

# ***XPressEntry***

## **XPressEntry / Bosch ACE Integration**

**Revision 04/29/2024**

For use with the  
XPressEntry Mobile Access Control  
System

By



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Telaeris, Inc.

4101 Randolph Street

San Diego, California 92103

United States of America

(858) 627-9700

[www.telaeris.com](http://www.telaeris.com)

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## Purpose

This document is intended to instruct users on how to synchronize an XPressEntry system with a **Bosch ACE** system. XPressEntry has the capability of providing access control management from a handheld device. For XPressEntry setup information, see the document, “XPressEntry Installation and Upgrade” found at <https://telaeris.com/documentation>.

## Pre-requisites/Requirements

1. XPressEntry 3.5+
2. Bosch ACE Version 4.3.9
3. Bosch API License
4. Windows 8.1+ or server type equivalent

## Setting Up Bosch ACE to Synchronize with XPressEntry

It is assumed that a version of **BIS** (Bosch Integrated System) and **XPressEntry** are installed on computers or virtual machines that can **talk to each other**, or the **same** computer or virtual machine. The Access Engine (ACE) should also be included in this

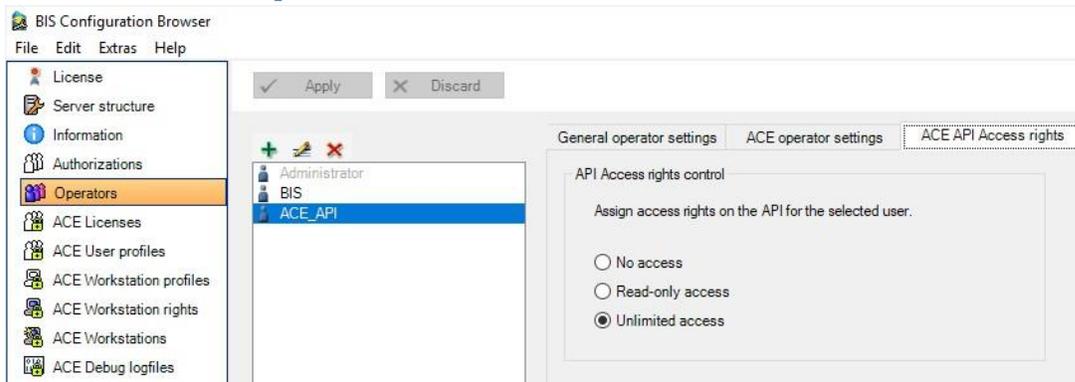
To install XPressEntry, you should have Administrator privileges on its respective machine. You should additionally be an **Administrator** or super user in the **Bosch ACE** System.

