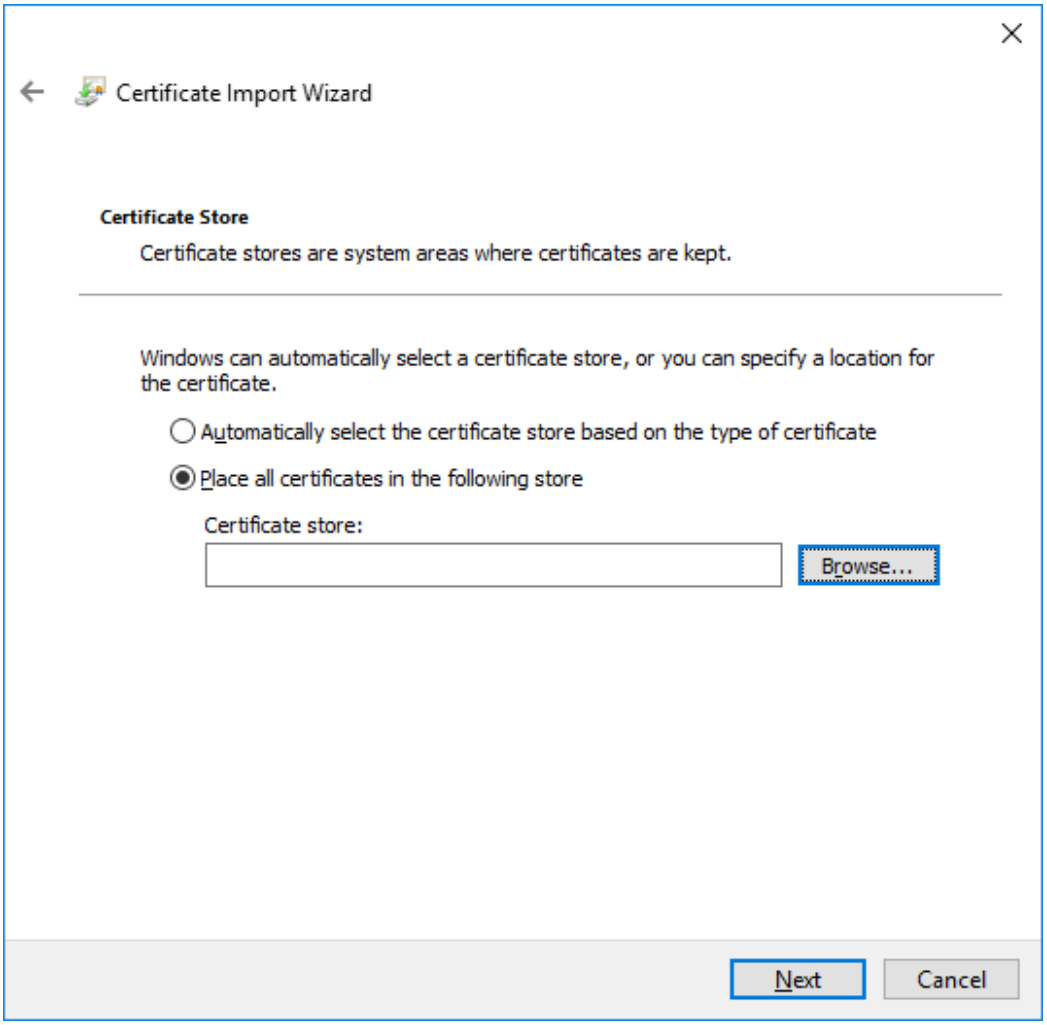
8. Click the **View certificates** link to open the **Certificate** dialog window.



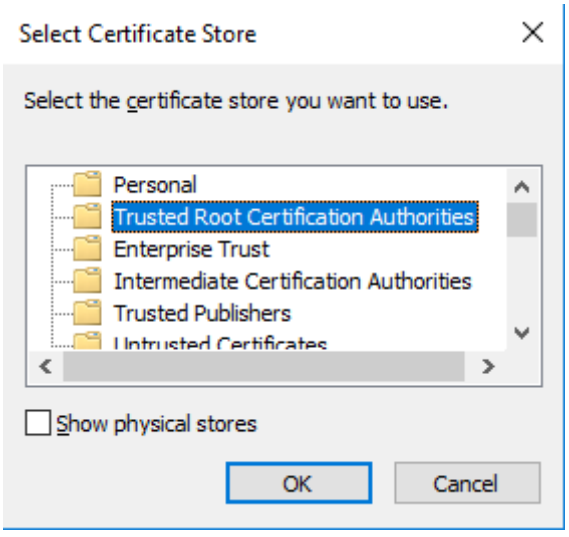
9. Click the **Install Certificate** button to open the **Certificate Import Wizard** window, and select the **Local Machine** radio button option.



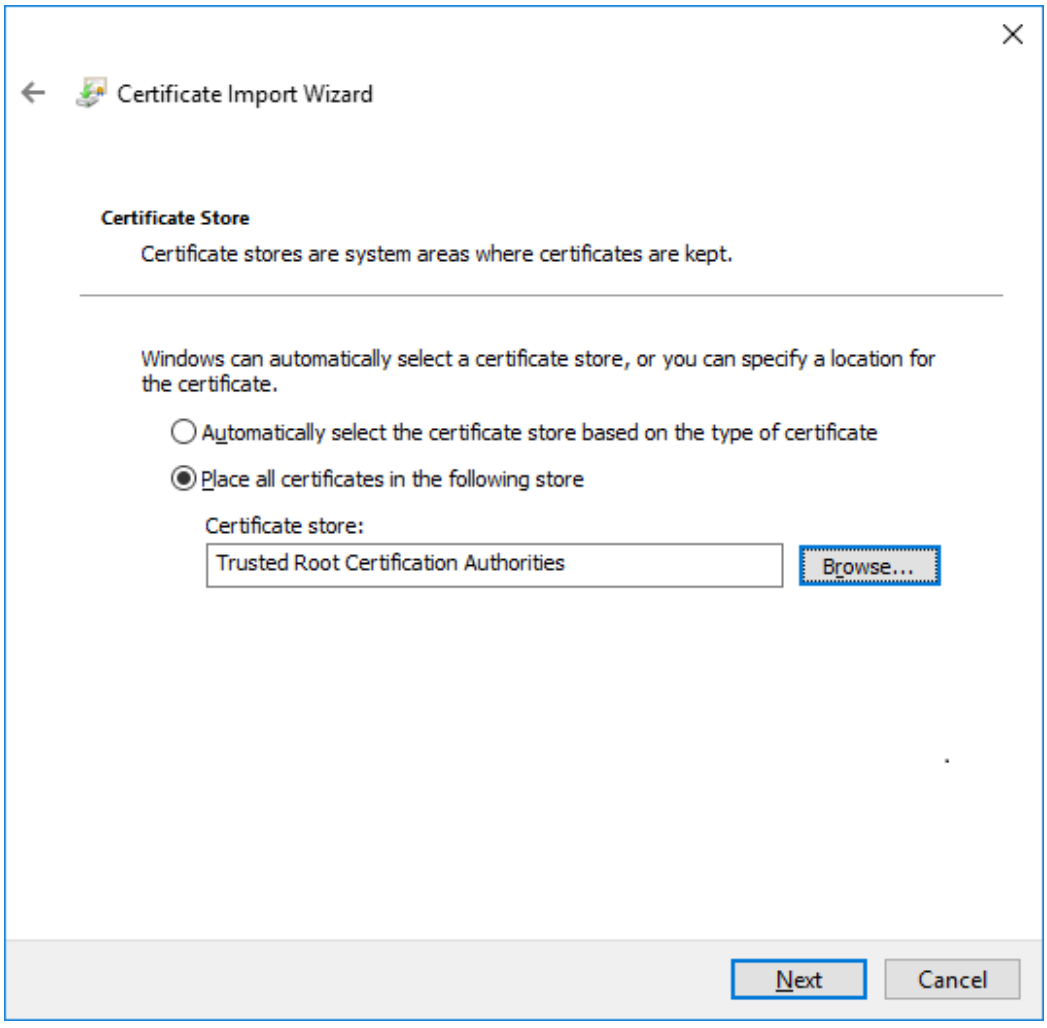
10. Click the **Next** button. The following dialog appears.



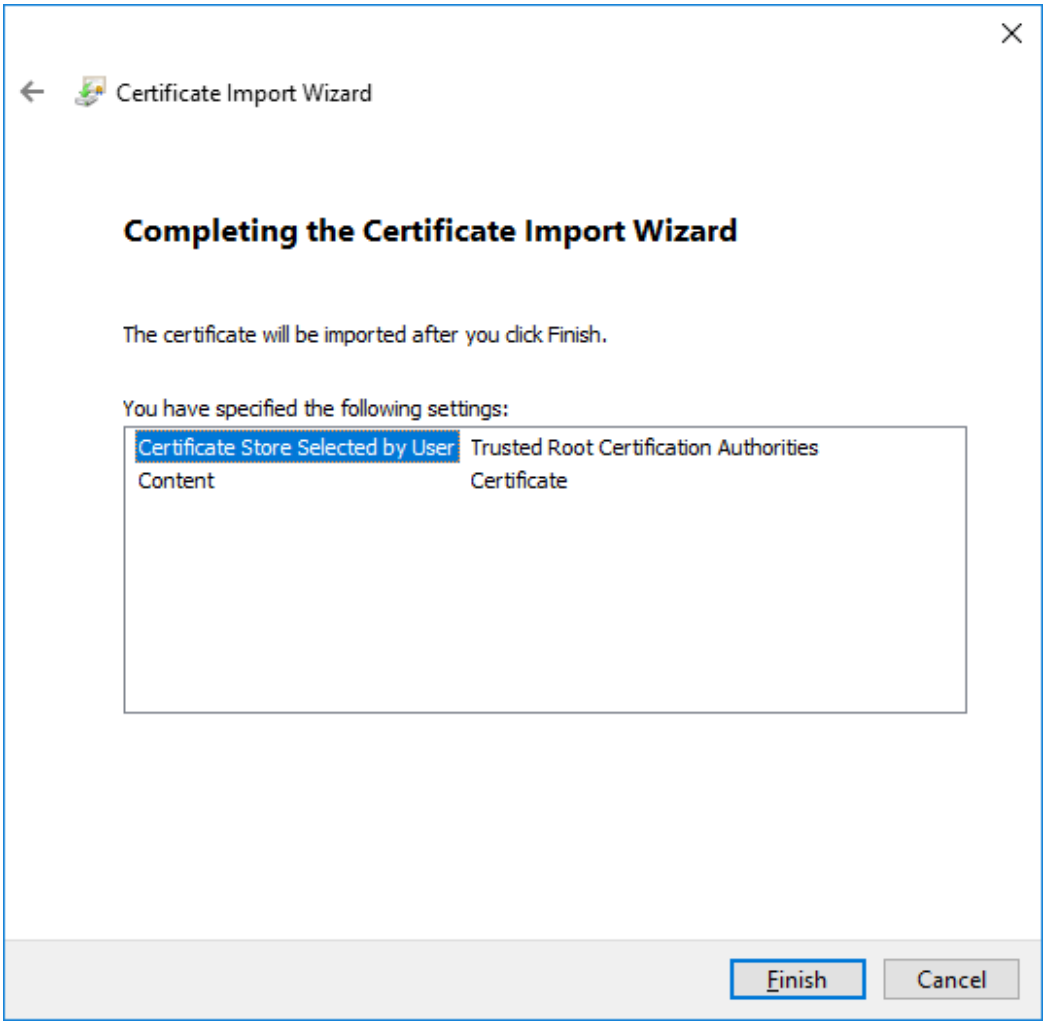
11. Click the **Browse** button and select the **Trusted Root Certification Authorities** from the **Select Certificate Store** dialog window.



