



## Avaya Solution & Interoperability Test Lab

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# Application Notes for Aiphone IX Series PC Video Master Station (IX-SOFT) 1.6 with Avaya IP Office™ 11.1 – Issue 1.0

### Abstract

These Application Notes describe the procedures for configuring Aiphone IX Series PC Video Master Station (IX-SOFT) 1.6 which was compliance tested with Avaya IP Office™ 11.1.

The overall objective of the interoperability compliance testing was to verify Aiphone IX Series PC Video Master Station (IX-SOFT) functionality in an environment comprised of Avaya IP Office™ and various Avaya endpoints. Aiphone IX Series PC Video Master Station is a SIP based PC softphone.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

These Application Notes describe the configuration steps required for Aiphone IX-SOFT PC Video Master Station to interoperate with Avaya IP Office.

The Aiphone IX Series PC Master Station (IX-SOFT) is part of Aiphone IX Series Master Stations. The Aiphone IX Series PC Master Station (IX-SOFT) acts as a SIP phone when connected to Avaya IP Office. It supports the PC's built-in camera allowing for two-way video. Additionally, the Aiphone IX Series PC Master Station (IX-SOFT) has intercom features that include paging, line supervision, device check, picture in picture when using 3rd party ONVIF Profile S cameras, and an intuitive map (not tested). The map can be used to answer and place calls, release doors, and pull up cameras from devices in the system.

During the compliance test, Avaya IP Office Server Edition was used as a primary system and Avaya IP Office 500V2 as an expansion system. Aiphone IX- registered as a 3<sup>rd</sup> party SIP phone using UDP to the Avaya IP Office Server Edition.

## 2. General Test Approach and Test Results

The focus of this interoperability compliance testing was to verify that the Aiphone IX-SOFT can register as a SIP endpoint on IP Office, and is able to originate and receive both audio and video calls to and from the IP Office system.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Avaya systems and Aiphone did not utilize secure capabilities.

## 2.1. Interoperability Compliance Testing

The general test approach was to place calls to and from, Aiphone IX-SOFT, and exercise basic telephone operations. The main objectives were to verify the following:

- SIP Registration
- Calls to/from Avaya SIP Video & Audio endpoints
- Calls to/from Avaya H.323 Audio endpoints
- Calls to/from PSTN via SIP Trunks
- Hold/Resume, Call Transfer and Conferencing
- Serviceability testing focusing on recovery from Ethernet disconnect/reconnect

## 2.2. Test Results

The test objectives were verified, and the features tested worked as expected.

## 2.3. Support

For technical support on Aiphone IX-SOFT, please contact Aiphone via the following:

### Japan

- Web: <https://www.aiphone.co.jp/>
- Phone: 052-228-9961

### USA, Canada

- Web: <https://www.aiphone.com/home>
- Email: tech@aiphone.com
- Phone: 800-692-0200

### France

- Web: <https://www.aiphone.fr/>
- Phone: 01 69 11 46 00

### Australia, New Zealand

- Web: <https://www.aiphone.com.au/>
- Phone: (02)80364507

### Singapore

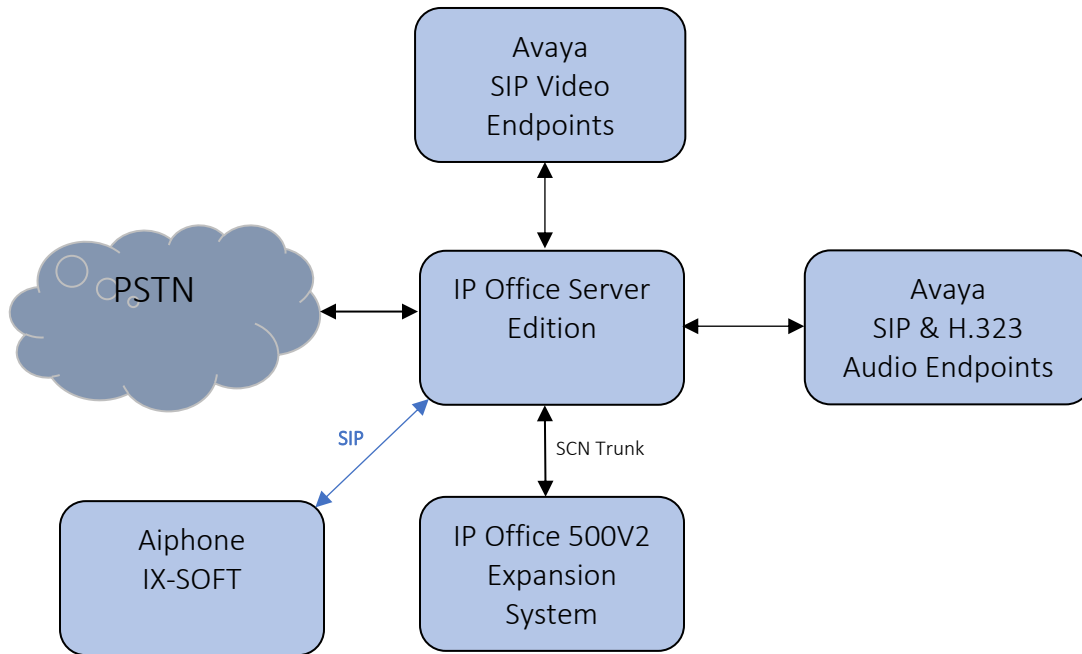
- Web: <http://www.aiphone.com.sg/>
- Email: admin@aiphone.com.sg
- Phone: 6534-1135

### United Kingdom

- Web: <https://www.aiphone.co.uk/>
- Phone: 020-7507-6250

### 3. Reference Configuration

**Figure 1** illustrates a sample configuration consisting of Avaya IP Office components and Aiphone IX-SOFT.



**Figure 1: Test Configuration of Aiphone IX-SOFT with Avaya IP Office**

## 4. Equipment and Software Validated

The following equipment and software were used for the test configuration.

