



VoIP Singlewire-enabled Push-to-Talk Speaker Operations Guide

Part Number
011182, RAL 9002, Gray White, Standard
011183, RAL 9003, Signal White, Optional

Document Part #930463D
for Firmware Version 3.0.1

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VoIP Singlewire-enabled Push-to-Talk Speaker Operations Guide 930463D

Part

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Phone: (831) 373-2601, Ext. 333

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Revision History

Revision 930463D, which corresponds to firmware version 3.0.1, was released on September 25, 2015, and has the following changes:



- Updates [Figure 2-3, "Running the V2 Speaker with Auxiliary Power"](#)
- Updates [Figure 2-4, "Singlewire-enabled Speaker with Remote Call Button"](#)
- Updates [Figure 2-5, "Singlewire-enabled Speaker with Extra Speaker Connection"](#)
- Updates [Figure 2-6, "Singlewire-enabled Speaker with Line Out"](#)

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. Prior to installation, consult local building and electrical code requirements.

 <p>GENERAL ALERT</p>	<p>Warning <i>Electrical Hazard:</i> This product should be installed by a licensed electrician according to all local electrical and building codes.</p>
 <p>GENERAL ALERT</p>	<p>Warning <i>Electrical Hazard:</i> To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.</p>

Pictorial Alert Icons

	<p>General Alert</p> <p><i>This pictorial alert indicates a potentially hazardous situation. This alert will be followed by a hazard level heading and more specific information about the hazard.</i></p>
	<p>Ground</p> <p><i>This pictorial alert indicates the Earth grounding connection point.</i></p>

Hazard Levels

Danger: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This is limited to the most extreme situations.

Warning: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Caution: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also alert users against unsafe practices.

Notice: Indicates a statement of company policy (that is, a safety policy or protection of property).

The safety guidelines for the equipment in this manual do not purport to address all the safety issues of the equipment. It is the responsibility of the user to establish appropriate safety, ergonomic, and health practices and determine the applicability of regulatory limitations prior to use. Potential safety hazards are identified in this manual through the use of words Danger, Warning, and Caution, the specific hazard type, and pictorial alert icons.

Abbreviations and Terms

Abbreviation or Term	Definition
A-law	A standard companding algorithm, used in European digital communications systems to optimize, i.e., modify, the dynamic range of an analog signal for digitizing.
AVP	Audio Video Profile
Cat 5	TIA/EIA-568-B Category 5
DHCP	Dynamic Host Configuration Protocol
LAN	Local Area Network
LED	Light Emitting Diode
Mbps	Megabytes per Second.
NTP	Network Time Protocol
PBX	Private Branch Exchange
PoE	Power over Ethernet (as per IEEE 802.3af standard)
RTP	Real-time Transport Protocol
RTFM	Reset Test Function Management
Talkback	Two-way communication enabled
TFTP	Trivial File Transfer Protocol
u-law	A companding algorithm, primarily used in the digital telecommunication
UC	Unified Communications
VoIP	Voice over Internet Protocol

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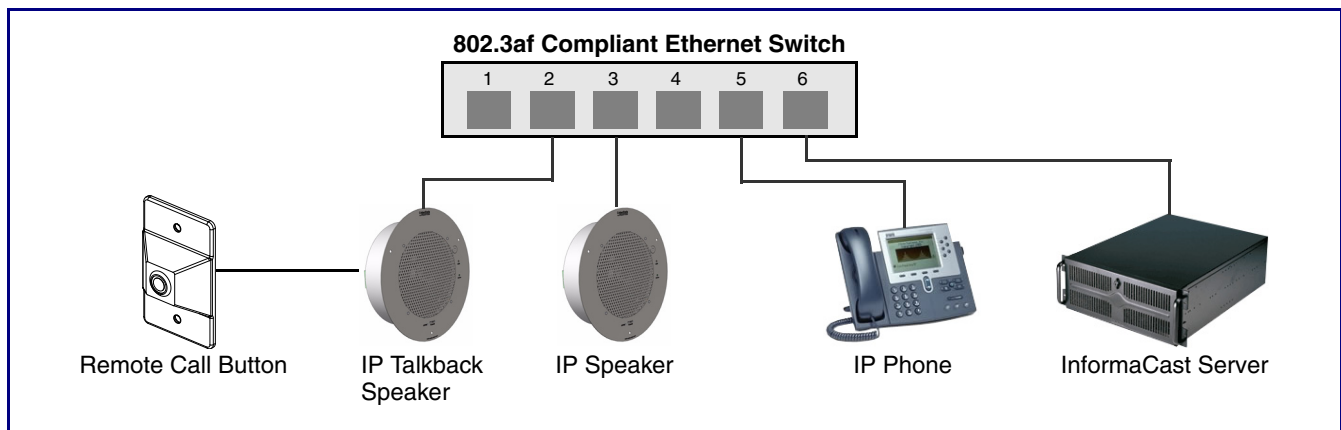
1 Product Overview

The CyberData Singlewire-enabled Push-to-Talk speaker enables two-way conversations using the Singlewire Push-to-Talk application running on the phone. The Singlewire-enabled Speaker easily connects into local area networks with a single CAT5/6 cable from your PoE switch. Its small footprint allows the speaker to be mounted almost anywhere with multiple mounting options available.

By use of the optional remote call button, calls to a predetermined extension can be initiated from the room with the speaker. During the active calls, the LED light on the switch can be programmed to blink to show call activity.

Figure 1-1 illustrates a typical configurations for the Singlewire-enabled Speaker.

Figure 1-1. Typical Installation



Note The version of InformaCast needs to be 4.0 or higher.

Note Prior to installation, create a plan for the locations of your speakers.



General Alert

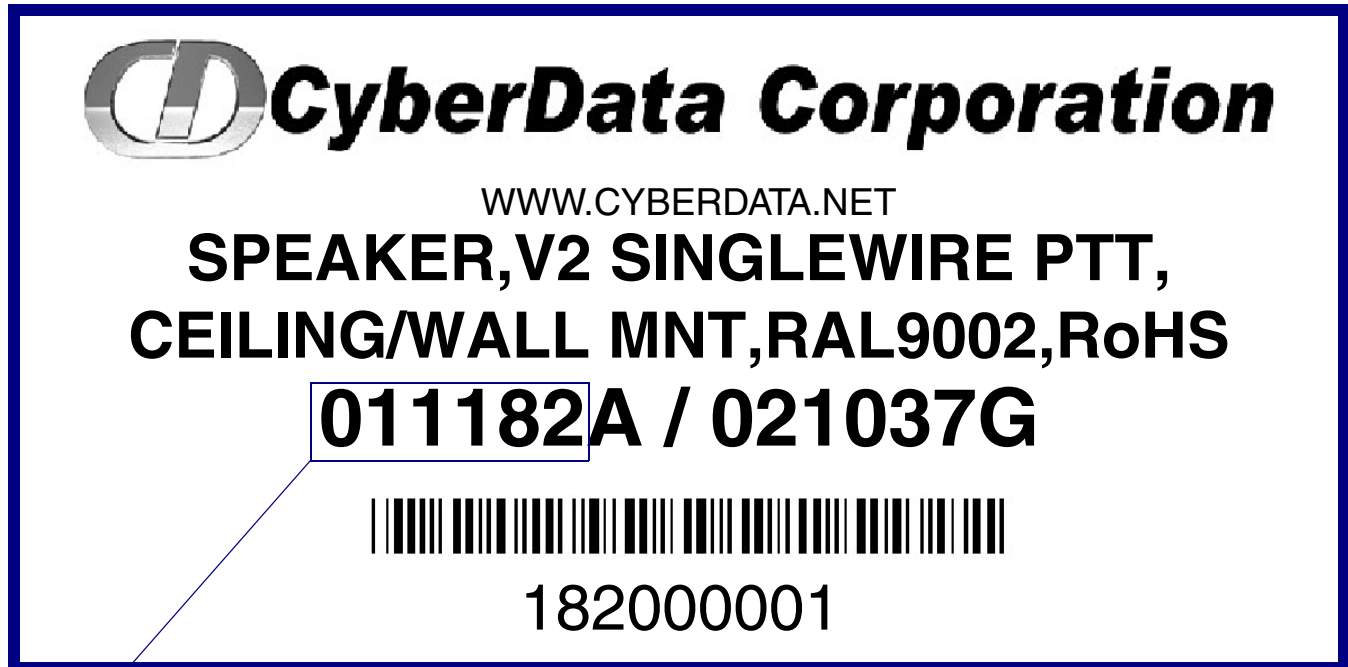
Consult local building and electrical code requirements prior to installation.

1.1 How to Identify This Product

To identify the VoIP Singlewire-enabled Push-to-Talk Speaker, look for a model number label similar to the one shown in [Figure 1-2](#). The model number on the label should be one of the following:

- **011182**, RAL 9002, Gray White, Standard Color
- **011183**, RAL 9003, Signal White, Optional Color

Figure 1-2. Model Number Label

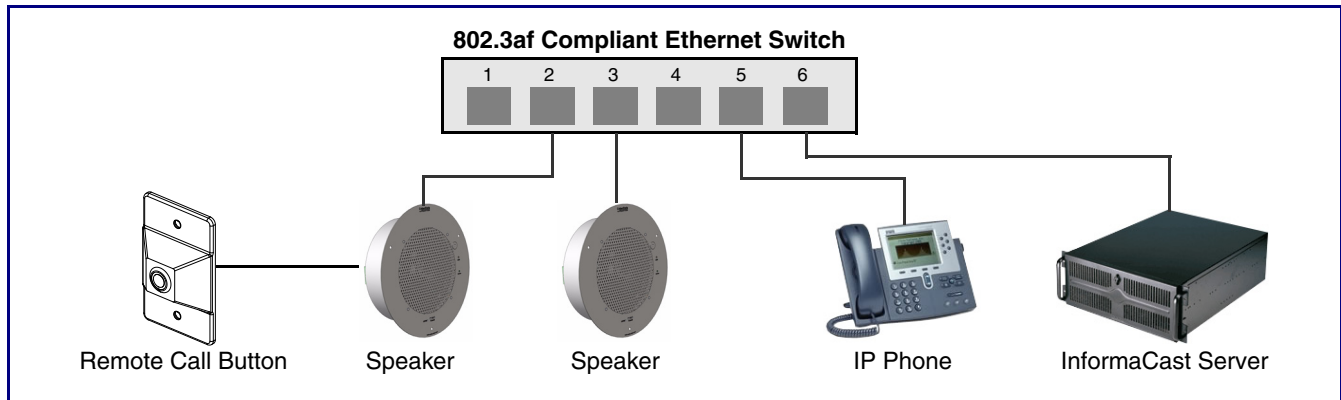


Model number

1.2 Installation

Figure 1-3 illustrates a typical configurations for the Singlewire-enabled Speaker.

Figure 1-3. Typical Installation



See the following sections for other installation options:

- [Section 2.2.4, "Running the Singlewire-enabled Speaker with Auxiliary Power"](#)
- [Section 2.2.6, "Singlewire-enabled Speaker with Remote Call Button"](#)
- [Section 2.2.7, "Singlewire-enabled Speaker with Extra Speaker Connection"](#)
- [Section 2.2.8, "Singlewire-enabled Speaker with Line Out"](#)

1.3 Product Features

- Push-to-Talk
- Informacast-controlled operation
- Supports SingleWire/Informacast Server Resilience
- Web-based configuration
- Web-based firmware upgradeable
- Small footprint
- High efficiency speaker driver
- PoE 802.3af Enabled (Powered-over-Ethernet)
- Network and external speaker volume control
- Optional external call button and LED indicator

1.4 Supported Protocols

The Singlewire-enabled Speaker supports:

- Multicast
- DHCP Client
 - Dynamically assigns IP addresses in addition to the option to use static addressing.
- InformaCast Version 4.0 and greater
- TFTP Client
 - Facilitates Web-based firmware upgrades of the latest speaker capabilities.
- RTP
- Audio Encodings
 - PCMU (G.711 mu-law)
 - PCMA (G.711 A-law)
 - Packet Time 20 ms