12. Click the **OK** button to return to the previous dialog. Note that the store is now indicated in the **Certificate store** textbox.



13. Click the **Next** button to proceed to the next dialog.



14. Click the **Finish** button to complete the certificate import. The system will automatically reboot for the changes to take effect.

15. Wait a while (no longer than 3 minutes) for the system to reboot. After the reboot, the web browser will automatically refresh itself, and return to the login page.

16. From the web browser, enter the https protocol and your website name. You should see a lock icon on the web browser address bar.

17. If the web browser is still showing the certificate error indication, clear the cache, close the web browser, and reboot your computer. This should clear the error and you should be able to connect to your website without the certificate errors.

21.7 System - Default Settings

Following sections describe the various default settings of the system:

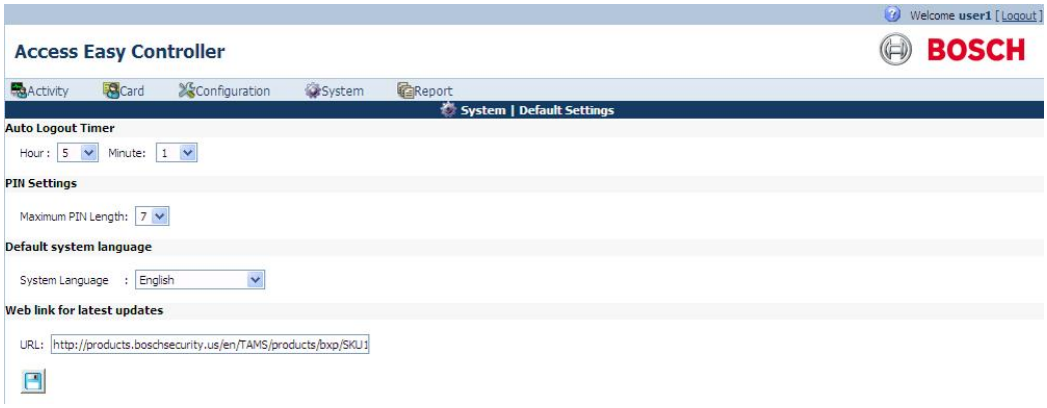
21.7.1 Auto Logout Timer

The auto logout timer allows you to set the timer for the AEC2.1 software to Logout automatically if it detects no user activity. Default setting is 1 hour.

Notice!
This Timer setting is applicable to all menu items.

To activate Auto Logout Timer

1. Click the link **System** > **Default Settings** to access the auto logout timer settings. The screen below appears.



2. Select the hour and minutes from the hour and minute dropdown list.

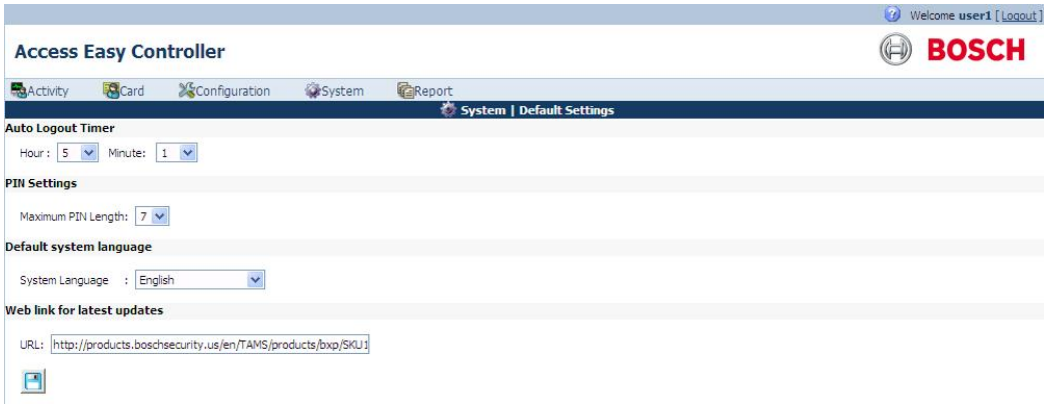
3. Click the save button to save the settings.

21.7.2 PIN Settings

The PIN setting option allows you to set the maximum PIN length. The PIN is entered in the reader settings of the AEC2.1. Refer to *PIN Code Settings, page 91* for more information.

To activate PIN settings

1. Click the link **System** > **Default Settings** to access the auto logout timer settings. The screen below appears.



2. Select the number of characters from the **Maximum PIN length** dropdown.

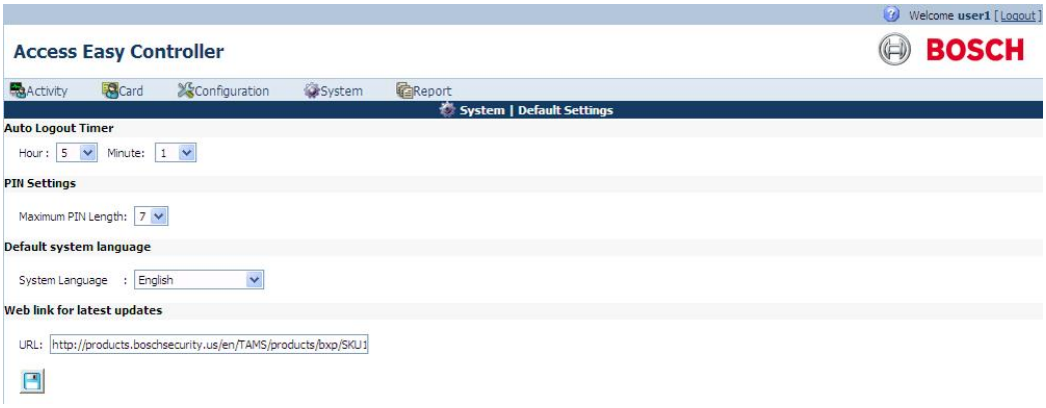
3. Click the save button to save the settings.

21.7.3 Default System Language

The Default system language allows you to set the default system language of the AEC2.1 Software.

To set Default system language

1. Click the link **System** > **Default Settings** to access the default system language settings. The screen below appears.



2. Select the default language from the **System Language** dropdown.

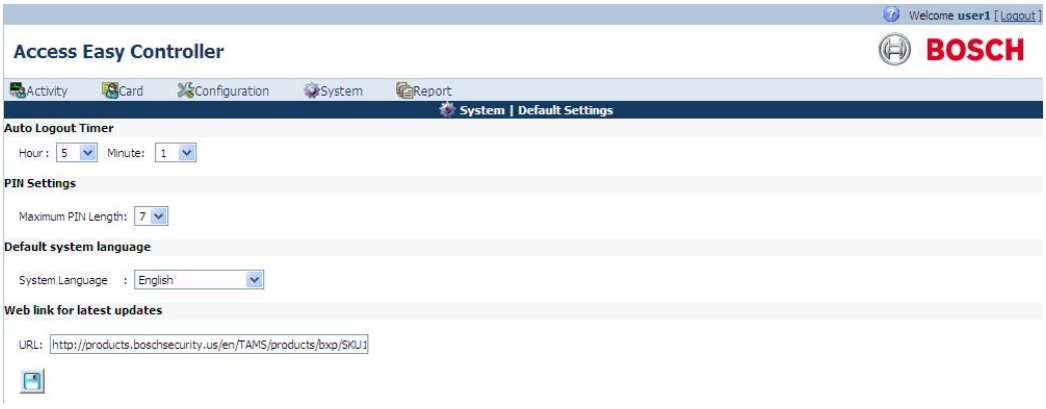
3. Click the save button to save the settings.

21.7.4 Web link for latest updates

The Web link for latest updates allows you to set the internet link for the latest updates of the AEC2.1 Software.

To set Web link for latest updates

1. Click the link **System** > **Default Settings** to access the web link for latest updates settings. The screen below appears.



2. Enter the internet link in the **URL** text box.

3. Click the save button to save the settings.

22 Reports

This chapter explains the steps to generate a report based on the defined criterias and to customize the hard copy report.

22.1 Activity

This menu allows you to select the types of activity report based on the combination of Transaction or Card Number or Name or Department or location.

Click the link **Report** > **Activity** to access the activity report page. The screen below shows the **activity** report page.

1. Select the **Activity** types from the list. The available activity types are **All**, **Alarm**, **Valid**, **Restore** and **Time Attendance**.

2. Enter the required values in the card number and name field. Select the required values and click the view report button to see a preview of the report. The screen below shows an example of the **All activities** report.

3. Click **save as CSV** or XLS file to save the report in a CSV or XSL format in the PC or click the back button to return to report > activity page.

   Note: The values entered in the fields work on AND condition.

22.1.1 To Format Report Based on Card Number

1. Select the Activity from the activities dropdown list.

2. Enter the exact Card Number in the Card Number field.

3. Click the search button. If the card number is not in the database, you will be prompted by an error message.

4. Select the appropriate Department and location from the Department and Location dropdown list. If you want to generate report for all locations, select **All Locations**.

5. Click the view report button to see a preview of the report. Click **save as CSVor XLS** button to save the report in a CSV format in the PC or click the back button to return to report > activity page.

22.1.2 To Format Report Based on Name

1. Enter a character, a portion, or the full name in the name field. Click the search button to search the database for the entered value. If a match is found that satisfies the entry, a window will appear with the Names.