| Equipment   | Software/Firmware   |
|---|---------------------|
| Avaya IP Office Server Edition                    | 11.1.0.1.0 build 95 |
| Avaya IP Office 500V2                             | 11.1.0.1.0 build 95 |
| Avaya IP Office Manager                           | 11.1.0.1.0 build 95 |
| Avaya 9600 Series H.323 IP Desk phones            | 6.8304              |
| Avaya J179 SIP Phone                              | 4.0.6.0.8           |
| Avaya IX Workspace                                | 3.14.0.53.10        |
| Avaya H175 Collaboration Station                  | 1.0.2.3             |
| Avaya Vantage K175 Phone                          | 2.0.1               |
| Aiphone IX Series PC Video Master Station IX-SOFT | 1.6                 |

**Note:** Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

## 5. Configure Avaya IP Office™

This section provides the procedures for configuring IP Office. The procedures include the following areas:

- Verify IP Office license
- Obtain LAN IP address
- Administer SIP registrar
- Administer SIP extensions
- Administer SIP users

These steps are performed from the Avaya IP Office Manager.

### 5.1. Verify IP Office License

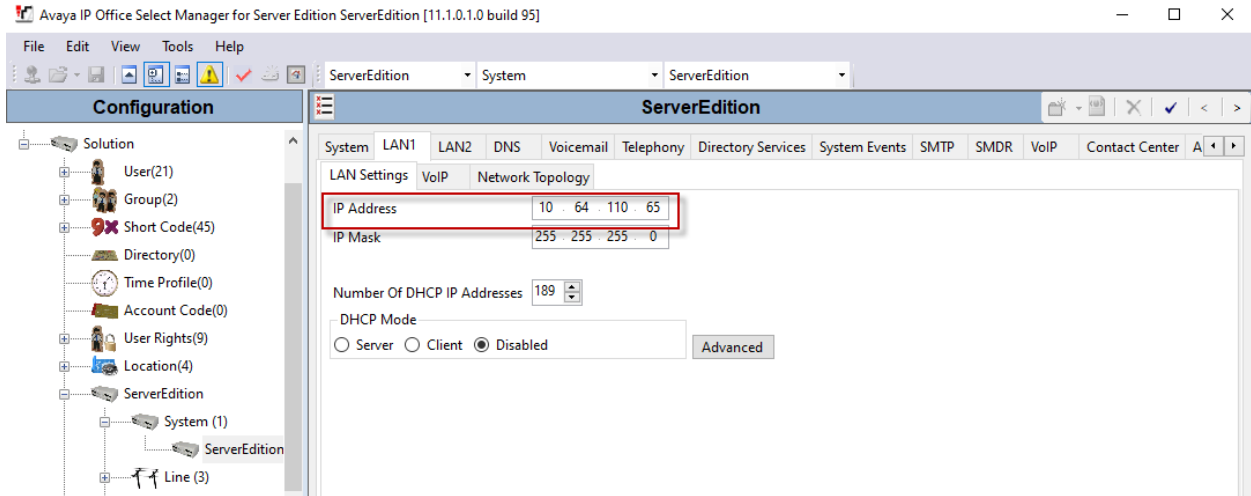
From a PC running the Avaya IP Office Manager application, select **Start → All Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system if there are more than one IP Office system, and log in with the appropriate credentials.

The Avaya IP Office Manager screen is displayed. From the configuration tree in the left pane, select **License → 3<sup>rd</sup> Party IP Endpoints** to display the Avaya IP endpoints screen in the right pane. Verify that the License Status field is set to **Valid**.

| Feature                                | Instances   | Status       | Expiration Date | Source     |
|--|-------------|--------------|-----------------|------------|
| VMPro TTS Professional                 | 40          | Valid        | Never           | PLDS Nodal |
| IPSec Tunnelling                       | 1           | Obsolete     | Never           | PLDS Nodal |
| Power User                             | 1000        | Valid        | Never           | PLDS Nodal |
| Avaya IP endpoints                     | 1000        | Valid        | Never           | PLDS Nodal |
| SIP Trunk Channels                     | 256         | Valid        | Never           | PLDS Nodal |
| IP500 Universal PRI (Additional cha... | 100         | Obsolete     | Never           | PLDS Nodal |
| CTI Link Pro                           | 1           | Valid        | Never           | PLDS Nodal |
| Wave User                              | 16          | Obsolete     | Never           | PLDS Nodal |
| <b>3rd Party IP Endpoints</b>          | <b>1000</b> | <b>Valid</b> | Never           | PLDS Nodal |
| Server Edition                         | 150         | Valid        | Never           | PLDS Nodal |
| UMS Web Services                       | 1000        | Valid        | Never           | PLDS Nodal |
| Avaya Mac Softphone                    | 1000        | Valid        | Never           | PLDS Nodal |
| Avaya Softphone Licence                | 1000        | Valid        | Never           | PLDS Nodal |
| SM Trunk Channels                      | 128         | Valid        | Never           | PLDS Nodal |
| Web Collaboration                      | 64          | Valid        | Never           | PLDS Nodal |
| Avaya Contact Center Select            | 1           | Valid        | Never           | PLDS Nodal |
| Devlink3 External Recorder             | 1           | Valid        | Never           | PLDS Nodal |
| Basic User                             | 1000        | Obsolete     | Never           | PLDS Nodal |

