



# Integrating Singlewire Software with Algo Communications Solutions

InformaCast and the LPI with the Algo 8180 SIP Auto Alerter

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# Overview

Singlewire Software's applications can integrate into an environment using Algo Communications Solutions products. Each system should be functional on its own before attempting to integrate the two, i.e. you should be able to pick up an IP phone, dial a number to page, and have your voice heard in both solutions independently before attempting the integration.

## Required Components

Integrating Singlewire's applications with Algo's products has the following requirements:

- Cisco Unified Communications Manager (CUCM)
- Cisco IP phone(s)
- Algo 8180 SIP Audio Alerter(s)
- Singlewire's InformaCast application
- Singlewire's LegacyPagingInterface (LPI) application

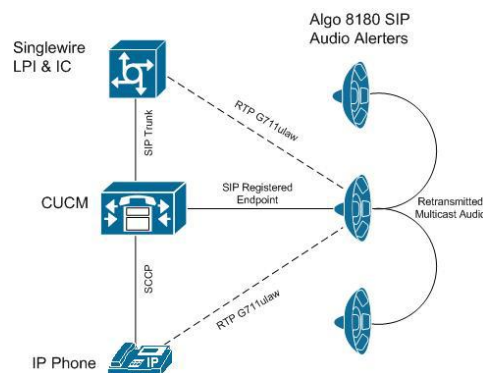
## How It Works

The Algo 8180 SIP Audio Alerter can register to CUCM as a third-party SIP device. The device itself is programmed with a directory number (DN) as its paging extension. When the device receives a call on this number, it outputs the audio of the call through the speaker, thus allowing paging functionality.

When more than one Algo 8180 SIP Audio Alerter is present, the device that receives the telephone call for paging can be set up to multicast the audio back onto the network, and all other Algo devices can be programmed to listen to that multicast audio.

InformaCast, integrated with the CUCM, provides functionality to page, or "broadcast," through Cisco's IP phones. When integrated with Singlewire's LPI, InformaCast can also place phone calls to other systems. The LPI registers to InformaCast as an IP speaker. When the LPI-registered IP speaker is added to an InformaCast recipient group (i.e. a paging zone), InformaCast can send a broadcast (i.e. page), and the LPI dials a telephone number and plays audio.

The following diagram depicts how the systems work with one another.



The flow for paging/broadcasting is:

- A user dials paging extension using an IP phone.
- The call is routed to InformaCast's DialCast CTI route point in CUCM.
- InformaCast activates the IP phones and LPI-registered IP speaker.
- The LPI dials the Algo device to set up a call.
- InformaCast broadcasts its audio.
- The LPI picks up the audio and sends it across the phone call to the Algo device.
- The Algo device that receives the call plays the audio, and retransmits the audio on a multicast address and port.
- Other Algo devices, programmed to listen to for the multicast address and port, play the audio when they see the traffic.
- The user hangs up the IP phone.
- InformaCast signals the IP phones and LPI-registered IP speaker that the page/broadcast is finished.
- The LPI disconnects the call to the Algo device.

# Integration

The steps in this section detail the process of allowing Algo 8180 SIP Audio Alerters to work with CUCM and configuring InformaCast and the LPI to work with the Algo devices.

## Configure the CUCM

The Algo devices must be reachable from your IP phones, and the CUCM must be configured to register an Algo device so that it can be dialed from your IP phones as well as the LPI.

### Create an End User

An end user must be created to allow digest authentication. This is the user that will be used to call the Algo device.



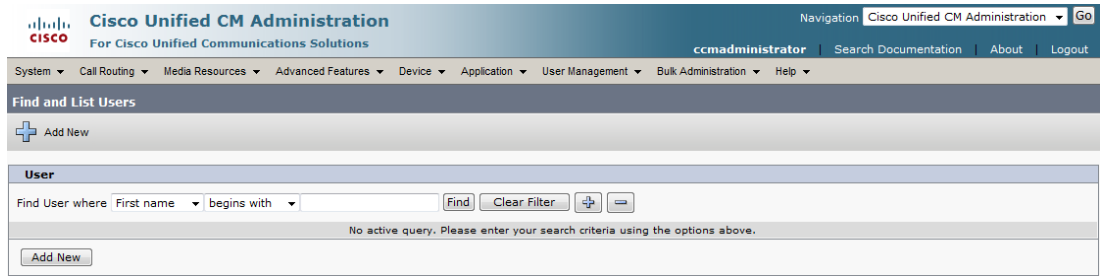
#### Note

If your CUCM will synchronize with an LDAP directory, you must first create this user in the LDAP directory. The steps in the following section show creating a user in an environment not synched with an LDAP directory. If your environment is synched with an LDAP directory, your user will already exist. Select it and skip to Step 6 on page 5.

**Step 1** Log into your CUCM server. The Cisco Unified CM Administration page appears.

The screenshot shows the Cisco Unified CM Administration web interface. At the top, there is a navigation bar with the Cisco logo and the text 'Cisco Unified CM Administration For Cisco Unified Communications Solutions'. The system version is displayed as '8.5.1.10000-26'. Below the navigation bar, there is a main content area with a blue header and a server rack image. The page includes a copyright notice for 1999-2011 Cisco Systems, Inc. and a disclaimer regarding cryptographic features and U.S. laws governing import, export, transfer and use of Cisco cryptographic products.

**Step 2** Go to **User Management | End User**. The Find and List Users page appears.



**Step 3** Click the **Add New** button. The End User Configuration page appears.

The screenshot displays the 'End User Configuration' page in the Cisco Unified CM Administration interface. The page is titled 'End User Configuration' and includes a 'Save' button at the top left. The main content is organized into several sections:

- Status:** Shows 'Status: Ready'.
- User Information:** Contains fields for User ID\*, Password, Confirm Password, PIN, Confirm PIN, Last name\*, Middle name, First name, Telephone Number, Mail ID, Manager User ID, Department, User Locale (set to '< None >'), Associated PC, Digest Credentials, and Confirm Digest Credentials.
- Device Information:** Includes a 'Controlled Devices' list, an 'Available Profiles' list (containing Raj EM 6941, Raj EM 9951, Raj Extension Mobility, RajEM 7926, RajEM 9971), and a 'CTI Controlled Device Profiles' list.
- Extension Mobility:** Includes an 'Available Profiles' list (containing Cisco 6945, Raj EM 6941, Raj EM 9951, Raj Extension Mobility, RajEM 7926), a 'Controlled Profiles' list, a 'Default Profile' dropdown (set to '-- Not Selected --'), a 'Presence Group\*' dropdown (set to 'Standard Presence group'), a 'SUBSCRIBE Calling Search Space' dropdown (set to '< None >'), and checkboxes for 'Allow Control of Device from CTI' (checked) and 'Enable Extension Mobility Cross Cluster' (unchecked).

