Unit VTO
(Version 4.3)

1.2.51.32.14934-000

Quick Start Guide

V1.0.0

Foreword

General

This Guide introduces the structure, mounting process, and basic configuration of the device.

Safety Instructions

The following categorized signal words with defined meaning might appear in the Guide.

Signal Words	Meaning
WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
NOTE	Provides additional information as the emphasis and supplement to the text.

Privacy Protection Notice

As the device user or data controller, you might collect personal data of others such as face, fingerprints, car plate number, Email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the existence of surveillance area and providing related contact.

About the Guide

- The Guide is for reference only. If there is inconsistency between the Guide and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the Guide.
- The Guide would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper manual,CD-ROM, QR code or our official website. If there is inconsistency between paper manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the Guide. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the Guide (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the Guide are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

Important Safeguards and Warnings

The following description is the correct application method of the device. Please read the manual carefully before use, in order to prevent danger and property loss. Strictly conform to the manual during application and keep it properly after reading.

Operating Requirement

- Please don't place and install the device in an area exposed to direct sunlight or near heat generating device.
- Please don't install the device in a humid, dusty or fuliginous area.
- Please keep its horizontal installation, or install it at stable places, and prevent it from falling.
- Please don't drip or splash liquids onto the device; don't put on the device anything filled with liquids, in order to prevent liquids from flowing into the device.
- Please install the device at well-ventilated places; don't block its ventilation opening.
- Use the device only within rated input and output range.
- Please don't dismantle the device arbitrarily.
- Please transport, use and store the device within allowed humidity and temperature range.

Power Requirement

- The product shall use electric wires (power wires) recommended by this area, which shall be used within its rated specification!
- Please use power supply that meets SELV (safety extra low voltage) requirements, and supply power with rated voltage that conforms to Limited Power Source in IEC60950-1. For specific power supply requirements, please refer to device labels.
- Appliance coupler is a disconnecting device. During normal use, please keep an angle that facilitates operation.

1 Overview

1.1 Introduction

This unit video intercom outdoor station (hereinafter referred to as "the VTO") can be connected to the video intercom home station (VTH), video intercom master station (VTS), or third party servers to constitute a video intercom system, which supports video call between visitors and residents. The VTO supports unlocking by password or access card. It also supports security functions, including emergency call, information publishing, and history viewing. The VTO is applicable in residence communities and villa areas; and together with a management server, it can provide overall burglar proof, disaster prevention, and security surveillance.

1.2 Features

Video Intercom

Make video call with the management center or VTH users.

Group Call

When calling a master VTH, the extension VTH devices receive the call as well.

Area Surveillance

Monitor areas around the VTO from VTH or management center.

Emergency Call

Single press to call management center under emergency.

Auto Snapshot

The system takes snapshots automatically when the door is unlocked or during video communication, and then save them to the FTP server.

Alarm

Support various alarms, including tamper alarm, door contact alarm, and duress password alarm. The alarm will also be sent to the management center.

Information Publishing

Send message to multiple VTH devices.

History Viewing

View call history, alarm history, and unlocking history.

Motion Detection

The VTO screen lights up when moving objects are approaching.

2 Appearance

2.1 VTO1220A/VTO1210A-X

2.1.1 Front Panel

Figure 2-1 VTO1220A/VTO1210A-X

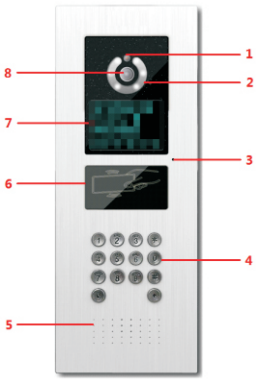


Table 2-1 Front panel description

No.	Name	Description
1	Light sensor	Senses ambient light to turn on or off the fill light.
2	Fill light	Provides extra light for the camera.
3	MIC	Inputs audio.
4	Dialing area	● ✱: Press to delete the previous character or end the current call. ● Numeric keys: enter numbers from 0 to 9. ● #: Press to unlock with password Press #, then enter the unlock password, and then press # again to complete. ● : Press to make phone call. After entering room number, press this key to make a call. ● : Press to call the management center directly.
5	Speaker	Outputs audio.
6	Access card reader	Recognizes access card and unlock.
7	Screen	Displays information.
8	Camera	Monitors door area.