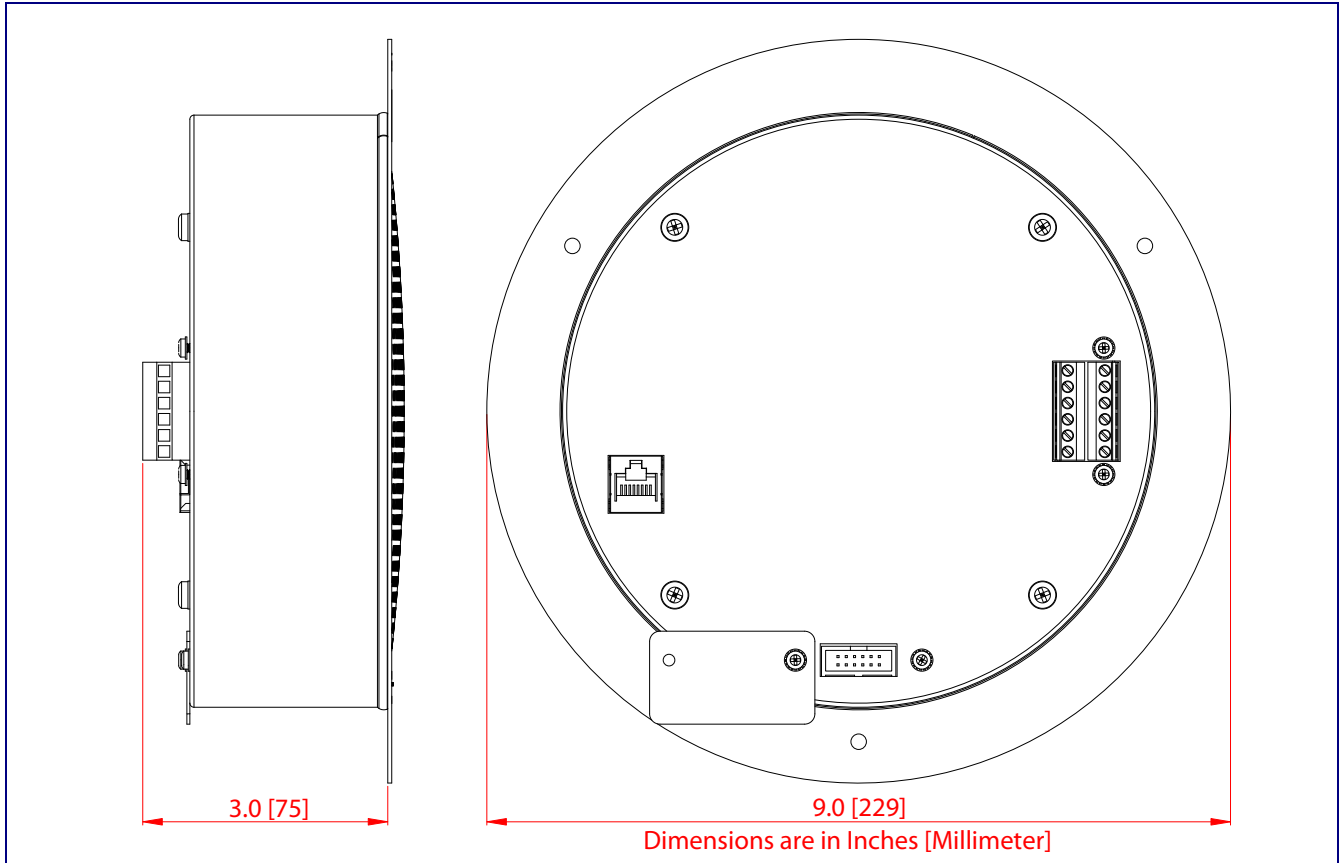
1.5 Product Specifications

Category	Specification
Sensitivity	96dB/1W/1M S.P. Level
Output	10 Watts Peak Power
Operating temperature	-30 to 55 C (-22 to 131 F)
Port baud rate	10/100 Mbps
Protocol	Singlewire InformaCast 4.0 and higher
Power Input	PoE 802.3af (as per IEEE 802.3af standard from a UL listed power source)
Payload types	G711, A-law and μ -law
Warranty	2 years limited
Dimensions	9" x 2.4"
Weight	2.8 lbs./shipping weight of 3.8 lbs. (1.3 kg/shipping weight of 1.7 kg)
Part number	011182, RAL 9002, Gray White, Standard Color 011183, RAL 9003, Signal White, Optional Color

1.6 Dimensions

Figure 1-4 shows the dimensions for the Singlewire-enabled Speaker.

Figure 1-4. Dimensions



1.7 Starting a Push-to-Talk Session from an IP Phone (Summary)

To start a push-to-talk session from an IP phone:

1. Make sure that the Cisco environment is set it up with the **Intercom Service**.
2. On the Cisco IP phone, select the **Service** button.
3. Select the **Informacast Intercom Service**.
4. On the Cisco IP phone, dial the extension number for the Speaker that you want to call.
5. When the call from the Cisco IP phone to the Speaker is active, you can do one of the following:
 - Select the **Listen** button on the phone to listen to someone talking into the Speaker.
 - Select the **Talk** button on the phone to talk to someone listening to the Speaker.

Note The IP phone always controls the talking and listening feature of the Speaker.

6. Select the **Exit** button to terminate the call.

Note For a more detailed explanation of this procedure with pictures, see [Section 1.9, "Starting a Push-to-Talk Session from an IP Phone \(Detailed\)"](#).

1.8 Starting a Push-to-Talk Session from a Push-to-Talk Speaker (Summary)

To start a push-to-talk session from a push-to-talk speaker:

1. Make sure that the Cisco environment is set it up with the **Intercom Service**.
2. Press the Remote Call Button to make the Singlewire-enabled Speaker dial a pre-programmed IP phone extension.
3. When the call from the Singlewire-enabled Speaker to the Cisco IP phone is active, you can do one of the following:
 - Select the **Listen** button on the phone to listen to someone talking into the Speaker.
 - Select the **Talk** button on the phone to talk to someone listening to the Speaker.

Note The IP phone always controls the talking and listening feature of the Speaker.

4. Select the **Exit** button to terminate the call.

Note For a more detailed explanation of this procedure with pictures, see [Section 1.10, "Starting a Push-to-Talk Session from a Push-to-Talk Speaker \(Detailed\)"](#).

1.9 Starting a Push-to-Talk Session from an IP Phone (Detailed)

To start a Push-to-Talk Session from an IP Phone:

1. Press the **Services** button. In the Phone window, you will see the words **Informacast Intercom** listed under **Services**.
2. Press the button under the word **Select** in the phone window.

Figure 2. Select the Informacast Intercom Service



Informacast Intercom service

Button under **Select** in the phone window

Services button

3. When the words **Speaker Selection** and **Dial Code** appear in the phone window, use the keypad to enter the dial code for the preconfigured Push-to-Talk speaker that you want to call.
4. After entering the dial code, press the button under the word **Submit** in the phone window to call the speaker.

Figure 3. Enter the Dial Code

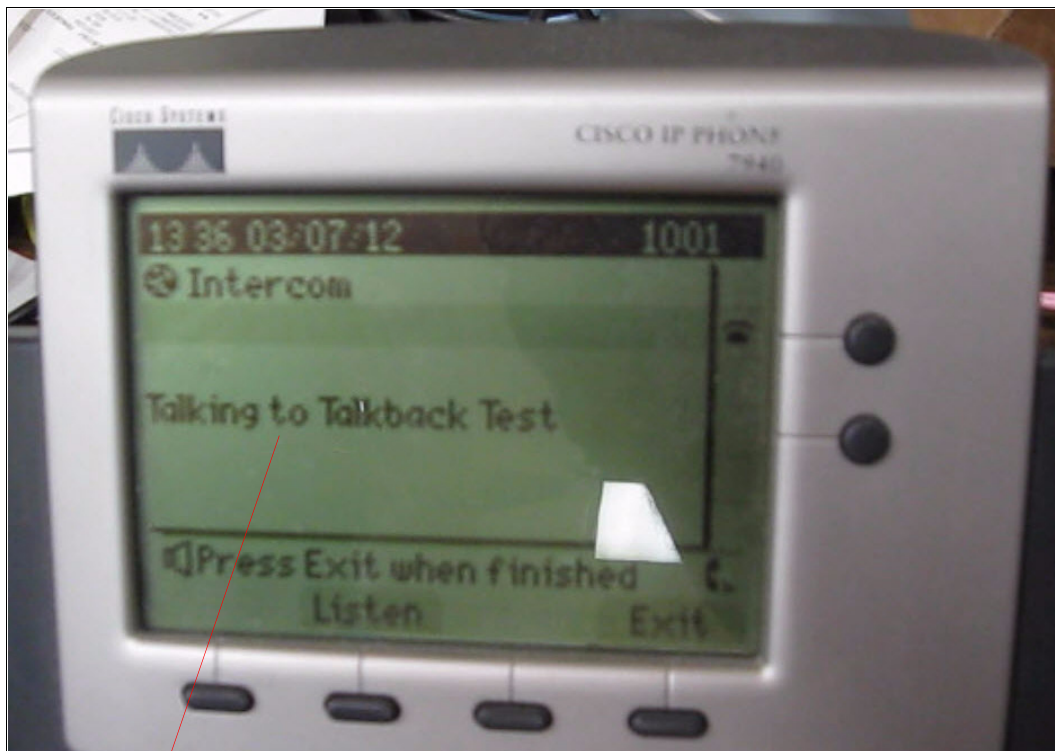


Speaker Selection

Button under **Select** in the phone window

5. When the words **Talking to “Speaker Name”** appear in the phone window, the speaker is in *Talking Mode*. A person at the speaker can begin talking to the phone.

Figure 4. Talking Mode



Talking to “Speaker Name”

6. If you want to switch the speaker to *Listening Mode*, the person at the phone must press the button under the word **Listen** that is in the phone window.

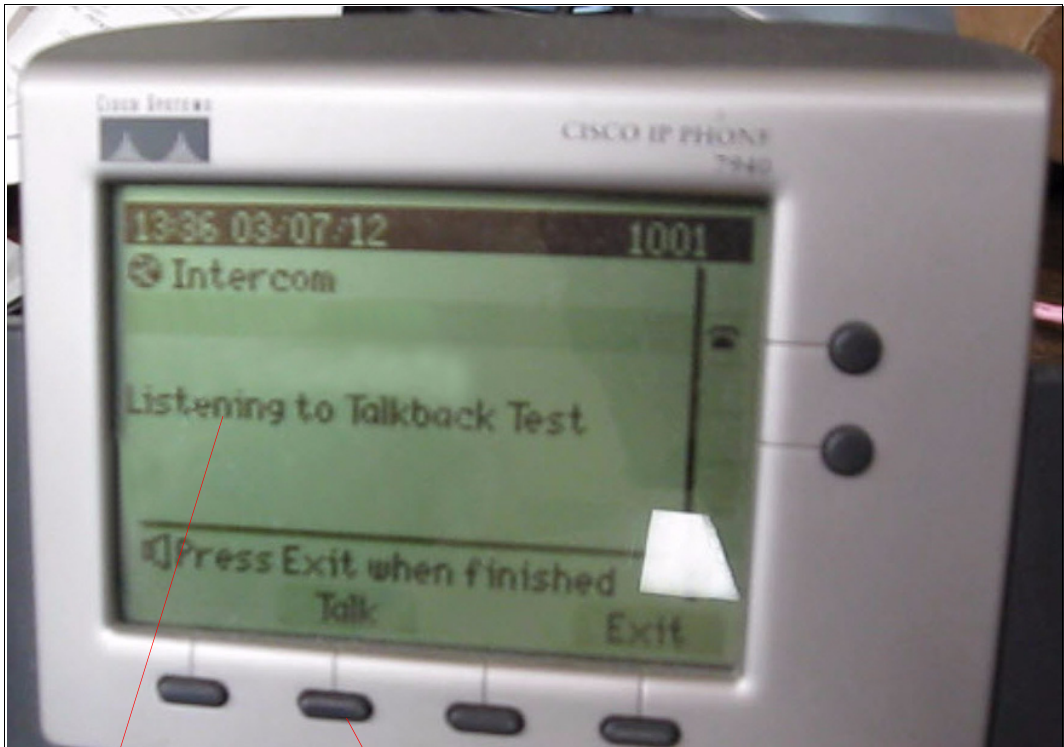
Figure 5. Press the Listen Button to Switch to Listening Mode



Button under **Listen** in the phone window

7. When the words **Listening to “Speaker Name”** appear in the phone window, the speaker is in *Listening Mode*. A person at the speaker can begin listening to someone talking through the phone.
8. If you want to switch the speaker back to *Talking Mode*, the person at the phone must press the button under the word **Talk** that is in the phone window.

Figure 6. Listening Mode



Listening to “Speaker Name” Button under **Talk** in the phone window

- To end the call at any time, the person at the phone must press the button under the word **Exit** in the phone window.

Figure 7. Press Exit to End to End the Call



Button under **Exit** in the phone window

10. The person at the phone must then press the button under the word **Exit** in the phone window again to return to the **Home** screen.