## Order of Operations

1. Setup Bosch ACE’s Data and Settings
2. Enable XPressEntry Synchronization
3. Set up XPressEntry Data

## Setup Bosch ACE’s Data and Setting

### Create Bosch API Operator



1. Open **BIS Configuration Manager**
2. Open the existing active configuration and log in.

3. Select **Operators**, then add an Operator that has **unlimited** access under ACE API Access Rights.

## Set up Bosch Reader Data

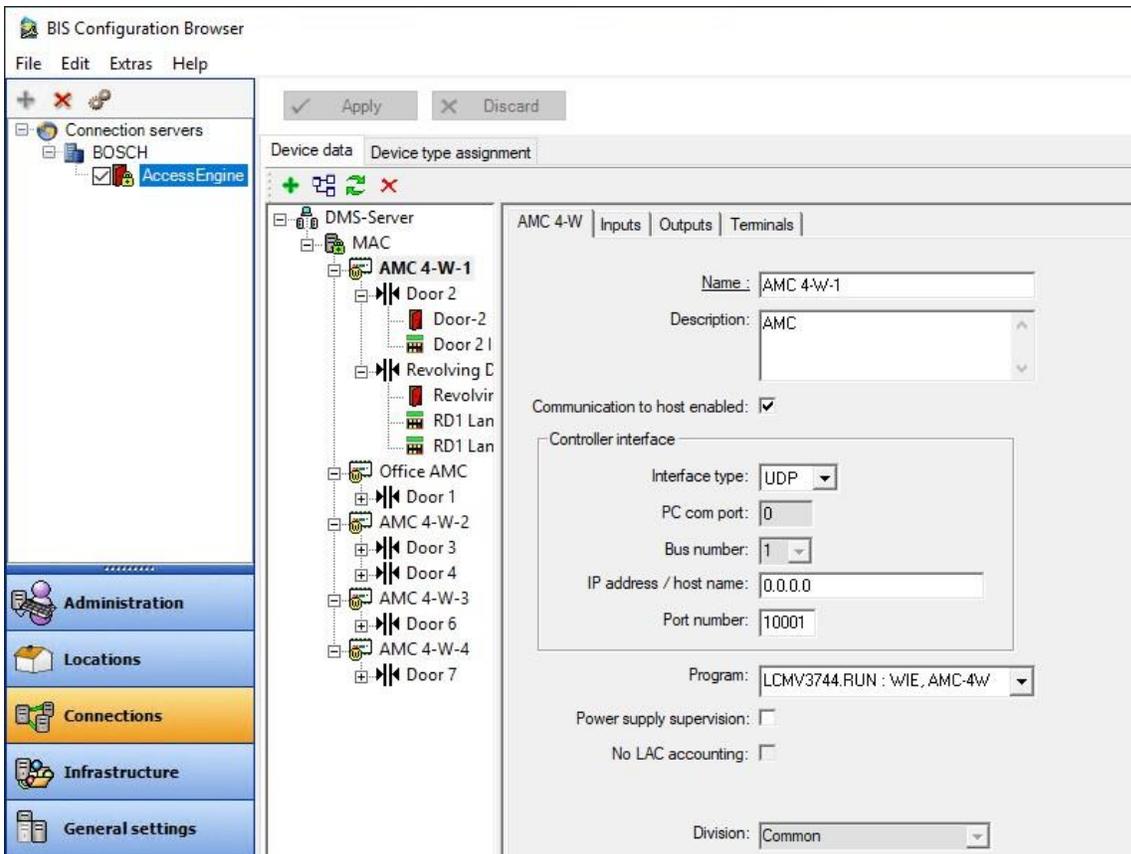
XPressEntry has two main modes – **Entry/Exit** and **Muster**. This section walks the administrator through the process of setting up Bosch Readers for both modes. These modes can be used simultaneously.

### Entry/Exit Mode Setup

**Each XPressEntry handheld device can represent two readers in Bosch at any given time** – one for Entry and one for Exit. An XPressEntry handheld can toggle between Entry and Exit mode as needed.

A handheld operator can **dynamically switch between Doors** on an XPressEntry handheld if the appropriate settings have been set within XPressEntry.

