

Grandstream Networks, Inc.

GDS37xx

Connecting GDS37xx with WP8xx



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The GDS37xx IP Video Smart Door Station provides a comprehensive access control and communication solution for residential and commercial environments. Combining high-definition video monitoring, SIP-based intercom functionality, and secure door relay control, the device enables real-time video calling and remote door unlocking over IP when integrated with Grandstream WP8xx handsets.

The door system can be integrated with Wi-Fi phones in two different ways:

- Peering mode (without a SIP server).
- Through a SIP server.

The prerequisites for configuring the scenarios include a GDS37xx door station, a WP8xx handset, a UCM6XXX SIP server, and a GWN70xx wireless router.

Peering Scenario

We assume that a GDS3727 is installed at the front door of an apartment, with a WP836 connected to the same network via Wi-Fi using a GWN7052 router. In this setup, residents can swipe their RFID cards to enter, while visitors can press the Doorbell to initiate a video call. The call is received on the WP836, and the resident can unlock the door remotely by tapping the “**Open**” softkey.

The devices used in this deployment and their assigned IP addresses are as follows:

- **Door Station:** GDS3727 — 192.168.6.193
- **Wi-Fi Phone:** WP836 — 192.168.6.81
- **Wi-Fi Router:** GWN7052 — 192.168.6.X

To allow direct IP calling, all devices are configured on the same local subnet. The network topology is depicted in the diagram below.



Peering Scenario Setup

Notes

Static or dynamic IP addressing is supported.

Configuring The GDS37xx for Peering

Access the GDS3727 web GUI and navigate through the configuration pages as outlined below:

1. Activate the account under **Accounts** → **General Settings** and click **Save and Apply**.

GDS3727 Accounts - General Settings

Account 1 | Account 2 | Account 3 | Account 4

General Settings | SIP Settings | Codec Settings | Call Settings | Advanced Settings

Account Register

- Account Active: ☒
- Account Name:
- SIP Server:
- Secondary SIP Server:
- Outbound Proxy:
- Secondary Outbound Proxy:
- SIP User ID:
- SIP Authentication ID:
- SIP Authentication Password:
- Display Name:
- Tel URI:

Network Settings

- DNS Mode:

Save | Save and Apply | Reset

GDS3727 Accounts → General Settings Page

- Confirm that the SIP settings correspond with the following configuration under **Accounts → SIP Settings** and that the **Local SIP Port** is the same as the port configured on the WP836, and click **Save and Apply**.

GDS3727 Accounts - SIP Settings

Account 1 | Account 2 | Account 3 | Account 4

General Settings | SIP Settings | Codec Settings | Call Settings | Advanced Settings

SIP Settings

- SIP Transport:
- Enable TCP Keep-alive: ☒
- Local SIP Port:
- SIP URI Scheme When Using TLS:
- Use Actual Ephemeral Port in Contact with TCP/TLS: ☐
- Support SIP Instance ID: ☒
- SIP T1 Timeout:
- SIP T2 Timeout:
- SIP Timer D Interval:
- Outbound Proxy Mode:
- Enable 100rel: ☐

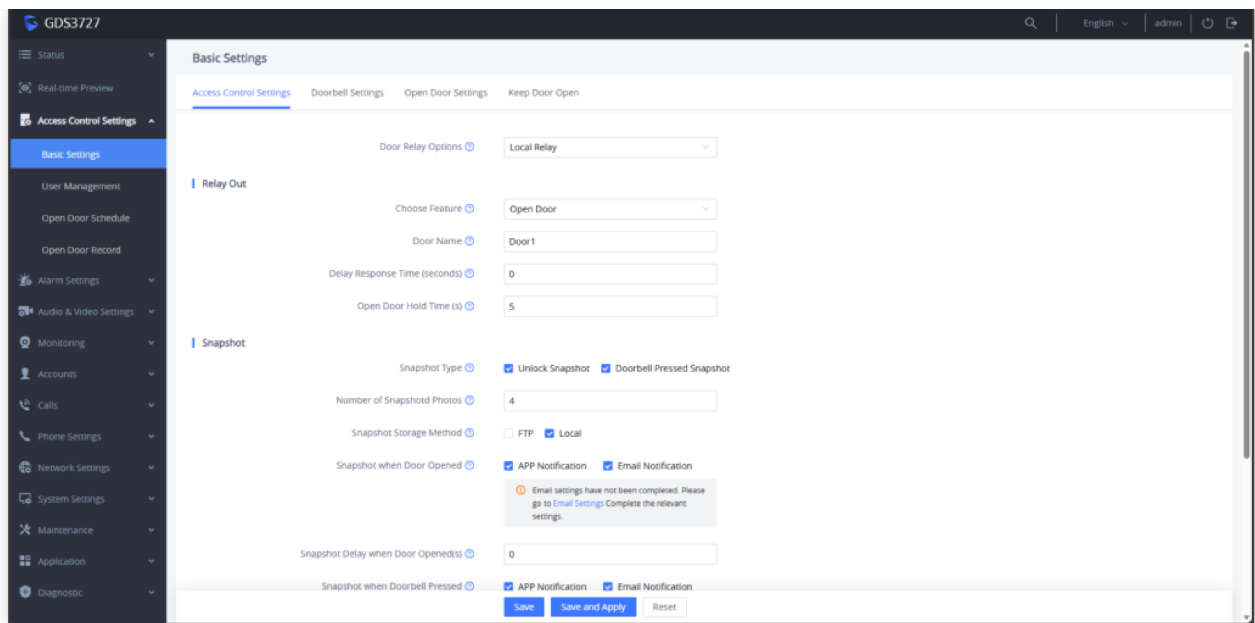
Session Timer

- Enable Session Timer: ☐
- Session Expiration:
- Min-SE:

Save | Save and Apply | Reset

GDS3727 Accounts → SIP Settings Page

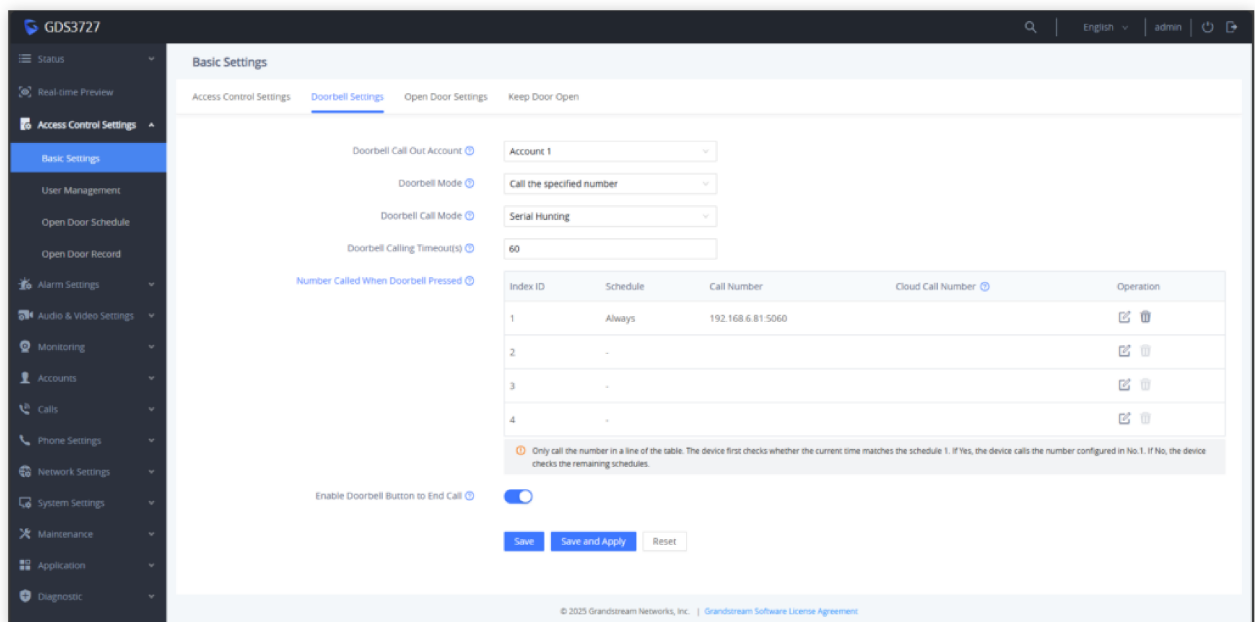
- Under **Access Control Settings → Basic Settings → Access Control Settings**:



GDS3727 Access Control Settings → Basic Settings → Access Control Settings Page

- **Door Relay Options:** Select **Local Relay** from the dropdown.
- **Choose Feature:** Set to **Open Door**.
- **Door Name:** Enter the desired door name.
- **Delay Response Time:** Specify the delay before the relay activates.
- **Open Door Hold Time:** Specify how the relay remains active.
- Click **Save and Apply**.

4. On the **Access Control Settings → Basic Settings → Doorbell Settings** page:



GDS3727 Access Control Settings → Basic Settings → Doorbell Settings Page

- **Doorbell Call Out Account:** Select the account configured earlier.
- **Doorbell Mode:** Set to **Call the Specified Number** to initiate direct IP calls.
- **Doorbell Call Mode:** Choose **Serial Hunting** or **Parallel Hunting** as required.
- **Doorbell Calling Timeout:** Specify how long the call rings before it automatically disconnects.
- **Number Called When Doorbell Pressed:** Click the **Edit** button, enter the IP address of the WP836, and set the schedule to **Always**.

GDS3727 Edit Number Called When Doorbell Pressed Form

- **Enable Doorbell Button to End Call:** Toggle this option to determine whether the doorbell button can end the call.
- Click **Save and Apply**.

5. Navigate to **Access Control Settings** → **Basic Settings** → **Open Door Settings**:

GDS3727 Access Control Settings → Basic Settings → Open Door Settings Page

- **Enable SIP Open Door:** Check **SIP Message** to allow opening the door via SIP.
- **SIP Open Door Password:** Enter the door password.
- **Enable SIP Door Hangup:** Enable to automatically hang up the call after the door is remotely opened.
- **SIP Open Door Hangup Time:** Specify the time before the call is automatically disconnected.
- Click **Save and Apply**.

Configuring the WP8xx for Peering

Access the WP836 web GUI and navigate through the configuration pages as shown below:

1. Activate the account under **Accounts** → **General Settings** and click **Save and Apply**.

The screenshot shows the 'General Settings' tab for 'Account 1' in the WP836 interface. The left sidebar lists various settings categories, with 'Accounts' selected. The main panel is titled 'Account Register' and contains the following fields:

- Account Active: ☒
- Account Name:
- SIP Server:
- Secondary SIP Server:
- Outbound Proxy:
- Secondary Outbound Proxy:
- SIP User ID:
- SIP Authentication ID:
- SIP Authentication Password:
- Name:
- Tel URI:
- Voicemail Access Number:
- Status Monitoring Server:
- Account Display:

At the bottom of the form are three buttons: 'Save', 'Save and Apply', and 'Reset'.

WP836 Accounts → General Settings Page

2. Confirm that the SIP settings correspond with the following configuration under **Accounts** → **SIP Settings** and that the **Local SIP Port** is the same as the port configured on the GDS3727, and click **Save and Apply**.

The screenshot shows the 'SIP Settings' tab for 'Account 1' in the WP836 interface. The left sidebar is the same as in the previous screenshot. The main panel contains the following settings:

- SIP Transport:
- Enable TCP Keep-alive: ☒
- SIP Listening Mode:
- Local SIP Port:
- SIP URI Scheme When Using TLS:
- Use Actual Ephemeral Port in Contact with TCP/TLS: ☐
- Support SIP Instance ID: ☐
- SIP T1 Timeout:
- SIP T2 Timeout:
- Outbound Proxy Mode:
- Enable 100rel: ☐
- Use Route Set in NOTIFY (Follow RFC 6665): ☒

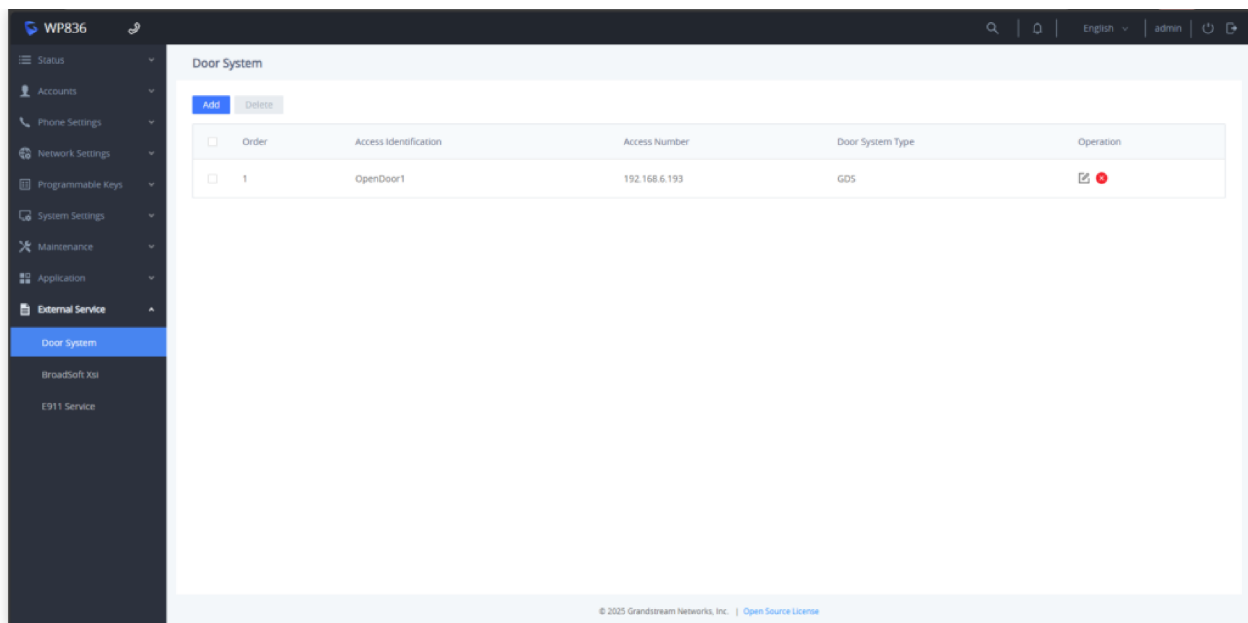
Below these settings is a section titled 'Session Timer' with the following options:

- Enable Session Timer: ☐
- Session Expiration:

At the bottom of the form are three buttons: 'Save', 'Save and Apply', and 'Reset'.

WP836 Accounts → SIP Settings Page

3. Navigate to **External Services** → **Door System** and click **Add**:



WP836 External Service → Door System Page

The screenshot shows the 'Add Door System' form. It includes the following fields and values:

- Door System Type: GDS
- Account: Account 1
- Access Number: 192.168.6.193
- Related Display Name1: OpenDoor1
- Access Password1: (masked with dots)
- Related Display Name2: (empty)
- Access Password2: (masked with dots)
- Ringtone: Doorbell

At the bottom right, there are 'Cancel' and 'OK' buttons.

WP836 Add Door System Form

- **Door System Type:** Set to **GDS**.
- **Account:** Select the account activated earlier.
- **Access Number:** Enter the IP address of the GDS3727.
- **Related Display Name1:** Enter the name to be displayed on the phone when receiving a call.
- **Access Password1:** Enter the door password. Ensure it matches the password set in **SIP Open Door Password** under **Access Control Settings** → **Basic Settings** → **Open Door Settings**.
- **Ringtone:** Select the desired ringtone.
- Click **OK**.

Notes

Some GDS37xx models support up to two doors. To configure the second door, enter its name in **Related Display Name2** and the corresponding password in **Access Password2**.

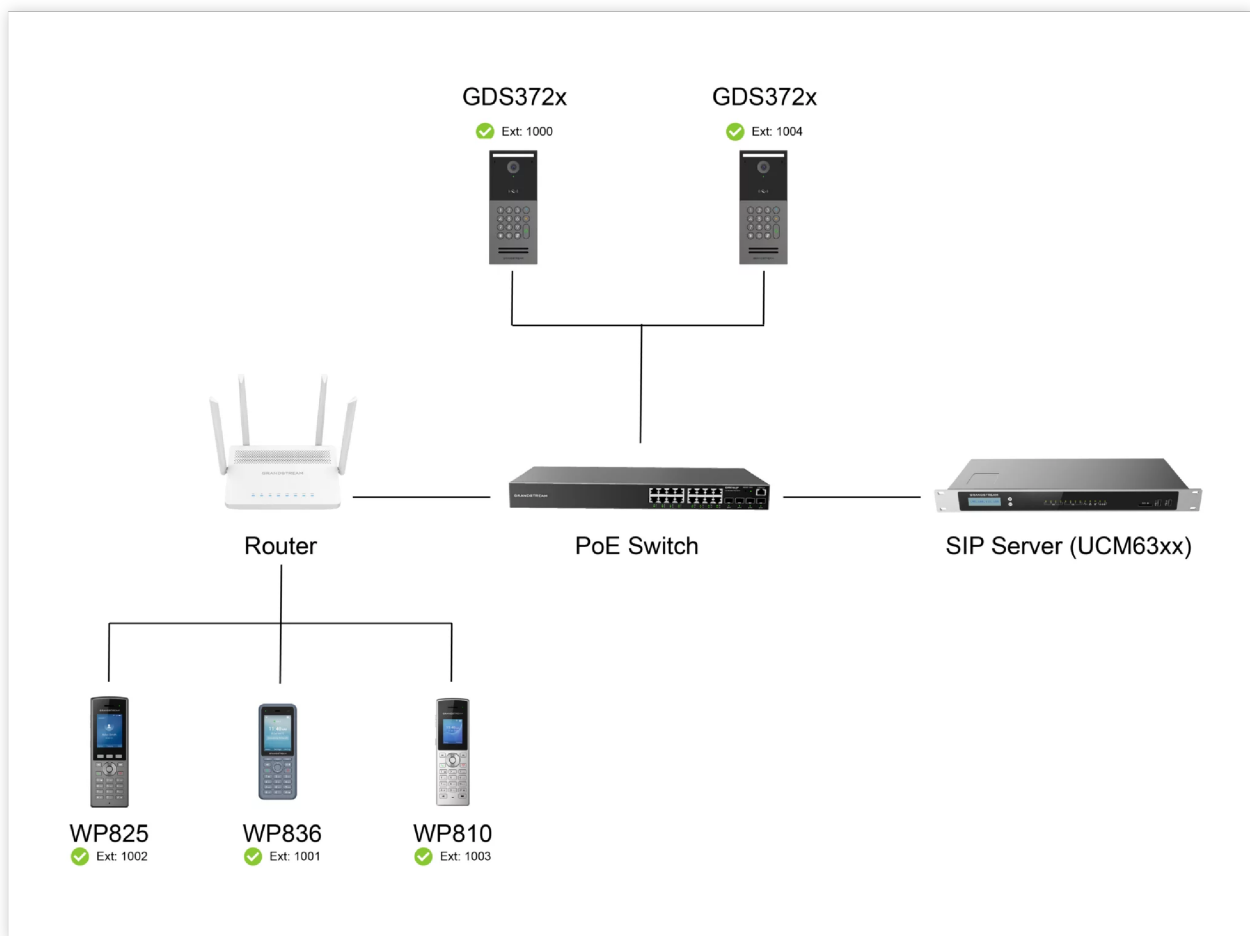
SIP Server Scenario

For deployments involving multiple GDS37xx door stations and WP8xx handsets, a SIP server is essential to facilitate communication and interoperability between devices.