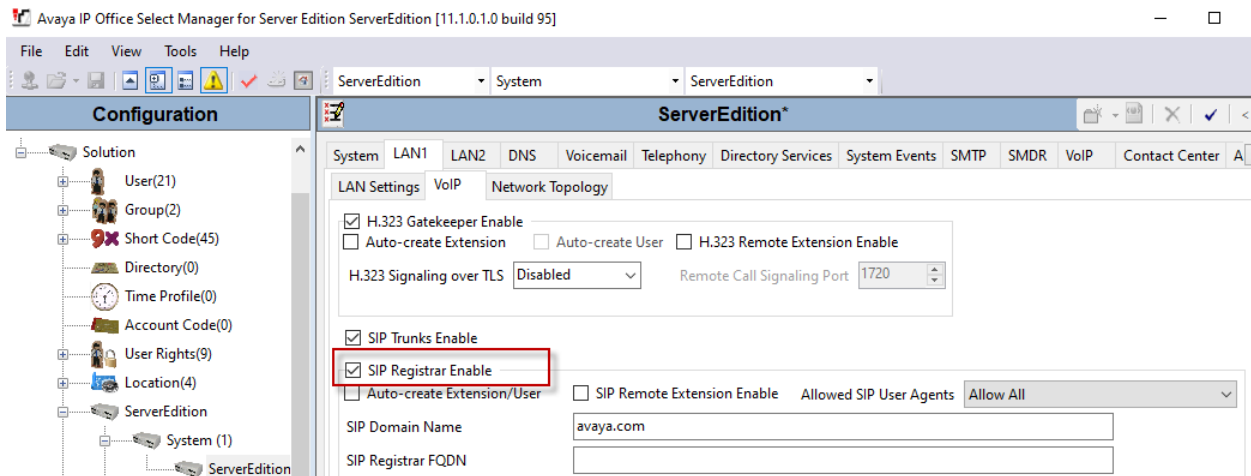
## 5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the System screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure Aiphone IX-SOFT.



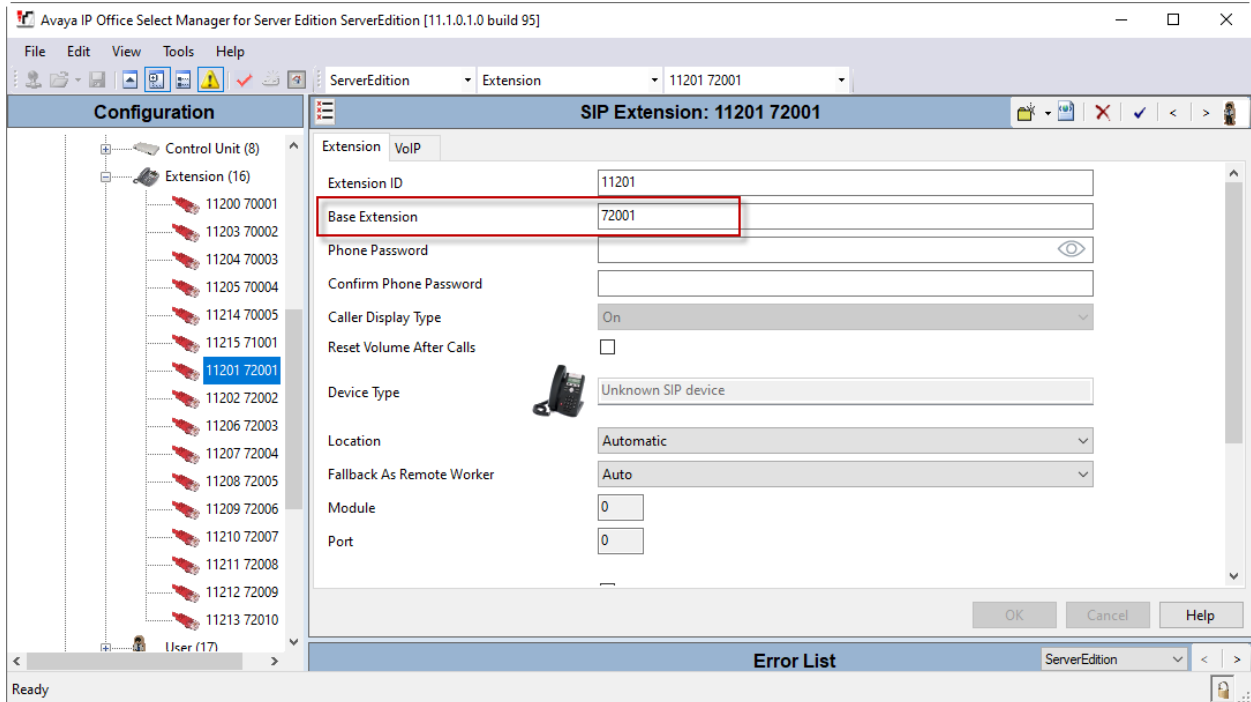
## 5.3. Administer SIP Registrar

Continuing from above, select the **VoIP** sub-tab. Ensure that **SIP Registrar Enable** is checked, as shown below.



