CyberData
The IP Endpoint Company

InformaCast Enabled Speaker Operations Guide

Part #011395*, RAL 9002, Gray White
Part #011396*, RAL 9003, Signal White
*Replaces #011102 and 011103

Document Part #*931251G*
for Firmware Version *12.0.1*

CyberData Corporation
*3 Justin Court
Monterey, CA 93940
(831) 373-2601*

SIP Speaker Operations Guide 931251G
Part # 011395*
Part # 011396*
*Replaces 011102 and 011103

Revision Information

Revision 931251G, which corresponds to firmware version 12.0.1, was released on August 2, 2019, and has the following changes:

- Adds Section 2.3.6, "Configure the Audio"
- Updates Figure 2-15, "Home Page"
- Updates Figure 2-16, "Device Page"
- Updates Figure 2-17, "Device Page"
- Updates Figure 2-20, "Network Page"
- Updates Figure 2-21, "SIP Page—Top"
- Updates Figure 2-22, "SIP Page—Bottom"
- Updates Figure 2-23, "SIP Page Set to Point-to-Point Mode"
- Updates Figure 2-24, "Multicast Page"
- Updates Figure 2-25, "SSL Configuration Page"
- Updates Figure 2-26, "SSL Configuration Page"
- Updates Figure 2-29, "Sensor Page"
- Updates Figure 2-30, "Audiofiles Page"
- Updates Figure 2-31, "Audiofiles Page"
- Updates Figure 2-32, "Audiofiles Page"
- Updates Figure 2-36, "Event Configuration Page"
- Updates Figure 2-37, "Autoprovisioning Page"
- Updates Figure 2-39, "Firmware Page"
- Updates Figure 2-40, "Home Page"

Browsers Supported

The following browsers have been tested against firmware version 12.0.1:

- Internet Explorer (version: 11)
- Firefox (also called Mozilla Firefox) (version: 62.0)
- Chrome (version: 63.0.3239.132)
- Safari (version: 12)
- Microsoft Edge (version: 42.17134.1.0)

Pictorial Alert Icons

⚠️ GENERAL ALERT	**General Alert** *This pictoral alert indicates a potentially hazardous situation. This alert will be followed by a hazard level heading and more specific information about the hazard.*
(ground symbol)	**Ground** *This pictoral alert indicates the Earth grounding connection point.*

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.

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.

14. **WARNING: The InformaCast Enabled Speaker enclosure is not rated for any AC voltages!**

⚠ GENERAL ALERT	Warning *Electrical Hazard:* This product should be installed by a licensed electrician according to all local electrical and building codes.

⚠ GENERAL ALERT	Warning *Electrical Hazard:* To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

⚠ GENERAL ALERT	Warning The PoE connector is intended for intra-building connections only and does not route to the outside plant.

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	Megabits per Second.
NTP	Network Time Protocol
PBX	Private Branch Exchange
PoE	Power over Ethernet (as per IEEE 802.3af standard)
RTFM	Reset Test Function Management
SIP	Session Initiated Protocol
u-law	A companding algorithm, primarily used in the digital telecommunication
UC	Unified Communications
VoIP	Voice over Internet Protocol

Contents

1 Product Overview

1.1 How to Identify This Product

To identify the InformaCast Enabled Speaker, look for a model number label similar to the one shown
in Figure 1-1. The model number on the label should be one of the following:

- **011395***, RAL 9002, Gray White
- **011396***, RAL 9003, Signal White

    *Replaces 011102 and 011103.

Figure 1-1. Model Number Label
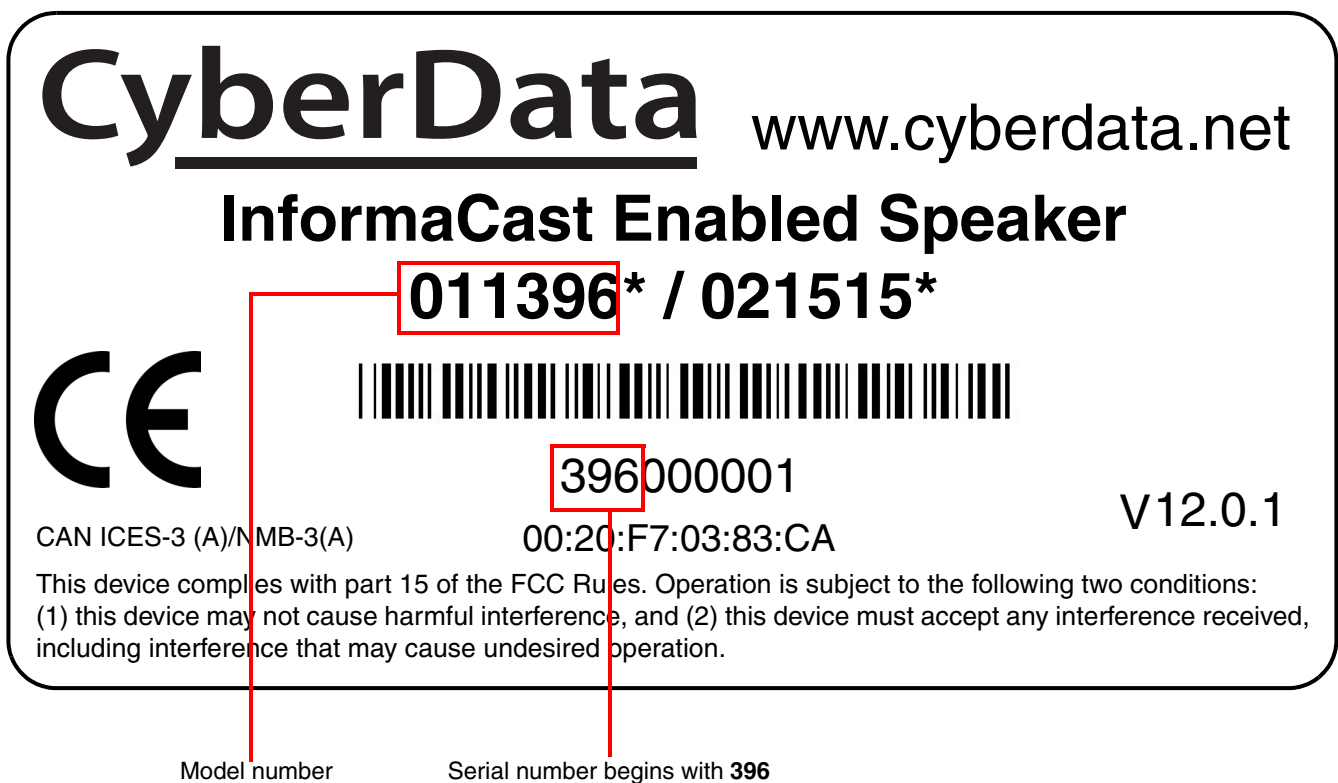
1.2 Installation

Figure 1-2 illustrates a typical configurations for the InformaCast Enabled Speaker.

Figure 1-2. Typical Installation
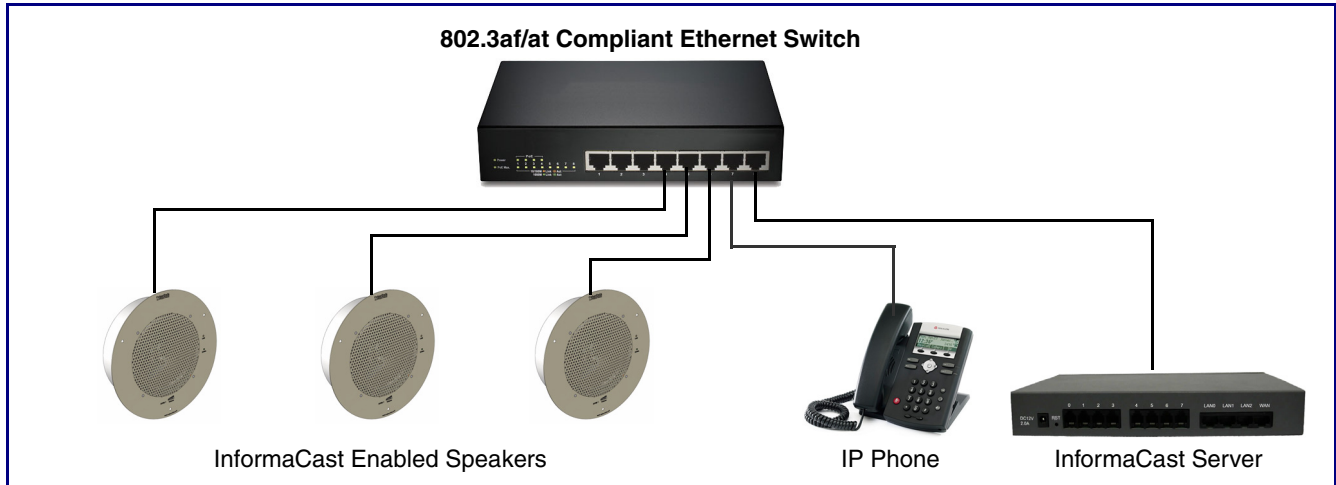
See the following sections for other installation options:

- Section 2.2.1.3, "Running the InformaCast Enabled Speaker with Auxiliary Power"
- Section 2.2.2.2, "InformaCast Enabled Speaker with an External Device"
- Section 2.2.2.3, "InformaCast Enabled Speaker with Auxiliary Speaker Connection"
- Section 2.2.2.4, "InformaCast Enabled Speaker with Line Out"

1.3 Product Features

- Compatible with Singlewire InformaCast v12.1, including support for downloading SIP credentials from InformaCast
- Supports Singlewire InformaCast High Quality Audio
- Simultaneous InformaCast, SIP and multicast
- Support for Cisco SRST resiliency

- User-uploadable ring and alert tones
- Support for security code to prevent unwanted SIP calls
- Can receive pages directly from Poly phones as well as other devices that can send standard multicast
- Loud/Night Ringer function - second SIP extension
- Support for 10 multicast paging groups with prioritization

- Can drive one external analog speaker for greater coverage
- DTMF-controlled relay
- Line-out connection
- Network and manual speaker volume control

- TLS 1.2 enhanced security for IP Endpoints in a local or cloud-based environment
- Autoprovisioning via HTTP, HTTPS, or TFTP
- HTTPS or HTTP web based configuration. HTTPS is enabled by default
- 802.11q VLAN tagging
- Configurable event generation for device health and status monitoring
- Web-based upgradeable firmware
- Support for multiple SIP servers for redundancy

1.4 Supported Protocols

The InformaCast Enabled Speaker supports:

- SIP

- Multicast

- HTTP Web-based configuration

    Provides an intuitive user interface for easy system configuration and verification of speaker operations.

- DHCP Client

    Dynamically assigns IP addresses in addition to the option to use static addressing.

- InformaCast Version 4.0 and greater

- HTTP TCP Post auto-updating event notification in XML format

- TLS 1.2

- TFTP Client

    Facilitates hosting for the configuration file for Autoprovisioning.

- Audio Encodings

    PCMU (G.711 mu-law)

    PCMA (G.711 A-law)

    Packet Time 20 ms

    G.722

    G.729

1.5 Supported SIP Servers

The following link contains information on how to configure the speaker for the supported SIP servers:

https://www.cyberdata.net/pages/connecting-to-ip-pbx-servers

1.6 Specifications

Table 1-1. Product Specifications
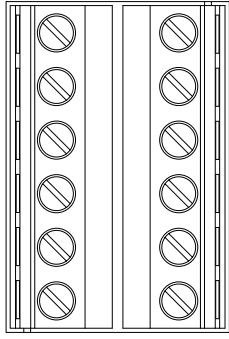
Category	Specification
Ethernet I/F	10/100 Mbps
Protocol	SIP RFC 3261 Compatible
Notification Software	Singlewire InformaCast v4.0 and above
Power Input	PoE 802.3af/802.3at compliant or 24VDC @ 1A Auxiliary Power Supply (not included)
Audio Output	802.3af - SPL 109.2 dB @ 1 meter 802.3at - SPL 111.9 dB @ 1 meter
On-Board Relay	1A @ 30 VDC
Payload Types	G.711 a-law, G.711 µ-law, G.722, and G.729
Network Security	TLS/SSL 1.2
Operating Range	Temperature: -40° C to 55° C (-40° F to 131° F) Humidity: 5-95%, non-condensing
Storage Temperature	-40° C to 70° C (-40° F to 158° F)
Storage Altitude	Up to 15,000 ft. (4573 m)
Dimensions[a]	9 in. [228.6 mm] Grill Diameter 7.25 in. [184.2 mm] Can Diameter 2.4 in. [60.96 mm] Can Depth
Weight	3.0 lbs [1.36 kg]
Boxed Weight	4.0 lbs. [1.81 kg]
Compliance	CE; EMC Directive – Class A EN 55032 & EN 55024, LV Safety Directive – EN 60950-1, RoHS Compliant, FCC; Part 15 Class A, Industry Canada; ICES-3 Class A, IEEE 802.3 Compliant
Warranty	2 Years Limited
Part number	011396

a.Dimensions are measured from the perspective of the product being upright with the front of the product facing you.

1.7 Optional Connections (J9 and J10)

Figure 1-3. Optional Connections (J9 and J10)

Function	J10 Connections		J9 Connections	Function
*Auxiliary power input for use when PoE power is not available. +24 VDC @ 1A.	AUX POWER (+) (+24VDC @ 1A)		AUX SPEAKER (-)	Auxiliary 8-Ohm speaker connection (not to be used when the Clock is connected.
	AUX POWER (-)		AUX SPEAKER (+)	
Relay contacts rated at 30 VDC @ 1A.	RELAY COM		GND	
	RELAY NO		LINE OUT (-)	Audio line - level output to external audio amplifier. 2v P-P into 10k Ohms.
5 VDC @ 100 mA.	+5V OUT		LINE OUT (+)	
	N/C		N/C	

J10   J9

CLASS II WIRING

*Do not use auxiliary power input when speaker J1 is connected to a PoE power source.

1.8 Compliance

1.8.1 CE Testing

CE testing has been performed according to EN ISO/IEC 17050 for Emissions, Immunity, and Safety.

Note   You can download the Declaration of Conformity document from the **Downloads** tab of the product's webpage.

1.8.2 FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
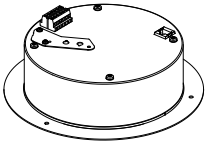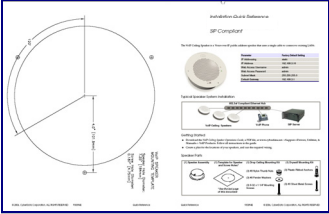
2 Installing the InformaCast Enabled Speaker

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 InformaCast 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	InformaCast Enabled Speaker Assembly	
1	Installation Quick Reference Guide	
1	Speaker Mounting Accessory Kit (Part #070054A)	

2.2 Device Configuration

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 InformaCast Enabled Speaker.

2.2.1.1 InformaCast Enabled Speaker to a 802.3af Compliant PoE Switch

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

Figure 2-1. InformaCast Enabled Speaker to a 802.3af Compliant PoE Switch
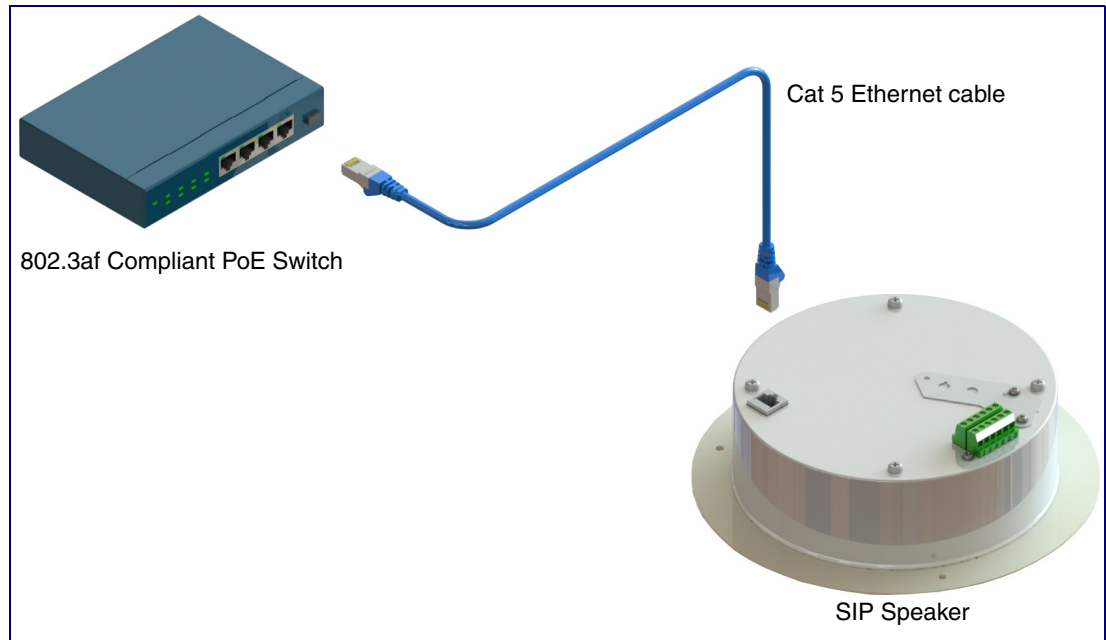
2.2.1.2 InformaCast Enabled Speaker (with PoE Injector) to a 802.3af Compliant PoE Switch

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. InformaCast Enabled Speaker (with PoE Injector) to a Non PoE Switch
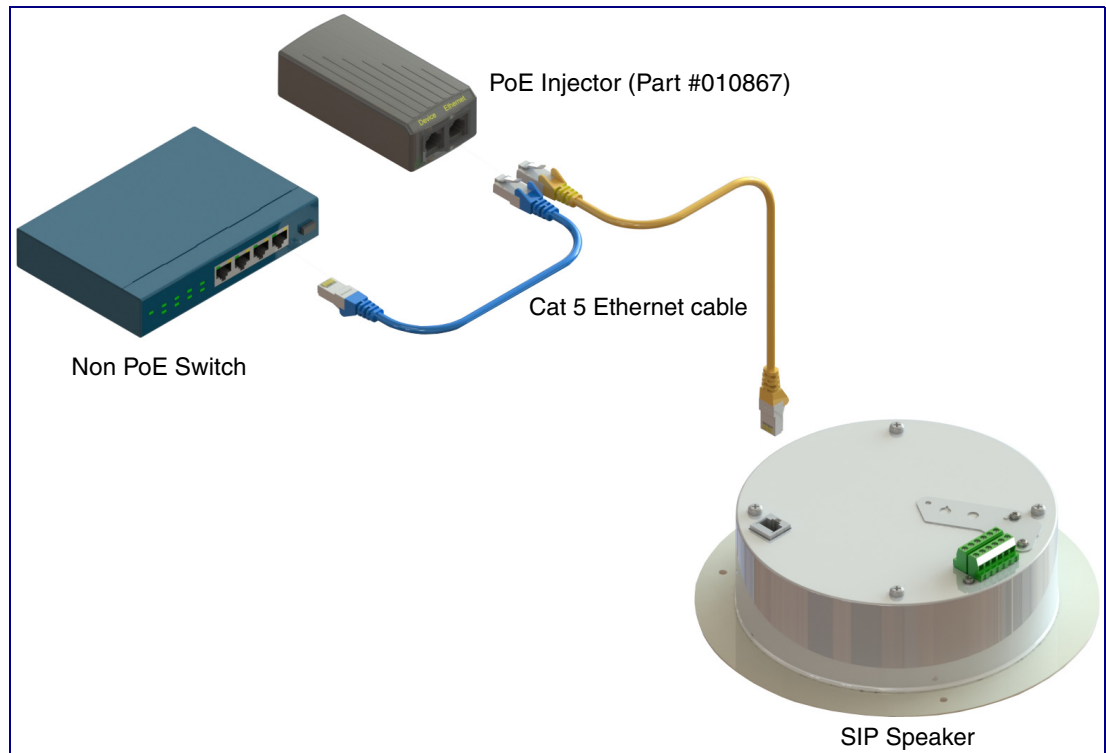
2.2.1.3 Running the InformaCast Enabled Speaker with Auxiliary Power

In Figure 2-3, the power for the InformaCast Enabled Speaker can either come from an 802.3af Network connection or from an external source.

⚠ GENERAL ALERT	**Caution** ***Operational Note:*** Do not connect an auxiliary power supply when the InformaCast Enabled Speaker is connected to a PoE power source through J1. Improper operation or equipment damage may occur.

