

# BioStation A2

## USER GUIDE

Version 1.29

English

EN 102.00.BSA2 V1.29A

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# Safety instructions

Please read this safety instructions before you use the product to prevent injury to yourself and others and to prevent property damage. The term 'product' in this manual refers to the product and any items provided with the product.

## Instructional icons



**Warning:** This symbol indicates situations that could result in death or severe injury.



**Caution:** This symbol indicates situations that may result in moderate injury or property damage.



**Note:** This symbol indicates notes or additional information.



## Warning

### Installation

**Do not install or repair the product arbitrarily.**

- This may result in electric shock, fire, or product damage.
- Damages caused by any modifications or failure to follow installation instructions can void your manufacturer's warranty.

**Do not install the product in a place with direct sunlight, moisture, dust, soot, or a gas leak.**

- This may result in electric shock or fire.

**Do not install the product in a location with heat from an electric heater.**

- This may result in fire due to overheating.

**Install the product in a dry location.**

- Humidity and liquids may result in electric shock or product damage.

**Do not install the product in a location where it will be affected by radio frequencies.**

- This may result in fire or product damage.

### Operation

**Keep the product dry.**

- Humidity and liquids may result in electric shock, fire, or product damage.

**Do not use damaged power supply adaptors, plugs, or loose electrical sockets.**

- Unsecured connections may cause electric shock or fire.

**Do not bend or damage the power cord.**

- This may result in electric shock or fire.



## Caution

### **Installation**

**Do not install the product under direct sunlight or UV light.**

- This may result in product damage, malfunction, discoloration, or deformation.

**Do not install the power supply cable in a location where people pass by.**

- This may result in injury or product damage.

**Do not install the product near magnetic objects, such as a magnet, TV, monitor (especially CRT), or speaker.**

- The product may malfunction.

**Keep the minimum distance between products when installing multiple products.**

- The product may be affected by radio frequencies emitted by other products and the product may malfunction.

**Use the IEC/EN 62368-1 approved power adaptor that supports higher power consumption than the product. It is highly recommended to use the power adaptor sold by Suprema.**

- If the right power supply is not used, the product may malfunction.

**Use a separate power supply for the Secure I/O 2, electric lock, and the product.**

- If connecting and using the same power supply, the product may malfunction.

**Do not connect and use the power supply and Power over Ethernet (PoE) simultaneously.**

- The product may malfunction.

**It is recommended to use the enclosure if the product is installed outside.**

### **Operation**

**Do not drop the product or cause impacts to the product.**

- The product may malfunction.

**Do not disconnect the power supply while upgrading the firmware of the product.**

- The product may malfunction.

**Do not disclose the password to others and change it regularly.**

- This may result in illegal intrusion.

**Do not press buttons on the product by force or do not press them with a sharp tool.**

- The product may malfunction.

**Do not store your product in very hot or very cold places. It is recommended to use your product at temperatures from -20 °C to 50 °C.**

- The product may malfunction.

**When cleaning the product, mind the following.**

- Wipe the product with a clean and dry towel.
- If you need to sanitize the product, moisten the cloth or the wipe with a proper amount of rubbing alcohol and gently clean all exposed surfaces including fingerprint sensor. Use rubbing alcohol (containing 70% Isopropyl alcohol) and a clean, non-abrasive cloth like lens wipe.
- Do not apply liquid directly to the surface of the product.

**BioStation A2 uses capacitive buttons and screen. If the environment is moist from wet weather or the product surface is smeared with a lot of water, wipe off the product with a dry towel before using it.**

**Do not use the product for anything other than its intended use.**


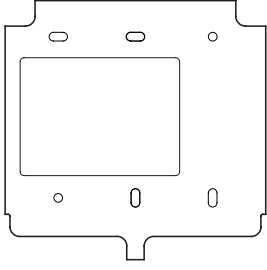
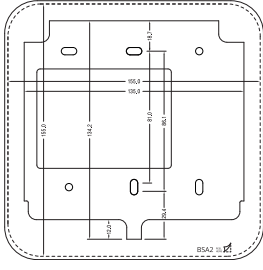
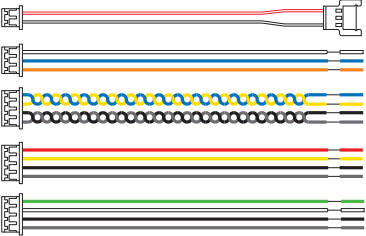


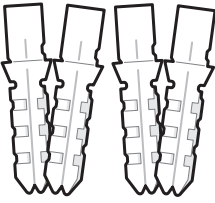
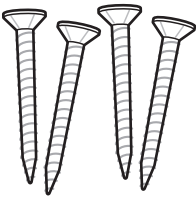

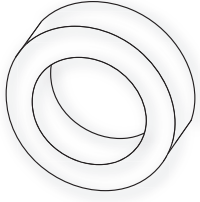


- The product may malfunction.

**RTC battery**

Discard the battery according to the appropriate regional or international waste regulations. Discard the battery according to the appropriate regional or international waste regulations.

