



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Algo 8188 SIP Ceiling Speaker Version 1.1.1 with Avaya IP Office Server Edition Solution Release 9.1.4 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Algo 8188 SIP Ceiling Speaker to interoperate with Avaya IP Office Server Edition Solution. Algo 8188 SIP Ceiling Speaker is a SIP-based device that can register with Avaya IP Office as two separate SIP endpoints, one for loud ringing and one for voice paging.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the 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 Algo 8188 SIP Ceiling Speaker to interoperate with Avaya IP Office Server Edition Solution. Algo 8188 SIP Ceiling Speaker is a SIP-based device that can register with Avaya IP Office as two separate SIP endpoints, one for loud ringing and one for voice paging.

For loud ringing, Algo 8188 SIP Ceiling Speaker can be configured to ring whenever the associated desk phone receives an incoming call. The loud ringing is useful for users that require louder ringing than what is available from the desk phone. The simultaneous ringing at the desk phone and Algo 8188 SIP Ceiling Speaker is accomplished via the Avaya IP Office Mobile Twinning feature.

For voice paging, Algo 8188 SIP Ceiling Speaker can auto-answer an incoming call and allow the caller to broadcast audio over the Algo 8188 SIP Ceiling Speaker.

The IP Office Server Edition Solution that consists of a primary Server Edition in Virtual Environment and an expansion 500V2. Algo 8188 was registered as SIP user to both the primary Server Edition and the expansion 500V2.

2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were manually placed to the loud ringing and voice paging extensions, with call controls such as hold/resume, unattended, attended transfer and conference performed from the caller.

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.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The loud ringing feature testing included registration, internal and external caller, interactions with the voice paging extension, and interactions with desk phone features such as coverage, call forwarding, and do not disturb. The voice paging feature testing included registration, media shuffling, G.722, internal and external caller, interactions with the loud ringing extension, and interactions with caller actions such as drop, hold/reconnect, blind/attended transfer, and blind/attended conference.

The serviceability testing focused on verifying the ability of Algo 8188 SIP Audio Alerter to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the device.

2.2. Test Results

The objectives outlined in **Section 2.1** were verified. All test cases passed, the following observations were made during the compliance testing:

- The call between Algo 8188 Page and Avaya phones (H.323, SIP, and digital) cannot be transferred in blind and attended mode by Avaya phone to Avaya SIP phone 1140E. The transfer uses REFER method which is not supported by Algo 8188 in the current release.

2.3. Support

Technical support on Algo 8188 SIP Ceiling Speaker can be obtained through the following:

- Phone: + 1 604 454 3792
- Web: <http://www.algosolutions.com/support>
- Email: support@algosolutions.com

3. Reference Configuration

Figure 1 illustrates the test configuration used during the compliance testing between the Avaya IP Office and Algo 8188 SIP Ceiling Speaker. The Algo 8188 communicated with IP Office through Avaya switch with Power over Ethernet (PoE) and registered with Avaya IP Office as two separate SIP endpoints, and the extensions used for the testing: one for Voice Paging and one for Loud Ringer. The IP Office Server Edition Solution that consists of a primary Server Edition in Virtual Environment and an expansion 500V2. The PRI T1 trunk was also configured to connect from IP Office 500V2 expansion to PSTN for test cases off-net via PRI T1 trunk.

