GV-AS Bridge

Contents

GV-AS Bridge

GV-AS Bridge is a cloud controller that bridges GV-AS Controller and GV-DFK1355 readers to the cloud-based GV-Cloud Access Control for integrated monitoring and administration. It also serves as a controller for storing access data and transmits the data to GV-Cloud Access Control for central access management. A maximum of 8 readers can be either directly connected or connected via GV-AS Controller to GV-AS Bridge. Up to 4 doors access administration is applicable at a time for the access control. Using GV-AS Bridge, you can transmit the data collected from the connected GV-AS Controller and GV-Readers to GV-Cloud Access Control for various applications, including access logs, central management for different surveillance sites, user management, and access rule settings.

When directly connecting to IP cameras or connecting IP cameras using the GV-Cloud Bridge encoder, GV-AS Bridge can transmit snapshots, live view, and playback recordings to GV-Cloud Access Control upon access events. Up to 4 IP cameras can be directly connected to GV-AS Bridge or via a single GV-Cloud Bridge.
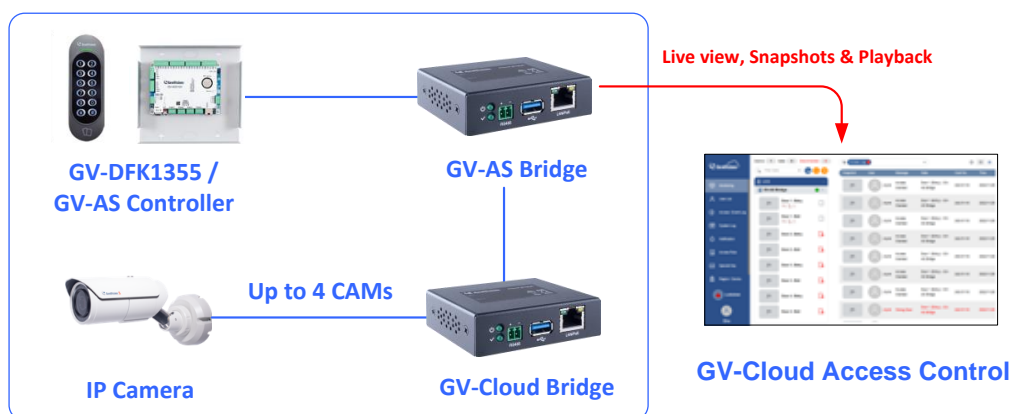
1.1 Compatible Products

- **GV-AS Controller:** GV-AS210 / 2110 / 2120, GV-AS410 / 4110 / 4111 firmware V2.60 or later
- **GV-DFK1355** (reader)
- **GV-Cloud Access Control** (cloud-based software): V1.00 or later
- **GV-Cloud VMS** (cloud-based software): V1.00 or later
- **GV-Cloud Bridge** (encoder): firmware V1.03 or later
- **Camera:** GV-IP cameras and ONVIF cameras

1.2 Packing List

- GV-AS Bridge
- Terminal Block
- Download Guide

1.3 Overview

1.		This LED indicates the power is supplied.
2.		This LED indicates GV-AS Bridge is ready for connection.

3.		Connects to up to 8 GV-DFK1355 readers via the RS-485 interface.
4.		Connects the USB flash memory in FAT32 format (up to 32 GB) to temporarily store database when the connection with GV-Cloud Access Control is lost. See *1.6.2.3 Disk Configuration* for details.
5.		Connects to the network or a PoE adapter.
6.		Connects to power using the supplied terminal block.
7.		This resets all configurations to factory settings. See *1.6.1.1 System Setup* for details.
8.		This reboots GV-AS Bridge, and keeps all current configurations. See *1.6.1.1 System Setup* for details.

1.4   Connecting to PC

There are two ways to power and connect GV-AS Bridge to the PC. Only one of the two methods can be used at a time.

1. **GV-PA191 PoE Adapter (optional purchase required):** Through the LAN port (No. 8, *1.3 Overview*), connect to a GV-PA191 PoE Adapter, and connect to the PC.
2. **Power Adapter:** Through the DC 12V port (No. 4, *1.3 Overview*), use the supplied terminal block to connect to a power adapter. Connect to your PC through the LAN port (No. 8, *1.3 Overview*).

1.5   Accessing GV-AS Bridge

When GV-AS Bridge is connected to a network with a DHCP server, a dynamic IP address is automatically assigned. Follow the steps below to access your GV-AS Bridge.

Note:

1. The PC used to access the Web interface must be under the same LAN as the GV-AS Bridge.
2. If the network connected doesn't have a DHCP server or it is disabled, GV-AS Bridge can be accessed by its default IP address 192.168.0.100. See *1.5.1 Assigning a Static IP Address*.

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1. Download and install GV-IP Device Utility.

2. Find your GV-AS Bridge on the GV-IP Device Utility window, click its IP address, and select **Web Page**.

3. Log in with the default ID and password (admin / admin). This page appears.

4. Type the necessary information and click **Submit**.

1.5.1   Assigning a Static IP Address

GV-AS Bridge is assigned a static IP address of **192.168.0.100** by default when it is connected to a LAN without a DHCP server. Follow the steps below to assign a new IP address to avoid IP conflicts with other GeoVision devices.