The devices used in this deployment and their assigned IP addresses are as follows:

- o **Door Station:** GDS3727 — 192.168.6.193
- o **Wi-Fi Phone:** WP836 — 192.168.6.81
- o **Wi-Fi Router:** GWN7052 — 192.168.6.X
- o **SIP Server:** UCM6XXX — IP: 192.168.6.62

The network topology is depicted in the diagram below.



Peering SIP Server Setup

Note:

We recommend using a **Stateless SIP Server** in intercom installations to ensure minimal delay and simultaneous calling. Stateless servers simply forward SIP messages without tracking call state, reducing latency and avoiding call-control interference. In contrast, Stateful SIP Servers maintain full call state and dialog control, which may introduce delays or prematurely cancel calls.

Configuring the GDS37xx with a SIP Server

Access the GDS3727 web GUI and navigate through the configuration pages as outlined below:

1. Configure the SIP account under **Accounts** → **General Settings** and click **Save and Apply**.

The screenshot shows the GDS3727 web GUI with the 'Accounts' menu selected. The 'General Settings' tab is active for 'Account 1'. The 'Account Register' section contains the following fields:

- Account Active: ☒
- Account Name: 1000
- SIP Server: 192.168.6.62
- Secondary SIP Server: (empty)
- Outbound Proxy: (empty)
- Secondary Outbound Proxy: (empty)
- SIP User ID: 1000
- SIP Authentication ID: 1000
- SIP Authentication Password: (masked)
- Display Name: test
- Tel URI: Disabled

The 'Network Settings' section contains:

- DNS Mode: A Record
- Proxy-Require: (empty)

Buttons at the bottom: Save, Save and Apply, Reset.

GDS3727 Accounts → General Settings Page

2. Confirm that the SIP settings correspond with the following configuration under **Accounts** → **SIP Settings** and that the **Local SIP Port** is the same as the port configured on the WP836 and click **Save and Apply**.

The screenshot shows the GDS3727 web GUI with the 'Accounts' menu selected. The 'SIP Settings' tab is active for 'Account 1'. The 'SIP Settings' section contains the following fields:

- SIP Transport: UDP
- Enable TCP Keep-alive: ☒
- Local SIP Port: 5060
- SIP URI Scheme When Using TLS: sip
- Use Actual Ephemeral Port in Contact with TCP/TLS: ☐
- Support SIP Instance ID: ☒
- SIP T1 Timeout: 0.5 sec
- SIP T2 Timeout: 4 sec
- SIP Timer D Interval: 32
- Outbound Proxy Mode: In Route
- Enable 100rel: ☐

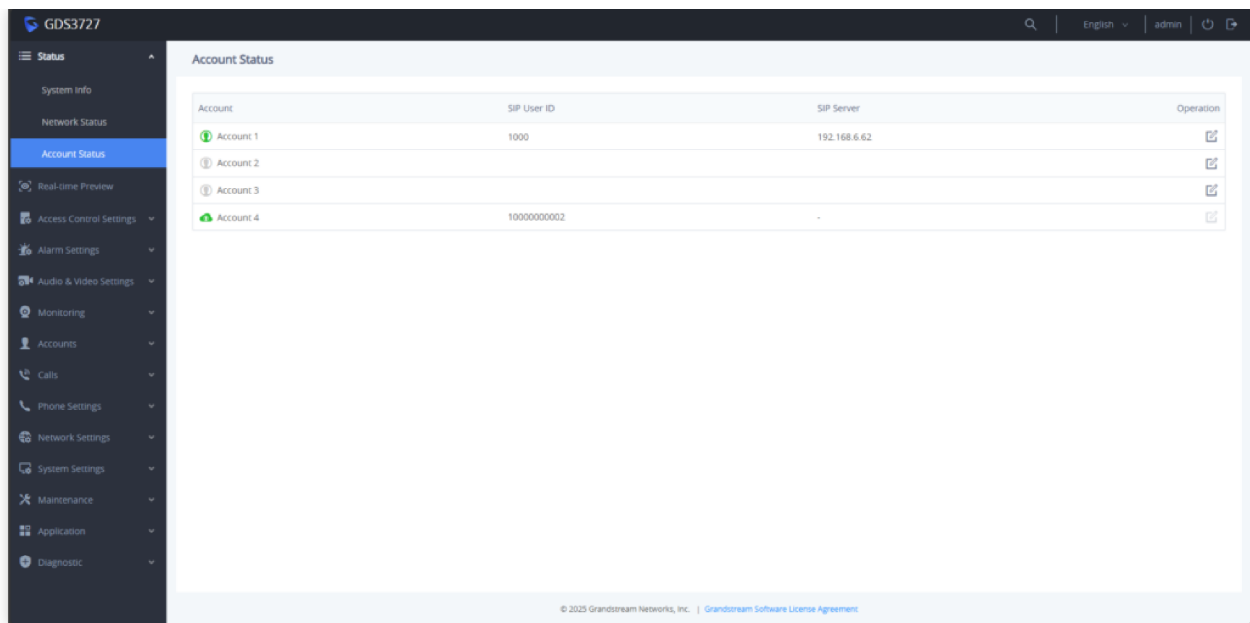
The 'Session Timer' section contains:

- Enable Session Timer: ☐
- Session Expiration: 180
- Min SE: 90

Buttons at the bottom: Save, Save and Apply, Reset.