Figure 8. Press Exit Again to Return to the Home Screen



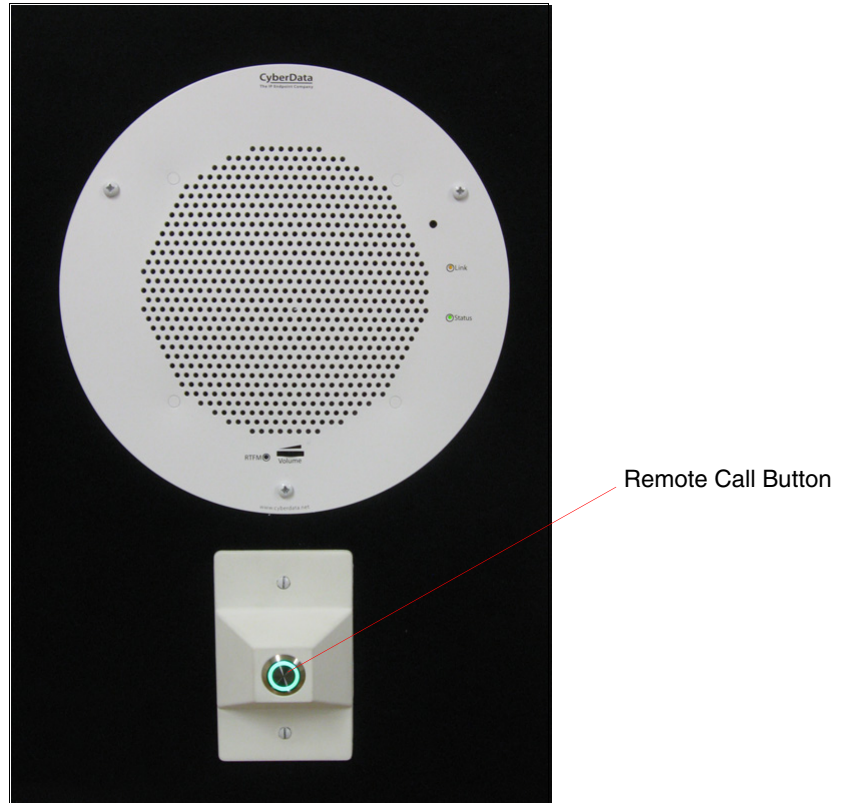
Button under **Exit** in the phone window

1.10 Starting a Push-to-Talk Session from a Push-to-Talk Speaker (Detailed)

To start a Push-to-Talk Session from a Push-to-Talk Speaker:

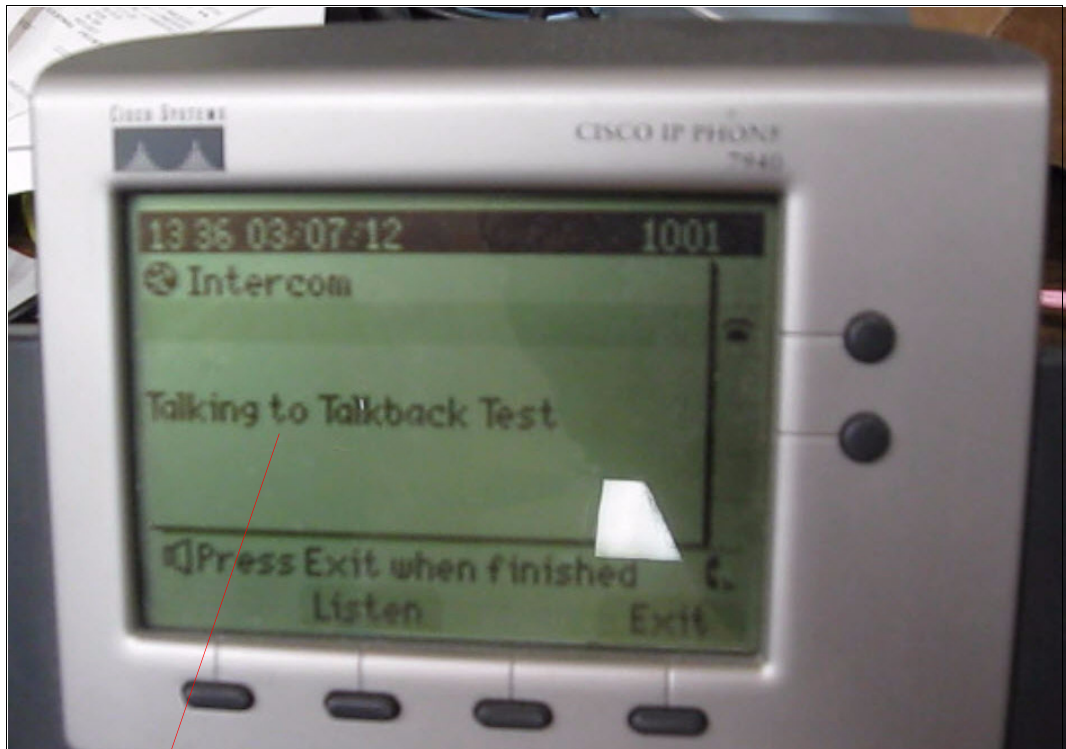
1. The person at the preconfigured Push-to-Talk speaker must press the Remote Call Button. The speaker will immediately call a specific IP phone.

Figure 9. Press the Remote Call Button



2. When the words **Talking to Talkback Test** appear in the phone window, the speaker is in *Talking Mode*. A person at the speaker can begin talking to the phone.

Figure 10. Talking Mode



Talking to Talkback Test

3. If you want to switch the speaker to *Listening Mode*, the person at the phone must press the button under the word **Listen** that is in the phone window.

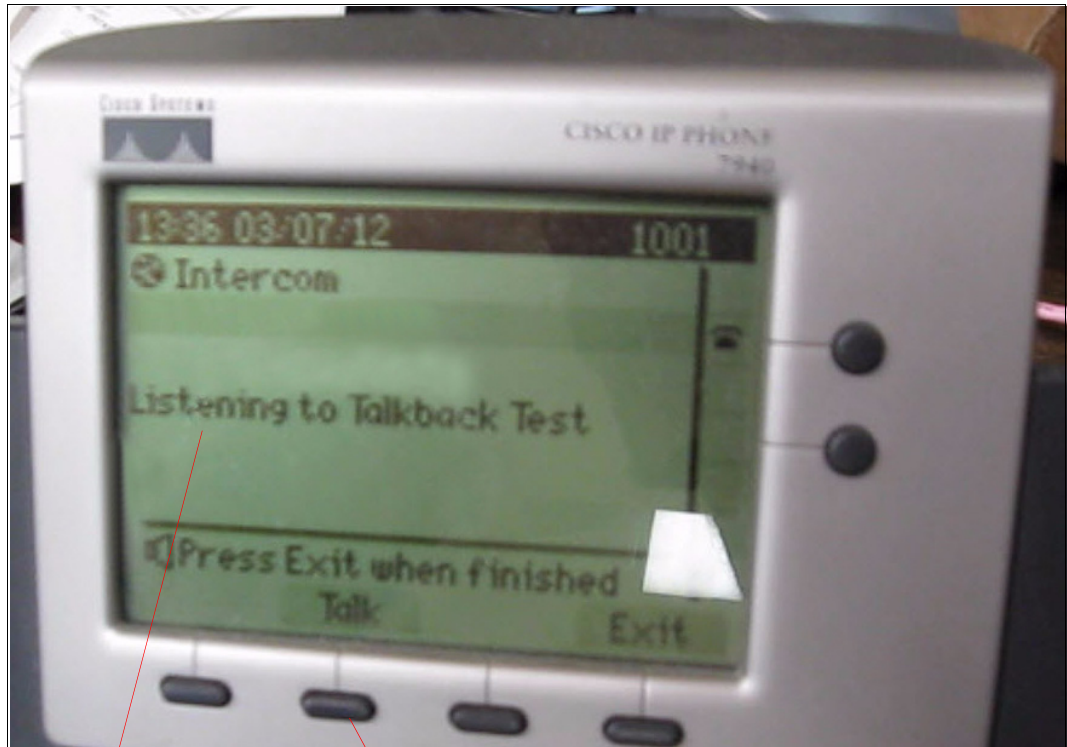
Figure 11. Press the Listen Button to Switch to Listening Mode



Button under **Listen** in the phone window

4. When the words **Listening to Talkback Test** appear in the phone window, the speaker is in *Listening Mode*. The person at the speaker can begin listening to someone talking through the phone.
5. If you want to switch the speaker back to *Talking Mode*, the person at the phone must press the button under the word **Talk** that is in the phone window.

Figure 12. Listening Mode



Listening to Talkback Test

Button under **Talk in the phone window**

6. To end the call at any time, the person at the phone must press the button under the word **Exit** in the phone window.

Figure 13. Press Exit to End to End the Call



Button under **Exit** in the phone window

7. The person at the phone must then press the button under the word **Exit** in the phone window again to return to the **Home** screen.

Figure 14. Press Exit Again to Return to the Home Screen



Button under **Exit** in the phone window

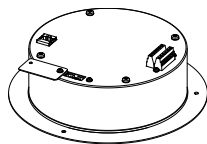


8 Installing the Singlewire-enabled Speaker

2.1 Parts List

Table 2-1 illustrates the parts for each speaker and includes kits for the drop ceiling and drywall mounting.

Note The installation template for the Singlewire-enabled Speaker is located on the *Installation Quick Reference Guide* that is included in the packaging with each speaker.

Table 2-1. Parts

Quantity	Part Name	Illustration
1	Singlewire-enabled Speaker Assembly	
1	Installation Quick Reference Guide	
1	Speaker Mounting Accessory Kit (Part #070054A)	

2.2 Set Up and Test the Speaker

Set up and configure each speaker *before* you mount it.

CyberData delivers each speaker with the following factory default values:

Table 2-2. Factory Network Default Settings—Default of Network

Parameter	Factory Default Setting
IP Addressing	DHCP
IP Address ^a	10.10.10.10
Web Access Username	admin
Web Access Password	admin
Subnet Mask ^a	255.0.0.0
Default Gateway ^a	10.0.0.1

a. Default if there is not a DHCP server present.

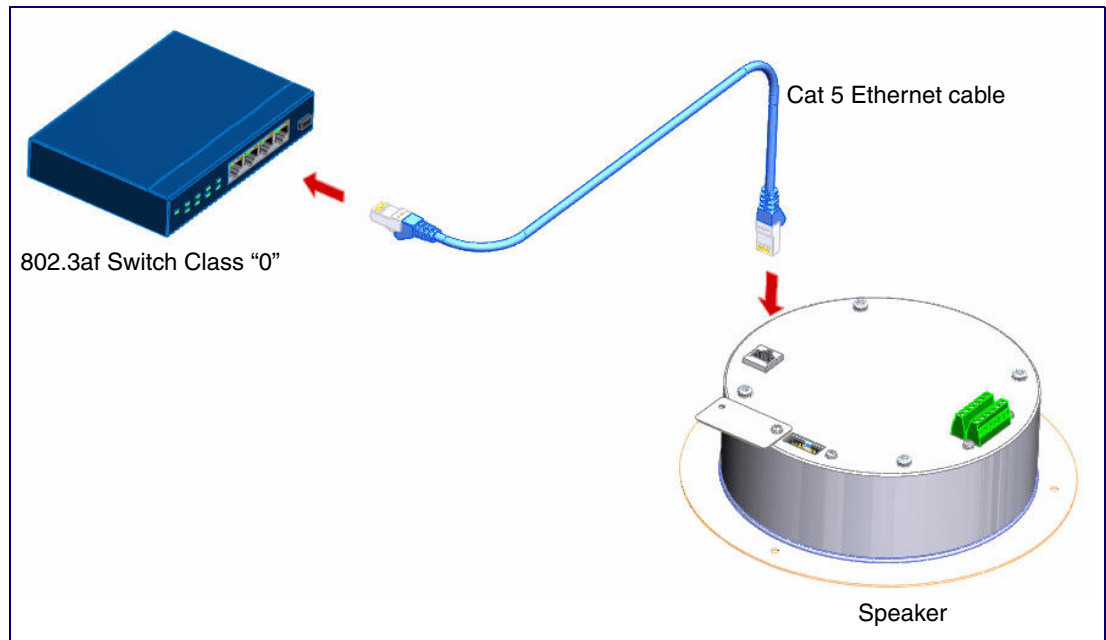
2.2.1 Connect Power to the Speaker

Figure 2-1 through Figure 2-3 illustrates how to connect power to the Singlewire-enabled Speaker.

2.2.2 Singlewire-enabled Speaker to a 802.3af Compliant PoE Switch

Figure 2-1 illustrates how to connect the Singlewire-enabled Speaker to a 802.3af compliant PoE switch via a Cat 5 Ethernet cable.