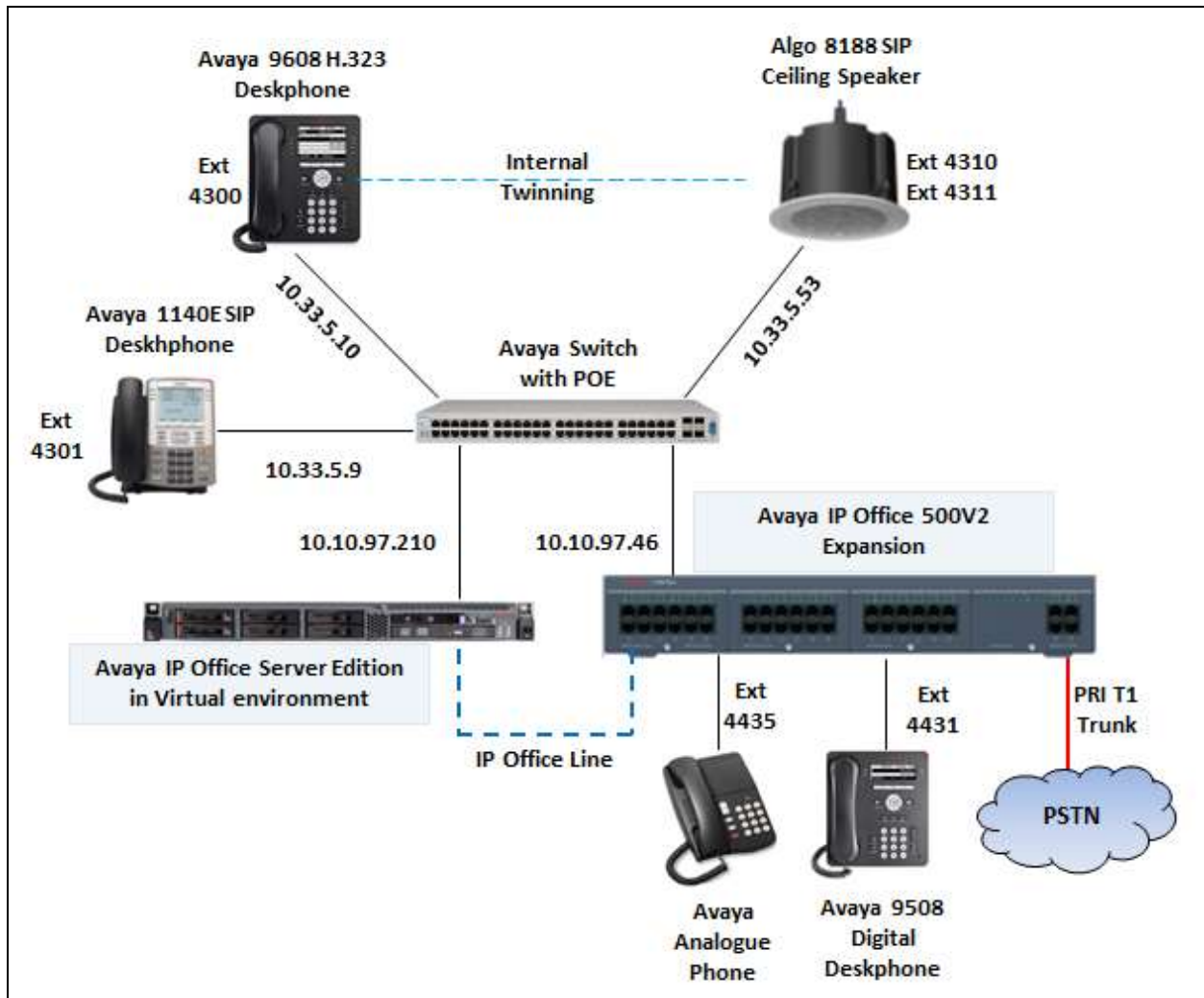


Figure 1: Test Configuration Diagram

4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment	Software
Avaya IP Office Server Edition in Virtual Environment	9.1.4 Build 137
Avaya IP Office 500V2 Expansion	9.1.4 Build 137
Avaya H.323 9608 IP Deskphone	6.6029
Avaya H.323 1608 IP Deskphone	1.380B
Avaya 1140E SIP Phone	4.4.23
Avaya 9508 Digital Phone	0.55
Avaya Analog Phone	-
Algo 8188 SIP Ceiling Speaker Firmware	1.1.1
Base Version	r1.2
System Version	r1.2

5. Configure Avaya IP Office

This section provides the procedures for configuring Avaya 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.
- Administer Internal Twinning.

5.1. Verify IP Office License

From a PC running the Avaya IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system, and log in using the appropriate credentials.

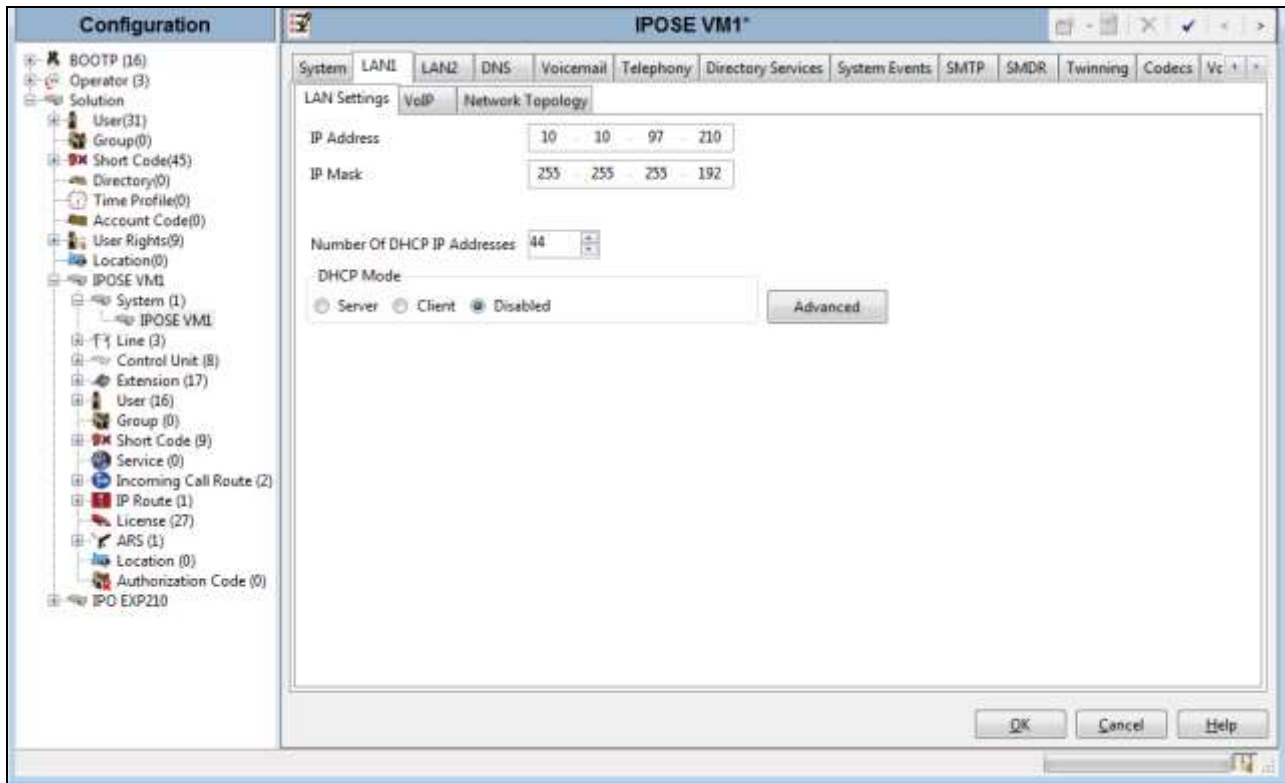
The **Avaya IP Office Manager** screen is displayed. From the configuration tree in the left pane, select **License**, the list of license displayed in the right panel. Verify that the **3rd Party IP Endpoints** status is “Valid”.

