



INTEGRITI DORMAKABA PLUGIN



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Integrati Dormakaba Integration Manual

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Overview

The purpose of this document is to provide information on the Integriti Integration to the Dormakaba BCOMM software, via its HTTP Helper, which manages Dormakaba hardware. This guide should answer any questions about what the interface does, as well as assisting with basic configuration of the integration.

What does the Integration do?

Integration to the Dormakaba BCOMM software allows the synchronisation of users and access permissions between the Integriti system and BCOMM system. The Integriti server provides the head-end control for the entire system allowing a single point of administration for all Events, Users and Doors. Locking devices within the Dormakaba BCOMM System can be integrated with Integriti on a per door basis.

Features	Supported
Synchronize Users from Integriti to Dormakaba	Y
Synchronize Card data from Integriti to Dormakaba (1 per User)	Y
Synchronize Doors from Integriti to Dormakaba	Y
Receive Live Door events from BCOMM	Y
Control Dormakaba Doors from Integriti Pro	Y
Synchronize changes from Dormakaba to Integriti	Via Import

Prerequisites

- Integriti Pro v22 license or higher
- Integriti Pro Version 22.1 or Later
- Integriti Dormakaba plugin version 1.0 or Later
- Integriti 3rd Party Door Licenses 996941
- Dormakaba BCOMM v5.2.1 or later
- Dormakaba Actuators
 - C-Lever Pro Mifare Wireless BLE E61 V4
 - Digital Cylinder Mifare Wireless BLE E360 V4
 - Reader Remote Mifare Wireless BLE E361 V4
 - MC Cylinder Mifare Wireless E321 V4
 - C-Lever Compact Mifare Wireless BLE E360 V4
 - C-Lever Air Mifare Wireless BLE E360 V4
 - This will need to be configured as the above C-Lever Compact in Integriti

Licensing

This integration is licensed on a per- Dormakaba Door basis under license 996941 (Third Party Doors). The number permitted by this license will determine the number of Doors that can be synchronised to the connected Dormakaba BCOMM System.

In the case that the maximum number of doors has been reached, any new doors that attempt to synchronise to the BCOMM System will not be synchronised. A message in the Integriti Log detailing the Door that could not be synchronised when this occurs; doors previously synchronised to Dormakaba before reaching the limit will still receive updates.

Dormakaba BCOMM Setup

Initial Dormakaba BCOMM Integration setup

Follow the instructions 'BCOMM Installation' Document provided with the Integration as needed to set the software up from scratch or add Gateways and configure the Application Interface to communicate with the Integration:

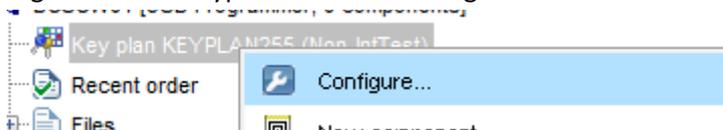
- Note the Port configured in the 'Server' section when using the 'Helper Configurator', this is the Port used in the 'Port' property of the Integrated Device.
- Note the Port and Name of the Gateway Stream configured when setting up the 'Application Interface', the Port is used as the 'Listener Port' and the Name needs to be selected as the 'Gateway Stream' in the Integrated Device.

Dormakaba BCOMM Maintenance

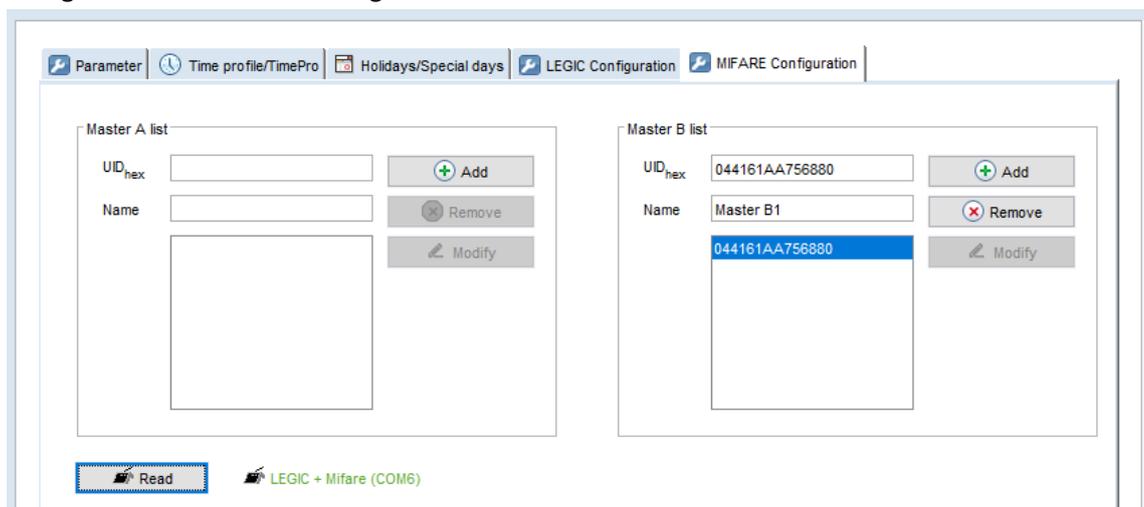
There are then two things that need to be performed in BCOMM once the Integration is in use to ensure the Integration works correctly as Entities are synchronised to it.