1. Open your Web browser, and type the default IP address **192.168.0.100**.

2. Type your username and password. Click **Login**.

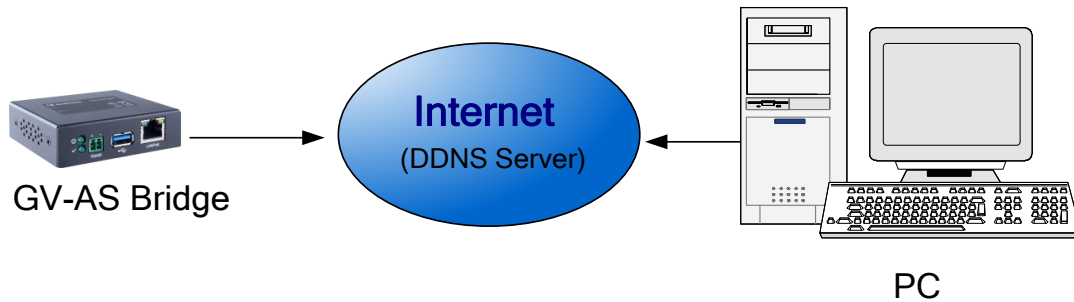3. Click **Network Configuration** in the left menu.

4. Disable **DHCP Client**. Type the static IP address information, including IP Address, Subnet Mask, Default Gateway, and Domain Name Server.

5. Click **Submit**. GV-AS Bridge can now be accessed through the configured static IP address.

1.5.2 Configuring the DDNS Domain Name

DDNS (Dynamic Domain Name System) is another way to access GV-AS Bridge when using a dynamic IP. DDNS assigns a domain name to GV-AS Bridge so that it can always be accessed using the domain name.

Follow the steps below to apply for a domain name from **GeoVision DDNS Server** and enable the DDNS function.

1. Select **Network Configuration** in the left menu.

2. Select **Send to DDNS** and click **GeoVision DDNS**. This page appears.

3. In the **Hostname** field, type a name, which can be up to 16 characters long and contain "a ~ z", "0 ~ 9", and "-". Note that a space or "-" cannot be used as the first character.

4. In the **Password** field, type a password that is case-sensitive and at least 6 characters long. Type the password again in the Re-type Password field for confirmation.

5. In the Word Verification section, type the characters or numbers shown in the box. For example, type *m2ec* in the required field. Word Verification is not case-sensitive.

6. Click **Send**. When the registration is complete, this page appears. The **Hostname** shown is the domain name, consisting of the registered username and "gvdip.com", e.g. somerset01.gvdip.com.
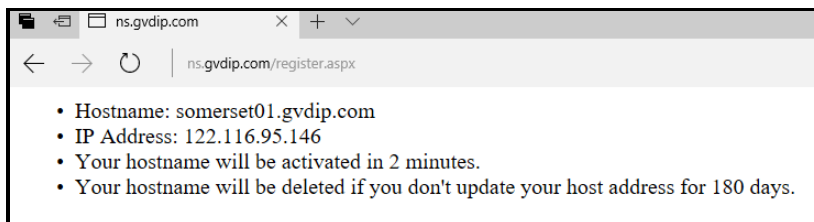
**Note:** The registered username becomes invalid after not being used for three months.

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7. Type the **Hostname** and **Password** that are registered on the DDNS Server.

8. Click **Apply**. GV-AS Bridge can now be accessed with this domain name.

Note: Optionally, you can type the backup DNS next to **Override Primary Domain Name Server** under the **DHCP Client** section to prevent the malfunction of the set DNS.

1.6   The Web Interface

Once logged in, you can set up the connection to GV-AS Controller or GV-DFK1355 readers and to GV-Cloud Access Control through the Web interface.
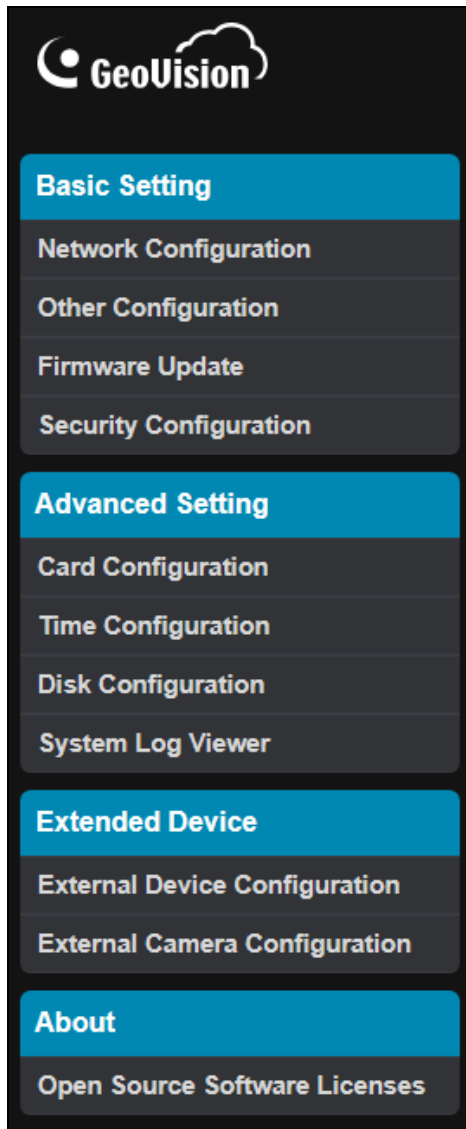
1.6.1   Basic Settings

The Basic Settings section covers network configuration, system setup, firmware update, and security configuration. For details on Network Configuration, refer to *1.5 Accessing GV-AS Bridge*.

