

IP5815 Door Phone
User Manual
V1.0

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1. Gift box content

1 x Video Door Phone IP5815 unit

1 x Power adapter for Video Door Phone

1 x eGateway IP5858

1 x 14 pin connector for Video Door Phone IP5815 unit

1 x mounting bracket Video Door Phone IP5815 unit

1x mounting kit

Thank you for selecting Smart Bell for your communication and security needs. .
Please read this manual carefully before installation and keep it in a safe place for future reference

2. Operation guidelines

1. The unit is damaged if dropped. Handle with care.
2. If the unit does not operate properly, unplug the power supply.
3. Due to the environmental sound around the unit, it may hinder smooth communication, but this is not a malfunction.
4. When outside temperature lowers sharply after rainfall, etc, the inside of the camera may fog up slightly, causing blurry picture, but this is not a malfunction. Normal operation will be restored when moisture evaporates.
5. If moving the unit from a warm to cold environment, or vice versa, please allow 30 minutes before use.
6. As to other manufacturer's device (such as door releases) used with this system, comply with the Specifications and Warranty conditions that the manufacturers or vendors present.

3. Product Overview

3.1 Product intended use

The product that you are about to use is a video intercom system especially designed for applications in single houses, apartments, and such facilities as office buildings, factories, schools, hospitals, etc

It provides end users with the ability to answer their door using smartphones, see live video of who is at their door and have a two-way conversation with the guest even if the owner is not at home.

Installed separately from the general-purpose internal communications systems, the system can be used as:

- a video door entry system,
- emergency announcement system,
- rescue assistance system, urgent call system,
- public announcement system, and access control system.

NOTE: You can design the system to any scale depending on your needs. Please contact our support team for more information

3.2 Functions of the system

- IP enabled doorphone: follows industry standard. Based on SIP (session initiation protocol)
- Mobile access: uses mobile App to connect with Android and iOS smartphones/tablets
- Multiple remote Users: registers up to 8 mobile devices
- Quality video and Full Duplex Audio
- Access control: inbuilt RFID card reader
- Remote door release: works with electronic locks that can be released via mobile App

3.3 IP5815 Video door phone features

- IP addressable video door station
- Monitoring of view of the front (rear) door or a visitor at any time of day and night
- High-performance HD video camera providing WXGA (1280 x 800) at 30fps or 720p HD format with high sensitivity

- 2-Way audio
- DI / DO dry control for door release
- Taking snapshots of the visitor automatically once the call button is pressed
- Night vision
- Built-in RFID sensor module

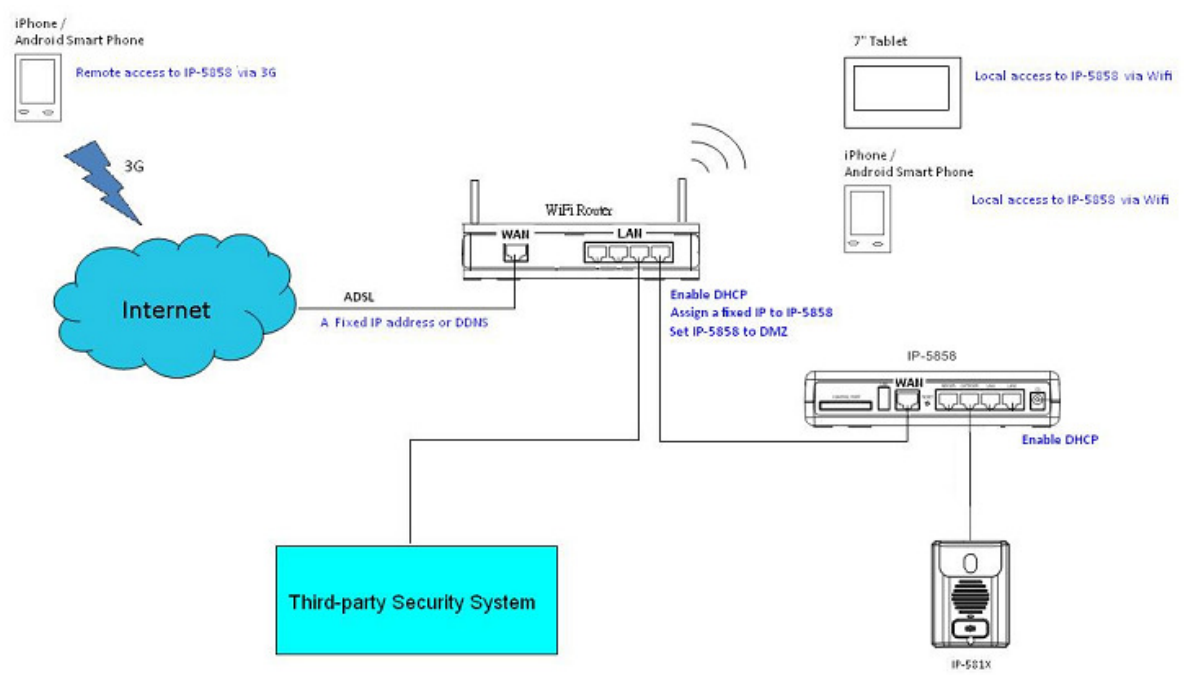
3.4 Video Door Phone Specification

Camera	1M pixel CMOS sensor
Night Light	2 x LED
HW Specific	1 * ISO14443 Card Reader, support RFID card 1 * Door Lock port for power lock Speaker(8Ω/1W) x1, Microphone(-62±2dB) x1 1 * Ethernet Interface Power supply: external 12V power supply Support H.264 720P
Support protocol	SIP 2.0 (RFC 3261)/TCP/IP/UDP, RTP, ARP, ICMP, DHCP, DNS, NTP Audio codec: G.711 (A/u-law) , G.729 Audio quality: packet loss concealment, echo suppressor Video codec: H.264 baseline real-time video codec Automatic firmware and configuration update via TFTP

3.5 eGateway Specification

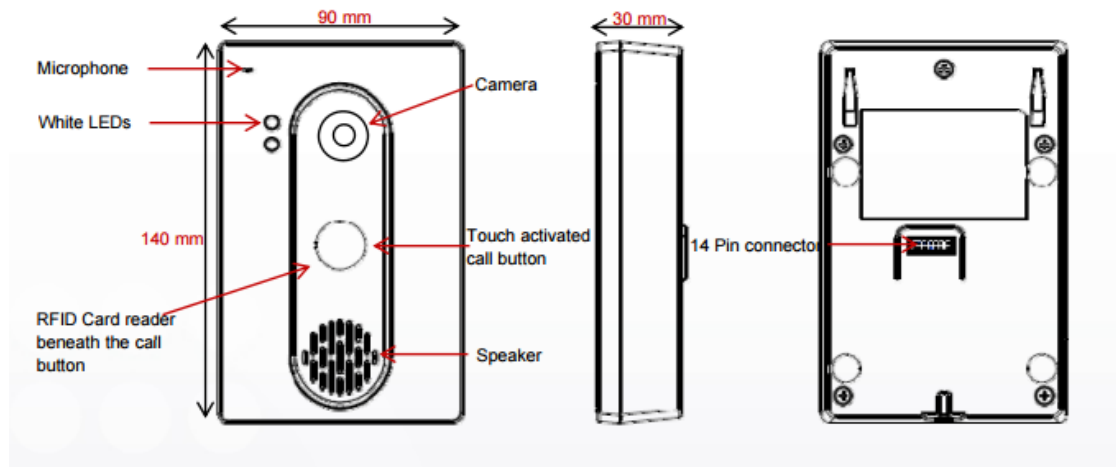
FE	1 x FE/fast Ethernet for WAN 4 x FE/fast Ethernet for LAN
USB Host 2.0	Support Z-wave Dongle plug in
Digital Input & output	8 x DI ; 4 x DO
RS-485	1 X RS-485, For connecting access control/alarm device & digital input/output device extension
Dimension	170 mm * 115 mm * 37mm (L x W x H)
Support protocol	SIP 2.0 (RFC 3261)/TCP/IP/UDP, RTP, HTTP, ARP, ICMP, DHCP, DNS, TFTP, NTP
Power	12V-24V,2A-1A

