<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Instructions</td>
<td>4</td>
</tr>
<tr>
<td>Introduction</td>
<td>6</td>
</tr>
<tr>
<td>Admin Menu</td>
<td>11</td>
</tr>
<tr>
<td>User</td>
<td>12</td>
</tr>
<tr>
<td>Authentication</td>
<td>14</td>
</tr>
<tr>
<td>NETWORK</td>
<td>17</td>
</tr>
<tr>
<td>DISPLAY &amp; SOUND</td>
<td>20</td>
</tr>
<tr>
<td>Device</td>
<td>21</td>
</tr>
<tr>
<td>T&amp;A Mode</td>
<td>25</td>
</tr>
</tbody>
</table>
Safety Instructions

Observe the following instructions to use the product safely and prevent any risk of injury or property damage.

⚠️ Warning
Noncompliance of instructions could lead to serious injury or death.

**Installation**

Do not install the product in a place with direct sunlight, moisture, dust, or soot.
- A fire or electric shock may occur.

Do not install the product in a place with heat from an electric heater.
- A fire or electric shock may occur due to overheating.

**Install the product in a dry place.**
- Otherwise, a product damage or electric shock may occur due to moisture.

**Install the product in a place with no electromagnetic interference.**
- Otherwise, a product damage or electric shock may occur.

**The user should not install or repair the product independently.**
- A fire, electric shock, or personal injury may occur.
- If the product has been damaged due to independent installation or repair of the product by the user, free A/S service will not be provided.

**Usage**

Do not allow liquids such as water, beverages, or chemicals get into the product.
- A fire, electric shock, or product damage may occur.

⚠️ Caution
Noncompliance of instructions could lead to minor injury or product damage.

**Installation**

Do not install the power supply cable in a place where people pass by.
- Product damage or physical injury may occur.

Do not install the product near a highly magnetic object such as a magnet, TV, (especially CRT) monitor, or speaker.
- A product failure may occur.

**Use only a power supply adaptor of D.C 12 V and 500 mA or higher.**
- If the proper power is not used, the product may not operate normally.

If installing the product outside where the product is completely exposed, it is recommended to install the product together with the enclosure.

**Use a separate power supply for Secure I/O 2, electric lock and BioStation A2 respectively.**
- If connecting and using the power supply to these devices together, the devices may malfunction.

**Keep at least 10cm distances between the devices when install multiple devices.**
- Otherwise, RF performance is affect to the other device, the devices may not operate normally.
Operation

Do not drop the product or apply an impact to the product.
- A product failure may occur.

Manage the password with care not to disclose it to others and change the password periodically.
- Otherwise, illegal intrusion may occur.

Do not press the buttons on the product forcibly or using a sharp tool.
- A product failure may occur.

Be careful not to contaminate or damage the fingerprint contact unit with a dirty hand or foreign substances.
- Deterioration in fingerprint authentication performance and a product failure may occur.

When cleaning the product, wipe the product with a soft and dry cloth and no water, benzene or alcohol.
- Otherwise, a product failure may occur.

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.

RTC battery
Replacing the battery with an incorrect type of battery may cause explosion.
Discard the battery according to the appropriate regional or international waste regulations.
Introduction

Components

- BioStation A2
- Wall Bracket
- Drilling Template
- Connection Cable (2 pins 1 EA, 3 pins 2 EA, 4 pins 4 EA)
- Diode
- PVC Anchor x4
- 120 Ω resistor
- Ferrite Core
- Fixing Screw x4
- Bracket Fixing Screw (Star Shaped)
- Open Source Software Guide
- Quick Guide

NOTE
- 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 additional content regarding product installation, access the Suprema website (www.suprema.co.kr) and view the installation guide.
Name and function of each part