2.1.2 Rear Panel

Figure 2-2 VTO1220A/VTO1210A-X

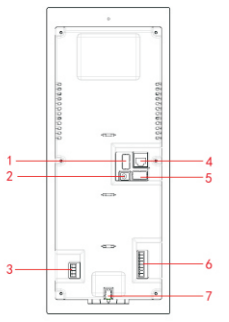


Table 2-2 Rear panel description

No.	Name	Description
1	Access output port	See "2.4.1 Access Control Input and Output Port."
2	Power port	Inputs 12V DC power to the VTO.
3	RS-485/RS-482 port	See "2.4.2 RS-485/RS-482 Port."
4	Ethernet port	Connects to the network with Ethernet cable.
5	Access input port	See "2.4.1 Access Control Input and Output Port."
6	Analog signal port	See "2.4.3 Analog Signal Port."
7	Tamper alarm	The VTO would make alarm sound if it is being removed from the wall by force, and the alarm will also be sent to the management center.

2.2 VTO1220BW/VTO1210B-X

2.2.1 Front Panel

Figure 2-3 VTO1220BW/VTO1210B-X

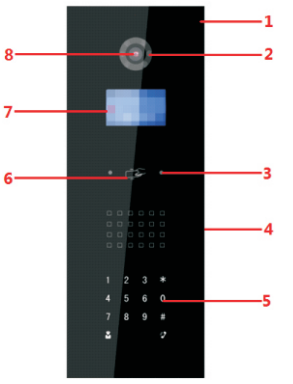


Table 2-3 Front panel description

No.	Name	Description
1	MIC	Inputs audio.
2	Fill light	Provides extra light for the camera.
3	Motion sensor	The sensor is triggered when people or object approaching.
4	Speaker	Outputs audio.
5	Dialing area	● ✱: Press to deletes the previous character or end the current call. ● Numeric keys: enter numbers from 0 to 9. ● #: Press to unlock with password. Press #, then enter the unlock password, and then press # again to complete. ● : Press to make phone call. After entering room number, press this key to make a call. ● : Press to call the management center directly.
6	Access card reader	Recognizes access card and unlock.
7	Screen	Displays information.
8	Camera	Monitors door area.

2.2.2 Rear Panel

Figure 2-4 VTO1220BW/VTO1210B-X /VTO1210C-X

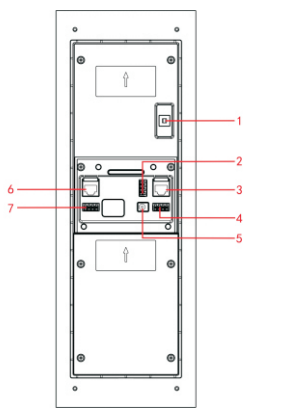


Table 2-4 Rear panel description

No.	Name	Description
1	Tamper alarm	The VTO would make alarm sound if it is being removed from the wall by force, and the alarm will also be sent to the management center.
2	Access output port	See "2.4.1 Access Control Input and Output Port."
3	Ethernet port	Connects to the network with Ethernet cable.
4	Access input port	See "2.4.1 Access Control Input and Output Port."
5	Power port	Inputs 12V DC power to the VTO.
6	Analog signal port	See "2.4.3 Analog Signal Port."
7	RS-485/RS-482 port	See "2.4.2 RS-485/RS-482 Port."

2.3 VTO1210C-X

2.3.1 Front Panel

Figure 2-5 VTO1210C-X

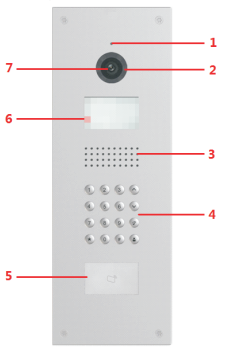


Table 2-5 Front panel description

No.	Name	Description
1	MIC	Inputs audio.
2	Fill light	Provides extra light for the camera.
3	Speaker	Outputs audio.
4	Dialing area	● ✱ : Press to deletes the previous character or end the current call. ● Numeric keys: enter numbers from 0 to 9. ● # : Press to unlock with password. Press # , then enter the unlock password, and then press # again to complete. ● : Press to make phone call. Enter room number, and then press this key to make a call. ● : Press to call the management center directly.
5	Access card reader	Recognizes access card and unlock.
6	Screen	Displays information.
7	Camera	Monitors door area.

