

ASSA ABLOY Aperio™

Configuration Guide for Brivo Onair

The integration of Aperio Wireless Technology by Assa Abloy into Brivo Onair introduces a simple and secure solution for access control. Integrating with Aperio has allowed Brivo to introduce a wide variety of quality locks by various respected Assa Abloy Brands.

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Introduction

This installation guide is written for certified Brivo and Assa Abloy Installers. There is fundamental system information that you as an installer or system programmer will need to know prior to configuring this installation. This guide will take you through the necessary steps to connect and configure the Aperio Hubs and locks with Brivo Onair, through either the ACS300-E or ACS6000-E Control Panels.

This guide assumes the proper installation and linking of Aperio Locks to Aperio Hubs. Although pointing to some best practices, this guide should not be referred to as a replacement for any Assa Abloy guides. This guide will touch on some configuration of the Aperio Hubs and Aperio Locks as it relates to the integration to Brivo Onair. For other Hub and Lock configuration needs, please refer to the Assa Abloy guide associated with the particular Hub and/or Lock that you are installing or configuring.

Supported Locks

Adams Rite A100

The A100 is a wireless keyless entry trim for Adams Rite deadlocks, deadlatches and exit devices. Ideal for both exterior and interior aluminum and hollow metal door applications.

Corbin Russwin and Sargent IN100

Constructed with ANSI/BHMA Grade 1 hardware, the IN100 lock offers high-level security with flexible access control, all at an affordable price. The IN100 lock with is available in cylindrical, mortise, and exit device configurations.

Adams Rite G100

The Adams Rite G100 wireless digital lock makes extending access control to all-glass doors easy and affordable while maintaining aesthetics. This surface-mounted digital glass door locking solution provides greater flexibility and control for interior office space areas without the need to make costly modifications.

HES K100 / KS100 Cabinet Locks

The flexible integrated solution for extending access control to secure locker drawers and doors. The HES K100 cabinet lock comes standard with locked state & tamper monitoring, optional mechanical key override and over 150 lbs of holding force.

Designed to install easily on most swing handle server cabinet doors, the HES KS100 comes standard with locked state monitoring and utilizes an SFIC (Small Format Interchangeable Core) mechanical key override. An optional extended DPS monitoring sensor can be connected to ensure that the cabinet is closed, locked and secure.

Supported Features

Privacy Mode

Privacy Mode allows the user to place the door in a “Do Not Disturb” state. If the lock supports Privacy Mode, by either pushing a button on the secure side of the door, or on some models by simply engaging the deadbolt, the lock will no longer open for Users that are not in a group with Privacy Override enabled. Privacy Mode will remain active until the door is either opened from the inside, or valid access is gained by someone who has Privacy Override Privileges. Privacy Override can also be cancelled by pushing the Privacy Override button again, or by disengaging the deadbolt. The Default setting is No. Some Assa Abloy Locks do not have Privacy Mode capabilities. Privacy Mode also will not affect the key override functionality of a lock.

Credential Caching

Assa Abloy Aperio locks have the ability to cache up to 1024 credentials (some capabilities and limits do vary). The cache expiration time limit and caching size are configurable through Brivo Onair. Caching is when the lock will remember each credential (up to the limit) that had gained valid access to the lock for the predetermined period of time. Each time that a valid user gains access to the lock, the expiration timer for that credential will reset. When a User’s access is removed from the lock, Onair will send a command to remove the cached credential from the lock. **Note:** The Hub and Lock must be online for the cache removal to take place. In the event that the Lock or Hub are not online at the time access is removed, the lock will require the credential to either be presented while the lock is online, or the cache expiration for that particular credential will have to occur.

Characteristics									Monitoring				
Make	Model	Lock Type	Purpose	Hub	# Doors (Per Panel)	Cards Support	Keypad	Remote Entry	Dead-bolt Monitor	Locked State Monitor	DPS	Privacy Mode	Low Battery
Adams Rite	A100	1*	A*	AH40	30	Prox, iClass	Yes	Yes	No	No	Yes	No	Yes
Adams Rite	G100	2*	B*	AH40	30	iClass SE	No	Yes	No	No	Yes	No	Yes
Corbin Ruswin	IN100	3*	C*	AH40	30	Multi ClassSE	No	Yes	No	No	Yes	Yes	Yes
HES	K100	4*	D*	AH40	30	Multi ClassSE	No	Yes	No	No	Yes	No	Yes
HES	KS100	5*	E*	AH40	30	Multi ClassSE	No	Yes	No	Yes	Yes	No	Yes
Sargent	IN100	6*	F*	AH40	30	Multi ClassSE	No	Yes	No	No	Yes	Yes	Yes

