GENERAL OVERVIEW:

This document describes the basic configuration for registering IX stations to Cisco CallManager by Cisco Systems Co., Ltd. *The screenshots in this manual are from Unified Communications Manager 11.5

Certified IX stations compatible with CallManager versions 10.5 - 12.5 are as follows:
IX-MV7-*, IX-RS-*, IX-DV, IX-DVF-*, IX-SSA-*, IX-SS-2G
IX-DA, IX-BA Q1, 2020.

For configuration of IX Series 2 stations, refer to the IX Series 2 Quick Start Guide or Settings Manuals. Please refer to the relevant manual provided by Cisco Systems for further CallManager information.

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Table of Contents

Call Manager Configuration

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Frequently Asked Questions</td>
</tr>
<tr>
<td>3</td>
<td>Creating a Security Profile</td>
</tr>
<tr>
<td>4</td>
<td>Registering a User</td>
</tr>
<tr>
<td>5</td>
<td>Registering a Station</td>
</tr>
<tr>
<td></td>
<td>- Adding a new Device</td>
</tr>
<tr>
<td>6</td>
<td>Registering a Station</td>
</tr>
<tr>
<td></td>
<td>- Device and Protocol Information</td>
</tr>
<tr>
<td>7</td>
<td>Registering a Station</td>
</tr>
<tr>
<td></td>
<td>- Directory Number (DN)</td>
</tr>
</tbody>
</table>

Support Tool Configuration

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Station Settings / SIP Server Settings</td>
</tr>
<tr>
<td></td>
<td>- Setting Station Information</td>
</tr>
<tr>
<td></td>
<td>- Adding SIP Server Information to Support Tool</td>
</tr>
<tr>
<td>9</td>
<td>IP Phone Registration / Calling an IP Phone</td>
</tr>
<tr>
<td></td>
<td>- Adding an IP Phone Name and Directory Number to Support Tool</td>
</tr>
<tr>
<td></td>
<td>- Setting an IP Phone as a Call Destination</td>
</tr>
<tr>
<td>10</td>
<td>Configuring Door Release (Optional)</td>
</tr>
<tr>
<td></td>
<td>- Configure and Enable door release from an IP Phone</td>
</tr>
<tr>
<td>11</td>
<td>Video Settings</td>
</tr>
<tr>
<td></td>
<td>- Setting adjustments for video calls</td>
</tr>
<tr>
<td>11</td>
<td>Answering an Incoming SIP Call (Optional)</td>
</tr>
<tr>
<td></td>
<td>- Configure the call button on an IX sub station to answer an incoming SIP call</td>
</tr>
<tr>
<td>12</td>
<td>Upload Settings to Stations</td>
</tr>
<tr>
<td></td>
<td>- Upload the setting file (configuration) to stations and saving the system programming file.</td>
</tr>
</tbody>
</table>
Frequently Asked Questions

The following are frequently asked questions pertaining to registering IX Series stations to CallManager, 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

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 CallManager 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.

Compatibility

**CallManager**: 10.5, 11.0, 11.5, 12.0, and 12.5  
**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)

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

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 assigned to it in 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 (read: extension) in Support Tool, which must match the extension assigned to it in 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 CallManager.

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 CallManager 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.*

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

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CallManager - Getting Started

The following steps may be configured before the initial programming of the IX Series 2 stations has been completed. However, the registration status of any unconfigured (defaulted) station will show as “unknown”.

The MAC address of each station will be needed during Device Registration and may be found by either locating the MAC address sticker on the back of the intercom, or using Support Tool and running a Station Search (Tools > Station Search).

Utilizing either of the methods above, note the Station Type of each station. The station’s type will be referenced throughout this process.

Create a Security Profile

A new security profile will be created for the stations to be registered. If multiple station types are being registered, ensure that the following steps are done for each profile (Basic and Advanced). Rather than editing the existing profile, a copy should be made and a new profile should be saved.

1.1 - Phone Security Profile
Using the System drop-down, find Security and select Phone Security Profile.

1.2 - Third-party SIP Device Basic / Advanced
Locate Find Phone Security Profile and use the drop-down menu options to select Name and begins with. Type “third” in the search field, and click Find.

1.3 - Select a Phone Security Profile
IX-MV7-*, IX-DV, or IX-DVF-*: Third-party SIP Device Advanced - Standard SIP Non-Secure Profile
IX-RS-*, IX-SSA-*, or IX-SS-2G: Third-party SIP Device Basic - Standard SIP Non-Secure Profile

For more details about the features and information above, please contact Technical Support.
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Creating a Security Profile (cont)

1.4 - Copy
Click the Copy button before making any adjustments.

1.5 - Name
Give the new copy a unique name that can be easily found.

1.6 - Digest Authentication
Check the box next to Enable Digest Authentication.

1.7 - Apply Configuration
Click the Apply Config button.