**Doors** (called **Entrances** within BIS) are configured in the BIS Configuration Browser and pulled into XPressEntry.

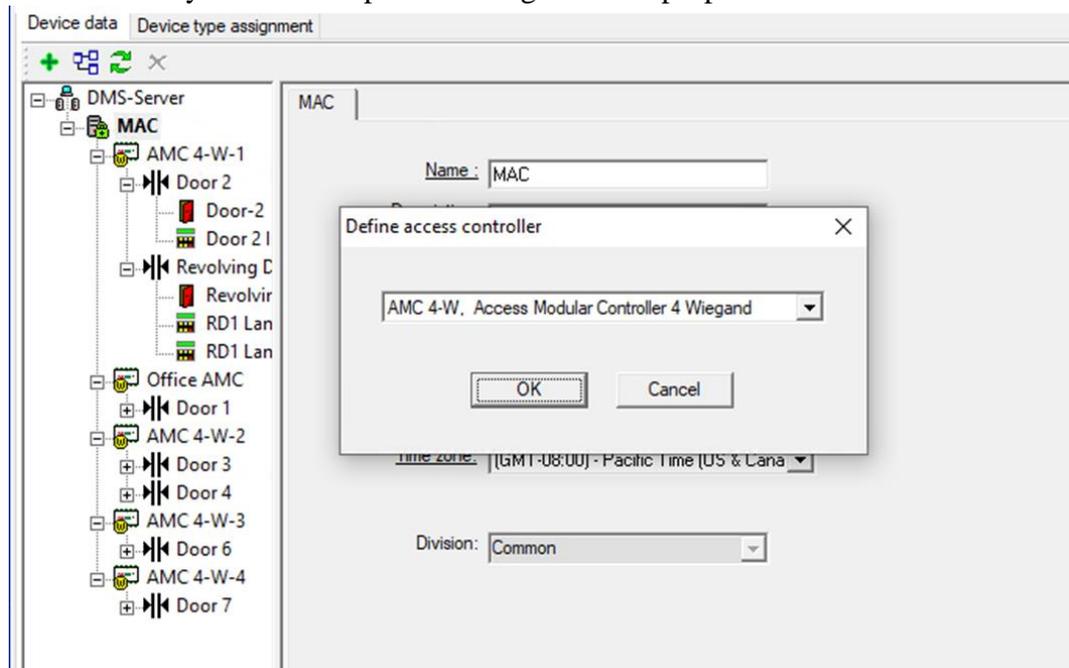


1. Open **BIS Configuration Browser > Connections**.
2. Follow **one** of the below paths in setting up Doors (Entrances):
  - a. Create **one door** in Bosch **per** handheld device.

- i. Each scan from this handheld device will report as a **reader** from this door.
- ii. **Access rules** that are applied to this door will **always** apply to the handheld.
  1. The handheld cannot change access rules on the fly because it is always assigned to the same door.
- b. Create a door in Bosch for **each location** where a handheld will be used.
  - i. The handheld will be assigned to one of these doors based on where the handheld is **physically located** at that time.
    1. **Example:** A guard is located at the Front Entrance where he/she is scanning cards as people enter. The guard's handheld is assigned to the **Front Entrance Door**. A person who enters is **validated** by the handheld based on whether they have **access** to the **Front Entrance Reader** within Bosch. The guard is later told to relocate to the Back Gate. The guard changes the Door on his/her handheld to **Back Gate**. The handheld now **validates** a person based on whether that person has **permission** to access the **Back Gate**.

Create as many doors as are required for your system. To create a door:

1. Add an Access Control Module by right clicking **MAC** and selecting **New Object**.
2. Select the **4 Wiegand ACM**.
  - a. This is not a physical controller unit, just a logical unit.
3. Alternatively, you can utilize an existing ACM, but it is recommended to keep the XPressEntry entrances separate for organization purposes.



After an ACE has been added:

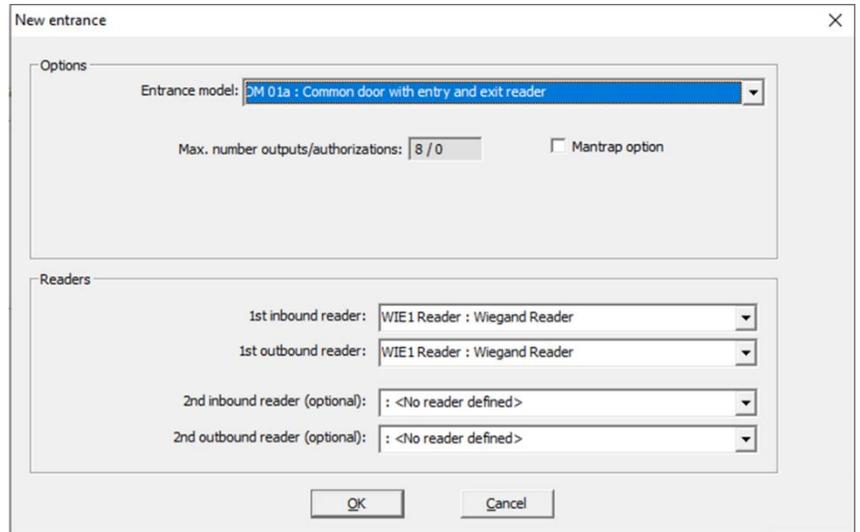
1. Add an Entrance to a Controller.