First, when Keyplans are added to BCOMM, a Master B Card needs to be read into it to ensure Doors created under it have a Master Card assigned to it to be able to join the Door with Gateways in BCOMM:

1. Right click the Keyplan and click 'Configure'



2. Navigate to the 'MIFARE Configuration' Tab



3. Once text appears next to the 'Read' button indicating the type of Desktop Reader connected to the Server, click 'Read' and place the Master B Card on the reader.

Secondly, when new online Doors are added to BCOMM, they will need to be 'Joined' to their selected Gateway by taking the Dormakaba Programmer and initiating the Joining process.

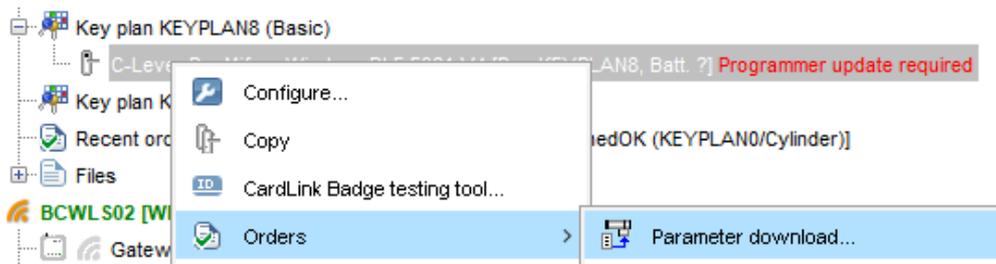
1. Ensure that the Door to be joined to a gateway has a Gateway selected in the Door's 'Dormakaba Gateway' custom field as shown below:



- a. This property is populated with Gateway options by clicking 'Refresh Device' on the Integrated Device.
2. To Join the Door to the Gateway, the Gateway needs to be set into Commissioning Mode. In the BCOMM Software, right-click on the Gateway selected for the Door and select 'Orders' → 'Open network for commissioning' → 'with installation code (Evol component)'



3. If the Door's hardware has not been programmed, it will also need to be programmed so it connects to the Gateway.
 - a. Confirm that the Dormakaba Programmer is connected to the BCOMM Server.
 - b. Once this is confirmed, in the BCOMM software, navigate to the Door found under the Keyplan (Controller) it is created under and double-click it to edit it. Check the 'Masters' Tab to ensure that a Master B Card (configured in the previous section) is present, then click 'OK'.
 - c. After this, right click it, and select 'Orders -> Parameter Download'



- d. Take the Programmer to the Door and program it by swiping the Master B Card, pressing the left option on the Programmer's main menu, then selecting the Door configuration to give the Door.
4. Once this is complete, select the Wrench icon on the Programmer's main menu, select 'Actuator' then log into the Door by badging the Master B Card and then positioning the Programmer against the reader.
5. Once logged in, select 'Wireless -> Join' to get the Door to join the selected Gateway.
6. If successful, the Programmer should display a tick. The Door is now joined to the selected Gateway!

Once this process is complete, the Door will likely display a 'Update Required' message in BCOMM. This is to ensure that the configuration of the Door is as up-to-date as possible once the Door is online. This can be achieved in one of two ways:

1. **Updating a Dormakaba Entity:** An update to all Doors is triggered once a change is made to the BCOMM system, so any change to an entity synchronised to it will update any Doors that have been joined recently.
2. **Calling the 'Execute Parameter/Whitelist Download on Gateways' Command:** This process can also be manually triggered by calling a command on the Integrated Device to initiate the update. See the 'Invoking Commands' section of this Document for more information.