## 5.4. Administer SIP Extensions

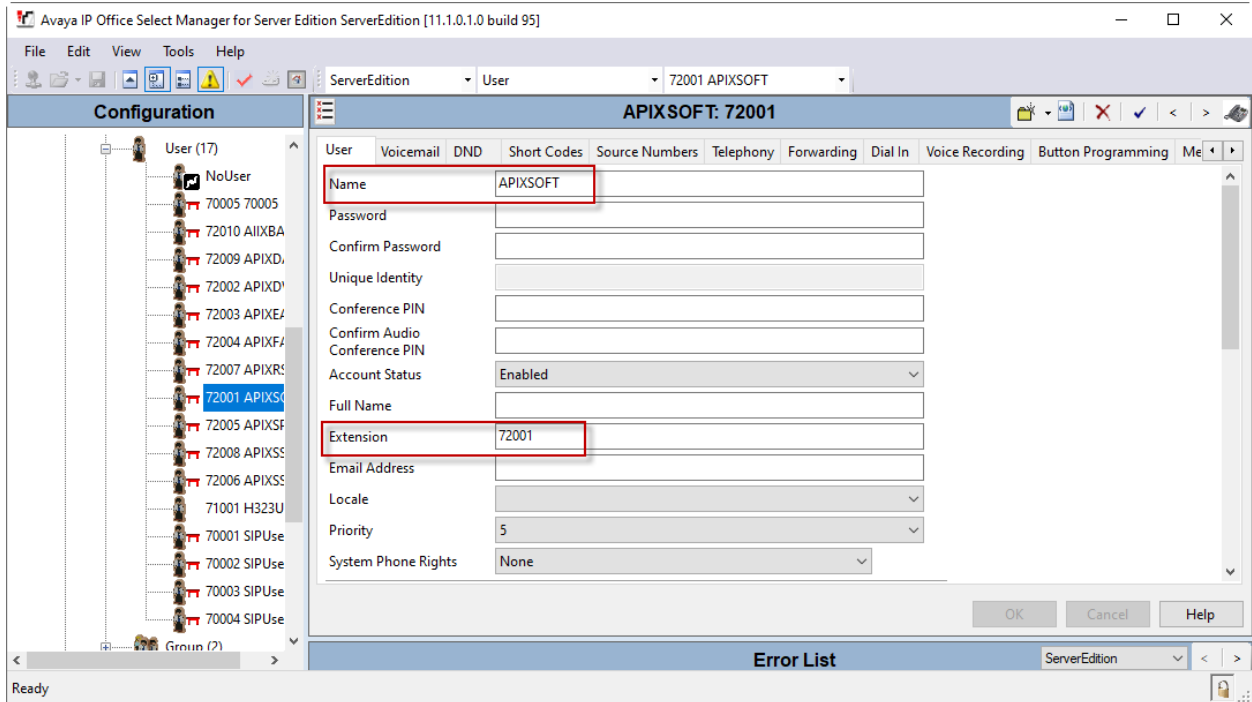
To create a new SIP Extension, from the configuration tree in the left pane, right-click on **Extension**, and select **New** → **SIP Extension** from the pop-up list (not shown). Enter desired digits for the **Base Extension** field. This is the Extension that will be used for Aiphone IX-SOFT to log in.



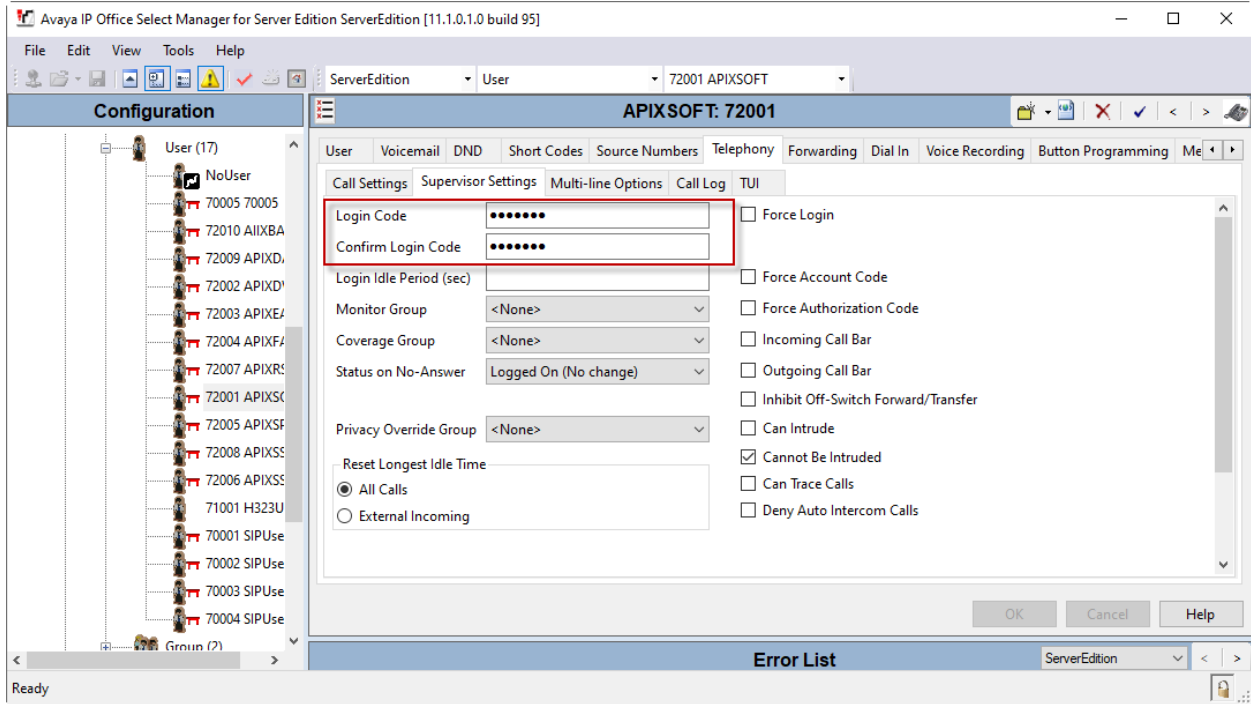


## 5.5. Administer SIP Users

To create a new SIP User, from the configuration tree in left pane, right-click on **User**, and select **New** from the pop-up list (not shown). Enter desired values for the **Name** field. For the **Extension** field, enter the SIP extension created in **Section 5.4**.



Select the **Supervisor Settings** tab, and enter a desired **Login Code** and **Confirm Login Code**. This code will be used as a password for Aiphone IX-SOFT.



## 6. Configure Aiphone IX Series Master Station

This section provides steps to configure Aiphone IX-SOFT.