2. From the search result window, select the desired name. The selected name appears in the Name field.

3. Select the appropriate department and location from the Department and Location dropdown list. If you want to generate report for all location, select **All Locations**.

4. Click the view report button to see a preview of the report. Click **save as CSVor XLS** file to save the report in a CSV or XLS format in the PC or click the back button to return to report > activity page.

22.1.3 To Format Report Based on Department

1. Select the appropriate Department from the **Department** dropdown list.

2. Select the appropriate location from the location dropdown list. If you want to generate report for all locations, select All Locations.

3. Click the view report button to see a preview of the report. Click **save as CSV** or XSL file to save the report in a CSV format or XLS format in the PC or click the back button to return to report > activity page.

22.1.4 To Format Report Based on Location

1. Select the appropriate Location from the list.

2. Select the appropriate location from the location dropdown list. If you want to generate report for all readers, select All Locations.

3. Click the view report button to see a preview of the report. Click **save as CSVor XSL** file to save the report in a CSV format or XSL format in the PC or click the back button to return to report > activity page.

22.1.5 To Format Report Based on Date/Time

You can select the range of dates to view the activities in that date range. This would cut down the time on scrolling through the list of activities if you know the date when the activities have taken place.

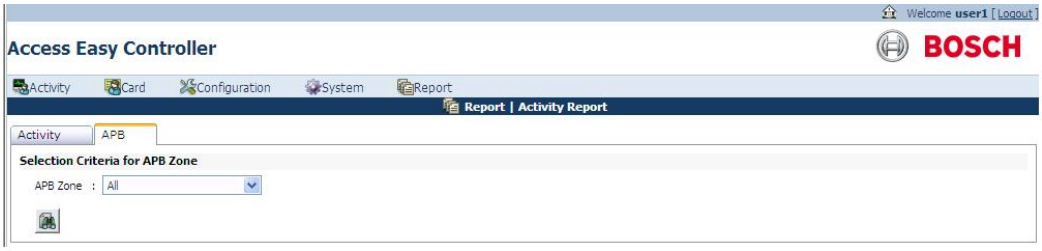
22.2 APB

The APB Zones report allows you to know which cardholder is in the APB Zone at the time of the preview. Should there be a need to Reset APB for a particular cardholder, you can use this report to verify that the cardholder has actually violated the APB and not due to other condition such as an Expired Card Number.

22.2.1 To Generate APB Zones Report

This report shows the list of cardholders still in the APB zones. When a cardholder enters an APB zone, by opening a door from an APB entry reader, the cardholder will be registered in the system as present in the APB zone governed by the APB entry reader. Similarly, when the cardholder exits from an APB zone, by opening a door from an APB exit reader, the cardholder will be de-registered in the system as present in the APB zone governed by the APB entry reader. Refer to *Understanding the APB Zone, page 95* for details on the APB zones.

1. Click the link **Report** > **Activity** and in the activity main page select the **APB** tab to access the APB report page. The screen below shows the APB report page.

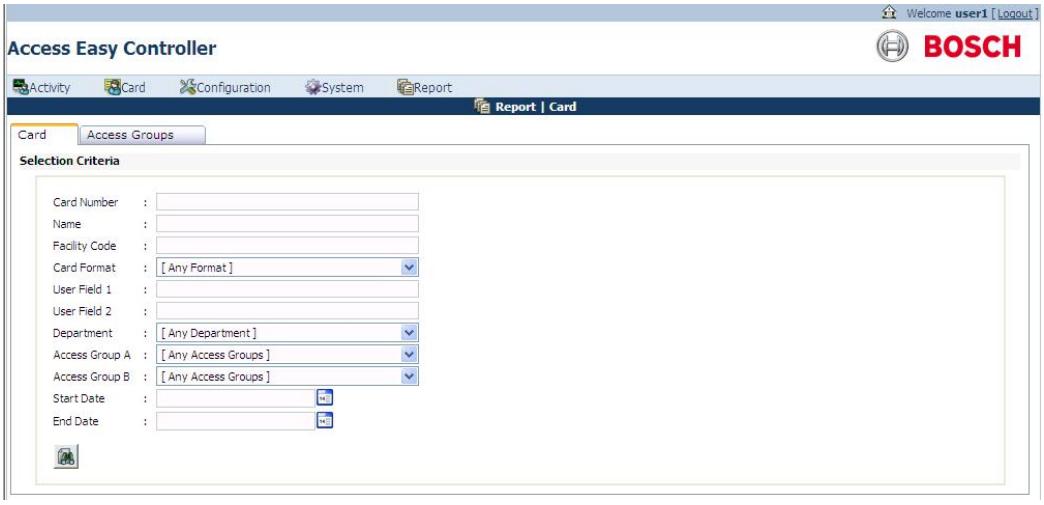


2. Select the desired Zone from the **APB zone** dropdown list.

3. Select the required values and click the view report button to see a preview of the report. Click **save as CSVor XSL** file to save the report in a CSV or XSL format in the PC or click the back button to return to report > APB page.

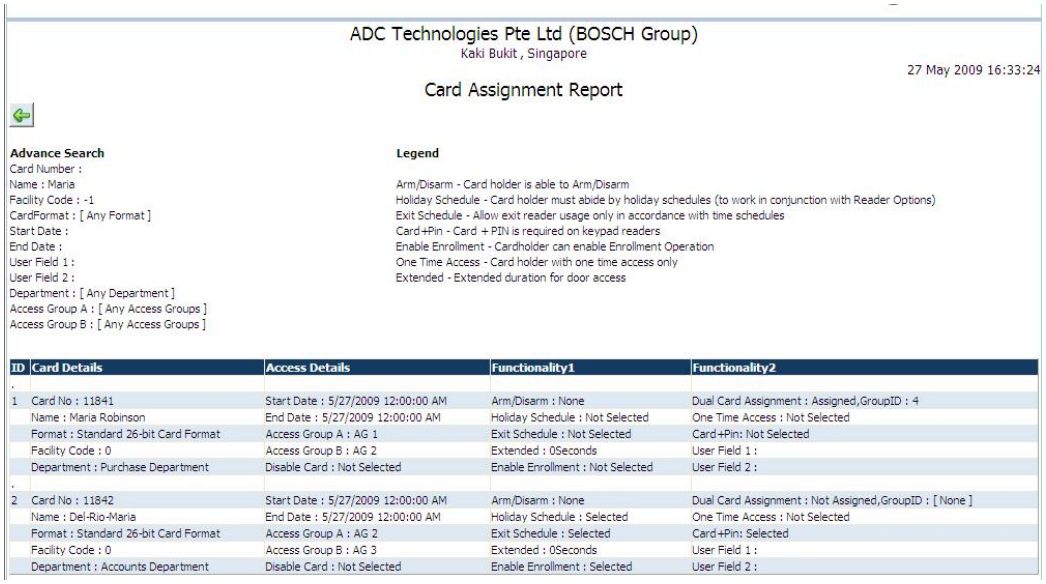
22.3 Card

1. Click the link **Report** > **Card** and in the card main page select the tab card to print a report based on the cardholders. The screen below shows the card report page.



2. Enter the desired values in the appropriate fields.

3. Click the view report button to see a preview of the report. The screen below shows the report for the search criteria based on name **Maria**.



ADC Technologies Pte Ltd (BOSCH Group)
Kaki Bukit , Singapore
27 May 2009 16:33:24
Card Assignment Report

Advance Search
Card Number :
Name : Maria
Facility Code : -1
CardFormat : [Any Format]
Start Date :
End Date :
User Field 1 :
User Field 2 :
Department : [Any Department]
Access Group A : [Any Access Groups]
Access Group B : [Any Access Groups]

Legend
Arm/Disarm - Card holder is able to Arm/Disarm
Holiday Schedule - Card holder must abide by holiday schedules (to work in conjunction with Reader Options)
Exit Schedule - Allow exit reader usage only in accordance with time schedules
Card+Pin - Card + PIN is required on keypad readers
Enable Enrollment - Cardholder can enable Enrollment Operation
One Time Access - Card holder with one time access only
Extended - Extended duration for door access

ID	Card Details	Access Details	Functionality1	Functionality2
1	Card No : 11841	Start Date : 5/27/2009 12:00:00 AM	Arm/Disarm : None	Dual Card Assignment : Assigned,GroupID : 4
	Name : Maria Robinson	End Date : 5/27/2009 12:00:00 AM	Holiday Schedule : Not Selected	One Time Access : Not Selected
	Format : Standard 26-bit Card Format	Access Group A : AG 1	Exit Schedule : Not Selected	Card+Pin: Not Selected
	Facility Code : 0	Access Group B : AG 2	Extended : 0Seconds	User Field 1 :
	Department : Purchase Department	Disable Card : Not Selected	Enable Enrollment : Not Selected	User Field 2 :
2	Card No : 11842	Start Date : 5/27/2009 12:00:00 AM	Arm/Disarm : None	Dual Card Assignment : Not Assigned,GroupID : [None]
	Name : Del-Rio-Maria	End Date : 5/27/2009 12:00:00 AM	Holiday Schedule : Selected	One Time Access : Not Selected
	Format : Standard 26-bit Card Format	Access Group A : AG 2	Exit Schedule : Selected	Card+Pin: Selected
	Facility Code : 0	Access Group B : AG 3	Extended : 0Seconds	User Field 1 :
	Department : Accounts Department	Disable Card : Not Selected	Enable Enrollment : Selected	User Field 2 :

4. Click the back button to return to report > card page.

22.4 Access Group

Click the link **Report** > **Card** and in the card main page select the tab **Access Group** to print a report based on the access groups. The screen below shows the access group page.

22.4.1 To Generate an Access Groups Report

1. Select the desired access group from the **access group** dropdown list.

2. Click the view report button to see a preview of the report. Click the back button to return to report > access groups page.

Notice!
Only Access Groups that are defined will be shown.

22.5 Reader

Following are the steps to generate a Card Reader Report:

22.5.1 To Generate a Card Reader Report

1. Click the link **Report** > **Device** and in the device main page select the **reader** tab to access the Reader report settings. The screen below appears.

2. Select the desired Reader from the **Reader Description** dropdown list. Click the search button to search the reader entered in the Reader Description field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > reader page.

22.6 Input

Following are the steps to generate an Input Point Report:

22.6.1 To Generate an Input Point Report

1. Click the link **Report** > **Device** and in the device main page select the **Input** tab to access the Input report settings. The screen below appears.

2. Select the desired Input point from the **Input Description** dropdown list. Click the search button to search the Input Point entered in the **Input Description** field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > input page.