Figure 2-3. Running the Speaker with Auxiliary Power
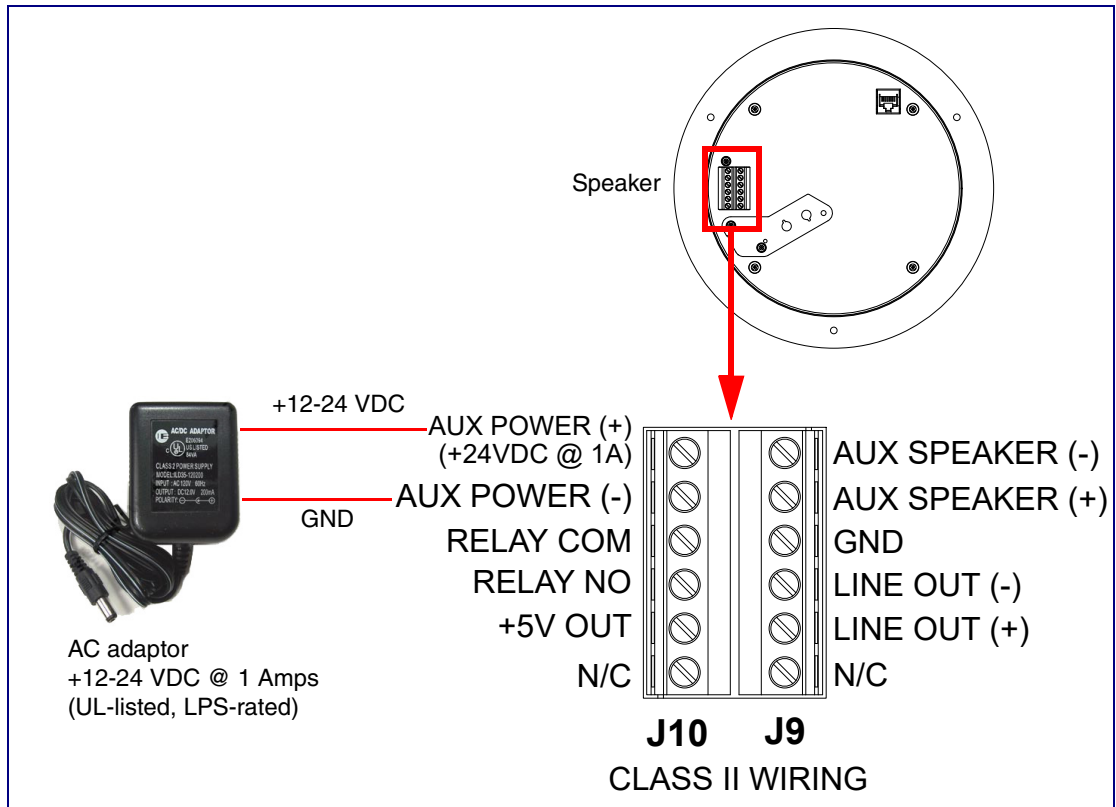
2.2.2 Installation Options

This section shows various installation options for the InformaCast Enabled Speaker.

2.2.2.1 Connecting the Auxiliary RGB Strobe to the SIP SPeaker

1. Connect the one meter strobe cable to the adapter cable. See Figure 2-4.

2. Remove the mounting screws and port cover from the SIP Speaker. See Figure 2-4.

3. Align the key bump on the adapter cable to the key bump slot on the SIP Speaker. See Figure 2-4.

4. Replace the port cover and mounting screw. See Figure 2-4.

Figure 2-4. Connecting the Auxiliary RGB Strobe Kit to the SIP Speaker
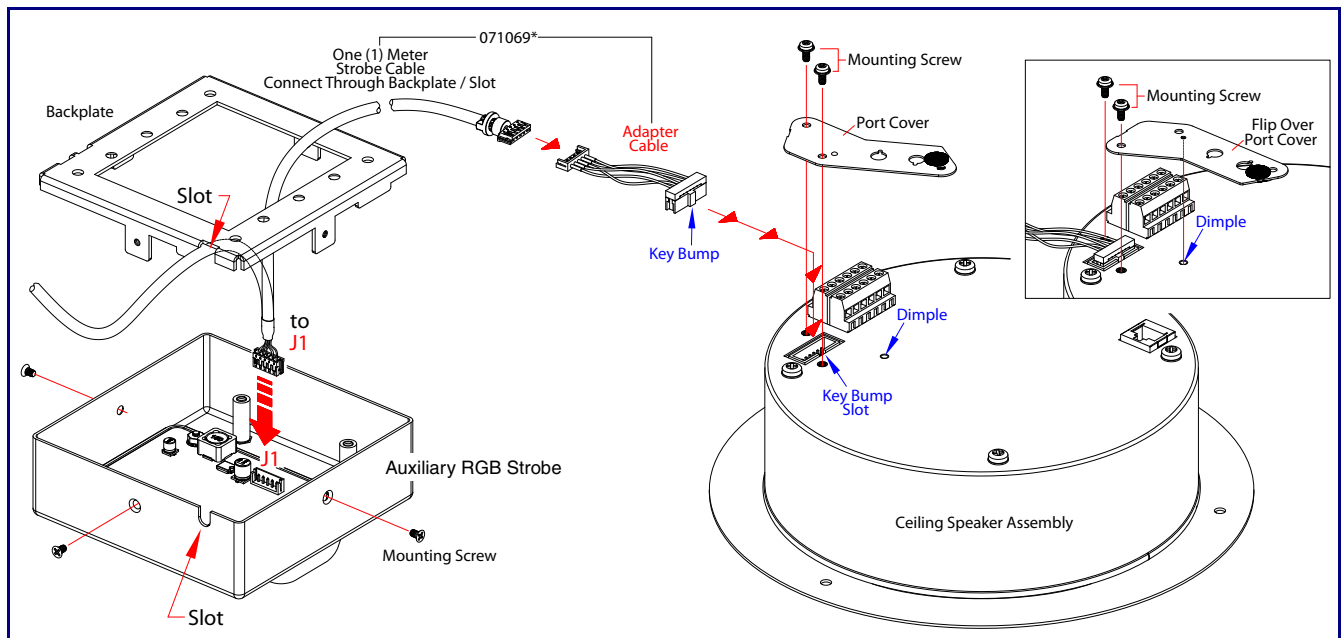
2.2.2.2 InformaCast Enabled Speaker with an External Device

In Figure 2-5, when the InformaCast Enabled Speaker is called from a remote phone, the relay on the speaker can be programmed to drive an external device such as an alert strobe. This external device may also be addressed from a separate Unified Communication (UC) server.

Figure 2-5. InformaCast Enabled Speaker with Alert Strobe
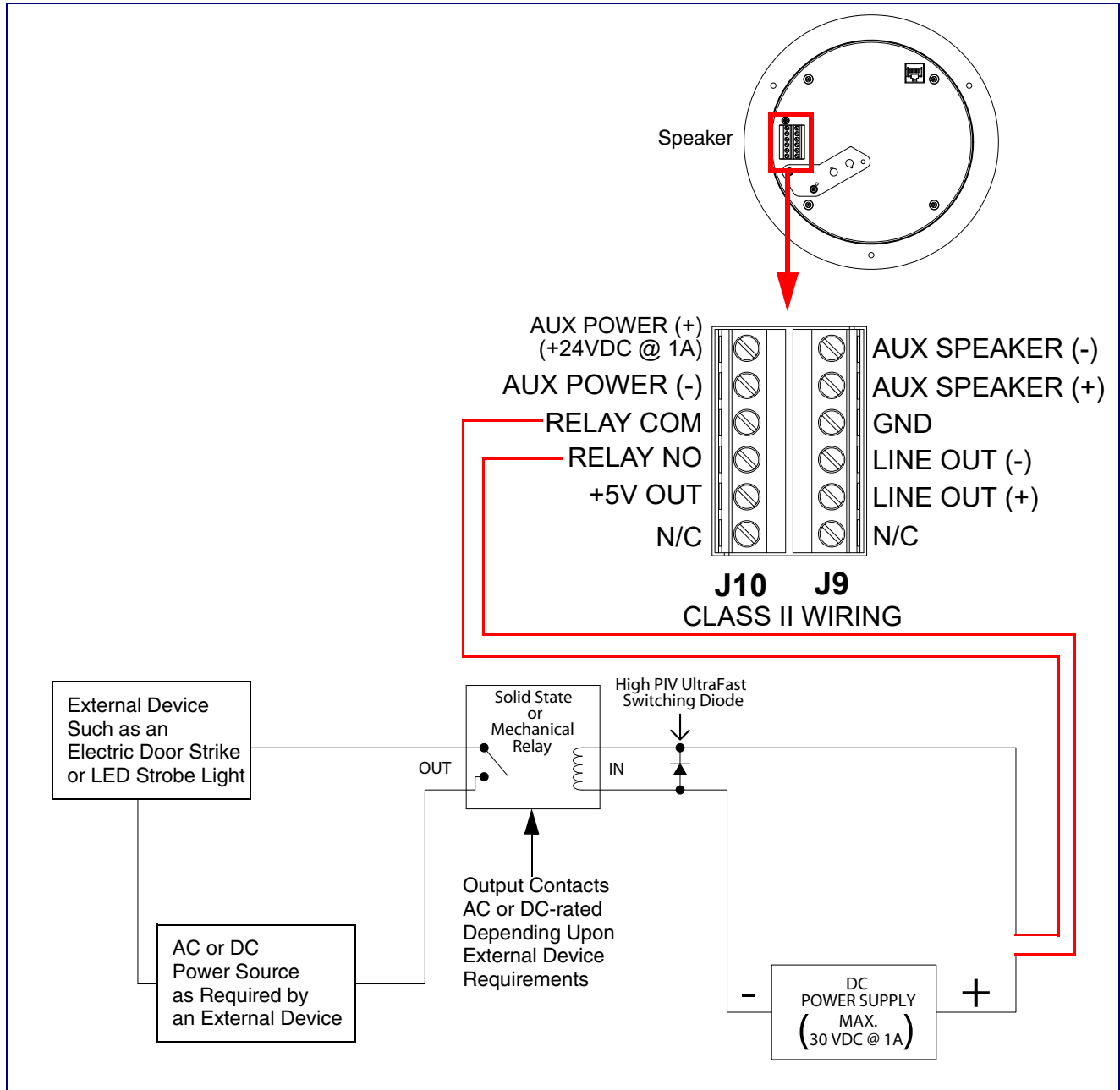
2.2.2.3 InformaCast Enabled Speaker with Auxiliary Speaker Connection

In Figure 2-6, the InformaCast 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

> **Caution**
>
> *Operational Note:* The SIP speaker dynamically adjusts volume to properly budget power when accessories are connected. For best performance, it is recommended that either an 802.3AT or 24V auxiliary power source is used when connecting an auxiliary speaker and a clock kit.
>
> GENERAL ALERT

Figure 2-6. InformaCast Enabled Speaker with Auxiliary Speaker Connection

Speaker

High-purity copper 16-gauge wire and a maximum length of 20 feet

8 Ohm Auxiliary Speaker

AUX POWER (+)
(+24VDC @ 1A)
AUX POWER (-)
RELAY COM
RELAY NO
+5V OUT
N/C

AUX SPEAKER (-)
AUX SPEAKER (+)
GND
LINE OUT (-)
LINE OUT (+)
N/C

J10   J9
CLASS II WIRING

(Part #011120, RAL 9002)
(Part #011121, RAL 9003)

*When using the second speaker connection, the analog volume control needs to be disabled.
*Because of the limitations of PoE power, when running the Speaker with a second auxiliary speaker, the analog or digital volume level setting must not exceed a setting of **6**.

2.2.2.4 InformaCast Enabled Speaker with Line Out

In Figure 2-7, for areas that require more speaker volume, the InformaCast 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 2-7. InformaCast Enabled Speaker with Line Out

Speaker
Office area in Factory

Line Out:
Output Signal Amplitudes 2.0 VPP maximum
Output Level +2dBm nominal
Total Harmonic Distortion 0.5% maximum
Output Impedance 10k ohm

AUX POWER (+)
(+24VDC @ 1A)   AUX SPEAKER (-)
AUX POWER (-)   AUX SPEAKER (+)
RELAY COM   GND
RELAY NO   LINE OUT (-)
+5V OUT   LINE OUT (+)
N/C   N/C

J10   J9
CLASS II WIRING

Amplifier

Factory Floor
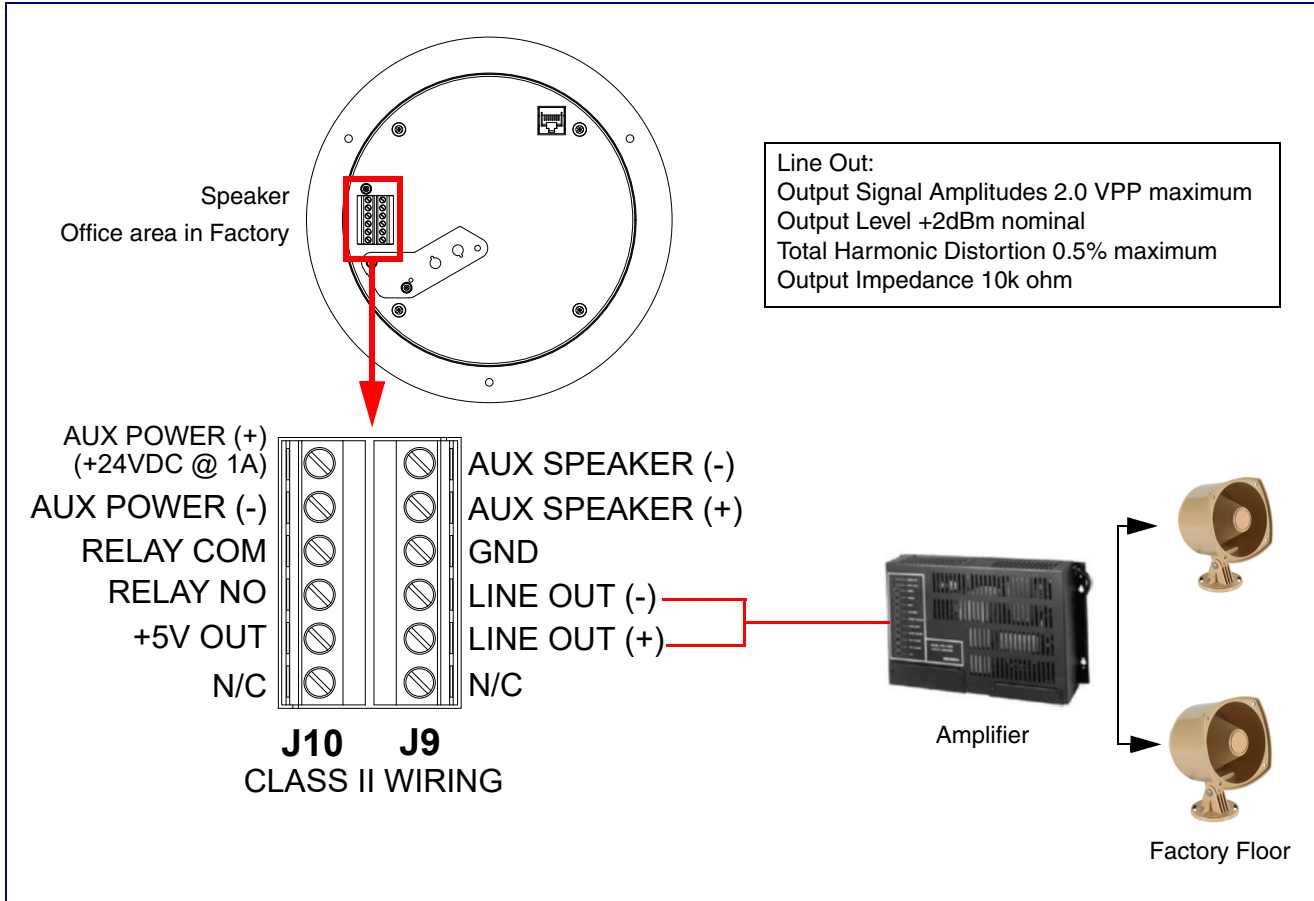
2.2.3 Confirm that the Speaker is Operational and Linked to the Network

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 2-8. Status and Activity LEDs
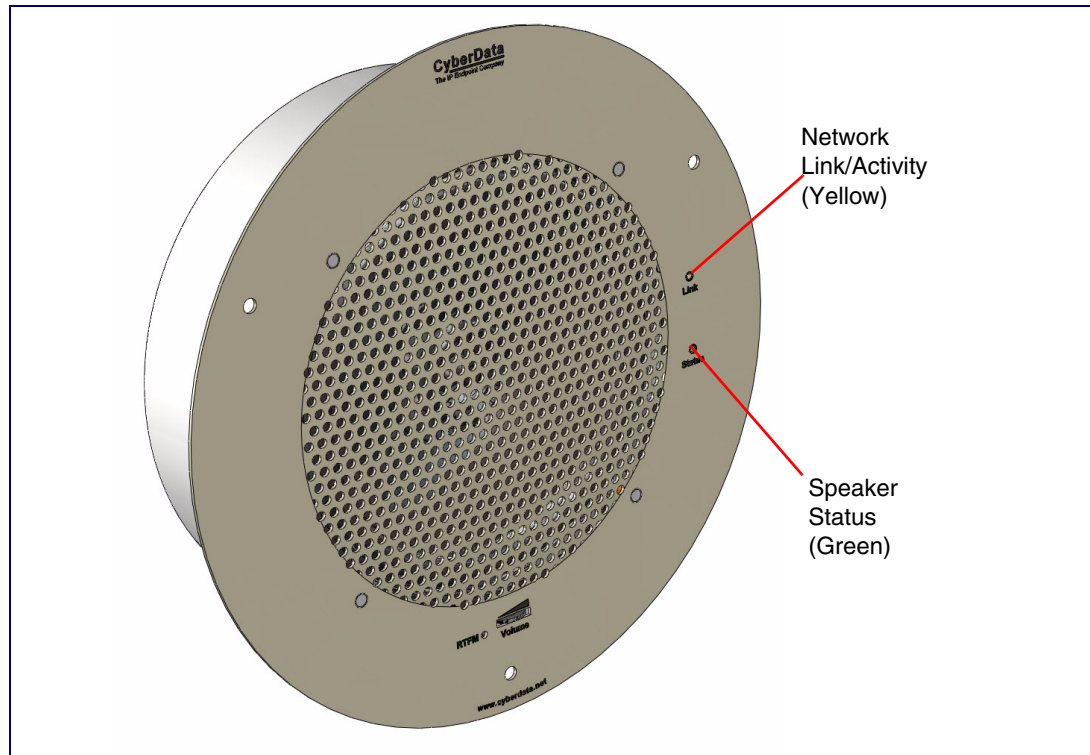
2.2.3.1 Status LED

After supplying power to the speaker:

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

2. After about 23 seconds with a static IP address (or 27 seconds if the board is set to use DHCP), the green LED will blink twice to indicate that the board is fully booted. The speaker will beep at this time if the **Beep on Init** option is enabled on the **Device Page** (see Section 2.3.5, "Configure the Device").

Note   If the board is set to use DHCP and there is not a DHCP server available on the network, it will try 12 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.

Note   The front power/status LED will remain solid on during operation.

2.2.3.2 Link LED

• The **Link** LED is illuminated when the network link to the speaker is established.

• The **Link** LED blinks to indicate network traffic.

2.2.4 Confirm the IP Address and Test the Audio

2.2.4.1 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 2-9) on the speaker face to announce and confirm the speaker's IP Address and test that the audio is working.

Note   Using the RTFM button will lock the digital volume level to **4** and disable the analog volume control dial.