1 - Deadlatch, Deadlock

2 - Deadlock/Boltlock

3 - Cylindrical, Mortise, and Exit

4 - Cabinet Latch

5 - Cam Latch

6 - Cylindrical, Mortise, and Exit

A - Storefront, Narrow Stile, Deadlatch, or Deadlock

B - Single Frameless Glass Door, Deadlock

C - Std Commercial Entry and Std Stile or Flat Panel Rim Exit

D - Cabinet, Locker, and Drawer

E - Server Rack (Review Compatibility Chart)

F - Std Commercial Entry and Std Stile or Flat Panel Rim Exit

System Requirements

Aperio Hub Specifications (AH-40)	
Wireless Range	Up to 50' between Hub and Lock using internal antenna perpendicular to mounting surface. Up to 25' omnidirectional between Hub and Lock when using the optional external antenna, AA-EXT-ANT
Voltage	8-24VDC or PoE IEEE 802.3af
Max Standby Current	80mA @ 12VDC and 250mA @ 24VDC
Operating Temperature	41 to 95 degrees Fahrenheit (5 to 35 degrees Celsius)

System Specifications	
Controller Interface	IP, Connects via ACS6000/ACS300 Admin Port
Power	Brivo ACS300 12VDC @ 1.5A or PoE+ IEEE 802.3at - Brivo ACS6000 12VDC @ 1.5A - AH-40 Aperio Hub 8-24VDC or PoE IEEE 802.3af
PC Requirements	For APA Software and Radio Dongle: 32-bit or 64-bit versions of Windows 7, Windows 8, Windows 8.1, or Windows 10. - USB 2.0 interface required
Application Requirements	All Brivo Onair accounts have ASSA ABLOY Aperio enabled. No extra licenses required.

Required Components

Assa Abloy Manuals

- Aperio Programming Application Manual
- Aperio Hub AH40 Installation Instructions
- Aperio Online Mechanical Installation Manual
- Aperio Online Quick Installation Guide

Lock Manuals

- A100
- IN100
- G100
- K100
- KS100

Aperio - Troubleshooting Radio Related Problems

Brivo Manuals

- ACS300/ACS6000 Installation Guide
- Brivo Onair Administrator's Manual

Brivo ACS6000-E or ACS300-E Control Panel with firmware 6.1.1 or higher

AH40 Hub

The AH40 Hub is for a connection to the Aperio supported locks via IP to the panel. Multiple AH40 hubs may be connected to a Panel

Aperio Lock(s)

- A100
- IN100
- G100
- K100
- KS100

PoE+ or 12VDC Power

Configuration

Preparation for Installation

Certified Installers Only

Only Brivo and Assa Abloy Aperio Certified Installers are permitted to install Aperio Wireless Products within Onair. If you have not been certified by both Brivo and Assa Abloy on the respective products, please contact your Brivo Regional Sales Manager for information on how to become certified.

Placement of Locks and Hubs

The AH40 Hub has an overall range of 50ft.

When using the internal antenna, the range between the Hub and the furthest lock is 50ft perpendicular from the face of the AH40 Hub.

When using the optional ANT10, the range between the Hub and the furthest lock is 25ft, omni-directional.

There are considerations for obstructions such as walls and tall office equipment when determining the correct placement for the

Using the Radio Dongle

The APA-10-USB Aperio Radio Dongle serves multiple purposes. As part of the APA-10-PC Aperio Programming Kit, the Aperio Radio Dongle is necessary for linking locks to their respective HUB, configuring both the Hubs and Locks and updating firmware on the Aperio products. Before and during the installation, the Aperio Radio Dongle can be used to test the select location for both the Hubs and Locks. In the Aperio Programming Tool software, you will also be able to receive the connection status and connection quality between each hub and its connected locks.

Panel Placement and Networking Considerations

The first consideration with respect to the panel and hub placement is distance. The network for the Aperio hubs will be an isolated private network and should not reside on a corporate network. Although some customers may have the ability to create an isolated LAN within their multi-layer network schema, it is recommended that the installer create a private network for the hubs and panels.