22.7 Output

Following are the steps to generate an Output Point Report:

22.7.1 To Generate an Output Point Report

1. Click the link **Report** > **Device** and in the device main page select the **Output** tab to access the Output report settings. The screen below appears.

2. Select the desired output point from the **Output** dropdown list. Click the search button to search the Output Point entered in the **Output** field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > output page.

22.8 Advance I/O

Following are the steps to generate an I/O function Block Report:

22.8.1 To Generate an I/O Function Block Report

1. Click the link **Report** > **Device** and in the device main page select the **Advance I/O** tab to access the Advance I/O report settings. The screen below appears.

2. Select the desired I/O function block from the **Advance I/O** dropdown list. Click the search button to search the I/O function block entered in the **AdvanceI/O** field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > advance I/O page.

22.9 Camera

Following are the steps to generare a Report based on Camera:

22.9.1 To Generate a Report Based on Camera

1. Click the link **Report** > **Device** and in the device main page select the **Camera** tab to access the Camera report settings. The screen below appears.

2. Select the desired Camera from the **Camera Description** dropdown list. Click the search button to search the Camera entered in the **Camera Description** field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > camera page.

22.10 Schedule

Following are the steps to generate a Schedule report:

22.10.1 To Generate a Schedule Report

1. Click the link **Report** > **Configuration** and in the configuration main page select the **Schedule** tab to access the Schedule report settings. The screen below appears.

2. Select the desired Schedule from the **Schedule Description** dropdown list. Click the search button to search the Schedule entered in the **Schedule Description** field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > schedule page.

22.11 Regular Holiday

Following are the steps to generate a Regular Holiday report:

22.11.1 To Generate a Regular Holiday Report

1. Click the link **Report** > **Configuration** and in the configuration main page select the **Regular Holiday** tab to access the Regular Holiday report settings. The screen below appears.

2. Select the desired regular holiday from the **Regular Holiday Description** dropdown list. Click the search button to search the Regular Holiday entered in the **Regular Holiday Description** field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > regular holiday page.

22.12 Special Holiday

Following are the steps to generate a Special Holiday Report:

22.12.1 To Generate a Special Holiday Report

1. Click the link **Report** > **Configuration** and in the configuration main page select the **Special Holiday** tab to access the Special Holiday report settings. The screen below appears.

2. Select the desired regular holiday from the **Special Holiday Description** dropdown list. Click the search button to search the Regular Holiday entered in the **Special Holiday Description** field.

3. Click the view report button to see a preview of the report. Click the back button to return to report > special holiday page.

22.13 Audit Log

User log tracks the Users operation on the AEC2.1, and logs all the action performed by the user, such as manual on/off any output, change the settings for a Cardholder, set the date and time, etc.

To View the User Log

1. Click the link **Report** > **Audit Log** to access the user log report settings. The screen below appears.

2. Choose the **From** date and **To** date, from the Calendar picker.

3. Select the User Name from the **Name** dropdown list. If a particular User has been selected, the report will only show the operation of that User. If **All Names** is selected, the result will show report containing all the action performed by all users on the system.

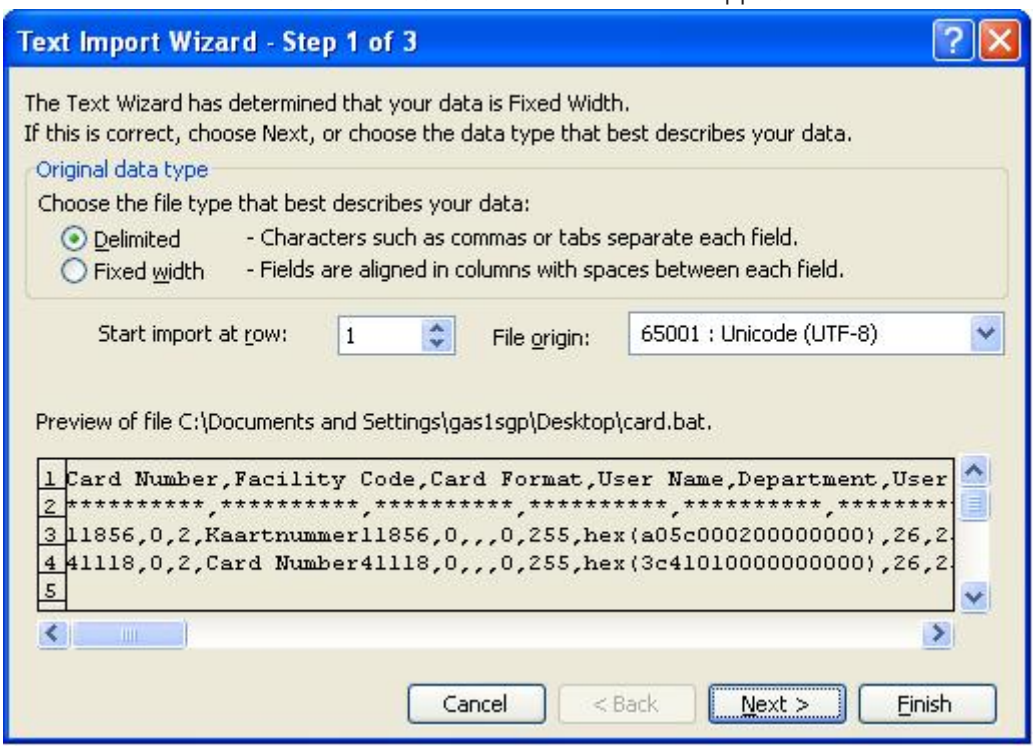
4. Click the view report button to see a preview of the report. Click **save as CSV** or XSL file to save the report in a CSV or XSL format in the PC. Click the back button to return to report > audit log page.

22.14 View .CSV File in Excel

In MS Excel you can only view the database details and not edit them. Follow the steps below to view the .CSV file.

Method 1

1. Rename the **Card.csv** file to **Card.bat**. Launch MS Excel and click on **File** > **Open**. Select the **Card.bat** file from the saved location. The below window appears.

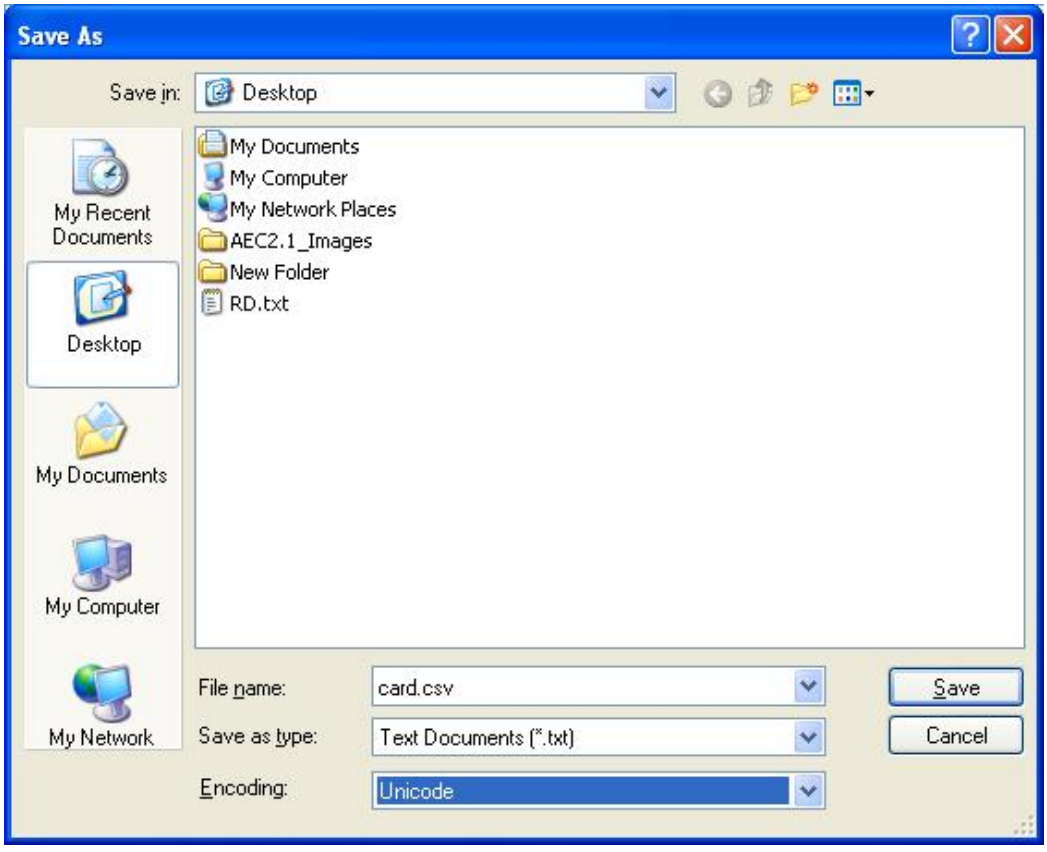


2. Select **Delimited** from the **Original Data Type** option and **Unicode (UTF-8)** from the **File Origin** dropdown. Click the **Next** button to complete the **Text Import Wizard.**

Method 2

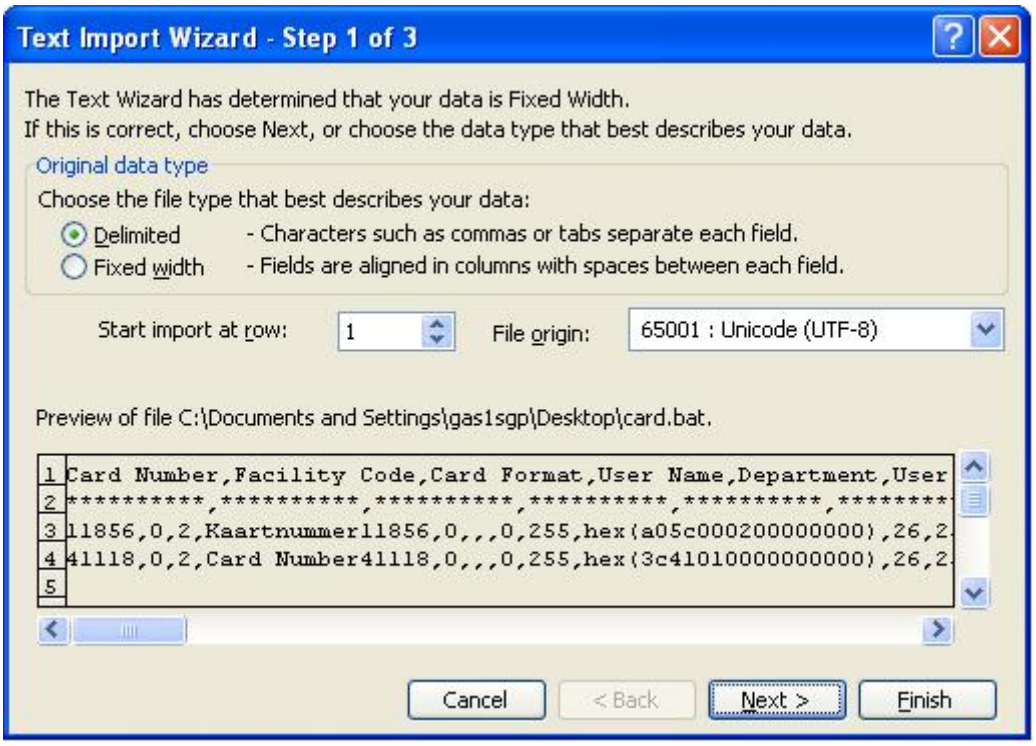
1. Open **Notepad**. Click on **File** > **Open**. Select the .CSV file from the local hard disk or an external drive and click the **Open** button.