Figure 2-9. RTFM Button
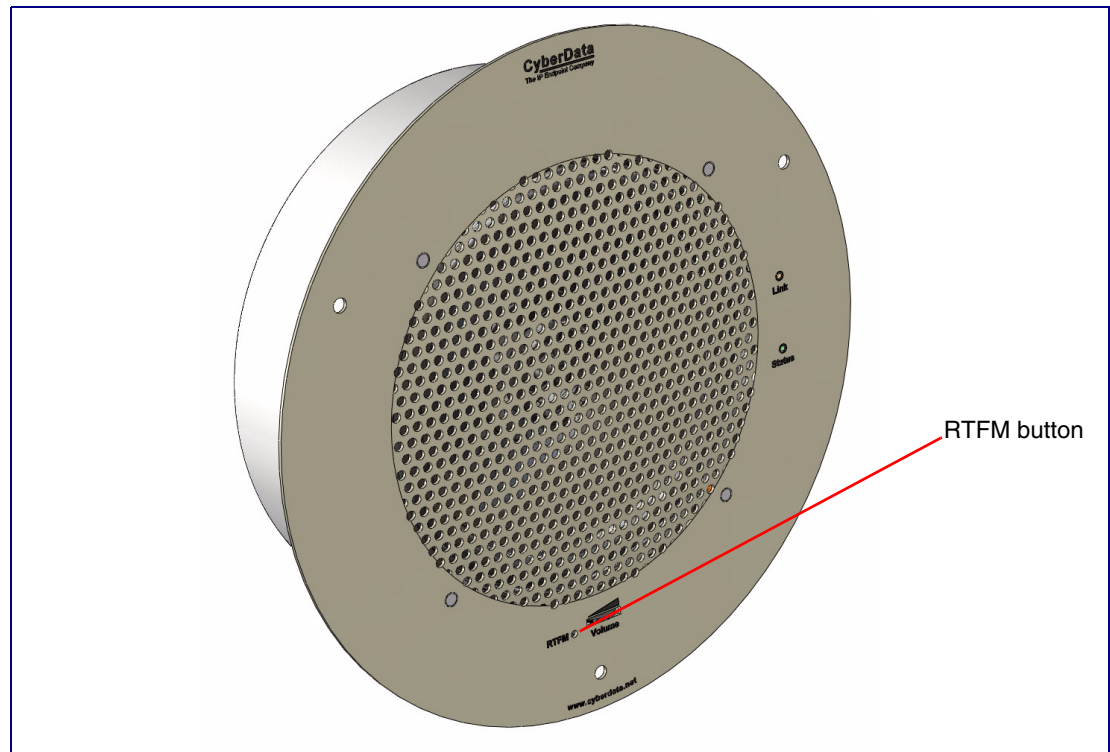
To announce a speaker's current IP address, press and release the RTFM button within a five second window.

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.

2.2.5 Adjust the Volume

To adjust the speaker volume, turn the **Volume** control dial (Figure 2-10) on the speaker face.

Note   The InformaCast Enabled Speaker has two volume controls: **Internal** (web-based) and **External** (volume knob). The external volume control can be disabled from the web interface by selecting **Disable Volume Control Dial** on the **Device Page** (see Section 2.3.5, "Configure the Device").

Figure 2-10. Volume Control

Volume control dial
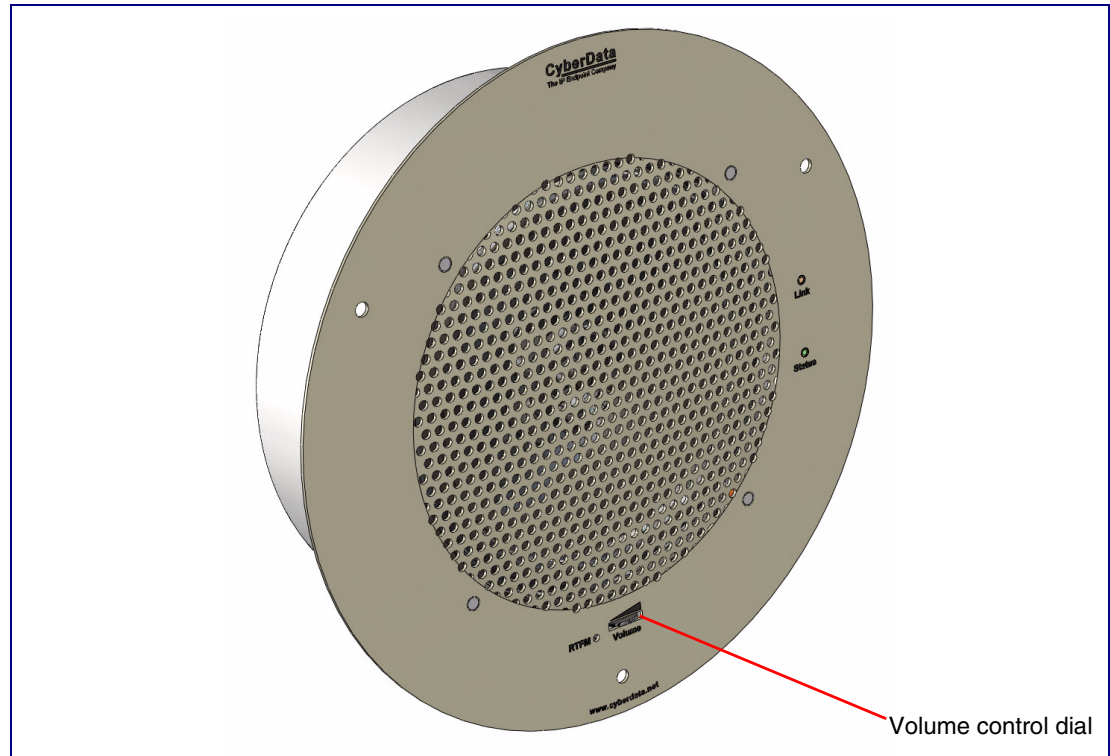
2.2.6 How to Set the Factory Default Settings

2.2.6.1 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
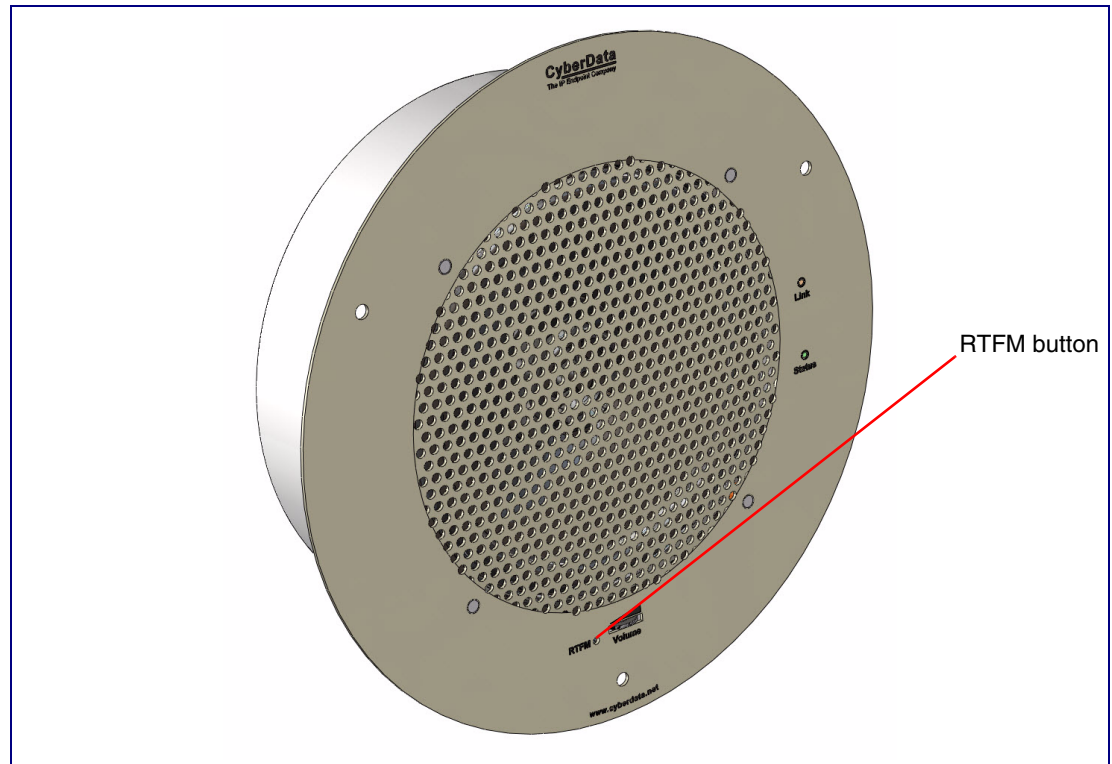
RTFM button

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.

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).

2.3 Configure the InformaCast Enabled Speaker Parameters

To configure the InformaCast Enabled Speaker online, use a standard web browser.

Configure each InformaCast Enabled Speaker and verify its operation *before* you mount it. When you are ready to mount an InformaCast Enabled Speaker, refer to for instructions.

2.3.1 Factory Default Settings

All InformaCast Enabled Speakers are initially configured with the following default IP settings:

When configuring more than one InformaCast Enabled Speaker, attach the InformaCast Enabled Speakers to the network and configure one at a time to avoid IP address conflicts.

Table 2-3. Factory Default Settings
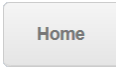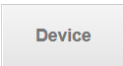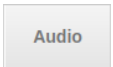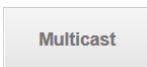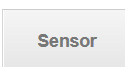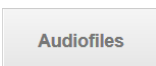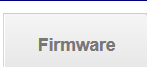
Parameter	Factory Default Setting
IP Addressing	DHCP
IP Address[a]	10.10.10.10
Web Access Username	admin
Web Access Password	admin
Subnet Mask[a]	255.0.0.0
Default Gateway[a]	10.0.0.1

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

2.3.2 InformaCast Enabled Speaker Web Page Navigation

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

Table 2-4. Web Page Navigation

Web Page Item	Description
Home	Link to the **Home** page.
Device	Link to the **Device** page.
Audio	Link to the **Audio** page.
Network	Link to the **Network** page.
SIP	Link to go to the **SIP** page.
Multicast	Link to the **Multicast** page.
SSL	Link to the **SSL** page.
Sensor	Link to the **Sensor** page.
Audiofiles	Link to the **Audiofiles** page.
Events	Link to the **Events** page.
Autoprov	Link to the **Autoprovisioning** page.
Firmware	Link to the **Firmware** page.

2.3.3 Using the Toggle Help Button

The **Toggle Help** button allows you to see a short description of some of the settings on the webpage. To use the **Toggle Help** button, do the following:

1. Click on the **Toggle Help** button that is on the UI webpage. See Figure 2-12 and Figure 2-13.

Figure 2-12. Toggle/Help Button

Toggle Help

2. You will see a question mark (?) appear next to each web page item that has been provided with a short description by the Help feature. See Figure 2-13.

Figure 2-13. Toggle Help Button and Question Marks

Question mark appears next to the web page items
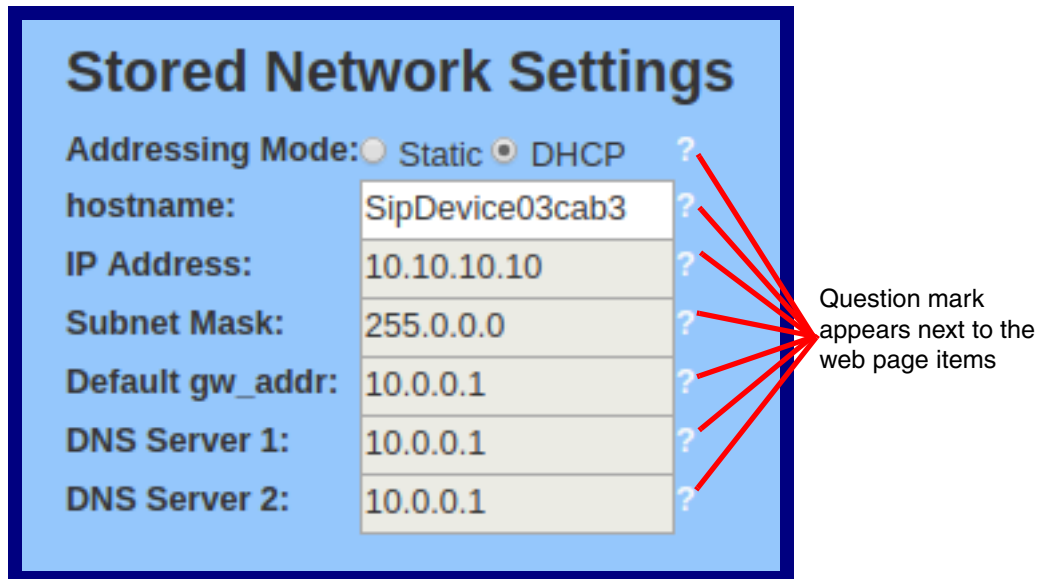
3. Move the mouse pointer to hover over the question mark (?), and a short description of the web page item will appear. See Figure 2-14.

Figure 2-14. Short Description Provided by the Help Feature
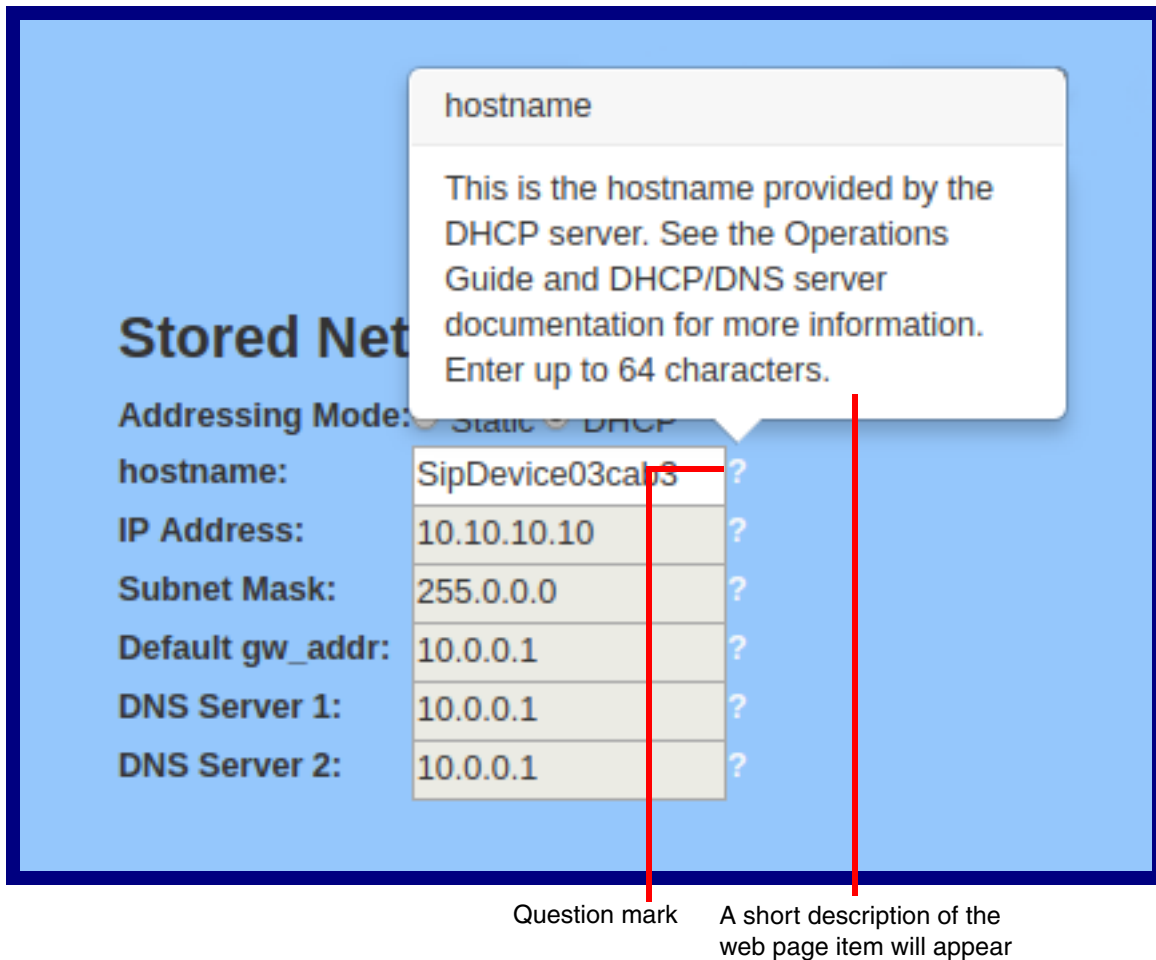
2.3.4 Log in to the Configuration Home Page

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

4. Open your browser to the InformaCast Enabled Speaker IP address.

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 InformaCast Enabled Speaker.

Note   You may also download CyberData's VoIP Discovery Utility program which allows you to easily find and configure the default web address of the CyberData VoIP products.

CyberData's VoIP Discovery Utility program is available at the following website address:

https://www.cyberdata.net/pages/discovery

Note   The device ships in DHCP mode. To get to the **Home** page, use the discovery utility to scan for the device on the network and open your browser from there.

5. When prompted, use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-15):

Web Access Username: **admin**

Web Access Password: **admin**

Figure 2-15. Home Page

| Home | Device | Audio | Network | SIP | Multicast | SSL | Sensor | Audiofiles | Events | Autoprov | Firmware |

CyberData InformaCast Enabled Speaker

Current Status

Serial Number:	396000001
Mac Address:	00:20:f7:03:dc:56
Firmware Version:	v12.0.1
IP Addressing:	DHCP
IP Address:	10.10.1.124
Subnet Mask:	255.0.0.0
Default Gateway:	10.0.0.1
DNS Server 1:	10.0.1.56
DNS Server 2:	
SIP Mode:	Enabled
Multicast Mode:	Disabled
Event Reporting:	Disabled
Nightringer:	Disabled
Primary SIP Server:	Not registered
Backup Server 1:	Not registered
Backup Server 2:	Not registered
Nightringer Server:	Not registered
Monitor SIP Server:	Not registered

Admin Settings

Username:	admin
Password:	
Confirm Password:	

Singlewire Status

Boot Time:	2019/07/09 15:32:29
Current Time:	2019/07/09 15:35:38
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

Save Reboot Toggle Help

Import Settings

Browse... No file chosen

Import Config

Export Settings

Export Config
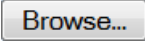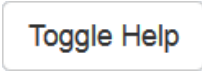
6. On the **Home** page, review the setup details and navigation buttons described in Table 2-5.

Note The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-5. Home Page Parameters

Web Page Item	Description
Admin Settings	
Username ?	The username to access the web interface. Enter up to 25 characters.
Password ?	The password to access the web interface. Enter up to 25 characters.
Confirm Password ?	Confirm the web interface password.
Current Status	
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.
Default Gateway	Shows the current default gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
SIP Mode	Shows the current status of the SIP mode.
Multicast Mode	Shows the current status of the Multicast mode.
Event Reporting	Shows the current status of the Event Reporting mode.
Nightringer	Shows the current status of the Nightringer mode.
Primary SIP Server	Shows the current status of the Primary SIP Server.
Backup Server 1	Shows the current status of Backup Server 1.
Backup Server 2	Shows the current status of Backup Server 2.
Nightringer Server	Shows the current status of Nightringer Server.
Monitor SIP Server	Shows the current status of the Monitor SIP Server.
Singlewire Status	
Boot Time	Shows the boot time.
Current Time	Shows the current time.
IC 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.

Table 2-5. Home Page Parameters (continued)

Web Page Item	Description
Import Settings	
Browse...	Use this button to select a configuration file to import.
Import Config	After selecting a configuration file, click Import to import the configuration from the selected file. Then, click Save and Reboot to store changes.
Export Settings	
Export Config	Click Export to export the current configuration to a file.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

2.3.5 Configure the Device

1. Click the **Device** menu button to open the **Device** page. See Figure 2-16 and Figure 2-17.

Figure 2-16. Device Page

Home	Device	Audio	Network	SIP	Multicast	SSL	Sensor	Audiofiles	Events	Autoprov	Firmware

CyberData InformaCast Enabled Speaker

DTMF Settings

Require Security Code: ☐
Security Code:
Monitor DTMF Toggle Key: #
Enable Stored Message Playback ☐

Power Settings

802.3AT Mode: **Not detected. Disabled**
Force 802.3AT Mode (NOT recommended): ☐
Auxiliary Power Supply: ☐

Time Settings

Set Time with NTP server on boot: ☐
NTP Server: north-america.pool.ntp.org
Posix Timezone String (see manual): PST8PDT,M3.2.0/2:00:00,M11.1.0/2
Periodically sync time with server: ☐
Time update period (in hours): 24
Current Time: 16:40:37
Set Time Manually: 16:40:37
[Set]

Relay Settings

Activate Relay with DTMF code: ☑
Relay Pulse Code: 123
Relay Pulse Duration (in seconds): 2
Relay Activation Code: 456
Relay Deactivation Code: 654
Activate Relay During Ring: ☐
Activate Relay During Night Ring: ☐
Activate Relay While Call Active: ☐

Clock Settings

Clock Kit: **Installed**
Clock Brightness (0-14):
Use Ambient Light Sensor: ☑
Clock Colon Type: ○ Off ○ On ● Blink
Use 24 Hour time: ☐

These settings will only appear if you are using the Clock Kit. If you are not using the Clock Kit, you will see the words **NOT INSTALLED**.