The screenshot shows the Avaya IP Office Manager interface. On the left is a configuration tree with 'License' selected. The main area displays license information for a 'Remote Server' with a licensed version of 9.1. Below this is a table of licenses:

Feature	License Key	Instances	Status	Expiry Date
VMPro Networked Messaging	W	255	Obsolete	Never
VMPro TTS (Scansoft)	G	2e	Obsolete	Never
VMPro TTS (Generic)	V	LB	Obsolete	Never
Software Upgrade 255	Z	1	Obsolete	Never
Avaya Softphone License	0	OC	Obsolete	Never
CTI Link Pro	Y	255	Valid	Never
Wave User	D	cB	Valid	Never
Receptionist	A	255	Valid	Never
Preferred Edition Additional Voice...	q	ULB	Valid	Never
3rd Party IP Endpoints	A	255	Valid	Never
VMPro Networked Messaging	s	A	Obsolete	Never
VMPro Recordings Administrators	q	c	Valid	Never
VMPro TTS (Scansoft)	v	DMFe	Obsolete	Never
VMPro TTS (Generic)	2	255	Obsolete	Never
SIP Trunk Channels	a	m	Valid	Never
Avaya IP endpoints	h	255	Valid	Never

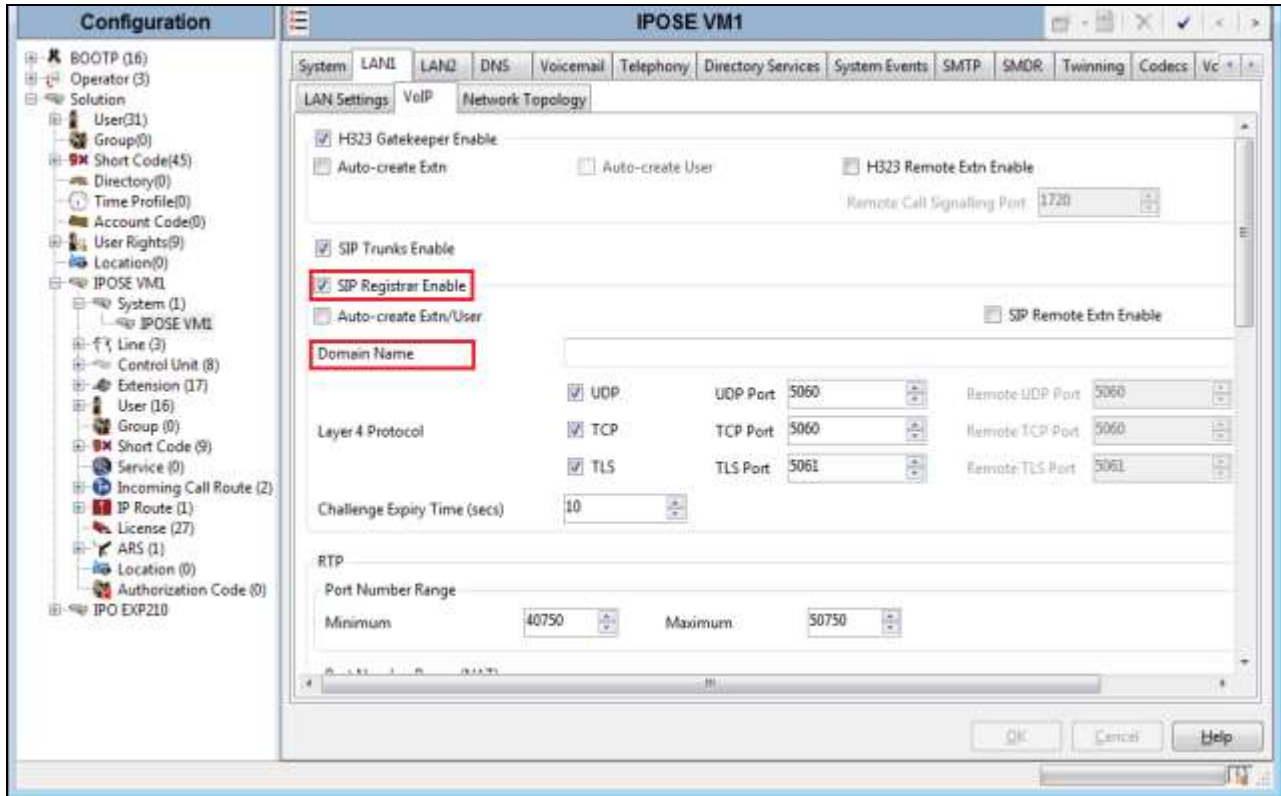
5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select System to display the IPOSE VM1 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 Algo. Note that IP Office can support SIP extensions on the LAN1 and/or LAN2 interfaces, and the compliance testing used the LAN1 interface.