3.6 System architecture



3.7 System components identification

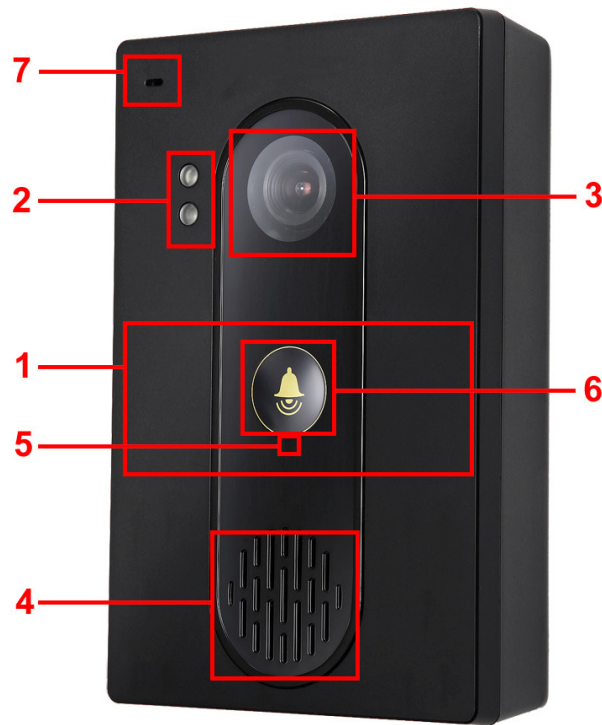
Door phone unit



3.8 Description of functions

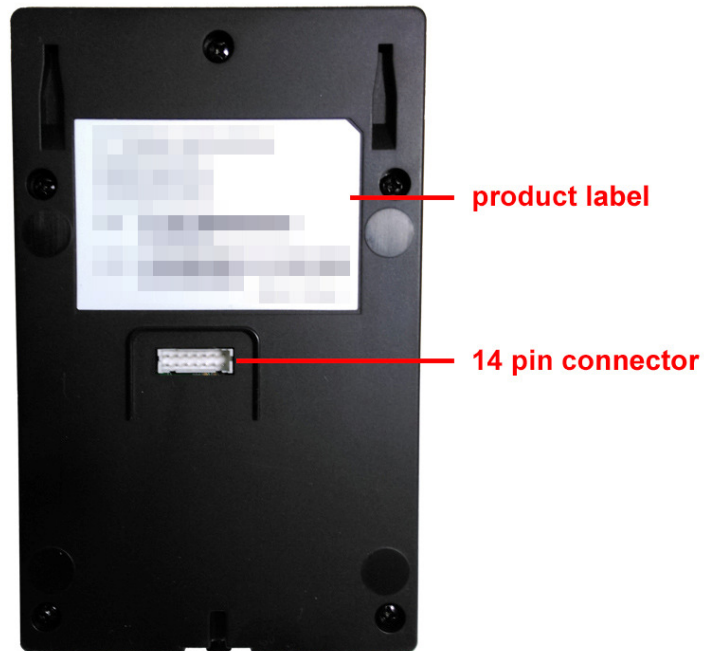
The figure below illustrates the front view of the IP5815. Follow the point numbers to find the description of the door phone components' functions

Front view of the IP5815 Video door phone



Part name	Description of functions
Card reader	RFID card reader control
White LED	Night vision to make sure that the user gets clear image
Camera	Seeing the video of the visitor once the door bell button is pressed Monitoring of the front door
Speaker	Ring tone Talking
LED	Status indicator Red LED light is used to indicate registration status or reset to default status Green LED is used to indicate that the call is connected or upgrade process is finished
Calling button	Used for calling the door, upgrade, reset to default
Microphone	Voice communication

Back view of the IP5815 Video door phone



3.9 LED colors indication

LED colors are associated with the door phone button and follow this guideline:

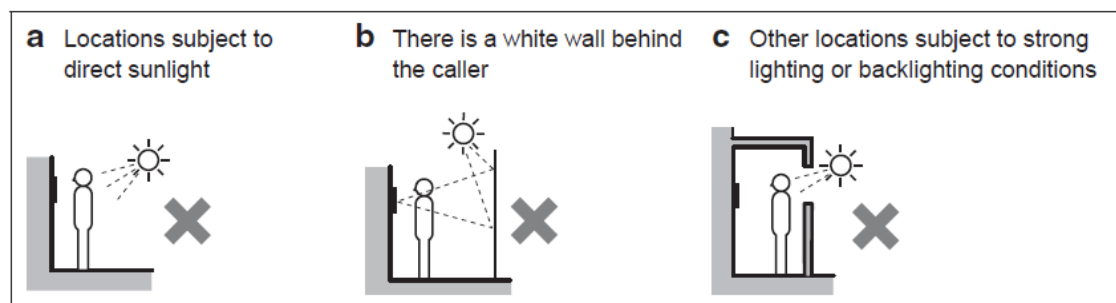
LED	Color	Status	Description
LED	Red	Steady	Choose to emergency upgrade or reset default when you see this LED status.
		Blinking Rapidly	Choose to emergency upgrade or reset default after push Calling Button, or all used lines cannot register to the SIP register servers.
		Blinking Slowly	Emergency upgrade or register process is underway.
		Off	Idle status or voice is not connected.
	Green	Steady	Voice is connected or the emergency upgrade process is finished.
		Blinking Slowly	The process of reset default is finished.
		Off	Idle status or voice is not connected.

4. Installation

4.1 Selecting a location for Video Door Phone

Areas to avoid when mounting the Video Door Phone Unit:

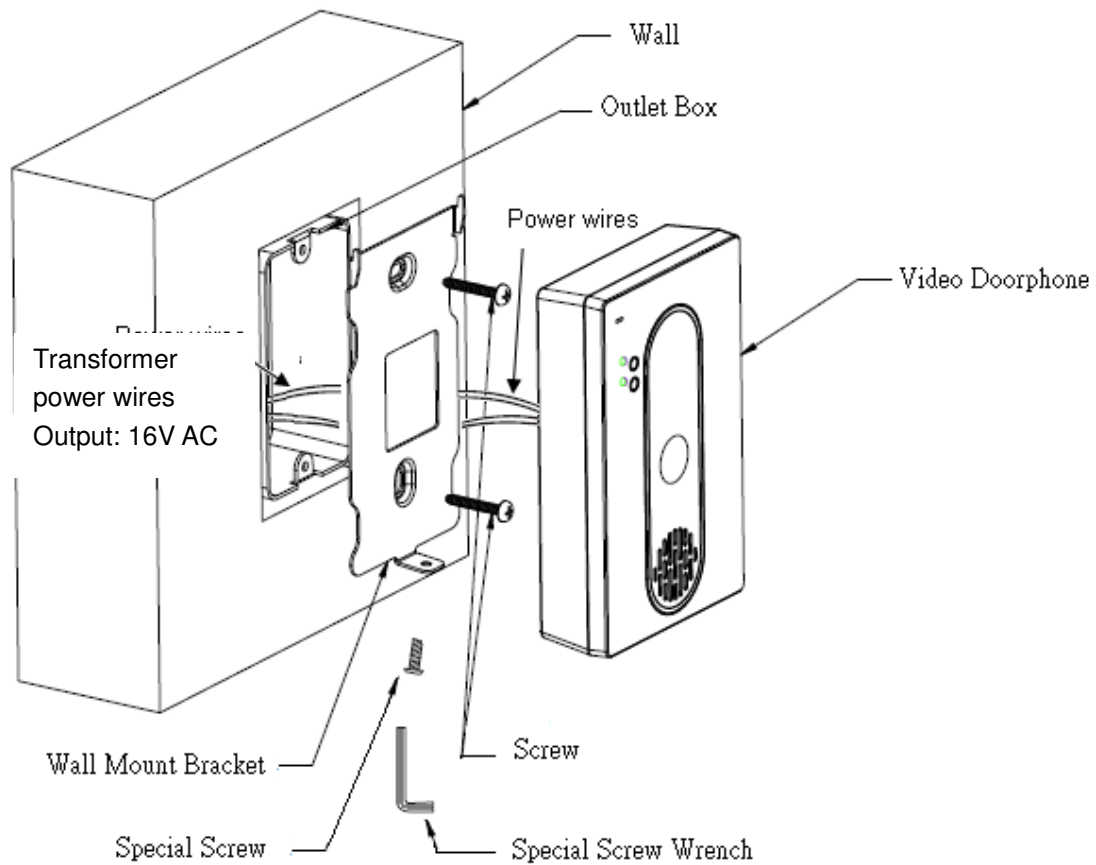
1. Avoid areas that are subject to vibration or shock
2. Avoid areas where rain or water may directly hit the unit. Unit is not water-resistant and can be damaged if sprayed with high pressure water.
3. Installation in an enclosed area may cause echo
4. Keep the unit more than 1m (3,3') away from radio or TV
5. Keep the intercom wires more than 30 cm (12') away from AC100-240V wiring. AC induces noise and/or unit malfunction could result.
6. Install the unit in the area that will be accessible for future inspections, repairs, and maintenance.
7. Do not locate the unit in a location with restricted access. It impedes maintenance inspection or repairs. Also, unit trouble could result.
8. Avoid areas where broadcasting antennas are close by, the intercom system maybe affected by radio frequency interference.
9. Installation if following locations may affect the video image provided by the device:



4.2 Installing Video Door Phone

NOTE: Verify transformer power rating. Power must be supplied in the range 13V ~ 20 AC.

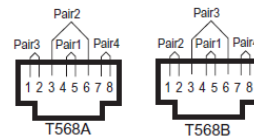
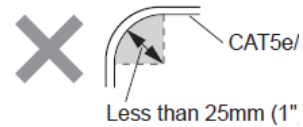
1. Make sure that outlet's power (AC 13V ~ 20V) is off when wiring Doorphone. Keep power off until the wire connection has been complete.
2. Fasten the Doorphone wall mount bracket to the outlet box.
3. Connect transformer output power wires (AC 13V ~ 20V) to the power wires of Doorphone.
4. Put the Doorphone on the wall mount bracket.
5. Use the special screw wrench to fasten special screw at the bottom of the Doorphone.



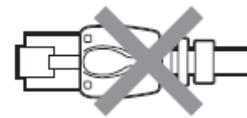
4.3 Preparation for wiring

1. Please prepare your own CAT5e cable and follow the operation guidelines as below:

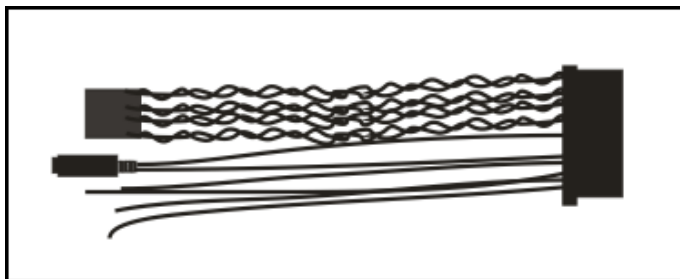
- Make sure that the resistance of CAT5e < 0.094 Ohm/m.
- Use a straight-through cable for connecting units.
- Do not bend the cables to an extent where the radius is less than 25 mm (1"). It may result in communication failure
- Do not remove the CAT5e cable jacket more than necessary
- Arrange the color code of the RJ45 connections in accordance with EIA/TIA-568A or 568B.



- Be sure to check the condition of cable connections with a LAN checker before connecting with a LAN cable.
- An RJ45 connector with a cover cannot be connected to the port for CAT5e on IP master stations or IP door stations. Use a cable without a cover.
- Do not pull or put excess strain on CAT5e cables.



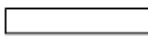





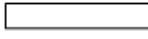






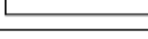
2. 14 pin connector with RJ45 and DC plug is provided with the device



3. Twist pair definition:

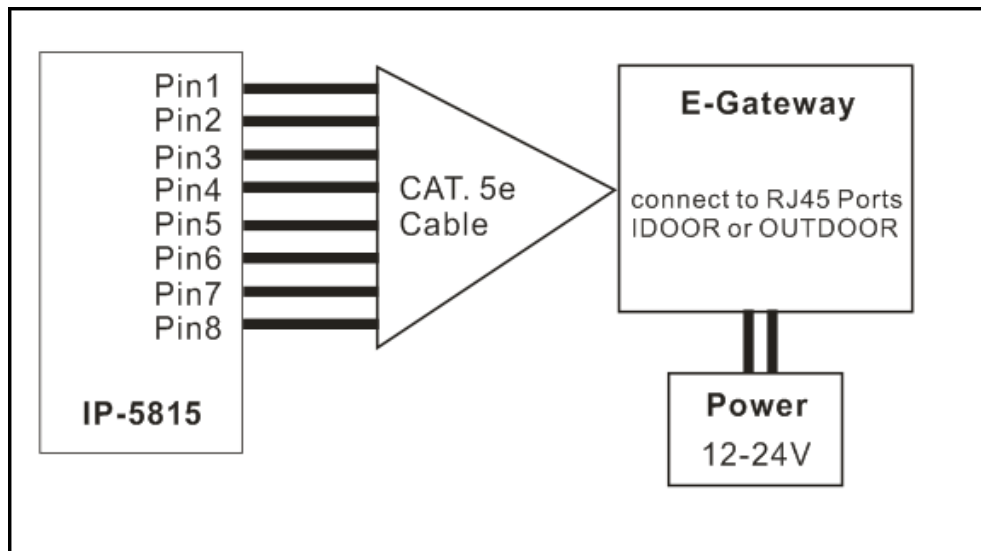
- Pair1 : Pin1 & Pin 2.
- Pair2 : Pin3 & Pin 4.
- Pair3 : Pin5 & Pin 6.
- Pair4 : Pin7 & Pin 8.

