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# IX Series 2

## SIP Registration

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### GENERAL OVERVIEW:

This document describes the basic configuration for registering IX Series stations to unspecified IP PBX systems. Please refer to the relevant manual provided by the IP PBX manufacturer for further information. **For Cisco CallManager, please refer to Aiphone's CUCM integration documentation.**

#### IX SIP compatible IX Series Stations are as follows:

IX-MV7-\*, IX-RS-\*, IX-DV, IX-DVF-\*, IX-SSA-\*, IX-SS-2G with firmware v2.00 or newer.  
IX-DA, IX-BA, Q1 2020

**\*Depending on the IP PBX provider, IX-MV7 Master Stations may be unable to register to the SIP server. Ensure that all stations are using the most up-to-date firmware before starting the registration process.**

For configuration of IX Series 2 stations, refer to the IX Series 2 Quick Start Guide or Settings Manuals.

### Frequently Asked Questions

The following are frequently asked questions pertaining to registering IX Series stations to unspecified IP PBX systems, available features, and network requirements. All of the following information is expanded on either further into this document, the IX Series 2 Quick Start Guide provided with every station, or the IX Series 2 Network Summary Document and can be found at [www.aiphone.com/ix](http://www.aiphone.com/ix)

#### Communication

IX Series stations are peer-to-peer and do not require a dedicated or cloud-based server for communication. Because of this, IX Series stations do not require Internet access, only a local network connection. IX Series stations may register to SIP servers as a 3rd party device to allow two-way audio communication between the station and another registered SIP device. Video-enabled IP phones (soft or physical) may also stream video from video door/sub stations, as well as two-way video conferencing with IX-MV7-\* master station. *Each IP PBX system is different, and compatibility cannot be guaranteed.*

#### Compatibility

**IX Series 2 Stations:** IX-MV7-\*, IX-RS-\*, IX-DV, IX-DVF-\*, IX-SSA-\*, IX-SS-2G

**IX Series 1 Stations:** IX-DA, IX-BA (available Q1 2020) with firmware version 3.00 or higher.

#### Network Information

**Addressing:** Hostname, IPv4 (default), IPv6 / Static (default), DHCP

**SIP Server:** Primary, Secondary, and Tertiary servers available

**Audio Codec:** G.711 (default) / G.722 **Port:** 20000 (start) - 21000

**Video:** H.264/AVC (default) / MJPEG **Port:** 30000 (start) - 31000

**SIP:** 5060

*More detailed network information and requirements are located in the IX Series 2 Network Summary Document found at [www.aiphone.com/IX](http://www.aiphone.com/IX)*

## Frequently Asked Questions (cont.)

### Extensions

**Firmware 3.0 or newer with Support Tool 6.XX or newer:** IX Series stations can be assigned a 1 to 32-digit Station Number (read: extension) in Support Tool, which must match the extension given to it when register to CallManager. *This setting is explained in greater detail later in this document.*

A station may call a single, 1 to 32-digit extension (*which can be a direct phone number, based on CallManager settings*). This extension can be that of a single station, or a hunt/call group. If the destination of a call is a hunt/call group, CallManager will then distribute the call to the appropriate group of extensions. *This setting is explained in greater detail later in this document.*

**Firmware 2.XX or older with Support Tool 5.XX or older:** IX Series stations can be assigned a 1 to 5-digit Station Number in Support Tool, which must match the extension given to it when register to CallManager. *This setting is explained in greater detail later in this document.*

A station may call a single, 1 to 10-digit extension (*which can be a direct phone number, based on CallManager settings*). This extension can be that of a single station, or a hunt/call group. If the destination of a call is a hunt/call group, CallManager will then distribute the call to the appropriate group of extensions. *This setting is explained in greater detail later in this document.*

### Call Transfer

Call transfers from one IX Series station to another, or to a single SIP extension, is handled by it's internal configuration. Call transfers of an IX Series station from an IP phone to another is handled by the SIP server.

IX Series stations have three internal call transfer options; Absent, Delayed, and Scheduled. For more information on this feature and its configuration, reference the IX Series 2 Quick Start Guide.