2. Right click **New Controller**
3. Select **New Object > New Entrance.**

4. The most common configuration is to use a **single inbound reader** and a **single outbound reader.** However, XPressEntry can support other configurations with the following rules:

- a. If an Entrance has two inbound readers, two outbound readers, or two inbound and two outbound readers, this will be reflected as **two doors** within XPressEntry. These doors will share the **same access rules.**
- b. If **no inbound** or **no outbound** reader exists within an entrance, a scan from the missing side will always result in **Access Denied.**

5. Once the entrance has been created, select **OK.**

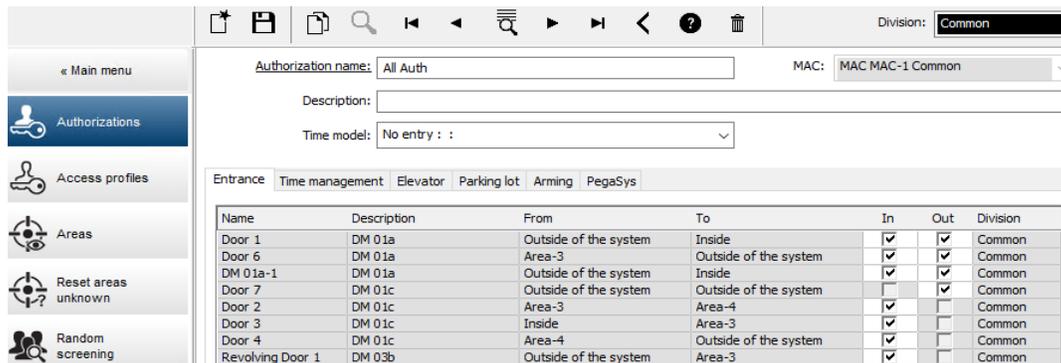


You have the option to configure the **areas** a door is attached to. However, this is not required for entry/exit or non-mustering systems.

1. Entry scan – a person moves from the Location area to the Destination area.
2. Exit scan – a person moves from the Destination area to the Location area.

To give people access to these entrances, you must assign Bosch Authorizations to them.

1. Open the **Access Engine** software from BIS
2. Go to **System Data > Authorizations.**
3. Select the relevant System Authorizations and check **In** or **Out** on the new entrances.



## Muster Mode Setup

XPressEntry can monitor **all Bosch reader scan activities.** This allows the software to determine who is on property, who is off property, and where people are within the property.