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microphone</td>
<td>Delivers the voice of the user when the interphone is connected.</td>
</tr>
<tr>
<td>LCD screen</td>
<td>Provides UI for operation.</td>
</tr>
<tr>
<td>Menu button ( )</td>
<td>Displays the list of menus.</td>
</tr>
<tr>
<td>Home button ( )</td>
<td>Navigates to the home screen.</td>
</tr>
<tr>
<td>Cancel button ( )</td>
<td>Navigates back to the previous screen.</td>
</tr>
<tr>
<td>Speaker</td>
<td>Delivers sound.</td>
</tr>
<tr>
<td>LED lamp</td>
<td>Indicates the operational status of the product with the color of the LED lamp.</td>
</tr>
<tr>
<td>Fingerprint authentication unit</td>
<td>Part to scan the fingerprint for entrance.</td>
</tr>
<tr>
<td>RF card authentication unit</td>
<td>Part to scan the card for entrance.</td>
</tr>
<tr>
<td>USB memory slot</td>
<td>Connects USB memory.</td>
</tr>
<tr>
<td>Mini USB cable slot</td>
<td>Will be supported in the future.</td>
</tr>
<tr>
<td>TTL input (4 pins)</td>
<td>Connects the TTL input cable.</td>
</tr>
<tr>
<td>Connector Type</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>RS-485 (4 pins)</td>
<td>Connects the RS-485 cable.</td>
</tr>
<tr>
<td>Relay (3 pins)</td>
<td>Connects the relay cable.</td>
</tr>
<tr>
<td>Power supply (2 pins)</td>
<td>Connects the power supply cable.</td>
</tr>
<tr>
<td>Ethernet</td>
<td>Connects the Ethernet cable.</td>
</tr>
<tr>
<td>Wiegand input (4 pins)</td>
<td>Connects the Wiegand input and output cable.</td>
</tr>
<tr>
<td>Wiegand output (4 pins)</td>
<td>Connects the Wiegand input and output cable.</td>
</tr>
</tbody>
</table>

Introduction
## Cables and connectors

### Power

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PWR +VDC</td>
<td>Red (white stripe)</td>
</tr>
<tr>
<td>2</td>
<td>PWR GND</td>
<td>Black (white stripe)</td>
</tr>
</tbody>
</table>

### Relay

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RLY NO</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>RLY COM</td>
<td>Blue</td>
</tr>
<tr>
<td>3</td>
<td>RLY NC</td>
<td>Orange</td>
</tr>
</tbody>
</table>

### RS-485

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>485 TRXP</td>
<td>Blue</td>
</tr>
<tr>
<td>2</td>
<td>485 TRXN</td>
<td>Yellow</td>
</tr>
<tr>
<td>3</td>
<td>485 GND</td>
<td>Black</td>
</tr>
<tr>
<td>4</td>
<td>SH GND</td>
<td>Gray</td>
</tr>
</tbody>
</table>

### TTL input

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TTL IN0</td>
<td>Red</td>
</tr>
<tr>
<td>2</td>
<td>TTL IN1</td>
<td>Yellow</td>
</tr>
<tr>
<td>3</td>
<td>TTL GND</td>
<td>Black</td>
</tr>
<tr>
<td>4</td>
<td>SH GND</td>
<td>Gray</td>
</tr>
</tbody>
</table>

### Wiegand input and output

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WG D0</td>
<td>Green</td>
</tr>
<tr>
<td>2</td>
<td>WG D1</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>WG GND</td>
<td>Black</td>
</tr>
<tr>
<td>4</td>
<td>SH GND</td>
<td>Gray</td>
</tr>
</tbody>
</table>
How to enroll a fingerprint correctly

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

Selecting a finger for fingerprint input

- In preparation for a situation in which 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 enrolled.
- 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 “Scan the fingerprint.” 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).

NOTE

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 of 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.

NOTE

- In case 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. Press User > .

3. Select and set the desired item. When you press OK, the user information will be registered.
   - 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 user name.
   - 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.
   - 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.

NOTE
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, NETWORK menus can be accessed.
- User Mgmt: USER menu can be accessed.
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 Press User > .
3 Select your search terms. You can search for a user by ID, name, fingerprint or card.
4 Select the user you wish to modify and press . Modify the information by referring to Registering user information.
   - To delete a user, press  and then press OK.

   NOTE
   - Access Groups can be registered in BioStar 2. For detailed contents regarding registering an access group, refer to BioStar 2 Administrator's manual.

Delete All Users
You can delete all registered users at once.

1 Press  and authenticate with the Admin level credential.
2 Press 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 Press User > .
Authentication

Auth Mode

Modifying Auth Mode

You can set the authentication method and schedule according to each credential. You can set up to 3 auth modes.

1. Press \[\begin{array}{c} a \end{array}\] and authenticate with the Admin level credential.
2. Press Authentication > Auth Mode.
3. Select the auth mode you wish to change.
4. When you press \[\begin{array}{c} b \end{array}\], the selected credential will be deleted, and when you press \[\begin{array}{c} c \end{array}\], available credentials to be added will be displayed on the screen.