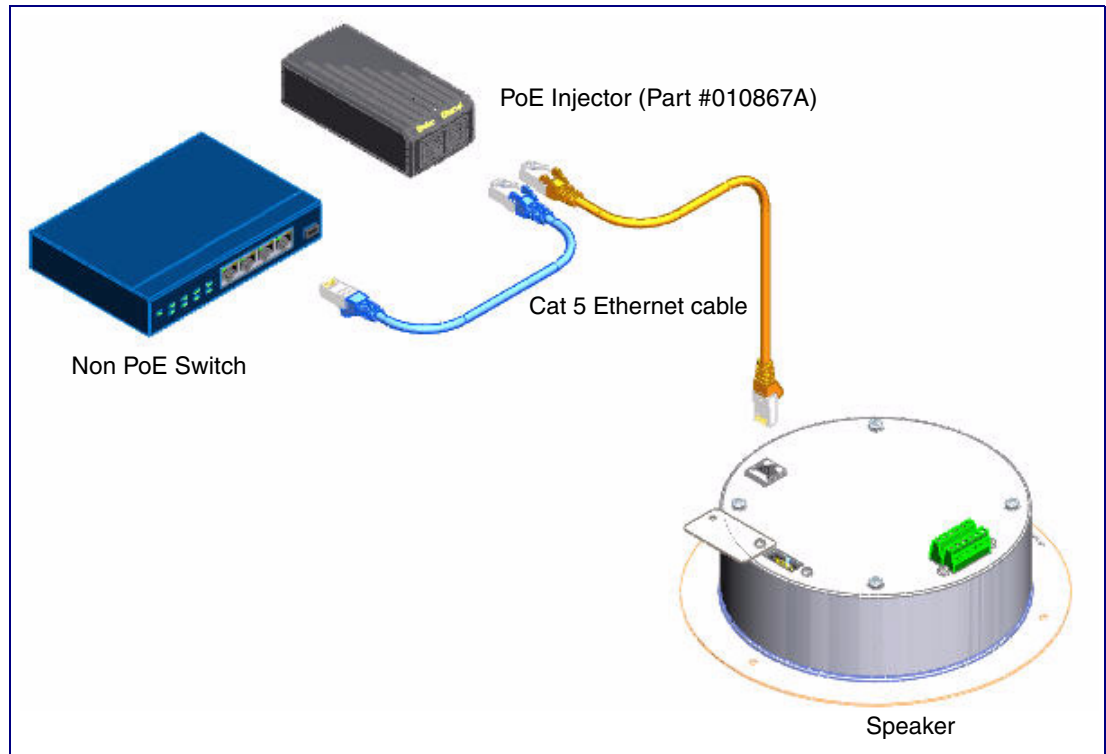
Figure 2-1. Singlewire-enabled Speaker to a 802.3af Compliant PoE Switch



2.2.3 Singlewire-enabled Speaker (with PoE Injector) to a 802.3af Compliant PoE Switch

In [Figure 2-2](#), if a PoE switch is not available, you will need a PoE Injector, part #010867A (ordered separately). A PoE Injector is a power supply solution for those who have a standard Non PoE Switch.

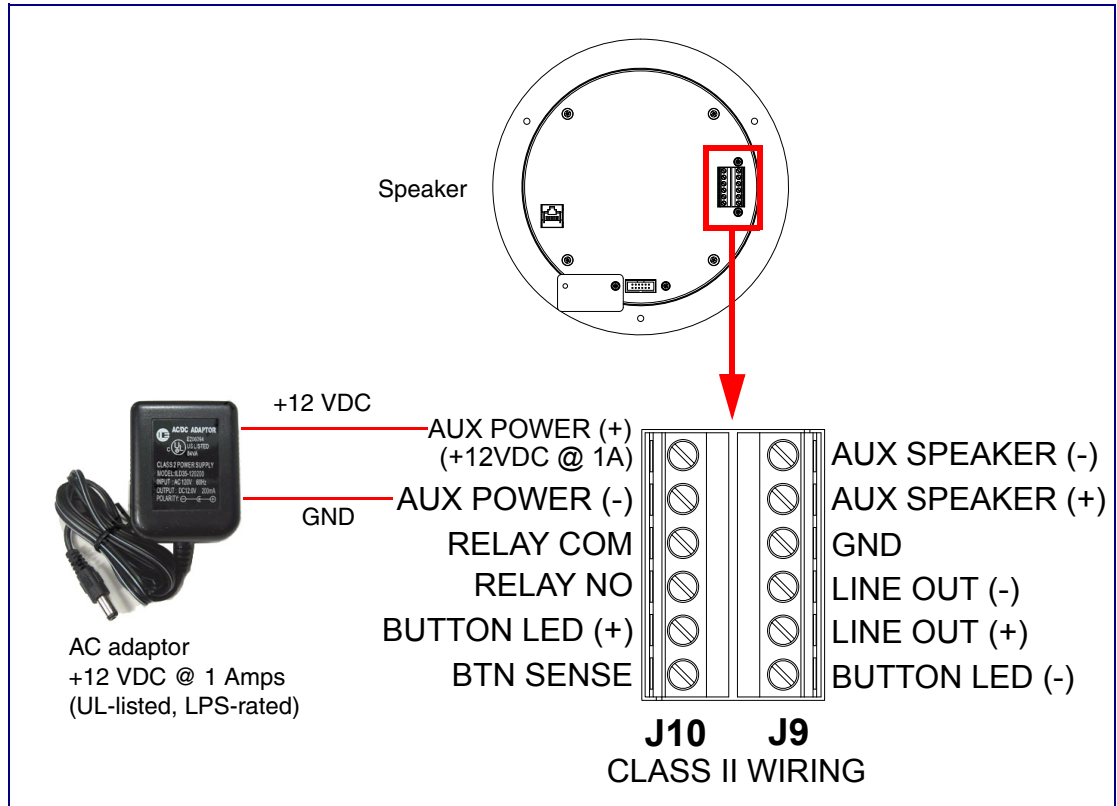
Figure 2-2. Singlewire-enabled Speaker Speaker (with PoE Injector) to a Non PoE Switch



2.2.4 Running the Singlewire-enabled Speaker with Auxiliary Power

In [Figure 2-3](#), the power for the Singlewire-enabled Speaker can either come from an 802.3af Network connection or from an external source.

Figure 2-3. Running the V2 Speaker with Auxiliary Power



2.2.5 Installation Options

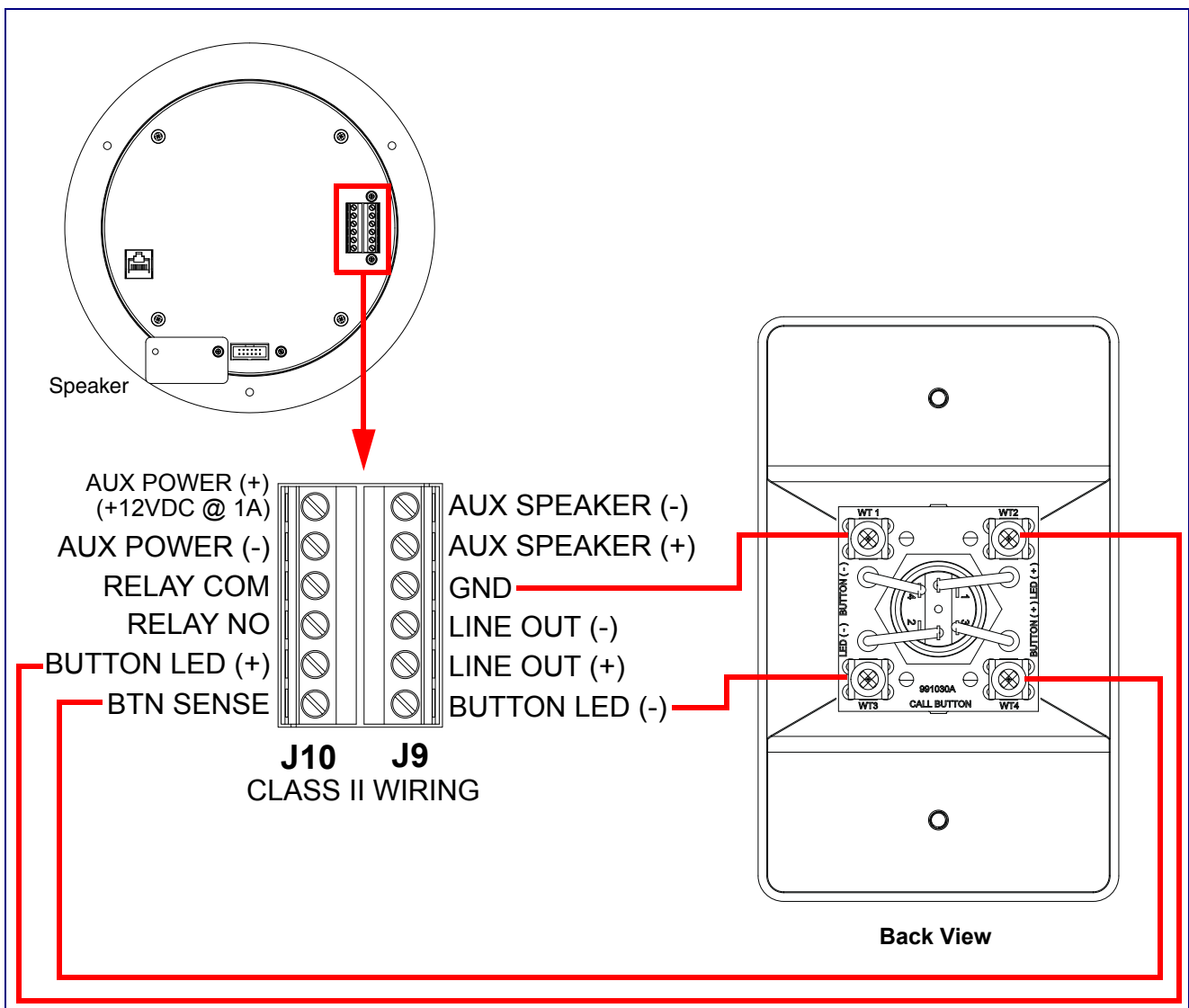
Figure 2-5 through Figure 2-6 illustrates various installation options for the Singlewire-enabled Speaker.

2.2.6 Singlewire-enabled Speaker with Remote Call Button

In Figure 2-4, when you press the remote call button, the speaker will initiate a SIP call to a pre-determined extension.

When you call the Speaker from a remote phone and auto-answer is not enabled, the LED on the remote button will blink. The call will be answered when the button is pressed.

Figure 2-4. Singlewire-enabled Speaker with Remote Call Button

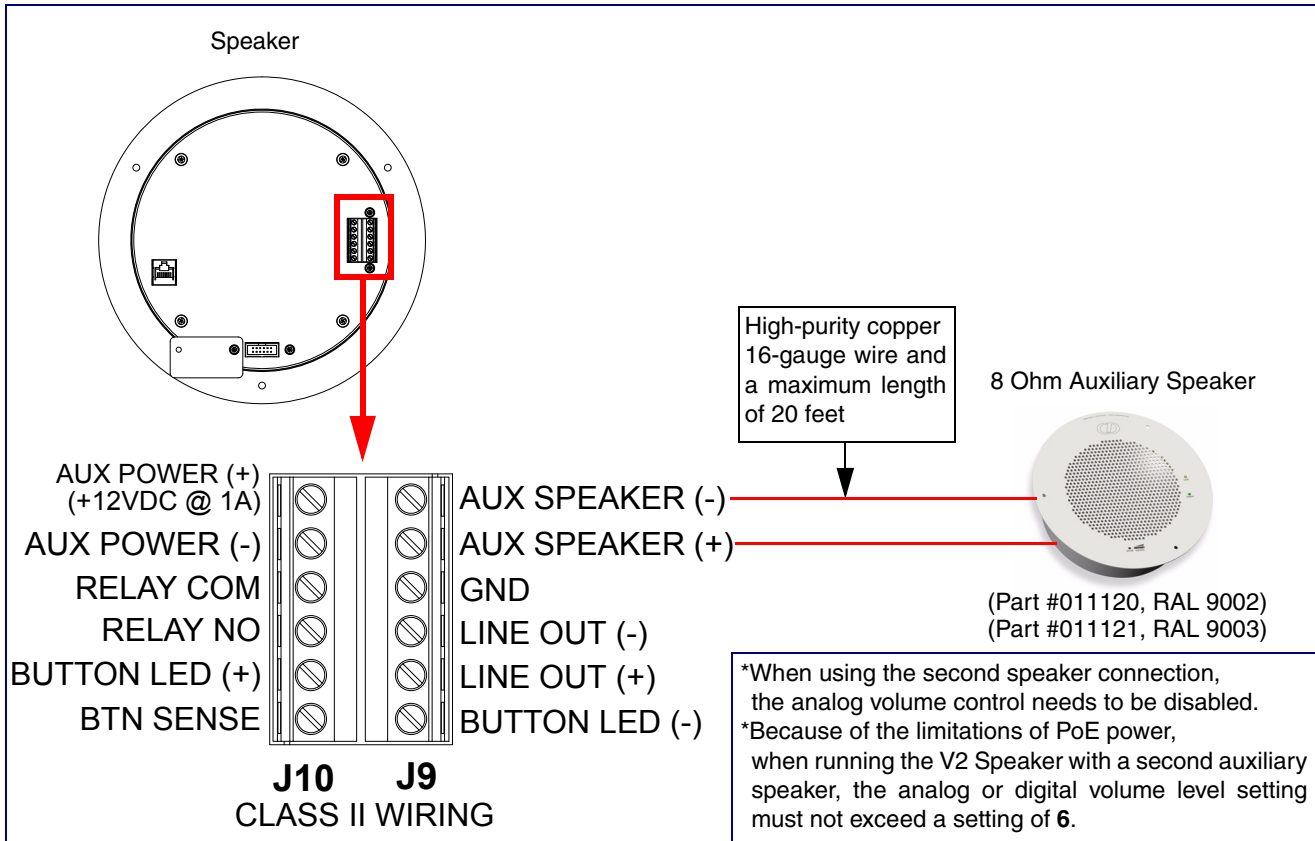


2.2.7 Singlewire-enabled Speaker with Extra Speaker Connection

In [Figure 2-5](#), the Singlewire-enabled Speaker supports an amplified audio output for a second analog speaker. While the total speaker wattage is the same, by connecting a low cost analog speaker, additional coverage can be realized.