# Introduction

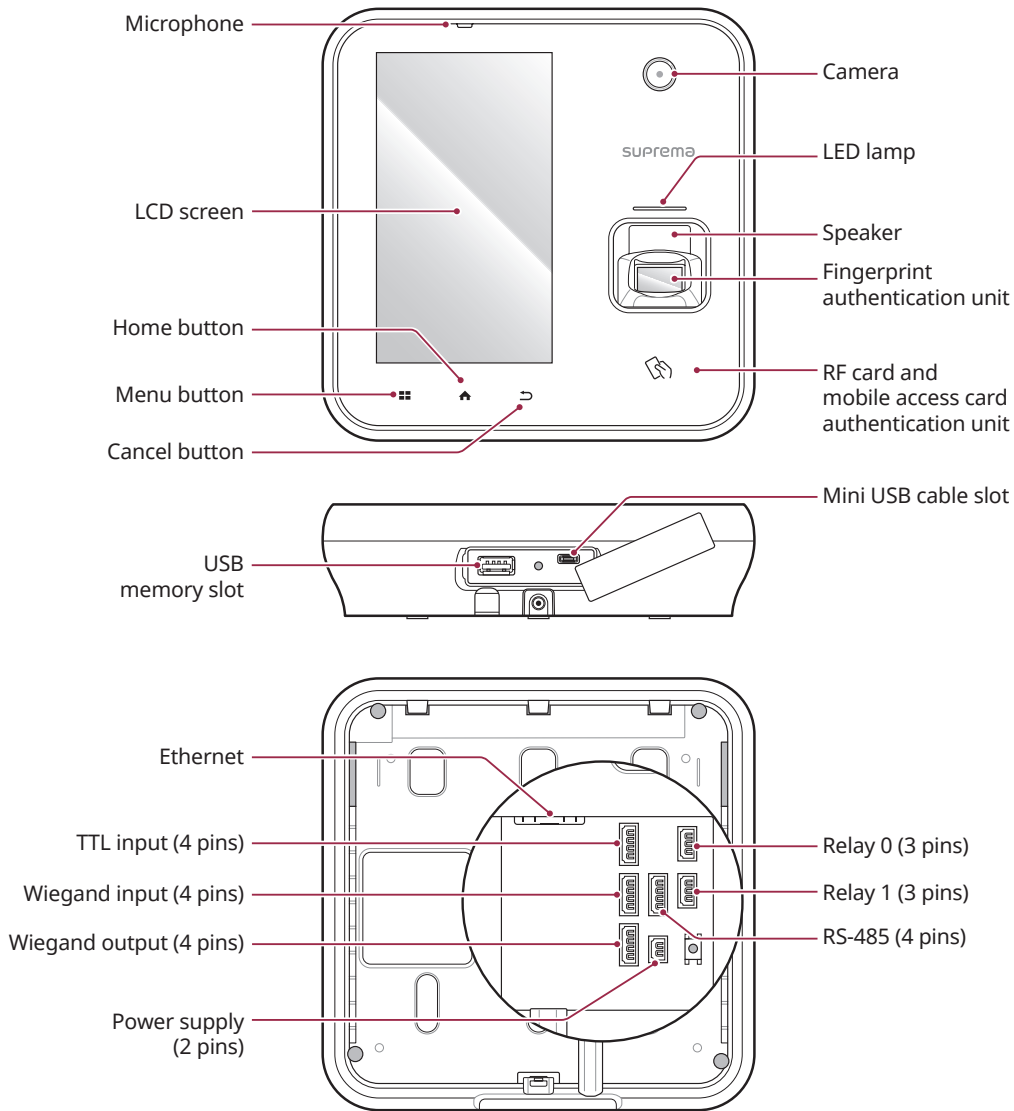
## Components

		
<p><b>BioStation A2</b></p>	<p><b>Wall Bracket</b></p>	<p><b>Drilling Template</b></p>
		
<p><b>Cables</b></p>	<p><b>Diode</b></p>	<p><b>120 Ω resistor</b></p>
		
<p><b>PVC Anchor x4</b></p>	<p><b>Fixing Screw x4</b></p>	<p><b>Bracket Fixing Screw (Star Shaped)</b></p>
		
<p><b>Ferrite Core</b></p>	<p><b>Quick Guide</b></p>	<p><b>Open Source Software Guide</b></p>



- Components may vary according to the installation environment.
- When assembling the product with the bracket, you can use the included bracket fixing screw (Star Shaped) instead of the product fixing screw for enhanced security.
- For more details regarding the product, visit the Suprema website (<https://www.supremainc.com>) and refer to the user guide.

## Name and function of each part



Name	Description
<b>Microphone</b>	Delivers the voice of the user when the interphone is connected.
<b>LCD screen</b>	Provides UI for operation.
<b>Menu button</b> (☰)	Displays the list of menus.
<b>Home button</b> (🏠)	Navigates to the home screen.
<b>Cancel button</b> (↶)	Navigates back to the previous screen.
<b>Speaker</b>	Delivers sound.
<b>LED lamp</b>	Indicates the operational status of the product with the color of the LED lamp.
<b>Fingerprint authentication unit</b>	Part to scan the fingerprint for entrance.
<b>RF card and mobile access card authentication unit</b>	Part to scan a RFID card or mobile access card for entrance.
<b>USB memory slot</b>	Connects USB memory.
<b>Mini USB cable slot</b>	Will be supported in the future.
<b>TTL input (4 pins)</b>	Connects the TTL input cable.
<b>RS-485 (4 pins)</b>	Connects the RS-485 cable.



Relay (3 pins)	Connects the relay cable.
Power supply (2 pins)	Connects the power supply cable.
Ethernet	Connects the Ethernet cable.
Wiegand input (4 pins)	Connects the Wiegand input cable.
Wiegand output (4 pins)	Connects the Wiegand output cable.

## Cables and connectors

### Power supply



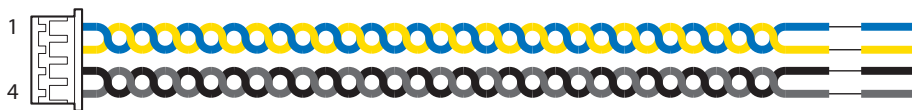
PIN	Name	Color
1	PWR +VDC	Red (white stripe)
2	PWR GND	Black (white stripe)

### Relay



PIN	Name	Color
1	RLY NO	White
2	RLY COM	Blue
3	RLY NC	Orange

### RS-485



PIN	Name	Color
1	485 TRXP	Blue
2	485 TRXN	Yellow
3	485 GND	Black
4	SH GND	Gray

## TTL input



PIN	Name	Color
1	TTL IN0	Red
2	TTL IN1	Yellow
3	TTL GND	Black
4	SH GND	Gray

## Wiegand input and output



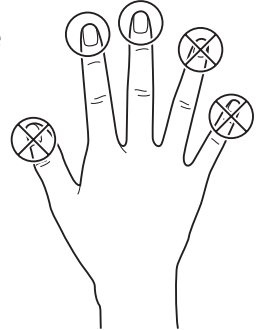
PIN	Name	Color
1	WG D0	Green
2	WG D1	White
3	WG GND	Black
4	SH GND	Gray

## How to enroll a fingerprint

In order to improve the fingerprint authentication rate, register the fingerprint correctly. BioStation A2 can recognize a fingerprint even if the angle and position of a user's fingerprint input change. If you register the fingerprint with attention to the following matters, the authentication rate can be improved.