To configure Aiphone IX-SOFT, the Aiphone IX Support Tool must be used. Install and open. log into the Support Tool using appropriate credentials. Once logged in, the new system dialog opens. Enter appropriate **System Name**, **Installer Information**, **Owner Information** and **Notes** as applicable. Input a number for the **IX-SOFT Master Stations** box. Enter **System ID** and **System Password**. Select **Next**.

**System Settings**

System Name ◆

IP Version:

Enter contact information (optional):

Installer Information: ◆  
Displays in CONTACT INFORMATION of IX-MV7-\*,IX-SOFT .

Owner Information: ◆

Notes: ◆

Expanded System

Wizard Programming  
 Yes  No

Automatically configure door release for all stations?  
 Yes  No

System ID ◆  1-20 alphanumeric characters

System Password ◆  1-20 alphanumeric characters

**IX Support Tool Settings** ◆ Required Settings

Enter the number of stations ◆

Master Stations

IX-MV7-\*  Station(s)

IX-MV  Station(s)

IX-SOFT  Station(s)

Video Stations

IX-DV, IX-DVF(-\*)  Station(s)

IX-EA, IX-EAU  Station(s)

IX-DA  Station(s)

Audio Stations

IX-SSA(-\*)  Station(s)

IX-SS-2G  Station(s)

IX-FA  Station(s)

IX-SPMIC  Station(s)

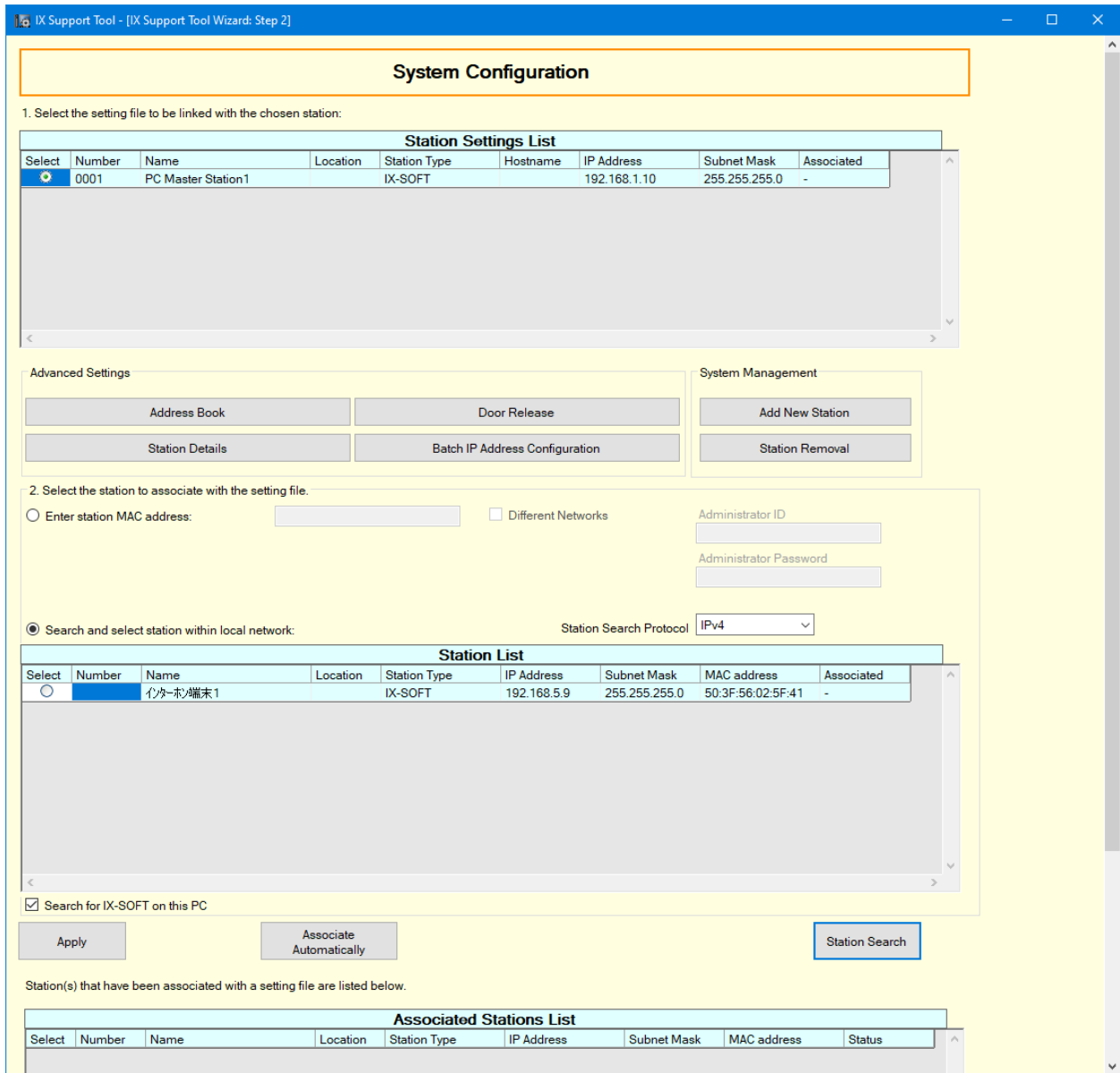
IX-BA  Station(s)

IX-RS-\*  Station(s)

Others

IXW-MA  Station(s)

The **System Configuration** dialog opens. Select the IX-SOFT station found and click on **Station Details**.



In the **Station Details** dialog, add the **number** from **Section 5.5** and the **IP address** and the **Subnet Mask**.