5.3. Administer SIP Registrar

Select the **VoIP** sub-tab. Make certain that **SIP Registrar Enable** is checked, as shown below. Enter a valid **Domain Name** for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** was left blank, so the SIP endpoints used the LAN IP address for registration.



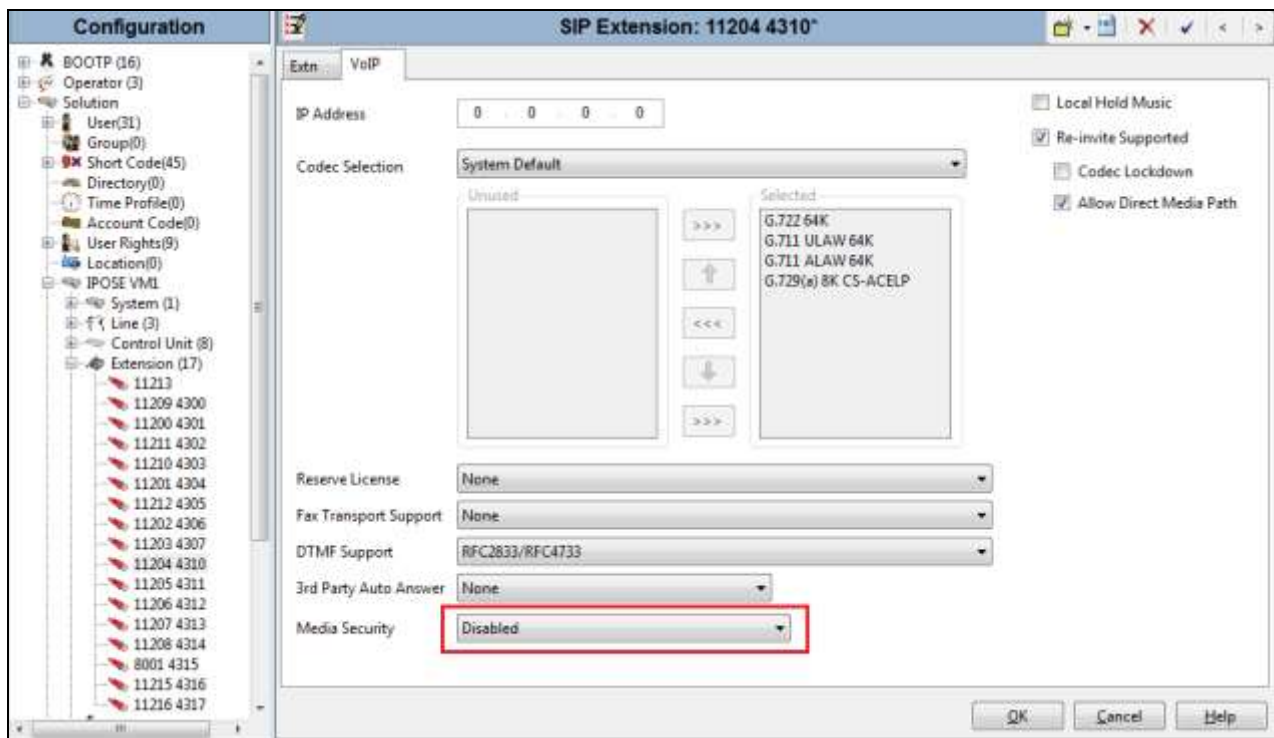
5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension**, and select **New** → **SIP Extension** from the pop-up list to add a new SIP extension. For **Base Extension**, enter the loud extension “4310”. Retain the default values in the remaining fields.



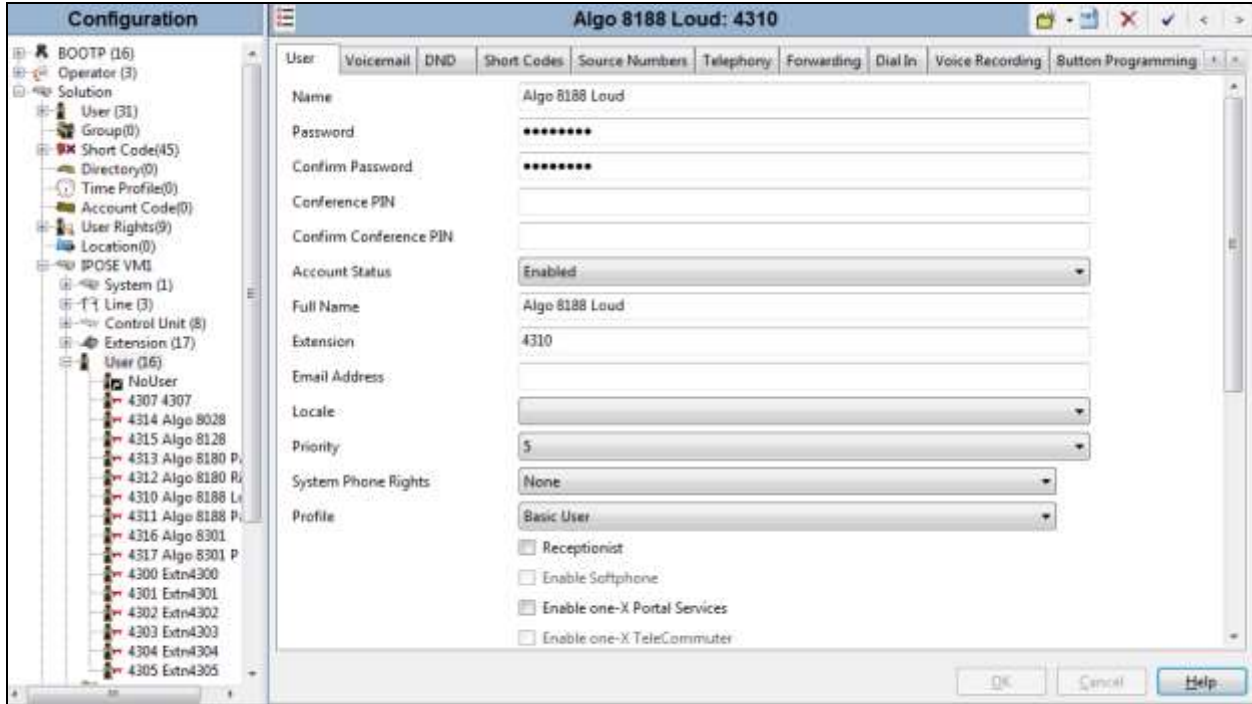
Select the **VoIP** tab, select **Disable** in the **Media Security** dropdown menu and retain the default values in all fields. Note that Media Security for all Algo SIP extensions needs to be set as “Disabled” to avoid the audio issue.