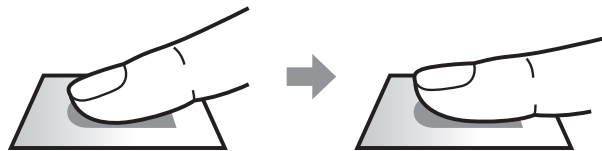
### Selecting a finger for fingerprint input

- In preparation for the case that the fingerprint of a specific finger cannot be used, for example if the user is lifting a load with one hand or a finger gets hurt, up to 10 fingerprints for each user can be registered.
- In the case of a user whose fingerprint cannot be recognized well, the authentication rate can be improved by enrolling the same finger twice repeatedly.
- If a finger has a cut or the fingerprint is blurry, select another finger for the fingerprint.
- It is recommended to use the index finger or the middle finger when scanning the fingerprint. The authentication rate can be reduced if it is difficult to place another finger at the center of fingerprint sensor accurately.



### Fingerprint enroll method

- 1 When a message saying "Place your finger on the sensor." is displayed on the LCD screen for enrolling the fingerprint, place the finger with the fingerprint you wish to enroll on the fingerprint authentication unit and press the finger gently for better authentication.



- 2 When the re-input screen is displayed after a beep sound, scan the fingerprint of the enrolled finger again (scan the fingerprint of a finger to be enrolled twice).



#### Cautions for enrolling a fingerprint

When a fingerprint is recognized, it is compared with the initially registered fingerprint, so the initial fingerprint enroll is the most important. Pay attention to the following matters when enrolling the fingerprint.

- Place the finger deep enough to contact with the sensor completely.
- Place the center of the fingerprint in the center of the sensor.
- If a finger has a cut or the fingerprint is blurry, select another finger for the fingerprint.
- Scan the fingerprint correctly without moving according to the instruction on the screen.
- If you make the finger upright so that the contact area with the sensor is decreased or the angle of finger is warped, fingerprint authentication may not be performed.




#### When the fingerprint recognition fails

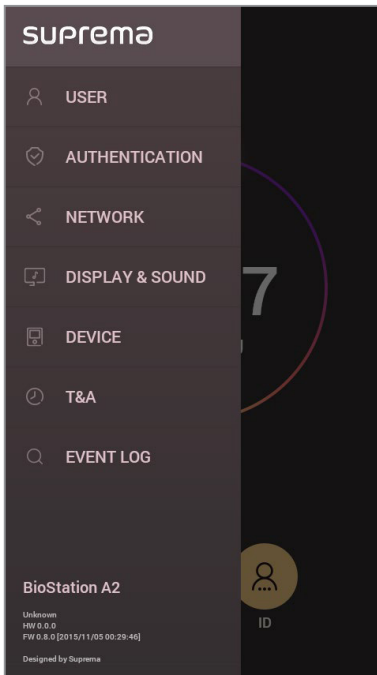
BioStation A2 can recognize a fingerprint regardless of a change in season or finger condition. However, the authentication rate may vary according to the external environment or fingerprint input method. If the fingerprint authentication cannot be done smoothly, it is recommended to take the following measures.


- If the finger is smeared with water or sweat, dry off the finger and then scan the finger.
- If the finger is too dry, blow your breath on the fingertips and then scan the finger.
- If the finger has a cut, register the fingerprint of another finger.
- The initially enrolled fingerprint often may have not been scanned correctly, so enroll the fingerprint again according to 'Cautions for enrolling a fingerprint'.

# Admin Menu

## All Menus

- 1 Press  and authenticate with the Admin level credential.
- 2 Select the desired menu.





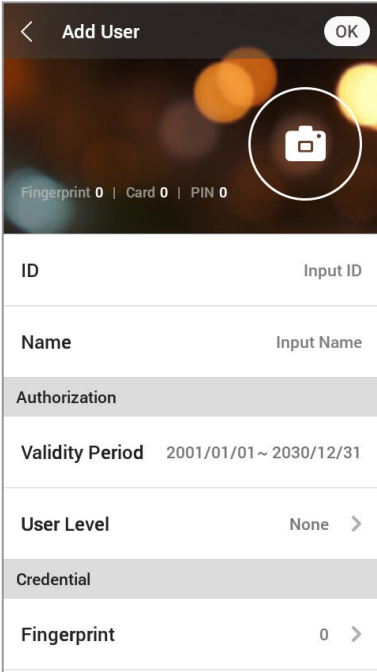
If the administrator has not been designated, the menu screen will be displayed when you press .


# User

## Registering user information

The user information including fingerprints can be registered.



- 1 Press  and authenticate with the Admin level credential.
- 2 Select **USER** → .





- 3 Select and set the desired item. When you press **OK**, the user information will be registered.
  - : Take a picture of a user with the built-in camera.
  - **ID**: Enter a number between 1 and 429467295 to register as the user ID. If User ID Type set to Alphanumeric, a combination of alphanumeric characters and symbols (., -) can be used for the ID. Up to 32 characters can be input.
  - **Name**: Enter the username.
  - **Validity Period**: Set a **Start Date** and **End Date** to use the user account. When you press the first date, you can set **Start Date**, and when you press the second date, you can set **End Date**.
  - **Access Group**: Select an access group for the user. Access groups can be registered only in BioStar 2.
  - **User Level**: Select the level you wish to assign to a user.







Available menus vary according to the set user level.

- **None**: This is the general user level and menus cannot be accessed.
  - **Administrator**: All menus can be accessed.
  - **Configuration**: **AUTHENTICATION, DISPLAY & SOUND, DEVICE, and NETWORK** menus can be accessed.
  - **User Mgmt**: **USER** menu can be accessed.
- **Fingerprint**: Enroll a fingerprint for user authentication. Press  and enroll the fingerprint. Scan the fingerprint of a finger you wish to enroll, and then scan the fingerprint of the same finger again. To enroll an additional fingerprint, press  again.