2.3.2 Rear Panel

See Figure 2-4 and Table 2-4.

2.4 Connecting Cable

2.4.1 Access Control Input and Output Port

This port can be used to connect to door locks, and the connection method varies with different locks. For the detailed information, see Figure 2-6, Figure 2-7 and Figure 2-8.

Figure 2-6 Electro control lock connection

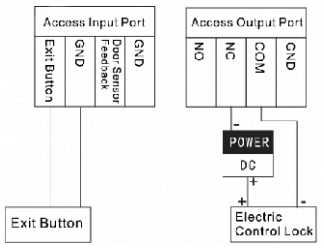


Figure 2-7 Solenoid lock connection

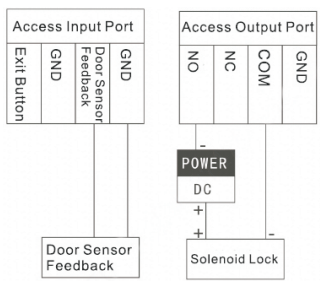
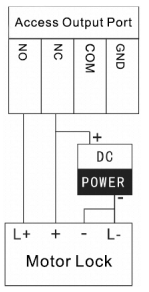


Figure 2-8 Motor lock connection



2.4.2 RS-485/RS-482 Port

This port can be used to connect to 485/422 devices. For the detailed connection method, see Figure 2-9, Figure 2-10 and Figure 2-11.

Figure 2-9 RS-485/RS-482 Port (1)

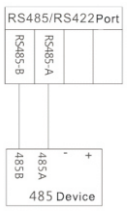


Figure 2-10 RS-485/RS-482 Port (2)

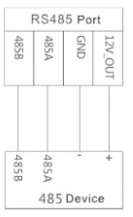


Figure 2-11 RS-485/RS-482 Port (3)

2.4.3 Analog Signal Port

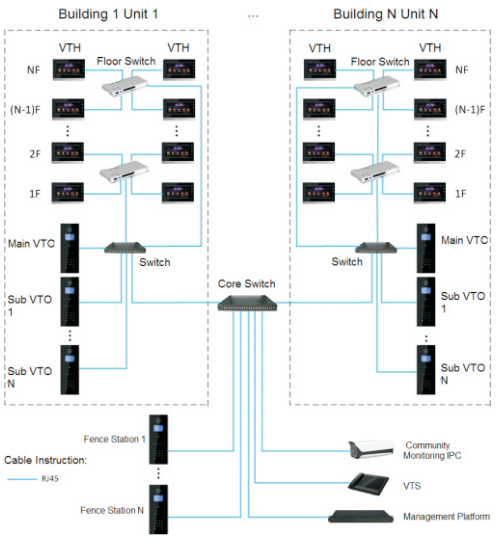
Analog signal port is only available on models with –X in the name, and it can be used to connect to analog devices. See Figure 2-12.

Figure 2-12 Analog signal port

3 Network Diagram

See Figure 3-1 for the network diagram.

Figure 3-1 Network diagram



4 Installation

4.1 Installation Requirement

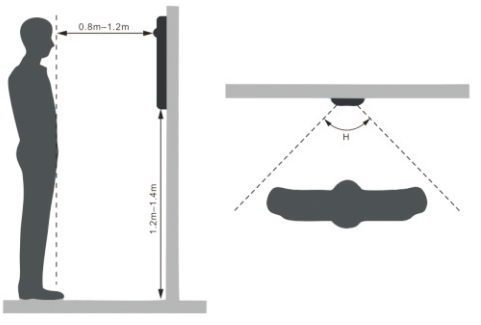
4.1.1 Notice

- Do not install the VTO to places with condensation, high temperature, grease or dust, chemical corrosion, direct sunlight, or zero shelter.
- The installation and adjustment must be finished by professional crew, and do not disassemble the VTO by yourself.

4.1.2 Guidance

See Figure 4-1 for the reference of the installation position. The VTO horizontal angle of view varies with different model, try to face to the center of the VTO as much as possible.