Registering a User
A unique User ID and Password will need to be created for each station, as well as a Last Name and Digest Credentials.

2.1 - Select End User
Use the User Management drop-down and select End User.

2.2 - Add New
Click Add New

3.3 - User Information
User ID
Create a unique User ID for the station.

Password/Confirm Password
Create a password for the station.

Last Name
This may reflect the station’s name in Support Tool, or any other unique identifier.

Digest Credentials/Confirm Digest Credentials
Provide the station with Digest Credentials

2.4 - Save
Click Save at the top of the page.
## Registering a Station - Adding a New Device

Each station will need to be registered as a Third-party SIP Device, selecting Advanced or Basic depending on station type.

### 3.1 - SelectPhone

Use the **Device** drop-down and select **Phone**.

### 3.2 - Add New

Click **Add New**

<table>
<thead>
<tr>
<th>Device</th>
<th>Find and List Phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone</td>
<td></td>
</tr>
</tbody>
</table>

### 3.3 - Select a Phone Type

- **IX-MV7-*, IX-DV, or IX-DVF-***:
  Third-party SIP Device Advanced - Standard SIP Non-Secure Profile

- **IX-RS-*, IX-SSA-*, or IX-SS-2G**:
  Third-party SIP Device Basic - Standard SIP Non-Secure Profile

### 3.4 - Next

Click **Next**.

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**Note:**

- If a video intercom (IX-MV7-*, IX-DV, or IX-DVF-*) is given a **Basic** security profile, video will not stream to compatible IP Phones.

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

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### Registering a Station - Device and Protocol Information

The following are the required settings needed to register a station. However, other settings under Device Information and Protocol Information, such as Device Pool, Calling Search Space, Location, etc may need to be adjusted based on the existing configuration of the Call Manager environment.

#### 4.1 - Device Information

**MAC Address**
The MAC address can be found on a sticker on the back of the intercom, or using Support Tool and running a Station Search (Tools > Station Search).

**Phone Button Template**
IX-MV7-*, IX-DV, or IX-DVF-*
Third-party SIP Device Advanced - Standard SIP Non-Secure Profile

IX-RS-*, IX-SSA-*, or IX-SS-2G
Third-party SIP Device Basic - Standard SIP Non-Secure Profile

**Owner User ID**
The User ID created in step 3.3 on page 3.

#### 4.2 - Protocol Specific Information

**Device Security Profile:**
Match this profile with the profile created in step 2.1 on pages 2-3.

**SIP Profile:**
Select Standard SIP Profile.

**Digest User:**
The User ID created in step 3.3 on page 3.

#### 4.3 - Save

Click Save at the top of the page.
Registering a Station - Directory Number

The final step is assigning a Directory Number (DN) to the station. The DN should match the Station Number of the station represented in Support Tool.

If the station has been configured prior to registration, it can be found by clicking Station Information > Identification on the left-hand side menu of Support Tool. If the station has yet to be configured, the DN should not exceed 5 digits, as that is the maximum length allowed for a station number in Support Tool. *(Step 1.2, page 8)*

The following are the required settings needed to register an Aiphone station. However, other settings under Directory Number Information and Directory Number Settings, such as Route Partition, Description, Alerting Name, etc, may need to be adjusted based on the existing requirements of the CallManager environment.

### 5.1 - Line [1]

Select **Line [1] – Add a new DN.**

### 5.2 - Directory Number

**Directory Number**
The Directory Number must match the Station Number assigned to the station in step 1.2 on page 7.

**BLF Presence Group**
Select **Standard Presence Group.**

**Maximum Number of Calls**
Should not be set greater than 2.

**Busy Trigger**
Must be set to 1.

### 5.3 - Save

Click **Save** at the top of the page.
Support Tool - Getting Started

Proceed with the following steps only once the initial programming of the IX Series system and its stations has been completed. The IX Series 2 Quick Start Guide is provided with each station, and can be found under Literature at www.Aiphone.com/IX.

Setting Station Information

Each station’s **Station Number** should be set to the **Directory Number** (Step 5.2, page 7) assigned to it in CallManager.

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**.

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 **End User ID/Password** 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.

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

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

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.

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

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).

- **Enabling the Call**
  - Use the drop-down option under the desired IP Phone or group and select “U”.
  - Click Update to save your settings.

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

**Note:**
Settings will not take effect until the setting files have been uploaded to the stations. Refer to page 12 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.

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.

- **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.
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.

To configure a door station call button to answer an incoming call:

1. On the left-hand menu, expand **Network Settings** and click **Video**.
2. 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**.
3. Use the drop-down menu to select **Call**, **Answer Call**, or **End Communication**.

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.

1. Click **Update** to save your settings.
2. Settings will not take effect until the setting files have been uploaded to the stations. Refer to page 12 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).

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].