4. Color of Wire and Identification

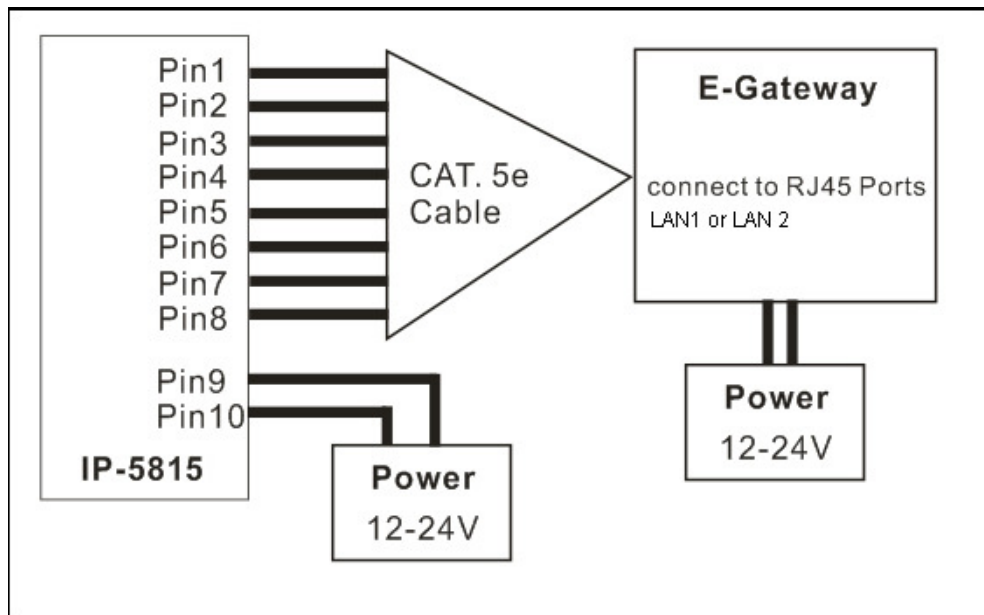
PIN	Function	Description	Pin color
1	R+	Network RX+	 white
2	R-	Network RX-	 orange
3	T+	Network TX+	 white
4	T-	Network TX-	 green
5	SP1	eGayway Power DC 12 to 24V	 white
6	SP1	eGayway Power DC 12 to 24V	 blue
7	SP2	eGayway Power GND	 white
8	SP2	eGayway Power GND	 brown
9	12V	Adaptor +12V	 red
10	GND	Adaptor GND	 black
11	NC	Relay: normal close(dry contact)	 purple
12	NO	Relay: normal open(dry contact)	 yellow
13	COM	Relay: common terminal(dry contact)	 gray
14	DI	Sensor input	 white

5. Conventional rule

- Power supply by e-Gateway for 12V/2A DC, distance is less or equal than 30 meters.



- Power supply by e-Gateway for 24V/1A DC, distance is less or equal than 100 meters.

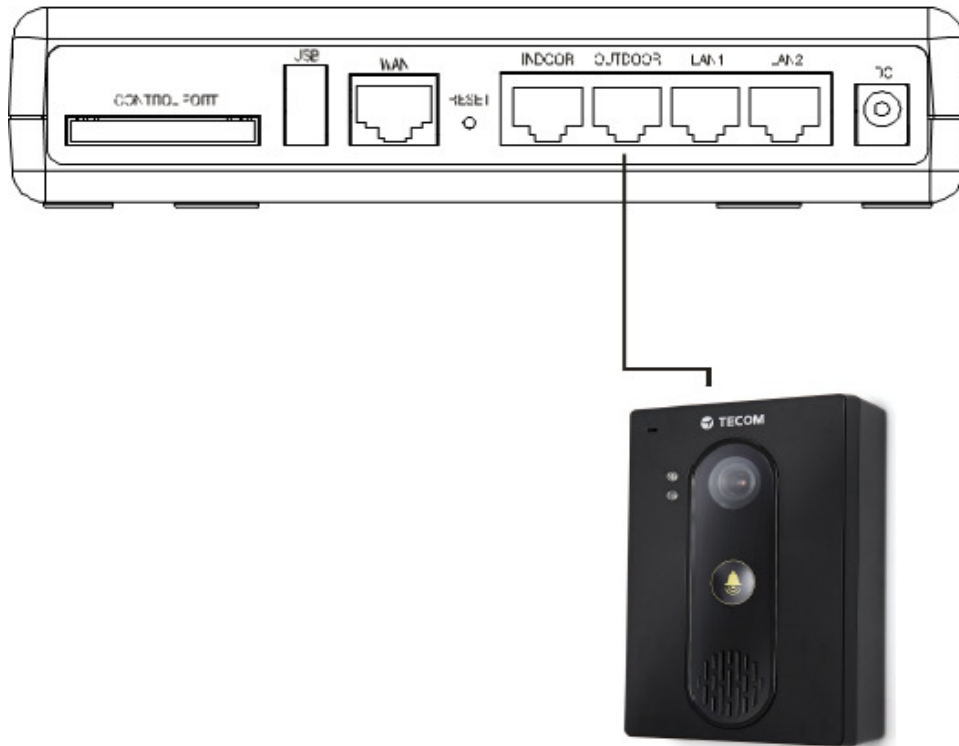


NOTE: When the link distance is over 100 meters, power must be provided by external power adapter, and an individual switch/hub is required for connection between Video Door Phone and e-Gateway.

4.4 Connecting Video Door Phone and eGateway

Use the CAT5e cable to link Video door phone to e-Gateway.

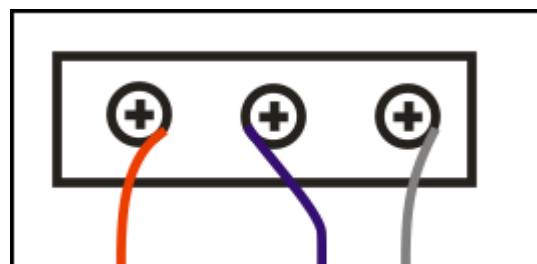
- Connect one end of CAT5e cable to the OUTDOOR port of eGateway.
- Connect another end of CAT5e cable to 14 pin connector.

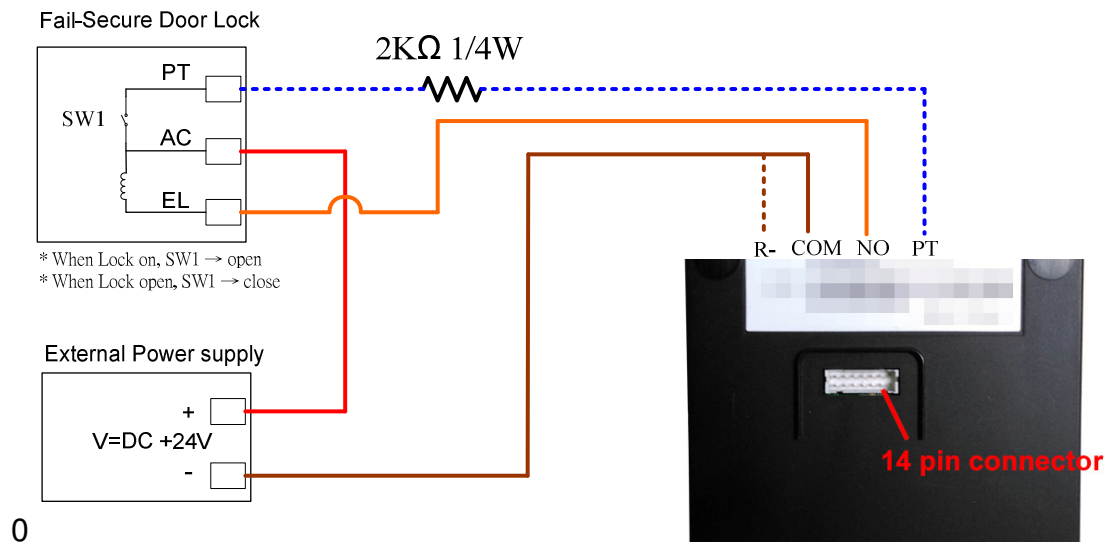


4.5 Wiring of the electric strike/lock

1. Connect to the electric door strike according to its specifications. For connecting 3rd party products, refer to the instruction manuals for those products.
2. The connectivity point defined on door phone for electronic door strike/lock is in accordance with – PT, AC, EL. In order to prevent mis-wiring, label both ends of each cable with the unit and terminal names to which they are to be connected.