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| Fingerprint | • : Mode to use a fingerprint only  
| | • + : Mode to authenticate with a fingerprint and then enter PIN |
| Card | • : Mode to use a card only  
| | • + : Mode to authenticate with a card and then authenticate with a fingerprint  
| | • + : Mode to authenticate with a card and then enter PIN  
| | • + / : Mode to authenticate with a card and then authenticate with a fingerprint or enter PIN  
| | • + + / : Mode to authenticate with a card and then use both fingerprint authentication and PIN input.  |
| ID | • + : Mode to enter ID and then authenticate with a fingerprint  
| | • + : Mode to enter ID and then enter PIN  
| | • + / : Mode to enter ID and then authenticate with a fingerprint or enter PIN  
| | • + + / : Mode to enter ID and then use both fingerprint authentication and PIN input.  |

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

NOTE
- A schedule can be set in BioStar 2. If there is no set schedule, only Always Use 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. Press Authentication > Auth Mode.
3. Press and select an item to delete.
4. When you press OK, the selected item will be deleted.

Add Auth Mode

You can register up to 3 auth modes.

1. Press and authenticate with the Admin level credential.
2. Press 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.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face Detection</td>
<td>Strict</td>
</tr>
<tr>
<td>Server Matching</td>
<td></td>
</tr>
<tr>
<td>Auth Timeout</td>
<td>10 Sec</td>
</tr>
</tbody>
</table>

- **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.

<table>
<thead>
<tr>
<th>Fingerprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security Level</td>
</tr>
<tr>
<td>Matching Timeout</td>
</tr>
<tr>
<td>View Image</td>
</tr>
<tr>
<td>Sensor Sensitivity</td>
</tr>
<tr>
<td>1:N Fast Mode</td>
</tr>
<tr>
<td>Template Format</td>
</tr>
<tr>
<td>Live Finger Detection</td>
</tr>
<tr>
<td>Advanced Enrollment</td>
</tr>
</tbody>
</table>

- **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 fake fingerprint inspection level. If the fake fingerprint inspection level is higher, the rejection rate on actual human fingerprints will increase.
- **Advanced Enrollment**: You can check the quality of a scanned fingerprint to save high quality fingerprint data. If enabled is selected, the user will be notified when the fingerprint quality is low. This helps users to scan the fingerprints correctly.
- **Duplicate Check**: When registering fingerprints, you can check duplicates.

**NOTE**
- 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. Press **Network > Device > Ethernet**.
3. Enable Ethernet setting.

<table>
<thead>
<tr>
<th>DEVICE</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>Wireless</td>
</tr>
<tr>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>TCP/IP</td>
<td></td>
</tr>
<tr>
<td>PORT</td>
<td>51211</td>
</tr>
<tr>
<td>DHCP</td>
<td></td>
</tr>
<tr>
<td>IP Address</td>
<td>0.0.0.0</td>
</tr>
<tr>
<td>Gateway</td>
<td>0.0.0.0</td>
</tr>
<tr>
<td>Subnet Mask</td>
<td>0.0.0.0</td>
</tr>
<tr>
<td>DNS</td>
<td>192.168.0.1</td>
</tr>
</tbody>
</table>

- **PORT**: Set the port of the device.
- **DHCP**: Set whether or not 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**.

**NOTE**

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

1. Press \(\) and authenticate with the Admin level credential.


3. When you activate Wireless setting, the list of networks available to connect will be displayed.

   ![Network Settings](image)

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.

**NOTE**
- 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.


   ![Server Settings](image)

   - **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 where BioStar 2 is installed. Input is accepted only when Device > Server is set for Connection Mode.
Serial Settings

RS-485

1. Press □□ and authenticate with the Admin level credential.

2. Press Network > RS-485 and change the desired item.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud Rate</td>
<td>115200</td>
</tr>
</tbody>
</table>

- **Mode**: Select the RS-485 mode.
- **Baud Rate**: Select a 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. Press DISPLAY & SOUND.
3. Change the desired item.