1.6.1.1   System Setup

In the left menu, click **Other Configuration**. This page appears.

[Mac Address / Firmware Version]

Indicates the MAC address, and the current firmware version of GV-AS Bridge.

[Reboot System]

Performs a warm boot of the device. This operation will keep the current system configuration.

[Configuration Control]

- **Cloud Access Configuration:** Clears the database of GV-AS Bridge. After reconnecting to GV-Cloud Access Control, you can manually synchronize the user and card data to GV-AS Bridge on GV-Cloud Access Control.

- **Default Value:** Resets all configuration parameters to factory settings. This may take up to 5 seconds to complete.

- **Backup Configuration:** To backup GV-AS Bridge settings, click **Download Backup**. A .bin file will be exported. You can then import the file to another GV-AS Bridge to avoid setting each GV-AS Bridge individually. Note that network settings, such as IP address and hardware ID, will NOT be included in the backup file.

- **Restore Configuration:** To import GV-AS Bridge settings, click **Browse**, select the .bin file previously exported, and click **Upload.**

1.6.1.2　Firmware Update

Follow the steps below to update the firmware of the device.

1. In the left menu, click **Firmware Update**. This page appears.
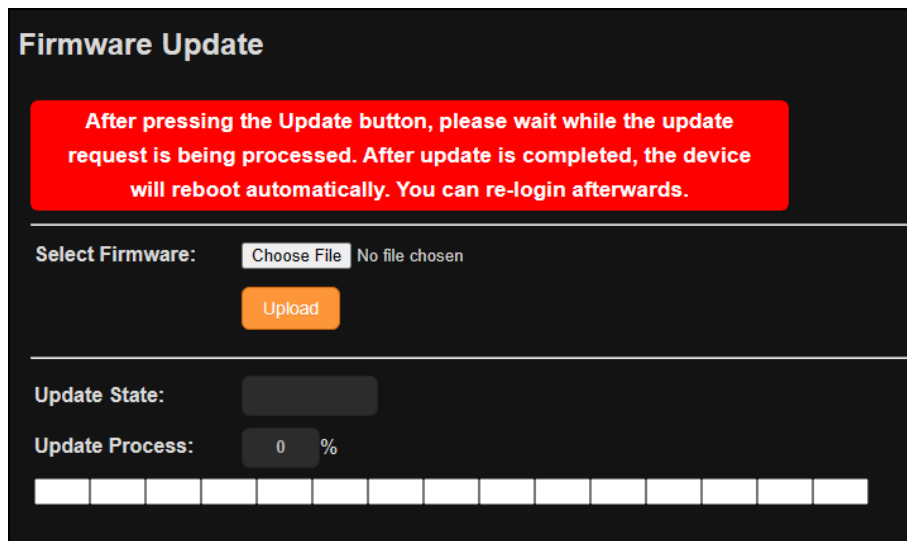
2. Click **Choose File** to browse and select the firmware file.

3. Click **Upload**. This update process may take 60 seconds to complete.

4. When the update is complete, you will be asked to reboot the system.
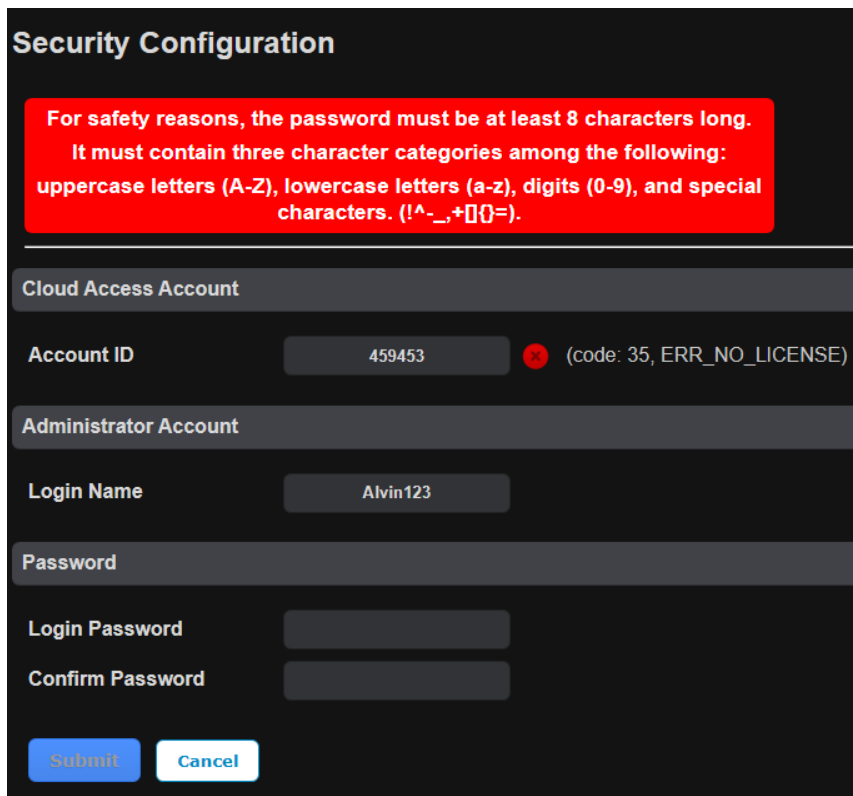
5. Click **OK** to restart GV-AS Bridge.