Electronic lock	Door Phone
PT	PT (pin 14)
AC	COM (pin 13)
EL	NO (pin 12)





NOTE: Do not use the unoccupied terminals and ports for other purposes

5. Setting WiFi router and eGateway

NOTE: to ensure the smooth operation of the product, we highly recommend the required characteristics as presented below

5.1 Recommended characteristics for the WiFi router

Standard: 802.11 b/g/n

Wireless Signal Rate: 300 Mbps

Antenna Gain: 2 dBi

QoS Management

DDNS Support

Reference models: TP-Link TL-WR841N(D), D-Link DIR-615

5.2 Recommended characteristics for the Android device

CPU clock: 1024MHz or above

Memory size: 1GB ROM + 512 MB RAM or above

LCD Resolution: 800 * 480 or above

LCD Size: 3.5" or above

Operation System: Android 2.3 or above

Reference model: Samsung SII, HTC ONE Series

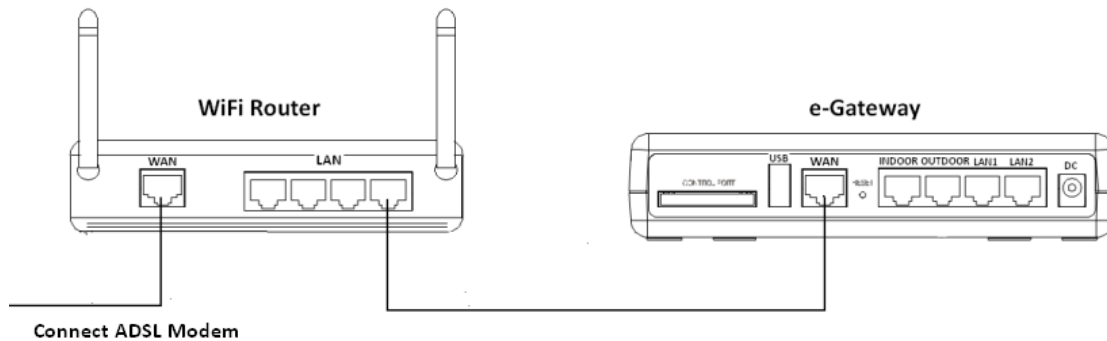
5.3 Recommended characteristics for the iOS device

Reference model: iPhone4 or above

5.4 Connection diagram

Connect Wi-Fi router WAN to ADSL modem

Connect e-Gateway (eGW) WAN to Wi-Fi router LAN



5.5 Internet/WAN Connection Setting

1. On your computer, login to the administration page of the Wi-Fi router and proceed with setting.
2. Set up WAN / Internet connection in accordance with the ISP provider Internet connection information.
3. There are 2 ways to acquire the IP address:
 - static IP
 - dynamic IP (such as: DHCP, PPPoE)

Static IP connection setting

Quick Setup	WAN	
QSS		
Network		
- WAN		
- LAN		
- MAC Clone		
Wireless		
DHCP		
Forwarding		
Security		
Parental Control		
Access Control		
Advanced Routing		
Bandwidth Control		

WAN Connection Type:	Static IP	<input type="button" value="Detect"/>
IP Address:	69.123.xxx.xxx	
Subnet Mask:	255.255.255.0	
Default Gateway:	69.123.xxx.xx1	(Optional)
MTU Size (in bytes):	1500	(The default is 1500, do not change unless ne
Primary DNS:	8.8.8.8	(Optional)
Secondary DNS:	0.0.0.0	(Optional)

Dynamic IP (DHCP/PPPoE) connection setting

WAN

WAN Connection Type: PPPoE/Russia PPPoE Detect

PPPoE Connection:

User Name:

Password:

Confirm Password:

NOTE: For the details of DDNS settings please refer to the Wi-Fi router Instructions.

When the Internet connection type is Dynamic IP, it is also required to setup the DDNS.

1. Select DDNS provider
2. Input your account, password and registered domain name

DDNS

Service Provider: No-IP (www.no-ip.com) Go to register..

User Name:

Password:

Domain Name:

Enable DDNS

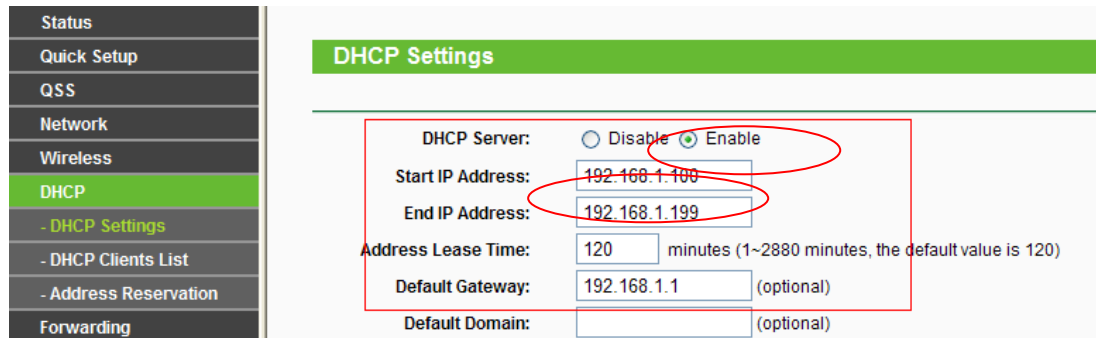
Connection Status: Succeeded!

Login Logout

Save

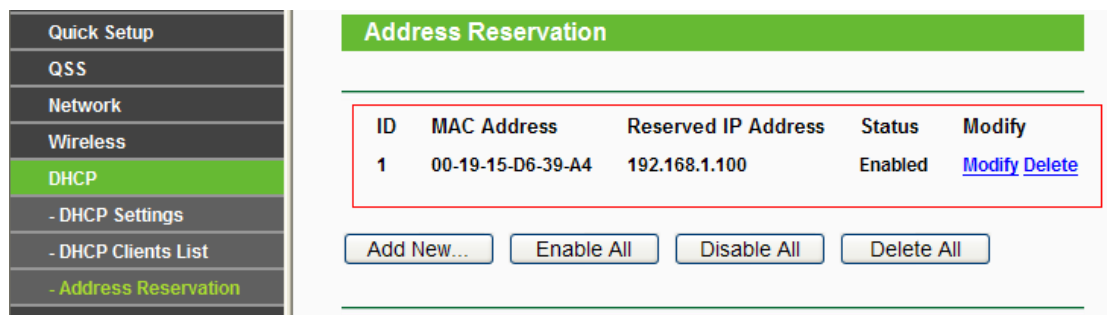
5.6 LAN Connection Setting

1. Please enable DHCP Server and set different IP segment with e-Gateway's.
2. The current e-Gateway default LAN IP segment is 192.168.0.xxx; avoid using this IP segment for DHCP setting of the Wi-Fi router.