Figure 4-1 Installation position reference



4.2 Installing VTO

4.2.1 VTO1220A/VTO1210A-X

Figure 4-2 VTO1220A/VTO1210A-X installation

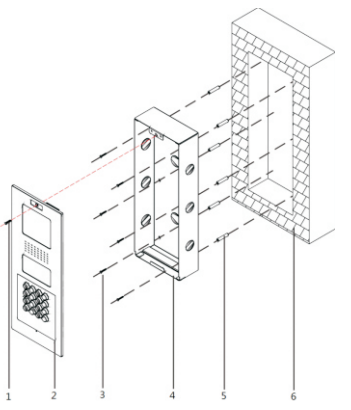


Table 4-1 Item list

No.	Item	No.	Item	No.	Item
1	M3×16 screw	2	VTO	3	ST3×18 screw
4	Metal mounting box	5	Expansion tube	6	Wall

Step 1 Cut an opening with the size of the mounting box on the wall, and then drill screw holes in the opening according to the position of the screw holes on the mounting box.
Step 2 Put the expansion tubes in the screw holes.
Step 3 Connect the ports on the rear panel to those in the wall through the mounting box. See the details in "2.4 Connecting Cable."
Step 4 Fix the mounting box in the opening with the ST3×18 screws.
Step 5 Fix the VTO in the mounting box with the M3×16 screws.
Step 6 Put sealant between the VTO, mounting box, and the wall.

4.2.2 VTO1220BW/VTO1210B-X

Figure 4-3 VTO1220BW/VTO1210B-X installation

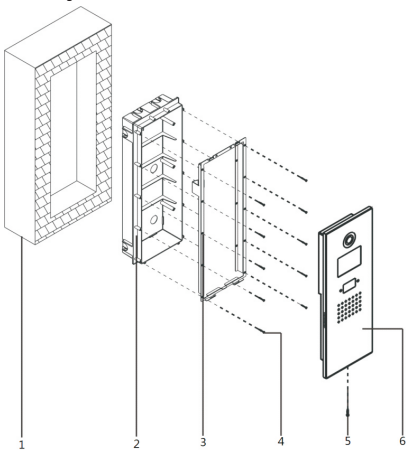


Table 4-2 Item list

No.	Item	No.	Item	No.	Item
1	Wall	2	Plastic mounting box	3	Bracket
4	ST3×18 screw	5	M3×16 screw	6	VTO

Step 1 Cut an opening with the size of the mounting box on the wall, and then put the mounting box in.
Step 2 Connect the ports on the rear panel to those in the wall through the bracket. See the details in "2.4 Connecting Cable."
Step 3 Fix the bracket on the mounting box with the ST3×18 screws.
Step 4 Fix the VTO on the bracket with the M3×16 screws.
Step 5 Put sealant between the VTO, mounting box, and the wall.

4.2.3 VTO1210C-X

4.2.3.1 Wall Mounted

Figure 4-4 VTO1210C-X wall mounted

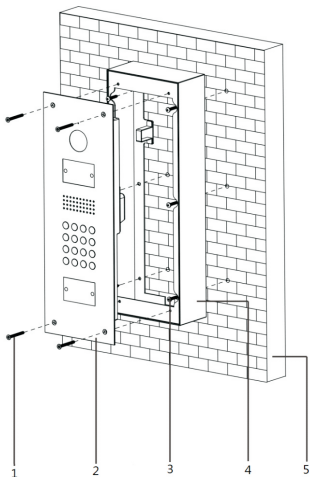


Table 4-3 Item list

No.	Item	No.	Item	No.	Item
1	M4×30 screw	2	VTO	3	ST4.2×25 screw
4	Mounting box	5	Wall	—	—

Step 1 Drill screw holes on the wall according to the position of the screw holes on the mounting box, and then put the expansion tubes in the screw holes.
Step 2 Fix the mounting box on the wall with the ST4.2×25 screws.
Step 3 Connect the ports on the rear panel to those in the wall. See the details in "2.4 Connecting Cable."
Step 4 Fix the VTO in the mounting box with the M4×30 screws.
Step 5 Put sealant between the mounting box and the wall.