Note:

1. Make sure the device remains powered on during the firmware upgrade.

2. The device must be rebooted following the firmware update. Without a reboot, the firmware update is not complete.

1.6.1.3 Security Configuration

In the left menu, click **Security Configuration** to configure the connection to GV-Cloud Access Control. Note that it is required to register an account on GV-Cloud before setting up the connection.

1. On the Web interface of GV-AS Bridge, type the **Account ID** you created on GV-Cloud, and type the login password of your GV-AS Bridge in the fields of **Login Password** and **Confirm Password**.
2. Click **Submit**. The connection to GV-Cloud Access Control is set up.
3. Once the connection to GV-Cloud Access Control is set up, a green connection status and the message "code: 0, SUCCESS" will appear next to the **Account ID** field.

After the connection is set up, add your GV-AS Bridge on the device list of GV-Cloud Access Control for the central access control. See *4.2.1 Adding a Device* in *GV-Cloud Access Control User's Manual.*

Note:
1. The **Login Name** and **Login Password** are the login ID and password of GV-AS Bridge's Web interface.
2. If the password of your GV-AS Bridge is changed, make sure to update the password on GV-Cloud Access Control to ensure the connection.
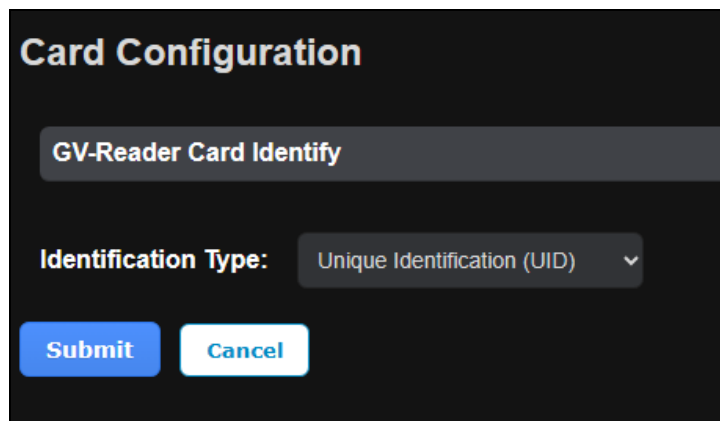

1.6.2 Advanced Settings

The Advanced Settings section covers card configuration, time configuration, disk configuration, and system log viewer.

1.6.2.1 Card Configuration

In the left menu, click **Card Configuration** to set the GV-DFK1355 readers on GV-AS Bridge to read UID (unique identification) or GID (GeoVision ID) on GV-AS access cards / fobs.

To use **GeoVision Identification (GID)**, make sure there are two numbers on your GV-AS access cards / fobs as shown below. If there is only one number on your access cards or fobs, GID is not supported and you must select **Unique Identification (UID)**.
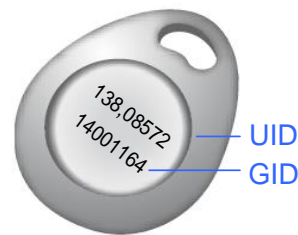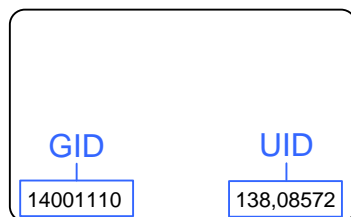
1.6.2.2 Time Configuration

In the left menu, click **Time Configuration** to set up system time and daylight-saving time period.

[System Local Time] Displays the current date, time, and time zone of the device.

[Local Time]

■ **Disable:** Disable the manual configuration of time and date.

■ **Setup:** Manually configure the time and date of the device. To synchronize the device's time and date with those of the local PC, click **Current local time.**

[Daylight Savings Time (DST)]

■ **Disable:** Disable the manual configuration of DST.

■ **Time Zone:** Enable the manual configuration of DST by setting **Start Time** and **Stop Time** for the DST period.

1.6.2.3 Disk Configuration

In the left menu, click **Disk Configuration** to configure and access the status of the USB flash drive (FAT32, up to 32 GB) inserted to GV-AS Bridge. When GV-AS Bridge disconnects with GV-Cloud Access Control due to Internet failure and other causes, the USB flash drive inserted in GV-AS Bridge stores the snapshots and logs received from GV-Cloud Bridge and IP cameras and sends them to GV-Cloud Access Control when reconnected.

Disk Configuration

Disk Infomation

Disk No.	Total Size	Used Size	Free Space	Utilization	Remove	Format
Disk0	14.442	0.035	14.407	0%	Remove	Format

(Unit: Gigabyte)

1.6.2.4 System Log Viewer

In the left menu, click **System Log Viewer** to view the current system status and dump data that service personnel can use to troubleshoot problems.

1.6.3 Extended Device

1.6.3.1 Extended Reader Configuration

In the left menu, click **External Device Configuration** to configure the connection to GV-AS Controller. You can configure the door usage associated with the GV-DFK1355 readers directly connected to GV-AS Bridge.

[Devices]

■ **DFK1355:** Select this option when GV-DFK1355 readers are directly connected to GV-AS Bridge. Use the **Output Function** dropdown list to set the specified reader as the entry / exit reader on the specified door/gate.