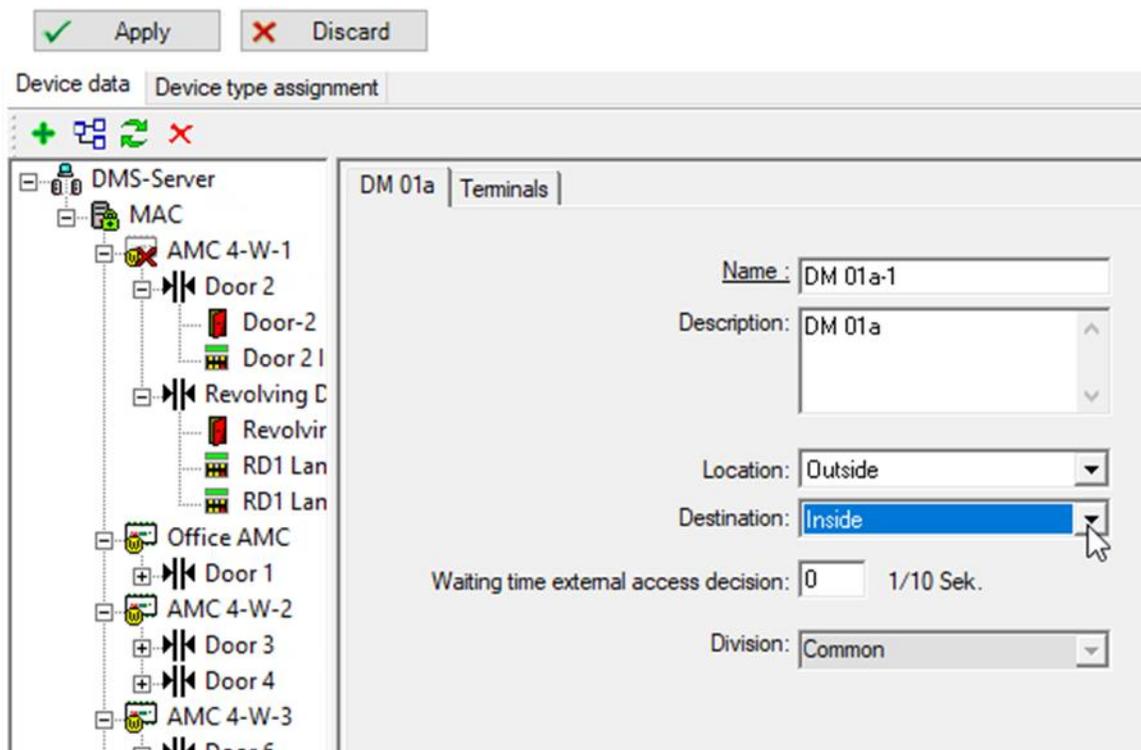
To configure occupancy tracking:

1. Navigate to BIS Configuration Browser
2. Select **Connections** and review each door that is available for reader scans.
3. Ensure that the **Location** and **Destination** fields are set for each door that stands between one Location and another.

The simplest Mustering setups track who is on site and who is off site at **exterior** readers only.

1. Each time a person scans at the “**In**” reader, XPressEntry knows to account for this person during an emergency.
2. Each time a person scans at the “**Out**” reader, XPressEntry knows that this person is no longer on site, thus does not need to be accounted for.

Muster system setups can also be more detailed. To give more detailed information on where people are at the time of emergency, configure the areas attached to inner doors.



**Example setup:**

Entrance Gate	Location = Outside	Destination = Lobby
Lobby Inner Door	Location = Lobby	Destination = Inner Offices
Back Gate	Location = Outside	Destination = Back Patio
Back Door	Location = Back Patio	Destination = Inner Offices

## Enable XPressEntry Synchronization

XPressEntry uses a module called Data Manager to synchronize all data with Bosch ACE. From the main page of XPressEntry, go to XPressEntry > Settings (ALT+S or **Tools > Settings**).

The screenshot shows the XPressEntry Administrator interface. The 'Settings' menu is open, and the 'Data Manager' tab is selected in the sidebar. The main area displays 'All Zones (Occupancy: 18)' with a grid of user photos and details. Below this is a table titled 'Activity Occurring in Last Day'.

User	User Image	Time Stamp	Start Zone	End Zone	Door	Reader	Entry Granted
Spears, Zachery		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
Howell, Jo...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
Villarreal, ...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
David, Leo...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
Atkinson, ...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True