Misc Settings

Device Name: CyberData IC Speaker
Auto-Answer Incoming Calls: ☑
Beep on Init: ☐
Beep on Page: ☐
Disable HTTPS (NOT recommended): ☐
Dual Speakers: ☐
RGB Strobe: **Not installed**

Button Settings

Button Installed: ☐
Activate Relay On Button Press: ☐
Relay On Button Press Duration: 3
Button Lit when Idle: ☑
Button Brightness (0-255): 255
Play Ringback Tone: ☐
Prevent Call Termination: ☐
Blink button LED on monitor call ☐

Figure 2-17. Device Page

2. On the **Device** page, you may enter values for the parameters indicated in Table 2-6.

Note   The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-6. Device Page Parameters

Web Page Item	Description
DTMF Settings	
Require Security Code ?	When selected, the user will be prompted to enter a Security Code (entered on this page) before being able to execute a page when calling the device.
Security Code ?	Type the Security Code in this field. The Security Code must only use characters '0-9', '*' and '#'. Enter up to 25 characters.
Monitor DTMF Toggle Key ?	Specify the key that toggles between monitor mode's 'talk' and 'listen' state. Defaults to '#'.
	Note: Some PBX's use # for other call functions
Enable Stored Message Playback ?	When selected, the caller will be prompted to select one of nine stored messages to play through the speaker. Stored messages may be customized on the Audiofiles page.
Time Settings	
Set Time with NTP Server on boot ?	When selected, the time is set with an external NTP server when the device restarts.
NTP Server ?	Use this field to set the address (in IPv4 dotted decimal notation or as a canonical name) for the NTP Server. This field can accept canonical names of up to 64 characters in length.
Posix Timezone String ?	See Section 2.3.5.1, "Time Zone Strings" for information about how to use the Posix Timezone String to specify time zone and daylight savings time where applicable. Enter up to 63 characters.
Periodically sync time with server ?	When selected, the time is periodically updated with the NTP server at the configured interval below.
Time update period (in hours) ?	The time interval after which the device will contact the NTP server to update the time. Enter up to 4 digits.
Current Time ?	Allows you to input the current time. (6 character limit)
Set Time Manually ?	Set the system time when NTP is not enabled. Format is HH:MM:SS
Clock Settings	**These settings will only appear if you are using the Clock Kit. If you are not using the Clock Kit, you will see the words NOT INSTALLED.**
Clock Kit ?	Displays the status of optional Clock Kit.
Clock Brightness (0 - 14) ?	This setting allows you to select the clock brightness level (0-14).
Use Ambient Light Sensor ?	This setting enables or disables the ambient light sensor.
Clock Colon Type ?	This setting allows you to select the clock colon type.
Use 24 Hour Time ?	When selected, the time will be show in 24 hour format on the optional clock display.

Table 2-6. Device Page Parameters (continued)

| Web Page Item	Description
Button Settings	**Note: Not applicable. These settings are only available with the Talk-Back Speaker.**
Button Installed ?	When selected, the speaker is assumed to be wired to a push-to-talk button. Button settings will be enabled and sensor settings will be disabled. When not selected, the speaker is assumed to be wired to a sensor. Sensor settings will be enabled and button settings will be disabled.
Relay On Button Press Duration ?	The length of time (in seconds) during which the relay will be activated when the Call button is pressed. Enter up to 5 digits. A Relay on Button Press Duration value of 0 will pulse the relay once when the Call button is pressed.
Button Lit when Idle ?	When selected, the Call button LED is illuminated while the device is idle (a call is not in progress).
Button Brightness (0-255) ?	The desired Call button LED brightness level. Acceptable values are 0-255, where 0 is the dimmest and 255 is the brightest. Enter up to 3 digits.
Play Ringback Tone ?	When selected, the device will play a ringback tone (corresponds to Ringback Tone on the Audiofiles page) out of the speaker while placing an outbound call. The Ringback Tone will play until the call is answered.
Prevent Call Termination ?	When this option is enabled, a call cannot be terminated using the call button.
Blink Button LED on monitor call ?	Selecting this will cause the button LED blink during a monitor call. Unselecting this will cause the speaker to give no indication that it is in a monitor call.
InformaCast Settings	
InformaCast Address ?	Use this field to set the address of your Informacast server. This will override any Informacast server addresses received via SLP or DHCP. Enter "0.0.0.0" to use values received via SLP or DHCP. If using TFTP for configuration, simply enter an IP address (eg. 10.0.1.195)If using HTTP for configuration, enter the full URL to the path that contains the configuration file. Do not input the file name(eg.http://10.0.1.195:8081/InformaCast/resources/).
Singlewire Broadcast Strobe Settings	For up to 10 Singlewire pages, when a priority is specified for the page, a corresponding strobe scene will be activated. The color may be selected from the drop down menu, or customized by the user with the 0-255 scale. Brightness is specified with a value between 0 and 100. **The following strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.**
Priority ?	Indicates the priority of the Singlewire broadcast, with 1 the highest priority and 10 the lowest.
Scene ?	Use this section to select the strobe flashing behavior for the Singlewire Broadcast.
ADA Compliant ?	Strobe will blink ON at the specified brightness for 150ms then OFF for 350ms during the duration of the event.
Slow Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 3.5 seconds during the duration of the event.

Table 2-6. Device Page Parameters (continued)

Web Page Item	Description
Fast Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 1.5 seconds during the duration of the event.
Slow Blink ?	Strobe will blink ON at the specified brightness for one second then OFF for one second during the duration of the event.
Fast Blink ?	Strobe will blink ON at the specified brightness then OFF five times per second during the duration of the event.
Color ?	Select the desired color (only one may be chosen).
Brightness ?	How bright the strobe will blink when there is a Singlewire Broadcast. This is the maximum brightness for "fade" type scenes.
Red ?	The red LED value for the Singlewire Broadcast.
Green ?	The green LED value for the Singlewire Broadcast.
Blue ?	The blue LED value for the Singlewire Broadcast.
Preview	Use this button to preview the strobe flashing behavior for the **Singlewire Broadcast Strobe Settings**.
Power Settings	
802.3AT Mode ?	This device automatically detects if it is plugged into an 802.3AT (also known as PoE Plus) power source. 802.3AT provides more power than older 802.3AT power sources and allows this speaker to play audio at higher volumes. If you are sure this speaker is connected to an 802.3AT power source, but it is not being detected correctly, you can override the automatic settings below.
Force 802.3AT Mode (NOT recommended) ?	Enable this option if you are sure this speaker is connected to an 802.3AT power source, but it is not being detected correctly (not recommended).
Auxiliary Power Supply ?	This device can be connected to a +24VDC auxiliary power supply. Check this box if this is how this speaker is being powered.
Relay Settings	
Activate Relay with DTMF Code ?	Activates the relay when the DTMF Activation Code is entered on the phone during a SIP call with the device. RFC2833 DTMF payload types are supported.
Relay Pulse Code ?	DTMF code used to pulse the relay when entered on a phone during a SIP call with the device. Relay will activate for Relay Pulse Duration seconds then deactivate. Activate Relay with DTMF Code must be enabled. Enter up to 25 digits (* and # are supported).
Relay Pulse Duration (in seconds) ?	The length of time (in seconds) during which the relay will be activated when the DTMF Relay Activation Code is detected. Enter up to 5 digits.
Relay Activation Code ?	Activation code used to activate the relay when entered on a phone during a SIP call with the device. Relay will be active indefinitely, or until the DTMF Relay Deactivation code is entered. Activate Relay with DTMF Code must be enabled. Enter up to 25 digits (* and # are supported).
Relay Deactivation Code ?	Code used to deactivate the relay when entered on a phone during a SIP call with the device. Activate Relay with DTMF Code must be enabled. Enter up to 25 digits (* and # are supported).

Table 2-6. Device Page Parameters (continued)

Web Page Item	Description
Activate Relay During Ring ?	When selected, the relay will be activated for as long as the device is ringing. When Auto-Answer Incoming Calls is enabled, the device will not ring and this option does nothing.
Activate Relay During Night Ring ?	When selected, the relay will be activated as long as the Nightringer extension is ringing.
Activate Relay While Call Active ?	When selected, the relay will be activated as long as the SIP call is active.
Misc Settings	
Device Name ?	Type the device name. Enter up to 25 characters.
Auto-Answer Incoming Calls ?	When selected, the device will automatically answer incoming calls. When Auto-Answer Incoming Calls is disabled, the device will play a ring tone (corresponds to Ring Tone on the Audiofiles page) out of the speaker until someone presses the Call button to answer the call or the caller disconnects before the call can be answered.
Beep on Init ?	Device will play the user-defined "pagetone" audio file when it boots.
Beep on Page ?	Device will play the user defined "pagetone" audio file before playing a SIP page.
Disable HTTPS (NOT recommended) ?	Disables the encrypted connection to the webpage. We do not recommend disabling HTTPS for security reasons.
Dual Speakers ?	Select this option if two speakers (main and auxiliary) are connected to the board.
RGB Strobe ?	Status of optional RGB Strobe.
Test Relay	Click on the **Test Relay** button to do a relay test.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

2.3.5.1 Time Zone Strings

The posix time zone string tells the internal date and time utilities how to handle daylight savings time for different time zones. Table 2-20 shows some common strings.

Table 2-7. Common Time Zone Strings

Time Zone	Time Zone String
US Pacific time	PST8PDT,M3.2.0/2:00:00,M11.1.0/2:00:00
US Mountain time	MST7MDT,M3.2.0/2:00:00,M11.1.0/2:00:00
US Eastern Time	EST5EDT,M3.2.0/2:00:00,M11.1.0/2:00:00
Phoenix Arizona[a]	MST7
US Central Time	CST6DST,M3.2.0/2:00:00,M11.1.0/2:00:00

a.Phoenix, Arizona does not use daylight savings time.

Table 2-21 shows a breakdown of the parts that constitute the following time zone string:

● ***CST6DST,M3.2.0/2:00:00,M11.1.0/2:00:00***

Table 2-8. Time Zone String Parts

Time Zone String Part	Meaning
CST6CDT	The time zone offset from GMT and three character identifiers for the time zone.
CST	Central Standard Time
6	The (hour) offset from GMT/UTC
CDT	Central Daylight Time
M3.2.0/2:00:00	The date and time when daylight savings begins.
M3	The third month (March)
.2	The 2nd occurrence of the day (next item) in the month
.0	Sunday
/2:00:00	Time of day to change
M11.1.0/2:00:00	The date and time when daylight savings ends.
M11	The eleventh month (November)
.1	The 1st occurrence of the day (next item) in the month
.0	Sunday
/2:00:00	Time of day to change

Time Zone String
Examples

Table 2-22 has some more examples of time zone strings.

Table 2-9. Time Zone String Examples

Time Zone	Time Zone String
Tokyo[a]	IST-9
Berlin[b]	CET-1MET,M3.5.0/1:00,M10.5.0/1:00

a. Tokyo does not use daylight savings time.
b. For Berlin, daylight savings time starts on the last Sunday in March at
01:00 UTC, and ends on the last Sunday in October at 01:00 UTC, and is one
hour ahead of UTC.

Time Zone Identifier A user-definable three or four character time zone identifier (such as PST, EDT, IST, MUT, etc) is needed at the beginning of the posix time zone string to properly set the time. However, the specific letters or numbers used for the time zone identifier are not important and can be any three or four letter or number combination that is chosen by the user. However, the time zone identifier cannot be blank.

Figure 2-18. Three or Four Character Time Zone Identifier

You can also use the following URL when a certain time zone applies daylight savings time:

http://www.timeanddate.com/time/dst/2011.html

World GMT Table Table 2-23 has information about the GMT time in various time zones.

Table 2-10. World GMT Table

Time Zone	City or Area Zone Crosses
GMT-12	Eniwetok
GMT-11	Samoa
GMT-10	Hawaii
GMT-9	Alaska
GMT-8	PST, Pacific US
GMT-7	MST, Mountain US
GMT-6	CST, Central US
GMT-5	EST, Eastern US
GMT-4	Atlantic, Canada
GMT-3	Brazilia, Buenos Aries
GMT-2	Mid-Atlantic
GMT-1	Cape Verdes
GMT	Greenwich Mean Time, Dublin
GMT+1	Berlin, Rome
GMT+2	Israel, Cairo
GMT+3	Moscow, Kuwait
GMT+4	Abu Dhabi, Muscat

Table 2-10. World GMT Table (continued)

Time Zone	City or Area Zone Crosses
GMT+5	Islamabad, Karachi
GMT+6	Almaty, Dhaka
GMT+7	Bangkok, Jakarta
GMT+8	Hong Kong, Beijing
GMT+9	Tokyo, Osaka
GMT+10	Sydney, Melbourne, Guam
GMT+11	Magadan, Soloman Is.
GMT+12	Fiji, Wellington, Auckland

2.3.6 Configure the Audio

1. Click the **Audio** menu button to open the **Audio** page. See Figure 2-16.

Figure 2-19. Audio Page
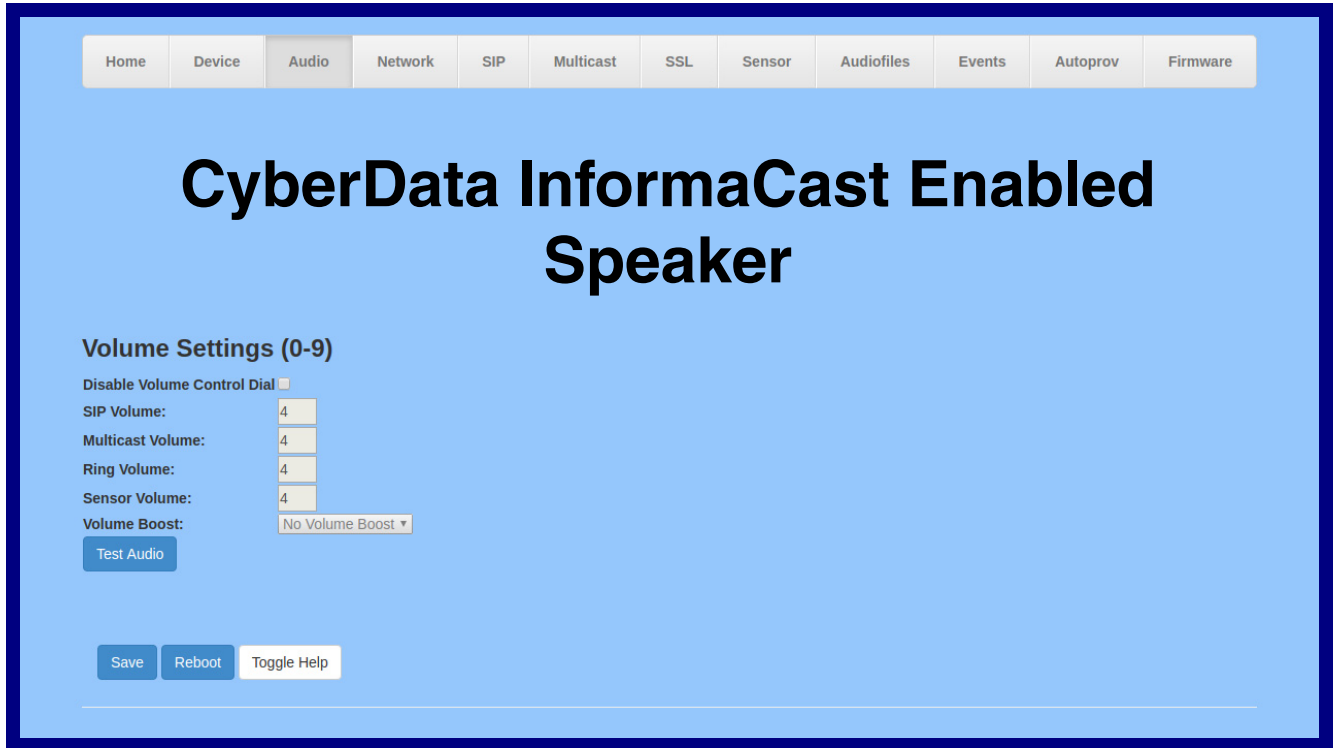
2. On the **Device** page, you may enter values for the parameters indicated in Table 2-6.

Note   The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-11. Audio Page Parameters

Web Page Item	Description
Volume Settings (0-9)	
Disable Volume Control Dial ?	Select this option to disable the volume control dial and enable digital volume control settings.
SIP Volume ?	Set the speaker volume for a SIP call. A value of 0 will mute the speaker during SIP calls.
Multicast Volume ?	Set the speaker volume for multicast audio streams. A value of 0 will mute the speaker during multicasts.
Ring Volume ?	Set the ring volume for incoming calls. A value of 0 will mute the speaker instead of playing the ring tone when Auto-Answer Incoming Calls is disabled.
Sensor Volume ?	Set the speaker volume for playing sensor activated audio. A value of 0 will mute the speaker during sensor activated audio.
Volume Boost: ? No Volume Boost +4dB	Set the Boost level to increase the volume output of the speaker. Using Volume Boost may introduce audio clipping and/or distortion. Boost is only recommended for use with volumes set to level 9.
Test Audio	Click on the **Test Audio** button to do an audio test. When the **Test Audio** button is pressed, you will hear a voice message for testing the device audio quality and volume.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

2.3.7 Configure the Network Parameters

1. Click the **Network** menu button to open the **Network** page (Figure 2-20).

Figure 2-20. Network Page

| Home | Device | Audio | Network | SIP | Multicast | SSL | Sensor | Audiofiles | Events | Autoprov | Firmware |

CyberData InformaCast Enabled Speaker

Stored Network Settings

Addressing Mode:	○ Static ● DHCP
Hostname:	SipDevice041046
IP Address:	10.10.10.10
Subnet Mask:	255.0.0.0
Default Gateway:	10.0.0.1
DNS Server 1:	10.0.0.1
DNS Server 2:	10.0.0.1
DHCP Timeout in seconds*:	60

A value of -1 will retry forever

VLAN Settings

VLAN ID (0-4095):	0
VLAN Priority (0-7):	0

Save   Reboot   Toggle Help

Current Network Settings

IP Address:	10.10.1.204
Subnet Mask:	255.0.0.0
Default Gateway:	10.0.0.1
DNS Server 1:	10.0.1.56
DNS Server 2:	

2. On the **Network** page, enter values for the parameters indicated in Table 2-12.

Note The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-12. Network Page Parameters
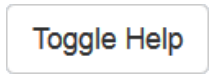
Web Page Item	Description
Stored Network Settings	
Addressing Mode ?	Select either DHCP IP Addressing or Static Addressing by marking the appropriate radio button. DHCP Addressing mode is enabled on default and the device will attempt to resolve network addressing with the local DHCP server upon boot. If DHCP Addressing fails, the device will revert to the last known IP address or the factory default address if no prior DHCP lease was established. See Section 2.3.1, "Factory Default Settings" for factory default settings. Be sure to click **Save** and **Reboot** to store changes when configuring a Static address.
Hostname ?	This is the hostname provided by the DHCP server. See the DHCP/DNS server documentation for more information. Enter up to 64 characters.
IP Address ?	Enter the Static IPv4 network address in dotted decimal notation.
Subnet Mask ?	Enter the Subnet Mask in dotted decimal notation.
Default Gateway ?	Enter the Default Gateway IPv4 address in dotted decimal notation.
DNS Server 1 ?	Enter the primary DNS Server IPv4 address in dotted decimal notation.
DNS Server 2 ?	Enter the secondary DNS Server IPv4 address in dotted decimal notation.
DHCP Timeout in seconds ?	Specify the desired time-out duration (in seconds) that the device will wait for a response from the DHCP server before reverting back to the stored static IP address. The stored static IP address may be the last known IP address or the factory default address if no prior DHCP lease was established. Enter up to 8 characters. A value of -1 will retry forever.
VLAN Settings	
VLAN ID (0-4095) ?	Specify the IEEE 802.1Q VLAN ID number. Enter up to 4 digits. **Note**: The device supports 802.1Q VLAN tagging support. The switch port connected to the device will need to be in "trunking mode" for the VLAN tags to propagate.
VLAN Priority (0-7) ?	Specify the IEEE 802.1p VLAN priority level. Enter 1 digit. A value of 0 may cause the VLAN ID tag to be ignored.
Current Network Settings	Shows the current network settings.
IP Address	Shows the current Static IP address.
Subnet Mask	Shows the current Subnet Mask address.
Default Gateway	Shows the current Default Gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.