Device Attributes

When configuring a Dormakaba Integrated Device for the first time, configure the 'Connection' section of the Device, then click 'Refresh Device' to populate the 'Dormakaba Settings' section's options.

[-] Connection Configuration	Administrator@192.168.0.206
[-] Connection	
Address	192.168.0.206
Login Name	Administrator
Password	*****
Port	8089
Use HTTPS	<input type="checkbox"/>
[+] Logging	
[-] Dormakaba Settings	
Client Name	Whitelist ▾
Stream Name	BCSCW01 ▾
Gateway Stream Name	BCWLS02 ▾
Controller to Dormakaba Time Zone Map	1 Items ...
[-] User Syncing	
Reverse Card Serial Number Bytes	<input type="checkbox"/>
[-] Application Interface Listener	
Listener Port	3005
Listener Disconnect Retry Interval	00:00:30 ▾
[-] Import Settings	
Import Card Template	Direct X ...

Connection

- *Address* - The IP Address of the Server to connect to.
- *Login Name* – The Username of the User to connect to the server or device with. This User should have sufficient permissions configured to allow use of all of the features of the plugin to be used.
- *Password* – The Password of the User to connect to the server or device with.
- *Port* – The port the BCOMM HTTP Helper is configured to listen on and the Port the Integration will connect to.
- *Use HTTPS* – If set, the Integration will use HTTPS for communication with Dormakaba
- *Certificate Validation Mode* – Determines the Certificates that are considered valid when connecting to Dormakaba and HTTPS is used.
- *Certificate Thumbprint* – The Thumbprint of the specific certificate to be validated

Dormakaba Settings

- *Client Name* – The name of the Dormakaba Client this Integrated Device will connect to.
- *Stream Name* – The name of the Dormakaba Stream this Integrated Device will connect to. The Stream must belong to the Client selected.
- *Gateway Stream Name* – The name of the Dormakaba Stream this Integrated Device will pull Gateway Information from and monitor for Events. The Stream must belong to the Client selected.

- *Controller to Dormakaba Time Zone Map* – Defines the mapping of Controller Time Zones to Dormakaba Keyplan Time Zones. If no conversion is specified for a given Time Zone, the Local Time Zone of the Integration Server will be used for Keyplans or Dormakaba Doors

User Syncing

- *Reverse Card Serial Number Bytes* – If set, the bytes of the CSN of a User’s Credential sent to Dormakaba will be reversed. Eg: ‘8043EA’ would be sent as ‘EA4380’.
 - *For more information on this setting, read the “Integration/Card CSN Settings” section of this document*

Application Interface Listener

- *Listener Port* – The port on which the Integration will listen for events from BCOMM on. This port should match the port configured in the Application Interface of the Stream chosen in ‘Gateway Stream Name’.
- *Listener Disconnect Retry Interval* – Sets the amount of time between attempts to reconnect to the configured Gateway Stream. An attempt will be made immediately on the Stream logging out, failing to reconnect will wait this amount of time before retrying.’

Import Settings

- *Import Card Template* – The Card Template used to create cards for Users created via the Import functionality

Synchronising

The following section details the entities that can be synchronised to BCOMM, the properties that will be synchronised and the conditions for synchronising that entity type.

For more information, please refer to the [Third Party Door Integrations](#) manual, which details the common details for syncing with Third Party Door Integrations.

Controller Association and Synchronisation

Note: When associating Dormakaba Controllers with Integrated Devices, ensure that the Integrated Device is restarted after the Controller is saved so that the Integration can pick up on the new association.

Controllers are synchronised to Dormakaba as Keyplans, synchronising their Timezones (translated by the timezone map configured in ‘Controller to Dormakaba Time Zone Map’), which are used to determine the Timezone of a Door synchronised to Dormakaba.

A Controller will be synchronised to Dormakaba once it has any number of Doors created using it.

However, a Controller’s Keyplan will not be deleted from Dormakaba if it is deleted or if all its Doors are deleted; the Index of the Keyplan will be re-used by a Controller that has Doors added to it that has not been synchronised to the system and the old Keyplan will be replaced by this new Keyplan.

Door Synchronisation

As part of the Door Synchronisation process, the following Dormakaba Door fields are synchronised:

- Name
- Dormakaba Device Type
- Door Unlock Time
- Active Buzzer (where applicable)
- Active Light Ring (where applicable)
- Time Pro Profile

Dormakaba Doors will automatically be synchronised by the Integrated Device that is associated with the Controller the Door was created under.