### Data Manager Tab

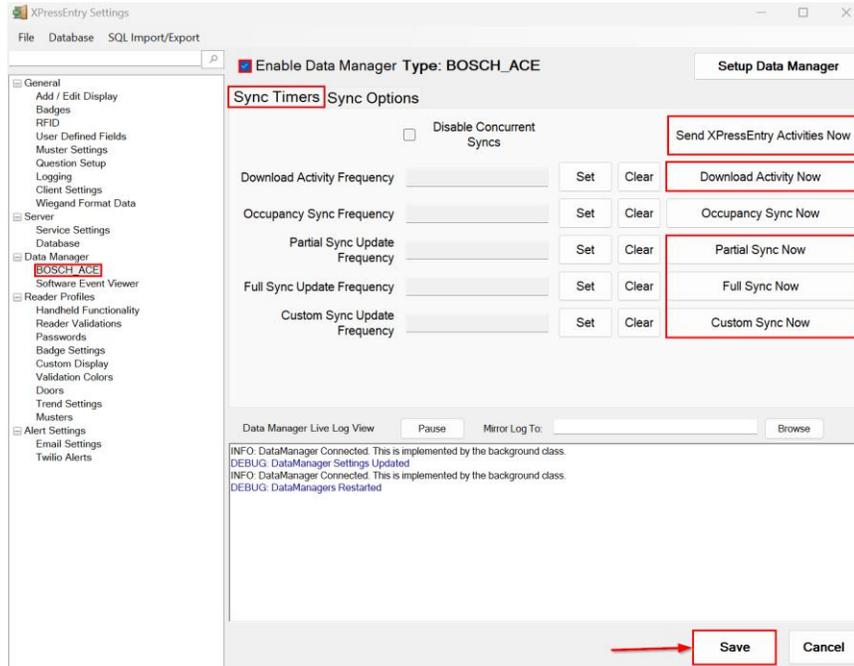
From the Settings page select the Data Manager Tab.

1. **Type** – This is the integration type. Select **BOSCH ACE > Add > Save**.
2. Go to **Data Manager > BOSCH ACE** in sidebar menu.
3. **Setup Data Manager** – This sends you to the setup form for BOSCH ACE data manager.

The screenshot shows the 'XPressEntry Settings - Database' window. The 'Data Manager' tab is selected in the sidebar. The 'Type' dropdown is set to 'BOSCH ACE'. The 'Name' field contains 'BOSCH\_ACE' and the 'Prefix' field is empty. The 'Add' button is highlighted with a red box. The 'Save' button is highlighted with a green box and a red arrow.

## Sync Timers

XPressEntry uses Timers to pull Bosch ACE data into XPressEntry.



1. **Download Activity Frequency** – Pulls reader scan records into XPressEntry and stores them in XPressEntry’s activity table. This function also updates the zone occupancy.
2. **Occupancy Sync Frequency** – Updates the zone occupancy without storing the activity records. *Not used with Bosch ACE.*
3. **Partial Sync Frequency** – Pulls all data excluding cardholder data, including readers, areas, access levels. It will only grab the last x number of users that were added to the system.
  - a. **Do** use this sync to quickly update any table in XPressEntry.
  - b. **Do NOT** use this sync to delete a user from XPressEntry who was deleted in Bosch ACE.
  - c. **Do NOT** use this sync to update a user from XPressEntry who was changed in Bosch ACE.
4. **Full Sync Update Frequency** – Updates all tables by pulling all necessary records from Bosch. This function may take some time.
  - a. It is recommended to run a full sync **once per day** in the middle of the night when the system is not busy.
5. **Custom Sync Frequency** – Updates a set of tables that the user configures.
  - a. To configure, right click **Custom Sync Now** and select **Edit Custom Sync**.

## Sync Options

The screenshot shows the 'XPressEntry Settings' application window. The left sidebar contains a tree view with categories like General, Server, Database, and Alert Settings. The 'Database' category is expanded, and 'BOSCH\_ACE' is selected. The main area is titled 'Sync Timers Sync Options'. At the top, there is a checkbox for 'Enable Data Manager Type: BOSCH\_ACE' which is checked. To its right is a button labeled 'Setup Data Manager' enclosed in a red box. Below this, there are several configuration options: 'Pull Data Manager Occupancy' (unchecked), 'Pull Data Manager Activities into XPressEntry' (checked), 'Push XPressEntry Activities to Data Manager' (checked), 'Send Activities Retry Count' (set to 3), 'Watch Tables via Software Events' (checked), and 'Enable Message Queue' (checked). There are also dropdown menus for 'Default Outside Zone', 'Default Role', 'DMPrefix', and 'Muster Scanned Users' (set to 'never'). At the bottom of the main area are two buttons: 'Clear Data Manager Settings' and 'Clear External Data'. Below these is a 'Data Manager Live Log View' section with 'Pause' and 'Mirror Log To:' buttons. At the very bottom, there are 'Save' and 'Cancel' buttons. A red arrow points to the 'Save' button, which is highlighted with a green box.