The screenshot shows the DHCP Settings page. On the left is a navigation menu with 'DHCP' selected. The main content area has a green header 'DHCP Settings'. Below it, a red box highlights the following fields: 'DHCP Server' (radio buttons for 'Disable' and 'Enable', with 'Enable' selected), 'Start IP Address' (text box with '192.168.1.100'), 'End IP Address' (text box with '192.168.1.199'), 'Address Lease Time' (text box with '120' and '(optional) minutes (1~2880 minutes, the default value is 120)'), 'Default Gateway' (text box with '192.168.1.1' and '(optional)'), and 'Default Domain' (text box with '(optional)').

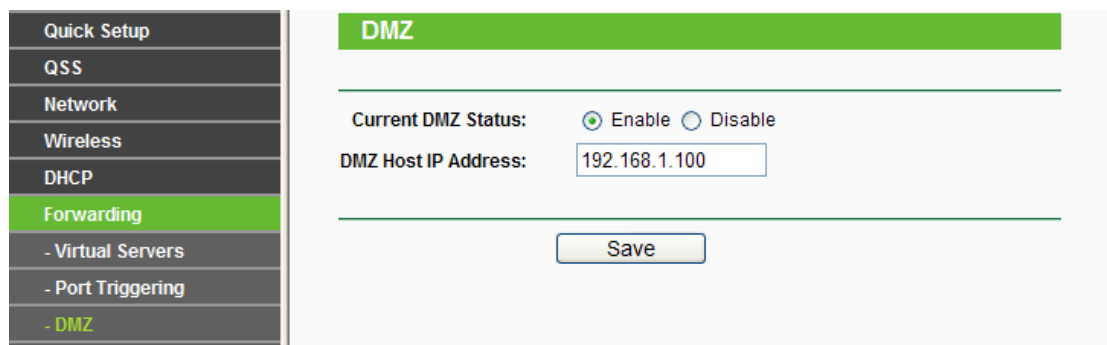
3. Reserve a fixed IP address to e-Gateway



The screenshot shows the Address Reservation page. On the left is a navigation menu with 'Address Reservation' selected. The main content area has a green header 'Address Reservation'. Below it, a red box highlights a table with the following data:

ID	MAC Address	Reserved IP Address	Status	Modify
1	00-19-15-D6-39-A4	192.168.1.100	Enabled	Modify Delete

Below the table are four buttons: 'Add New...', 'Enable All', 'Disable All', and 'Delete All'.



The screenshot shows the DMZ page. On the left is a navigation menu with 'DMZ' selected. The main content area has a green header 'DMZ'. Below it, the 'Current DMZ Status' is 'Enable' (radio button selected) and 'Disable' (radio button unselected). The 'DMZ Host IP Address' is '192.168.1.100'. A 'Save' button is at the bottom.

4. Set IP address of e-Gateway to DMZ

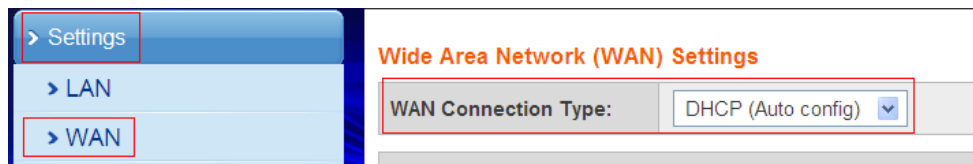
TCP/UDP Ports Definition for the Video Door Phone System

NOTE: This table lists TCP / UDP ports used by Tecom’s system. Do not use these ports for other network applications.

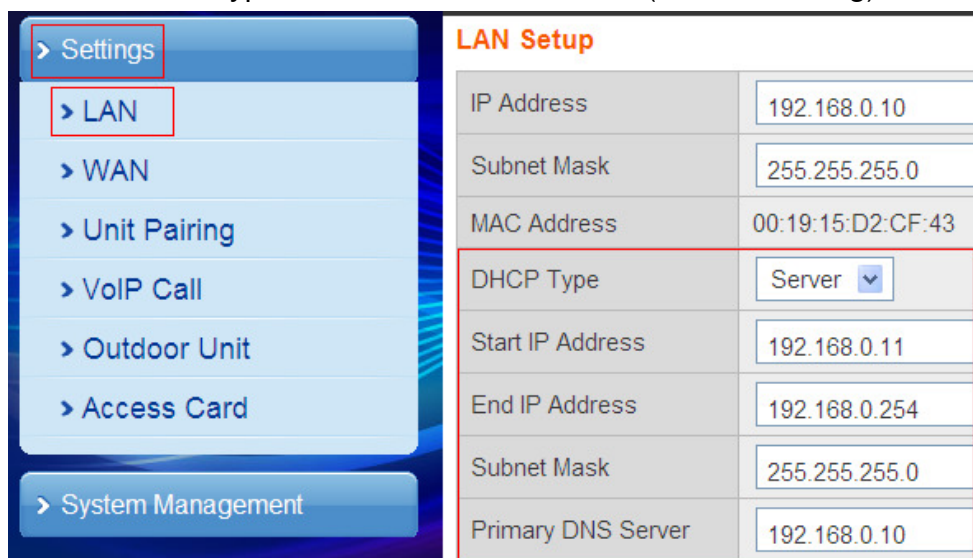
Port	TCP / UDP	Direction	Description
443	TCP	WAN	HTTPS port of web management, open it when remote security http access is enabled
80	TCP	LAN/WAN	HTTPS port of web management, open it when remote normal http access is enabled
5070	UDP	LAN/WAN	Local SIP proxy signal port (SIP port can be changed by user)
48999	TCP	LAN/WAN	Communication port (Intercom)
49004	TCP	LAN/WAN	
49006	TCP	LAN/WAN	
49031-49070	UDP	WAN	

5.7 e-Gateway Setting

1. Set WAN Connection type to DHCP (Default Setting).



2. Set DHCP Type of LAN to “Server” mode (Default Setting).



3. To secure your system against unwanted outside intrusion (hacking), we strongly recommend that you do is change all of the System's Passwords!

NOTE: Make sure to make a note of your new password!

The screenshot displays the 'Basic Settings' configuration page. On the left, a navigation menu includes 'Device Info', 'Settings', 'System Management', and 'Basic Settings' (which is highlighted with a red box). The main content area is titled 'Basic Settings' and contains the following sections:

- Language Settings:** A 'Select Language' dropdown menu is set to 'English'. Below it are 'Apply' and 'Cancel' buttons.
- Administrator Settings:** The 'Account' field contains 'admin'. The 'Password' field is masked with dots and is highlighted with a red box. Below it are 'Apply' and 'Cancel' buttons, with the 'Apply' button highlighted by a red box.
- User Settings:** The 'Account' field contains 'user'. The 'Password' field is masked with dots and is highlighted with a red box. Below it are 'Apply' and 'Cancel' buttons, with the 'Apply' button highlighted by a red box.