It is possible for more than one panel to reside on the same LAN, however the internal address for the panel will need to be changed from the default (192.168.207.1) to an address where the last octet is higher than 1 and lower than 255. It is suggested that the IP address range for any panel residing on the same network as another panel be addressed between 192.168.207.2 and 192.168.207.20.

Therefore, any hub will need to be addressed between 192.168.207.21 and 192.168.207.254

If the Onair panel is on an isolated network with only one or more hubs and no other panels, no special IP addressing is required on the Onair panel.

The Onair panel will recognize each hub by the MAC address of the hub. The IP addressing is for the purpose of the hub to be able to reach out to the panel for communication as the host for the hub.

IP Addressing

Each Onair panel will either use the default address or will be programmed as described above. The instructions for modifying the IP address on the Onair panel are outlined later in this manual.

Addressing the hub will be handled during the configuration of the hub. The instructions will also be covered later in this manual.

Use the blank table below to plan and record the IP addressing for your Onair Panels and Aperio Hubs

Panel CP	Panel MAC	Panel IP	Aperio MAC	Aperio IP

Aperio Installation

The installation of all Assa Abloy Hardware should be completed in accordance with Assa Abloy Manuals, Guidelines and restrictions. Brivo imposes no special instructions to installers on Aperio equipment. This guide will outline the specific settings required for optimal operation with Brivo Onair.

Order of Installation

For the best outcome, the locks should be installed in the following order:

1. Install Locks on doors
2. Determine optimal location for Hubs and install Hubs
3. Pair locks and Hubs
4. Configure Locks and Hubs
5. Connect Hubs to Panels
6. Program (Add) Hubs in Onair
7. Program (Add) Locks in Onair

Installation of Locks

The locking hardware should be installed in accordance with Assa Abloy requirements and instructions. Please refer to the specific documentation pertaining to the locks being used.

Installation of Hubs

Each AH40 Hub should be installed in accordance to Assa Abloy requirements and instructions.

Refer to:

https://www.assaabloy.es/Local/UK/Products/aperio/AA_Aperio_AH40_Mounting%20instruction_English.pdf

Using the External Antenna

When using the ANT-10, you will need to understand the differences in distance.

Pairing of Locks and Hubs

Pairing the Locks

Refer to the Aperio installation guides for proper pairing procedures.

Once the locks are paired with the hub and once the hub is connected to the Brivo Control Panel in Onair, you will be able to select the lock from a list of MAC addresses.

Configuration of Locks and Hubs

Configuring the Hub

Although each lock may have slight differences in the configuration, the required settings are the same throughout the Aperio integrated product line.

Lock Configuration Settings

RFID Configuration

No changes are required in this section.

RFID General Settings

On the following screens, **only** modify what is outlined below. If a screen appears that is not included below, simply select **Next**.

Under both **RFID Search Order** and **Credential Data Conversion**, no changes are required.

Under the **Smart Credential Cache** section, click on **Change** and ensure the following settings are in place:

Dynamic Cache:	Enabled
Valid for:	2 Days
Number of Credentials:	100

Under the **Card Read Detection Configuration** section, no changes are required.

IP Addressing for AH40 Hub

The AH40 Hub does not request DHCP and will need a static IP Address configured.

Each Panel is configured at 192.168.207.1. Each Hub on the same physical network should have a unique address. The address on the hub should be set between the range of 192.168.207.11 and 192.168.207.254