2. Click on **File** > **Save As**, select **Unicode** from the Encoding dropdown as shown below.



3. Click the **save** button to save the file. Close the file.

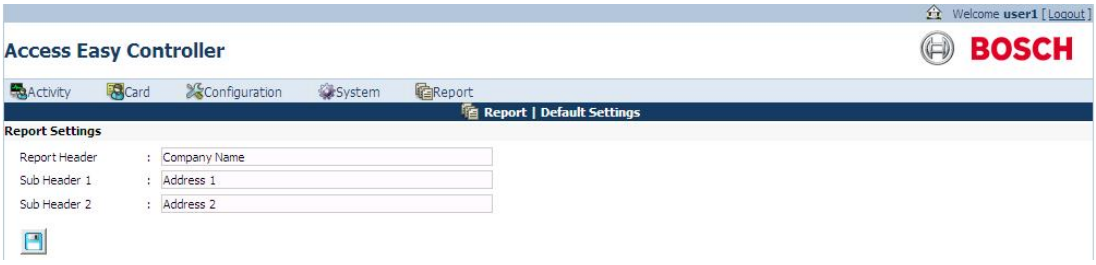
4. Launch **Excel** and click on **File** > **Open**. Select the Unicode **Card.csv** (the above saved file) file from the saved location. The below window appears.



5. Select **Delimited** from the **Original Data Type** option. Click the **Next** button to complete the Text Import Wizard.

22.15 Report - Default Settings

The report menu consists of the default settings submenu. In the default settings you can edit the report header and sub headers. The screen below shows the default settings screen.



22.15.1 To Edit the Report Settings

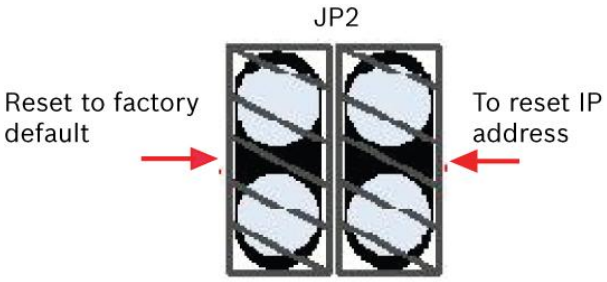
1. Type the report header in the **Report Header** field. For example you can type in the company name as the Report header.

2. Type the company address in **Sub header 1** and **Sub header 2** fields.

3. Click the save to save the settings.

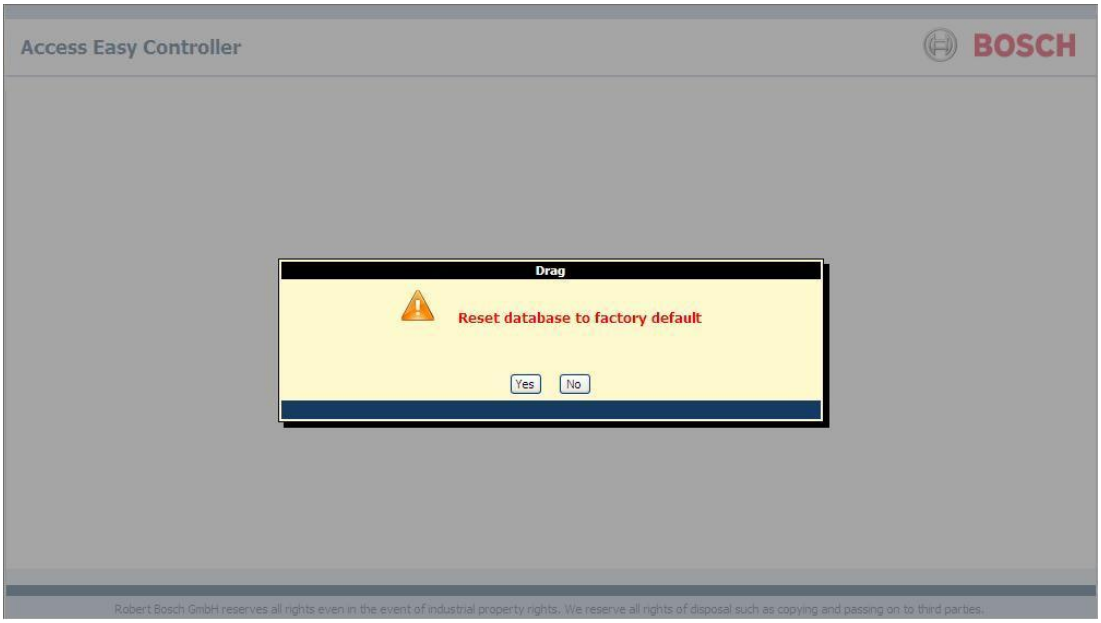
23 Resetting to Factory Default

On the first 4-Reader board of AEC2.1 system, JP2 is used to reset the panel to factory default setting. Refer to the Hardware Manual for more information.



When the jumpers on the left of JP2 (vertically), is shorted with a jumper link the system provides the option to retain the current settings and configuration or clear all the settings and configuration.

When the jumpers are shorted the screen below appears.



Click the **Yes** button to reset the AEC2.1 back to the factory default settings. This process will clear all the settings and configurations set, except for the IP address. Information like Card numbers and Advance IO settings will also be erased.

Warning!
All information, settings and configurations will be erased. Users are advised to do a system backup before proceeding (IP Address will not be reset with this function).

Click the **No** button to reboot the panel without changing the settings and configurations.

After setting the jumper link the system will reboot. Upon system reboot, enter the AEC2.1 URL address in the address field of a web browser.

23.1 Resetting IP Address to Default IP Address

The jumpers on the right of JP2 (vertically), when shorted with a jumper link, will reset the panel's IP address back to AEC2.1 default IP address (i.e 192.168.0.41). Note that this will only reset the IP Address back to default. No information, settings and configurations will be altered. A reboot will be required for changes to take effect. Upon completion of rebooting, you will be able to log onto the login screen with the default IP Address.

Notice!
These two functions are independent of each other and can be carried out independently or simultaneously.
Shorting the jumper on the left and rebooting the system will cause the panel to be reset to factory default settings, keeping the IP Address unchanged.
Shorting the jumper on the right and rebooting the system will cause the panel to reset ONLY the IP Address to default IP Address.
Shorting both will reset both the, configurations and settings, and IP Address.

24 APPENDIX A

This chapter explains the initial setup required in the system to access the AEC2.1 system.

24.1 Initial Setup To Access Easy Controller 2.1

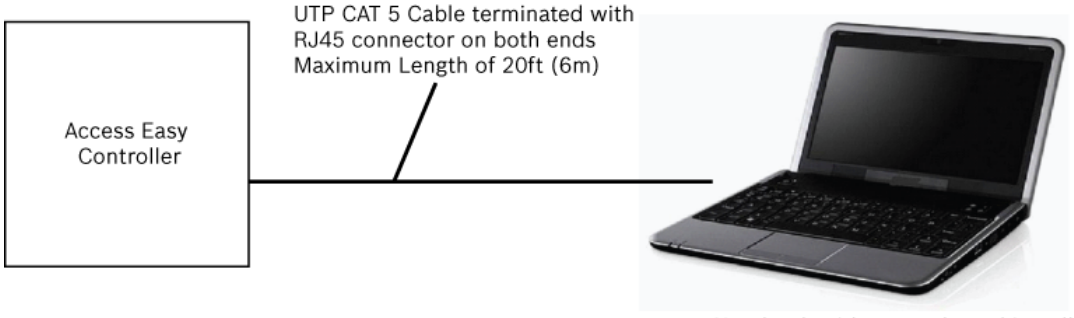
Before connecting to the AEC2.1, the following conditions must be taken into consideration. They are:-

1. If the Central Monitoring Computer (CMC) is not connected to a Network as in a standalone.
2. If the CMC is connected to a Network.

For case 1, having the CMC as a stand-alone unit, either IP Address for the AEC2.1 or CMC can be changed to suit the other.

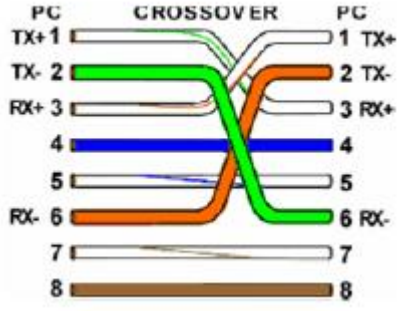
For an initial set-up, a Notebook or a Personal Computer either stand-alone or taken from an existing network have to be used. For either case, there must be a 10Base-T Ethernet card installed and with a running web browser program such as Internet Explorer, version 7.0 and later.

Connect the AEC2.1 server and Notebook using the industrial standard UTP Category 5 cable as shown below.



Notebook with network card installed

Notice!
The cable has to be terminated and polarized accordingly as shown.



The below drawing shows the Transmit (T+ & T-) and Receive (R+ & R-) lines between both end of the connectors being twisted. The wires for pins 4, 5, 7 and 8 are connected without twisting at both end of the connectors, but are not drawn above. The drawing below shows the full pin-to-pin connections with cable color coding.

RJ45 Plug Pin (standard)	Cable Colour	RJ45 Plug Pin (twisted)
1	White/Orange	3
2	Orange	6
3	White/Green	1
4	Blue	4
5	White/Blue	5
6	Green	2
7	White/Brown	7
8	Brown	8

Hooks facing down

Hooks facing down

The individual conductors must be arranged as indicated above, taking reference to the pin numbers on the left (standard).