6. Mobile device pairing and setting

6.1 Mobile device pairing with eGateway

1. Connect PC to the LAN1 or LAN2 Port of e-Gateway,
2. Open the browser to log in to the e-Gateway Web page (the default IP: 192.168.0.10, Account: admin, Password: admin)
3. Click the Settings → Unit pairing.

Name	Type	Account	Password	MAC Address	Status	Select
Outdoor Phone	Outdoor Unit	100	t3VdD9	00:19:15:d2:cf:a2	Connected	<input type="checkbox"/>
10" IDP	Indoor Phone	101	1234	00:19:15:1d:53:f8	Disconnected	<input type="checkbox"/>
	Indoor Phone	103	7JZ2DV	20:59:a0:03:7a:ce	Initial	<input type="checkbox"/>
IP2032	IP Phone	102	102		Disconnected	<input type="checkbox"/>

Buttons: Refresh, Delete, Add, Edit

4. Click "Add" button to add a new Unit and check it.

Name	Type	Account	Password	MAC Address	Status	Select
Outdoor Phone	Outdoor Unit	100	t3VdD9	00:19:15:d2:cf:a2	Connected	<input type="checkbox"/>
10" IDP	Indoor Phone	101	1234	00:19:15:1d:53:f8	Disconnected	<input type="checkbox"/>
	Smart Phone	XXX			Initial	<input checked="" type="checkbox"/>
IP2032	IP Phone	102	102		Disconnected	<input type="checkbox"/>

Buttons: Refresh, Delete, Add, Edit

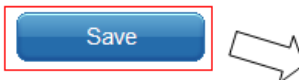
4. Follow the steps to input the unit information:

- Name: enter the name according to personal needs.
- Type: SMART PHONE
- Account: Please fill in the range of 100 to 109 numbers, make sure that the number you input is not used by other devices.
- Password: enter the password according to personal needs.
- Press SAVE
- Press – START PAIRING

Edit Unit

Unit Information

Name	<input type="text" value="SMP"/>
Type	<input type="text" value="Smart Phone"/> ▼
Account	<input type="text" value="104"/>
Password	<input type="text" value="104104"/>
MAC Address	20:59:a0:03:7a:ce
IP Address	192.168.0.17
Status	Initial



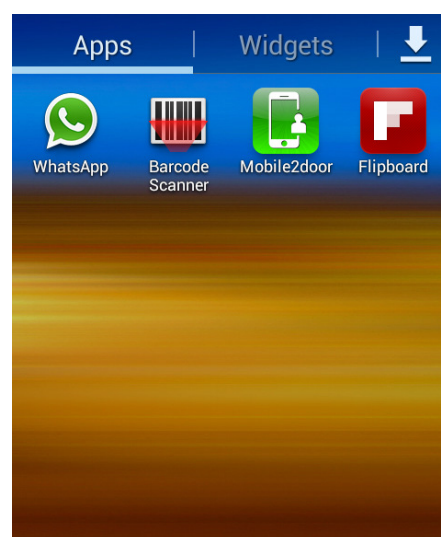
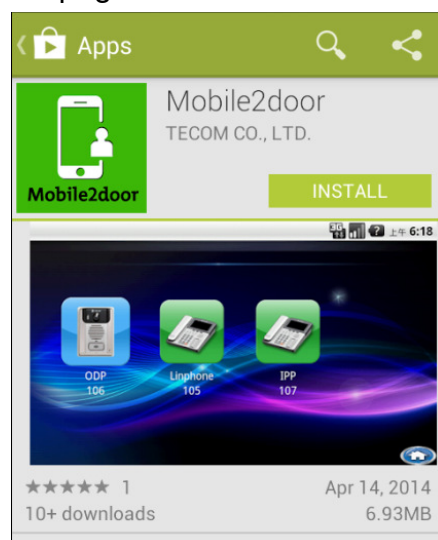
6.2 Setting Android device to work with Mobile2Door

1. Follow the steps below to connect your mobile device to the intercom system WiFi

- Enable WiFi by tapping mobile device's "Settings" → "WiFi settings"
- In the "Wi-Fi networks" list, choose SSID of Wi-Fi AP (For Example, the SSID is "Intercom Wi-Fi")



2. In Google Play Store find "Mobile2Door" App. Tap installation button and complete the App installation process on your Android device. After the installation is complete, "Mobile2Door" icon will appear on your All Apps page.



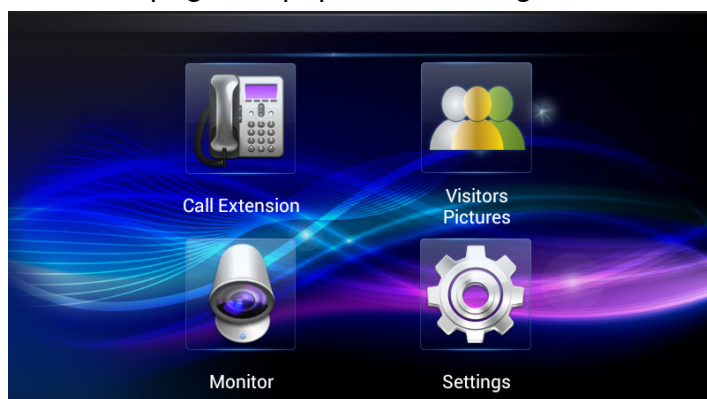
3. Tap “Mobile2Door” icon to start using the App. The following registration screen will appear.



4. Fill out the required items, then tap the “Registration” button to start the registration procedure.

- “Extension No”: equal to “Account” information of eGateway - admin by default or the account number that you used for eGateway pairing with mobile device
- “Registration No”: equal to “Password” information of eGateway - admin by default or the password that you used for eGateway pairing with mobile device
- “Default Server Address” => Enter the e-GW WAN IP assigned by Wi-Fi Router.
- “Server Address” => Enter the Wi-Fi Router WAN IP.

The main page will pop-out when registration is completion.



5. Enabling the mobile device to be registered to e-GW via 3G/WAN, user is required to fill-in account/password, IP address/WAN of e-GW.

- “Default Server Address”: Enter the e-GW WAN IP assigned by Wi-Fi Router. When the WAN connection type of eGW set as DHCP, the WAN IP address of eGW is dynamic IP address. It is essential to have the correct IP address through DDNS
- “Server Address”: Enter the Host Name that you registered with your DDNS service provider.



A registration form with a black background and white text. It contains several input fields and two buttons. A red arrow points from the 'Server Address' field to the 'DDNS' field in the screenshot below.

Please Enter Extension No.:	<input type="text" value=".104"/>
Please Enter Password:	<input type="password" value="....."/>
Default Server Address:	<input type="text" value="192.168.1.100"/>
Server Address:	<input type="text" value="intercomtest0407.no-ip.org"/>
MAC Address:	7C:61:93:A0:73:93
Version:	SMP_V0.3.21I_Intercom_r2339
<input type="button" value="Registration"/>	
<input type="button" value="Demo"/>	

DDNS Settings

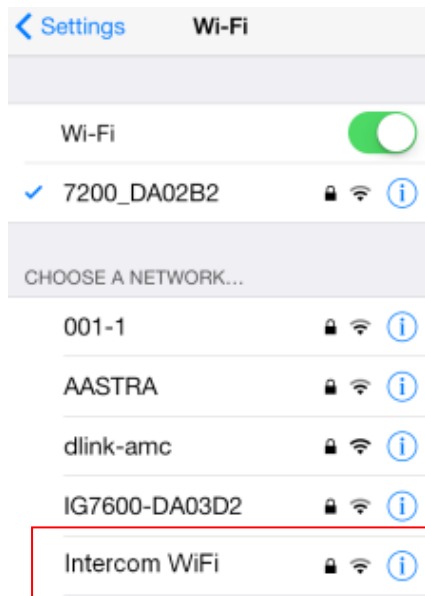


A form with a light gray background and white text. It contains four rows of input fields. The 'DDNS' field is highlighted with a red box, and a red arrow points from it to the 'Server Address' field in the screenshot above.