<table>
<thead>
<tr>
<th>DISPLAY &amp; SOUND</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td></td>
</tr>
<tr>
<td>Home Screen</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td>English</td>
</tr>
<tr>
<td>Server Private Msg.</td>
<td></td>
</tr>
<tr>
<td>Timeout</td>
<td></td>
</tr>
<tr>
<td>Menu Timeout</td>
<td>10 Sec</td>
</tr>
<tr>
<td>Msg Timeout</td>
<td>2 Sec</td>
</tr>
<tr>
<td>Backlight Timeout</td>
<td>20 Sec</td>
</tr>
<tr>
<td>Sound</td>
<td></td>
</tr>
<tr>
<td>Voice Instruction</td>
<td></td>
</tr>
<tr>
<td>Volume</td>
<td>50</td>
</tr>
</tbody>
</table>

- **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.

**NOTE**
- 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. Press 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. Press 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. Press 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 Press Device > Daylight Saving Time.
3 Select the desired item and change the setting.

Device Info
You can view the model name, firmware version of Device ID and MAC address.

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

Memory Info
You can view the status of memory usage.

1 Press and authenticate with the Admin level credential.
2 Press Device > Memory Info.

USB Memory
You can connect USB memory, import the user information from the device or export the user information or logs to the device. Also, you can upgrade the firmware.

1 Press and authenticate with the Admin level credential.
2 Press 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.

NOTE
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 8GB, SUM-PSB 8GB, SUM-PSB 16GB, SUM-BSG 32GB
- LG Electronics: XTICK J3 WINDY 8GB, SMART USB MU1 White 8GB, MU1 USB 32GB, MU280BC 32GB, XTICK MOBY J1 16GB
- SanDisk: Cruzer 16GB, Cruzer Blade CZ50 4GB, Cruzer Blade CZ50 32GB, CZ48 Ultra USB 3.0 64GB, CZ80 USB3.0 64GB, CZ52 64GB, Cruzer Glide Z60 128GB, Cruzer Force CZ71 32GB
- Sony: Micro Vault Click 8GB, MicroVault CLICK 16GB, USM-SA1 32GB
- Transcend: JetFlash 760 8GB, JetFlash 760 32GB, JetFlash 500 8GB
- memorette: MINI500 8GB
- A-DATA: S102 PRO 8GB
- TG Sambo: Pastel 8GB
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. Press Device > Restart Device.
3. To restart the device, press OK. To cancel, press Cancel.

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

1. Press and authenticate with the Admin level credential.
2. Press 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.

NOTE
- 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. Press DEVICE > Factory Default.
3. To restore the factory defaults, press OK.

NOTE
- 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 \( \text{ } \) and authenticate with the Admin level credential.
2. Press DEVICE > Delete the Root Certificate.
3. To delete the root certificate, press OK.

**NOTE**
- 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 \( \text{ } \) and authenticate with the Admin level credential.
2. Press Device > User ID Type.

<table>
<thead>
<tr>
<th>User ID Type</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Alphanumeric</td>
<td></td>
</tr>
</tbody>
</table>

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**.

   ![](t-a-mode.png)

   - **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 or not to use **Job Code**.

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 or not 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. Press EVENT LOG.
3. Press and change the condition. When you press OK, a log that matches the condition will be displayed on the screen.

<table>
<thead>
<tr>
<th>Filter</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>2001/01/01 – 2030/12/31</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>00:00 – 23:59</td>
<td></td>
</tr>
<tr>
<td>Event</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>T&amp;A Event</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>User ID</td>
<td>Input ID</td>
<td></td>
</tr>
</tbody>
</table>

**Detail View Log**

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Identify Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>53544</td>
</tr>
<tr>
<td>Name</td>
<td>hebdbrm</td>
</tr>
<tr>
<td>Device</td>
<td>541530948</td>
</tr>
<tr>
<td>Time</td>
<td>2015/11/13 AM02:16:51</td>
</tr>
</tbody>
</table>
Delete All Logs
You can delete all saved logs.

1. Press and authenticate with the Admin level credential.
2. Press EVENT LOG.
3. To delete all logs, press and then press OK. To cancel, press Cancel.

View Log Usage
You can check the status of log usage.