### Door Release

IP phones registered to a SIP server can activate an IX Series station's relay output used for door release via it's dial pad or a configured soft button (if available). Note that IX Series master stations have their own method of activating door release, which is automatically enabled.

**Firmware v3.0 or newer:** To activate the door release relay output, press the **Authorization Key (code)** while the IP phone is in communication with the station. The door release **Authorization Key** and it's length is determined in programing. *This setting is explained in greater detail later in this document.*

**Firmware 2.XX or older:** To activate the door release relay output, press \* \* **[code]** \* while the IP phone is in communication with the station. The door release code (*called an **Authentication Key** in Support Tool*) and it's length is determined in programing. *This setting is explained in greater detail later in this document.*

### IP PBX Configuration

This document will show the Aiphone configuration required or recommended to register to a 3rd party SIP server as a 3rd party SIP device. Refer to the IP PBX manufacturer's instructions for more detailed information pertaining to PBX-specific configuration requirements and steps for registering 3rd party SIP devices.

**The IX Series 2 Quick Start Guide is provided with each station, and can be found under Literature at [www.Aiphone.com/IX](http://www.Aiphone.com/IX). Complete the initial programming process of the IX system before continuing.**

**Additionally, the IX Series stations should also be registered to the SIP server prior to this process. There are several fields that will be set with information provided by the SIP server.**

## Support Tool - Getting Started

Proceed with the following steps only once the initial programming of the IX Series system and it's stations have been completed. Launch Support tool, and login using the information below.

ID	<input type="text"/>
Password	<input type="password"/>
	<input type="button" value="Login"/> <input type="button" value="Cancel"/>

**Default Login Information**  
**ID:** admin  
**Password:** admin

## Setting Station Information

Each station's **Station Number** should be set to the **Directory Number** or extension assigned to it in the PBX configuration.

For extensions larger than 5-digits, first expand **Station Information** and click **Expanded System** from the left hand side menu. Here, the system can be placed into **Expanded Mode**, allowing extensions from 1-32 digits in length, by clicking **Enable**. To continue to assigning a Station Number/Extension to the stations, click **Identification**.

- Station Information
- Identification 2
- ID and Password
- Time
- Expanded System 1
- Network Settings
- System Information
- Call Settings
- Option Input / Relay Output
- Paging Settings
- Function Settings
- Transfer Settings
- Station Settings
- Maintenance

"Expanded System" is a common setting.  
 An "Expanded System" cannot change from "Enable" to "Disable".  
 If the system contains IX-MV, "Expanded System" cannot be set to "Enable".

Expanded System  Enable  Disable

**Note:**

Stations must be firmware v3.0 or newer with Support Tool v6.0 or newer to utilize Expanded Mode.

Station Information				
Identification				
#	Number	Name	Location	Station Type
0001	0586	Security Desk		IX-MV7-*
0002	4595	Front Door		IX-DV, IX-DVF(-*)
0003	9877	Parking Garage		IX-SS-2G

Click **Update** to save your settings.

If the Station Number and Directory Number do not match the station will be **Rejected** when it attempts to register.

## Adding SIP Server Information

From the left hand side menu, expand **Network Settings**, and click **SIP**.

Each station's **ID / Password** assigned to it in the PBX, and the primary SIP server's network information is entered here. Secondary and Tertiary SIP server information is found by scrolling to the right on this screen.

- Station Information
- Network Settings
- IP Address
- DNS
- SIP
- Multicast Address
- Video
- Audio
- Packet Priority
- NTP

Station Information			Network Settings			
Identification			SIP			
Number	Name	Station Type	Primary Server			
			ID	Password	IPv4 Address	Port
0586	Security Desk	IX-MV7-*	AiphoneMV7	*****	172.10.2.254	5060
4595	Front Door	IX-DV, IX-DVF(-*)	AiphoneIXDV	*****	172.10.2.254	5060
9877	Parking Garag	IX-SS-2G	AiphoneIXSS	*****	172.10.2.254	5060

**Primary Server**

This information must match that found in the PBX to register the station.

Click **Update** to save your settings.

For more details about the features and information above, please contact Technical Support.