- **Card:** Register a card for user authentication. Press  and scan the card which will be assigned to the user. To register an additional card, press  again.
- **PIN:** Enter the PIN you wish to use. Enter the PIN you wish to use, and then enter the same PIN again for confirmation. Enter a number between 4 and 16 digits to prevent leaking.
- **Duress:** Select a fingerprint to be used as a duress fingerprint. This can be used only when 2 or more fingerprints have been enrolled.
- **Private Auth Mode:** Change the authentication method according to the user.

## Modifying User Information

User Mgmt or Administrator can modify the registered user information. A fingerprint or card can be added, and PIN and level can be modified.



- 1 Press  and authenticate with the Admin level credential.
- 2 Select **USER** → .
- 3 Select your search terms. You can search for a user by **ID**, **Name**, **Fingerprint**, and **Card**.
- 4 Select the user you wish to modify and press . Modify the information by referring to **Registering user information**.
  - To delete a user, select  and then press **OK**.



**Access Group** can be registered in **BioStar 2**. For detailed contents regarding registering an access group, refer to the BioStar 2 Administrator Manual.



## Delete All Users

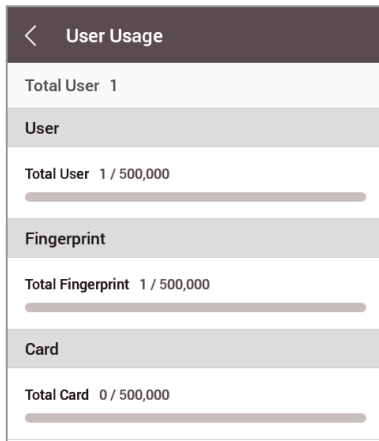
You can delete all registered users at once.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **USER** →  and select **Delete All** or a user you wish to delete.
- 3 When you press **OK**, all registered users will be deleted.

## View User Usage

You can see the number of registered users, fingerprints and cards at a glance.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **USER** → . User usage information appears.






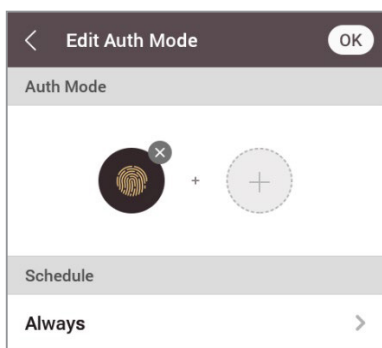
# Authentication

## Auth Mode

























### Modifying Auth Mode

You can set the authentication method and schedule according to each credential.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **AUTHENTICATION** → **Auth Mode**.
- 3 Select the authentication mode to modify.
- 4 When you press , the selected credential will be deleted, and when you press , available credentials to be added will be displayed on the screen.



- 5 Set the desired auth mode and select a schedule.

Category	Description
Fingerprint	<ul style="list-style-type: none"> <li>•  : Mode to use a fingerprint only</li> <li>•  +  : Mode to authenticate with a fingerprint and then enter PIN</li> </ul>
Card	<ul style="list-style-type: none"> <li>•  : Mode to use a card only</li> <li>•  +  : Mode to authenticate with a card and then authenticate with a fingerprint</li> <li>•  +  : Mode to authenticate with a card and then enter PIN</li> <li>•  +  /  : Mode to authenticate with a card and then authenticate with a fingerprint or enter PIN</li> <li>•  +  +  : Mode to authenticate with a card and then use both fingerprint authentication and PIN input.</li> </ul>
ID	<ul style="list-style-type: none"> <li>•  +  : Mode to enter ID and then authenticate with a fingerprint</li> <li>•  +  : Mode to enter ID and then enter PIN</li> <li>•  +  /  : Mode to enter ID and then authenticate with a fingerprint or enter PIN</li> <li>•  +  +  : Mode to enter ID and then use both fingerprint authentication and PIN input</li> </ul>



- 6 When you press **OK**, settings will be saved.



- A schedule can be set in BioStar 2. If there is no set schedule, only **Always** can be selected.
- For detailed contents regarding setting a schedule, refer to BioStar 2 Administrator's manual.






## Delete Auth Mode


- 1 Press  and authenticate with the Admin level credential.
- 2 Select AUTHENTICATION → Auth Mode.
- 3 Press  and select the authentication mode to delete. You can select multiple options.
- 4 To delete the selected option, press OK.

## Add Auth Mode

You can register up to 3 auth modes.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select AUTHENTICATION → Auth Mode.
- 3 Press .
- 4 Set the desired auth mode by pressing , and then select a schedule.
- 5 When you press OK, the auth mode will be added.

## Operation


- 1 Press  and authenticate with the Admin level credential.
- 2 Press AUTHENTICATION and then modify items below **Operation**.

Operation	
Face Detection	Strict >
Server Matching	<input type="checkbox"/>
Auth Timeout	10 Sec >

- **Face Detection:** When you set Face Detection, BioStation A2 can detect real face, and authentication can be done only when a face is detected after authenticating with a fingerprint, card, or PIN.
- **Server Matching:** When you set Server Matching, the user authentication is not carried out in the device, but instead is carried out in BioStar. Server Matching can be useful when there is a large amount of user information in the device or you do not wish to publicly expose the device where user credential information is saved.
- **Auth Timeout:** If the authentication is not completed during a set time, the authentication will fail. You can set a time between 3 seconds and 20 seconds.

# Fingerprint

You can change settings regarding the fingerprint authentication.

- 1 Press  and authenticate with the Admin level credential.
- 2 Press **AUTHENTICATION** and then modify items below **Fingerprint**.

Fingerprint	
Security Level	Normal >
Matching Timeout	5 Sec >
View Image	<input type="checkbox"/>
Sensor Sensitivity	7 >
1:N Fast Mode	Auto >
Template Format	Suprema >
Live Finger Detection	Not Use >
Advanced Enrollment	<input checked="" type="checkbox"/>

- **Security Level:** Set the security level for 1:N authentication.
- **Matching Timeout:** Set the fingerprint matching timeout. If the authentication is not completed during a set time, the authentication will fail.
- **View Image:** Set to view the original image when scanning the fingerprint.
- **Sensor Sensitivity:** Set the sensitivity of the fingerprint authentication sensor. To obtain more precise fingerprint information by increasing the sensor sensitivity, set the sensor sensitivity higher.
- **1:N Fast Mode:** Set the fingerprint authentication speed. If you select **Auto**, the authentication speed will be set according to all fingerprint templates enrolled on the device.
- **Template Format:** Set the fingerprint template format. SUPREMA is set as the default, and if you change the template format, all fingerprints saved previously cannot be used. Use caution when changing the Template Format.
- **Live Finger Detection:** Set the level of the fake fingerprint detection. The higher the fake fingerprint detection level, the higher the rejection rate of fingerprint.
- **Advanced Enrollment:** Inspect the quality of a scanned fingerprint in order to save high quality fingerprint information. When **Use** is set and the quality of the fingerprint is low, it notifies such information to the user and helps the user scan the fingerprint correctly.
- **Duplicate Check:** When registering fingerprints, you can check duplicates.