Speaker Setup When using the second speaker connection, the digital volume control needs to be set to less than level **8** while making pages. Some adjustment of this value may be required depending on the specific PoE switch.

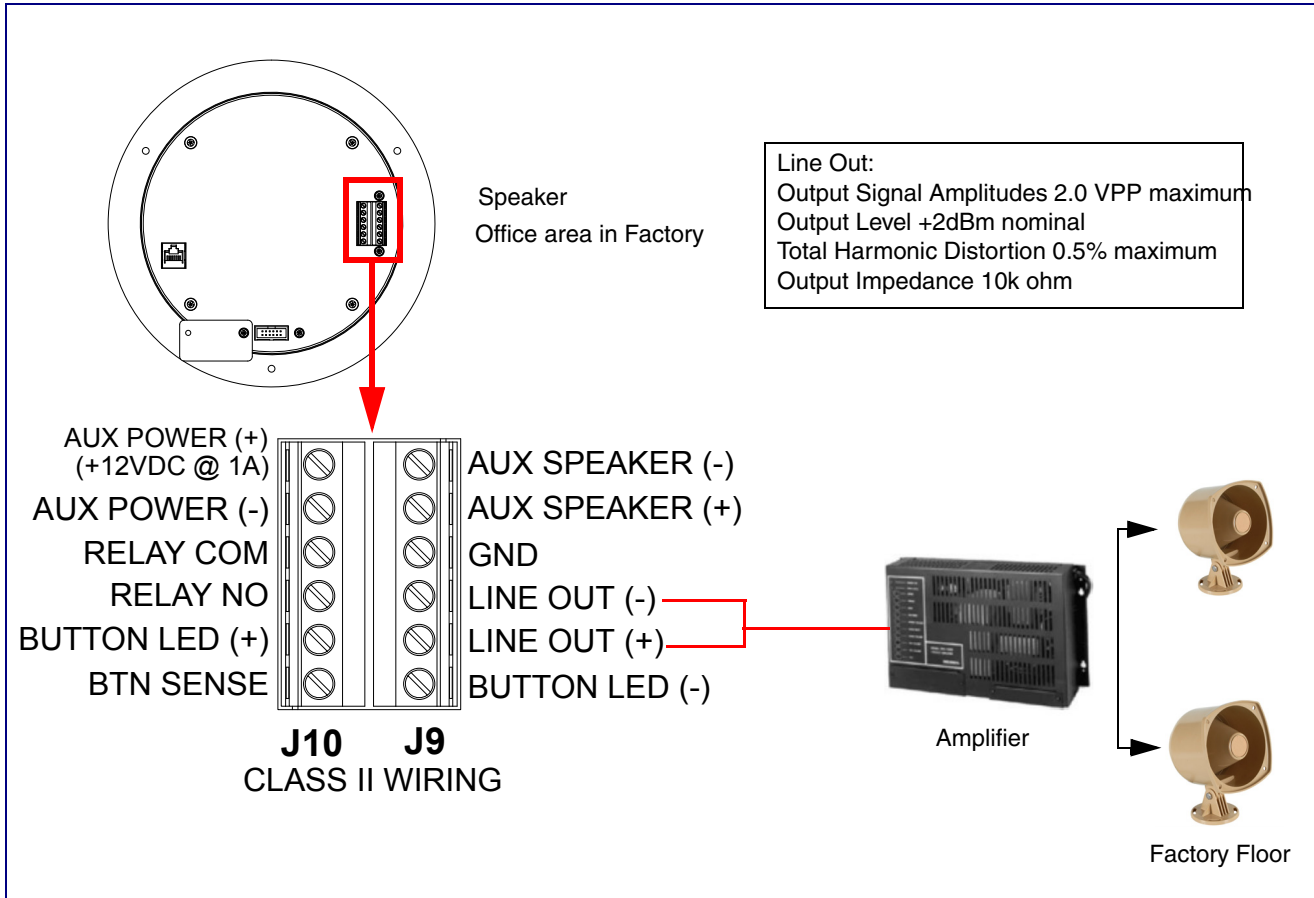
Figure 2-5. Singlewire-enabled Speaker with Extra Speaker Connection



2.2.8 Singlewire-enabled Speaker with Line Out

In [Figure 2-6](#), for areas that require more speaker volume, the Singlewire-enabled Speaker can be connected directly to an auxiliary amplifier to drive additional horns or speakers. This is done through the line-out connection.

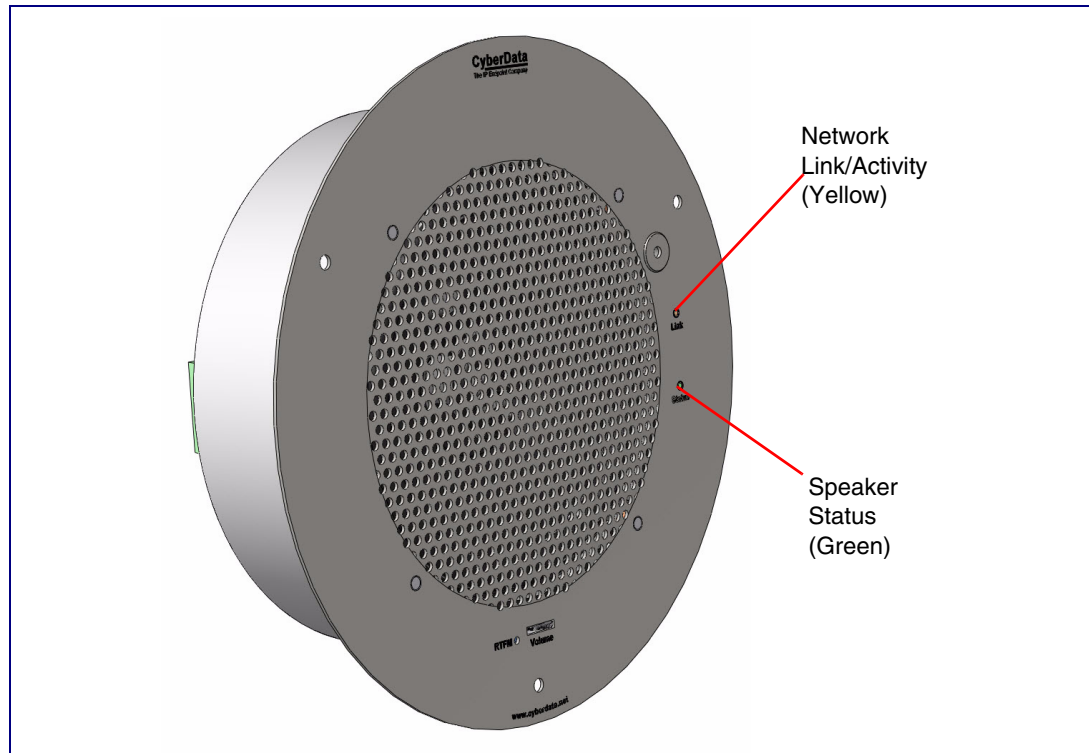
Figure 2-6. Singlewire-enabled Speaker with Line Out



2.2.9 Confirm that the Speaker is Operational and Linked to the Network

After connecting the speaker to the 802.3af compliant Ethernet hub, the LEDs on the speaker face confirm that the speaker is operational and linked to the network.

Figure 2-7. Status and Activity LEDs



2.2.10 Status LED

After supplying power to the speaker:

1. The green power/status LED and the yellow network LED comes on immediately.

Note If the board is set to use DHCP and there is not a DHCP server available on the network, it will try five times with a three second delay between tries and eventually fall back to the programmed static IP address (by default 10.10.10.10). This process will take approximately 80 seconds.

2.2.11 Link LED

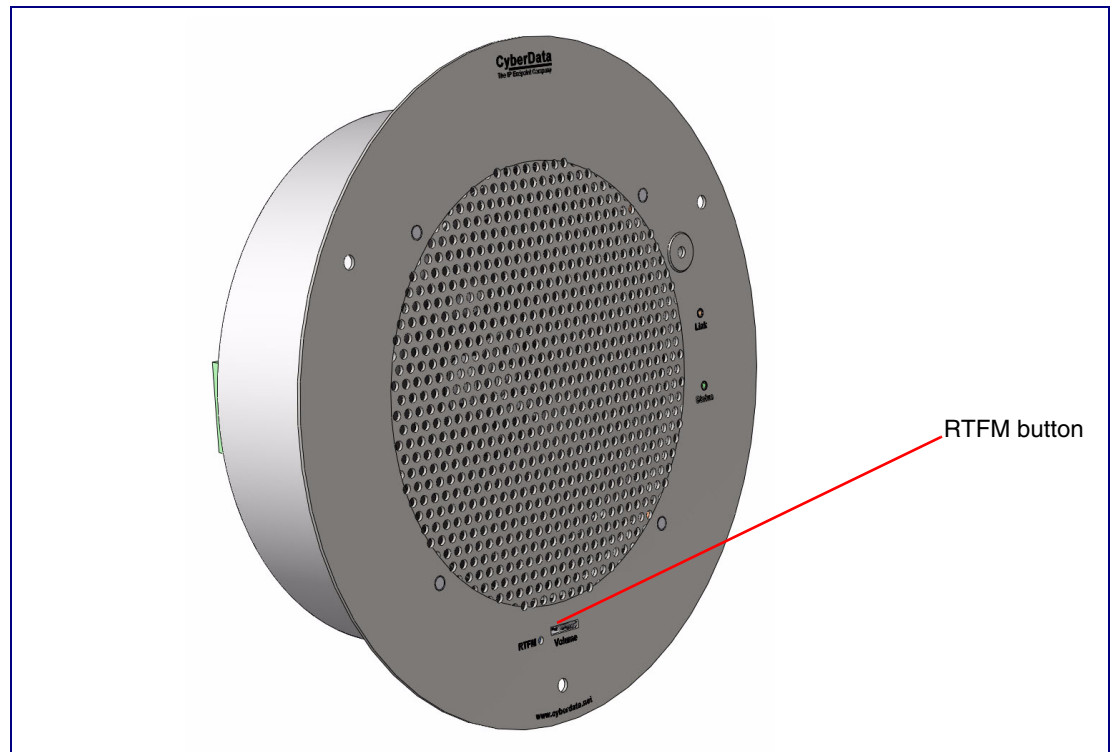
- The **Link** LED is illuminated when the network link to the speaker is established.
- The **Link** LED blinks to indicate network traffic.

2.2.12 Confirm the IP Address, Test the Audio, and Check the Volume

2.2.13 Reset Test Function Management (RTFM) Button

When the speaker is operational and linked to the network, use the Reset Test Function Management (RTFM) button (Figure 2-8) on the speaker face to announce and confirm the speaker's IP Address, test that the audio is working, and check the volume.¹

Figure 2-8. RTFM Button



To announce a speaker's current IP address:

1. Press and release the RTFM button within a five second window¹.
2. When you hear the IP address announcement, check the speaker volume.

Note The speaker will use DHCP to obtain the new IP address (DHCP-assigned address or default to 10.10.10.10 if a DHCP server is not present).

Note Pressing and holding the RTFM button for longer than five seconds will restore the speaker to the factory default settings.