Hub Configuration Settings

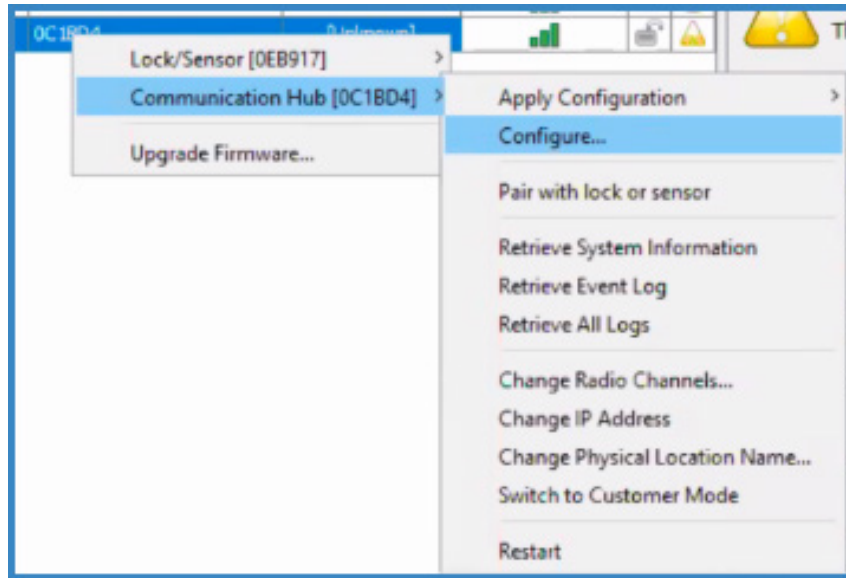
There are a few default settings that will need to be modified on the AH40 Hub for proper performance. If an option has been omitted from the step below, then default setting should not be modified.

After each hub configuration is complete, the following settings should be stored.



Note: In order to speed up the configuring of multiple hubs, select **Include** for every option in the configuration screen and you will then be able to Save the configuration. Once saved, the configuration will be available to apply to the other hubs in the system. Optionally, you may export the configuration to use for future installations.

Modifying the Configuration

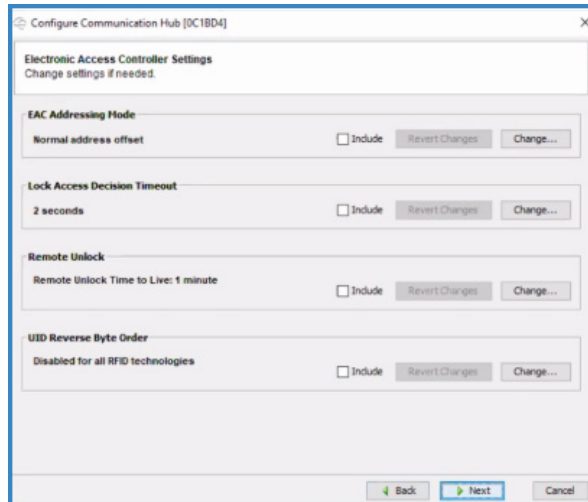


From the Hub Details Screen, right-click on the hub you wish to configure.

Navigate to **Communications Hub [EXAMPLE]**

Select **Configure** from the dropdown menu that appears.

On the following screens **only**, modify what is outlined below. If a screen appears that is not included below, simply select **Next**.

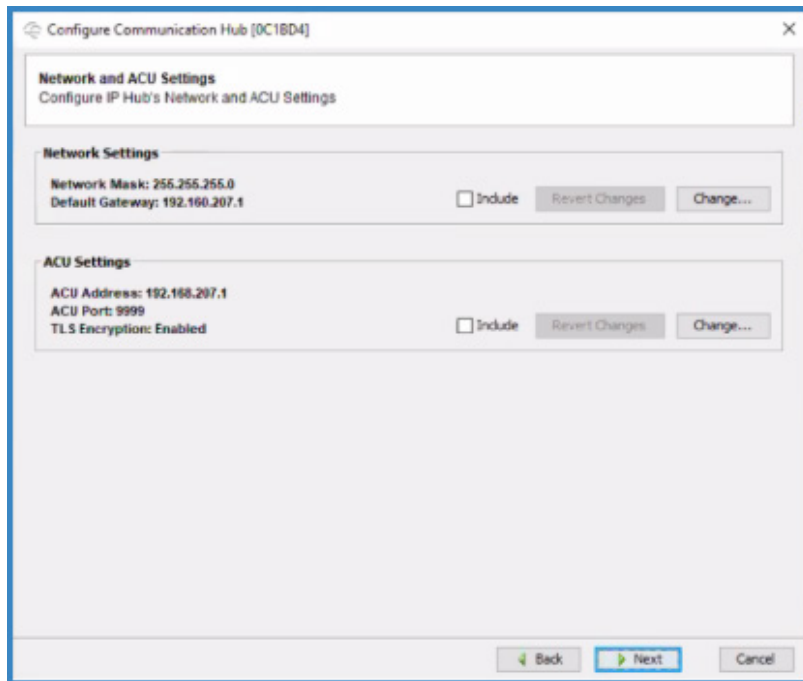


Under the **Lock Access Decision Timeout** section, select **Change** and set the Lock Access Decision Timeout to two (2) seconds (the default is zero seconds). Once changed, select **OK**.