Change the template format after deleting the fingerprint information of all users. If the fingerprint information of a user has been enrolled, the template format cannot be changed.

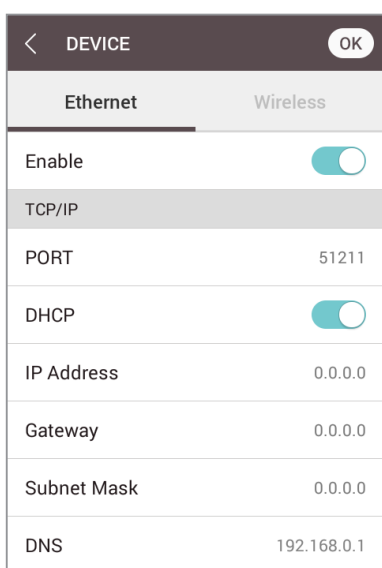
# Network


## Network Settings

You can change the network settings of the device.

### Ethernet

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **NETWORK** → **Device** → **Ethernet**.
- 3 Enable Ethernet setting.




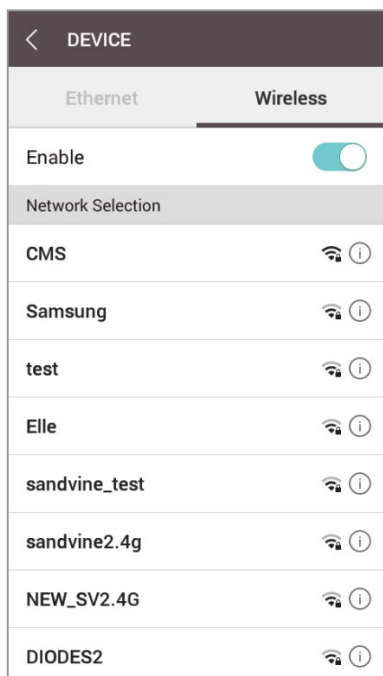
- **PORT**: Set the device port.
  - **DHCP**: Set whether to use DHCP. If DHCP setting is disabled, the user can modify **PORT**, **IP Address**, **Gateway** and **Subnet Mask**.
  - **IP Address**: View the IP address of the device. To modify, disable DHCP setting.
  - **Gateway**: View the gateway of the device. To modify, disable DHCP setting.
  - **Subnet Mask**: View the subnet mask of the device. To modify, disable DHCP setting.
  - **DNS**: Set the DNS server address.
- 4 To modify network information manually, disable DHCP setting. When you press , you can modify **PORT**, **IP Address**, **Gateway**, **Subnet Mask** and **DNS**.





Ethernet cannot be used with **Wireless** at the same time.

## Wireless

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **NETWORK** → **Device** → **Wireless**.
- 3 When you activate Wireless setting, the list of networks available to connect will be displayed.




- 4 Select the network you wish to connect to and enter the password. When you press **OK**, the connection to the wireless network will be made.
- 5 To set the network information of wireless LAN manually, press  of the network name you wish to use and disable DHCP setting. Pressing  allows you to modify IP Address, Gateway and Subnet Mask.



- **Wireless** cannot be used with **Ethernet** at the same time.
- To connect to **Wireless**, a wireless router is required. For content regarding the installation and configuration of wireless router, refer to the user's manual of the wireless router.

## Server


- 1 Press  and authenticate with the Admin level credential.
- 2 Select NETWORK → Server.

Server	
Connection Mode	Device > Server <input checked="" type="checkbox"/>
Server IP	
Server URL	
Server Port	51212

- **Connection Mode:** When you select **Device > Server**, you can send a connection signal from the device to a server with the input information directly. When you select **Server > Device**, **Server IP** and **Server Port** cannot be entered.
- **Server IP:** Enter the IP of the PC where BioStar 2 is installed. Input is accepted only when **Device > Server** is set for **Connection Mode**.
- **Server URL:** You can enter the BioStar 2 server's URL instead of **Server IP**. Input is accepted only when **Device > Server** is set for **Connection Mode**.
- **Server Port:** Enter the port of the PC on which BioStar 2 is installed. Input is accepted only when **Device > Server** is set for **Connection Mode**.

## Serial Setting

### RS-485


- 1 Press  and authenticate with the Admin level credential.
- 2 Select NETWORK → RS-485 and change the desired item.

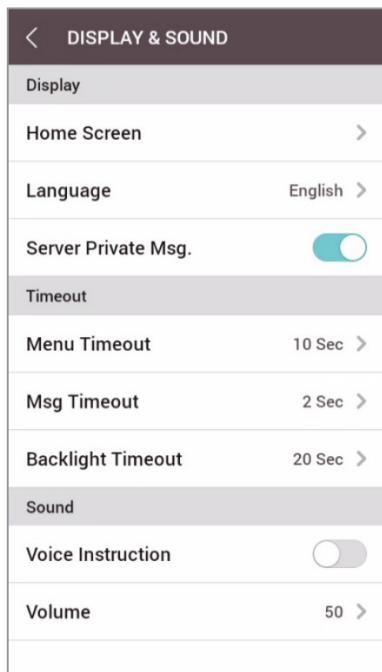
RS-485	
Mode	Default >
Baud Rate	115200 >

- **Mode:** Select the RS-485 mode.
- **Baud Rate:** Select the desired baud rate.

# Display & Sound

You can change the display and sound settings of the device.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **DISPLAY & SOUND**.
- 3 Change the desired item.