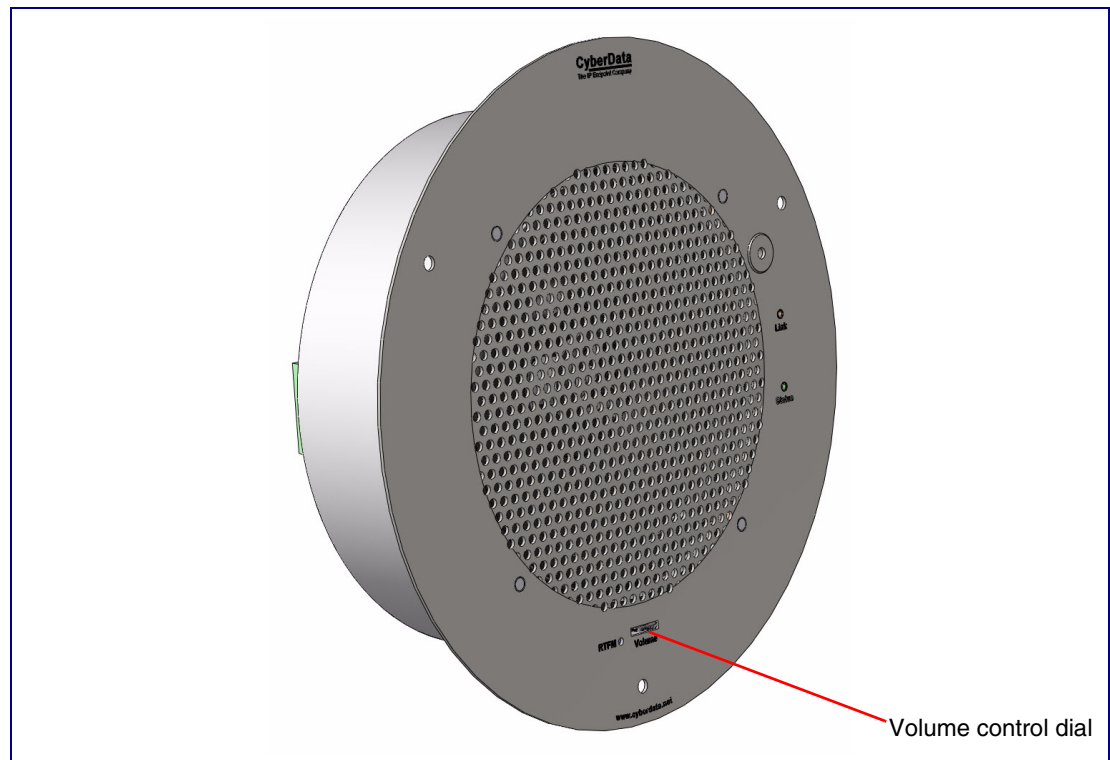
1. The **Restore Factory Defaults** and **Announce IP Address** functions will only work once the speaker has successfully retrieved its configuration file from the InformaCast Server.

2.2.14 Adjust the Volume

To adjust the speaker volume, turn the **Volume** control dial (Figure 2-9) on the speaker face.

Note The Singlewire-enabled Speaker has two volume controls: **Networked-based** (as controlled by the Singlewire protocol from InformaCast) and **External** (volume knob).

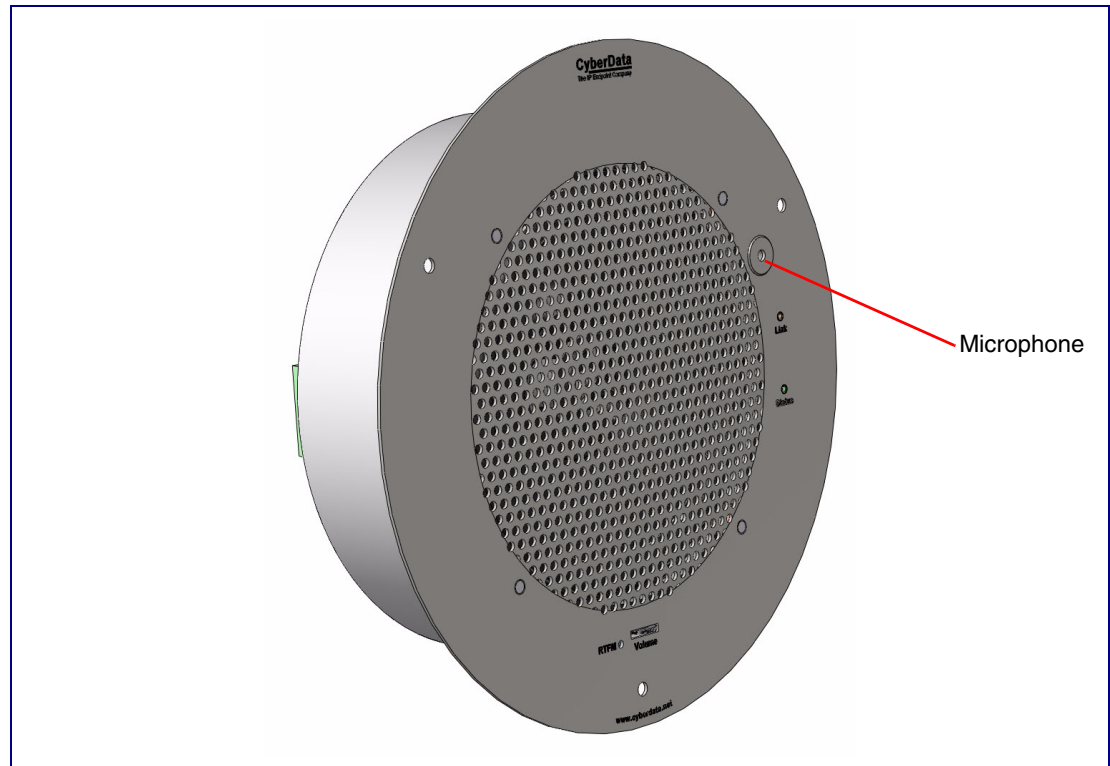
Figure 2-9. Volume Control



2.2.15 Using the Microphone

During an active call, the microphone can be used to “talk” to someone at a pre-configured IP phone extension. See [Figure 2-10](#).

Figure 2-10. Microphone



To set the factory default settings:

1. Press and hold the **RTFM** button for more than five seconds.
2. The speaker announces that it is restoring the factory default settings.

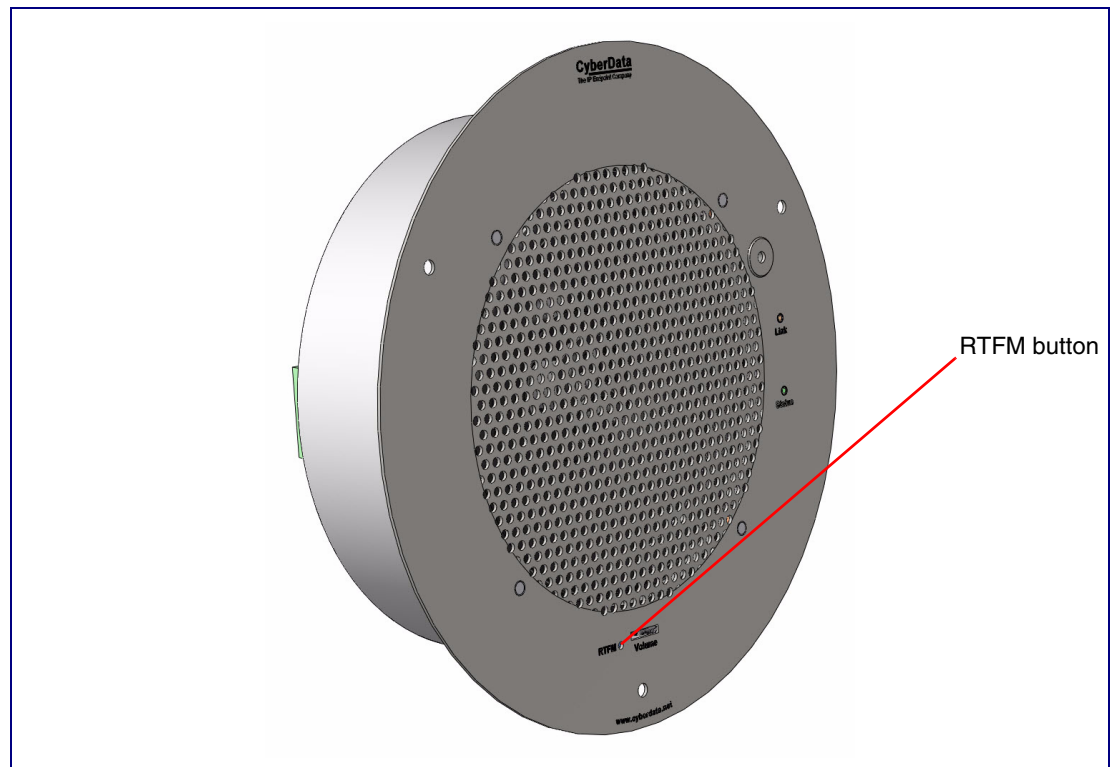
Note The speaker will use DHCP to obtain the new IP address (DHCP-assigned address or default to 10.10.10.10 if a DHCP server is not present).

2.2.16 How to Set the Factory Default Settings

2.2.17 RTFM Button

When the speaker is operational and linked to the network, use the Reset Test Function Management (RTFM) button (Figure 2-11) on the speaker face to set the factory default settings.

Figure 2-11. RTFM Button



To set the factory default settings:

1. Press and hold the **RTFM** button for more than five seconds.
2. The speaker announces that it is restoring the factory default settings.

The speaker will use DHCP to obtain the new IP address (DHCP-assigned address or default to 10.10.10.10 if a DHCP server is not present).

2.3 Configure the Speaker Parameters

To configure the speaker online, use a standard web browser.

Configuration of the speaker is taken care of by the InformaCast server. If an InformaCast server can not be found, the speaker will return to factory defaults as shown in [Table 2-3](#).

Table 2-3. Factory Network Default Settings—Default of Network




Parameter	Factory Default Setting
IP Addressing	DHCP
IP Address ^a	10.10.10.10
Web Access Username	admin
Web Access Password	admin
Subnet Mask ^a	255.0.0.0
Default Gateway ^a	10.0.0.1

a. Default if there is not a DHCP server present.

2.3.1 Singlewire-enabled Speaker Web Page Navigation

Table 2-4 shows the navigation buttons that you will see on every Singlewire-enabled Speaker web page.

Table 2-4. V2 Paging Amplifier Web Page Navigation

Web Page Item	Description
	Link to the Home page.
	Link to the Clock Configuration page. ^a
	Link to the Update Firmware page.

a. This page is used only if the CyberData Clock Kit is installed.

2.3.2 Log in to the Configuration Home Page

1. Open your browser to the Singlewire-enabled Speaker IP address. This can be found within the InformaCast Server Test Menu.

Note If the network does not have access to a DHCP server, the device will default to an IP address of 10.10.10.10.

Note Make sure that the PC is on the same IP network as the Singlewire-enabled Speaker.

2. When prompted, use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-12):

Web Access Username: **admin**

Web Access Password: **admin**

Figure 2-12. Home Page

CyberData Singlewire PTT Speaker

Home
Clock Config
Update Firmware

Device Settings

Change Username: admin
Change Password:
Re-enter Password:

Current Settings

Serial Number: 182000108
Mac Address: 00:20:f7:02:d5:eb
Firmware Version: v3.0.1

IP Addressing: dhcp
IP Address: 10.10.1.82
Subnet Mask: 255.0.0.0
DNS Server 1: 10.0.0.252
DNS Server 2:
Boot Time:
Current Time: 2015/08/19 16:10:57
IC Servers: 10.0.1.195
10.0.1.196
Configuration File: InformaCastSpeaker.cfg
B'casts Accepted: 0
B'casts Rejected: 0
B'casts Active: 0
RTP Packets Rxd: 0

Clock Status: NOT INSTALLED
Clock Firmware:

Miscellaneous Settings



Beep on Initialization: Yes No
Button Lit When Idle:
Blink Button While Recording:
Activate Relay While Recording:
Disable Volume Control Dial:

* You need to reboot for changes to take effect

Save Test Microphone Reboot

3. On the **Home Page**, review the setup details described in [Table 2-5](#).

Table 2-5. Home Page Overview

Web Page Item	Description
Device Settings	
Change Username	Type in this field to change the username (25 character limit).
Change Password	Type in this field to change the password (19 character limit).
Re-enter Password	Type the password again in this field to confirm the new password (19 character limit).
Current Settings	
Serial Number	Shows the device serial number.
Mac Address	Shows the device Mac address.
Firmware Version	Shows the current firmware version.
IP Addressing	Shows the current IP addressing setting (DHCP or Static).
IP Address	Shows the current IP address.
Subnet Mask	Shows the current subnet mask address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
Boot Time	Shows the boot time.
Current Time	Shows the current time.
I C Servers	Shows the InformaCast Server IP addresses.
Configuration File	Shows the configuration file.
B'casts Accepted	Shows the number of B'casts accepted.
B'casts Rejected	Shows the number of B'casts rejected.
B'casts Active	Shows the number of active B'casts.
RTP Packets Rx'd	Shows the number of RTP packets Rx'd.
Clock Status	Shows the current clock status.
Clock Firmware	Shows the current clock firmware version.
Beep on Initialization	When Yes is selected, you will hear a beep when the device initializes.
Button Lit When Idle	When selected, the Remote Call Button LED remains lit when idle.
Blink Button While Recording	When selected, the Remote Call Button LED blinks while a call is in progress.
Activate Relay While Recording	When selected, the relay will activate while a call is in progress.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

2.4 Configuring the Clock

1. Click the **Clock Config** button to open the **Clock Configuration** page. See [Figure 2-14](#).

Figure 2-13. Clock ConfigurationPage

CyberData Singlewire PTT Speaker

Home Clock Configuration

Clock Config Clock Status: NOT INSTALLED

Update Firmware Clock Firmware:

Clock Settings

Clock Brightness (0-14):

Use Ambient Light Sensor:

Clock Colon Type: Off On Blink

Clock Time Format: 12 Hour 24 Hour

Current Time

Current Time in 24 hour format (HHMMSS):



* You need to reboot for changes to take effect

Save Reboot

Note The **Clock Configuration** page is always visible. If a clock is not installed, the **Clock Status** will indicate **NOT INSTALLED**. Otherwise it shows **INSTALLED**.