IX Support Tool - [IX Support Tool Wizard, Station Details]

### Station Details

**Row**

Changing the IP Address , Subnet Mask , IP Version , Static / DHCP will require the station to be re-associated.  
 Once associated, the setting file will also need to be uploaded to the station(s).  
 Locations must be created in the Location Registry before they can be assigned to a Station. Text in red are required settings.

| #    | Station Information |                    |          |              | Network Settings |            |               |            |     |   |   |              |     |     |                 |   |   |   |            |   |  |  |  |  |
|------|---------------------|--------------------|----------|--------------|------------------|------------|---------------|------------|-----|---|---|--------------|-----|-----|-----------------|---|---|---|------------|---|--|--|--|--|
|      | Identification      |                    |          |              | IP Address       |            |               |            |     |   |   | IPv6 Address |     |     |                 |   |   |   |            |   |  |  |  |  |
|      | Number              | Name               | Location | Station Type | Hostname         | IP Version | Static / DHCP | IP Address |     |   |   | Subnet Mask  |     |     | Default Gateway |   |   |   | IP Address |   |  |  |  |  |
|      |                     |                    |          |              |                  |            |               | 1          | 2   | 3 | 4 | 1            | 2   | 3   | 4               | 1 | 2 | 3 |            | 4 |  |  |  |  |
| 0001 | 72001               | PC Master Station1 |          | IX-SOFT      |                  | IPv4       | Static        | 192        | 168 | 5 | 9 | 255          | 255 | 255 | 0               |   |   |   |            |   |  |  |  |  |
|      |                     |                    |          |              |                  |            |               |            |     |   |   |              |     |     |                 |   |   |   |            |   |  |  |  |  |

Click **OK**. In the **System Configuration** dialog, click on **Associate Automatically**. The Status column in the **Associated Stations** list should show 'Success'.

Search and select station within local network:
 Station Search Protocol

| Station List          |        |            |          |              |             |               |                   |            |
|-----------------------|--------|------------|----------|--------------|-------------|---------------|-------------------|------------|
| Select                | Number | Name       | Location | Station Type | IP Address  | Subnet Mask   | MAC address       | Associated |
| <input type="radio"/> |        | ｲﾝﾀｰﾈｯﾄ端末1 |          | IX-SOFT      | 192.168.5.9 | 255.255.255.0 | 50:3F:56:02:5F:41 | Yes        |

Search for IX-SOFT on this PC

Station(s) that have been associated with a setting file are listed below.

| Associated Stations List |        |                    |          |              |             |               |                   |         |
|--------------------------|--------|--------------------|----------|--------------|-------------|---------------|-------------------|---------|
| Select                   | Number | Name               | Location | Station Type | IP Address  | Subnet Mask   | MAC address       | Status  |
| <input type="checkbox"/> | 72001  | PC Master Station1 |          | IX-SOFT      | 192.168.5.9 | 255.255.255.0 | 50:3F:56:02:5F:41 | Success |

Click **Next**.

The **Setting File Upload** dialog opens. Select the PC Master Station 1 in the **Station List**. Select the checkbox for the station and click the **Start Upload** button. The station status should show successful upon upload completion.

IX Support Tool - [IX Support Tool Wizard: Step 3]

### Setting File Upload

Select the station(s) to upload the Setting File(s): Connection Status 1/1

| Station List                        |        |                    |          |              |             |         | Text in red are required settings. |
|-------------------------------------|--------|--------------------|----------|--------------|-------------|---------|------------------------------------|
| Select                              | Number | Name               | Location | Station Type | IP Address  | Status  |                                    |
| <input checked="" type="checkbox"/> | 72001  | PC Master Station1 |          | IX-SOFT      | 192.168.5.9 | Success |                                    |

Select Station by Type: All Select Unselect

This PC's IP Address: 192.168.5.9 Manual Date / Time Setup Start Upload Next Finish

In the Station View, under Station Information, select an ID for the **user agent** (not shown). Under SIP, configure with the following values.

- **SIP Signaling Port:** Set to **5060**.
- **User Agent:** Type in a desired value.
- **ID:** SIP Extension number from **Section 5.4**.
- **Password:** SIP Extension password from **Section 5.5**.
- **IPv4 Address:** LAN IP Address of Session Manager.
- **Port:** Set to **5060**.

|                 |                     |   |       |   |            |
|-----------------|---------------------|---|-------|---|------------|
| Station Number: | 72001               | <b>Select Station to Edit</b>   |       | <b>Copy Settings</b>                                  |            |
| Station Name:   | PC Master Station 1 | Type:   | All   | <input checked="" type="radio"/> Copy to all stations |            |
| Location:       |                     | Number:   | 72001 | <input type="radio"/> Copy to stations by Type        |            |
| Station Type:   | IX-SOFT             | <input type="button" value="Previous"/> <input type="button" value="Select"/> <input type="button" value="Next"/> |       | Settings:   | IP Address |
|                 |                     |   |       | ◆: Indicates fields which can be copied.              |            |
|                 |                     |   |       | <input type="button" value="Copy"/>                   |            |

• SIP

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**SIP Connections**

SIP Signaling Port ◆◆  1-65535

User Agent ◆  1-36 alphanumeric characters

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**SIP Server**

Primary Server

ID ◆  1-24 alphanumeric characters

Password ◆  1-24 alphanumeric characters

IPv4 Address ◆  1.0.0.1-223.255.255.254 or hostname(1-64 alphanumeric characters)

IPv6 Address ◆  ::FF:0-FE:FF:FE:FF:FE:FF:FF:FF:FF:FF:FF:FF:FF:FF:FF:FF or hostname(1-64 alphanumeric characters)


Port ◆◆  1-65535


Secondary Server




Under the **Master Station Video Setting**, verify the settings are as seen below.