Table 2-12. Network Page Parameters (continued)

Web Page Item	Description
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

2.3.8 Configure the SIP (Session Initiation Protocol) Parameters

1. Click on the **SIP** menu button to open the **SIP** page (Figure 2-21).

Figure 2-21. SIP Page—Top

Home | Device | Audio | Network | SIP | Multicast | SSL | Sensor | Audiofiles | Events | Autoprov | Firmware

CyberData InformaCast Enabled Speaker

SIP Settings

Enable SIP operation:	☑
SIP Transport Protocol:	UDP ▾
TLS Version:	1.2 only (recommended) ▾
Verify Server Certificate:	☑
Register with a SIP Server:	☑
Use Cisco SRST:	☐
Primary SIP Server:	10.0.0.253
Primary SIP User ID:	199
Primary SIP Auth ID:	199
Primary SIP Auth Password:	••••••
Backup SIP Server 1:	
Backup SIP User ID 1:	
Backup SIP Auth ID 1:	
Backup SIP Auth Password 1:	
Backup SIP Server 2:	
Backup SIP User ID 2:	
Backup SIP Auth ID 2:	
Backup SIP Auth Password 2:	
Remote SIP Port:	5060
Local SIP Port:	5060
Outbound Proxy:	
Outbound Proxy Port:	0

Nightringer Settings

Enable Nightringer:	☐
SIP Server:	10.0.0.253
Remote SIP Port:	5060
Local SIP Port:	5061
Outbound Proxy:	
Outbound Proxy Port:	0
User ID:	241
Authenticate ID:	241
Authenticate Password:	••••••
Re-registration Interval (in seconds):	360

Nightringer Strobe Settings

Blink Strobe on Nightring: ☐

Scene	Color	Brightness	Red	Green	Blue	
ADA ▾	White ▾	100	0	0	0	Preview

RTP Settings

RTP Port (even):	10500
Jitter Buffer:	50

Call Disconnection

Terminate Call after delay:	0

The strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.

Figure 2-22. SIP Page—Bottom

Monitor User ID:

Monitor Authenticate ID:

Monitor Authenticate Password:

Disable rport Discovery:

Buffer SIP Calls:

Re-registration Interval (in seconds): 360

Unregister on Boot:

Keep Alive Period: 10000

Codec Selection

Force Selected Codec:

Codec: PCMU (G.711, u-law) ▾

Button Settings

Dial Out Extension: 204

Extension ID: id204

SIP Ring Strobe Settings

Blink Strobe on Ring:

Scene	Color	Brightness	Red	Green	Blue	
ADA ▾	White ▾	100	0	0	0	Preview

SIP Call Strobe Settings

Blink Strobe during Call:

Scene	Color	Brightness	Red	Green	Blue	
ADA ▾	White ▾	100	0	0	0	Preview

The strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.

MWI Strobe Settings

Blink Strobe on MWI:

Scene	Color	Brightness	Red	Green	Blue	
ADA ▾	White ▾	100	0	0	0	Preview

Save   Reboot   Toggle Help

2. On the **SIP** page, enter values for the parameters indicated in Table 2-13.

Note The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-13. SIP Page Parameters

Web Page Item	Description
SIP Settings	
Enable SIP Operation ?	When enabled, the device will transmit, receive, and process SIP messages according to the configured SIP settings below.
SIP Transport Protocol ?	Choose the transport protocol for SIP signaling. This will affect all extensions, including the Nightringer. Default is UDP.
TLS Version ?	Choose the TLS version for SIP over TLS. Modern security standards strongly recommend using TLS 1.2.
Verify Server Certificate ?	When enabled, the device will verify the authenticity of the server during the TLS handshake by its certificate and common name. The TLS handshake will be aborted if the server is deemed to be inauthentic and SIP registration will not proceed.
Register with a SIP Server ?	When enabled, the device will attempt to register to the configured SIP Server(s) on this page. To configure the device to send and receive point-to-point SIP calls, enable **SIP Operation** and disable **Register with a SIP Server** (see Section 2.3.8.1, "Point-to-Point Configuration").
Use Cisco SRST ?	When enabled, the backup servers are handled according to Cisco SRST (Survivable Remote Site Telephony). It is required for use in clustered Cisco Unified Communications Manager topologies.
Primary SIP Server ?	Enter the SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's extension on the primary SIP server. This field can accept entries of up to 255 characters in length.
Primary SIP User ID ?	Specify the SIP User ID for the Primary SIP Server. This parameter becomes the user portion of the SIP-URI for the device's extension on the primary SIP server. Enter up to 64 alphanumeric characters.
Primary SIP Auth ID ?	Specify the Authenticate ID for the Primary SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Primary SIP Auth Password ?	Specify the Authenticate Password for the Primary SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Backup SIP Server 1 ?	Enter the backup SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's extension on the backup SIP server. This field can accept entries of up to 255 characters in length.
Backup SIP User ID 1 ?	Specify the SIP User ID for the first backup SIP Server. This parameter becomes the user portion of the SIP-URI for the device's extension on the first backup SIP server. Enter up to 64 alphanumeric characters.
Backup SIP Auth ID 1 ?	Specify the Authenticate ID for the first backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Backup SIP Auth Password 1 ?	Specify the Authenticate Password for the first backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.

Table 2-13. SIP Page Parameters (continued)

Web Page Item	Description
Backup SIP Server 2 [?]	Enter a second backup SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's extension on the second backup SIP server. This field can accept entries of up to 255 characters in length.
Backup SIP User ID 2 [?]	Specify the SIP User ID for the second backup SIP Server. This parameter becomes the user portion of the SIP-URI for the device's extension on the second backup SIP server. Enter up to 64 alphanumeric characters.
Backup SIP Auth ID 2 [?]	Specify the Authenticate ID for the second backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Backup SIP Auth Password 2 [?]	Specify the Authenticate Password for the second backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Remote SIP Port [?]	The Remote SIP Port is the port number the device will use as the destination port when sending SIP messages. The default Remote SIP Port is 5060. The supported range is 0-65536. Enter up to 5 digits.
Local SIP Port [?]	The Local SIP Port is the port number the device will use to receive SIP messages. The default Local SIP Port is 5060. The supported range is 0-65536. Enter up to 5 digits.
Outbound Proxy [?]	Enter the Outbound Proxy address as an IPv4 address in dotted decimal notation or a fully qualified domain name (FQDN). When an IP address is configured, the device will send all SIP messages to this IP address. When an FQDN is configured, the device will run DNS NAPTR, SRV, and A queries on the FQDN to resolve an IP address to which it will send all SIP messages. This field can accept entries of up to 255 characters in length.
Outbound Proxy Port [?]	The Outbound Proxy Port is port number used as the destination port when sending SIP messages to the outbound proxy. A value of 0 will default to 5060. The supported range is 0-65536. Enter up to 5 digits.
Monitor User ID [?]	**Not applicable. This setting is only available with the Talk-Back Speaker.**
Monitor Authenticate ID [?]	**Not applicable. This setting is only available with the Talk-Back Speaker.**
Monitor Authenticate Password [?]	**Not applicable. This setting is only available with the Talk-Back Speaker.**
Disable rport Discovery [?]	Disabling rport Discovery will prevent the device from including the public WAN IP address and port number in the contact information that is sent to the remote SIP servers. This will generally only need to be enabled when using an SBC or SIP ALG in conjunction with a remote SIP server.
Buffer SIP Calls [?]	Also referred to as delayed paging. Device will buffer up to 4 minutes of audio then play back the recording after hang up.
Re-registration Interval (in seconds) [?]	The SIP Re-registration interval (in seconds) is the SIP Registration lease time, also known as the expiry. The supported range is 30-3600 seconds. Enter up to 4 digits.
Unregister on Boot [?]	When enabled, the device will send one registration with an expiry of 0 on boot.
Keep Alive Period [?]	The minimum time in milliseconds between keep-alive packets sent for nat traversal. A value of 0 will disable keep alive packets.

Table 2-13. SIP Page Parameters (continued)

Web Page Item	Description
SIP Ring Strobe Settings	**The following strobe settings will only appear if a CyberData Strobe product is connected to your device. If a CyberData Strobe product is not connected to your device, you will not see the strobe settings.**
Blink Strobe on Ring ?	When selected, the Strobe will blink a scene when ringing.
Scene ?	Select desired scene (only one may be chosen).
ADA Compliant ?	Strobe will blink ON at the specified brightness for 150ms then OFF for 350ms during the duration of the event.
Slow Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 3.5 seconds during the duration of the event.
Fast Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 1.5 seconds during the duration of the event.
Slow Blink ?	Strobe will blink ON at the specified brightness for one second then OFF for one second during the duration of the event.
Fast Blink ?	Strobe will blink ON at the specified brightness then OFF five times per second during the duration of the event.
Color ?	Select desired color (only one may be chosen).
Brightness ?	How bright the strobe will blink when there is a SIP Ring. This is the maximum brightness for "fade" type scenes.
Red ?	The red LED value for SIP Ring.
Green ?	The green LED value for SIP Ring.
Blue ?	The blue LED value for SIP Ring.
Preview	Use this button to preview the strobe flashing behavior for the **SIP Ring Strobe Settings**.
SIP Call Strobe Settings	**The following strobe settings will only appear if a CyberData Strobe product is connected to your device. If a CyberData Strobe product is not connected to your device, you will not see the strobe settings.**
Blink Strobe during Call ?	When selected, the Strobe will blink a scene during a call.
Scene ?	Select desired scene (only one may be chosen).
ADA Compliant ?	Strobe will blink ON at the specified brightness for 150ms then OFF for 350ms during the duration of the event.
Slow Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 3.5 seconds during the duration of the event.
Fast Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 1.5 seconds during the duration of the event.
Slow Blink ?	Strobe will blink ON at the specified brightness for one second then OFF for one second during the duration of the event.
Fast Blink ?	Strobe will blink ON at the specified brightness then OFF five times per second during the duration of the event.
Color ?	Select desired color (only one may be chosen).
Brightness ?	How bright the strobe will blink when there is a SIP Call. This is the maximum brightness for "fade" type scenes.
Red ?	The red LED value for SIP Call.

Table 2-13. SIP Page Parameters (continued)

Web Page Item	Description
Green ?	The green LED value for SIP Call.
Blue ?	The blue LED value for SIP Call.
Preview	Use this button to preview the strobe flashing behavior for the **SIP Call Strobe Settings**.
MWI Strobe Settings	**The following strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.**
Blink Strobe on MWI ?	When selected, the strobe will blink a scene when a voicemail is waiting for its extension.
Scene ?	Select desired scene (only one may be chosen).
ADA Compliant ?	Strobe will blink ON at the specified brightness for 150ms then OFF for 350ms during the duration of the event.
Slow Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 3.5 seconds during the duration of the event.
Fast Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 1.5 seconds during the duration of the event.
Slow Blink ?	Strobe will blink ON at the specified brightness for one second then OFF for one second during the duration of the event.
Fast Blink ?	Strobe will blink ON at the specified brightness then OFF five times per second during the duration of the event.
MWI Call Color ?	Select desired color (only one may be chosen).
Brightness ?	How bright the strobe will blink when there is a message waiting. This is the maximum brightness for "fade" type scenes.
Red ?	The red LED value for MWI.
Green ?	The green LED value for MWI.
Blue ?	The blue LED value for MWI.
Preview	Use this button to preview the strobe flashing behavior for the **MWI Strobe Settings**.
Nightringer Settings	
Enable Nightringer ?	When Nightringer is enabled, the device will attempt to register a second extension with the SIP server. Any calls made to this extension will play a ringtone (corresponds to **Night Ring** on the **Audiofiles** page). By design, it is not possible to answer a call to the Nightringer extension.
SIP Server ?	Enter the SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's Nightringer extension on the SIP server. This field can accept entries of up to 255 characters in length.
Remote SIP Port ?	The Remote SIP Port is the port number the device will use as the destination port when sending SIP messages for the Nightringer extension. The default Remote SIP Port is 5060. The supported range is 0-65536. Enter up to 5 digits.

Table 2-13. SIP Page Parameters (continued)

Web Page Item	Description
Local SIP Port [?]	The Local SIP Port is the port number the device will use to receive SIP messages for the Nightringer extension. This value cannot be the same as the **Local SIP Port** for the primary extension. The default Local SIP Port is 5061. The supported range is 0-65536. Enter up to 5 digits.
Outbound Proxy [?]	Enter the Outbound Proxy address as an IPv4 address in dotted decimal notation or a fully qualified domain name (FQDN). When an IP address is configured, the device will send all SIP messages to this IP address for the Nightringer extension. When an FQDN is configured, the device will run DNS NAPTR, SRV, and A queries on the FQDN to resolve an IP address to which it will send all SIP messages for the Nightringer extension. This field can accept entries of up to 255 characters in length.
Outbound Proxy Port [?]	The Outbound Proxy Port is port number used as the destination port when sending SIP messages to the outbound proxy for the Nightringer extension. A value of 0 will default to 5060. The supported range is 0-65536. Enter up to 5 digits.
User ID [?]	Specify the SIP User ID for the SIP server. This parameter becomes the user portion of the SIP-URI for the device's Nightringer extension. Enter up to 64 alphanumeric characters.
Authenticate ID [?]	Specify the Authenticate ID for the SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Authenticate Password [?]	Specify the Authenticate Password for the SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Re-registration Interval (in seconds) [?]	The SIP Re-registration Interval (in seconds) is the SIP Registration lease time, also known as the expiry. The supported range is 30-3600 seconds. Enter up to 4 digits.
Nightringer Strobe Settings	**The following strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.**
Blink Strobe on Nightring [?]	When selected, the Strobe will blink a scene when the Nightringer is ringing.
Scene [?]	Select desired scene (only one may be chosen).
ADA Compliant [?]	Strobe will blink ON at the specified brightness for 150ms then OFF for 350ms during the duration of the event.
Slow Fade [?]	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 3.5 seconds during the duration of the event.
Fast Fade [?]	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 1.5 seconds during the duration of the event.
Slow Blink [?]	Strobe will blink ON at the specified brightness for one second then OFF for one second during the duration of the event.
Fast Blink [?]	Strobe will blink ON at the specified brightness then OFF five times per second during the duration of the event.
Color [?]	Select desired color (only one may be chosen).
Brightness [?]	How bright the strobe will blink when the Nightringer is ringing. This is the maximum brightness for "fade" type scenes.
Red [?]	The red LED value for Nightringer.
Green [?]	The green LED value for Nightringer.
Blue [?]	The blue LED value for Nightringer.
Preview	Use this button to preview the strobe flashing behavior for the **Nightringer Strobe Settings**.

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Table 2-13. SIP Page Parameters (continued)

Web Page Item	Description
RTP Settings	
RTP Port (even) ?	Specify the port number used for the RTP stream after establishing a SIP call. This port number must be an even number and defaults to 10500. The supported range is 0-65536. Enter up to 5 digits.
Jitter Buffer ?	Specify the size of the jitter buffer (in milliseconds) used for SIP calls. Valid values are 50-1000.
Call Disconnection	
Terminate Call After Delay ?	Automatically terminate an active call after a given delay in seconds. A value of 0 will disable this function. Enter up to 8 digits.
Codec Selection	
Force Selected Codec ?	When configured, this option will allow you to force the device to negotiate for the selected codec. Otherwise, the device will perform codec negotiation using the default list of supported codecs.
Codec ?	Select the desired codec (only one may be chosen).
Button Settings	**Not applicable. This setting is only available with the Talk-Back Speaker.**
Dial Out Extension ?	**Not applicable. This setting is only available with the Talk-Back Speaker.**
Extension ID ?	**Not applicable. This setting is only available with the Talk-Back Speaker.**
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

Note   For specific server configurations, go to the following website address:

https://www.cyberdata.net/pages/connecting-to-ip-pbx-servers

Note   The maximum number of total characters in the dial-out field is 64.

2.3.8.1 Point-to-Point Configuration

When the device is set to not register with a SIP server (see Figure 2-23), it is possible for the speaker to receive Point-to-Point calls by setting the dial out extension to the IP address of the remote device. The delayed DTMF functionality is available in Point-to-Point Mode.

Note Receiving point-to-point SiP calls may not work with all phones.

Figure 2-23. SIP Page Set to Point-to-Point Mode
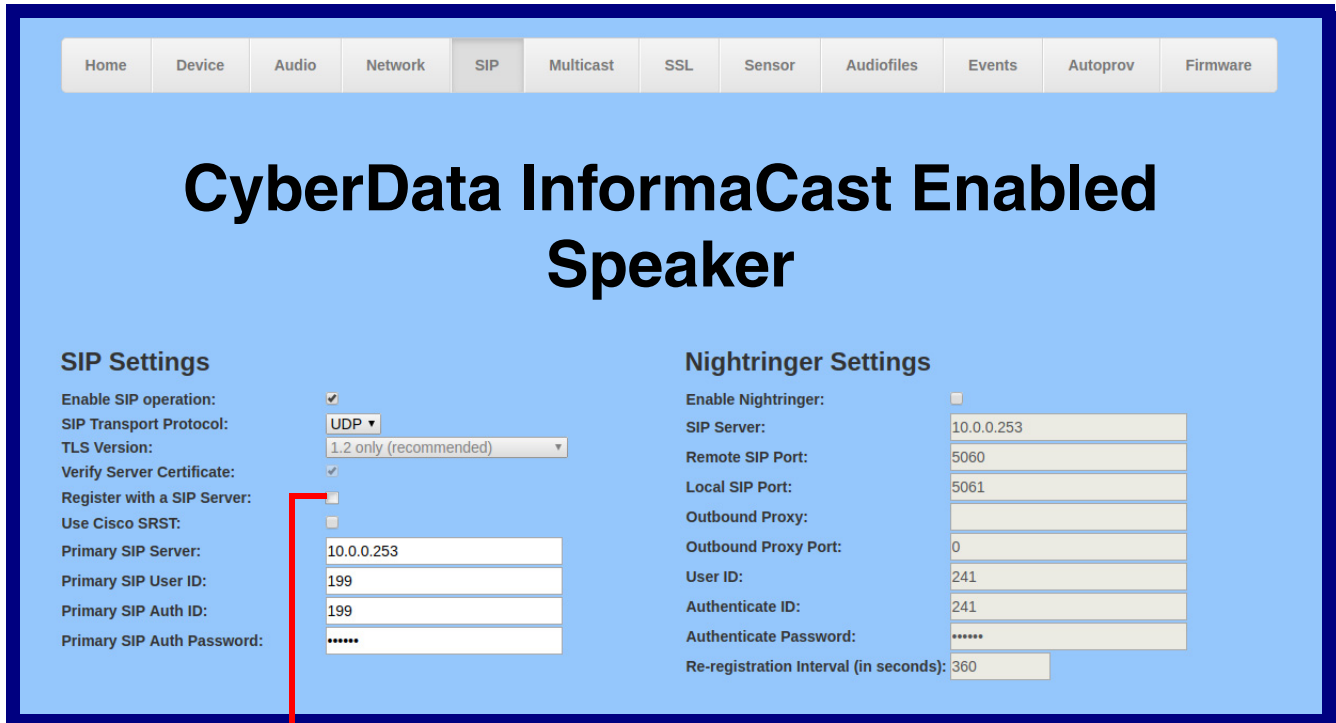
Device is set to NOT register with a SiP server

2.3.8.2 Delayed DTMF

On the **SIP Configuration** page the dial out extension supports the addition of comma delimited pauses and sending additional DTMF tones (using rfc2833). The first comma will pause three seconds after a call is first established with a remote device. Subsequent commas will pause for 2 seconds. A pause of one second will be sent after each numerical digit.

Table 2-14. Examples of Dial-Out Extension Strings

Extension String	Resulting Action
302	Dial out extension 302 and establish a call
302,2	Dial out extension 302 and establish a call, wait 3 seconds then send the DTMF tone '2'
302,25,,,4,,1	Dial out extension 302 and establish a call, wait 3 seconds then send the DTMF tone '2', send out DTMF tone 5, wait 6 seconds, send out DTMF tone 4, wait 4 seconds, send out DTMF tone 1

Note The maximum number of total characters in the dial-out field is 25.

2.3.9 Configure the Multicast Parameters

The Multicast Configuration page allows the device to join up to ten paging zones for receiving ulaw/alaw encoded RTP audio streams.

A paging zone can consist of one or many CyberData multicast group-enabled products. There is no limit to how many speakers can be in a given paging zone. Each multicast group is defined by a multicast address and port number.