- **Home Screen:** Select items to be displayed in the background of the home screen.
- **Language:** Set the language you wish to use.
- **Server Private Msg.:** Set whether or not to use a Private Message, which will be displayed on the screen when the user authenticates.
- **Menu Timeout:** Set the time (sec) for the menu screen to disappear automatically. If there is no button input during a set time, the screen will return to the home screen.
- **Msg Timeout:** Set the time (sec) for a setting complete message or information message to disappear automatically.
- **Backlight Timeout:** Set the time (second) to turn off the lighting of LCD screen.
- **Voice Instruction:** Set to use the voice instruction instead of alarm sounds.
- **Volume:** Set the volume.



You can set the **Server Private Msg.** on the server. If you have not set it on the server, the device does not display a message when authentication is successful even if **Server Private Msg.** is **enabled** on the device.

# Device

## Camera

Set by checking the frequency to prevent an image from blinking. BioStation A2 supports both 50 Hz and 60 Hz.

- 1 Press **⌘** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Camera** → **Power Line Frequency**.
- 3 Select and set the desired item and press **OK**.

## Relay

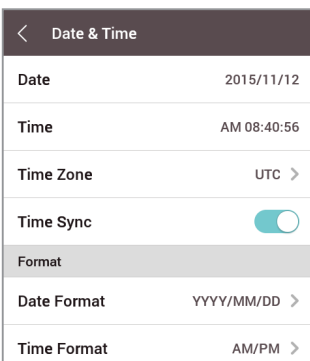
You can set the open time and the input port of the exit button in the device.

- 1 Press **⌘** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Relay**.
  - **Open Time:** Set the duration for the door to remain open when standard user authentication has been carried out.
  - **Exit Button:** Select the input port where the exit button is connected.
  - **Switch:** Select the relay type (N/O or N/C).

## Date & Time

You can set date and time. Set the date and time accurately in order to collect accurate log data.

- 1 Press **⌘** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Date & Time**.
- 3 Change the desired item.



- **Date:** Check the current date. To modify it directly, disable **Time Sync**.
- **Time:** Check the current time. To modify it directly, disable **Time Sync**.
- **Time Zone:** Set the time reference of the current location.
- **Time Sync:** Synchronize the server and the time. If you wish to synchronize the server and the time, enable **Time Sync**.
- **Date Format:** Set the date format. You can select among **YYYY/MM/DD**, **MM/DD/YYYY** and **DD/MM/YYYY**.
- **Time Format:** Set the time format. You can select either **24-Hour** or **AM/PM**.

## Daylight Saving Time

You can use the device by applying daylight saving time. Set the start and end time correctly.

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Daylight Saving Time**.
- 3 Select the desired item and change the setting.

## Device Info

You can view the model name, device ID, serial number, firmware version of device ID, and MAC address.

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Device Info**.
- 3 You can view the information including **Model Name**, **Device ID**, **HW**, **FW**, **Kernel**, **MAC**, and **WiFi MAC**.

## Memory Info


View the status of memory usage.

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Memory Info**. You can view the memory usage status of the device.



## USB Memory

Connect USB Memory and import user information to the device or export log and user information from the device. Upgrade the firmware.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **USB Memory**.
- 3 Select the desired item and change the setting.
  - **Export:** Select information which you want to export to the connected USB memory. Select the desired item and press **OK**.
  - **Import:** Select User to import the user information from the connected USB memory. Select the desired item and press **OK**.
  - **FW Upgrade:** If firmware files are saved in the connected USB memory, press **OK** to upgrade the firmware.



Do not disconnect the power supply while upgrading the firmware of the device. The device may malfunction.




The type of supported USB memory is as follows. If you use a different type of USB memory, the function may not operate normally.

- Samsung Electronics: SUM-LSB 8 GB, SUM-PSB 8 GB, SUM-PSB 16 GB, SUM-BSG 32 GB
- LG Electronics: XTICK J3 WINDY 8 GB, SMART USB MU1 White 8 GB, MU 1 USB 32 GB, MU28GBC 32 GB, XTICK MOBY J1 16 GB
- SanDisk: Cruzer 16 GB, Cruzer Blade CZ50 4 GB, Cruzer Blade CZ50 32 GB, CZ48 Ultra USB 3.0 64 GB, CZ80 USB3.0 64 GB, CZ52 64 GB, Cruzer Glide Z60 128 GB, Cruzer Force CZ71 32 GB
- Sony: Micro Vault Click 8 GB, MicroVault CLICK 16 GB, USM-SA1 32 GB
- Transcend: JetFlash 760 8 GB, JetFlash 760 32 GB, JetFlash 500 8 GB
- Memorette: MINI500 8 GB
- A-DATA: S102 PRO 8 GB
- Trigem Pastel 8 GB


## Secure Tamper

When the tamper is turned on, you can set to delete the entire user, the entire log, and the security key.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Secure Tamper**, then change the settings.

## Restart Device

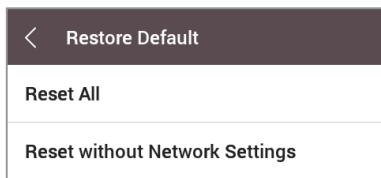
You can restart the device.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Restart Device**.
- 3 To restart the device, press **OK**. To return to the previous screen, press **Cancel**.

## Restore Default

Device settings, network settings, and operator levels will be reset.

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Restore Default**.



- 3 To reset all device settings, select **Reset All** and press **OK**. To reset all settings except for network settings, select **Reset without Network Settings** and press **OK**.



- When you reset, the user level will be reset as well. After resetting, make sure to set the user level again.
- Language setting will not change after resetting.

## Factory Default

This will delete all data and root certificate on the device and reset the settings.

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Factory Default**.
- 3 To restore the factory defaults, press **OK**.



You can only use **Factory Default** when the root certificate is stored on the device.

## Delete the Root Certificate

This will delete the root certificate on the device.

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **Delete the Root Certificate**.
- 3 To delete the root certificate, press **OK**.



You can only use **Delete the Root Certificate** when the root certificate is stored on the device and device administrator is set.

## User ID Type

You can set the type of user ID to be registered on the device to a combination of alphabetic characters, numbers, and symbols (., -).

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Select **DEVICE** → **User ID Type**.