Repeat this section to configure a voice paging extension 4311.



5.5. Administer SIP User

From the configuration tree in the left pane, right-click on **User**, and select **New** (not shown) from the pop-up list. Enter desired values for **Name** and **Full Name**. For **Extension**, enter the SIP base extension **4310** from **Section 5.4**.

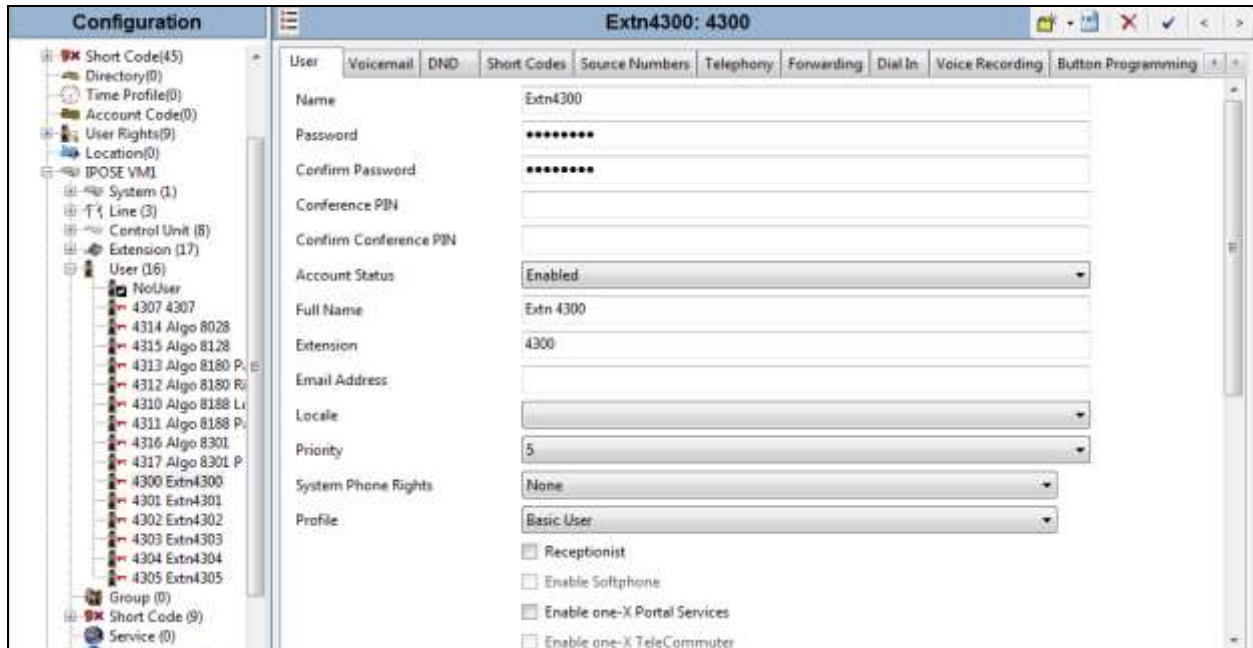


Select the **Telephony** tab, followed by the **Supervisor Settings** sub-tab, and enter a desired **Login Code**. Repeat this section to add a new user for the voice paging extension from **Section 5.4**. In the compliance testing, user “**Algo 8188 Loud**” was created for loud ringing, and user “**Algo 8188 Page**” was created for voice paging.