Under the **Remote Unlock Time to Live**, section, select **Change** and set the Remote Unlock Time to Live to one (1) minute. Once changed, select **OK**.

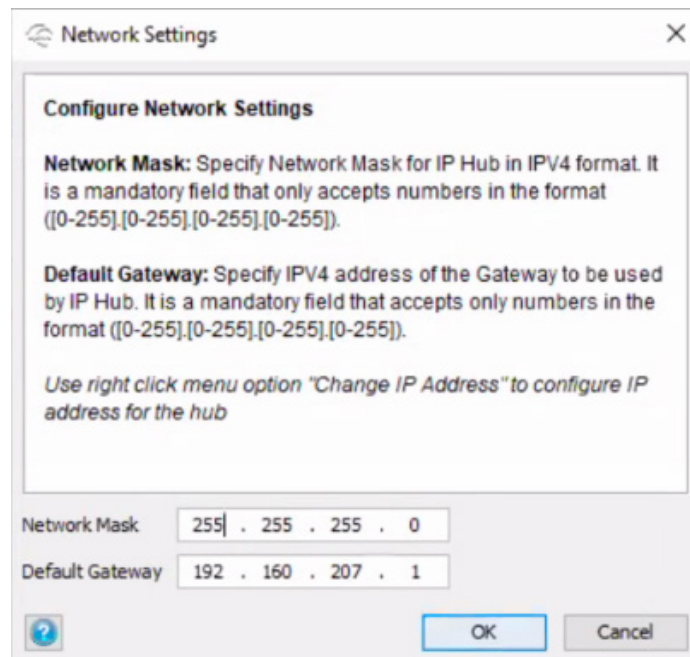
Select **Next** to move to the next set of options.

Under the **Network Settings** section, select **Change** to set the Netmask and Gateway.



When the **Change** button is clicked, the Network Settings pop-up window appears. The Default Network Mask does not require any change.

Change the Default Gateway IP address to **192.168.207.1** and select **OK**. You are returned to the Network and ACU Settings page.



Under the **ACU Settings** section, select **Change**. When the **Change** button is clicked, the ACU Settings pop-up window appears. You use this pop-up window to set the Host Address and Port. This is the address of the Admin Port on the Brivo Onair control panel.

Set the **ACU Address** to the IP address on the Brivo Onair control panel Admin Port.

Configure ACU Settings

ACU/EAC Address: Specify ACU/EAC address in IPV4 format. It is a mandatory field that only accepts numbers in the format ([0-255].[0-255].[0-255].[0-255]).

ACU/EAC TCP Port: Specify TCP port number of the EAC to contact. This is a mandatory field and only accepts numbers.

TLS Setting: Enable TLS setting for activating TLS encryption while communicating with ACU.

ACU Address: 192 . 168 . 207 . 1

ACU Port: 9999

Enable TLS

Buttons: ? (help), OK, Cancel

Note: If the admin port address has been changed to accept multiple panels on the same switch, set the appropriate address. The default Brivo Admin Port address is **192.168.207.1**.

The default ACU port is **9999** and should not be changed.

Check the **Enable TLS** checkbox to make certain TLS is enabled. Once finished, select **OK**. You are returned to the Network and ACU Settings page.

Select **Next** to move to the next set of options.

Under the **Status Report interval Setting** section, select **Change** to set the Status Report Interval.

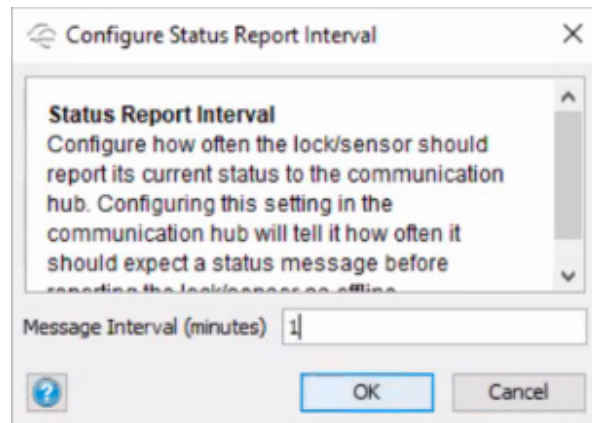
Configure Communication Hub [0C1BD4]

Status Report Interval Setting
The setting is read from the device. Change the setting if required.