24.2 Configuring a Web Browser to Work with Access Easy Controller 2.1

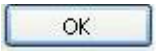
The instructions in this section describes the steps necessary to configure the Web browser to operate with the AEC2.1. In most instances, you will not need to make any changes to the setup of a Web browser to connect to an AEC2.1.

Follow the steps below to configure Microsoft's Internet Explorer version 7.0 and above.

1. Launch **Internet Explorer** and in the menu bar select **Tools** > **Internet Options**. The screen below appears.

2. If you want the AEC2.1 login page to open every time you activate your Web browser, then set the Home page Address to the AEC2.1's assigned IP address in the Address field.
3. Under Temporary Internet Files, click the settings

button to display the settings dialog box as shown below. Confirm that the option in **Check for newer versions of stored pages** is set to **Every time I visit the webpage** as shown below. If it is not, select the corresponding radio button to select this option. This step is necessary to update the 'Activity' user interface menu and to transfer the images from the server to the system periodically. The '**Activity** > **Transactions**' menu lists all the activities performed by the AEC panel.

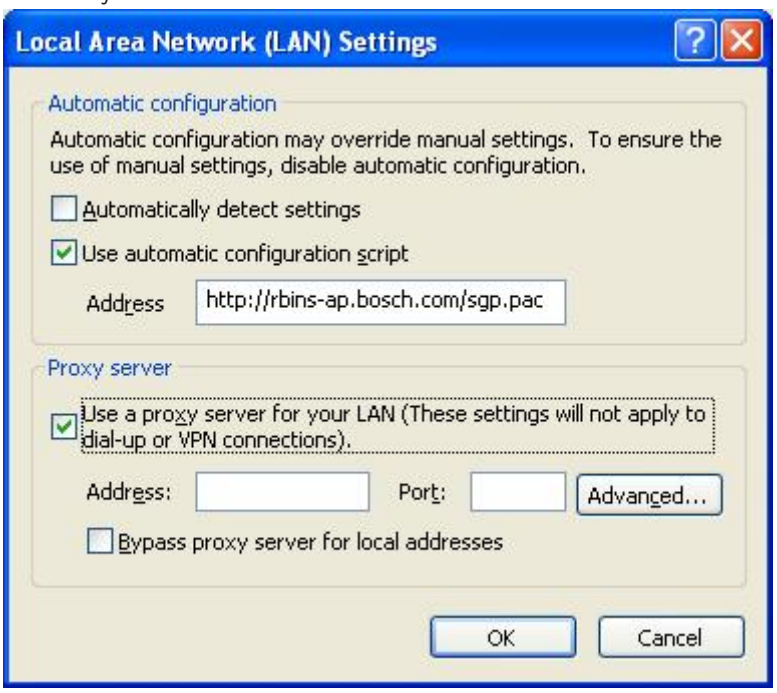
4. Click the 

button to save the changes and exit from the Settings windows. You will return to the Internet Option dialog box as shown in point 1.

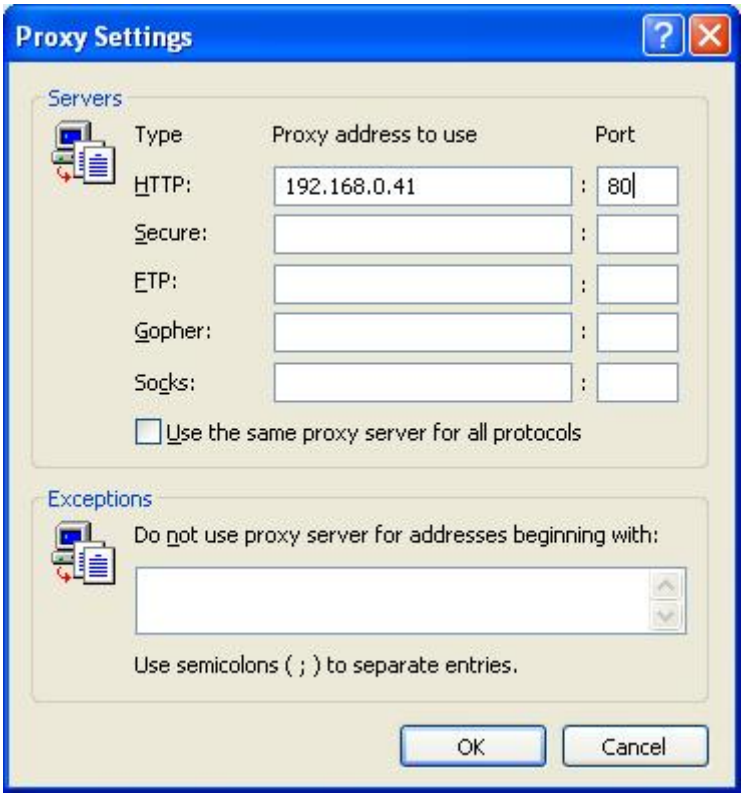
5. From the Internet Option screen, select the **Connections** tab to display the Connections dialog box. This screen below appears.

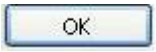
6. Click to display the LAN Settings dialog box.

7. If your network does not use a proxy server, then you can skip and go directly to step 10. If your network does use a proxy server, then select **Use a proxy server for your LAN** in the Proxy Server window as shown below.



8. In the **Proxy Server** window click the **Advanced** button to show the **Proxy Settings** dialog box. In the proxy settings dialog box enter the IP address of the AEC2.1 as shown below.

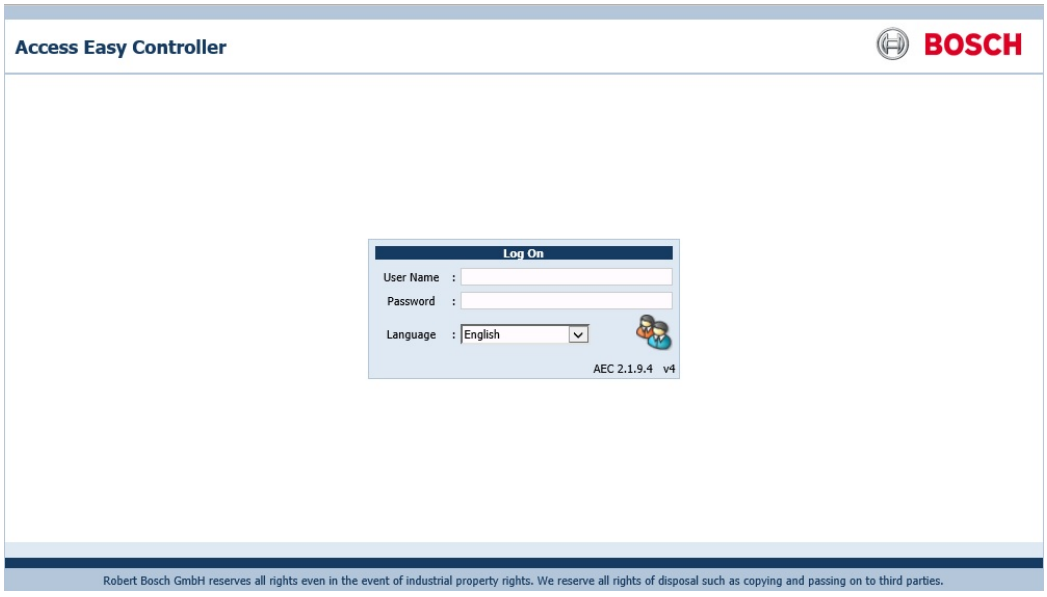


9. Click the 

button repeatedly to exit the Internet Options window.

10. Make sure you have a crossover type network cable connected between the computer and the AEC2.1. Now run the Web Browser program from Windows.
11. Enter the AEC2.1's IP address in the browser's Address box as shown below.

12. This will bring up the login page. The screen below shows the AEC2.1's login page.



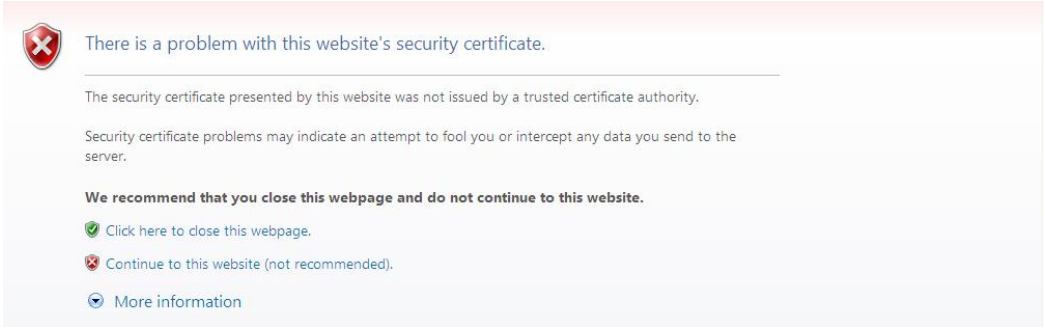
24.3 Install AEC2.1 Certificate on a Windows Computer

Follow the steps below to install AEC2.1 certificate in Microsoft's Internet Explorer version 7.0 and above.

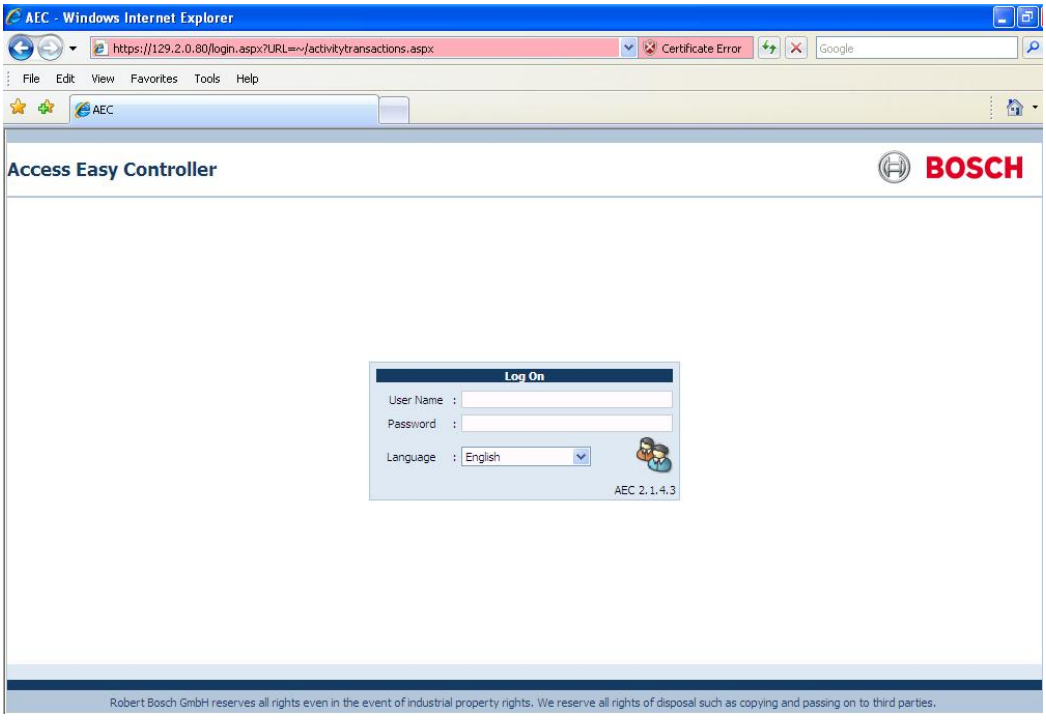
Note: The following steps should be followed if you are prompted with the certificate error message, if not this step should be skipped.