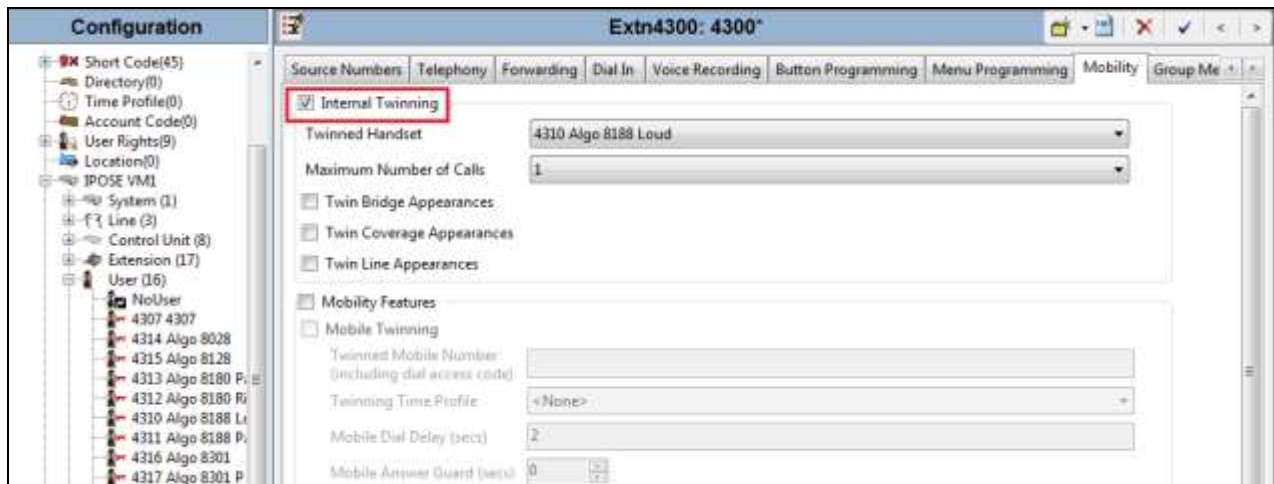
5.6. Administer Internal Twinning

From the configuration tree in the left pane, select the desk phone user that will be associated with the “Algo 8188 Loud” user. In this case, desk phone user “**Extn4300**”.



Select the **Mobility** tab, and check **Internal Twinning**. In the **Twinned Handset** field, select the Algo 8188 Loud user from **Section 5.5**. Retain the default values in the remaining fields.

Note that with the **Internal Twinning** configuration, the Algo extension 4310 will be acting like secondary extension of the extension 4300 which is configured as primary and direct call to the secondary will always get busy. This is design intend of Internal Twining feature in IPO. In order to place direct call to Algo loud extension, do not configure it twinned with a deskphone.



6. Configure 8188 SIP Ceiling Speaker

This section provides the procedures for configuring Algo 8188 SIP Ceiling Speaker. The procedures include the following areas:

- Launch web interface.
- Administer configuration.

6.1. Launch Web Interface

Access the 8188 SIP Ceiling Speaker web-based interface by using the URL “http://ip-address” in an Internet browser window, where “ip-address” is the IP address of the 8188 SIP Ceiling Speaker. The IP address of the 8188 can be spoken by pressing the reset button on the front of the 8188. The **Welcome to the Algo 8188 SIP Ceiling Speaker Control Panel** screen is displayed, as shown below. Log in using the appropriate credentials.

ALGO 8188 SIP Ceiling Speaker Control Panel Firmware: 1.1.1

Welcome to the Algo 8188 SIP Ceiling Speaker Control Panel

Setting up your SIP Ceiling Speaker:

Step 1: Configure your SIP Ceiling Speaker

Log in with the default password and use the Basic Settings pages to set up the basic information.

Step 2: Check network settings (Optional)

Use the Network page under the Advanced Settings tab to change network settings. The default setting for the device is to obtain its IP address from a DHCP server. Contact your Network System administrator if you plan to assign a static IP address, Mask, and Gateway to the device.

Step 3: Secure your SIP Ceiling Speaker (Optional)

Use the Admin page under the Advanced Settings tab to change the administrator password.
⚠ Changing the password is extremely important if the device is directly connected to a public network.

Step 4: Register your SIP Ceiling Speaker (Optional)

Please register your product using the link below:
<http://www.algosolutions.com/register>

Registration ensures your access to the latest upgrades to this product and important service notices.

Login

Password (default: algo)

Status

Device Name	sipceiling
SIP Registration	Ring #1 - Successful Page - Successful
Call Status	Idle
Proxy Status	Single proxy mode

6.2. Administer Algo 8188

Select **Basic Settings** → **SIP** from the top menu, to display the screen below. Configure the **SIP Settings** section toward the bottom of the screen as desired to match the configuration. Enter the following values for the specified fields, and retain the default values in the remaining fields.

- **Sip Domain (Proxy Server):** The IPO LAN1 IP address from **Section 5.2**.
- **Ring/Alert Mode:** Select **Monitor “Ring” event on the registered SIP extension**.
- **Page Function:** Select **Enabled**.
- **Ring Extension:** Enter the loud ringing SIP base extension from **Section 5.4**.
- **Authentication ID:** Enter the loud ringing SIP user name from **Section 5.5**.
- **Ring Password:** Enter the loud ringing SIP user login code from **Section 5.5**.
- **Page Extension:** Enter the voice paging SIP base extension from **Section 5.4**.
- **Page Auth ID:** Enter the voice paging SIP user name from **Section 5.5**.
- **Page Password:** Enter the voice paging SIP user login code from **Section 5.5**.