## VoIP Phone Registration

From the tool bar at the top of the screen, click **Edit(E)** and select **VoIP Phone List**.

Each station may have a single SIP call-in destination, whether that destination is an IP Phone or a call/hunt group's extension, however, multiple stations may call the same SIP extension. *Extensions within the hunt/call group do not have to be added to this list.*

**Number and Name**  
Enter the DN of the IP Phone or Hunt Group destinations. *IX Stations should not be added to this list.*

**Update**  
Click **Update** to save.

## Calling an IP Phone (Door / Sub Station)

Once an IP Phone or Hunt Group has been added to Support Tool it may be set as a call destination. Note that multiple stations can call to the same extension, but each station may only call one extension.

Expand **Call Settings**, and click **Called Stations** (Door/Sub Stations).

**Finding the IP Phone or Group**  
Scroll right to find the column of the **IP Phone** to be called by the Door / Sub station.

**Enabling the Call**  
Use the drop-down option under the desired IP Phone or group and select "U".

Click **Update** to save your settings.

### Note:



Settings will not take effect until the setting files have been uploaded to the stations. Refer to page 7 of this guide for the procedure of uploading the settings.

## Configuring Door Release (Optional)

IX Series stations have two built-in relay outputs, with **Relay Output 1 enabled and set for door release by default**. 3rd Party IP Phones can activate this output using dial-pad commands with some minor adjustments to the default configuration. *Repeat this process for each station.*

At the top of the screen, click the **Station View** box. Once in **Station View**, expand **Option Input / Relay Output**, and click **Relay Output**.

### Select a Station

At the top right of the screen, use the drop-down menu under **Select Station to Edit** to choose the first door station to configure, then click **Select**.

### Authentication Key

Find **Door Release Authorization** and **Authentication Key**. This key is the number(s) that will be used to activate the relay for door release. Replace the default 4 to 20 digit key with the desired access code.

Click **Update** to save your settings.

### Door Release from an IP Phone

**IX Station Firmware v 3.0 or newer:** To activate door release from an IP phone, press the **Door Release Authorization number** while in communication with the door station.

**IX Station Firmware v 2.XX or older:** To activate door release from an IP phone, press **\*\* [Authentication Key] \*** while in communication with the door station.

If the **Door Release Authorization Authentication Key** is adjusted from its default value by following **steps 5.1 to 5.3** above, this new key must be set for any IX Series Master Station (IX-MV / IX-MV7-\*) part of the system. *Repeat this process for each Master Station.*

While still in **Station View**, expand **Function Settings**, and click **Door Release**.

Station List	Contact Assignment	Authentication Key
0001 / 4595 / Front Door / / IX-DV, IX-DVF(-*)	Destination Station	9
0002 / 9877 / Parking Garage / / IX-SS-2G	Destination Station	9

### Select a Station

At the top right of the screen, use the drop-down menu under **Select Station to Edit** to choose the first door station to configure, then click **Select**.

### Authentication Key

Find **Door Release Authorization** and **Authentication Key**. Replace the default value with the key created in **step 4.3**.

Click **Update** to save your settings.

For more details about the features and information above, please contact Technical Support.

## Enabling Video

Video is streamed by an IX station to an IP Phone during communication by default. However, depending on the IP Phone, the H.264 profile may need to be adjusted to do so. *Note that this setting change will not affect the video quality.*

On the left-hand menu, expand **Network Settings**, and click **Video**.