A 'Save' button is located at the bottom left of the form. An information icon indicates that '\*' indicates a required item.

**Step 4** Enter the DN of your Algo 8180 SIP Audio Alerter in the **User ID** field.

**Step 5** Enter a description of the Algo 8180 SIP Audio Alerter in the **Last Name** field, e.g. AlgoSIPDevice.

**Step 6** Enter a password into the **Digest Credentials** and **Confirm Digest Credentials** fields. This password is currently only tied to this user and can be whatever works best for your environment. Make a note of the password as it will be needed when setting up the Algo device.



**Step 7** Click the **Save** button.

## Create a Phone Security Profile

You must create a phone security profile that allows digest authentication, which will then be assigned to the Algo device.

**Step 1** Go to **System | Security | Phone Security Profile**. The Find and List Phone Security Profiles page appears.

The screenshot shows the Cisco Unified CM Administration web interface. The page title is "Find and List Phone Security Profiles". At the top, there is a navigation bar with "Cisco Unified CM Administration" and "Go" buttons. Below the navigation bar, there are several tabs: "System", "Call Routing", "Media Resources", "Advanced Features", "Device", "Application", "User Management", "Bulk Administration", and "Help". The main content area has a search bar with "Find Phone Security Profile where" and dropdown menus for "Name" and "begins with". There are "Find", "Clear Filter", and "Add New" buttons. Below the search bar, there is a message: "No active query. Please enter your search criteria using the options above." and an "Add New" button.

**Step 2** Click the **Add New** button. The Phone Security Profile Configuration page appears.

The screenshot shows the Cisco Unified CM Administration web interface for the "Phone Security Profile Configuration" page. The page title is "Phone Security Profile Configuration". At the top, there is a navigation bar with "Cisco Unified CM Administration" and "Go" buttons. Below the navigation bar, there are several tabs: "System", "Call Routing", "Media Resources", "Advanced Features", "Device", "Application", "User Management", "Bulk Administration", and "Help". The main content area has a "Next" button with a green arrow. Below that, there is a "Status" section with an information icon and the text "Status: Ready". Below the status section, there is a section titled "Select the type of device profile you would like to create" with a dropdown menu showing "Phone Security Profile Type\* -- Not Selected --". Below the dropdown menu, there is a "Next" button. At the bottom, there is an information icon and the text "\* - indicates required item."

**Step 3** Select **Third-party SIP Device (Basic)** from the **Phone Security Profile Type** dropdown menu and click the **Next** button. The Phone Security Profile Configuration page refreshes.

The screenshot shows the Cisco Unified CM Administration interface for configuring a Phone Security Profile. The page title is "Phone Security Profile Configuration". The status is "Ready". The "Phone Security Profile Information" section includes the following fields and options:

- Product Type:** Third-party SIP Device (Basic)
- Device Protocol:** SIP
- Name\***: (empty text input)
- Description**: (empty text input)
- Nonce Validity Time\***: 600
- Transport Type\***: TCP+UDP (dropdown menu)
- Enable Digest Authentication**

The "Parameters used in Phone" section shows:

- SIP Phone Port\***: 5060

A "Save" button is located at the bottom of the form. A note below the form states: "\* - indicates required item."



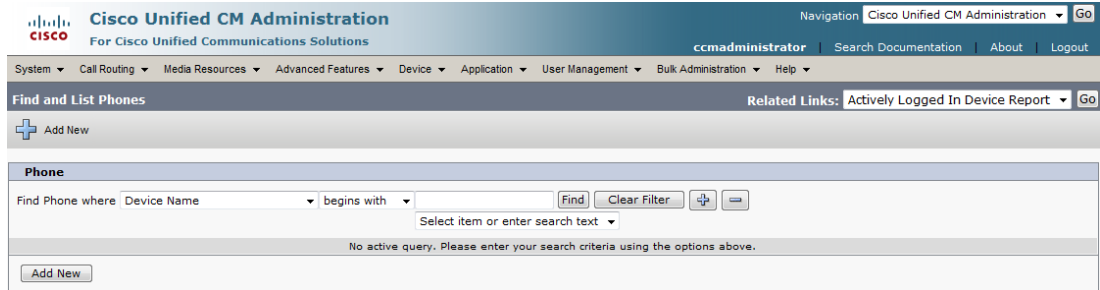
**Note** These steps illustrate a “basic” device, which only allows one line to be assigned, but uses less device license units (DLUs) than an “advanced” third-party SIP device.

- Step 4** Enter a name for your profile’s configuration in the **Name** field, e.g. Algo SIP Basic Device Security Profile.
- Step 5** Optionally, enter a description of your profile configuration in the **Description** field.
- Step 6** Select the **Enable Digest Authentication** checkbox.
- Step 7** Leave the other fields with their default values.
- Step 8** Click the **Save** button.

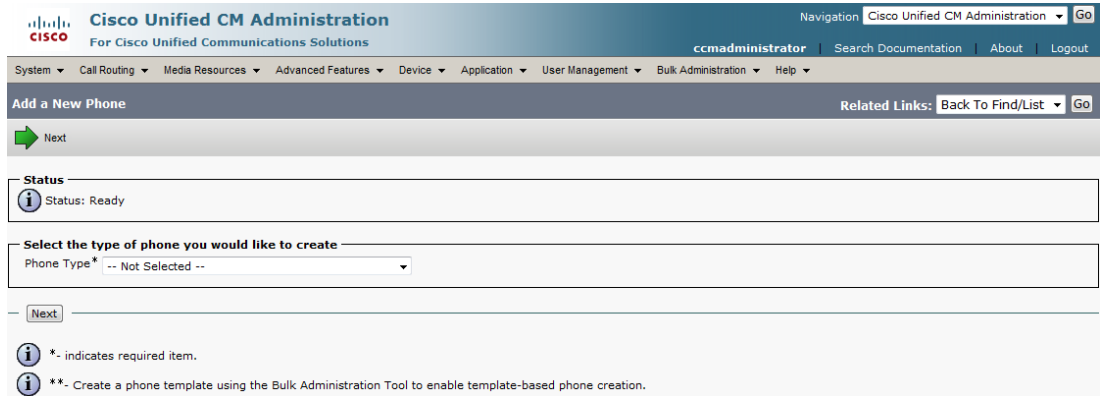
## Add the Algo Device as a Phone

To allow calls to be routed to it, the Algo device must register to the CUCM as a phone.

**Step 1** Go to **Device | Phone**. The Find and List Phones page appears.



**Step 2** Click the **Add New** button. The Add a New Phone page appears.



**Step 3** Select **Third-party SIP Device (Basic)** from the **Phone Type** dropdown menu and click the **Next** button. The Phone Configuration page appears.