Each multicast group is assigned a priority, allowing simultaneously arriving pages to be serviced based on importance. Multicast groups are compatible with IGMP through version 3. The device supports simultaneous SIP and Multicast.

1. Click on the **Multicast** menu button to open the **Multicast** page. See Figure 2-24.

Figure 2-24. Multicast Page

2. On the **Multicast** page, enter values for the parameters indicated in Table 2-15.

Note The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-15. Multicast Page Parameters

Web Page Item	Description
Enable Multicast Operation	Enables or disables multicast operation.
Blink Strobe on Multicast ?	When selected, the Strobe will blink a scene when a multicast is received.
	Note: The strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.
Priority	Indicates the priority for the multicast group. Priority **9** is the highest (emergency streams). **0** is the lowest (background music). SIP calls are considered priority **4.5**. See Section 2.3.9.1, "Assigning Priority" for more details.
Address	Enter the multicast IP Address for this multicast group (15 character limit).
Port	Enter the port number for this multicast group (5 character limit [range can be from 2000 to 65535]).
	Note: The multicast ports have to be even values. The webpage will enforce this restriction.
Name	Assign a descriptive name for this multicast group (25 character limit).
Buffer	Device will buffer up to four minutes of audio and then play back the recording after the multicast stream finishes or after the buffer is full.
Beep	When selected, the device will play a beep before multicast audio is sent.
Relay	When selected, the device will activate a relay before multicast audio is sent.
Scene ?	Select desired scene (only one may be chosen).
	Note: The strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.
ADA Compliant ?	Strobe will blink ON at the specified brightness for 150ms then OFF for 350ms during the duration of the event.
Slow Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 3.5 seconds during the duration of the event.
Fast Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 1.5 seconds during the duration of the event.
Slow Blink ?	Strobe will blink ON at the specified brightness for one second then OFF for one second during the duration of the event.
Fast Blink ?	Strobe will blink ON at the specified brightness then OFF five times per second during the duration of the event.
Color ?	Select desired color (only one may be chosen).
Brightness ?	How bright the strobe will blink on a multicast page. This is the maximum brightness for "fade" type scenes.
Red ?	The red LED value for Multicast.
Green ?	The green LED value for Multicast.
Blue ?	The blue LED value for Multicast.

Table 2-15. Multicast Page Parameters (continued)

Web Page Item	Description
Polycom Default Channel	When a default Polycom channel/group number is selected, the device will subscribe to the default channel for one-way group pages. Group Numbers 1-25 are supported. Or, select **Disabled** to disable this channel.
Polycom Priority Channel	When a priority Polycom channel/group number is selected, the device will subscribe to the priority channel for one-way group pages. Group Numbers 1-25 are supported. Or, select **Disabled** to disable this channel.
Polycom Emergency Channel	When an emergency Polycom channel/group number is selected, the device will subscribe to the default channel for one-way group pages. Group Numbers 1-25 are supported. Or, select **Disabled** to disable this channel.
Preview	Use this button to preview the strobe flashing behavior for the **Multicast Strobe Settings**.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

2.3.9.1 Assigning Priority

The device will prioritize simultaneous audio streams according to their priority in the list.

If both SIP and Multicast is enabled, SIP audio streams are considered priority **4.5**. SIP audio will interrupt multicast streams with priority **0** through **4** and will be interrupted by multicast streams with priority **5** through **9**.

During priority **9** multicast streams, the volume is set to maximum.

Note SIP calls, multicast streams, ring tones, ringback tones, and nightring tones are all prioritized.

Ringtones and Nightringtones

Ringtones all play at the same priority level. This means that it is possible to have a nightring tone and a normal ringtone playing at the same time.

2.3.10 Configure the SSL Parameters

1. Click **SSL** menu button to open the **SSL** page (Figure 2-25).

Figure 2-25. SSL Configuration Page

| Home | Device | Audio | Network | SIP | Multicast | SSL | Sensor | Audiofiles | Events | Autoprov | Firmware |

CyberData InformaCast Enabled Speaker

Server CAs

Browse...   No file chosen

Import CA Certificate

Restore Defaults   Remove All

Apply/Reboot   Toggle Help

Client Certificate

```
commonName = CyberData SIP Device
validFrom = Jul 10 17:56:03 2018 GMT
validTo = Jul  7 17:56:03 2028 GMT
```

Client CA

Test SSL Connection

Server: 10.0.0.253
Port: 5060

Test TLS connection

List of Trusted CAs

1	DST_ACES_CA_X6.crt	Info	Remove
2	DST_Root_CA_X3.crt	Info	Remove
3	Deutsche_Telekom_Root_CA_2.crt	Info	Remove
4	DigiCert_Assured_ID_Root_CA.crt	Info	Remove
5	DigiCert_Assured_ID_Root_G2.crt	Info	Remove
6	DigiCert_Assured_ID_Root_G3.crt	Info	Remove
7	DigiCert_Global_Root_CA.crt	Info	Remove
8	DigiCert_Global_Root_G2.crt	Info	Remove
9	DigiCert_Global_Root_G3.crt	Info	Remove
10	DigiCert_High_Assurance_EV_Root_CA.crt	Info	Remove
11	DigiCert_Trusted_Root_G4.crt	Info	Remove
12	Equifax_Secure_CA.crt	Info	Remove
13	Equifax_Secure_Global_eBusiness_CA.crt	Info	Remove
14	Equifax_Secure_eBusiness_CA_1.crt	Info	Remove

Figure 2-26. SSL Configuration Page

12	DigiCert_Trusted_Root_G4.crt	Info	Remove
13	Equifax_Secure_CA.crt	Info	Remove
14	Equifax_Secure_Global_eBusiness_CA.crt	Info	Remove
15	Equifax_Secure_eBusiness_CA_1.crt	Info	Remove
16	GeoTrust_Global_CA.crt	Info	Remove
17	GeoTrust_Global_CA_2.crt	Info	Remove
18	GeoTrust_Primary_Certification_Authority.crt	Info	Remove
19	GeoTrust_Primary_Certification_Authority_-_G2.crt	Info	Remove
20	GeoTrust_Primary_Certification_Authority_-_G3.crt	Info	Remove
21	GeoTrust_Universal_CA.crt	Info	Remove
22	GeoTrust_Universal_CA_2.crt	Info	Remove
23	VeriSign_Class_3_Public_Primary_Certification_Authority_-_G4.crt	Info	Remove
24	VeriSign_Class_3_Public_Primary_Certification_Authority_-_G5.crt	Info	Remove
25	VeriSign_Universal_Root_Certification_Authority.crt	Info	Remove
26	Verisign_Class_1_Public_Primary_Certification_Authority.crt	Info	Remove
27	Verisign_Class_1_Public_Primary_Certification_Authority_-_G3.crt	Info	Remove
28	Verisign_Class_2_Public_Primary_Certification_Authority_-_G2.crt	Info	Remove
29	Verisign_Class_2_Public_Primary_Certification_Authority_-_G3.crt	Info	Remove
30	Verisign_Class_3_Public_Primary_Certification_Authority.crt	Info	Remove
31	Verisign_Class_3_Public_Primary_Certification_Authority_-_G3.crt	Info	Remove
32	thawte_Primary_Root_CA.crt	Info	Remove
33	thawte_Primary_Root_CA_-_G2.crt	Info	Remove
34	thawte_Primary_Root_CA_-_G3.crt	Info	Remove

2. On the **SSL** page, enter values for the parameters indicated in Table 2-16.

Note The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-16. SSL Configuration Parameters
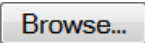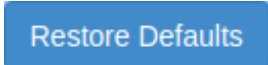
Web Page Item	Description
Server CAs	
Browse...	Use this button to select a configuration file to import.
Import CA Certificate	Click **Browse** to select a CA certificate to import. After selecting a server certificate authority (CA), click **Import CA Certificate** to import it to the list of trusted CAs. CAs are used to validate the certificate presented by the server when establishing a TLS connection.
Restore Defaults	**Restore Defaults** will restore the default list of registered CAs and **Remove All** will remove all registered CAs.
Remove All	**Restore Defaults** will restore the default list of registered CAs and **Remove All** will remove all registered CAs.
Apply/Reboot	Reboots the device and applies settings and activates imported certificates.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.
Client Certificate	When doing mutual authentication this device will present a client certificate with these parameters.
Client CA ?	Right click and **Save Link As...** to get the Cyberdata CA used to sign this client certificate.
Test SSL Connection	
Server ?	The ssl test server address as a fully qualified domain name or in IPv4 dotted decimal notation.
Port ?	The ssl test server port. The supported range is 0-65536. SIP connections over TLS to port 5060 will do the same.
Test TLS connection	Use this button to test a TLS connection to a remote server. This will attempt to make a socket connection to the configured test server and port and report the success or failure. This can be used to debug TLS connection issues separate from SIP registration issues.
List of Trusted CAs	
Info	Provides details of the certificate. After clicking on this button, the **Certificate Info Window** appears. See Section 2.3.10.1, "Certificate Info Window".

Table 2-16. SSL Configuration Parameters (continued)

Web Page Item	Description
Remove	Removes this certificate from the list of trusted certificates. After clicking on this button, the **Remove Server Certificate Window** appears. See Section 2.3.10.2, "Remove Server Certificate Window".

2.3.10.1 Certificate Info Window

The **Certificate Info Window** provides details of the certificate. This window appears after clicking on the **Info** button. See Figure 2-27.

Figure 2-27. Certificate Info Window
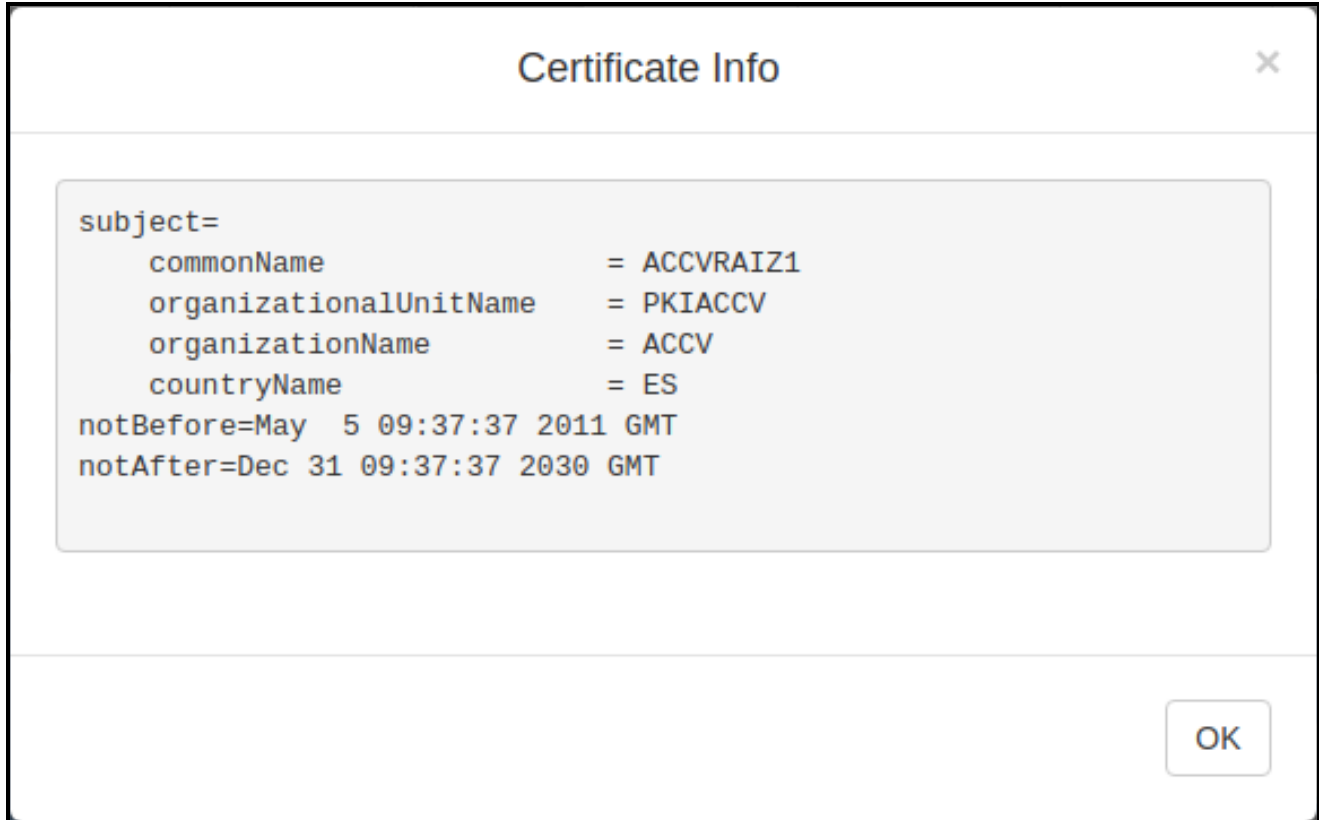
2.3.10.2 Remove Server Certificate Window

The **Remove Server Certificate Window** will ask if the user wants to remove a certificate from the list of trusted certificates. This window appears after clicking on the **Remove** button. See .

Figure 2-28. Remove Server Certificate Window

Remove Server Certificate   ✕

Are you sure you want to remove ACCVRAIZ1.crt?

Cancel   Remove
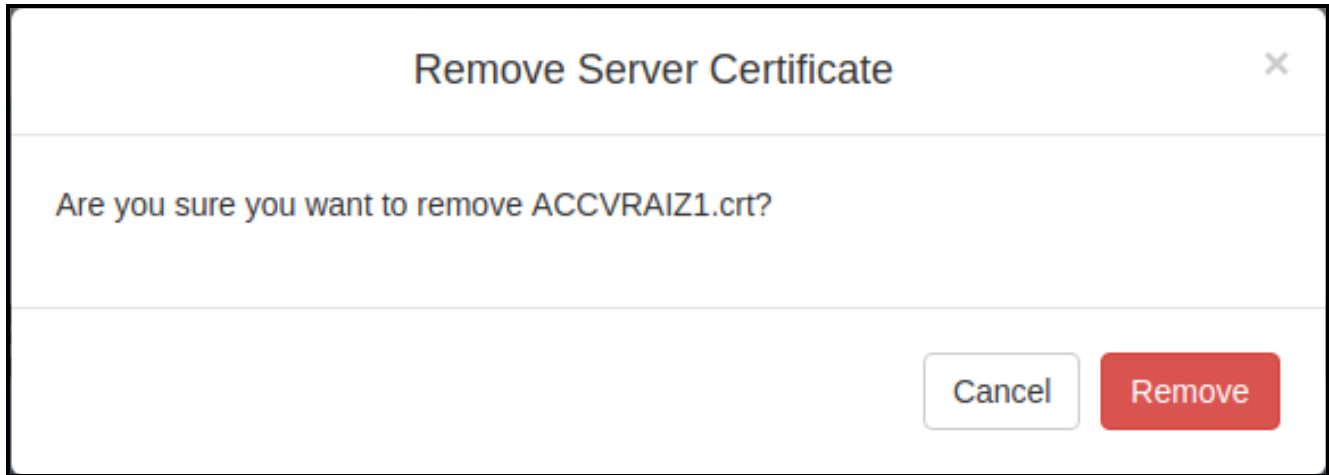
2.3.11 Configure the Sensor Configuration Parameters

The door sensor (pins 5 and 6) on the header can be used to monitor a door's open or closed state. There is an option on the **Sensor** page to trigger on an open or short condition on these pins. The door sensor alarm will be activated when the **Door Open Timeout** parameter has been met.

The intrusion sensor is an optical sensor installed on the board and will be activated when the board is removed from the case.

Each sensor can trigger up to five different actions:

- Flash the LED until the sensor is deactivated (roughly 10 times/second)
- Activate the relay until the sensor is deactivated
- Loop an audio file out of the speaker until the sensor is deactivated
- Call an extension and play a pre-recorded audio file

Note   Calling a preset extension can be set up as a point-to-point call, but currently can't send delayed DTMF tones.

1. Click **Sensor** menu button to open the **Sensor** page (Figure 2-29).

Figure 2-29. Sensor Page

CyberData InformaCast Enabled Speaker

| Home | Device | Audio | Network | SIP | Multicast | SSL | Sensor | Audiofiles | Events | Autoprov | Firmware |

Sensor Settings

Sensor Normally Closed: ○ Yes ● No
Sensor Timeout (in seconds): 0
Activate Relay: ☐
Play Audio Locally: ☐
Make call to extension: ☐
Dial Out Extension: 204
Dial Out ID: id204
Play recorded audio: ☐
Repeat Sensor Message: 0

[Test Sensor]

[Save] [Reboot] [Toggle Help]

Sensor Strobe Settings

Blink Strobe on Sensor: ☐

| Scene | Color | Brightness | Red | Green | Blue |
| ADA ▾ | White ▾ | 100 | 0 | 0 | 0 | [Preview]

The strobe settings will
only appear if you are
using the Strobe Kit.
If you are not using the
Strobe Kit, you will not
see the strobe settings.

2. On the **Sensor** page, enter values for the parameters indicated in Table 2-17.

Note The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-17. Sensor Page Parameters

Web Page Item	Description
Sensor Settings	
Sensor Normally Closed ?	Select the inactive state of the sensor. The sensor is also known as the Sense Input on the device's terminal block. See the Operations Guide for more information.
Sensor Timeout (in seconds) ?	The time (in seconds) the device will wait before it performs an action when the on-board door sensor is activated. The action(s) performed are based on the configured Sensor Settings below. Enter up to 5 digits.
Activate Relay ?	When selected, the device's on-board relay will be activated until the on-board door sensor is deactivated.
Play Audio Locally ?	When selected, the device will loop an audio file out of the speaker until the door sensor is deactivated.
Make call to extension ?	When selected, the device will call an extension when the on-board door sensor is activated. Use the **Dial Out Extension** field below to specify the extension the device will call.
Dial Out Extension ?	Specify the extension the device will call when the on-board door sensor is activated. Enter up to 64 alphanumeric characters.
Dial Out ID ?	An additional Caller identification string added to outbound calls. Enter up to 64 alphanumeric characters.
Play recorded audio ?	When selected, the device will call the **Dial Out Extension** and play an audio file to the phone answering the SIP call (corresponds to **Door Ajar** on the **Audiofiles** page).
Repeat Sensor Message ?	The number of times to repeat the audio message through the local speaker or to the remote endpoint. A value of 0 will repeat forever. Enter a value from 0-65536.
Test Sensor	Click the T**est Sensor** button to test the sensor.
Sensor Strobe Settings	**The following strobe settings will only appear if you are using the Strobe Kit. If you are not using the Strobe Kit, you will not see the strobe settings.**
Blink Strobe on Sensor ?	When selected, the Strobe will blink a scene when the sensor is triggered.
Scene ?	Select desired scene (only one may be chosen).
ADA Compliant ?	Strobe will blink ON at the specified brightness for 150ms then OFF for 350ms during the duration of the event.
Slow Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 3.5 seconds during the duration of the event.

Table 2-17. Sensor Page Parameters (continued)

Web Page Item	Description
Fast Fade ?	Strobe will increase in brightness from 0 to the specified brightness and back to 0 over the course of about 1.5 seconds during the duration of the event.
Slow Blink ?	Strobe will blink ON at the specified brightness for one second then OFF for one second during the duration of the event.
Fast Blink ?	Strobe will blink ON at the specified brightness then OFF five times per second during the duration of the event.
Color ?	Select desired color (only one may be chosen).
Brightness ?	How bright the strobe will blink when the sensor is triggered. This is the maximum brightness for "fade" type scenes.
Red ?	The red LED value for Sensor.
Green ?	The green LED value for Sensor.
Blue ?	The blue LED value for Sensor.
Preview	Use this button to preview the strobe flashing behavior for the **Sensor Strobe Settings**.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

Note You must click on the **Save** button and then the **Reboot** button for the changes to take effect.

2.3.12 Configure the Audiofiles Parameters

The **Audiofiles** page is used to add custom audio to the board. User uploaded audio will take precedence over the audio files shipped with the device.