Other Entity Synchronisation

Time Period Synchronisation

Time Periods will have their Name and Periods, with their day settings, synchronised.

Periods in a Time Period will either apply to Normal Days or Holidays in BCOMM depending on the 'Applies To Holidays' flag of that period.

Time Periods will be synchronised to BCOMM as either Time Pro profiles if they are used by Doors or Time Profiles when used by User permissions.

When Time Periods are synchronised as Time Pros, they will additionally be synchronised with the Custom Field "Dormakaba Time Pro Function", determining its Time Pro Function:

- Standard
- Office
- Office Individual
- Office Media
- Day Night

Note: Holidays that apply to Time Periods are currently not synchronised to BCOMM; utilising this functionality will require configuring Holidays in BCOMM in Keyplans.

User Synchronisation

Users will be synchronised with the following User fields and custom fields:

- Name
- Custom Fields:
 - Can Enable Dormakaba Office Individual

Users are also synchronised with any of its premissions that grant access to a Dormakaba Door, through direct permissions or through Door Lists and Permission Groups. Valid permissions are considered any permission to a Dormakaba Door that follows these rules:

- Permissions cannot be Inverted or Denied
- There is no more than one Time Period qualifying the permission
- Both Entry and Exit is permitted for the permission

Additionally, since there can be multiple, potentially conflicting qualifiers for a single entity, the most restrictive options will be prioritised when they exist.

- If there is any permission evaluating in 'Never' for the entity, the resulting permission will be 'Never'
- Else if there is any permission that qualifies the entity with a Time Period, the resulting permission will use that Time Period as a When.
- Otherwise, the resulting permission will be 'Always'

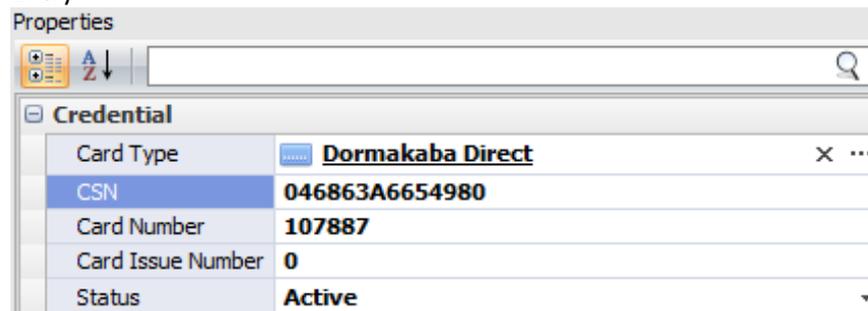
Users will be synchronised to Dormakaba if they are given permission to any Dormakaba Doors through their permissions and they have a valid credential.

User Card/Key Synchronisation

Users will be synchronised with an assigned Card's Serial Number (CSN) allow them access to Dormakaba Doors in the connected Dormakaba BCOMM System. This will work for a Card assigned to a User via Direct Entry or for any Card that has a correct CSN field (which may be assigned values manually or by some enrolment stations eg. SIFER Enrolment).

To assign a Card to its Dormakaba User:

1. Assign the Card to the Integriti User.
 - a. Ensure that the CSN for the Card contains a value if not entered via Direct Entry.



2. Save the User, synchronising it to Dormakaba with the CSN of the Card if it has valid Permissions to Dormakaba Doors.
 - a. This can be confirmed by inspecting the User Media list of any Door the User has permission to.

Integration/Card CSN Settings

Before utilising this feature, the settings of both the Integrated Device and any Card Formats used with the Intergration are configured such that the CSN for a Card synchronised to BCOMM is readable by the Doors and their readers. To do this, you will need to do the following:

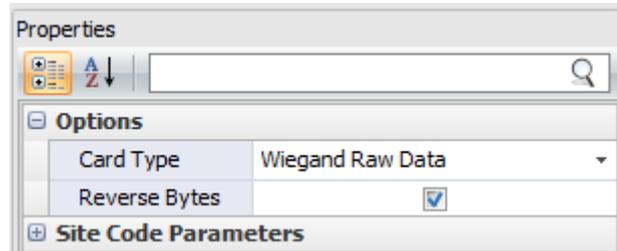
- Read a Card into BCOMM using UID and note the result
- Read the same Card into Integriti using the desired method/s (Direct entry or SIFER enrolment) and note the result

The results will be a hexadecimal string; depending on the order in which the bytes of the CSN are read, every set of two characters can appear in the opposite order eg '8043EA' may be read as 'EA4380'.