**Master Station Video Setting**

Video Streaming   Enable  Disable

Frame Rate [fps] 

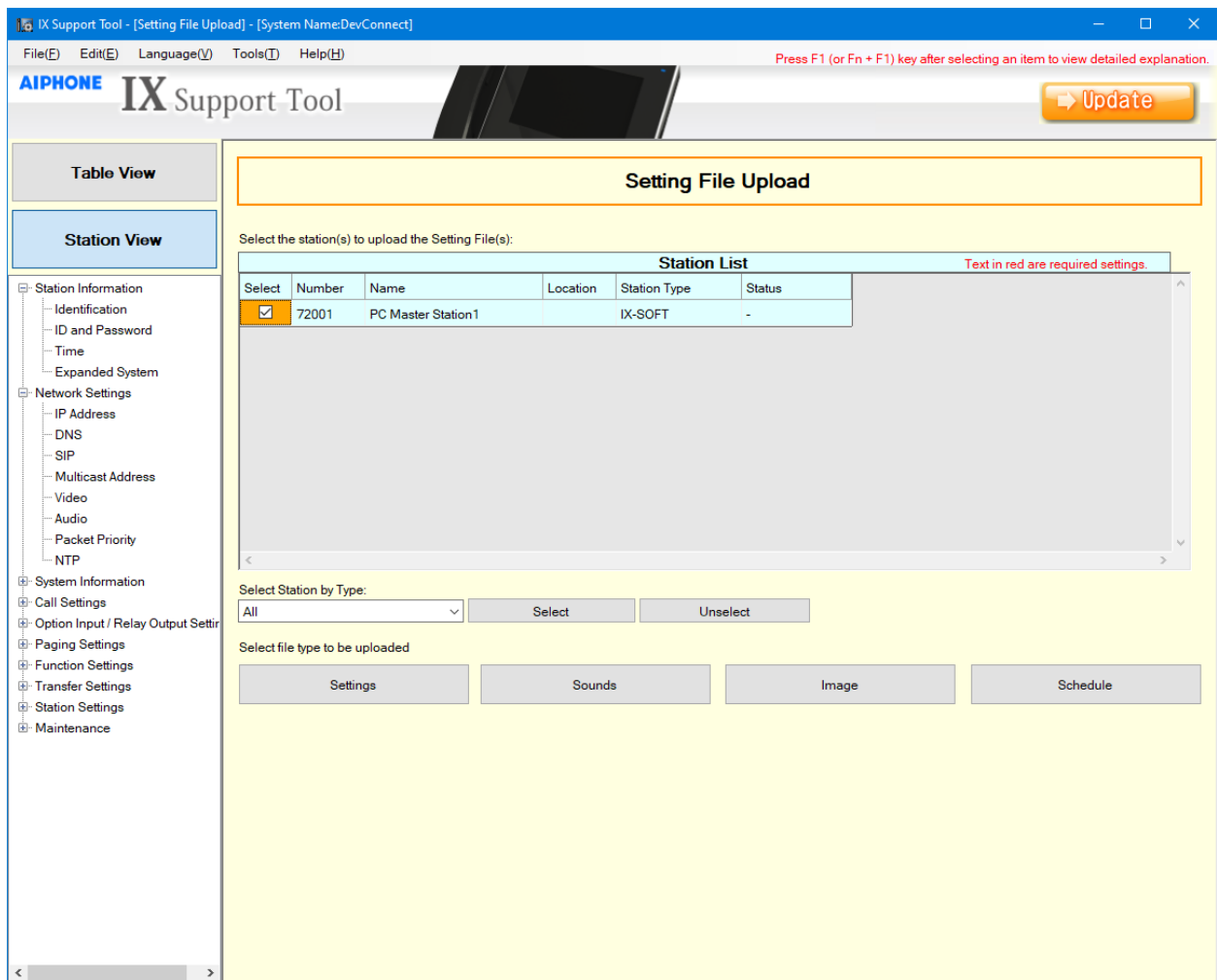
Select Profile

I-picture interval   1-100

Bit rate [kbps] 

Click the update button.

Upload the configuration changes to the station. Select **File** → **Upload Settings to Station**. Select the master station and click the **Settings** button to upload the configuration.



IX Support Tool - [Setting File Upload] - [System Name:DevConnect]

File(E) Edit(E) Language(V) Tools(T) Help(H) Press F1 (or Fn + F1) key after selecting an item to view detailed explanation.

**IX Support Tool** Update

**Table View** **Setting File Upload**

**Station View**

Select the station(s) to upload the Setting File(s):

| Station List                        |        |                    |          |              |        |
|-------------------------------------|--------|--------------------|----------|--------------|--------|
| Select                              | Number | Name               | Location | Station Type | Status |
| <input checked="" type="checkbox"/> | 72001  | PC Master Station1 |          | IX-SOFT      | -      |

Text in red are required settings.

Select Station by Type:

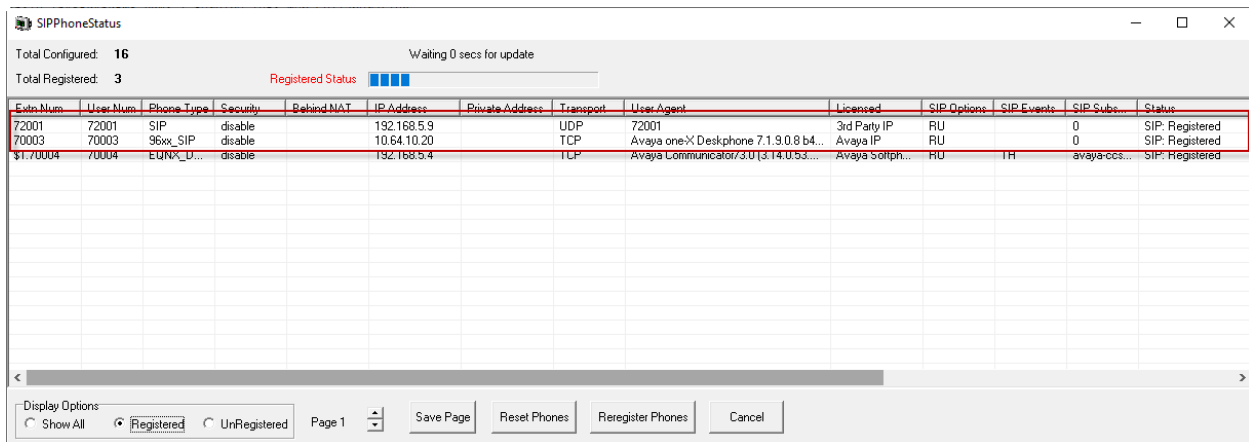
Select file type to be uploaded

The Station List status should show successful upon completion.