The screenshot displays the '8188 SIP Ceiling Speaker Control Panel' interface. At the top, the 'ALGO' logo is on the left, and 'Firmware: 1.1.1' is on the right. Below the title bar, there are navigation tabs: 'Status', 'Basic Settings' (selected), 'Advanced Settings', 'System', and 'Logout'. Under 'Basic Settings', there are sub-tabs: 'SIP' (selected), 'Features', and 'Multicast'. The main content area is titled 'SIP Settings' and contains the following configuration fields:

- SIP Domain (Proxy Server):** Text input field containing '10.10.97.210'. Below it, a help icon and text: 'Default port is 5060. To specify a different port, enter PROXY:PORT, e.g. my_proxy.com:5070, or 192.168.1.10:5080.'
- Ring/Alert Mode:** Radio button selection with 'Monitor "Ring" event on registered SIP extension' selected and 'None' unselected.
- Page Function:** Radio button selection with 'Enabled' selected and 'Disabled' unselected.
- Ring Extension:** Text input field containing '4310'.
- Authentication ID:** Text input field containing '4310'.
- Authentication Password:** Password input field with masked characters '•••••' and a visibility icon.
- Page Extension:** Text input field containing '4311'.
- Authentication ID:** Text input field containing '4311'.
- Authentication Password:** Password input field with masked characters '•••••' and a visibility icon.

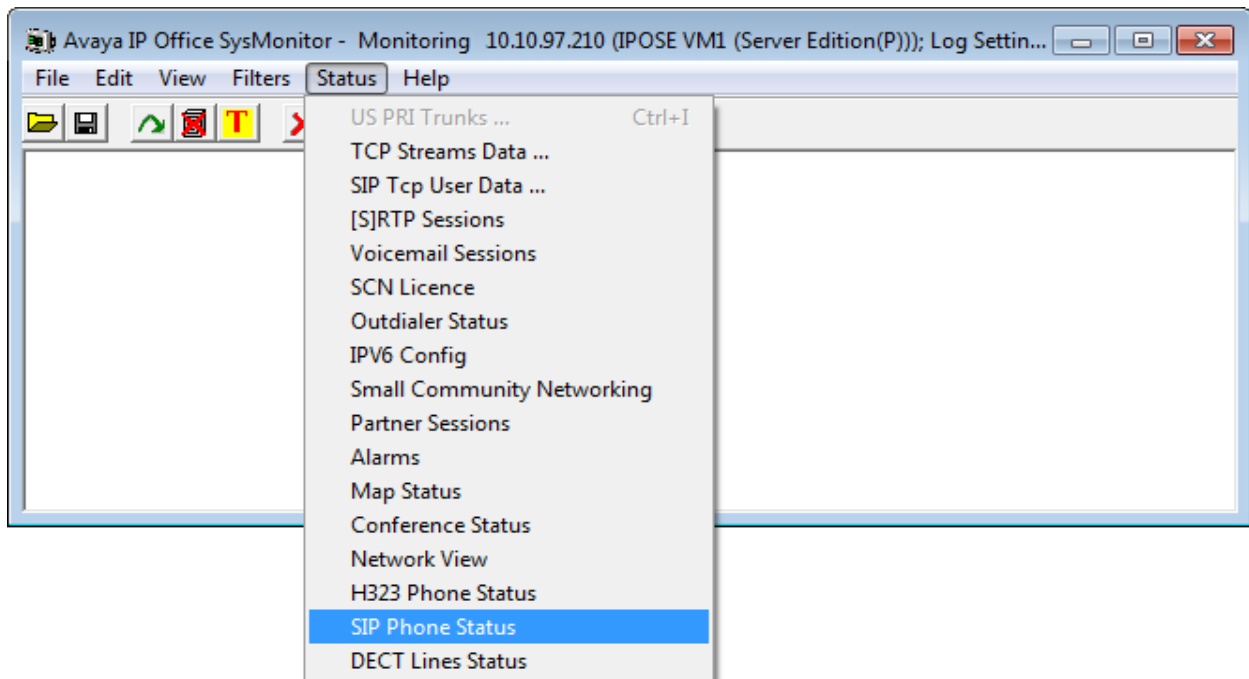
A 'Save' button with a green checkmark is located at the bottom right of the configuration area. At the very bottom of the page, the copyright notice reads: '© Copyright 2015 Algo Communication Products Ltd.'

7. Verification Steps

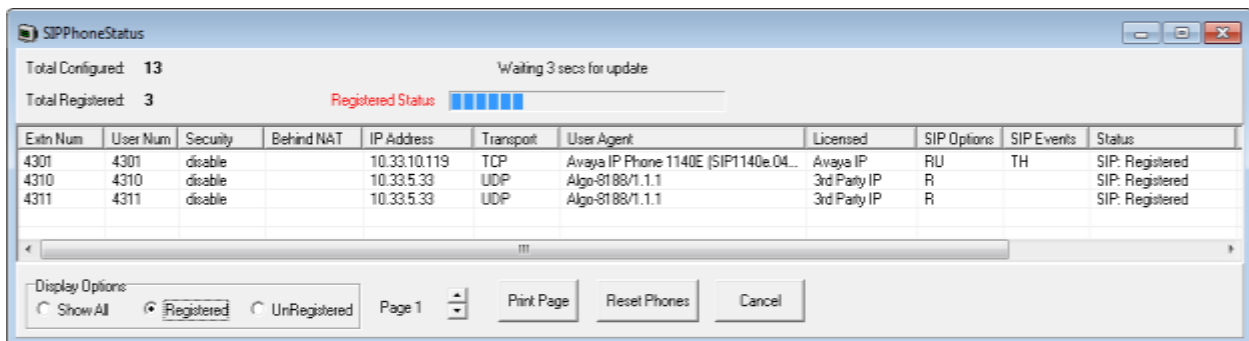
This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Algo 8188 SIP Ceiling Speaker.