Status Report Interval
1 minute Include Revert Changes **Change...**

Buttons: Back, Next, Cancel

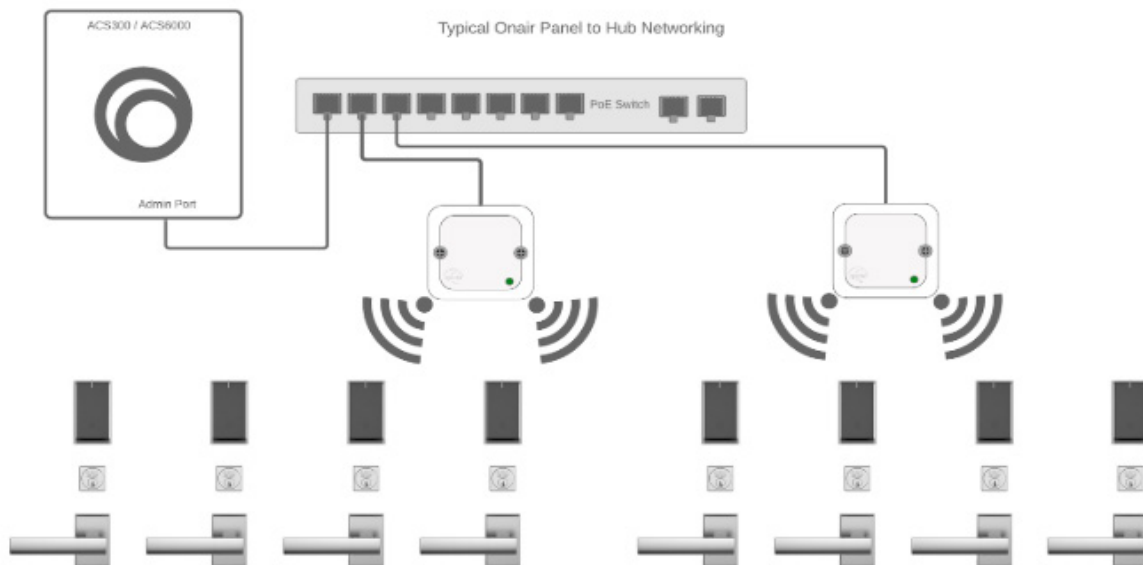
Set the **Message Interval** to one (1) minute and click **OK**.



Connecting Hubs to the ACS300/ACS6000 Control Panels

Networking the Hub(s)

Each Hub connected to the Brivo Onair panel will need to be connected via a simple isolated network. Other networking considerations require the consultation of Brivo Technical Support or a Brivo Regional Technical Manager.



Associating Apero Locks with Brivo Onair

Programming (Adding) Hubs in Brivo Onair

Adding a Hub in Brivo Onair

From the **Setup** tab, select **Sites/Doors** and then **Control Panels**.

Select the control panel you wish to view. The **View Control Panel** page will display.

Under the **More Operations** drop down, select **Add Wireless Gateway/Router**.