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

<table>
<thead>
<tr>
<th>Event Log Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Log: 18</td>
</tr>
<tr>
<td>Log Usage</td>
</tr>
<tr>
<td>Total Log: 18 / 1,000,000</td>
</tr>
<tr>
<td>Image Log Usage</td>
</tr>
<tr>
<td>Total Image Log: 0 / 50,000</td>
</tr>
</tbody>
</table>
# Troubleshooting

## Checklist before reporting a failure

<table>
<thead>
<tr>
<th>Category</th>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power</strong></td>
<td>The power is being supplied but the device does not operate.</td>
<td>• If the terminal and the bracket are far away from each other, the device may not operate due to the temper switch.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check the adaptor or the power cable.</td>
</tr>
<tr>
<td><strong>PIN</strong></td>
<td>I lost my PIN.</td>
<td>• For a normal user PIN, request it from the administrator and enter it again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If you have lost the Admin PIN, contact the installation company.</td>
</tr>
<tr>
<td></td>
<td>I entered my PIN and pressed the <strong>OK</strong> button, but I still cannot open the door.</td>
<td>• Check if you have entered the registered PIN correctly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check if you have changed the PIN recently.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If you cannot remember the PIN, request it from the administrator and enter it again.</td>
</tr>
<tr>
<td><strong>Fingerprint</strong></td>
<td>The fingerprint has been enrolled but fingerprint authentication cannot be done smoothly and errors occur frequently.</td>
<td>• Check ‘<strong>How to enroll a fingerprint correctly</strong>’ and enroll the fingerprint again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If your fingerprint has a cut, the device may recognize your fingerprint as someone else’s fingerprint.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If there are a large number of enrolled fingerprints, change <strong>Matching Timeout</strong> and try again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The authentication rate may vary for each fingerprint due to different characteristics. Enroll the fingerprint of another finger.</td>
</tr>
<tr>
<td></td>
<td>Suddenly fingerprint authentication cannot be done.</td>
<td>• Check if the finger or the fingerprint sensor is smeared with sweat, water or dust, and wipe the finger or the fingerprint sensor clean.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Wipe your finger and the fingerprint sensor with a dry towel and then try again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If the fingerprint of your finger is too dry, blow on the fingerprint and then try again.</td>
</tr>
<tr>
<td><strong>Door Lock</strong></td>
<td>The door cannot be locked when I close the door.</td>
<td>• The electric lock may be malfunctioning. Have an inspection through the installation company.</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>Suddenly the time has become incorrect.</td>
<td>• 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 <strong>Date &amp; Time</strong>.</td>
</tr>
<tr>
<td><strong>Admin Access</strong></td>
<td>I lost my Admin PIN, so I cannot access the Admin mode.</td>
<td>• The administrator grants an access permission in BioStation A2, so only the administrator can access the Admin menu.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If you need to access the Admin menu, you can issue a PIN through a required procedure. Ask the installation company for the procedure to issue the password.</td>
</tr>
</tbody>
</table>
## Product Specifications