1. **Pull Data Manager Occupancy** – Enables use of the Occupancy Sync. Not used with Bosch ACE.
2. **Pull Data Manager Activities into XPressEntry** – Enables use of the Activity Sync.
3. **Push XPressEntry Activities to Data Manager** – Enables XPressEntry to push Scan data to Bosch ACE.
4. **Send Activities Retry Count** – Number of times XPressEntry will attempt to resend an activity if it fails.
5. **Default Role** – The default XPressEntry Role that will be assigned to users if the integration does not otherwise assign a role. Entrants are recommended but not required.
6. **Muster Scanned Users** – Enables sync to convert scans from specific readers to be converted into Muster Scans which mark users as safe. Muster readers must be configured in the reader data. Please see *Mustering Documentation* for more details.
7. **Setup Data Manager Button** – Opens Bosch ACE specific settings.
8. **Clear Data Manager Settings** – Resets all settings on the two above tabs, as well as the Bosch ACE specific settings.
9. **Clear External Data** – Deletes all data synced from Bosch ACE from the XPressEntry Database.

## Bosch Data Manager Setup Page

Press the **Setup Data Manager** button to get the Bosch ACE specific setup screen. In the new window, you will see the following:

The screenshot shows the BoschDataManager setup window with the following fields and values:

- Server: Bosch
- Username: ACE\_API
- Password: \*\*\*\*\*
- Database Connection String: Data Source=1.2.3.4/BIS\_ACE;Trusted Connection=True;
- Picture url: http://1.2.3.4/mgt/AccessEngine/CardholderImages/
- Starting Event ID: 0
- Current Event ID: 24358
- My IP Address: 10.10.32.38
- Event Port: 1235
- Use Card Code:
- Trim Card:
- Send Activities Over Database:
- MT Events:
- Muster Reader Identifier: muster
- Starts With:

1. **Server**– Name of the server where Bosch software is located.
2. **Username** – Username of the Bosch Operator with API Access.
3. **Password** – Password of the Bosch Operator with API Access.
4. **Picture URL** – The route to the picture directory.
5. **Use Card Code** – Used to get Card Number and Facility Code.
6. **Trim Card** – Remove leading 0s from Card Number and Facility Code.
7. **Send Activities over Database** – Force XPressEntry to utilize Database connection string to insert events into Bosch Events database.
8. **Database Connection String** – Connection string to the BIS Database. Only used if:
  - a. Send Activities over Database is checked.
  - b. BIS database contains a Telaeris provided Stored Procedure that inserts an Event into the BIS events database.
9. **Starting Event ID** – The Event ID to reset to. To change the Current Event ID, set the starting Event ID and press Update.
10. **Current Event ID** – The last Bosch Event ID received by XPressEntry.
11. **MT Events** – Multi-threaded Event Listener. Unchecking this is *not recommended*.
12. **My IP Address** – IP address of the XPressEntry Machine. This is necessary for the Event Listener as it is the IP address will send events to.
13. **Event Port** – TCPIP port Bosch will send events to. Necessary for the Event Listener.
14. **Muster Reader Identifier** – Identifies a Bosch Reader as a Muster Reader. Activities coming from a Bosch Reader with this naming convention are processed in XPressEntry as a Muster Activity (Marking the scanned person as safe).
15. **Starts with** – If *unchecked*, a Muster Reader only needs to *contain* the Muster Reader Identifier. If *checked*, a Muster Reader must *start* with the Muster Reader Identifier.