**Phone Configuration** Related Links: [Back To Find/List](#) [Go](#)

**Status**  
 Status: Ready

**Phone Type**  
 Product Type: **Third-party SIP Device (Basic)**  
 Device Protocol: SIP

**Device Information**

⚠ Device is not trusted

MAC Address\*

Description

Device Pool\* -- Not Selected -- [View Details](#)

Common Device Configuration < None > [View Details](#)

Phone Button Template\* -- Not Selected --

Common Phone Profile\* Standard Common Phone Profile

Calling Search Space < None >

AAR Calling Search Space < None >

Media Resource Group List < None >

Location\* Hub\_None

AAR Group < None >

Device Mobility Mode\* Default [View Current Device Mobility Settings](#)

Owner User ID < None >

Use Trusted Relay Point\* Default

Always Use Prime Line\* Default

Always Use Prime Line for Voice Message\* Default

Calling Party Transformation CSS < None >

Geolocation < None >

Use Device Pool Calling Party Transformation CSS

Ignore Presentation Indicators (internal calls only)

Logged Into Hunt Group

Remote Device

**Protocol Specific Information**

Presence Group\* Standard Presence group

MTP Preferred Originating Codec\* 711ulaw

Device Security Profile\* -- Not Selected --

Rerouting Calling Search Space < None >

SUBSCRIBE Calling Search Space < None >

SIP Profile\* < None >

Digest User < None >

Media Termination Point Required

Unattended Port

Require DTMF Reception

**MLPP Information**

MLPP Domain < None >

**Notes:**

- \* - indicates required item.
- \*\* - Device reset is not required for changes to Packet Capture Mode and Packet Capture Duration.
- \*\*\*Note: Security Profile Contains Addition CAPF Settings.
- \*\*\*\*Note: A Protected device means it is capable of playing Secure and Non-Secure Tones. When the checkbox is checked, the user will hear a Secure or Non-Secure Tone when the call is connected.
- \*\*\*\*\*Note: A custom Softkey template without supplementary service Softkeys must be used for a Hot line Device.



**Note** A basic device only allows one line assigned, but uses less DLUs.

- Step 4** Remove the plastic mounting bracket from the back of your Algo device and obtain the device's MAC address.
- Step 5** Enter the Algo device's MAC address in the **MAC Address** field on the Phone Configuration page.
- Step 6** Select a device pool from the **Device Pool** dropdown menu that will allow calls from the LPI to be G.711  $\mu$ Law.



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**Tip** If you already have InformaCast set up and configured, select its device pool.

---

- Step 7** Select **Third-party SIP Device (Basic)** from the **Phone Button Template** dropdown menu.
- Step 8** Select the profile you just created in "Create a Phone Security Profile" on page 6 from the **Device Security Profile** dropdown menu in the *Protocol Specific Information* area.
- Step 9** Select **Standard SIP Profile** from the **SIP Profile** dropdown menu.
- Step 10** Select the user you created in "Create an End User" on page 3 from the **Digest User** dropdown menu.

**Step 11** Click the **Save** button. The Phone Configuration page refreshes.

**Cisco Unified CM Administration**  
For Cisco Unified Communications Solutions

Navigation: Cisco Unified CM Administration Go  
ccadministrator | Search Documentation | About | Logout

System | Call Routing | Media Resources | Advanced Features | Device | Application | User Management | Help

**Phone Configuration** Related Links: Back To Find/List Go

Save Delete Copy Reset Apply Config Add New

**Status**  
Add successful

**Association Information**  
Modify Button Items  
1 8785 Line [1] - Add a new DN

**Phone Type**  
Product Type: Third-party SIP Device (Basic)  
Device Protocol: SIP

**Device Information**

Registration	Unknown
IP Address	Unknown
<input checked="" type="checkbox"/> Device is Active	
<input type="checkbox"/> Device is not trusted	
MAC Address*	0022EE0201A1
Description	SEP0022EE0201A1
Device Pool*	InformaCast <a href="#">View Details</a>
Common Device Configuration	< None > <a href="#">View Details</a>
Phone Button Template*	Third-party SIP Device (Basic)
Common Phone Profile*	Standard Common Phone Profile
Calling Search Space	< None >
AAR Calling Search Space	< None >
Media Resource Group List	< None >
Location*	Hub_None
AAR Group	< None >
Device Mobility Mode*	Default <a href="#">View Current Device Mobility Settings</a>
Owner User ID	< None >
Use Trusted Relay Point*	Default
Always Use Prime Line*	Default
Always Use Prime Line for Voice Message*	Default
Calling Party Transformation CSS	< None >
Geolocation	< None >

Use Device Pool Calling Party Transformation CSS  
 Ignore Presentation Indicators (internal calls only)  
 Logged Into Hunt Group  
 Remote Device

**Protocol Specific Information**

Presence Group*	Standard Presence group
MTP Preferred Originating Codec*	711ulaw
Device Security Profile*	Algo SIP Basic Device Security
Rerouting Calling Search Space	< None >
SUBSCRIBE Calling Search Space	< None >
SIP Profile*	Standard SIP Profile
Digest User	9599

Media Termination Point Required  
 Unattended Port  
 Require DTMF Reception

**MLPP Information**  
MLPP Domain: < None >

Save Delete Copy Reset Apply Config Add New

**Notes:**

- \* - indicates required item.
- \*\* - Device reset is not required for changes to Packet Capture Mode and Packet Capture Duration.
- \*\*\*Note: Security Profile Contains Addition CAPF Settings.
- \*\*\*\*Note: A Protected device means it is capable of playing Secure and Non-Secure Tones. When the checkbox is checked, the user will hear a Secure or Non-Secure Tone when the call is connected.
- \*\*\*\*\*Note: A custom Softkey template without supplementary service Softkeys must be used for a Hot line Device.