1. Enter the AEC2.1's IP address in the browser's Address box as shown below.

2. This will bring up the certificate error page as shown below.

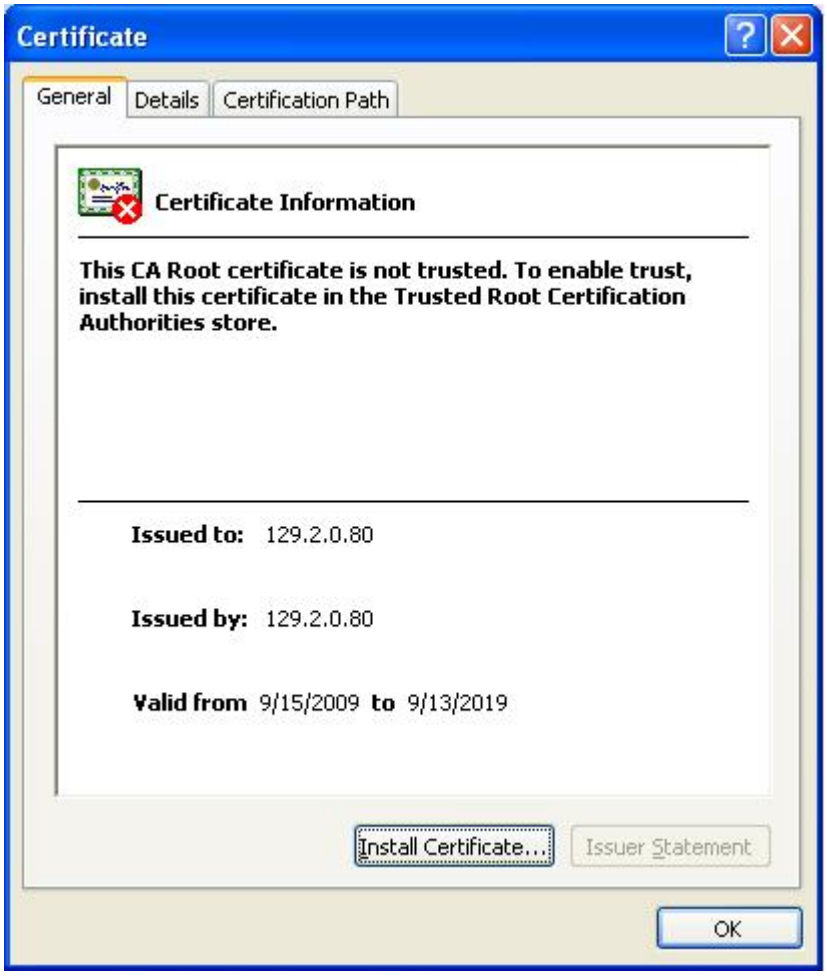


3. Click on the link **Continue to this website (not recommended)**. This will bring up the login page with the certificate error message as shown below.



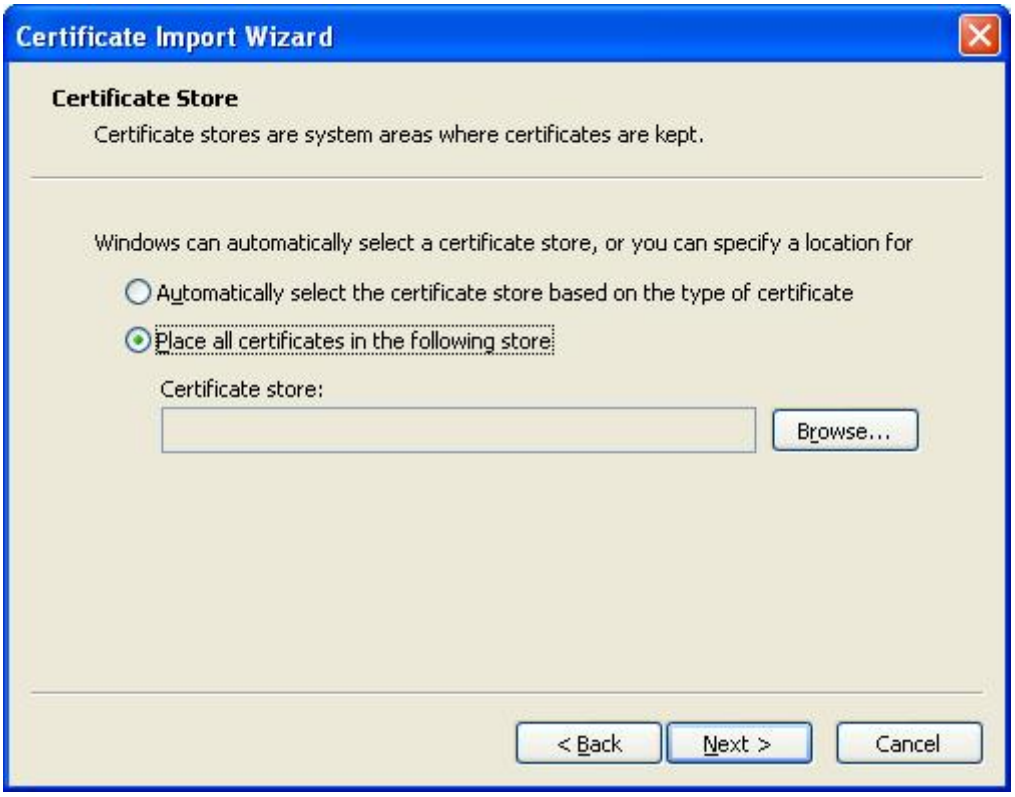
4. Click on **Certificate Error** message and click the **View certificates** link as shown.

5. The screen below shows the certificate dialog.



6. In the **General** tab, click **Install Certificates**. The screen below appears.

7. Click the **Next** button to start importing the certificate.



8. Select the radio button **Place all certificates in the following store**. Click the **Browse** button to select a location to save the certificates. The following window pops up for you to select the location.

9. Select the location **Trusted Root Certificate Authorities** and click the **OK** button.

10. Click the **Finish** button to complete the installation. The following security warning prompts.

11. Click **Yes** to complete the installation. Enter the AEC2.1's IP address in the browser's Address box and the AEC2.1 login page appears without the certificate error message.

25 APPENDIX B

This section provides procedure to set the IP Address for the PC.

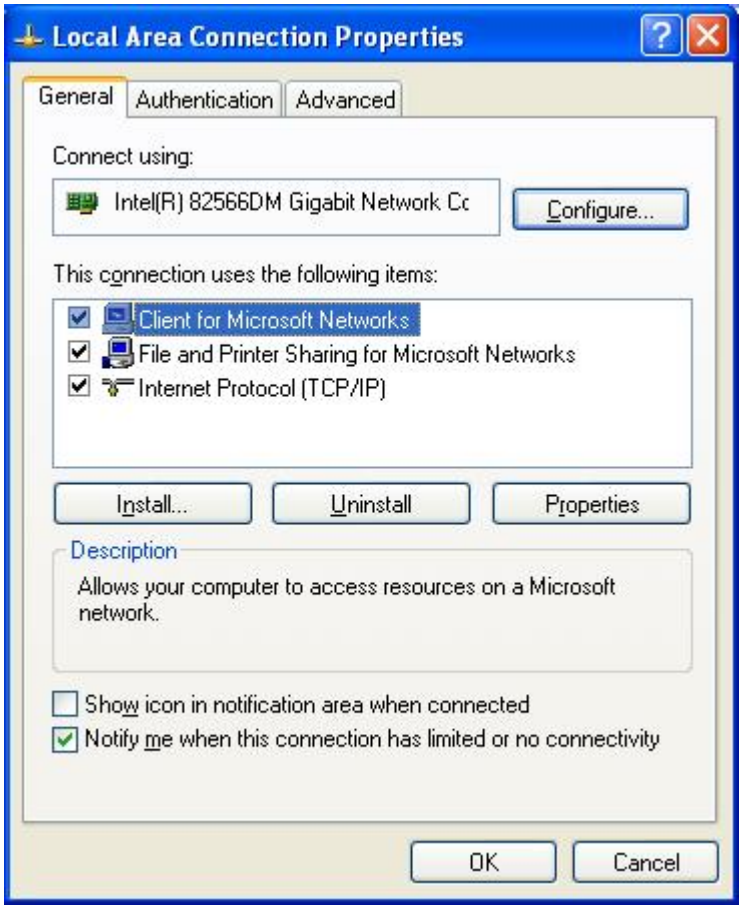
25.1 Procedure to set the IP Address of computer

Follow through the procedures to set the IP Address of the PC.

Notice!
The example described here is based on Windows 98 and Internet Explorer 5. Differencesmight appear for the dialog box, displays, or description if other version or different operatingsystem is used. However, the principle of setting is the same.

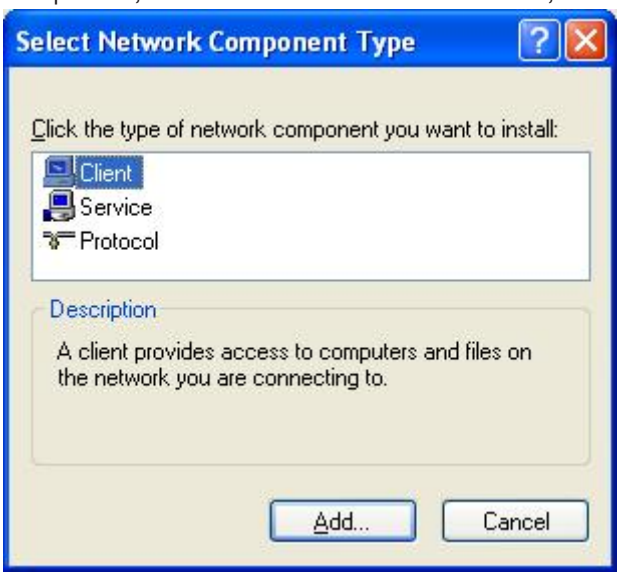
1. Click the start button, followed by **Settings** > **Control Panel** > **Network Connections**.