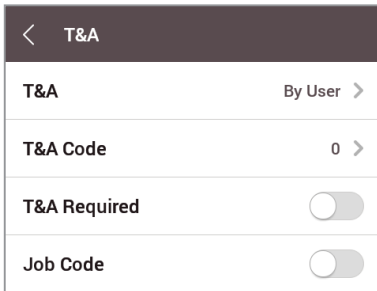


- 3 Change to the desired item and press **OK**.

## T&A Mode

You can set how to register T&A Mode.

- 1 Press **■** and authenticate with the Admin level credential.
- 2 Press **T&A Mode**.





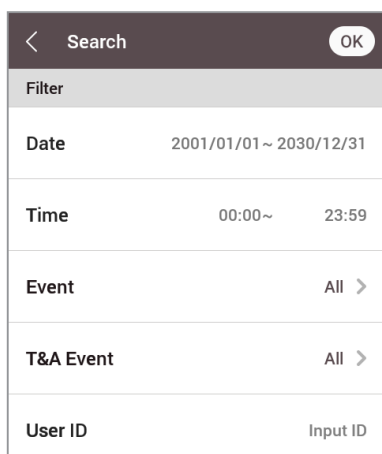
- 3 Select and set the desired item.
  - **T&A Mode:** Set the method to use T&A mode.
  - **T&A Code:** Register a new T&A code.
  - **T&A Event:** View T&A event.
  - **T&A Required:** Set to require a user to select a T&A event when authenticating.
  - **Job Code:** Select whether to use **Job Code**.
- 4 To save settings, press **OK**.

# Event Log

## Search Log


You can set a condition and search a log.

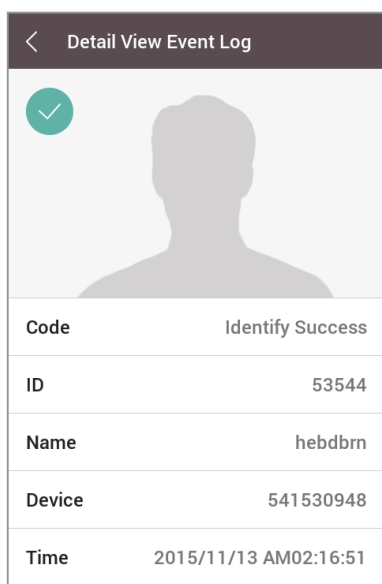
- 1 Press  and authenticate with the Admin level credential.
- 2 Select **EVENT LOG**.
- 3 Press  and change the condition. When you press **OK**, a log that matches the condition will be displayed on the screen.



Filter	
Date	2001/01/01 ~ 2030/12/31
Time	00:00 ~ 23:59
Event	All >
T&A Event	All >
User ID	Input ID

## Detail View Event Log



- 1 Press  and authenticate with the Admin level credential.
- 2 Select **EVENT LOG**.
- 3 Select a log to view detailed contents.



Detail View Event Log	
Code	Identify Success
ID	53544
Name	hebdbrn
Device	541530948
Time	2015/11/13 AM02:16:51



## Delete All Logs

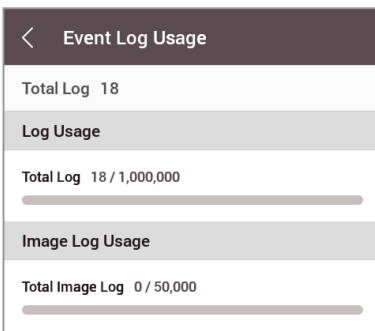
You can delete all saved logs.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **EVENT LOG**.
- 3 To delete all logs, select  and then press **OK**. To return to the previous screen, press **Cancel**.

## View Log Usage

You can check the status of log usage.

- 1 Press  and authenticate with the Admin level credential.
- 2 Select **EVENT LOG**.
- 3 Press .



# Troubleshooting

This troubleshooting provides information to solve unexpected issues that you may encounter when using the device.

Category	Problem	Solution
<b>Power</b>	The power is being supplied but the device does not operate.	<ul style="list-style-type: none"> <li>• If the terminal and the bracket are far away from each other, the device may not operate due to the temper switch.</li> <li>• Check the adaptor or the power cable.</li> </ul>
<b>PIN</b>	I lost my PIN.	<ul style="list-style-type: none"> <li>• For a normal user PIN, request it from the administrator and enter it again.</li> <li>• If you have lost the Admin PIN, contact the installation company.</li> </ul>
	I entered my PIN and pressed the <b>OK</b> button, but I still cannot open the door.	<ul style="list-style-type: none"> <li>• Check if you have entered the registered PIN correctly.</li> <li>• Check if you have changed the PIN recently.</li> <li>• If you cannot remember the PIN, request it from the administrator and enter it again.</li> </ul>
<b>Fingerprint</b>	The fingerprint has been enrolled but fingerprint authentication cannot be done smoothly and errors occur frequently.	<ul style="list-style-type: none"> <li>• Check '<a href="#">How to enroll a fingerprint</a>' and enroll the fingerprint again.</li> <li>• If your fingerprint has a cut, the device may recognize your fingerprint as someone else's fingerprint.</li> <li>• If there are a large number of enrolled fingerprints, change <b>Matching Timeout</b> and try again.</li> <li>• The authentication rate may vary for each fingerprint due to different characteristics. Enroll the fingerprint of another finger.</li> </ul>
	Suddenly fingerprint authentication cannot be done.	<ul style="list-style-type: none"> <li>• Check if the finger or the fingerprint sensor is smeared with sweat, water or dust, and wipe the finger or the fingerprint sensor clean.</li> <li>• Wipe your finger and the fingerprint sensor with a dry towel and then try again.</li> <li>• If the fingerprint of your finger is too dry, blow on the fingerprint and then try again.</li> </ul>
<b>Door Lock</b>	The door cannot be locked when I close the door.	<ul style="list-style-type: none"> <li>• The electric lock may be malfunctioning. Have an inspection through the installation company.</li> </ul>
<b>Time</b>	Suddenly the time has become incorrect.	<ul style="list-style-type: none"> <li>• BioStation A2 is equipped with a built-in battery but if power is not supplied for a long time, the built-in battery may die, causing the time to become incorrect. You can correct the time by referring to <a href="#">Date &amp; Time</a>.</li> </ul>
<b>Admin Access</b>	I lost my Admin PIN, so I cannot access the Admin mode.	<ul style="list-style-type: none"> <li>• The administrator grants an access permission in BioStation A2, so only the administrator can access the Admin menu.</li> <li>• If you have lost the Admin PIN, contact the installation company.</li> </ul>