4.2.3.2 Installing with Plastic Mounting Box

Figure 4-5 VTO1210C-X with mounting box

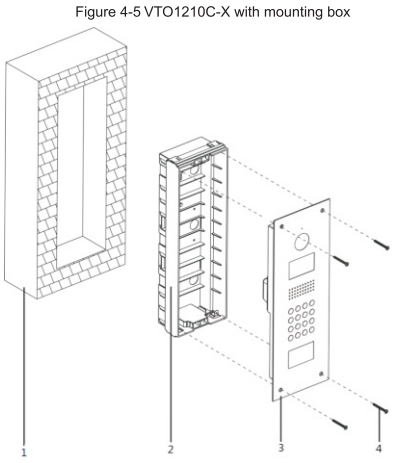


Table 4-4 Item list

No.	Item	No.	Item
1	Wall	2	Plastic mounting box
4	VTO	5	M4×40 screw

Step 1 Cut an opening with the size of the mounting box on the wall, and then put the mounting box in.
Step 2 Connect the ports on the rear panel to those in the wall through the mounting box. See the details in "2.4 Connecting Cable."
Step 3 Fix the VTO in the mounting box with the M4×40 screws.
Step 4 Put sealant between the VTO, mounting box, and the wall.

5 Configuration

This chapter introduces how to initialize, connect, and make primary configurationsto the VTO and VTH devices to realize basic functions, including device management, calling, and monitoring. For more detailed configuration, see the user's Manual.

5.1 Configuration Process

Before configuration, check every device and make sure there is no short circuit or open circuit in the circuits.

Step 1 Plan IP address for every device, and also plan the unit number and room number you need.
Step 2 Configure VTO. See "5.3 Configuring VTO."
1) Initialize VTO. See "5.3.1 Initialization."
2) Configure VTO number. See "5.3.2 Configuring VTO Number."
3) Configure VTO network parameters. See "5.3.3 Configuring Network Parameters."
4) Configure SIP Server. See "5.3.4 Configuring SIP Server."
5) Add VTO devices to the SIP server. See "5.3.5 Adding VTO Devices."
6) Add room number to the SIP server. See "5.3.6 Adding Room Number."
Step 3 Configure VTH. See the VTH users' manual.
Step 4 Verify Configuration. See "5.4 Verifying Configuration."

5.2 VDPConfig

You can download the "VDPConfig" and perform device initialization, IP address modification and system upgrading for multiple devices at the same time. For the detailed information, see the corresponding user's manual.

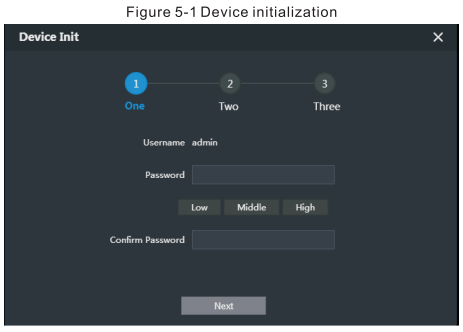
5.3 Configuring VTO

Connect the VTO to your PC with network cable, and for first time login, you need to create a new password for the web interface.

5.3.1 Initialization

The default IP address of VTO is 192.168.1.110, and make sure the PC is in the same network segment as the VTO.
Step 1 Connect the VTO to power source, and then boot it up.
Step 2 Open the internet browser on the PC, then enter the default IP address of the VTO in the address bar, and then press Enter.
The **Device Init** interface is displayed. See Figure 5-1.

Figure 5-1 Device initialization



Step 3 Enter and confirm the password, and then click **Next**.
The Email setting interface is displayed.
Step 4 Select the **Email** check box, and then enter your Email address. This Email address can be used to reset the password, and it is recommended to finish this setting.
Step 5 Click **Next**. The initialization succeeded.
Step 6 Click **OK**.
The login interface is displayed. See Figure 5-2.

Figure 5-2 Login interface

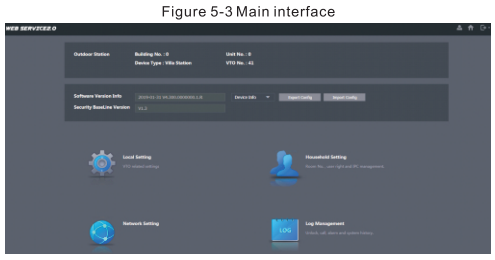
5.3.2 Configuring VTO Number

The VTO number can be used to differentiate each VTO, and it is normally configured according to unit or building number.