2. Double-click the existing network connection icon and select **Properties**, the screen below appears.

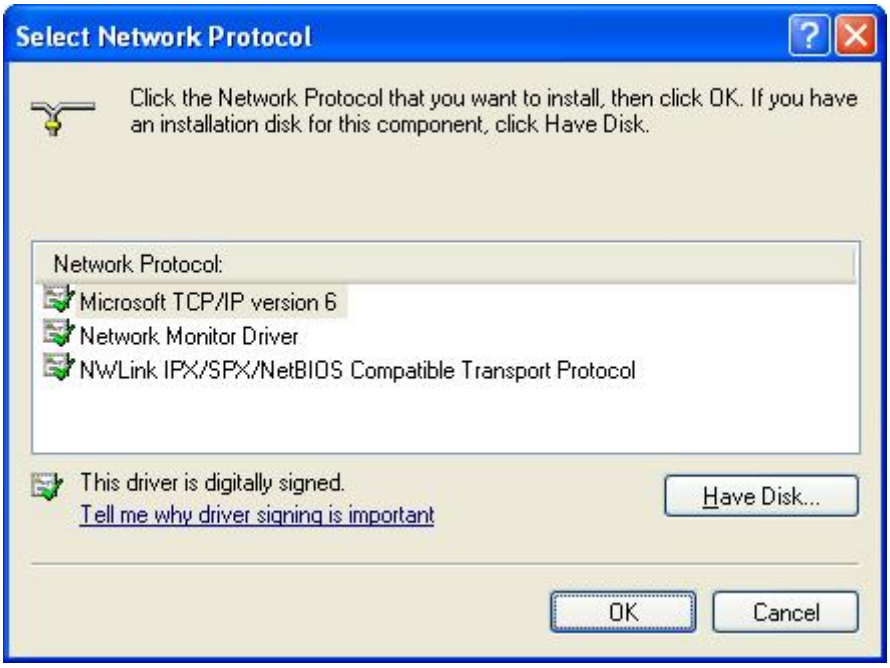


3. Look up for **Internet Protocol TCP/IP** from the list. If the component is found, highlight it by single clicking on it. Then skip forward to step 8 of this procedure. However if the component is not found, continue with steps 4 to 7 and install the component.

4. If Internet Protocol TCP/IP is not found, then you need to install it. To add the TCP/IP component, click the Install... button, the screen below appears:

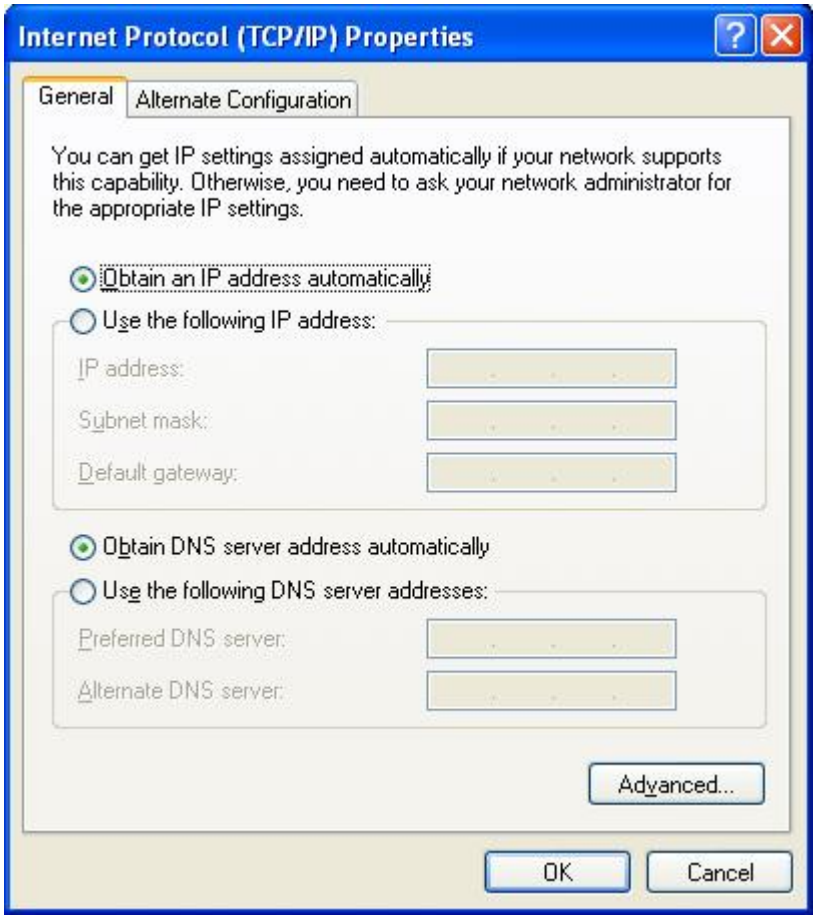


5. Highlight the **Protocol** by single clicking on it, and then click the Add... button.
6. The dialog box below appears. From this box, select **Microsoft TCP/IP version 6** in the Network Protocol window.



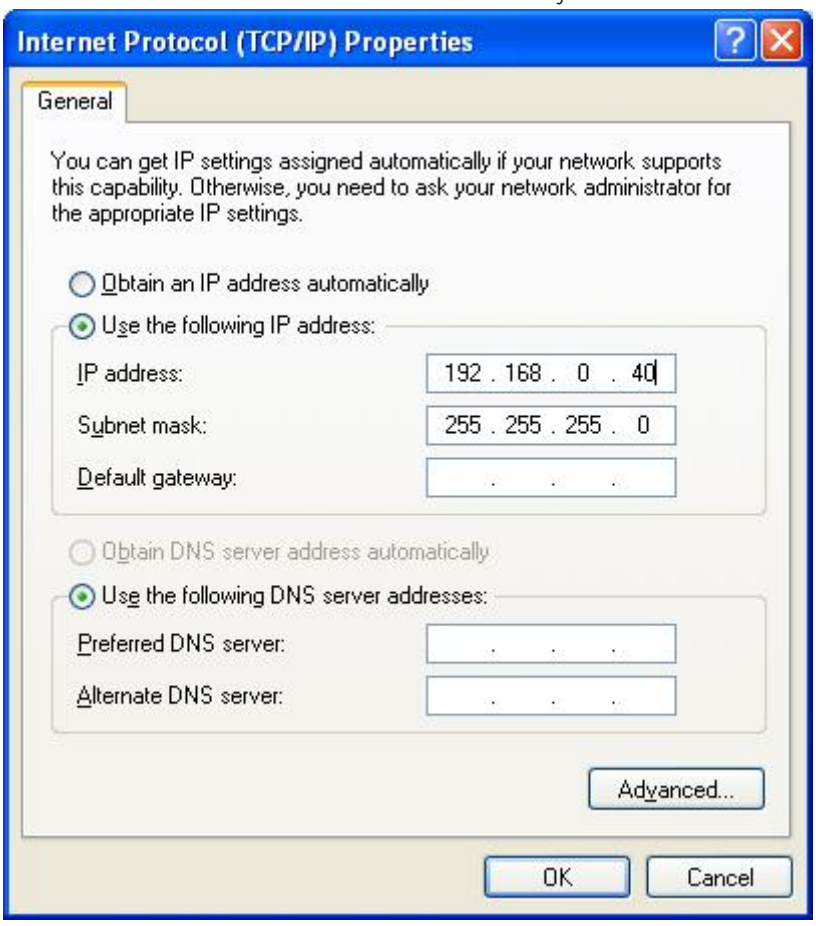
7. Click the OK button to proceed with the component installation. Follow any instructions that may be displayed on the screen. Note that the system may ask you to insert your Windows Installation Disk in the CD ROM drive. When done, go back to step 3 and select the TCP/IP Protocol - network adapter line from the list of installed network components. Then proceed to step. 8.

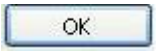
8. With the TCP/IP - adapter component highlighted, click the Properties button to define the TCP/IP Properties. The TCP/IP properties dialog box appears as shown below.



9. Select **Use the following IP address** radio button. This will enable the fields for IP Address and Subnet Mask.

10. Enter the IP Address and Subnet Mask Address. The following examples shows the recommended address and subnet mask to assign to the computer to communicate with a brand new AEC2.1 as received from the factory. Leave DNS field blank.



11. Click the 

button after verifying the IP address and subnet mask.
12. The computer will proceed to configure the TCP/IP settings. When completed, you will be prompted to reboot the computer for the new settings to take effect.

26 APPENDIX C

This appendix list the various Activity transactions found within each category.

26.1 Alarm Activity

No	Transactions
1	Access Denied
2	Invalid Schedule
3	Invalid Start Date
4	Invalid End Date
5	Duress
6	Access Denied - Wrong PIN
7	Access Denied - Passback
8	Access Denied - Timed APB
9	Exit Denied - Passback
10	Invalid Card
11	Door Forced Opened
12	Door Held Open
13	Panel Tamper
14	Panel AC Failure
15	Alarm
16	Auto Deny Access
7	Exit Denied

26.2 Restore Activity

No	Transactions
1	Door Closed
2	Tamper Restored
3	Alarm Restored
4	Power Restored

26.3 Valid Activity

No	Transactions
1	Access Granted
2	Exit Granted
3	Access Granted, Soft APB
4	Exit Granted, Soft APB

No	Transactions
5	PIN Changed
6	Disarmed
7	Armed
8	Turn On
9	Turn Off
10	Door Locked
11	Door Unlocked
12	Door Locked By Schedule
13	Door Unlocked By Schedule
14	Door Momentarily Unlocked
15	Door Access Enabled
16	Door Access Disabled
17	Armed By Schedule
18	Disarmed By Schedule
19	Bypassed
20	Turned Off By Schedule
21	Turned On By Schedule
22	Duration Off
23	Duration On
24	Grant Access
25	Auto Grant Access
26	Access Granted - No Entry
27	Exit Granted - No Entry
28	Access Soft APB - No Entry
29	Exit Soft APB - No Entry
30	Grant Access - No Entry
31	Auto Grant Access - No Entry

26.4 Time Attendance

No	Transactions
1	Clock In
2	Clock Out

27 APPENDIX: Software Licenses

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