1. Click on the **Audiofiles** menu button to open the **Audiofiles** page (Figure 2-30).

Figure 2-30. Audiofiles Page
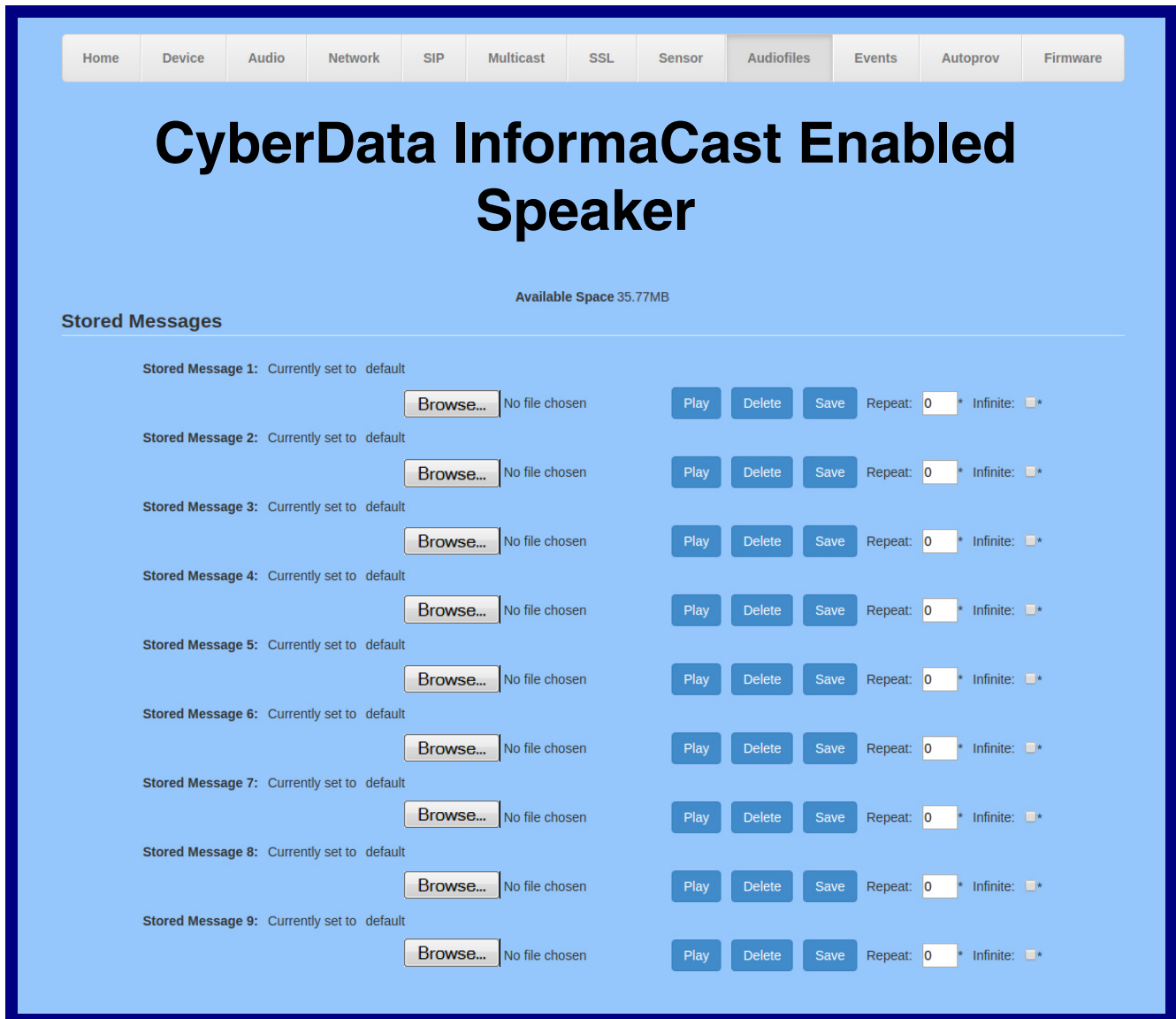
Figure 2-31. Audiofiles Page
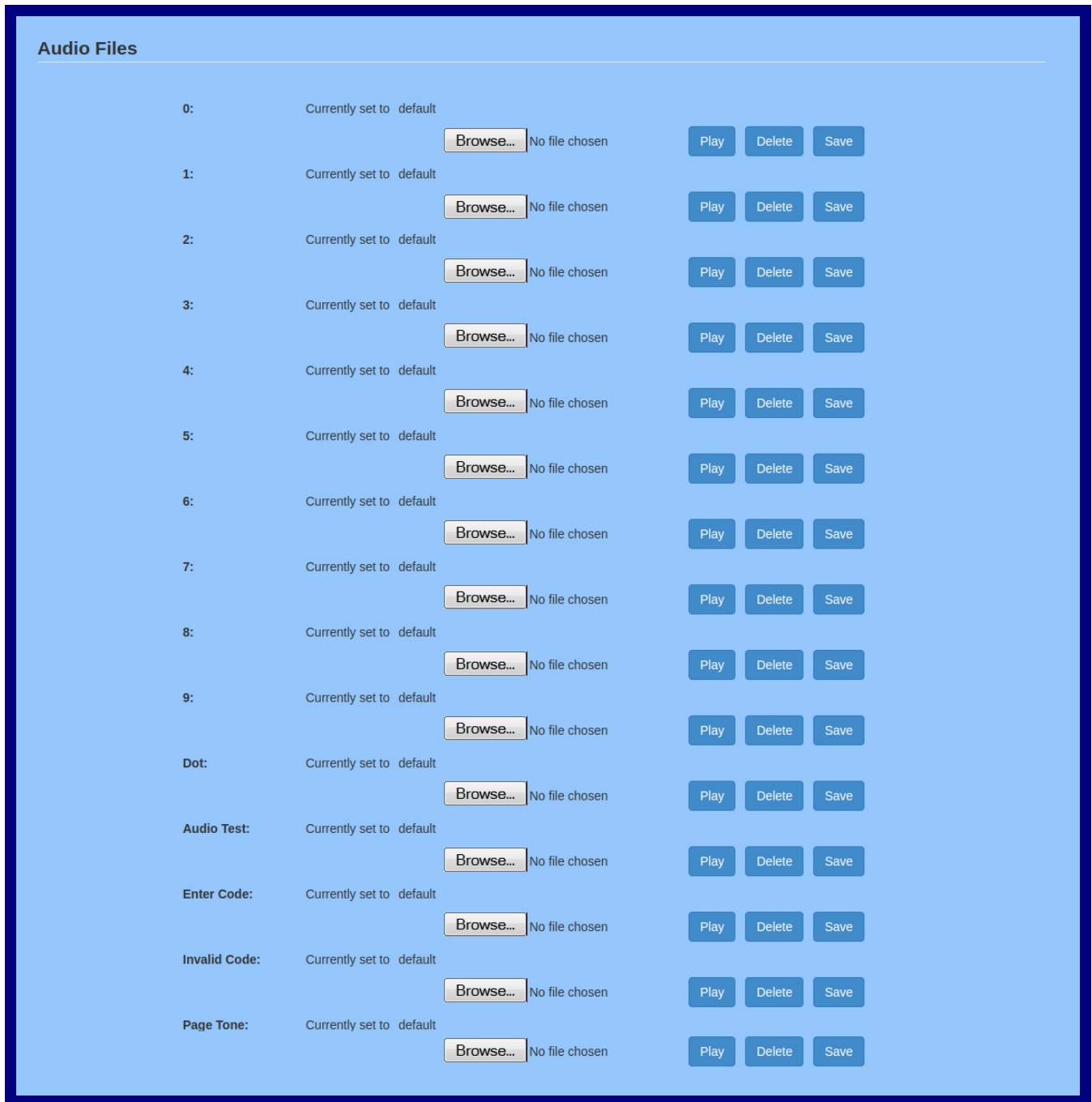
Audio Files

0:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

1:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

2:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

3:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

4:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

5:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

6:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

7:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

8:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

9:        Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

Dot: Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

Audio Test: Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

Enter Code: Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

Invalid Code: Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

Page Tone: Currently set to default

                  [Browse...] No file chosen   [Play] [Delete] [Save]

Figure 2-32. Audiofiles Page

Rebooting: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Restoring Default: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Ring Tone: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Sensor Triggered: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Night Ring: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Talk: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Listen: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Menu Audio Files

Cancel: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Currently Playing: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Invalid Entry: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Page: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Play Stored Message: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Pound (#):   Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Press: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Stored Message: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

Through: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

To: Currently set to default
                                                        Browse...   No file chosen   Play   Delete   Save

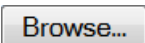2. On the **Audiofiles** page, enter values for the parameters indicated in Table 2-18.

Note   The question mark icon ( ) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-18. Audiofiles Page Parameters

Web Page Item	Description
Available Space	Shows the space available for the user to save custom audio files if they want to change the message when the door or sensor is triggered.
Stored Messages	
Stored Message 1 through 9	**Stored Message 1** corresponds to the message played after pressing **1** on a phone keypad.
	Stored Message 2 corresponds to the message played after pressing **2** on a phone keypad.
	Stored Message 3 corresponds to the message played after pressing **3** on a phone keypad.
	Stored Message 4 corresponds to the message played after pressing **4** on a phone keypad.
	Stored Message 5 corresponds to the message played after pressing **5** on a phone keypad.
	Stored Message 6 corresponds to the message played after pressing **6** on a phone keypad.
	Stored Message 7 corresponds to the message played after pressing **7** on a phone keypad.
	Stored Message 8 corresponds to the message played after pressing **8** on a phone keypad.
	Stored Message 9 corresponds to the message played after pressing **9** on a phone keypad.
Audio Files	
0-4	The name of the audio configuration option is the same as the spoken audio that plays on the board (24 character limit).
	'0' corresponds to the spoken word "zero."
	'1' corresponds to the spoken word "one."
	'2' corresponds to the spoken word "two."
	'3' corresponds to the spoken word "three."
	'4' corresponds to the spoken word "four."
5-9	The name of the audio configuration option is the same as the spoken audio that plays on the board (24 character limit).
	'5' corresponds to the spoken word "five."
	'6' corresponds to the spoken word "six."
	'7' corresponds to the spoken word "seven."
	'8' corresponds to the spoken word "eight."
	'9' corresponds to the spoken word "nine."
Dot	Corresponds to the spoken word "dot." (24 character limit)
Audio Test	Corresponds to the message ***"This is the CyberData IP speaker test message..."*** (24 character limit)
Enter Code	Corresponds to the message "Enter Code" (24 character limit).
Invalid Code	Corresponds to the message "Invalid Code" (24 character limit).
Page Tone	Corresponds to a simple tone used for beep on initialization and beep on page (24 character limit).
Your IP Address is	Corresponds to the message "Your IP address is..." (24 character limit).
Rebooting	Corresponds to the spoken word "Rebooting" (24 character limit).

Table 2-18. Audiofiles Page Parameters (continued)

Web Page Item	Description
Restoring Default	Corresponds to the message "Restoring default" (24 character limit).
Ring Tone	This is the tone that plays when set to ring when receiving a call (24 character limit).
Sensor Triggered	Corresponds to the message "Sensor Triggered" (24 character limit).
Night Ring	Specifies the ringtone for nightring. By default this parameter uses the same audio file that is selected for the **Ring Tone** parameter.
Talk	Corresponds to the message "Talk" (24 character limit).
Listen	Corresponds to the message "Listen" (24 character limit).
Menu Audio Files	**Menu Audio Files** are user-uploadable messages that create the audio menu played to the caller.
Cancel	Corresponds to the word "Cancel" used in the audio menu played to the caller. (24 character limit).
Currently Playing	Corresponds to the words "Currently Playing" used in the audio menu played to the caller. (24 character limit).
Invalid Entry	Corresponds to the words "Invalid Entry" used in the audio menu played to the caller. (24 character limit).
Page	Corresponds to the word "Page" used in the audio menu played to the caller. (24 character limit).
Play Stored Message	Corresponds to the words "Play Stored Message" used in the audio menu played to the caller. (24 character limit).
Pound (#)	Corresponds to whatever word or phrase the user wishes to call the pound key in the audio menu played to the caller (24 character limit).
Press	Corresponds to the word "Press" used in the audio menu played to the caller. (24 character limit).
Stored Message	Corresponds to the words "Stored Message" used in the audio menu played to the caller. (24 character limit).
Through	Corresponds to the word "Through" used in the audio menu played to the caller. (24 character limit).
To	Corresponds to the word "To" used in the audio menu played to the caller. (24 character limit).
Browse...	Click on the **Browse** button to navigate to and select an audio file.
Play	The **Play** button will play that audio file.
Delete	The **Delete** button will delete any user uploaded audio and restore the stock audio file.
Save	The **Save** button will download a new user audio file to the board once you've selected the file by using the **Browse** button. The **Save** button will delete any pre-existing user-uploaded audio files.

2.3.12.1 User-created Audio Files

User created audio files should be saved in the following format:

RIFF (little-endian) data, WAVE audio, Microsoft PCM, 16 bit, mono 8000 Hz

You can use the free utility *Audacity* to convert audio files into this format. See Figure 2-33 through Figure 2-35.

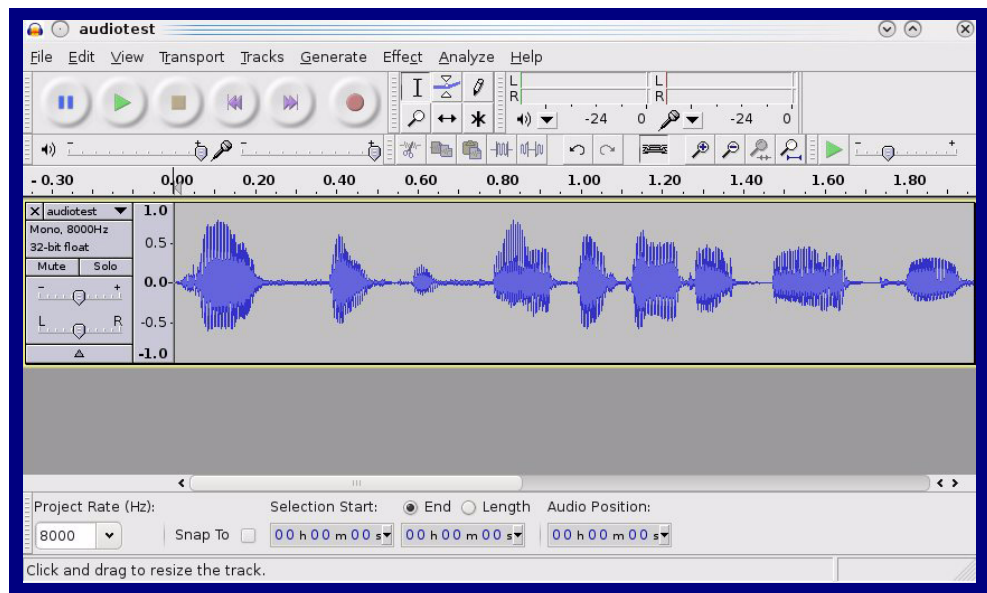**Figure 2-33. Audacity 1**

Figure 2-34. Audacity 2
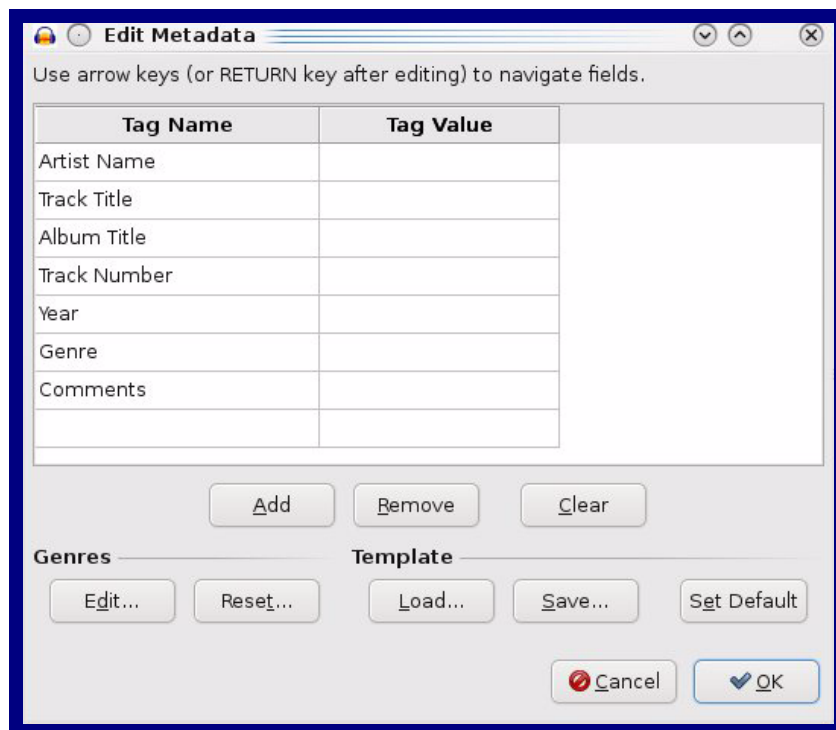
When you export an audio file with Audacity, save the output as:

- **WAV (Microsoft) signed 16 bit PCM**.

Figure 2-35. WAV (Microsoft) signed 16 bit PCM
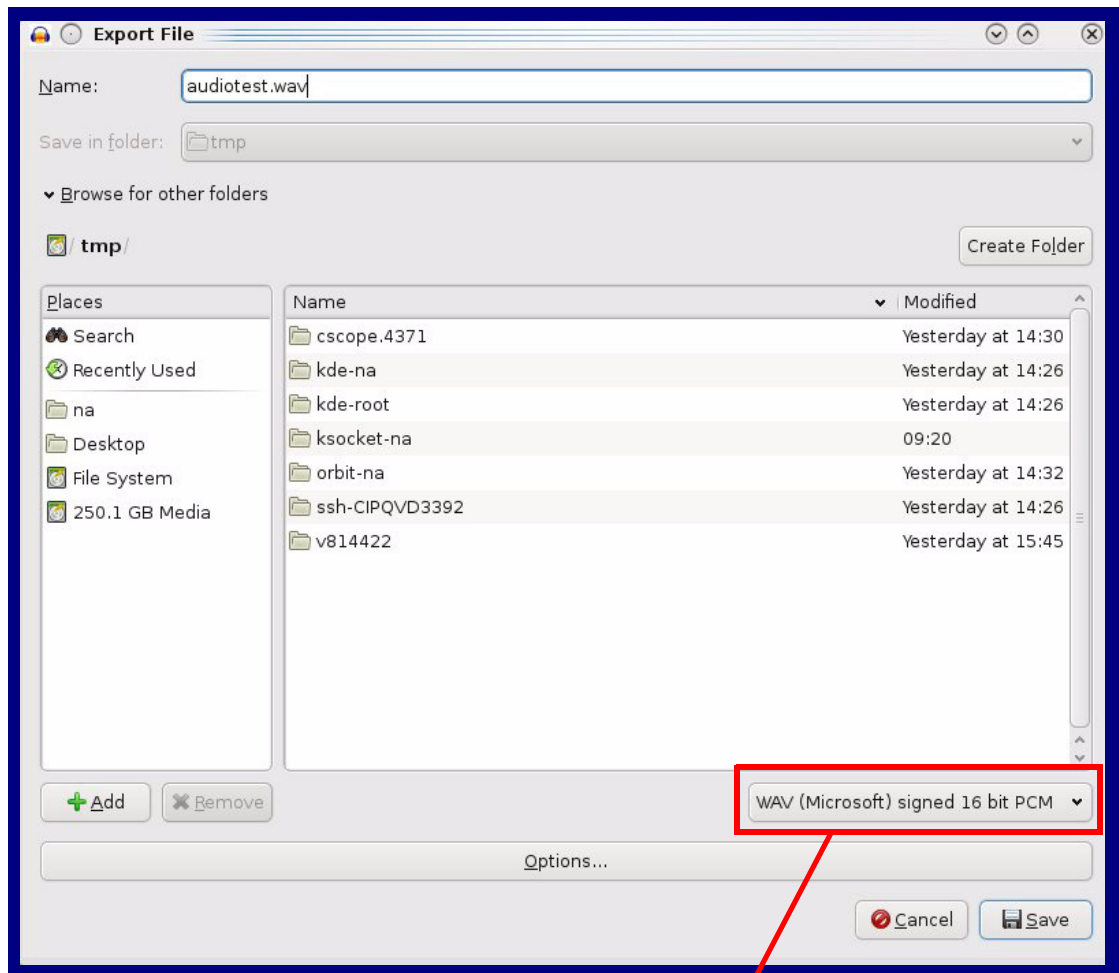
WAV (Microsoft) signed 16 bit PCM

2.3.13 Configure the Events Parameters

The **Events** page specifies a remote server that can be used to receive HTTP POST events when actions take place on the board.