- You can change the number of a VTO when it is not working as SIP server.
- The VTO number can contain 5 numbers at most, and it cannot be the same with any room number.

Step 1 Log in the web interface of the VTO, and then the main interface is displayed. See Figure 5-3.

Figure 5-3 Main interface



Step 2 Select **Local Setting > Basic**.
The device properties are displayed. See Figure 5-4.

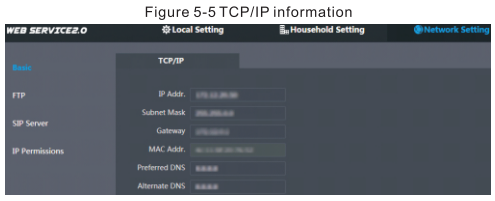
Figure 5-4 Device properties

Step 3 In the **VTO No**. input box, enter the VTO number you planned for this VTO, and then click **Confirm** to save.

5.3.3 Configuring Network Parameters

Step 1 Select **Network Setting > Basic**.
The TCP/IP information is displayed. See Figure 5-5.

Figure 5-5 TCP/IP information



Step 2 Enter the network parameters you planed, and then click **Save**.
The VTO will reboot, and you need to modify the IP address of your PC to the same network segment as the VTO to log in again.

5.3.4 Configuring SIP Server

The SIP server is required in the network to transmit intercom protocol, and then all the VTO and VTH devices connected to the same SIP server can make video call between each other. You can use VTO device or other servers as SIP server.
Step 1 Select **Network Setting > SIP Server**.
The **SIP Server** interface is displayed. See Figure 5-6.

Figure 5-6 SIP server

Step 2 Select the server type you need.
- If the VTO you are visiting works as SIP server
Select the **Enable** check box at **SIP Server**, and then click **Save**.
The VTO will reboot, and after rebooting, you can then add VTO and VTH devices to this VTO. See "5.3.5 Adding VTO Devices and 5.3.6 Adding Room Number."

If the VTO you are visiting does not work as SIP server, do not select the **Enable** check box at **SIP Server**, otherwise the connection will fail.

- If other VTO works as SIP server
Select **VTO** in the **Server Type** list, and then configure the parameters. See Table 5-1.

Table 5-1 SIP server configuration

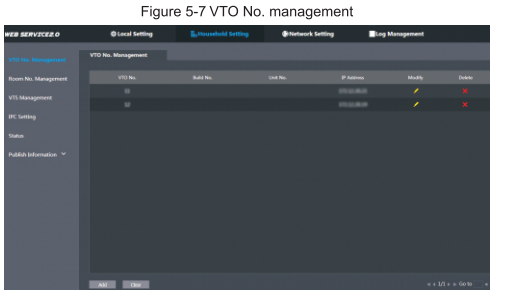
Parameter	Description
IP Addr.	The IP address of the VTO which works as SIP server.
Port	5060
Username	Keep the default value.
Password	
SIP Domain	VDP
SIP Server Username	The user name and password for the web interface of the SIP server.
SIP Server Password	

- If other servers work as SIP server
Select the server type you need in the **Server Type** list, and then see the corresponding manual for the detailed configuration.

5.3.5 Adding VTO Devices

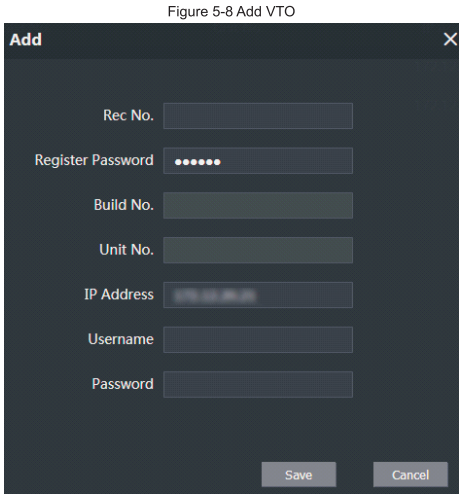
You can add VTO devices to the SIP server, and all the VTO devices connected to the same SIP server can make video call between each other. This section applies to the condition in which a VTO device works as SIP server, and if you are using other servers as SIP server, see the corresponding manual for the detailed configuration.
Step 1 Log in the web interface of the SIP server, and then select **Household Setting > VTO No. Management**.
The **VTO No. Management** interface is displayed. See Figure 5-7.