## 7. Verification Steps

The following steps may be used to verify the configuration:

- From a PC running the Avaya IP Office Monitor application. The **Avaya IP Office SysMonitor** screen is displayed (not shown). Select **Status** → **SIP Phone Status** from the top menu. Verify the SIP extension added from **Section 5.4** is displayed and the Status is **SIP: Registered**.



The screenshot shows the SIPPhoneStatus application window. At the top, it displays 'Total Configured: 16' and 'Total Registered: 3'. Below this is a table with columns: Extn Num, User Num, Phone Type, Security, Behind NAT, IP Address, Private Address, Transport, User Agent, Licensed, SIP Options, SIP Events, SIP Sube, and Status. The table contains three rows of data, all with a status of 'SIP: Registered'. The bottom of the window has a control bar with 'Display Options' (radio buttons for Show All, Registered, UnRegistered), 'Page 1', and buttons for 'Save Page', 'Reset Phones', 'Reregister Phones', and 'Cancel'.

| Extn Num | User Num | Phone Type | Security | Behind NAT | IP Address  | Private Address | Transport | User Agent                            | Licensed         | SIP Options | SIP Events | SIP Sube     | Status          |
|----------|----------|------------|----------|------------|-------------|-----------------|-----------|---------------------------------------|------------------|-------------|------------|--------------|-----------------|
| 72001    | 72001    | SIP        | disable  |            | 192.168.5.9 |                 | UDP       | 72001                                 | 3rd Party IP     | RU          | 0          |              | SIP: Registered |
| 70003    | 70003    | 96xx_SIP   | disable  |            | 10.64.10.20 |                 | TCP       | Avaya one-X Deskphone 7.1.9.0.8 b4... | Avaya IP         | RU          | 0          |              | SIP: Registered |
| 70004    | 70004    | EQUXX_U... | disable  |            | 192.168.5.4 |                 | TCP       | Avaya Communicator/3.0 [3.14.0.53...  | Avaya Softprt... | RU          | 1H         | avaya-ccs... | SIP: Registered |

- Place a call from Aiphone IX-SOFT to an Avaya endpoint. The state of the call be viewed on a PC running the **Avaya IP Office System Status** application. Select **Extension** → Aiphone IX-SOFT extension.

The screenshot shows the Avaya IP Office System Status application interface. The title bar reads "Avaya IP Office System Status - ServerEdition (10.64.110.65) - IP Office Linux PC 11.1.0.1.0 build 95". The main window title is "IP Office System Status".

The left sidebar contains a navigation menu with the following items: System, Alarms (28), Extensions (3), Trunks (3), Active Calls, Resources, Voicemail, IP Networking, and Locations. The "Extensions (3)" section is expanded, showing a list of extensions: 70003, 70004, and 72001. The extension 72001 is selected.

The main content area displays the "Extension Status" for extension 72001. The details are as follows:

- Extension Number: 72001
- IP address: 192.168.5.9
- Standard Location: None
- Registrar: Primary
- Telephone Type: Unknown SIP Device
- User-Agent SIP header: 72001
- Media Stream: RTP
- Layer 4 Protocol: UDP
- Current User Extension Number: 72001
- Current User Name: APIXSOFT
- Forwarding: Forward Unconditional
- Twinning: Off
- Do Not Disturb: Off
- Message Waiting: Off
- Phone Manager Type: None
- SIP Device Features: REFER,UPDATE
- License Reserved: No
- Last Date and Time License Allocated: 12/13/2020 4:57:12 PM
- Packet Loss Fraction: Connection Type: Direct Media
- Jitter: Codec: G711 Mu
- Round Trip Delay: Remote Media Address: 192.168.5.4

Below the extension details is a call log table:

| Call Ref | Current State | Time in State | Calling Number or Called Number | Direction | Other Party on Call  |
|----------|---------------|---------------|---------------------------------|-----------|----------------------|
| 416      | Connected     | 00:00:56      | SIPUser4                        | Incoming  | Extn 70004, SIPUser4 |

At the bottom of the application, there are several control buttons: Trace, Trace All, Pause, Ping, Call Details, Print..., and Save As... The system status bar at the bottom right shows the time as 6:50:32 PM and the system is Online.

## 8. Conclusion

Aiphone IX-SOFT was compliance tested with Avaya IP Office. Aiphone IX-SOFT functioned properly in feature and serviceability tests.

## 9. Additional References

Avaya IP Office product documentation can be found at:

<http://marketingtools.avaya.com/knowledgebase/>

Documentation related to Aiphone IX-SOFT can be found at:

Japan: <https://www.aiphone.co.jp/products/business/ix/>

USA, Canada: <https://www.aiphone.com/home/products/ix-series>

France: <https://www.aiphone.fr/catalogue/interphonie-ip-protocole-sip-ix/>

Australia, New Zealand: <https://www.aiphone.com.au/product/ix/>

Singapore: <http://www.aiphone.com.sg/>

United Kingdom: [https://www.aiphone.co.uk/featured\\_item/ix2/](https://www.aiphone.co.uk/featured_item/ix2/)

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