**Step 12** Click the **Line [1] - Add a new DN** link. The Directory Number Configuration page appears.

**Save**

**Status**  
 Status: Ready

**Directory Number Information**  
 Directory Number\*  
 Route Partition < None >  
 Description  
 Alerting Name  
 ASCII Alerting Name  
 Active

**Directory Number Settings**  
 Voice Mail Profile < None > (Choose <None> to use system default)  
 Calling Search Space < None >  
 Presence Group\* Standard Presence group  
 User Hold MOH Audio Source < None >  
 Network Hold MOH Audio Source < None >

**AAR Settings**  

AAR	Voice Mail	AAR Destination Mask	AAR Group
<input type="checkbox"/>	<input type="checkbox"/> or		< None >

 Retain this destination in the call forwarding history

**Call Forward and Call Pickup Settings**  

	Voice Mail	Destination	Calling Search Space
Calling Search Space Activation Policy			Use System Default
Forward All	<input type="checkbox"/> or		< None >
Secondary Calling Search Space for Forward All			< None >
Forward Busy Internal	<input type="checkbox"/> or		< None >
Forward Busy External	<input type="checkbox"/> or		< None >
Forward No Answer Internal	<input type="checkbox"/> or		< None >
Forward No Answer External	<input type="checkbox"/> or		< None >
Forward No Coverage Internal	<input type="checkbox"/> or		< None >
Forward No Coverage External	<input type="checkbox"/> or		< None >
Forward on CTI Failure	<input type="checkbox"/> or		< None >
Forward Unregistered Internal	<input type="checkbox"/> or		< None >
Forward Unregistered External	<input type="checkbox"/> or		< None >
No Answer Ring Duration (seconds)			
Call Pickup Group			< None >

**Forwarded Call Information Display on Device SEP0022EE0201A1**  
 Caller Name  
 Caller Number  
 Redirected Number  
 Dialed Number

**Save**

**i** \*- indicates required item.  
**i** \*\*-. Changes to Line or Directory Number settings require restart.

**Step 13** Enter the DN of your Algo device in the **Directory Number** field, making sure it matches the username of the end user you created in “Create an End User” on page 3.

**Step 14** Click the **Save** button.

## Configure the Algo Devices

The Algo devices can be setup as *master* or *slave*. The Algo device that is programmed in the CUCM will be setup as the master, receiving the telephone call and audio. It will then retransmit the audio on a multicast address and port. The slave devices will listen for the audio on this multicast address and port.

### Determine the Master Algo Device's DHCP Address

First, you must determine the master Algo device's DHCP address.

- 
- Step 1** Plug the Algo device into a PoE switchport where it can obtain a DHCP IP address.
  - Step 2** Press the **Menu** button on the back of the Algo device until it says, "Press Select to get device information."
  - Step 3** Press the **Select** button. The device will read aloud its IP address. Make a note of it.
- 

### Configure the Master Algo Device

Next, you can configure the master Algo device through a web interface.

- 
- Step 1** Enter the Algo device's IP address into a web browser. The Welcome page appears.

**ALGO** SIP Audio Alerter Control Panel Firmware: 1.0.1

Status

Welcome

**Welcome to the SIP Audio Alerter Configuration Interface**

Please take a minute to set up your SIP Audio Alerter:

**Step 1: Configure your SIP Audio Alerter**

Log in with the default password **algo** and use the config page to set up the SIP connection information.

**Step 2: Check network settings (Optional)**

Use the Network section on Config page to change network settings. The default setting for the SIP Audio Alerter 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 SIP Audio Alerter device.

**Step 3: Secure your SIP Audio Alerter (Optional)**

Use the Admin section on Config page to change the administrator password.

Remove Welcome

Login

Info

MAC: 00:22:EE:02:01:A1  
IP: 172.30.237.226  
Netmask: 255.255.255.0

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**Step 2** Enter the default password of **algo** in the **Password** field and click the **Login** button. The Config page appears.

**ALGO** SIP Audio Alerter Control Panel Firmware: 1.0.1

Status Config Services About

Save Settings

**SIP**

SIP Domain/Proxy:   
 SIP Outbound Proxy (Optional):   
 SIP Registrar (Optional):   
 Ring Detect Extension:   
 Password:   
 Page Audio Extension:   
 Password:

**Features**

Ring Tone: dogs.wav  
 Ring Volume: 4  
 Ambient Noise Compensation:  On  Off  
 Ambient Noise Level(50~120dB SPL): 66  
 Hold Button to Play:  On  Off  
 Page Volume: 4  
 Multicast Mode:  None  Master  Slave  
 Multicast Channel IP: 239.30.237.4  
 Multicast Channel Port: 50000  
 Speaker Mode:  Auto  External  Internal  Disabled  
 Relay Mode:  Both  Ring  Page  Disabled

**Network**

DHCP:  On  Off  
 IP Address:   
 Netmask:   
 Gateway:   
 DNS 1:   
 DNS 2:   
 DHCP Timeout (seconds): 60  
 Telnet Service:  On  Off  
 NTP Server:

**Admin**

Device Name: sipalerter  
 Password:   
 Re-type Password:   
 Language: English  
 Voice Prompt: English  
 Log Level:  Error  Info  Debug  
 Log Size(1~1000 KB): 100  
 Log Method:  Local  Network  Both  
 Log Server IP:   
 Program Buttons:  Enabled  Disabled

Save Settings

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**Step 3** Enter the hostname of the CUCM in the **SIP Domain/Proxy** field in the *SIP* area.

**Step 4** Enter the DN you assigned to the device in “Create an End User” on page 3 in the **Page Audio Extension** field.

**Step 5** Enter the value of the **Digest Credential** field from CUCM in the **Password** field under the **Page Audio Extension** field on the Algo device’s Config page.

**Step 6** Select the **Master** radio button for **Multicast Mode** in the *Features* area.



**Note** You can change the values in the **Multicast Channel IP** and **Multicast Channel Port** fields to suit your network. Make sure it does not overlap with other ranges, such as InformaCast.

**Step 7** Click the **Save Settings** button.



---

**Tip** You can modify the other fields on this page to suit your environment, but their settings are outside the scope of this document).

---

## Configure the Slave Algo Device(s)

Once you have your master algo device configured, you can configure your slave Algo devices.

- 
- Step 1** Follow the steps in “Determine the Master Algo Device’s DHCP Address” on page 13.
  - Step 2** Follow Steps 1 through 5 in “Configure the Master Algo Device” on page 13.
  - Step 3** Select the **Slave** radio button for **Multicast Mode** in the *Features* area.
  - Step 4** Ensure that the values in the **Multicast Channel IP** and **Multicast Channel Port** fields are the same as those listed for the master Algo device.
  - Step 5** Click the **Save Settings** button.



---

**Tip** You can modify the other fields on this page to suit your environment, but their settings are outside the scope of this document).

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- Step 6** Repeat these steps for each slave Algo device.
- 

## Verify Algo Paging with an IP Phone

Before integrating the Singlewire and Algo systems, the Algo system must be functional as a standalone system. You should be able to pick up an IP phone and place a call to the number assigned to the master Algo device. Audio paging using an IP phone through the Algo devices should also be working. Please ensure this is functional before proceeding.

Up to this point, there has been nothing specific to any Singlewire applications. If you need additional assistance with either the CUCM or Algo configurations, please contact Cisco and Algo.

## Configure InformaCast and the LPI

Singlewire’s InformaCast and the LPI must be operational before attempting to integrate with the Algo system. For more details on InformaCast and the LPI, including guides and video tutorials, please visit the [Singlewire website](#).