■ **AS210/AS410:** Select this option to connect to GV-AS Controller. When this option is selected, type the IP address and login name/password of GV-AS Controller.

Click **Submit**. The green Connection Status indicates a successful connection between GV-AS Bridge and GV-DFK1355 / GV-AS Controller, while the red status indicates an unsuccessful connection.


Note:
1. The Output Function options are applicable to the connected GV-DFK1355 readers only.
2. For detailed instructions on how to link GV-DFK1355 / GV-AS Controller to GV-Cloud Access Control via GV-AS Bridge, see *1.7 Linking GV-AS Controller to GV-Cloud Access Control* and *1.8 Linking GV-DFK1355 Readers to GV-Cloud Access Control.*

1.6.3.2 Extended Camera Configuration

The live view / snapshots / playback recordings of the IP cameras built around readers or doors can be transmitted to GV-Cloud Access Control upon access events by integrating GV-Cloud Bridge and GV-AS Bridge. Up to 4 IP cameras can be connected to a single GV-Cloud Bridge. If you want to integrate video images for 8 readers, you will need two GV-Cloud Bridge units.

Alternatively, you can directly connect the IP cameras built around readers or doors to GV-AS Bridge to transmit the live view and snapshots to GV-Cloud Access Control. Up to 4 IP cameras can be directly connected to a single GV-AS Bridge.

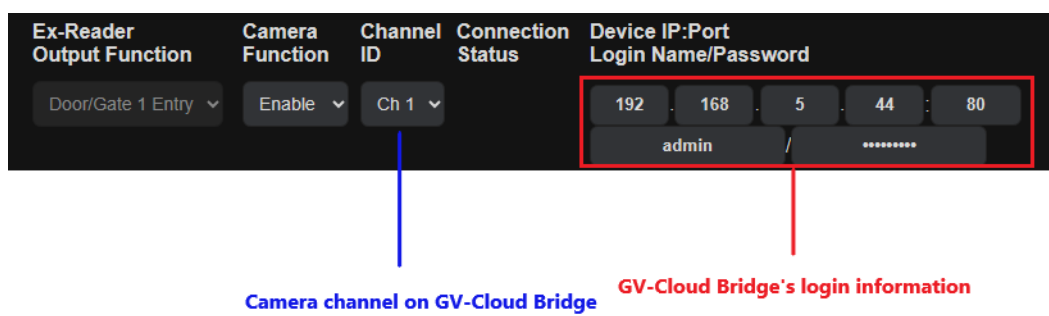**[Connecting GV-Cloud Bridge to GV-AS Bridge]**
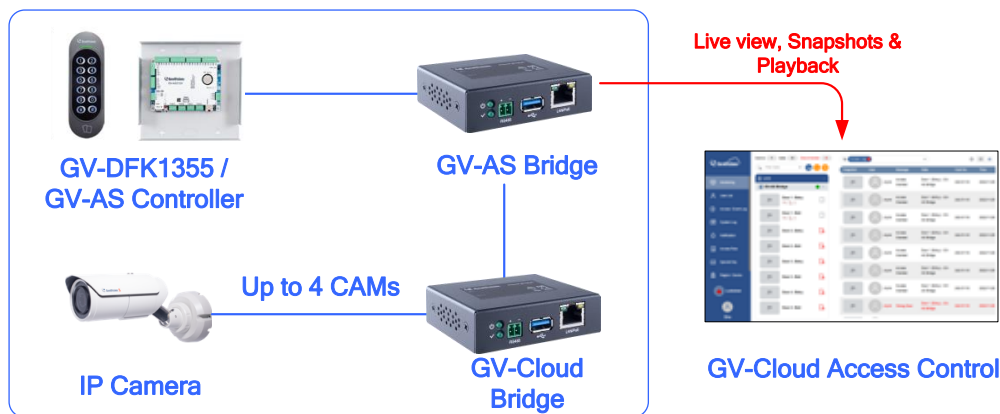
1. In the left menu of GV-AS Bridge's Web interface, click **External Camera Configuration**. This page appears.
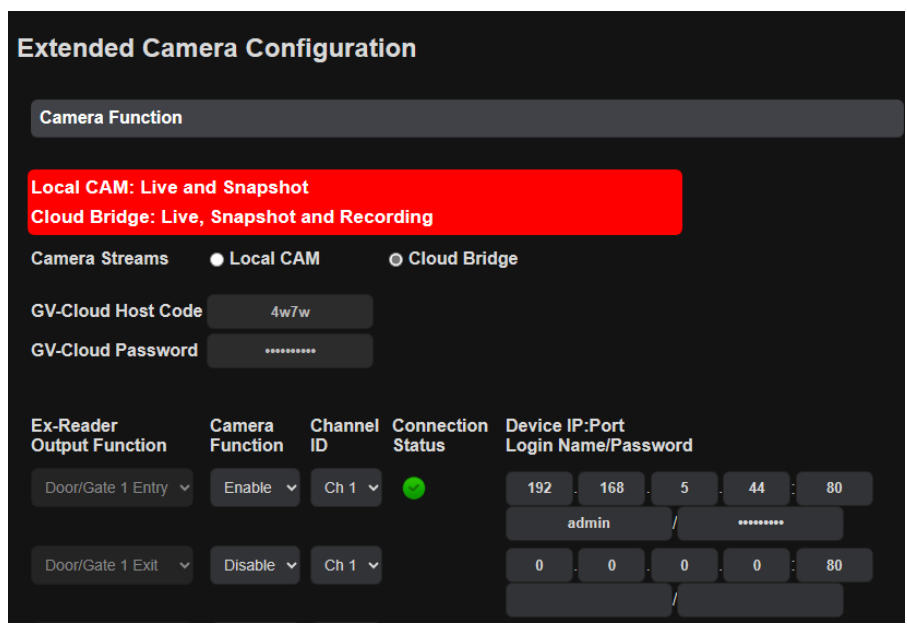
2. Select **Cloud Bridge** from the **Camera Streams** options.