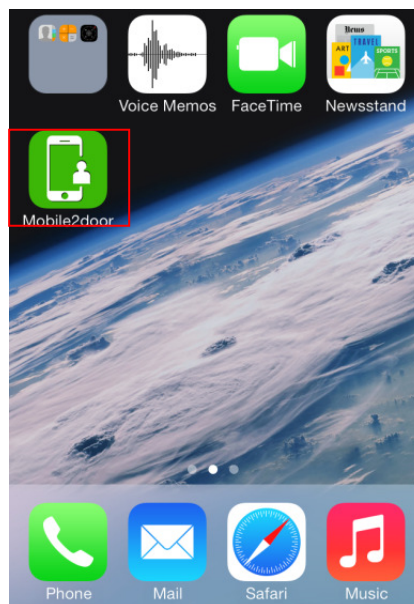
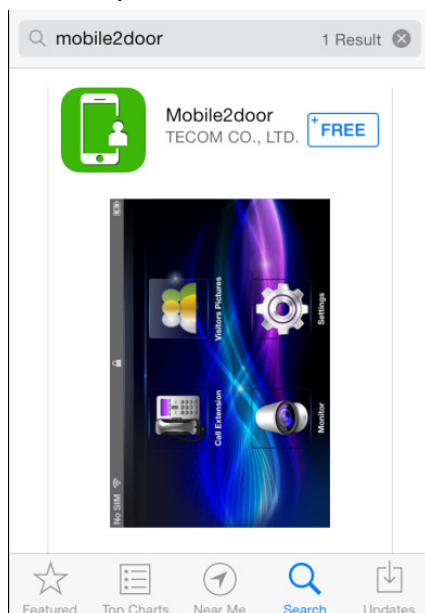
Dynamic DNS Provider	<input type="text" value="www.no-ip.com"/>
Account	<input type="text" value="tomddns002"/>
Password	<input type="password" value="....."/>
DDNS	<input type="text" value="intercomtest0407.no-ip.org"/>

Setting iOS device to work with Mobile2Door

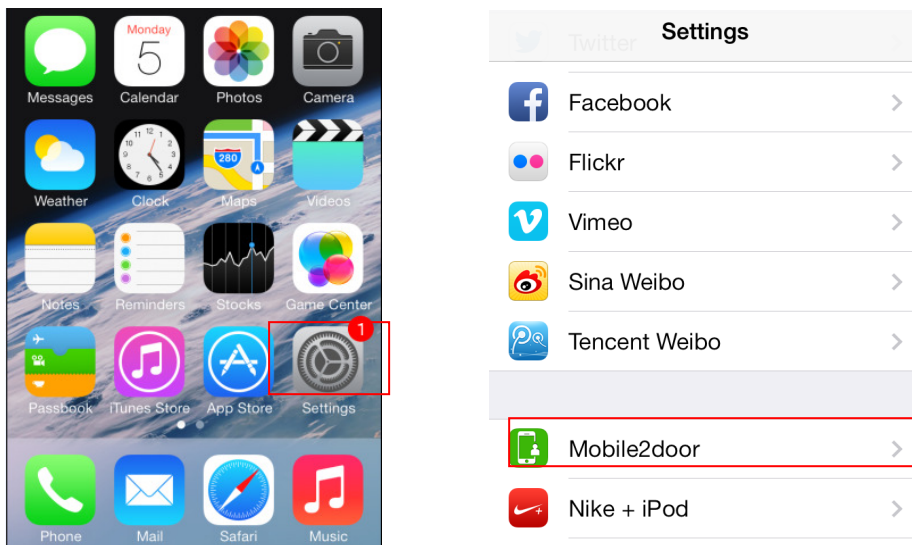
1. Follow the steps below to connect your mobile device to the intercom system WiFi
 - Click on “Settings” then select “ Wi-Fi”.
 - In the “Choose A Network” list, choose the SSID of Wi-Fi AP (For Example, the SSID is Intercom Wi-Fi)
 - Identify the system as connected, the SSID displayed above the “Choose A Network”.



2. In App Store find “Mobile2Door” App. Tap installation button and complete the App installation process on your Android device. After the installation is complete, “Mobile2Door” icon will appear on your All Apps page.

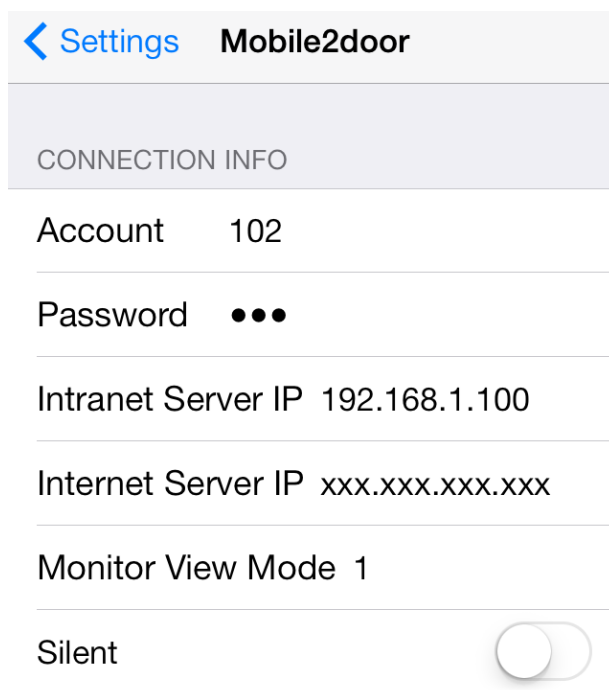


3. Tap “Settings” and choose “Mobile2door” in the Settings screen.



4. Fill in the correct registration information

- “Account”: enter account as inputted in e-gateway (admin by default).
- “Password”: enter password as inputted in e-gateway (admin by default).
- “Intranet Server IP”: enter the e-GW WAN IP assigned by Wi-Fi Router.
- “Internet Server IP”: enter the Wi-Fi Router WAN IP



5. Enabling the mobile device to be registered to e-GW via 3G/WAN, user is required to fill-in account/password, IP address/WAN of e-GW. WAN connection type set as DHCP on Wi-Fi router, the IP address will be acquired a dynamic IP address from DDNS.

Settings Mobile2door

CONNECTION INFO

Account 102

Password ●●●

Intranet Server IP 192.168.1.100

Internet Server IP intercomtest0407.n...

Monitor View Mode 1

Silent

DDNS Settings

Dynamic DNS Provider	www.no-ip.com
Account	tomddns002
Password	●●●●●●
DDNS	intercomtest0407.no-ip.org

6. After confirming that the iPhone is connected to WiFi router and completing registration procedure tap on the desktop Mobile2door to start using Mobile2door