### Caution

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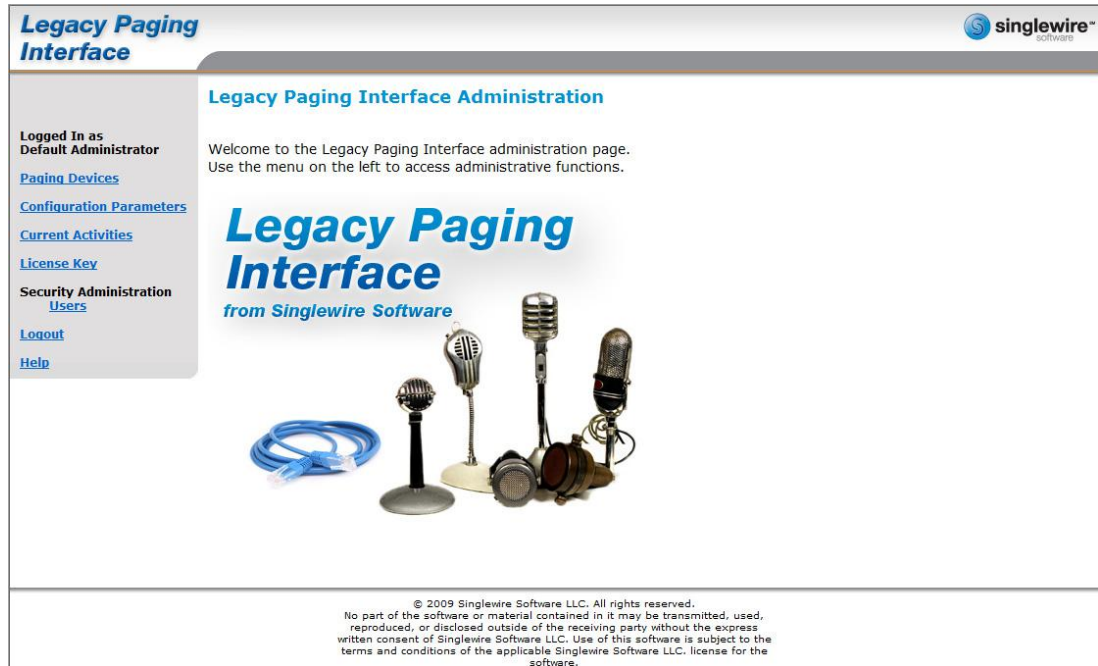
Instructions on installing InformaCast and the LPI are outside the scope of this document. It is assumed that InformaCast and the LPI are currently installed and functional in your environment. An intermediate level of familiarity with the administration of both products is also assumed. For detailed steps, please refer to each product’s documentation.

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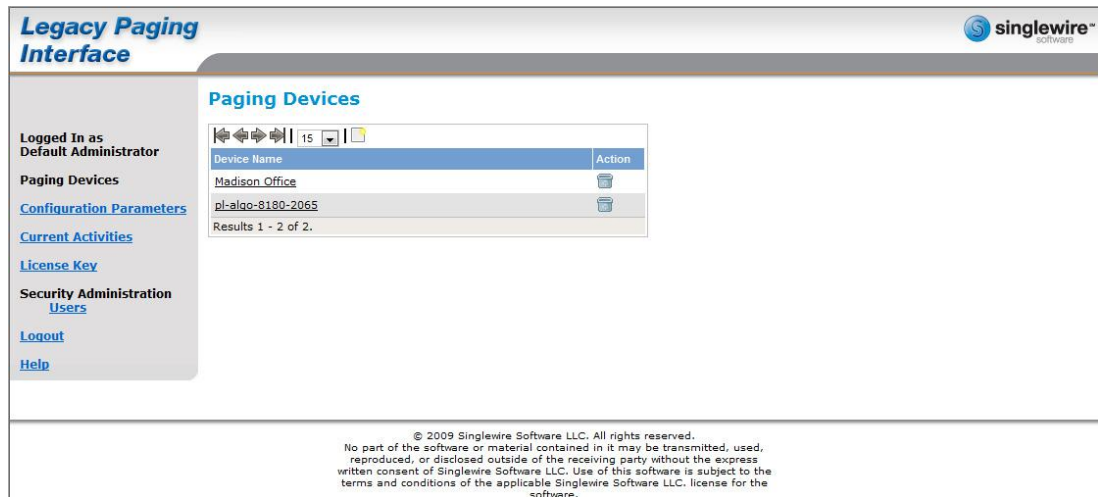
## Configure The LPI


First, you must add the Algo device to the LPI.

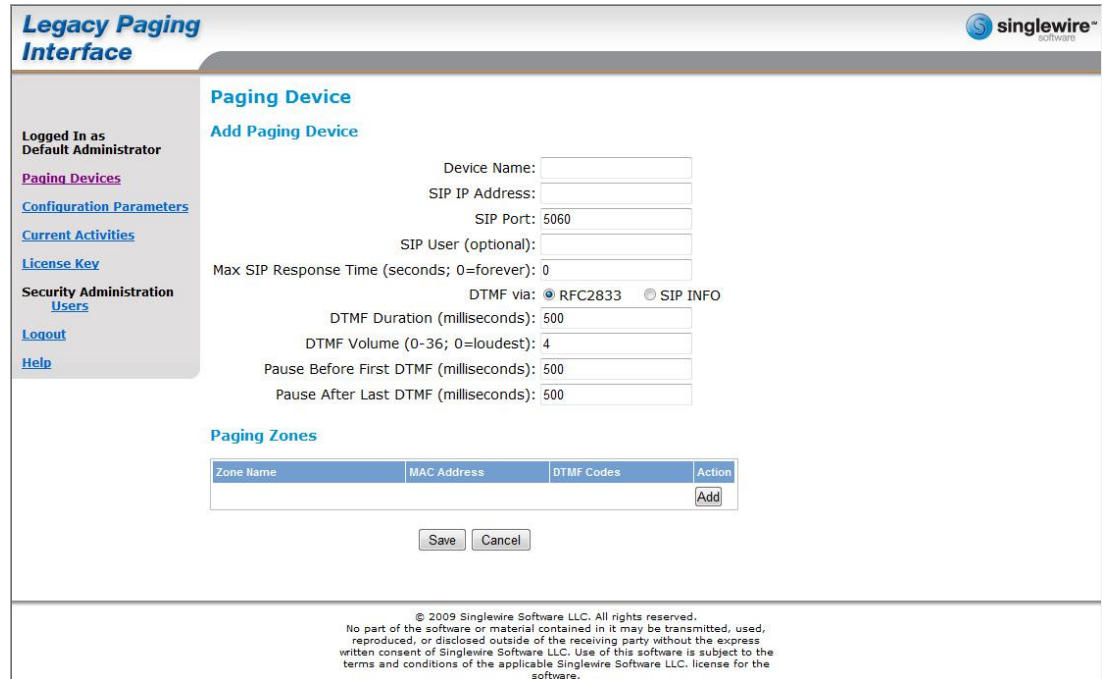
**Step 1** Open and log into the LPI. The Welcome page appears.