3. On the corresponding reader's entry, select **Enable** from the **Camera Function** dropdown list to enable the snapshot and live view functions of the cameras on GV-Cloud Bridge.
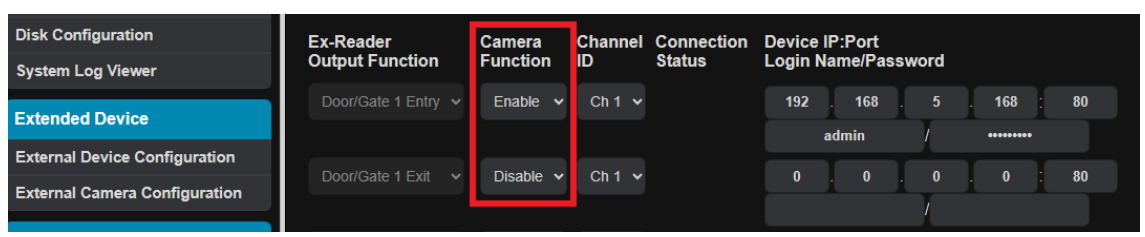
4. Select the camera channel ID (CH1 ~ CH4) corresponding to a camera channel on GV-Cloud Bridge from the **Channel ID** dropdown list.

5. Type the IP, ID and password of GV-Cloud Bridge.

Click **Submit**. The green Connection Status indicates a successful connection between GV-AS Bridge and the IP camera on GV-Cloud Bridge, while the red status indicates an unsuccessful connection.

In addition to the settings described above in *Connecting GV-Cloud Bridge to GV-AS Bridge,* the following settings must be completed in order to access not only live view / snapshot but also playback on GV-Cloud Access Control. The full configuration can be found in *6.2 Accessing Playback* in *GV-Cloud Access Control User's Manual.*

6.2.1   *Adding a Playback License*

6.2.2   *Creating a Host on GV-Cloud VMS*

6.2.3   *Configuring GV-Cloud Bridge and GV-AS Bridge*

6.2.4   *Accessing Playback*

Note:
1. **GV-Cloud Access Control License** is required for accessing access control activities, event logs, snapshots, and live view on GV-Cloud Access Control.
2. The **Playback License** is required for accessing playback recordings on GV-Cloud Access Control.

[Connecting IP Cameras to GV-AS Bridge]
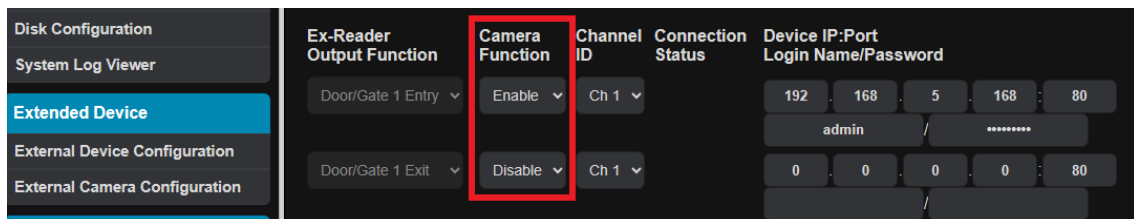
1. In the left menu of GV-AS Bridge's Web interface, click **External Camera Configuration**. This page appears.
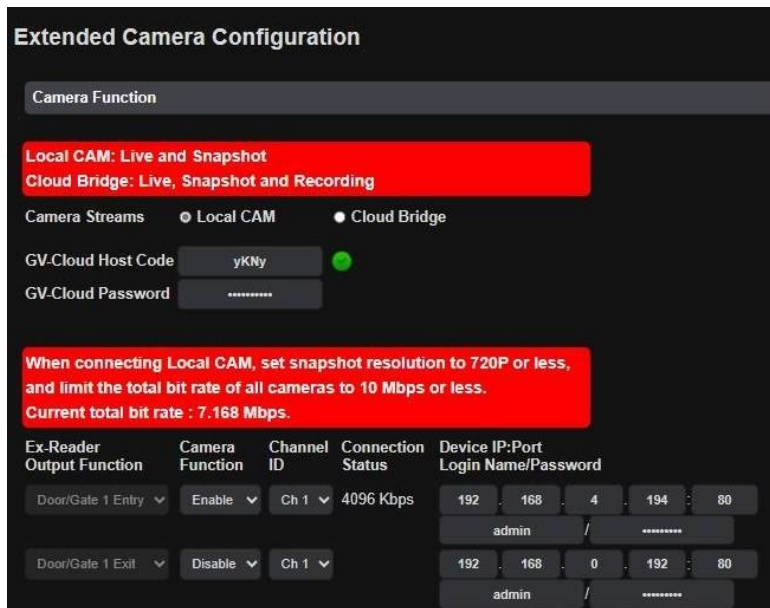
2. Select **Local CAM** from the **Camera Streams** options.