If the results of reading the Card are the same, then no Reverse settings need to be set. If the results are in a different order, then the "Reverse Card Serial Number Bytes" setting can be set to true to reverse the data sent to BCOMM.

Note: Comparing the CSN can be made simpler for Desfire cards, as their CSN contains a '80' at either the start or end of the reading depending on the order the CSN is read.

In the case that Cards used with the Integration use Direct Entry and a non-Direct Entry format with different byte orientations in Integrati, a custom Card Format should be created for the Direct Entry Cards used by synchronised Users with the “Reverse Bytes” property set as below.



In this situation, follow the steps above comparing the non-Direct Entry format to the BCOMM reader output to configure “Reverse Card Serial Number Bytes”, then if the Direct Entry and non-Direct Entry formats have different orders, set the “Reverse Bytes” to true.

Note: These settings should be set before Users are synchronised to the BCOMM system; switching these settings once Users have been synchronised can cause issue with Cards being read by Doors in BCOMM and granting Users access to Doors as a result.

Syncing with Multiple Cards

If Users use multiple cards within Integrati and require card syncing to Dormakaba, the Card Template Priority property can be leveraged to give priority to certain Card Types. The lower the number assigned to the Template, the higher priority the Template is considered by the Integration.

Note: The Integration considers Templates with no entry in its Priority to be the lowest priority. As such, it is suggested that values are only assigned to Templates used with the integration that need to be high priority to keep the amount of values that need to be assigned to a minimum.

Event Monitoring

Receiving Events

In the Integriti System Designer software:

1. Using an existing Dormakaba Plugin, ensure that **Maintain Persisted Connection** is ticked.
2. If desired, assign an Operator to “Integriti API Operator” to be used as the Source for Review generated from the Event Monitor.
3. Upon saving the Dormakaba Plugin, Review Messages will be generated for any events involving synchronised Doors, prepended with “[Dormakaba]”

Examples of event text received...

[Dormakaba] Opened (inside handle) Door: R & D Entrance
[Dormakaba] Updated key (online) Door: Site Entrance User Data: 000000045678391A9018
[Dormakaba] Opened (key) Door: Office User Data: 000000045678391A9018
[Dormakaba] DLO Ended (door left open) Door: Office User Data: Automatic

Note: The timezone of the generated Events are determined by the Timezone configured in the Dormakaba Controller the Door in the Event belongs to. By default, this is set to the local timezone of the machine Integriti is running on.

Linked Entities in Review

Review generated from Integration will also link Doors and Subjects (Users in Integriti) in the Review Record, which is viewed by double clicking the given Review or right clicking and selecting “Details...” The Review Record will link the Door from which the event was generated and the Subject (User) involved in the event where available. In the case that the Subject is not a User synchronised from Integriti or that the event provides no Subject, there will be no User linked.

Entities			
Entities		D4, U9	X ...
1st Entity		D4	X ...
2nd Entity		U9	X ...
3rd Entity			X ...
4th Entity			X ...
5th Entity			X ...

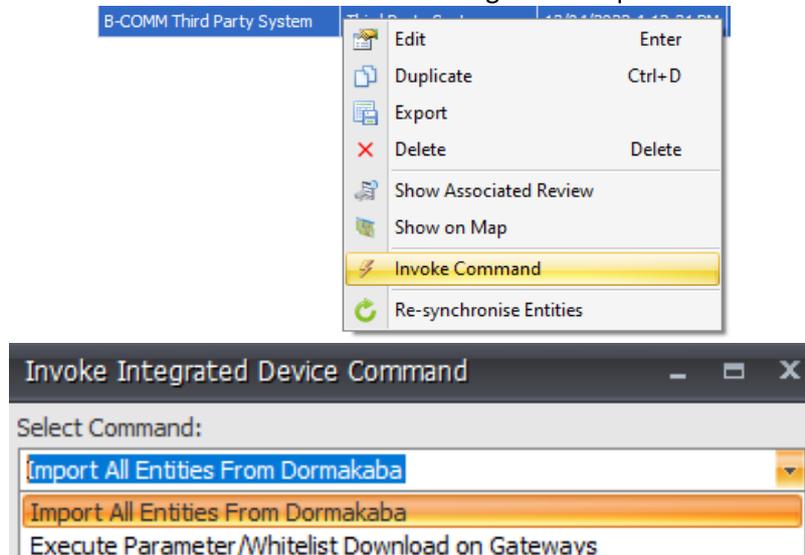
This allows Review generated by the Integration to be leveraged to view CCTV footage when Doors are associated with cameras, both directly from Review referencing a Door and by using the Control Workstation Task Action using a Review filter.