**Step 2** Click the **Paging Devices** link. The Paging Devices page appears.



**Step 3** Click the **Page** icon (  ) to add a new paging device. The Add Paging Device page appears.



**Legacy Paging Interface** singlewire<sup>SM</sup>

Logged In as Default Administrator

- [Paging Devices](#)
- [Configuration Parameters](#)
- [Current Activities](#)
- [License Key](#)
- [Security Administration](#)
- [Users](#)
- [Logout](#)
- [Help](#)

### Paging Device

#### Add Paging Device

Device Name:

SIP IP Address:

SIP Port: 5060

SIP User (optional):

Max SIP Response Time (seconds; 0=forever): 0

DTMF via:  RFC2833  SIP INFO

DTMF Duration (milliseconds): 500

DTMF Volume (0-36; 0=loudest): 4

Pause Before First DTMF (milliseconds): 500

Pause After Last DTMF (milliseconds): 500

#### Paging Zones

Zone Name	MAC Address	DTMF Codes	Action
			<input type="button" value="Add"/>

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**Step 4** Enter a name for your Algo device in the **Device Name** field, e.g. Master Algo.

**Step 5** Enter your CUCM's IP address in the **SIP IP Address** field.

**Step 6** Enter the DN for the Algo device in the **SIP User** field. This is the telephone number the LPI should dial to reach the Algo device.

**Step 7** Enter **0** in the **Max SIP Response Time** field.



**Note** For specifics about the rest of the settings on this page, see the “LPI Installation and User Guide.”

- Step 8** Click the **Add** button in the *Paging Zones* area. InformaCast recognize paging zones as recipients, and your paging zones are what will display when you want to add your Algo device(s) to a broadcast. The Add Paging Device page refreshes.

**Legacy Paging Interface** singlewire software

Logged In as Default Administrator

[Paging Devices](#)

[Configuration Parameters](#)

[Current Activities](#)

[License Key](#)

[Security Administration Users](#)

[Logout](#)

[Help](#)

### Paging Device

#### Add Paging Device

Device Name:

SIP IP Address:

SIP Port:

SIP User (optional):

Max SIP Response Time (seconds; 0=forever):

DTMF via:  RFC2833  SIP INFO

DTMF Duration (milliseconds):

DTMF Volume (0-36; 0=loudest):

Pause Before First DTMF (milliseconds):

Pause After Last DTMF (milliseconds):

#### Paging Zones

Zone Name	MAC Address	DTMF Codes	Action
	000000E928CF		<input type="button" value="Delete"/> <input type="button" value="Status"/> <input type="button" value="Add"/>

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**Note** The **MAC Address** field will automatically populate with a unique MAC address, which was generated from the **MAC Address Prefix** field on the Configuration Parameters page. See the “Legacy Paging Interface Installation and User Guide” for more information.

- Step 9** Enter a unique name for this zone in the **Zone Name** field.
- Step 10** Leave the **MAC Address** field set as suggested by the LPI or enter your own unique value. Singlewire recommends that you use the generated MAC address.
- Step 11** Click **Add** button to add another zone or click the **Save** button if you are finished configuring your Algo device.

## Configure InformaCast

Once you've configured the LPI, you can add the device you created within it as a speaker to InformaCast.

- Step 1** Open and log into InformaCast. The InformaCast Welcome page appears.



**Step 2** Go to **Speakers** | **Edit IP Speakers**. The Edit IP Speakers page appears.

**Speakers | Edit IP Speakers**

InformaCast has detected new IP Speakers on the network. [VIEW](#)

Filter:

**2 IP Speakers, unfiltered (0 selected):**

[CHOOSE ALL](#) [CLEAR ALL](#)

[PREVIOUS](#) Page 1 of 1 [NEXT](#) Jump to page:   Show 50 results per page [ADD](#)

Name	Description and Status	Dial Code	Vol	MAC address	Action
<input type="checkbox"/> pl-Algo-8180-2065	pl Algo 8180 2065 Status: Registered at Tue May 10 13:34:19 CDT 2011, IP=172.30.229.14		10	000000e928cf	<a href="#">EDIT</a> <a href="#">DELETE</a> <a href="#">TEST</a>
<input type="checkbox"/> pl-SDNS	pl Laptop Status: Registration expired, last seen at Thu Mar 24 13:16:10 CDT 2011 (has display) (can record) (has rich UI) (can listen) (can play high quality audio), IP=172.30.250.143		10	016086611158	<a href="#">EDIT</a> <a href="#">DELETE</a>

[PREVIOUS](#) Page 1 of 1 [NEXT](#) Jump to page:   Show 50 results per page

You can reboot IP speakers using these options:

[SELECTED SPEAKERS](#) Only selected speakers will be rebooted. The number of selected speakers is shown above.

[ALL SPEAKERS](#) This will attempt to reboot all speakers that have registered with InformaCast, whether they are listed on this page or are "new" speakers.

You can adjust IP speaker volume using these options:

Volume Adjustment:

[SELECTED SPEAKERS](#) Only selected speakers will have their volume adjusted. The number of selected speakers is shown above.

[ALL SPEAKERS](#) This will attempt to adjust the volume of all configured speakers.

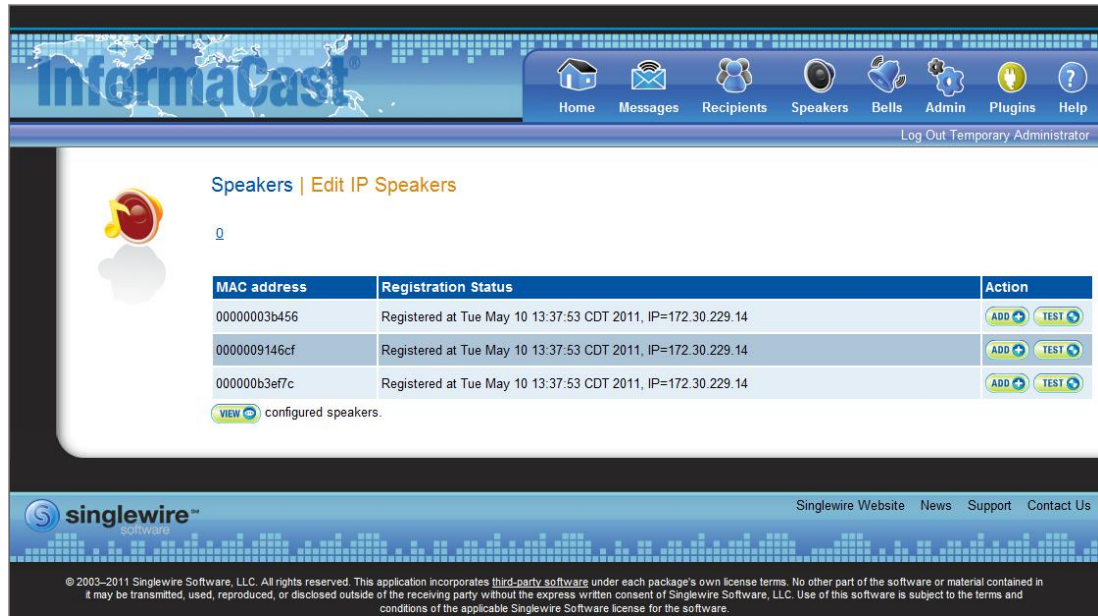
If you have many IP Speakers to define, they can be imported from a Comma Separated Values file, exported from a spreadsheet. Please refer to the InformaCast documentation regarding the format of the CSV file, or visit the [Help Page](#) (under "Tools") to find an Excel spreadsheet you can start with.