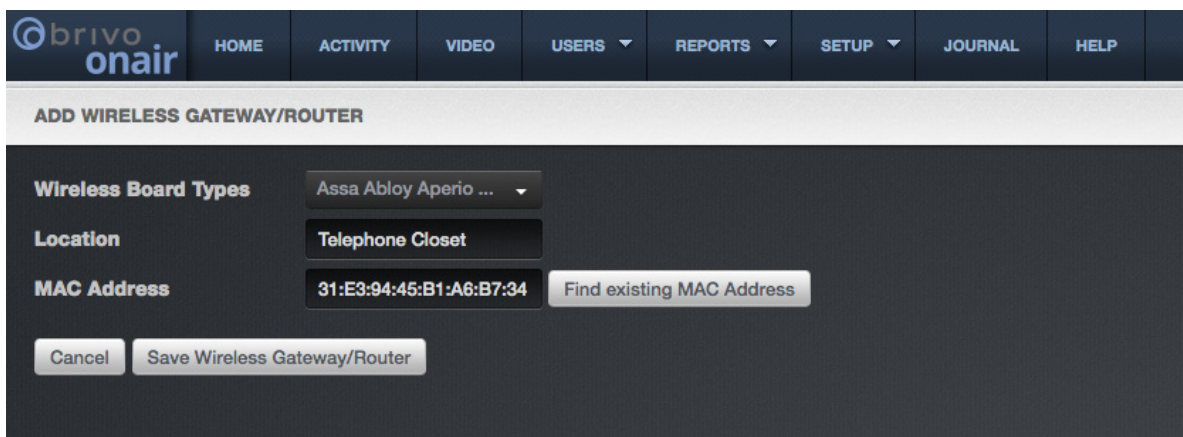


The Add Wireless Gateway/Router page displays.

Select **Assa Abloy Apero Hub** from the Wireless Board Types. Enter the **Location**.

For the **MAC address** field, Brivo Onair will automatically identify any Hubs that are connected to the panel. If the Hub is connected to the panel and is online, you will be able to select the MAC address associated with the Hub from the dropdown list. If the Hub is not connected or online or in the case of pre-programming the account, you may enter the MAC address into the MAC Address field. Be sure to enter the address with colon ":" separating each octet.

When finished, click **Save Wireless Gateway/Router**.



Programming (Adding) Locks in Brivo Onair

Adding a Lock in Brivo Onair

From the **Setup** tab, select **Sites/Doors** and then **Sites**. The Site List page displays.

Click on the **Site** to which you wish to add the lock. The **View Site** page displays.

Under the **More Operations** dropdown, select **Add Door**.

Enter a unique **Door** name and then select the appropriate control panel from the dropdown list.

Click **Next** and then select the Hub from the **Board** dropdown list. Next, select the **Lock #** from the dropdown list. The lock number is a number you will select and assign between 1 and 16. The lock number itself does not correlate to any value in Aperio.

The screenshot shows the 'STORAGE - DC/ DEFINE DOOR' configuration page in the Brivo Onair interface. The page has a dark theme with a navigation bar at the top containing 'HOME', 'ACTIVITY', 'VIDEO', 'USERS', 'REPORTS', 'SETUP', 'JOURNAL', and 'HELP'. The main content area is titled 'STORAGE - DC/ DEFINE DOOR' and contains the following configuration options:

- Door Name:** Assa Abloy
- Control Panel:** STB-4V-YYA06 - DC
- Board:** Assa Abloy Aperio ... (dropdown)
- Lock #:** 1 (dropdown)
- MAC address:** 31:E3:94:45:B1:A6:B7:34 (text field) with a 'Find existing MAC Address' button.
- Enable Privacy Mode:** Radio buttons for Yes and No (No is selected).
- Enable Credential Caching:** Radio buttons for Yes and No (No is selected).
- Door Ajar Enabled:** Radio buttons for Yes and No (Yes is selected).
- Door Ajar Threshold:** 120 (text field) with a unit of 'seconds (30-600)'.
- Pass-through Period:** 5 (text field) with a unit of 'seconds (1-600)'.
- Door Unlock Schedule:** None (dropdown).
- Enable Mobile Pass Biometrics:** Radio buttons for Yes and No (No is selected).
- Control from Browser:** Radio buttons for Yes and No (Yes is selected).

At the bottom of the form are two buttons: 'Cancel' and 'Save Door'.

For the **MAC address** field, Brivo Onair will automatically identify any Locks that are paired with the selected Hub. If the Lock is connected to the Hub and the Hub is also online during this step, you will be able to select the MAC address associated with the Lock from the dropdown list. If the Hub is not online or in the case of pre-programming the account, you may enter the MAC address into the MAC address field. Be sure to enter the address with a colon ":" separating each octet.

Setting **Enable Privacy Mode** button to Yes allows the user to place the door in a "Do Not Disturb" state. If the lock supports Privacy Mode, by either pushing a button on the secure side of the door, or on some models by simply engaging the deadbolt, the lock will no longer open for Users that are not in a group with Privacy Override enabled. Privacy Mode will remain active until the door is either opened from the inside, or valid access is gained by someone

who has Privacy Override Privileges. Privacy Override can also be cancelled by pushing the Privacy Override button again, or by disengaging the deadbolt.

The Default setting is No. Some Assa Abloy Locks do not have Privacy Mode capabilities. Select the radio button for Yes or No to enable or disable Privacy Mode.