For more information on how this works, please refer to the ‘Integriti Integrations – CCTV’ documentation provided with Integriti.

Invoking Commands

Invoking Commands on Dormakaba Plugin

To perform a command on the Dormakaba Plugin through the Integrity software select 'Invoke Command' from the context menu of the Integration in question.



From the Invoke Integrated Device Command window that appears, select the required command from the dropdown box:

Import All Entities From Dormakaba

The Plugin will perform an import of all User Media, Doors, TimePro/Profiles and Keyplans into Integrity from the Client and Streams configured in the Integrated Device.

Note: Depending on the size of the system, this could take a significant amount of time and the Integration will be unable to synchronise changes during this time.

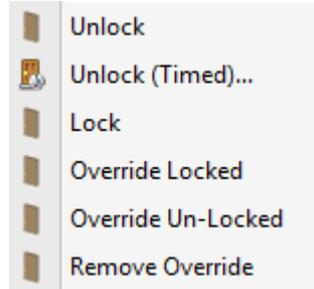
Execute Parameter/Whitelist Download on Gateways

The Plugin will trigger a Parameter and Whitelist download in the Gateway Stream configured in the Integrated Device for each gateway in it. This will push updates to Doors connected to the Gateways, ensuring their configuration and list of User Media is update to date.

Note: This is automatically performed by the Integration after changes are made in BCOMM. This command should only need to be called if an error is thrown performing this action (which appears in Log Viewer) or a Door in BCOMM displays in red text that an update is required AND an order is not running that will update them.

Dormakaba Door Commands

Commands can also be invoked on Dormakaba Doors from the Doors themselves, like commands being invoked Integriti Doors. Simply right click a Dormakaba Door to access commands via the Context Menu, as seen below:



These commands will perform the following:

Unlock	Invokes the 'Door Unlock Mode' Order on the Door, unlocking the Door until another command is called on it.
Unlock (Timed) ...	Invokes the 'Door Open Once' Order on the Door for the specified amount of time.
Lock	Invokes the 'Door Normal Operation' Order on the Door, returning it to normal Operation, locking the Door.
Override Locked	Invokes the 'Door Lock Shutdown Mode' order on the Door, locking it and preventing it from being opened via a successful badge.
Override Un-Locked	Invokes the 'Door Unlock Mode' Order, unlocking the Door until another command is called on it.
Remove Override	Invokes the 'Door Normal Operation' Order on the Door, returning it to normal operation, locking the Door.

Note: The 'Toggle' action that can be performed on Doors via Actions is not supported by the Dormakaba Integration.

Troubleshooting

<p>'A task was cancelled' exception on Commands or Syncs</p>	<p>This can often mean that the BCOMM Helper Service has locked up or is otherwise unresponsive. Restarting the service should restore the service if it was locked up, otherwise there may be a communication issue between the Integration and the BCOMM Helper Service.</p>
<p>'Error convert or send keyplans: error in config' error message in a Parameter Download order</p>	<p>This can mean that a Door that has synchronised to BCOMM has not correctly inherited the Master B card from the Keyplan it was added to. Double click the Door in question, navigate to the 'Master' tab, confirm that a card is selected, the click 'OK'.</p>
<p>Orders on Gateways timing out after a very long time</p>	<p>It has been observed that sometimes the Gateway Stream of B-COMM will run Orders against Gateways that timeout after a very long time (roughly 2-5 minutes). If this happens, restarting the Gateway Stream by restarting the Integrated Device in Integriti should resolve this</p>
<p>Cards/User Media in Doors not being shown in the 'User Media' tab</p>	<p>This can mean that the Master B card information was removed from either the Door or the Keyplan it is synchronised under. Check the Keyplan to ensure the Master B Key still exists and re-read the key in if necessary. Then check the Door to confirm that the key's information is present in the 'Master' tab.</p>

Known Limitations

<p>Holidays for Time Pros and Profiles</p>	<p>Holidays that apply to Time Periods in Integriti are currently not synchronised to BCOMM; utilising this functionality will require configuring Holidays in BCOMM in Keyplans.</p>
<p>Single Dormakaba Integration per Integriti Installation</p>	<p>The Integration works as a standalone Integrated Device and currently does not support having multiple Dormakaba Integrated Devices across an Integriti installation.</p>