Upload CSV File:   [IMPORT SPEAKERS](#)

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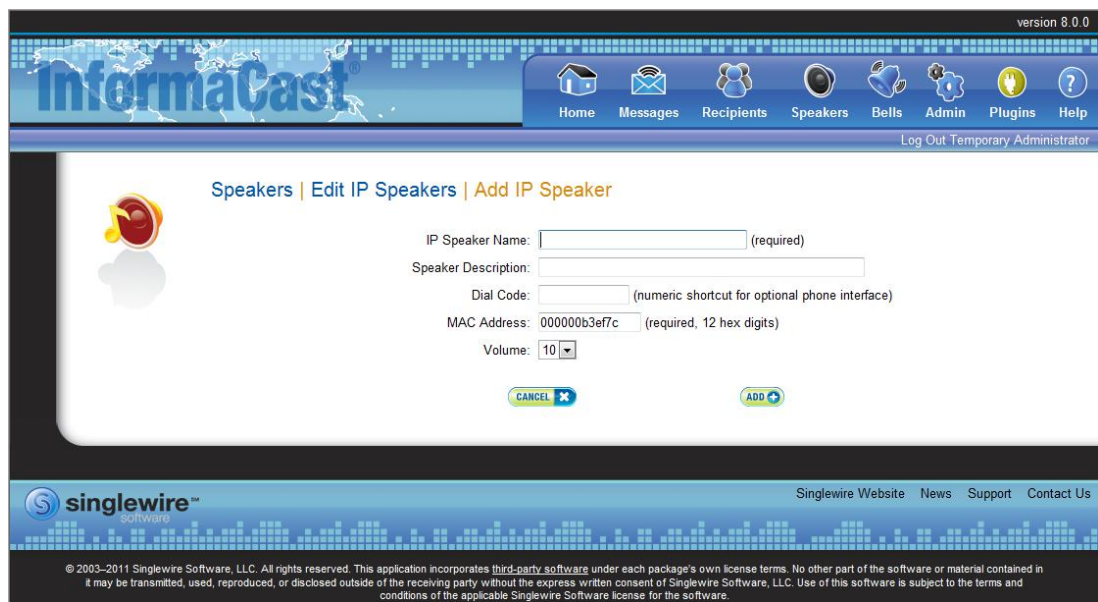
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**Step 3** Click the **View** button to see a list of undefined speakers. The Edit IP Speakers page refreshes.



**Note** Until you add your paging zones to InformaCast (and enter an appropriate, descriptive name for them), their MAC addresses are what initially display on the Edit IP Speakers page.

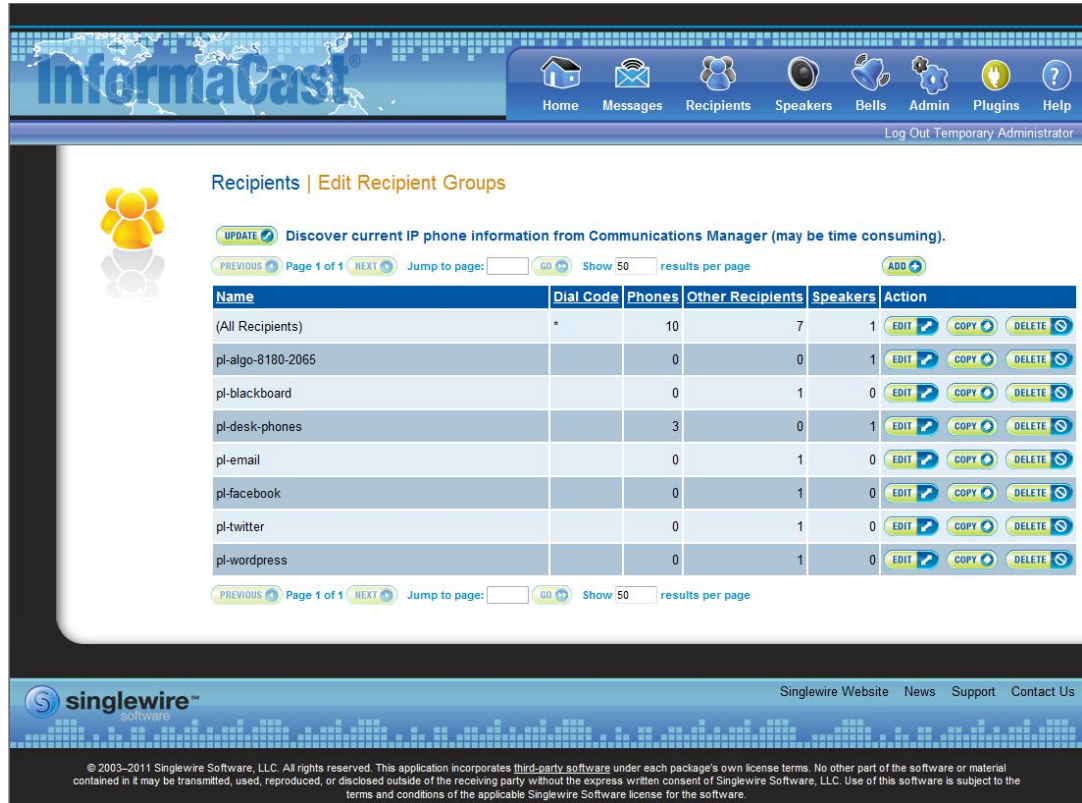
**Step 4** Click the **Add** button next to a paging zone you created in “Configure The LPI” on page 16. The Add IP Speaker page appears.