Figure 5-7 VTO No. management



Step 2 Click **Add**.
The **Add** interface is displayed. See Figure 5-8.

Figure 5-8 Add VTO



Step 3 Configure the parameters, and be sure to add the SIP server itself too. See Table 4-2.

Table 5-2 Add VTO configuration

Parameter	Description
Rec No.	The VTO number you configured for the target VTO. See the details in "5.3.2 Configuring VTO Number."
Register Password	Keep default value.
Build No.	Available only when other servers work as SIP server.
Unit No.	
IP Address	The IP address of the target VTO.
Username	The user name and password for the web interface of the target VTO.
Password	

Step 4 Click **Save**.

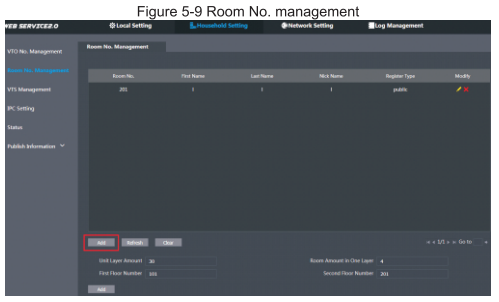
5.3.6 Adding Room Number

You can add the planned room number to the SIP server, and then configure the room number on VTH devices to connect them to the network. This section applies to the condition in which a VTO device works as SIP server, and if you use other servers as SIP server, see the corresponding manual for the detailed configuration.

The room number can contain 6 digits of numbers or letters or their combination at most, and it cannot be the same with any VTO number.

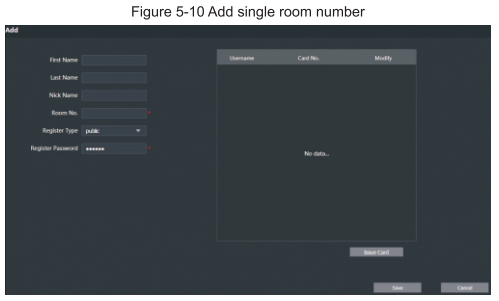
Step 1 Log in the web interface of the SIP server, and then select **Household Setting > Room No. Management**.
The **Room No. Management** interface is displayed. See Figure 5-9.

Figure 5-9 Room No. management



Step 2 You can add single room number or do it in batch.
- Adding single room number
1) Click the **Add** at the mid lower position. See Figure 5-9.
The **Add** interface is displayed. See Figure 5-10.

Figure 5-10 Add single room number



2) Configure room information. See Table 5-3.

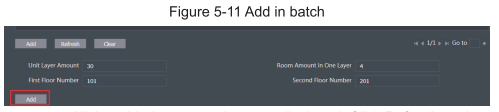
Table 5-3 Room information

Parameter	Description
First Name	Enter the information you need to differentiate each room.
Last Name	
Nick Name	
Room No.	The room number you planned. ● If you use multiple VTH devices, the room number of the master VTH should be "room number#0", and the room number of the extension VTH should be "room number#1", "room number#2", and so on. ● You can have 9 extension VTH devices at most for one master VTH.
Register Type	Select **public**, and **local** is reserved for future use.
Register Password	Keep the default value.

3) Click Save.
The added room number is displayed. Click to modify room information,and click to delete a room.

- Adding room number in batch
1) Configure the **Unit Layer Amount**, **Room Amount in One Layer**, **First Floor Number**, and **Second Floor Number** according to the actual condition.
2) Click the **Add** at the bottom position. See Figure 5-11

Figure 5-11 Add in batch



All the added room numbers are displayed. Click **Refresh** to view the latest status, and click **Clear** to delete all the room numbers.

5.4 Verifying Configuration

5.4.1 Calling VTH from VTO

Step 1 Dial room number on the VTO.
Step 2 Press .
The VTO is calling the VTH. See Figure 5-12.

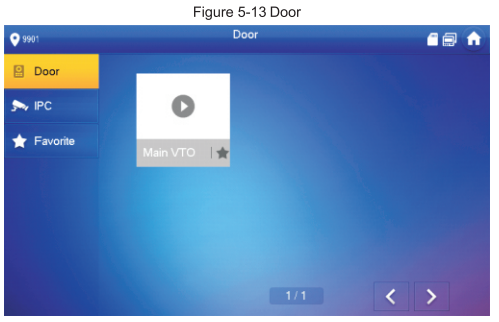
Figure 5-12 Call screen

Step 3 Tap on the VTH to answer the call.