Table 2-6 shows the web page items on the **NTP Server and Clock Configuration** page.

Table 2-6. NTP Server and Clock Configuration

Web Page Item	Description
Clock Status	Displays the current clock status.
Clock Firmware	Displays the current clock firmware version.
Clock Settings	
Clock Brightness (0-14)	Allows you to select the clock brightness level (0-14) (2 character limit)
Use Ambient Light Sensor	Enables or disables the ambient light sensor.
Clock Color Type	Allows you to select the clock color type (Off , On , or Blink)
Clock Time Format	Allows you to select the clock format (12 or 24 hour)
Current Time	
Current Time in 24 hour format (HHMMSS)	Allows you to input the current time in the 24 hour format. (6 character limit)
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

2.5 Upgrade the Firmware and Reboot the Singlewire-enabled Speaker

2.5.1 Upgrade the Firmware

To update the firmware from your computer:

1. Please contact VoIP Technical Support to obtain the latest Singlewire-enabled Speaker firmware file by submitting a contact form at the following website:
<http://support.cyberdata.net/>
2. Log in to the Singlewire-enabled Speaker home page as instructed in [Section 2.3.2, "Log in to the Configuration Home Page"](#).

3. Click the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-14](#).

Figure 2-14. Firmware Upgrade Page

CyberData Singlewire PTT Speaker

Home
Clock Config
Update Firmware

Upgrade Firmware

File Upload

Firmware Version: v3.0.1

Please specify a file:

Browse...

System will automatically reboot after upgrading firmware

Submit Reboot




4. Click **Browse**, and then navigate to the location of the Singlewire-enabled Speaker firmware file.
5. Click **Submit**.

Note This starts the upload process. Once the Singlewire-enabled Speaker has uploaded the file, the **Uploading Firmware** countdown page appears, indicating that the firmware is being written to flash. The Singlewire-enabled Speaker will automatically reboot when the upload is complete. When the countdown finishes, the **Upgrade Firmware** page will refresh. The uploaded firmware filename should be displayed in the system configuration (indicating successful upload and reboot).

Note The way that the integrity of the configuration file is validated has changed. There is no problem with updating the firmware but if you downgrade (or downgrade, make some changes, and then upgrade again) the device may think that the configuration is corrupt and restore defaults.

Table 2-7 shows the web page items on the **Upgrade Firmware** page.

Table 2-7. Firmware Upgrade Settings

Web Page Item	Description
File Upload	
Firmware Version	Shows the current firmware version.
Please specify a file	Refer to the Browse button description.
	Use the Browse button to navigate to the location of the firmware file that you want to submit.
	Click on the Submit button to automatically submit the selected firmware and reboot the system.
	Click on the Reboot button to reboot the system.

2.5.2 Reboot the Singlewire-enabled Speaker

To reboot a Singlewire-enabled Speaker, log in to the web page as instructed in [Section 2.3.2, "Log in to the Configuration Home Page"](#).

1. Click **Update Firmware** to open the **Upgrade Firmware** page ([Figure 2-15](#)).

Figure 2-15. Reboot System Section

The screenshot displays the configuration page for a CyberData Singlewire PTT Speaker. The page has a blue header with the title "CyberData Singlewire PTT Speaker". On the left side, there is a navigation menu with buttons for "Home", "Clock Config", and "Update Firmware". The main content area is divided into three sections: "Device Settings", "Current Settings", and "Miscellaneous Settings".

Device Settings: Includes fields for "Change Username:" (containing "admin"), "Change Password:", and "Re-enter Password:".

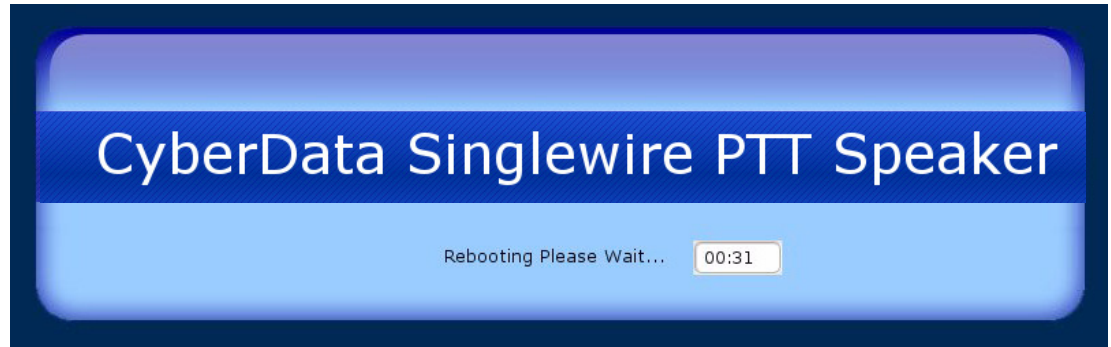
Current Settings: Lists various system parameters such as Serial Number (182000108), Mac Address (00:20:f7:02:d5:eb), Firmware Version (v3.0.1), IP Addressing (dhcp), IP Address (10.10.1.82), Subnet Mask (255.0.0.0), DNS Server 1 (10.0.0.252), DNS Server 2, Boot Time, Current Time (2015/08/19 16:10:57), IC Servers (10.0.1.195, 10.0.1.196), Configuration File (InformaCastSpeaker.cfg), B'casts Accepted/Rejected/Active (all 0), RTP Packets Rxd (0), Clock Status (NOT INSTALLED), and Clock Firmware.

Miscellaneous Settings: Includes checkboxes for "Beep on Initialization:" (radio buttons for Yes and No), "Button Lit When Idle:" (checked), "Blink Button While Recording:" (checked), "Activate Relay While Recording:" (unchecked), and "Disable Volume Control Dial:" (unchecked).

At the bottom of the page, there is a note: "* You need to reboot for changes to take effect". Below this note are three buttons: "Save", "Test Microphone", and "Reboot". A red arrow points from the "Reboot" button to the word "Reboot" written below it.

2. Click **Reboot**. A normal restart will occur and you will see the following Reboot page.

Figure 2-16. Reboot Page



2.6 Identifying and Testing a Ceiling Speaker when Using InformaCast 8.1 or Later

This section describes the basic process for identifying and testing the CyberData IP Ceiling speaker when using Singlewire's InformaCast software version 4.0 or later.

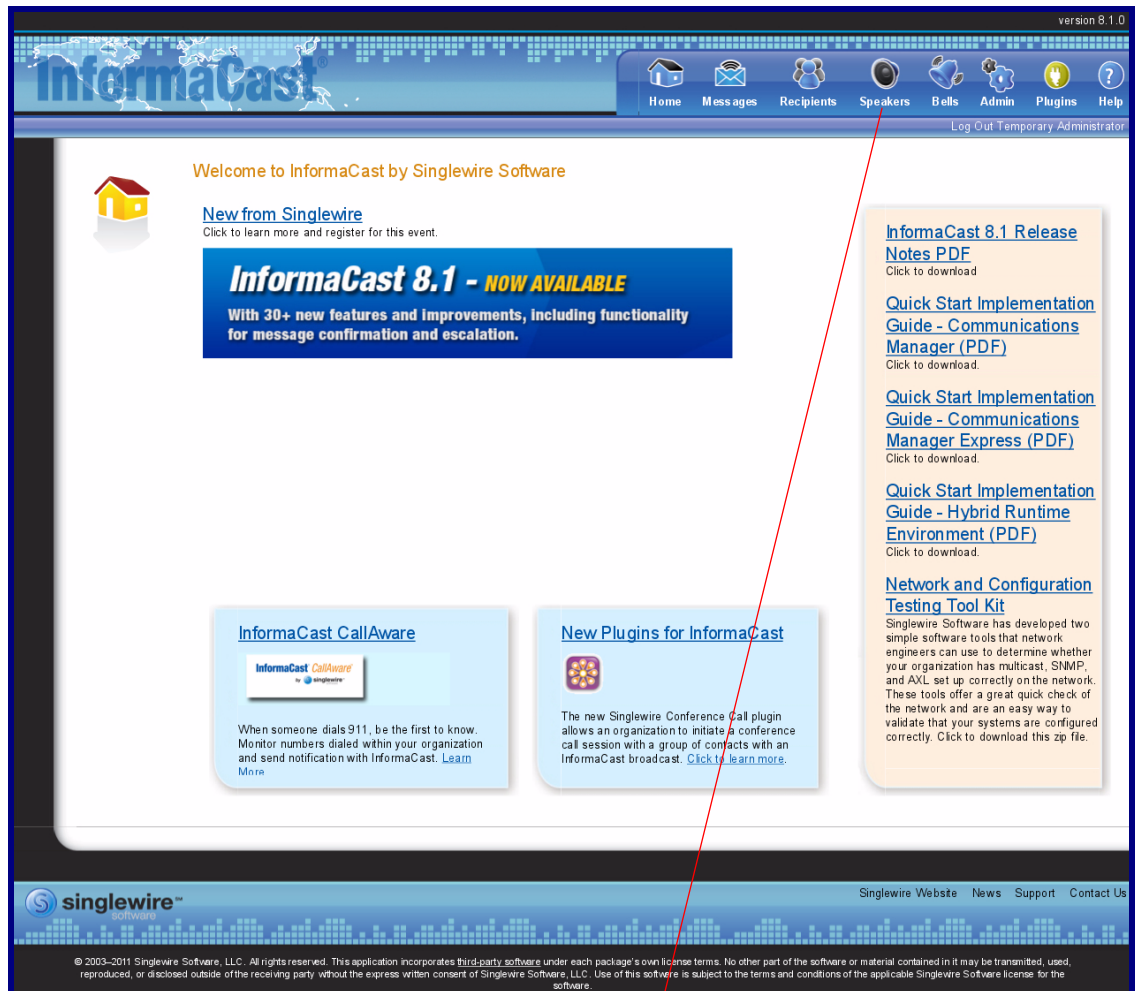
Note If you have questions or need help, please consult your InformaCast documentation and or contact the CyberData support team.

Note CyberData's support is limited to IP endpoint functionality when used with an InformaCast system.

To add the Singlewire-enabled Speaker to the InformaCast server:

1. Click **Edit IP Speakers** on the **Main Screen** of the **Singlewire Informacast Server Web Interface**.

Figure 2-17. Main Screen of the Singlewire InformaCast Server Web Interface



Edit IP Speakers

2. On the **IP Speaker Configuration** page, InformaCast will indicate that it has detected new speakers. Click **View**.

Figure 2-18. IP Speaker Configuration Page

version 8.1.0

Home Messages Recipients Speakers Bells Admin Plugins Help

Log Out Temporary Administrator

Speakers | Edit IP Speakers

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

Filter: < no filter > Does: Apply

6 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"/> Christina's Clock	CyberData Clock/Speaker kit Status: Not registered		10	0020f7009b7b	EDIT DELETE
<input type="checkbox"/> ClockFixer	ClockFixer Status: Not registered	8675309	10	0020f7004597	EDIT DELETE
<input type="checkbox"/> Desktop Notify System	Status: Not registered		10	001372c9f60d	EDIT DELETE
<input type="checkbox"/> jkyg	jhg Status: Not registered	41354	10	0020f700d8f6	EDIT DELETE
<input type="checkbox"/> rma test	testA Status: Not registered		10	0020f700f0ba	EDIT DELETE
<input type="checkbox"/> Talkback Test	Status: Registration expired , last seen at Wed Apr 04 15:50:12 GMT-07:00 2012 (can record) (can listen) (has GPIO) (can play high quality audio), IP=10.10.0.137	155	5	0020f700f0c4	EDIT DELETE

PREVIOUS Page 1 of 1 NEXT Jump to page: Show 50 results per page

Reboot IP Speakers

[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.

Adjust Volume of IP Speakers

Volume Adjustment: < select one >

[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.

Delete Non-registered IP Speakers

[DELETE NON-REGISTERED](#) This will remove 6 speaker(s) whose status in InformaCast is **Not registered** or **Registration expired**.