Click **Test API** after entering all the data correctly – this will connect to the Bosch ACE access control system.

- **Success** will display if connected to Bosch ACE successfully.
- Any **errors** in the connection will show in the same result window.

Exit out of this form. On the Data Manager tab of the Settings form, select **Save**. It is now time to begin syncing data.

## Set Up XPressEntry Data

After setting up the data manager, run the initial Full Sync to pull data from Bosch ACE. Once the Bosch system is set up and synchronizing, you will see this data represented in XPressEntry under the **Add/Edit Info** tab.

Data which is imported from Bosch ACE **cannot be changed** and is greyed out in XPressEntry without proper permissions.

## Sync Check

The purpose of this section is to help the operator understand exactly what data XPressEntry is pulling from Bosch ACE.

The mapping of each Data pulled from Bosch ACE is shown below:

<b>Bosch ACE</b>	<b>XPressEntry</b>
Companies	Companies
Persons	Users
Cards	Badges
WIE1 Readers	Readers
Entrances	Doors
Authorizations	Groups
Time Models	Timezones

## Sending Activities to Bosch

The Bosch ACE API does not have a built-in way to receive handheld scan activities. What Telaeris can provide is a **stored procedure** that accomplishes two things:

1. Adds a Record to the **Bosch Events table** which shows which person was scanned, when they were scanned, and the Reader at which they were scanned. It also includes fields such as **Card Number** and **Facility Code**.
2. The stored procedure can **update the current Area** the User is in within Bosch, assuming the User did not perform a more recent scan.

It is *not required* to implement this stored procedure. Alternatively, activity reporting from the handhelds can be run out of XPressEntry's reporting module. However, if you would like to see the handheld activity events stored in Bosch, *please talk to Telaeris about implementing the stored procedure.*

The stored procedure is not included in the software by default. Configuring the activity push (as shown in the “Data Manager Setup” section) without the stored procedure will result in an error upon each handheld scan.

Once the stored procedure is implemented with the assistance of Telaeris, scan a card on a handheld device. The XPressEntry Server will push this scan activity to the Bosch events database, which can be viewed as shown below.

Building Integration System

Total number of events: 500

Server Name	Event Time	Address	Detector type	State name	Operator	AREA NAME	CARDID
BOSCH BIS_ACE	4/2/2020 11:20:45 PM 000	AccessEngine.Devices.Door1 Lane 1 In.Event	READER	Access		Inside	001358066FB4701E
BOSCH BIS_ACE	4/2/2020 11:19:56 PM 000	AccessEngine.Devices.Door1 Lane 1 In.Event	READER	Access		Inside	001358066FB4701E
BOSCH BIS_ACE	4/2/2020 11:19:00 PM 000	AccessEngine.Devices.Door1 Lane 1 In.Event	READER	Access		Inside	001358066FB4701E
BOSCH BIS_ACE	4/2/2020 11:17:19 PM 000	AccessEngine.Devices.Door1 Lane 1 In.Event	READER	Access		Inside	001358066FB4701E
BOSCH BIS_ACE	4/2/2020 11:15:52 PM 000	AccessEngine.Devices.Door1 Lane 1 In.Event	READER	Access		Inside	001358066FB4701E
BOSCH BIS_ACE	4/2/2020 11:13:36 PM 000	AccessEngine.Devices.Door1 Lane 1 In.Event	READER	Access		Inside	001358066FB4701E
BOSCH BIS_ACE	4/2/2020 8:17:01 PM 000	AccessEngine.Devices.Door1 Lane 1 In.Event	READER	Access		Inside	001358066FB4701E

## Activities Caveat

If configured, XPressEntry adds events to the events database. However, it is not possible for XPressEntry to add these activities to the ACE Entrance Events report. This is because the records displayed in this report are not stored in the database, rather they are stored in a file in which XPressEntry does not have access to.