3. On the corresponding reader's entry, select **Enable** from the **Camera Function** dropdown list to enable the snapshot and live view functions of the cameras.

4. Select the camera channel ID (CH1 ~ CH4) corresponding to the camera channel displayed on GV-Cloud VMS from the **Channel ID** dropdown list. Make sure not to select the same channel ID for different camera IDs on each GV-AS Bridge.

5. Type the IP, ID and password of the IP camera.
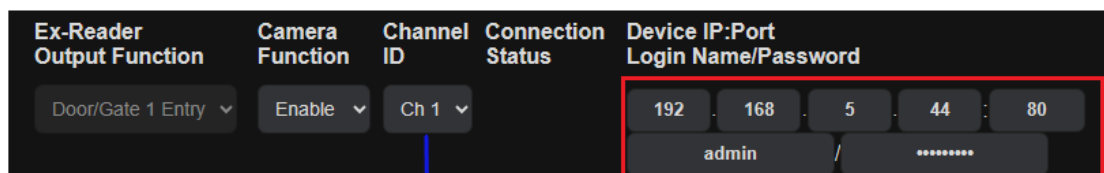
Click **Submit**. Once the connection between GV-AS Bridge and the IP camera is successfully built, the bit rate of the IP camera will be displayed under the **Connection Status** column.

In addition to the settings described above in *Connecting IP Cameras to GV-AS Bridge,* the following settings must be completed in order to access live view and snapshot on GV-Cloud Access Control. The full configuration can be found in *6.1 Receiving Snapshots and Live Streaming* in *GV-Cloud Access Control User's Manual.*

6.1.1   Creating a Host on GV-Cloud VMS

6.1.2   Configuring a Controller

6.1.3   Viewing Live Stream

Note:
1. Before connecting the local IP cameras to GV-AS Bridge, make sure to set the camera resolution to 720P or below, and limit the total bit rate of all cameras to 10 Mbps or less.
2. If a green status icon does not appear beside GV-Cloud Host Code, make sure the Host Code and Password are consistent with those created on GV-Cloud VMS.
3. The **GV-Cloud Access Control License** is required for accessing access control activities, event logs, snapshots, and live view on GV-Cloud Access Control.

1.7   Linking GV-AS Controller to GV-Cloud Access Control

GV-AS Controller can work with RS-485 / TCP/IP/ Wiegand readers. GV-AS Bridge connects up to 8 readers from a controller to GV-Cloud Access Control. Central access control on GV-Cloud Access Control is made possible with the integration of GV-Readers, GV-AS Controller, and GV-AS Bridge.

[Setting up Readers on GV-AS Controller Web Interface]
1.   Connect the readers to GV-AS Controller.
2.   Configure the connection and functionality through the controller's Web-based **Wiegand Configuration** and **Extended Reader Configuration** interfaces. See *8.2.8 Wiegand Configuration* and *8.3 Extended Device* in *GV-AS/AE Controller User's Manual* for details.

Below is the example when two Wiegand readers (for Door/Gate 1 Entry, Door/Gate 1 Exit) and two RS-485 readers (for Door/Gate 2 Entry, Door/Gate 2 Exit) are set up on GV-AS2120 controller.

[Connecting GV-AS Controller to GV-AS Bridge]

3. To connect GV-AS Controller to GV-AS Bridge, select **External Device Configuration** on the GV-AS Bridge's Web interface. Select **GV-AS210/AS410**, type its IP address, login name / password, and click **Submit**. Once connected, GV-AS Controller readers' output functions and connection status will be displayed on the page. **Door 1 Entry / Exit** and **Door 2 Entry / Exit** set up at Step 2 are displayed with a green tick to indicate a successful connection.
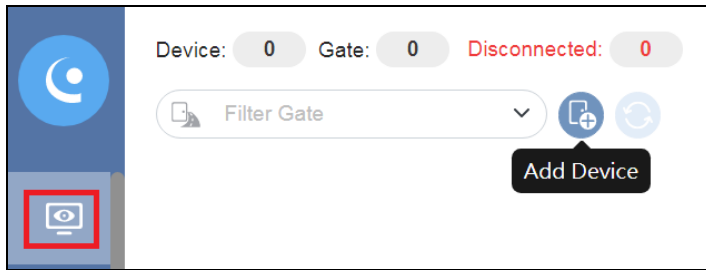

[Connecting GV-AS Bridge to GV-Cloud Access Control]