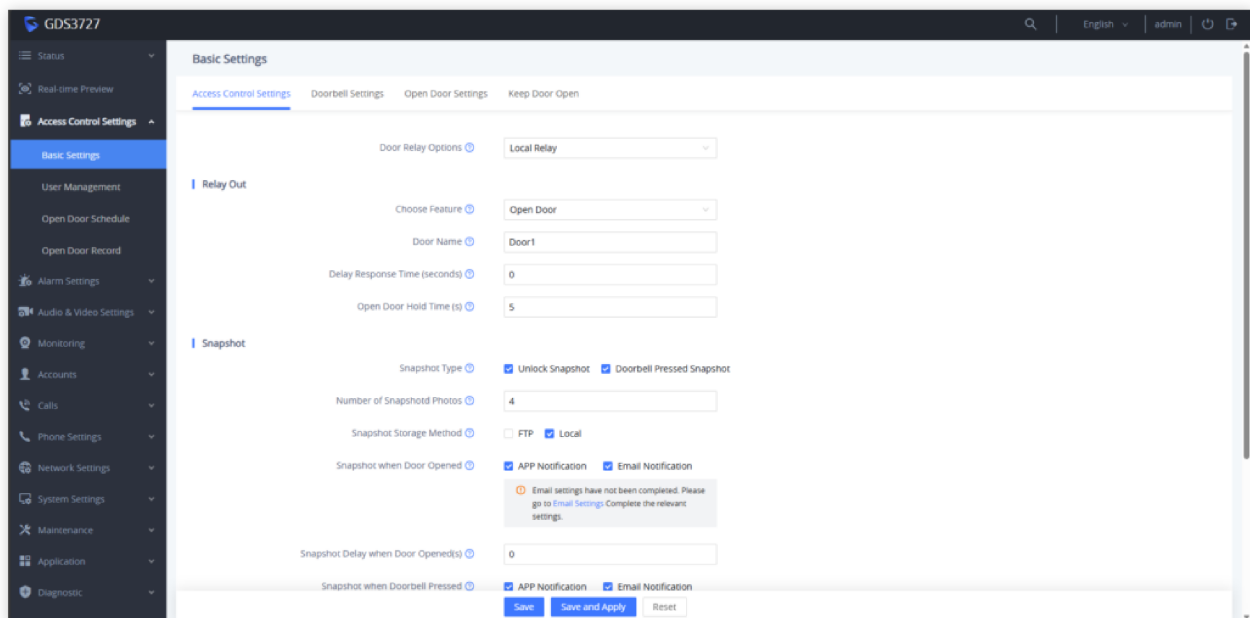
GDS3727 Accounts → SIP Settings Page

3. Verify the account status under **Status** → **Account Status**.



GDS3727 Status → Account Status Page

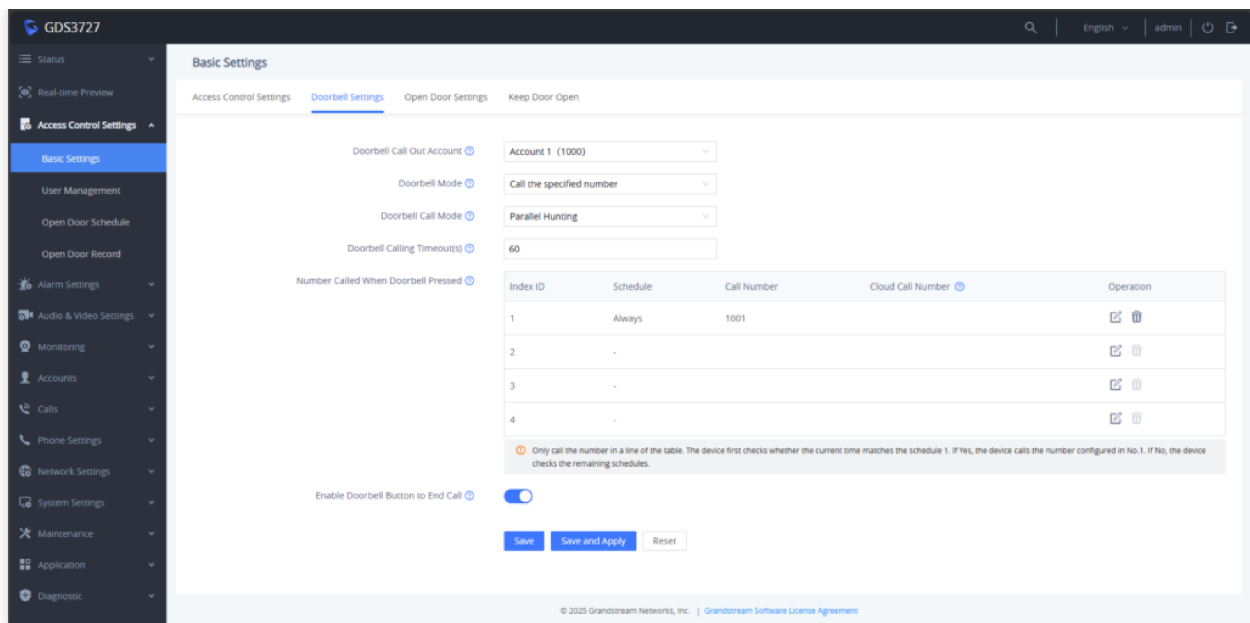
4. Under **Access Control Settings → Basic Settings → Access Control Settings**:



GDS3727 Access Control Settings → Basic Settings → Access Control Settings Page

- **Door Relay Options:** Select **Local Relay** from the dropdown.
- **Choose Feature:** Set to **Open Door**.
- **Door Name:** Enter the desired door name.
- **Delay Response Time:** Specify the delay before the relay activates.
- **Open Door Hold Time:** Specify how the relay remains active.
- Click **Save and Apply**.

5. On the **Access Control Settings → Basic Settings → Doorbell Settings** page:



GDS3727 Access Control Settings → Basic Settings → Doorbell Settings Page

- **Doorbell Call Out Account:** Select the account configured earlier.
- **Doorbell Mode:** Set to **Call the Specified Number** to initiate direct IP calls.
- **Doorbell Call Mode:** Choose **Serial Hunting** or **Parallel Hunting** as required.
- **Doorbell Calling Timeout:** Specify how long the call rings before it automatically disconnects.
- **Number Called When Doorbell Pressed:** Click the **Edit** button, enter the SIP extension number of the WP836, and set the schedule to **Always**.

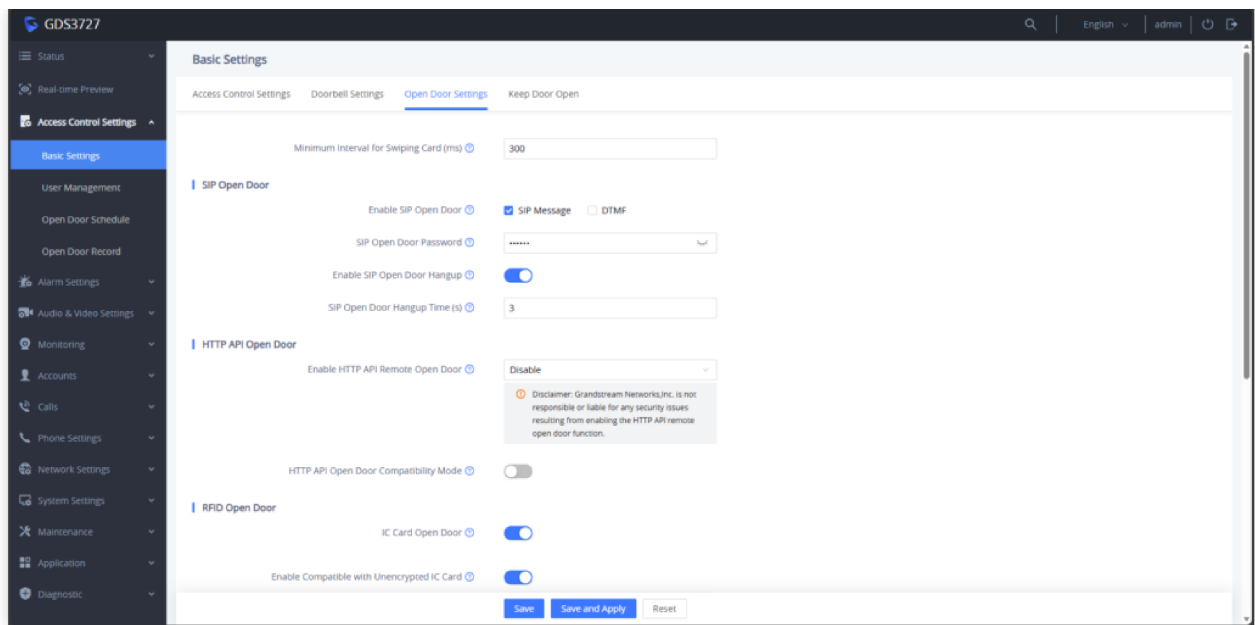
The 'Index ID1' form contains the following fields and controls:

- Schedule:** A dropdown menu set to 'Always'.
- Call Number:** A text input field containing '1001'. To its right is a red minus button and a blue 'Add +' button.
- Cloud Call Number:** An empty text input field. To its right is a grey minus button and a blue 'Add +' button.
- Buttons:** 'Cancel' and 'OK' buttons at the bottom right.

GDS3727 Edit Number Called When Doorbell Pressed Form

- **Enable Doorbell Button to End Call:** Toggle this option to determine whether the doorbell button can end the call.
- Click **Save and Apply**.

6. Navigate to **Access Control Settings → Basic Settings → Open Door Settings:**



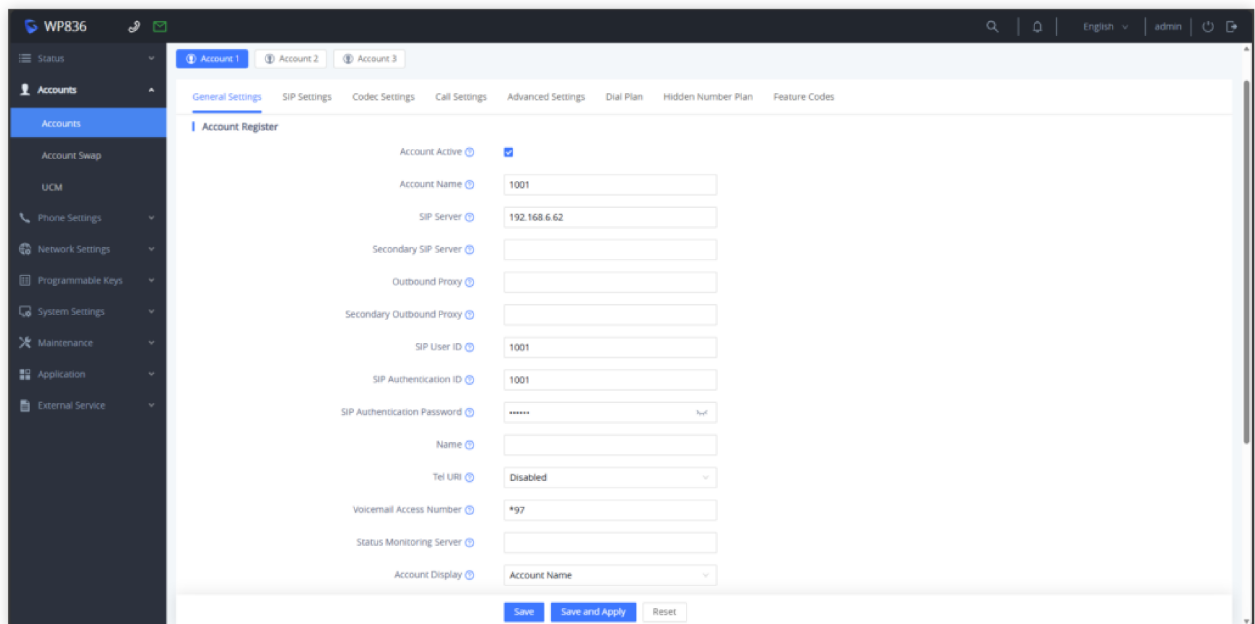
GDS3727 Access Control Settings → Basic Settings → Open Door Settings Page

- **Enable SIP Open Door:** Check **SIP Message** to allow opening the door via SIP.
- **SIP Open Door Password:** Enter the door password.
- **Enable SIP Door Hangup:** Enable to automatically hang up the call after the door is remotely opened.
- **SIP Open Door Hangup Time:** Specify the time before the call is automatically disconnected.
- Click **Save and Apply**.

Configuring the WP8xx with a SIP Server

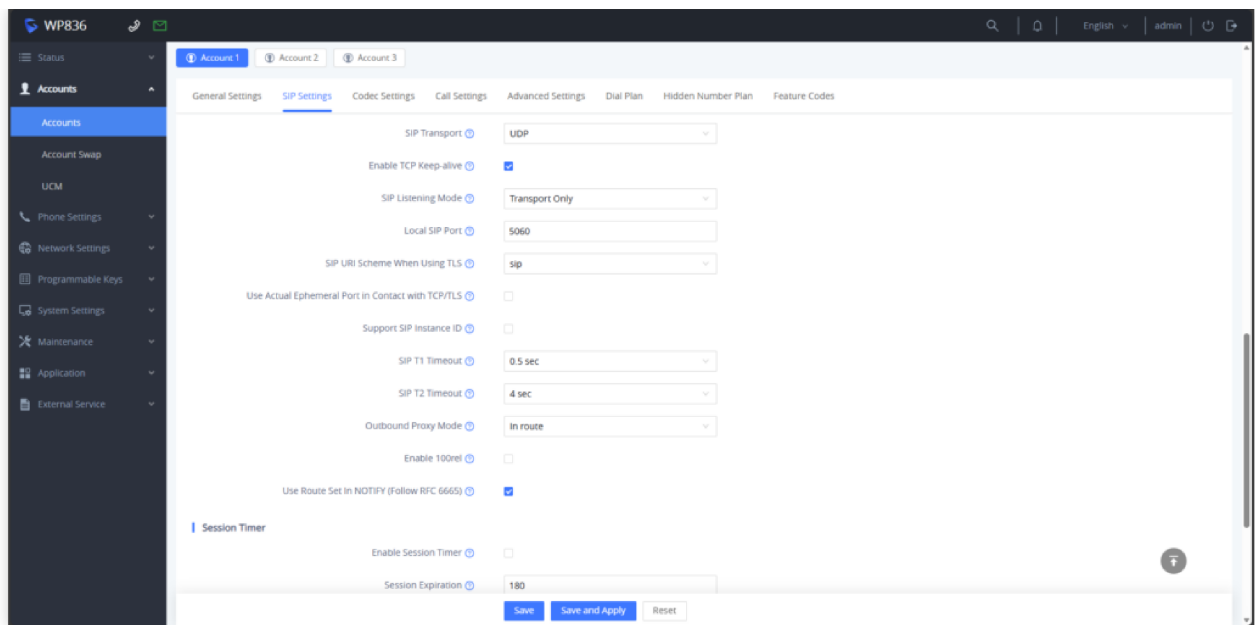
Access the WP836 web GUI and navigate through the configuration pages as shown below:

1. Configure the SIP account under **Accounts** → **General Settings** and click **Save and Apply**.



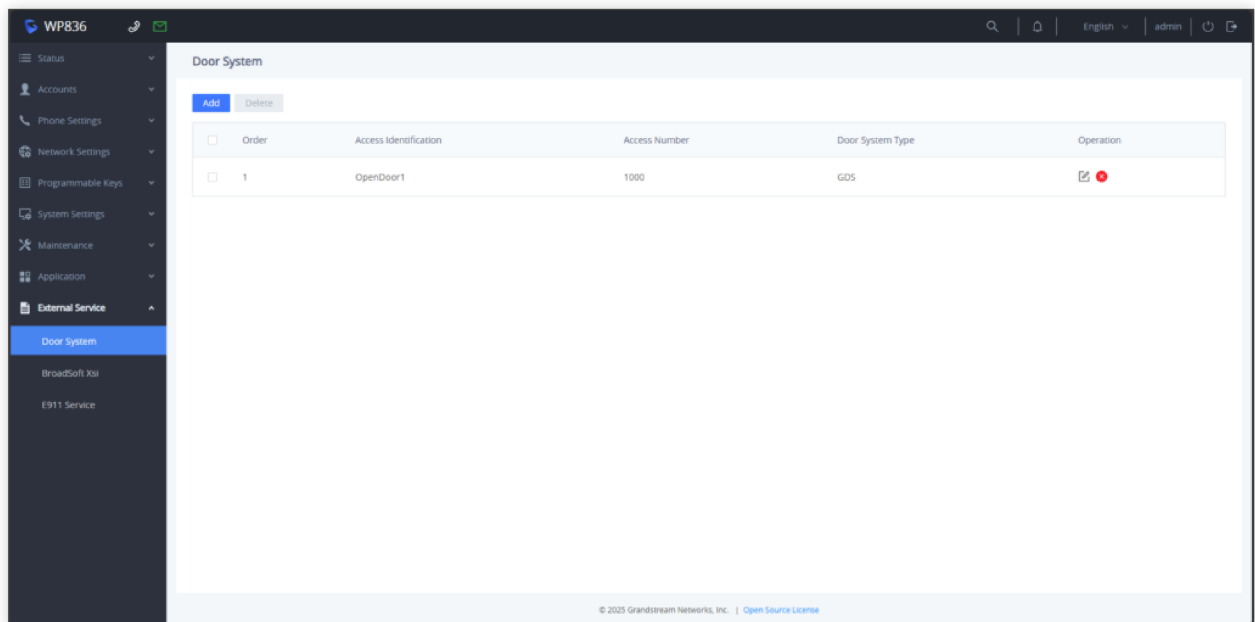
WP836 Accounts → General Settings Page

2. Confirm that the SIP settings correspond with the following configuration under **Accounts** → **SIP Settings** and that the **Local SIP Port** is the same as the port configured on the GDS3727 and click **Save and Apply**.



WP836 Accounts → SIP Settings Page

3. Navigate to **External Services** → **Door System** and click **Add**:



WP836 External Service → Door System Page

Door System Type ? GDS

Account ? 1001

Access Number ? 1000

Related Display Name1 ? OpenDoor1

Access Password1 ? 👁

Related Display Name2 ?

Access Password2 ? 👁

Ringtone ? Doorbell

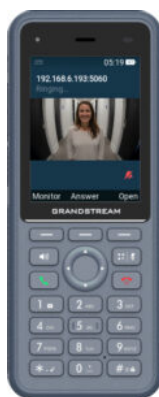
Cancel OK

WP836 Add Door System Form

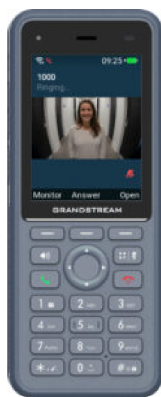
- **Door System Type:** Set to **GDS**.
- **Account:** Select the account activated earlier.
- **Access Number:** Enter the extension number of the GDS3727.
- **Related Display Name1:** Enter the name to be displayed on the phone when receiving a call.
- **Access Password1:** Enter the door password. Ensure it matches the password set in **SIP Open Door Password** under **Access Control Settings** → **Basic Settings** → **Open Door Settings**.
- **Ringtone:** Select the desired ringtone.
- Click **OK**.

Establishing The Call

When the doorbell is pressed, the GDS3727 initiates a direct IP call to the WP836. The resident can open the door remotely by pressing the **“Open”** softkey on the handset.

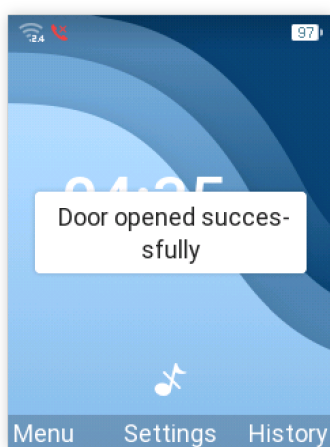


*WP836
Direct IP Call*

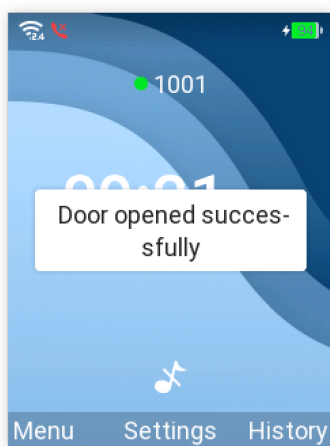


WP836
SIP call

Once the “**Open**” softkey is pressed and the door is unlocked, a notification is displayed on the WP836 screen, as shown below.