# Product specifications

Category	Feature	Specification	
Credential	Biometric	Fingerprint	
	RF Option	<ul style="list-style-type: none"> <li>• <b>BSA2-OEPW:</b> 125kHz EM</li> <li>• <b>BSA2-OHPW:</b> 125kHz HID Prox</li> <li>• <b>BSA2-OIPW:</b> 13.56MHz iCLASS SE/SR/Seos</li> <li>• <b>BSA2-OMPW:</b> 13.56MHz MIFARE, MIFARE Plus, DESFire EV1/EV2*, FeliCa</li> </ul>	
	RF read range**	EM/HID Prox, MIFARE, DESFire: 50 mm, FeliCa: 30 mm	
General	Mobile	NFC (BSA2-OIPW, BSA2-OMPW)	
	CPU	1.0 GHz Quad Core	
	Memory	8GB Flash + 1GB RAM	
	Crypto chip	Supported	
	LCD type	5" color TFT touch	
	LCD resolution	480 x 854	
	LED	Multiple colors	
	Sound	24 bit/Voice DSP (echo cancel)	
	Operating temperature	-20°C–50°C	
	Storage temperature	-40°C–70°C	
	Operating humidity	0 %–80 %, non-condensing	
	Storage humidity	0 %–90 %, non-condensing	
	Camera type	CMOS 2M pixels	
	Camera resolution	1600 x 1200	
	Camera angle	Diagonal 122°, Horizontal 64.7°, Vertical 103.3°	
	Dimension (W x H x D)	155 mm x 155 mm x 40 mm	
	Weight	<ul style="list-style-type: none"> <li>• Device: 440 g</li> <li>• Bracket (Including washer and bolt): 89 g</li> </ul>	
	Certificates	CE, FCC, KC, RoHS, REACH, WEEE	
	Fingerprint	Image dimension	272 x 320 pixels
		Image bit depth	8bit, 256 grayscale
Resolution		500 dpi	
Template		SUPREMA / ISO19794-2 / ANSI-378	
Extractor / Matcher		MINEX certified and compliant	
Live Fingerprint Detection		Supported	
Capacity	Max. User	500,000***	
	Max. Credential (1:N)	Fingerprint: 100,000	
	Max. Credential (1:1)	<ul style="list-style-type: none"> <li>• Fingerprint: 500,000</li> <li>• Card: 500,000</li> <li>• PIN: 500,000</li> </ul>	
	Max. Text Log	5,000,000	
	Max. Image Log	50,000	
Interface	Wi-Fi	Supported	
	Ethernet	Supported (10/100 Mbps, auto MDI/MDI-X)	
	RS-485	1ch Host or Slave (Selectable)	
	Wiegand	1ch Input, 1ch Output	
	TTL input	1ch Input	
	Relay	2 Relay	
	USB	USB 2.0 (Host)	
	SD Card	microSD card (Supports up to 32 GB) * The functions of the SD card are available by customization only.	
	PoE	Supported (IEEE 802.3af compliant)	
	Tamper	Supported	



Electrical	Power	Voltage: DC 12 V / Current: Max. 1 A
	Switch input VIH	Min.: 3 V / Max.: 5 V
	Switch input VIL	Max.: 1 V
	Switch Pull-up resistance	4.7 k $\Omega$ (The input pots are pulled up with 4.7 k $\Omega$ .)
	Wiegand output VOH	More than 4.8 V
	Wiegand output VOL	Less than 0.2 V
	Wiegand output Pull-up resistance	Internally pulled up with 1 k $\Omega$
	Relay	2 A @ 30 VDC Resistive load 1 A @ 30 VDC Inductive load

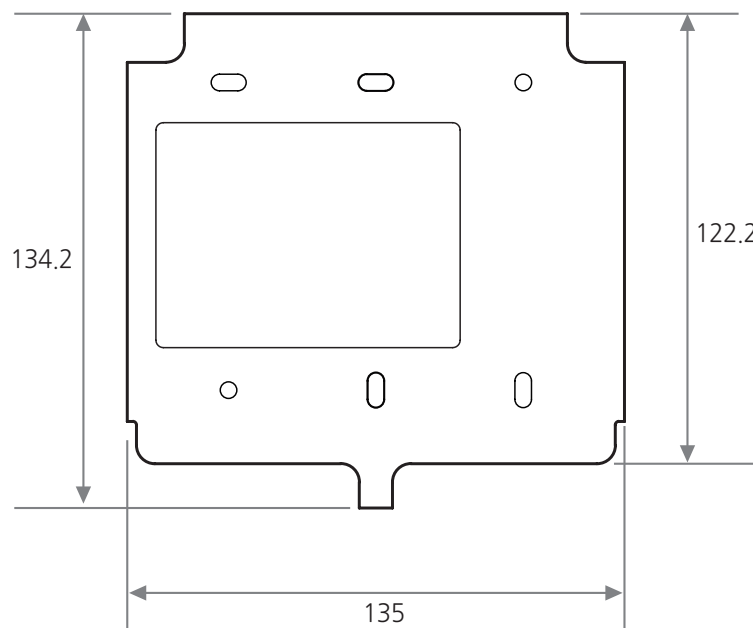
\* DESFire EV2 cards are supported by having backward compatibility of DESFire EV1 cards. CSN and smart card functions are compatible with BioStation A2.

\*\* RF read range will vary depending on installation environment.

\*\*\* The number of users registered without any credential data

## Dimensions

(Unit: mm)



## FCC compliance information

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.

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.



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## EU Declaration of Conformity (CE)

This product is CE marked according to the provisions of the Radio Equipment Directive (RED) 2014/53/EU. Hereby, Suprema Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive (RED) 2014/53/EU.

- NFC Frequency: 13.56 MHz
- RFID Frequency: 13.56 MHz + 125 kHz

For more information, contact us at the following contact information.

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# Appendices

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Version 3, 29 June 2007

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