5.4.2 Doing Monitor from VTH

Step 1 In the main interface of the VTH, select **Monitor > Door**.
The **Door** interface is displayed. See Figure 5-13.

Figure 5-13 Door



Step 2 Select the VTO you need to do monitor.
The monitor screen is displayed. See Figure 5-14.

Figure 5-14 Monitor screen

6 Operating VTO

6.1 Call Function

6.1.1 Calling with Room Number

Step 1 On standby mode, enter room No. on the VTO.
Step 2 Press / to call.
Step 3 During phone call, press / to end the call.

6.1.2 Calling with Contact

All the room numbers added to SIP server is displayed in the VTO contact.
Step 1 On standby mode, press / to view contact.
Step 2 Select the one you need to call, and then press / to call.
Step 3 During phone call, press / to end the call.

6.2 Unlock Function

6.2.1 Unlock with IC Card

Swipe the authorized access card at the access card area of the VTO to open the door.

6.2.2 Unlock with Exit Button

If there is exit button connected to the VTO, press the exit button to open the door.

6.2.3 Unlock with Password

You can unlock with personal password, public password, and duress password.
- Unlock with personal password

On standby mode, press #+6 digits room number (enter several "0" before room number to make up if room number is less than 6 digits)+#.
Example: Room number: 201; personal password 123456, then enter #000201123456# to unlock.

The personal password can be configured on the VTH, see the details in VTH user's manual.

- Unlock with public password/duress password

On standby mode, press #+ public password/duress password +#.
Example: Public password/Duress password 123456, then enter #123456# to unlock.

- If the door is opened by the duress password, there will be alarm sent to the management center.
- The public password and duress password can be configured on the SIP server, see the detailed configuration in the corresponding manual.

6.3 Project Mode

The project mode is only for professional or admin people, and you can make advanced configurations to the VTO under this mode, including issuing access card, modifying device IP address, and adding room number.

6.3.1 Entering Project Mode

At main interface, enter " / +project password+#." The default project password is 888888, and you can modify it on the VTO or in the VTO web interface.
In the project mode, you can use numeric keys of 2, 8, 4, and 6 as directional keys; / as return; # as confirm.

6.3.2 Issuing Card

Step 1 In the project mode, select Issue Card.
You can issue access card with parent card or card issuing password.
- Issue card with parent card

Select "Parent card", and then swipe the parent card.

You can issue parent card on the SIP server. See the detailed configuration in the corresponding manual.

- Issue card with password

Enter the card issuing password, and then press # to confirm.

The default card issuing password is 888888, and you can modify it in the web interface. See the VTO users' manual.

Step 2 Enter and confirm the number of the room to which you need to issue access card.
Step 3 Swipe the card that needs to be authorized, and then the "Issued card successfully" notice is displayed.

6.3.3 Modifying IP Address

Step 1 In the project mode, select **IP Config**.
Step 2 Press numeric keys of 2, 8, 4, and 6 to select the item you need to modify, and then press # to start input. After inputting, press # to confirm.
Step 3 After the modification is finished, press / to exit.

6.3.4 Modifying Volume

Step 1 In the project mode, select **Volume Config**.
Step 2 Press numeric keys of 4 or 6 to decrease or increase the key press volume and the ring volume.
Step 3 After the modification is finished, press / to exit.

6.3.5 Viewing WEB Port

In the project mode, select **Web Port** to view the web port, and press / to exit.

6.3.6 Modifying Project Password

Step 1 In the project mode, select "Change Password."
Step 2 Enter the new project password, and then press # to confirm.
Step 3 The "Modified succeeded" notice is displayed.

6.3.7 Adding Room No.

You can only add room number on the VTO that works as SIP server, and then you can configure the added room number on the corresponding VTH to connect it in the network.
Step 1 In the project mode, select "Add Number."
Step 2 Enter the room number you need to add, and then press # to confirm.
Step 3 The "Add Success" notice is displayed.
Step 4 After adding room number is finished, press / to exit, and you can view the added room number in the contact.