4. Connect GV-AS Bridge to GV-Cloud Access Control. See *1.6.1.3 Security Configuration* for details.
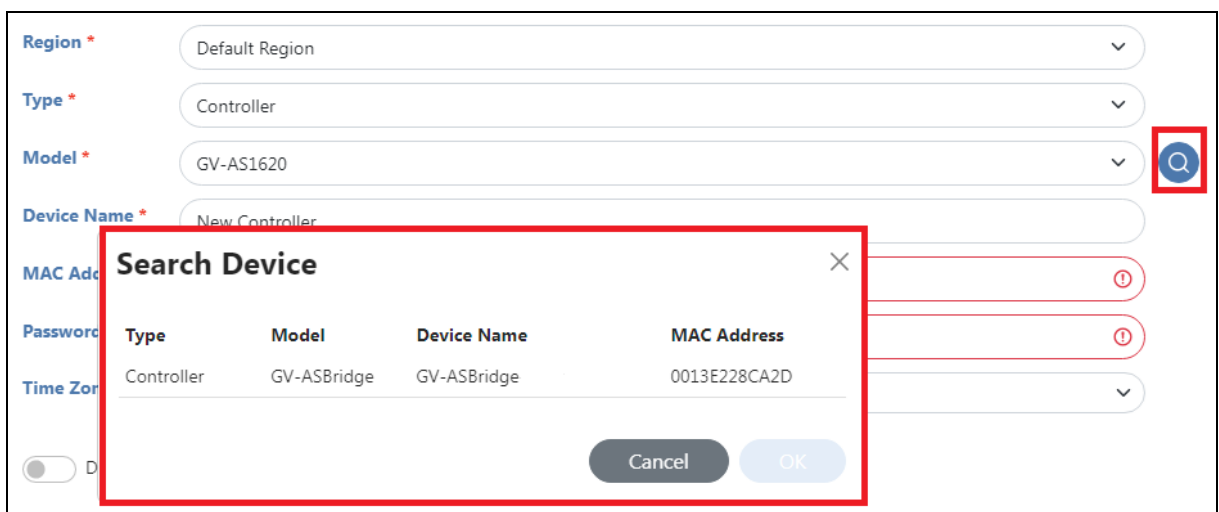
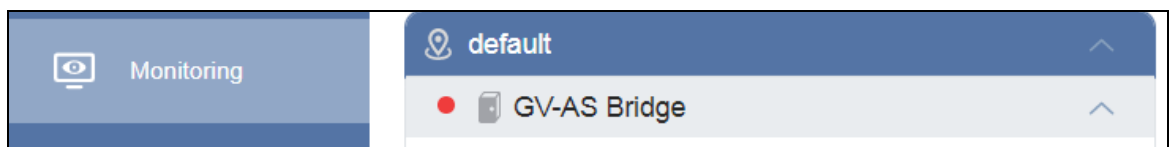**[Adding GV-AS Bridge on GV-Cloud Access Control]**

1. On the Monitoring page, click the **Add Device** button.

2. On the Add Device dialog box, click the **Search** button beside **Model**. GV-AS Bridge is displayed.

3. Select the desired GV-AS Bridge on the Search Device dialog box, and click **OK**.

4. Type the login **Password** of the GV-AS Bridge.

5. Click **Save**. GV-AS Bridge is shown on the main screen with a red icon.

6. To license GV-AS Bridge, click the **Account** icon > **Account Settings** > **Subscription**

   . See *2.2 Adding Licenses* in *GV-Cloud Access Control User's Manual* for details.


Once the GV-AS Bridge is licensed, the red icon of the device on the main screen turns green, indicating a successful connection.

1.8 Linking GV-DFK1355 Readers to GV-Cloud Access Control

A maximum of 8 GV-DFK1355 readers can be directly connected to each GV-AS Bridge via RS-485 protocol. Users can request access with cards or pin codes on GV-DFK1355. With the integration of GV-AS Bridge and GV-DFK1355, you can operate central access control on GV-Cloud Access Control.
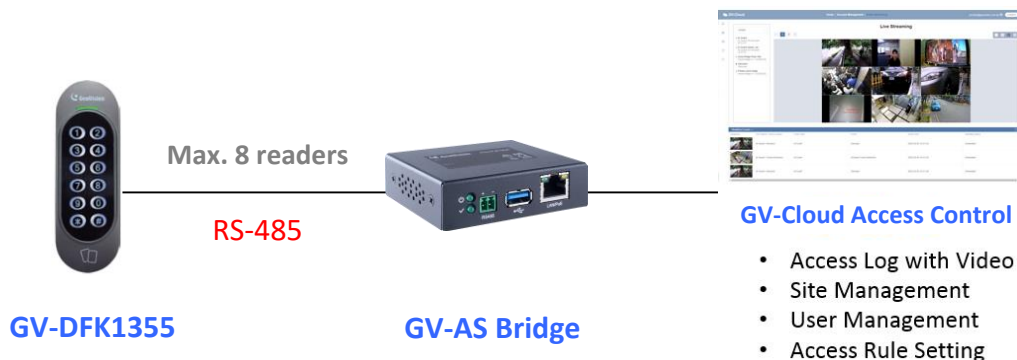
Note: When connecting multiple readers to GV-AS Bridge, make sure to set the reader ID first. See *8.7 ID, DESFire and GID Settings* of *GV-Card Reader User's Manual*.

[Connecting GV-DFK1355 to GV-AS Controller via RS-485 Protocol]
1. Connect the RS-485 wires of the reader to GV-AS Bridge.
2. On the GV-AS Bridge Web interface, select **External Device Configuration**. This page appears.

3. Select **DFK1355**.

4. Based on the Reader ID, specify each reader's output function, such as Door/Gate 1 Entry.

5. Click **Submit**. The green Connection Status indicates a successful connection.

[Connecting GV-AS Bridge to GV-Cloud Access Control]

6. Connect GV-AS Bridge to GV-Cloud Access Control. See *1.6.1.3 Security Configuration* for details.

[Adding GV-AS Bridge on GV-Cloud Access Control]

See the instructions in **[Adding GV-AS Bridge on GV-Cloud Access Control]** in *1.7 Linking GV-AS Controller to GV-Cloud Access Control* for details.

Scan the following QR codes for product warranty and technical support policy:

[Warranty]   [Technical Support Policy]