<table>
<thead>
<tr>
<th>Category</th>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credential</strong></td>
<td>Biometric</td>
<td>Fingerprint</td>
</tr>
<tr>
<td>RF Option</td>
<td></td>
<td>• BSA2-OEPW: 125kHz EM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• BSA2-OHPW: 125kHz HID Prox</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• BSA2-OPPW: 13.56MHz iCLASS SE/SR/Seos, NFC</td>
</tr>
<tr>
<td>RF read range’</td>
<td>LFD</td>
<td>EM/HID Prox: 50 mm, MIFARE: 50 mm, DESFire: 50 mm, Felica: 30 mm Supported</td>
</tr>
<tr>
<td></td>
<td>CPU</td>
<td>1.0 GHz Quad Core</td>
</tr>
<tr>
<td></td>
<td>Memory</td>
<td>8GB Flash + 1GB RAM</td>
</tr>
<tr>
<td></td>
<td>LCD type</td>
<td>5” color TFT touch</td>
</tr>
<tr>
<td></td>
<td>LCD resolution</td>
<td>480 x 854</td>
</tr>
<tr>
<td></td>
<td>LED</td>
<td>Multiple colors</td>
</tr>
<tr>
<td></td>
<td>Operating temperature</td>
<td>-20 °C - 50 °C</td>
</tr>
<tr>
<td></td>
<td>Storage temperature</td>
<td>-40 °C - 70 °C</td>
</tr>
<tr>
<td></td>
<td>Operating humidity</td>
<td>0% - 80%, non-condensing</td>
</tr>
<tr>
<td></td>
<td>Storage humidity</td>
<td>0% - 90%, non-condensing</td>
</tr>
<tr>
<td></td>
<td>Camera type</td>
<td>CMOS 2M pixels</td>
</tr>
<tr>
<td></td>
<td>Camera resolution</td>
<td>1600 x 1200</td>
</tr>
<tr>
<td></td>
<td>Camera angle</td>
<td>Diagonal 122°, Horizontal 64.7°, Vertical 103.3°</td>
</tr>
<tr>
<td></td>
<td>Dimension (W x H x D)</td>
<td>155 mm x 155 mm x 40 mm</td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>Device: 440 g, Bracket: 89 g (Including washer and bolt)</td>
</tr>
<tr>
<td></td>
<td>Certificates</td>
<td>CE, FCC, KC, RoHS, REACH, WEEE</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fingerprint</td>
<td>272 x 320 pixels</td>
</tr>
<tr>
<td></td>
<td>Image bit depth</td>
<td>8bit, 256 grayscale</td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td>500 dpi</td>
</tr>
<tr>
<td></td>
<td>Template</td>
<td>SUPREMA / ISO 19794-2 / ANSI 378</td>
</tr>
<tr>
<td></td>
<td>Extractor / Matcher</td>
<td>MINEX certified and compliant</td>
</tr>
<tr>
<td></td>
<td>LFD</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>Max. User (1:1)</td>
<td>500,000</td>
</tr>
<tr>
<td></td>
<td>Max. User (1:N)</td>
<td>100,000</td>
</tr>
<tr>
<td></td>
<td>Max. Template (1:1)</td>
<td>1,000,000 (Two templates per finger)</td>
</tr>
<tr>
<td></td>
<td>Max. Template (1:N)</td>
<td>200,000 (Two templates per finger)</td>
</tr>
<tr>
<td></td>
<td>Max. Text Log</td>
<td>5,000,000</td>
</tr>
<tr>
<td></td>
<td>Max. Image Log</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>Wi-Fi</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Ethernet</td>
<td>Supported (10/100 Mbps, auto MDI/MDI-X)</td>
</tr>
<tr>
<td></td>
<td>RS-485</td>
<td>1ch Host or Slave (Selecteable)</td>
</tr>
<tr>
<td></td>
<td>Wiegand</td>
<td>1ch Input, 1ch Output</td>
</tr>
<tr>
<td></td>
<td>TTL input</td>
<td>1ch Input</td>
</tr>
<tr>
<td></td>
<td>Relay</td>
<td>2 Relay</td>
</tr>
<tr>
<td></td>
<td>USB</td>
<td>USB 2.0 (Host)</td>
</tr>
<tr>
<td></td>
<td>SD Card</td>
<td>microSD card (Supports up to 32GB)</td>
</tr>
<tr>
<td></td>
<td>PoE</td>
<td>Supported (IEEE 802.3af compliant)</td>
</tr>
<tr>
<td></td>
<td>Tamper</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>Electrical</strong></td>
<td>Power</td>
<td>Voltage: 12 VDC, Current: Max. 850 mA</td>
</tr>
<tr>
<td></td>
<td>Switch input VIH</td>
<td>Min.: 3 V, Max.: 5 V</td>
</tr>
<tr>
<td></td>
<td>Switch input VIL</td>
<td>Max.: 1 V</td>
</tr>
<tr>
<td></td>
<td>Switch Pull-up resistance</td>
<td>4.7 kΩ (The input pots are pulled up with 4.7 kΩ.)</td>
</tr>
<tr>
<td></td>
<td>Wiegand output VOH</td>
<td>More than 4.8 V</td>
</tr>
<tr>
<td></td>
<td>Wiegand output VOL</td>
<td>Less than 0.2 V</td>
</tr>
<tr>
<td></td>
<td>Wiegand output Pull-up resistance</td>
<td>Internally pulled up with 1 kΩ</td>
</tr>
<tr>
<td></td>
<td>Relay</td>
<td>Voltage: Max. 30 VDC, Current: Max. 1 A</td>
</tr>
</tbody>
</table>

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

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.
Modifications not expressly approved by the manufacturer may void the user’s authority to operate the equipment under FCC rules.

This appliance and its antenna must not be located together or operated in conjunction with any other antenna or transmitter. A minimum separation distance of 20 cm must be maintained between the antenna and individuals for this appliance to satisfy the RF exposure requirements.

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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Tel: +82-31-783-4502 / Fax: +82-31-783-4503
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