Upload IP Speaker Configurations

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: Browse... [IMPORT SPEAKERS](#)

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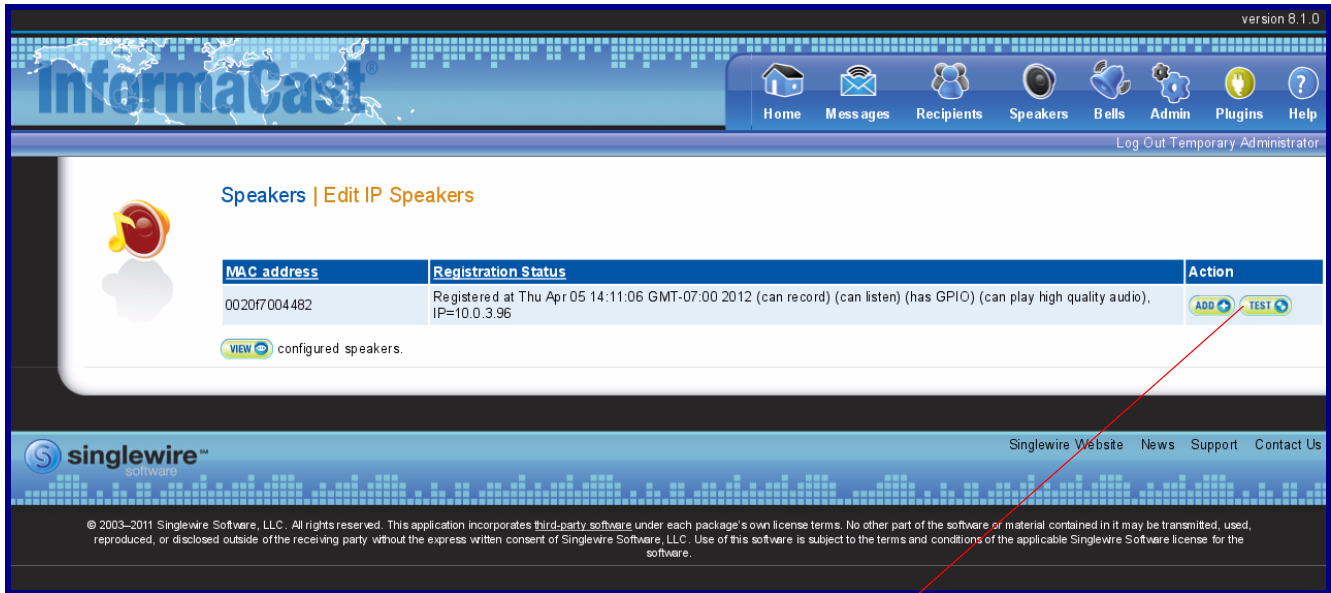
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InformaCast has detected new speakers.

View

3. The **IP Speaker Configuration** page will show four newly detected speakers. Click **Test**.

Figure 2-19. IP Speaker Configuration Page



Test

4. On the **Test IP Speaker** page, Enter a number into the **Test duration** field.
5. Click **Test**.
6. You will hear a tone from the speaker being testing.
7. After the test, click **Cancel** to return to the **IP Configuration** page.

Figure 2-20. Test IP Speaker Page



Test duration

View Speaker's Status Page

Cancel

Test

8. On the **IP Speaker Configuration** page, Click **Add** to add a speaker to the InformaCast server.

Figure 2-21. IP Configuration Page

version 8.1.0

Home Messages Recipients Speakers Bells Admin Plugins Help

Log Out Temporary Administrator

Speakers | Edit IP Speakers

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

Filter: < no filter > Does Apply

6 IP Speakers, unfiltered (0 selected):

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

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

Name	Description and Status	Dial Code	Vol	MAC address	Action
<input type="checkbox"/> Christina's Clock	CyberData Clock/Speaker kit Status: Not registered		10	0020f7009b7b	EDIT DELETE
<input type="checkbox"/> ClockFixer	ClockFixer Status: Not registered	8675309	10	0020f7004597	EDIT DELETE
<input type="checkbox"/> Desktop Notify System	Status: Not registered		10	00137229f60d	EDIT DELETE
<input type="checkbox"/> jkyg	jhg Status: Not registered	41354	10	0020f700d8f6	EDIT DELETE
<input type="checkbox"/> rma test	testA Status: Not registered		10	0020f700f0ba	EDIT DELETE
<input type="checkbox"/> Talkback Test	Status: Registration expired , last seen at Wed Apr 04 15:50:12 GMT-07:00 2012 (can record) (can listen) (has GPIO) (can play high quality audio), IP=10.10.0.137	155	5	0020f700f0c4	EDIT DELETE

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

Reboot IP Speakers

[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.

Adjust Volume of IP Speakers

Volume Adjustment: < select one >>

[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.

Delete Non-registered IP Speakers

[DELETE NON-REGISTERED](#) This will remove 6 speaker(s) whose status in InformaCast is **Not registered** or **Registration expired**.

Upload IP Speaker Configurations

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: Browse... [IMPORT SPEAKERS](#)

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Add

9. On the **Add IP Speaker** page, Fill out appropriate fields and click **Add**.

Figure 2-22. Add IP Speaker Page

The screenshot displays the InformaCast web interface for adding a new IP speaker. The page title is "Speakers | Edit IP Speakers | Add IP Speaker". The form contains the following fields and values:

- IP Speaker Name: TestSpeaker001 (required)
- Speaker Description: Test Speaker
- Dial Code: 1234 (numeric shortcut for optional phone interface)
- MAC Address: 0020f7004482 (required, 12 hex digits)
- Volume: 10
- Dial Number for Intercom: 123 (for use with speaker call button)

At the bottom of the form, there are two buttons: "CANCEL" and "ADD". A red arrow points from the "ADD" button to the word "Add" in the text below the screenshot.

Add

Your speaker is now registered to the InformaCast server. You now can configure this device as part of the InformaCast system setup as required.

Appendix A: Mounting the Speaker

A.1 Mount the Speaker

Before you mount the speaker, make sure that you have received all the parts for each speaker. Refer to [Table A-1](#) and [Table A-2](#).

Table A-1. Drop Ceiling Mounting Components (Part of the Accessory Kit)



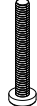


Quantity	Part Name	Illustration
3	#8 Nylon Thumb Nuts	
3	#8 Fender Washers	
3	8-32 x 1 1/4" Mounting Screws	

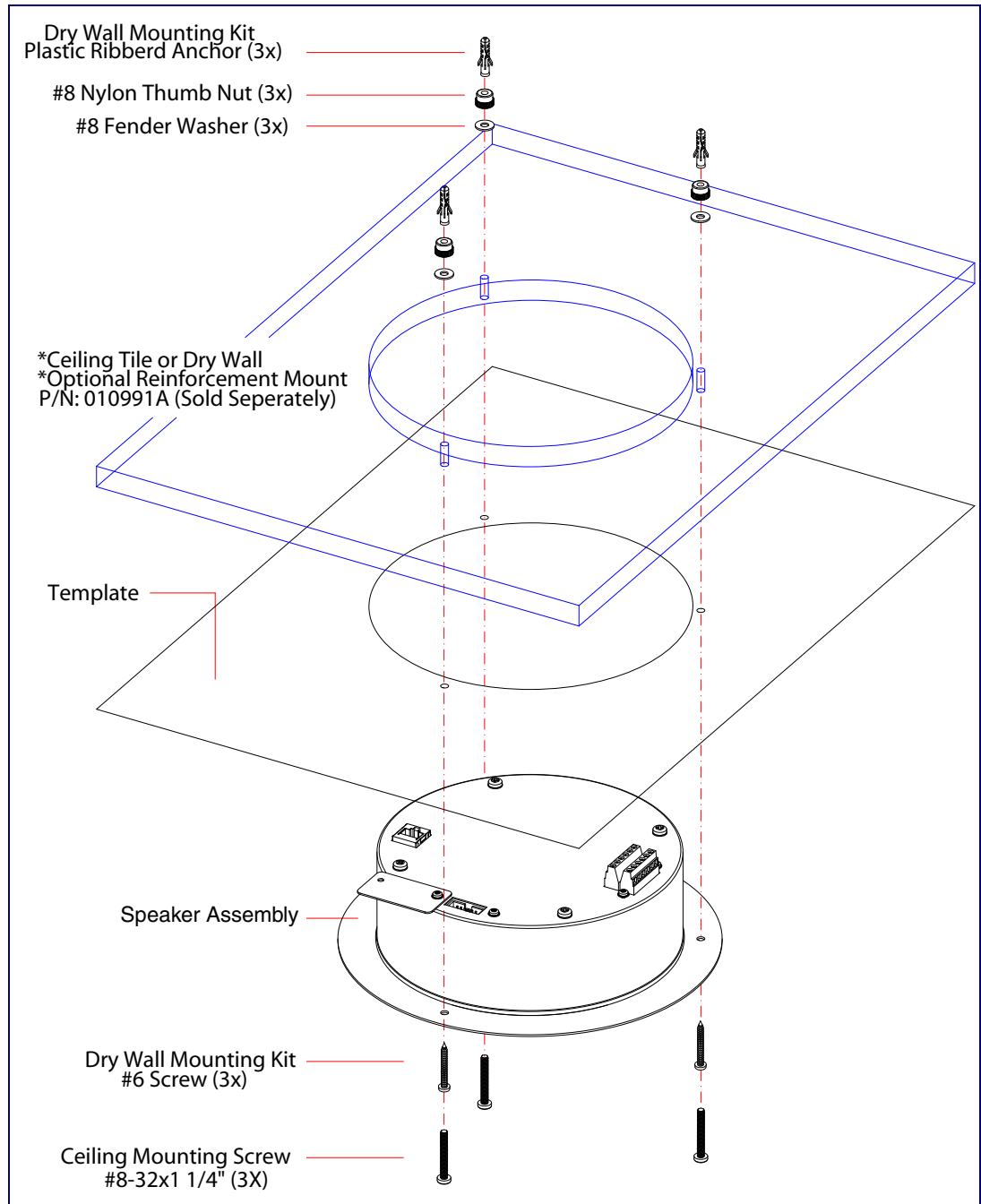
Table A-2. Drywall Mounting Components (Part of the Accessory Kit)

Quantity	Part Name	Illustration
3	Plastic Ribbed Anchors	
3	#8 Sheet Metal Screws	

To mount the speaker:

1. Use the **TEMPLATE** to cut the speaker hole and prepare holes for the screws (**Figure A-1**). This template is located on the back page of the *Installation Quick Reference Guide* that is delivered with each speaker.

Figure A-1. VoIP Speaker Assembly



2. Plug the Ethernet cable into the Speaker Assembly. [Section 2.2.9, "Confirm that the Speaker is Operational and Linked to the Network"](#) explains how the **Link** and **Status** LEDs work.
3. At this point:
 - For *drop ceiling mounting*, position the **VoIP SPEAKER ASSEMBLY** in the ceiling so that its screw holes align with those you prepared.
 - For *drywall mounting*, place the three **PLASTIC RIBBED ANCHORS** in the holes you prepared, and position the **VoIP SPEAKER ASSEMBLY** over them, aligning the screw holes in the assembly with the anchors.
4. To fasten the speaker:
 - For *drop ceiling mounting*, use the three **8-32 x 1 1/4" MOUNTING SCREWS, #8 NYLON THUMB NUTS**, and **#8 FENDER WASHERS** to secure the speaker.

Note For weak ceiling tile, CyberData offers a reinforcing mount (CyberData part number 010991A).

- For *drywall mounting*, use the three **#8 SHEET METAL SCREWS** to secure the speaker.

Appendix B: Troubleshooting/Technical Support

Frequently Asked Questions (FAQ)

To see a list of frequently asked questions, go to the following URL:

<http://www.cyberdata.net/products/voip/digitalanalog/singlewirespeakerptt/faqs.html>

Documentation

The documentation for this product is released in an English language version only. You can download PDF copies of CyberData product documentation by going to the following URL:

<http://www.cyberdata.net/products/voip/digitalanalog/singlewirespeakerptt/docs.html>

B.1 Contact Information

Contact	<p>CyberData Corporation 3 Justin Court Monterey, CA 93940 USA www.CyberData.net Phone: 800-CYBERDATA (800-292-3732) Fax: 831-373-4193</p>
Sales	<p>Sales 831-373-2601 Extension 334</p>
Technical Support	<p>The fastest way to get technical support for your VoIP product is to submit a VoIP Technical Support form at the following website:</p> <p>http://support.cyberdata.net/</p> <p>The Support Form initiates a ticket which CyberData uses for tracking customer requests. Most importantly, the Support Form tells us which PBX system and software version that you are using, the make and model of the switch, and other important information. This information is essential for troubleshooting. Please also include as much detail as possible in the Comments section of the Support Form.</p> <p>Phone: (831) 373-2601, Ext. 333 Email: support@cyberdata.net</p>
Returned Materials Authorization	<p>To return the product, contact the Returned Materials Authorization (RMA) department:</p> <p>Phone: 831-373-2601, Extension 136 Email: RMA@CyberData.net</p> <p>When returning a product to CyberData, an approved CyberData RMA number must be printed on the outside of the original shipping package. Also, RMA numbers require an active VoIP Technical Support ticket number. A product will not be accepted for return without an approved RMA number. Send the product, in its original package, to the following address:</p> <p>CyberData Corporation 3 Justin Court Monterey, CA 93940 Attention: RMA "your RMA number"</p>
RMA Status Form	<p>If you need to inquire about the repair status of your product(s), please use the CyberData RMA Status form at the following web address:</p> <p>http://support.cyberdata.net/</p>

B.2 Warranty and RMA Information

The most recent warranty and RMA information is available at the following website address:

<http://support.cyberdata.net/>

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