Notification for Peering Scenario



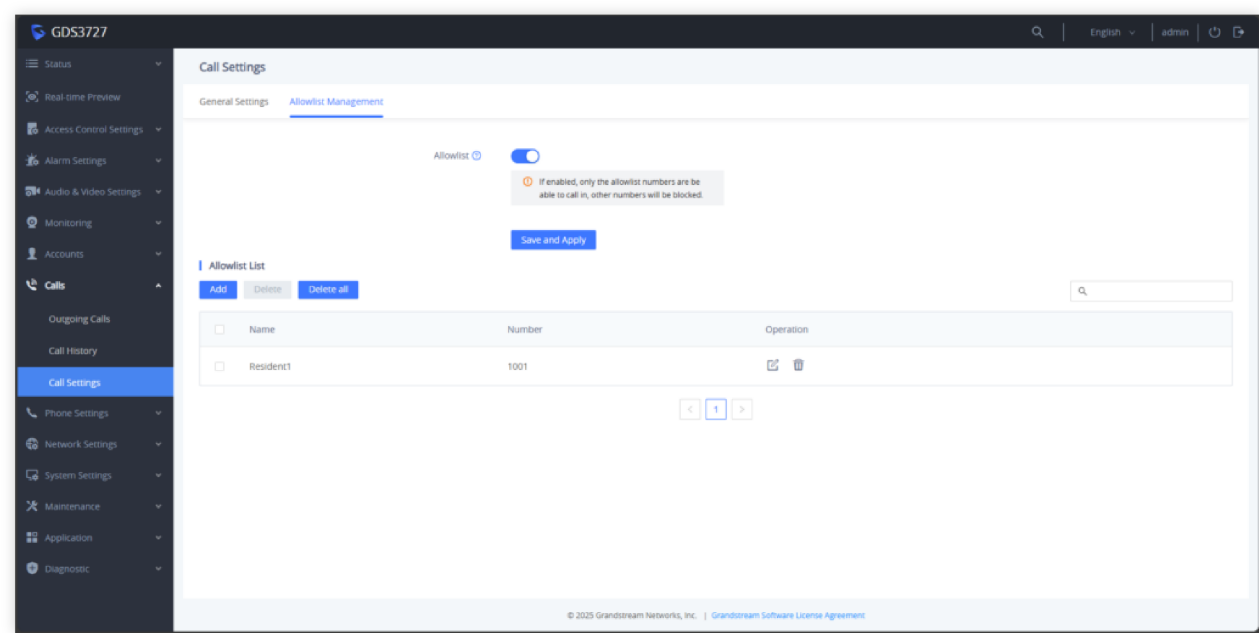
Notification for SIP Server Scenario

Note

- Ensure that the WP8xx handset and the GDS37xx door system are configured with at least one matching **Preferred Vocoder**. If no common codec is configured on both devices, the call may fail to establish properly.
- If two doors are configured on the GDS device, a prompt will appear allowing the user to choose which door to open.

Allowlist Settings

To control which devices can call the GDS3727, configure the allowlist by navigating to **Calls** → **Call Settings** → **Allowlist Management**. Enable **Allowlist** by pressing the toggle, then click **Add** under the **Allowlist List** section:



GDS3727 Calls → Call Settings Page

Add Allowlist

Name

Number

1.

Add

Cancel

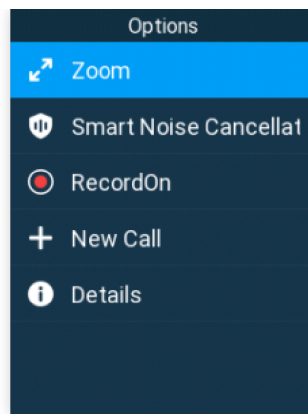
OK

GDS3727 Add Allowlist Form

- **Name:** Enter the name of the allowed device.
- **Number:** Enter the IP address or extension number of the allowed device.
- Click **OK**.

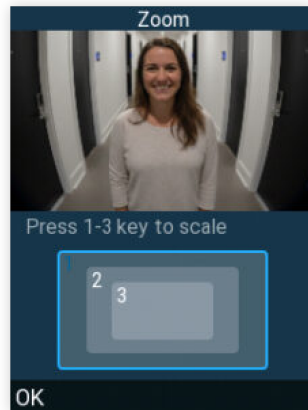
Call Options

During a call, pressing the “**Options**” softkey on the WP836 provides the following options:



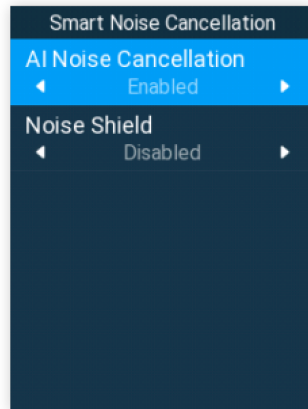
WP836 Options Menu

- **Zoom:** Zoom in and out using keys 1, 2, and 3 (3 being maximum zoom).



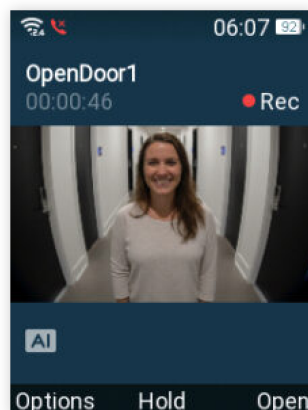
WP836 Zoom Option

- **Smart Noise Cancellation:** Enable or disable AI Noise Cancellation and Noise Shield.

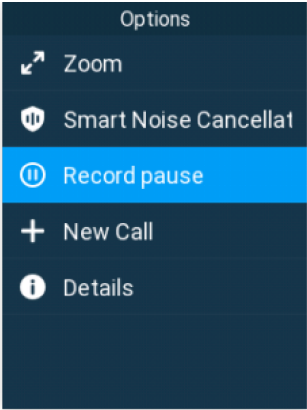


WP836 Smart Noise Cancellation Option

- **RecordOn:** Start recording the call. To pause the recording, press the “Options” softkey again and press **Record Pause**.

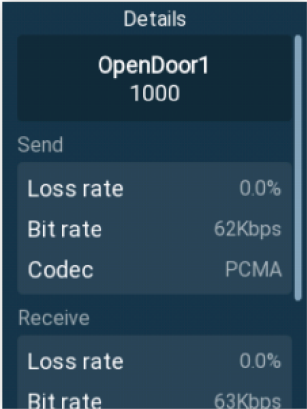


WP836 RecordOn Option



WP836 Record Pause Option

- **New Call:** Initiate a new call.
- **Details:** View information about the GDS device, including send and receive packet loss, bit rate, codec, frames per second (FPS), and video resolution.



WP836 Details Options

Supported Devices

GDS37xx	Audio & Video	GDS3727, GDS3726, GDS3725, GDS3712, GDS3710
	Audio Only	GDS3705, GDS3702
WP8xx	WP856, WP836, WP826, WP816, WP825, WP822, WP810, WP820	

Supported GDS37xx and WP8xx Devices