<ul style="list-style-type: none"> <li>Station Information</li> <li>Network Settings             <ul style="list-style-type: none"> <li>IP Address</li> <li>DNS</li> <li>SIP</li> <li>Multicast Address</li> <li><b>Video</b></li> <li>Audio</li> <li>Packet Priority</li> <li>NTP</li> </ul> </li> </ul>	<table border="1"> <thead> <tr> <th colspan="3">Station Information</th> <th colspan="3">Network Settings</th> </tr> <tr> <th colspan="3">Identification</th> <th colspan="3">Video</th> </tr> <tr> <th rowspan="2">Number</th> <th rowspan="2">Name</th> <th rowspan="2">Station Type</th> <th colspan="3">Video Encoder 1</th> </tr> <tr> <th>Resolution</th> <th>Frame Rate [fps]</th> <th>Select Profile [H.264 / AVC]</th> </tr> </thead> <tbody> <tr> <td>0586</td> <td>Security Desk</td> <td>IX-MV7-*</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4595</td> <td>Front Door</td> <td>IX-DV, IX-DVF(-*)</td> <td>640x480(VGA)</td> <td>15</td> <td>Baseline</td> </tr> </tbody> </table>	Station Information			Network Settings			Identification			Video			Number	Name	Station Type	Video Encoder 1			Resolution	Frame Rate [fps]	Select Profile [H.264 / AVC]	0586	Security Desk	IX-MV7-*				4595	Front Door	IX-DV, IX-DVF(-*)	640x480(VGA)	15	Baseline
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**Video Profile**  
 Select the H.264 profile. *Baseline is the most commonly used.*

Click **Update** to save your settings. 

## Configuring a Door Station Call Button to Answer an Incoming Call (Optional)

Auto-answer is not available for incoming SIP calls to a door or sub station. To answer an incoming call, the call button will need to be configured to also answer an incoming call and ending communication.

At the top of the screen, click the **Table View** box. Once in **Table View**, expand **Call Settings** on the left-hand menu, and click **Station Information**.

<ul style="list-style-type: none"> <li>Station Information</li> <li>Network Settings</li> <li>System Information</li> <li>Call Settings             <ul style="list-style-type: none"> <li><b>Station Information</b></li> <li>Called Stations (Master S</li> <li>Called Stations (Door/Su</li> <li>Call Origination</li> <li>Incoming Call</li> </ul> </li> </ul>	<table border="1"> <thead> <tr> <th colspan="4">Station Information</th> <th>Call Settings</th> </tr> <tr> <th colspan="4">Identification</th> <th>Station Information</th> </tr> <tr> <th rowspan="2">#</th> <th rowspan="2">Number</th> <th rowspan="2">Name</th> <th rowspan="2">Station Type</th> <th>Call Button Function</th> </tr> </thead> <tbody> <tr> <td>0002</td> <td>4595</td> <td>Front Door</td> <td>IX-DV, IX-DVF(-*)</td> <td>Call, Answer Call, End Communication</td> </tr> <tr> <td>0003</td> <td>9877</td> <td>Parking Garage</td> <td>IX-SS-2G</td> <td>Call</td> </tr> </tbody> </table>	Station Information				Call Settings	Identification				Station Information	#	Number	Name	Station Type	Call Button Function	0002	4595	Front Door	IX-DV, IX-DVF(-*)	Call, Answer Call, End Communication	0003	9877	Parking Garage	IX-SS-2G	Call
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**Button Function**  
 Use the drop-down menu to select **Call, Answer Call, End Communication**.

Click **Update** to save your settings. 

**Note:**



Settings will not take effect until the setting files have been uploaded to the stations. Refer to page 7 of this guide for the procedure of uploading the settings.

## Upload Settings to Stations

The final step after configuring new settings, or making changes to existing settings, is to upload the setting file to all stations. If the setting files are not uploaded, any changes made in Support Tool will not be reflected on the station(s).

Select	Number	Name	Station Type	Status
<input type="checkbox"/>	0586	Security Desk	IX-MV7-*	-
<input type="checkbox"/>	4595	Front Door	IX-DV, IX-DVF(-*)	-
<input type="checkbox"/>	9877	Parking Garag	IX-SS-2G	-

**Upload Settings To Station**

From the menu bar, select **File** then **Upload Settings To Station**.

**Select Stations**

Click **Select** to check all stations in the system.

**Upload Settings**

Click **Settings** to begin the upload process.

## Export Settings

A copy of the system's setting file should be exported to a secure location or external drive. This step is critical for the ongoing maintenance this system. If settings are to be changed in the future, or new stations are to be added, this file is required to do so.

To export the file, click on **File(F)** at the top of the screen and select **IX Support Tool Export System Configuration**.

**Export**

Click **Export** to select a location to save the system's setting file.

**Select Folder**

Select location to save the file then click **OK**.

**Finish**

Lastly, once the setting file has been saved, click **Finish**.