**Step 5** Enter a name for your speaker in the **IP Speaker Name** field.

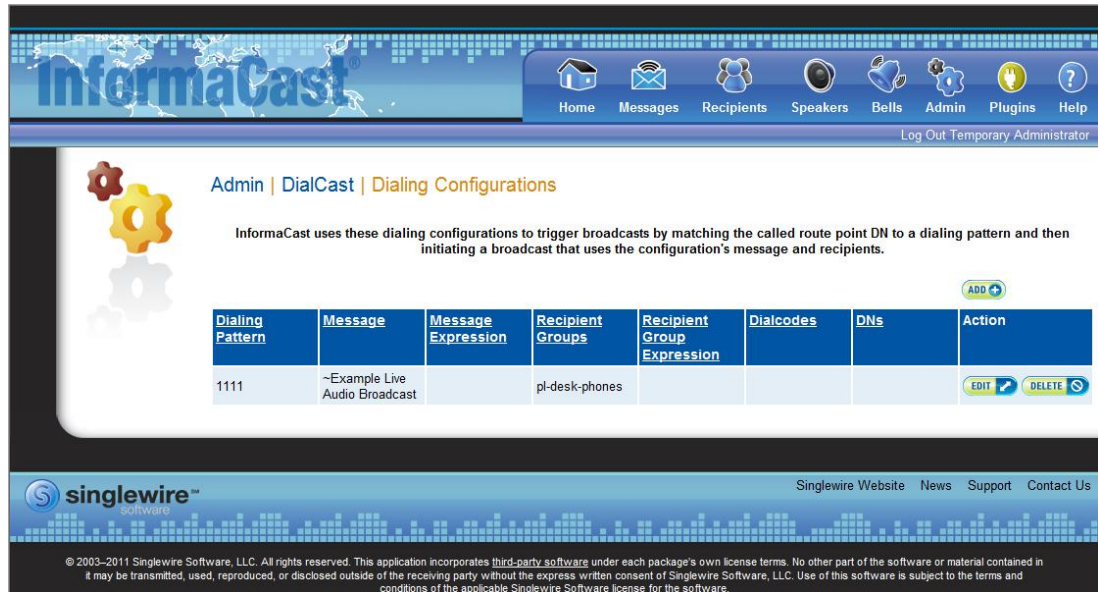


- Step 6** Enter a description for your speaker in the **Speaker Description** field.
- Step 7** Click the **Save** button.
- Step 8** Go to **Recipients | Edit Recipient Groups**. The Edit Recipient Groups page appears.



- Step 9** Edit an existing recipient group or create a new recipient group that includes the LPI speaker. For more information on creating and editing recipient groups, see the “InformaCast Installation and User Guide” for InformaCast 8.0 or later.

**Step 10** Go to **Admin | DialCast | Dialing Configurations**. The Dialing Configurations page appears.



**Step 11** Click the **Add** button and add a new dialing configuration that contains the broadcast you want to send out and a recipient group that contains your Algo devices. For more information on dialing configurations, see the “InformaCast Installation and User Guide” for InformaCast 8.0 or later.

### Verify Integration

If everything was configured successfully, you should now be able to pick up your IP phone and dial the dialing pattern you created in Step 11 of “Configure InformaCast.” InformaCast will trigger the LPI, which will dial all of the numbers of the Algo devices at the same time and play your selected broadcast across the IP phones and Algo speakers at once.

If this is not successful, please see “Troubleshooting” on page 24.

# Troubleshooting

**Problem** My Algo device doesn't appear to boot.

**Solution** Make sure the device is plugged into a 802.3af PoE switchport.

**Problem** My Algo device does not get an IP address on the right subnet.

**Solution** Make sure your switchport has the proper Access VLAN configured and that there are free DHCP addresses in the pool.

**Solution** You can also span the switchport and capture the traffic with Wireshark to see the DHCP traffic and verify if the Algo device gets a response from a DHCP server.

**Problem** My Algo device doesn't register with CUCM.

**Solution** You have several solutions:

- Make sure the end user you created in "Create an End User" on page 3 matches the directory number of the Algo device.
- Ensure that the digest credential password for the created end user was entered properly into the Algo device's webpage (described in "Configure the Master Algo Device" on page 13).
- Make sure the created phone security policy has **Enable Digest Authentication** selected (described in "Create a Phone Security Profile" on page 6).

You can also span the switchport and capture the traffic with Wireshark to see the Algo device attempt to register to CUCM and CUCM's response, if any.

**Problem** I can't dial the Algo device from an IP phone.

**Solution** Ensure the device is registered to the CUCM. Make sure the partition assigned to the Algo device's directory number exists in the calling search space of the phone you are using to dial the Algo device. If necessary, perform detailed CUCM traces on the CUCM to see why a call cannot be completed.

**Problem** The LPI IP speaker doesn't register to InformaCast.

**Solution** Ensure the LPI is configured properly. Please view the "LPI Installation and User Guide" for more information.

**Problem** InformaCast plays audio through phones, but I don't hear any audio the Algo devices.

**Solution** Can you dial the Algo directly? If not, the troubleshooting needs to be focused on the Algo system prior to the integration of InformaCast and the LPI. If you can dial the Algo system directly, but you still can't hear audio when using InformaCast and the LPI, please look at the LPI and InformaCast logs to verify that InformaCast triggered the broadcast to the LPI and the LPI attempted to place the call to the Algo devices. Please see the user guides for InformaCast and the LPI for more details.

**Problem** Placing calls to the DialCast extension don't work.

**Solution** Ensure there is a CTI route point configured in CUCM that has the DialCast extension. Ensure the route point is associated to the InformaCast application user in CUCM. Also, ensure that the calling search space and partition assignments allow the phone to reach this extension in CUCM. For more details about troubleshooting DialCast, see the "InformaCast Installation and User Guide" for InformaCast 8.0 or later.

**Problem** Why would I want to do a Wireshark traffic capture?

**Solution** Sometimes the best tool for seeing why things are not functioning is to examine the traffic. There are potentially two places where the traffic will need to be captured: at the Algo device and the InformaCast/LPI server.

Capturing traffic at the Algo device will require spanning the switchport to which the Algo device is connected. The details on how to do this are outside the scope of this document. Viewing this traffic will show:

- Registration to the CUCM
- Call setup and teardown
- RTP audio

Capturing traffic on the InformaCast/LPI server can be done by installing Wireshark directly on the server. The details on how to do this are outside the scope of this document, but using Wireshark to perform a traffic capture is documented in the "InformaCast Installation and User Guide" for InformaCast 8.0 or later. Examining this traffic will show:

- LPI IP speaker registration
- InformaCast phone activation and deactivation
- LPI speaker activation and deactivation
- LPI call setup and teardown
- RTP audio