7.1. Verify Avaya IP Office

From a PC running the Avaya IP Office Monitor application, select **Start** → **Programs** → **IP Office** → **System Monitor** to launch the application. The **Avaya IP Office SysMonitor** screen is displayed, as shown below. Select **Status** → **SIP Phone Status** from the top menu.



The **SIPPhoneStatus** screen is displayed. Verify that there is an entry for each SIP extension from **Section 5.4**, that the **User Agent** is “Algo-8188/1.1.1”, and that the **Status** is “SIP: Registered”, as shown below.

The screenshot shows the SIPPhoneStatus window. It displays "Total Configured: 13" and "Total Registered: 3". A progress bar indicates "Registered Status" with 3 bars filled. Below is a table with columns: Extn Num, User Num, Security, Behind NAT, IP Address, Transport, User Agent, Licensed, SIP Options, SIP Events, and Status. The table contains three rows of data for extensions 4301, 4310, and 4311. At the bottom, there are "Display Options" (Show All, Registered, UnRegistered), "Page 1", "Print Page", "Reset Phones", and "Cancel" buttons.

Extn Num	User Num	Security	Behind NAT	IP Address	Transport	User Agent	Licensed	SIP Options	SIP Events	Status
4301	4301	disable		10.33.10.119	TCP	Avaya IP Phone 1140E [SIP1140e.D4...	Avaya IP	RU	TH	SIP: Registered
4310	4310	disable		10.33.5.33	UDP	Algo-8188/1.1.1	3rd Party IP	R		SIP: Registered
4311	4311	disable		10.33.5.33	UDP	Algo-8188/1.1.1	3rd Party IP	R		SIP: Registered

7.2. Verify Algo 8188

From the Algo 8188 SIP Ceiling Speaker web-based interface, select **Status** from the top menu. Verify that **SIP Registration** displays “Ring – Successful” and “Page – Successful”, as shown below.



ALGO 8188 SIP Ceiling Speaker Control Panel Firmware: 1.1.1

Status Basic Settings Advanced Settings System Logout

Welcome to the Algo 8188 SIP Ceiling Speaker Control Panel

Setting up your SIP Ceiling Speaker:

Step 1: Configure your SIP Ceiling Speaker
Log in with the default password and use the Basic Settings pages to set up the basic information.

Step 2: Check network settings (Optional)
Use the Network page under the Advanced Settings tab to change network settings. The default setting for the device is to obtain its IP address from a DHCP server. Contact your Network System administrator if you plan to assign a static IP address, Mask, and Gateway to the device.

Step 3: Secure your SIP Ceiling Speaker (Optional)
Use the Admin page under the Advanced Settings tab to change the administrator password.
⚠ Changing the password is extremely important if the device is directly connected to a public network.

Step 4: Register your SIP Ceiling Speaker (Optional)
Please register your product using the link below:
<http://www.algosolutions.com/register>
Registration ensures your access to the latest upgrades to this product and important service notices.

Status

Device Name	sipceiling
SIP Registration	Ring #1 - Successful Page - Successful
Call Status	Idle
Proxy Status	Single proxy mode
Provisioning Status	N/A
MAC	00:22:ee:07:02:d4
IP	10.33.5.33
Netmask	255.255.255.0
Date/Time	Sat Jan 1 04:14:39 UTC 2000

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The following tests were conducted to verify the solution between the Algo 8188 and Avaya IPO.

- Verify that the incoming call to the twinning extension on the IPO rings the 8188 loud and the 8188 loud stops ringing if the twinning extension answers the call.
- Verify that the incoming call to the 8188 Voice Page is automatically answered with clear audio path.
- Verify that the telephone that places the incoming call to the 8188 Page can do conference, transfer, mute, un-mute and provide busy tone if it is on another call.
- Verify that the solution works with different Avaya clients (e.g. digital, analog, IP etc).
- Verify that 8188 goes into an idle state when the call is completed.
- Verify that the 8188 re-registers without issues if the Ethernet cable is unplugged and plugged back in.

8. Conclusion

These Application Notes describe the configuration steps required to integrate the Algo 8188 Ceiling Speaker with Avaya IP Office Server Edition Solution. All of the executed test cases have passed and met the objectives outlined in **Section 2.1**, with some exceptions outlined in **Section 2.2**.

9. Additional References

Product documentation for the Avaya IP Office may be found at:

<https://support.avaya.com/css/Products/>

Avaya IP Office Documents:

- [1] Administering Avaya IP Office™ Platform with Manager, Issue 9.1, Issue 10.33, December 2015.
- [2] Deploying Avaya IP Office™ Platform Servers as Virtual Machines, Release 9.1, Issue 03i, November 2015.
- [3] IP Office™ Platform 9.1 Using IP Office System Monitor, Issue 06e, May 2015.

Product documentation for the Algo 8188 SIP Audio Alerter products may be found at:

<http://www.algosolutions.com/8188>

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