1. Click on the **Events** menu button to open the **Events** page (Figure 2-36).

Figure 2-36. Event Configuration Page

| Home | Device | Audio | Network | SIP | Multicast | SSL | Sensor | Audiofiles | Events | Autoprov | Firmware |

CyberData InformaCast Enabled Speaker

Enable Event Generation: ☐

Events

Enable Call Start Events: ☐
Enable Call Terminated Events: ☐
Enable Relay Activated Events: ☐
Enable Relay Deactivated Events: ☐
Enable Night Ring Events: ☐
Enable Power On Events: ☐
Enable Multicast Start Events: ☐
Enable Multicast Stop Events: ☐
Enable Sensor Events: ☐
Enable 60 Second Heartbeat: ☐
Enable Singlewire Start Events: ☐
Enable Singlewire Stop Events: ☐
Enable Audio Health Check Events: ☐
Check All   Uncheck All

Event Server

Server IP Address: 10.0.0.250
Server Port: 8080
Server URL: xmlparse_engine

[Save] [Reboot] [Toggle Help]

2. On the **Events** page, enter values for the parameters indicated in Table 2-19.

Note   The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

Table 2-19. Events Configuration Parameters

Web Page Item	Description
Enable Event Generation ?	The device will send HTTP POST events to the specified remote server and port number whenever a certain action takes place. Select an event type below to generate an HTTP POST event.
Events	
Enable Button Events ?	When selected, the device will report Call button presses.
Enable Call Start Events ?	When selected, the device will report the start of a SIP call.
Enable Call Terminated Events ?	When selected, the device will report the end of a SIP call.
Enable Relay Activated Events ?	When selected, the device will report relay activation.
Enable Relay Deactivated Events ?	When selected, the device will report relay deactivation.
Enable Night Ring Events ?	When selected, the device will report when it starts ringing upon an incoming SIP call to the Nightringer extension. As a reminder, the Nightringer extension always rings upon an incoming SIP call and it is not possible to alter this behavior.
Enable Power On Events ?	When selected, the device will report when it boots.
Enable Multicast Start Events ?	When selected, the device will report when the device starts playing a multicast audio stream.
Enable Multicast Stop Events ?	When selected, the device will report when the device stops playing a multicast audio stream.
Enable Sensor Events ?	When selected, the device will report when the on-board sensor is activated.
Enable 60 Second Heartbeat Events ?	When enabled, the device will report a Heartbeat event every 60 seconds. SIP registration is not required to generate Heartbeat events.
Enable Singlewire Start Events ?	When selected, the device will report when a Start event has been received from the Singlewire server.
Enable Singlewire Stop Events ?	When selected, the device will report when a Stop event has been received from the Singlewire server.
Enable Audio Health Check Events ?	When selected, the device will report the results of an audio health check.
Check All	Click on **Check All** to select all of the events on the page.
Uncheck All	Click on **Uncheck All** to de-select all of the events on the page.
Event Server	
Server IP Address ?	The IPv4 address of the event server in dotted decimal notation.
Server Port ?	Specify the event server port number. The supported range is 0-65536. Enter up to 5 digits.
Server URL ?	Generally, the destination URL is the name of the application that receives the events and the string in the HTTP POST command. It can be a script used to parse and process the HTTP POST events. Enter up to 127 characters.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.

Table 2-19. Events Configuration Parameters(continued)

Web Page Item	Description
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

2.3.13.1 Example Packets for Events

The server and port are used to point to the listening server and the 'Remote Event Server URL' is the destination URL (typically the script running on the remote server that's used to parse and process the POST events).

Note The XML is URL-encoded before transmission so the following examples are not completely accurate.

Here are example packets for every event:

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 197
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>POWERON</event>
</cyberdata>


POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 199
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>HEARTBEAT</event>
</cyberdata>


POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 196
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>BUTTON</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 201
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>CALL_ACTIVE</event>
</cyberdata>
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 205
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>CALL_TERMINATED</event>
</cyberdata>


POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 197
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>RINGING</event>
</cyberdata>


POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>MULTICAST_START</event>
<index>8</index>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 233
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>MULTICAST_STOP</event>
<index>8</index>
```

```
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>RELAY_ACTIVATED</event>
</cyberdata>
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>RELAY_DEACTIVATED</event>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData Device' MAC='0020f70015b6'>
<event>NIGHTRINGING</event>
</cyberdata>
```

2.3.14 Configure the Autoprovisioning Parameters

Autoprovisioning can be used to automatically configure your device. The autoprovisioning file is an xml file with the device configuration. Values found in this file will override values stored in on-board memory.

Note By default, the device will try to set up its configuration with autoprovisioning.

1. Click the **Autoprov** menu button to open the **Autoprovisioning** page. See Figure 2-37.

Figure 2-37. Autoprovisioning Page

2. On the **Autoprovisioning** page, you may enter values for the parameters indicated in Table 2-20.

Note   The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.

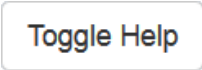**Table 2-20. Autoprovisioning Configuration Parameters**

Web Page Item	Description
Disable Autoprovisioning ?	Prevent the device from automatically trying to download a configuration file. See Section 2.3.14.1, "Autoprovisioning" for more information.
Autoprovisioning Server ?	Enter the IPv4 address of the provisioning server in dotted decimal notation.
Autoprovisioning Filename ?	The autoprovisioning filename is the configuration filename. The default autoprovisioning filename is in the format of **<mac address>.xml**.
	Supported filename extensions are .txt, and .xml. The current filename is denoted by an asterisk at the bottom of the **Autoprovisioning Page**. Enter up to 256 characters.
	A file may have any name with an xml extension. If a file name is entered, the device will look for the specified file name, and only that file.
Use tftp ?	The device will use TFTP (instead of http) to download autoprovisioning files.
Verify Server Certificate ?	When using ssl to download autoprovisioning files, reject connections where the server address doesn't match the server certificate's common name.
Username ?	The username used to authenticate with an autoprovisioning server. Leave this field blank to disable authentication.
Password ?	The password used to authenticate with an autoprovisioning server. Leave this field blank to disable authentication.
Autoprovisioning Autoupdate (in minutes) ?	The reoccurring time (in minutes) the device will wait before checking for new autoprovisioning files. Enter up to 6 digits. A value of 0 will disable this option.
	Note: To use the auto update options, enable the **Set Time with NTP Server on boot** setting on the **Device Page** page (see Table 2-6).
Autoprovision at time (HHMMSS) ?	The time of day the device will check for a new autoprovisioning file. The time must be 6 characters in length and in HHMMSS format. An empty value will disable this option.
	Note: To use the auto update options, enable the **Set Time with NTP Server on boot** setting on the **Device Page** page (see Table 2-6).
Autoprovision when idle (in minutes > 10) ?	The idle time (in minutes greater than 10) after which the device will check for a new autoprovisioning file. Enter up to 6 digits. A value of 0 will disable this option.
	Note: To use the auto update options, enable the **Set Time with NTP Server on boot** setting on the **Device Page** page (see Table 2-6).
Save	Click the **Save** button to save your configuration settings.
	Note: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

Table 2-20. Autoprovisioning Configuration Parameters (continued)

Web Page Item	Description
Download Template	Press the **Download Template** button to create an autoprovisioning file for the device. See Section 2.3.14.3, "Download Template Button"
Autoprovisioning log	The autoprovisioning log provides information about the latest autoprovisioning attempt (i.e. dhcp options and server accessed and files parsed or not found).

Note You must click on the **Save** button and then the **Reboot** button for the changes to take effect.

2.3.14.1 Autoprovisioning

On boot, the device will look for an autoprovisioning server configured on the Autoprovisioning Page or specified as a DHCP option. When it finds a server, it will try to download the following (in order of preference):

1. The file configured on the autoprovisioning page.

2. A file named according to it's mac address (for example: 0020f7350058.xml).

3. The file 000000cd.xml

The file can be hosted using a standard web server (like apache, IIS, or nginx), and the device can download over SSL. The file server can be an ipv4 address in dotted decimal notation or a fully qualified domain name.

By default, the device will get its autoprovisioning server from the DHCP options. See Section 2.3.14.2, "Sample dhcpd.conf" for an example of how to configure dhcpd to offer autoprovisioning server addresses. If multiple options are set, the device will attempt to download autoprovisioning files from every server.

The DHCP option determines the protocol used to download the autoprovisioning file. The device looks for DHCP options in the following order:

1. Option 43 - a FQDN or an IP address to an http server

2. Option 72 - an IP address to an http server

3. Option 150 - an IP address to a tftp server

4. Option 66 - an IP address to a tftp server or if the entry starts with 'http', a FQDN to a http server.

You can download an autoprovisioning template file from the Autoprovisioning Page using the **Download Template** button (see Table 2-20). This file contains every configuration option that can be set on the board.

Autoprovisioning files can contain the whole configuration or a subset of this file. The first autoprovisioning file can also contain links to other autoprovisioning files.

The <MiscSettings> section contains some examples of additional autoprovisioning files:

```
    <MiscSettings>
        <DeviceName>CyberData Device</DeviceName>
<!--    <AutoprovFile>common.xml</AutoprovFile>-->
<!--    <AutoprovFile>sip_reg[macaddress].xml</AutoprovFile>-->
```

```
<!--    <AutoprovFile>audio[macaddress]</AutoprovFile>-->
<!--    <AutoprovFile>device[macaddress].xml</AutoprovFile>-->
    </MiscSettings>
```

After downloading the first autoprovisioning file, the device will step through up to twenty additional <AutoprovFile> entries and try to download these files from the same server.

When the device finds a filename with the string **[macaddress]**, it will replace this string with the mac address.

As an example, the user has configured option 43 on their DHCP server to "http://example.com," and on their server, they have a file named **0020f7123456.xml** (the same as the mac address of the device).

The file 0020f7123456.xml contains:

```
<?xml version="1.0" encoding="utf-8" ?>
<specific>
        <MiscSettings>
                <DeviceName>Newname</DeviceName>
                <AutoprovFile>common.xml</AutoprovFile>
                <AutoprovFile>sip_reg[macaddress].xml</AutoprovFile>
                <AutoprovFile>audio[macaddress]</AutoprovFile>
                <AutoprovFile>device.xml</AutoprovFile>
        </MiscSettings>
</specific>
```

1. The device will first set it's name to 'Newname'.

2. It will try to download http://example.com/common.xml.

3. It will try to download http://example.com/sip_reg0020f7123456.xml.

4. It will try to download http://example.com/audio0020f7123456.

5. It will try to download http://example.com/device.xml.

The device is reconfigured every time it downloads a new file so if two files configure the same option the last one will be the one that is saved.

It is possible to autoprovision autoprovisioning values (for example, to disable autoprovisioning or to configure a time to check for new files).

Checking for New Autoprovisioning Files after Boot

The device will always check for an autoprovisioning files on boot but it can be configured to also check after a periodic delay, when idle, or at a specified time. When one of these options is set, the device will download its autoprovisioning files again, and if it finds any differences from the files it downloaded on boot, it will force a reboot and reconfigure.

The
Autoprovisioning
Filename

The autoprovisioning filename can contain a file, a file path, or a directory.

Table 2-21. Autoprovisioning File Name

Autoprovisioning Filename	Autoprovisioning Server	File Downloaded
config.xml	10.0.1.3	10.0.1.3/config.xml
/path/to/config.xml	10.0.1.3	10.0.1.3/path/to/config.xml
subdirectory/path/	10.0.1.3	10.0.1.3/subdirectory/path/0020f7020002.xml

TFTP options may not support subdirectories. If a directory is set in the filename field, firmware and audio files will also be downloaded from this subdirectory.

If the filename ends with a forward slash "/," the device will treat it as a subdirectory.

For example:

The autoprovisioning server is set to "https://www.example.com"

The autoprovisioning filename is set to "cyberdata/"

On boot, the device will try to download:

https://www.example.com/cyberdata/0020f7123456.xml

...and if this fails:

https://www.example.com/cyberdata/000000cd.xml

Audio files and firmware files will also add "cyberdata" to the URL before downloading.

Autoprovisioning
Firmware Updates

```
<FirmwareSettings>
  <FirmwareFile>505-uImage-ceilingspeaker</FirmwareFile>
  <FirmwareServer>10.0.1.3</FirmwareServer>
  <OutdoorIntercom30>firmware_file_v9.3.0</OutdoorIntercom30>
  <OutdoorIntercom31>firmware_file_v10.3.0</OutdoorIntercom31>
  <CallButton31>firmware_file_v10.3.0</CallButton31>
</FirmwareSettings>
```

In the <FirmwareSettings> section, the <FirmwareServer> element can be used to specify a different server for hosting firmware files. When this element is not available, the device will try to download the file from the autoprovisioning server.

The device will use the filename to determine when to autoprovision firmware updates. The default configuration is blank, so the first time you set a value in your autoprovisioning file, it may force a firmware update even if the firmware version has not changed.

The <FirmwareFile> name can contain path elements (i.e. /path/to/firmware/10.3.0-uImage-[device_file_name]).

The device also supports product strings for downloading firmware. If the <FirmwareFile> option is not set, the device will look for its particular product string for a firmware filename. In this way, a generic autoprovisioning file can specify unique firmware for a range of products.

The list of valid product strings:

```
<ProductString>CallButton31</ProductString>
 <ProductString>EmergencyIntercom31</ProductString>
<ProductString>EmergencyIntercom31SW</ProductString>
<ProductString>IndoorIntercom31</ProductString>
<ProductString>IndoorIntercom31SW</ProductString>
<ProductString>IndoorKeypad31</ProductString>
<ProductString>IndoorKeypad31SW</ProductString>
<ProductString>OfficeRinger31</ProductString>
<ProductString>OfficeRinger31SW</ProductString>
<ProductString>OutdoorIntercom31</ProductString>
<ProductString>OutdoorIntercom31SW</ProductString>
<ProductString>OutdoorKeypad31</ProductString>
<ProductString>OutdoorKeypad31SW</ProductString>
<ProductString>Strobe31</ProductString>
<ProductString>Strobe31SW</ProductString>
```

Autoprovisioning
Example 1

Here's a simple example using four autoprovisioning files to configure two devices:

We boot up two devices with mac addresses **00:20:f7:02:00:01** and **00:20:f7:02:00:02** (Device1 and Device2).

The devices are set to use DHCP and that server provides an autoprovisioning server address with option 43. The address is "https://autoprovtest.server.net." The files on this server are as follows:

000000cd.xml

```
<MiscSettings>
<DeviceName>CyberData Autoprovisioned</DeviceName>
<AutoprovFile>sip_common.xml</AutoprovFile>
<AutoprovFile>sip_[macaddress].xml</AutoprovFile>
</MiscSettings>
```

sip_common.xml

```
<SIPSettings>
<SIPServer>10.0.0.253</SIPServer>
<RemoteSIPPort>5060</RemoteSIPPort>
</SIPSettings>
```

sip_0020f7020001.xml

```
<SIPSettings>
<SIPUserID>198</SIPUserID>
<SIPAuthPassword>ext198</SIPAuthPassword>
<DialoutExtension0>204</DialoutExtension0>
</SIPSettings>
```

sip_0020f7020002.xml

```
<SIPSettings>
<SIPUserID>500</SIPUserID>
<SIPAuthPassword>ext500</SIPAuthPassword>
<DialoutExtension0>555</DialoutExtension0>
</SIPSettings>
```

On boot, Device1 tries to fetch the file **0020f7023614.xml** from "https://autoprovtest.server.net". This file is not available, so device1 then tries to fetch the file **000000cd.xml**. This file exists, and Device1 parses the three elements.

1. Device1 changes its device name to **CyberData Autoprovisioned**.

2. Device1 finds an AutoprovFile element containing the filename **sip_common.xml**. The device downloads **sip_common.xml** from "https://autoprovtest.server.net," and imports this configuration, setting the sip server to **10.0.0.253** and the remote port to **5060.3**.

3. Device1 finds another AutoprovFile element containing the filename **sip_[macaddress].xml**. The device replaces the **[macaddress]** with its own mac address value creating **sip_0020f7020001.xml**, downloads this file from "https://autoprovtest.server.net," and imports this configuration. This sets the user ID to **198**, the password to **ext198**, and the dialout extension to **204**. Device1 is now finished with autoprovisioning.

Device2 goes through the same steps by setting its device name to **CyberData Autoprovisioned**, its SIP server to **10.0.0.253**, and its port to **5060**. When Device2 "sees" **sip_[macaddress].xml**, Device2 replaces it with its own mac address and downloads **sip_0020f7020002.xml** from "https://autoprovtest.server.net." Device2 sets the SIP User ID to **500**, the password to **ext500**, and the dialout extension to **555**.

Autoprovisioning Example 2

Here is another example of setting up your autoprovisioning files:

We boot up two devices with mac addresses **00:20:f7:02:00:01** and **00:20:f7:02:00:02** (Device1 and Device2) and boot them on a network with a DHCP server configured with an autoprovisioning server at **10.0.1.3** on option **150**. Our TFTP server has three files:

0020f7020001.xml

```
<MiscSettings>
<AutoprovFile>common_settings.xml</AutoprovFile>
</MiscSettings>
<SIPSettings>
<SIPUserID>198</SIPUserID>
<SIPAuthPassword>ext198</SIPAuthPassword>
<DialoutExtension0>204</DialoutExtension0>
</SIPSettings>
```

0020f7020002.xml

```
<MiscSettings>
<AutoprovFile>common_settings.xml</AutoprovFile>
</MiscSettings>
<SIPSettings>
<SIPUserID>500</SIPUserID>
<SIPAuthPassword>ext500</SIPAuthPassword>
<DialoutExtension0>555</DialoutExtension0>
</SIPSettings>
```

common_settings.xml

```
<MiscSettings>
<DeviceName>CyberData Autoprovisioned</DeviceName>
</MiscSettings>
<SIPSettings> <SIPServer>10.0.0.253</SIPServer>
<RemoteSIPPort>5060</RemoteSIPPort>
</SIPSettings>
```

1. On boot, Device1 downloads **0020f7020001.xml** from **10.0.1.3** and imports these values. The SIP User ID is **198**, the password is **ext198**, and the dialout extension is **204**.

2. Device1 then gets the filename **common_settings.xml** from the AutoprovFile element and downloads this file from the TFTP server at **10.0.1.3**. and imports these settings. The device name is set to **CyberData Autoprovisioned**, the SIP server is set to **10.0.0.253**, and the port is set to **5060**.

Device2 does the same except it downloads **0020f7020002.xml** on boot and imports these values instead. The Sip User ID is **500**, password is **ext500**, and dialout extension is **555**. Device2 then downloads the **common_settings.xml** file and imports those values. The device name is set to **CyberData Autoprovisioned**, the SIP server is set to **10.0.0.253**, and the port is set to **5060**.

XML Files

XML files can contain <AutoprovFile> elements. If multiple DHCP options are specified, the device will try to download autoprovisioning files from each in turn. The device will only look for <AutoprovFile> elements in the first file downloaded from each server. You can specify up to 20 <AutoprovFile> elements in the first autoprovisioning file.

There are numerous ways to change an element of the **configuration(xml)** file. Using **sip ext** as an example, the extension can be changed:

Within the device-specific xml, i.e. **[macaddress].xml**, via the AutoprovFile element:<SIPSettings>/<SIPExt>

From the device specific xml, a pointer to a sip_common file

From the device specific xml, a pointer to the device specific sip_[macaddress].xml

From the common file, a pointer to sip_common.xml

From the common file, a pointer to the device specific (sip_[macaddress].xml)

Autoprovisioned Audio Files

Audio files are stored in non-volatile memory and an autoprovisioned audio file will only have to be downloaded once for each device. Loading many audio files to the device from the web page could cause it to appear unresponsive. If this happens, wait until the transfer is complete and then refresh the page.

The device uses the file name to determine when to download a new audio file. This means that if you used autoprovisioning to upload a file and then changed the contents of this file at the TFTP server, the device will not recognize that the file has changed (because the file name is the same).

Since audio files are stored in non-volatile memory, if autoprovisioning is disabled after they have been loaded to the board, the audio file settings will not change. You can force a change to the audio files on the board by clicking **Restore Default** on the **Audio Configuration** page or by changing the autoprovisioning file with "**default**" set as the file name.

2.3.14.2 Sample dhcpd.conf

```
#
# Sample configuration file for ISC dhcpd for Debian
#

ddns-update-style none;

option domain-name "voiplab";
option domain-name-servers 10.0.0.252;
option option-150 code 150 = ip-address;
option ntp-servers north-america.pool.ntp.org;
option space VendorInfo;
option VendorInfo.text code 10 = { text };
authoritative;
log-facility local7;

subnet 10.0.0.0 netmask 255.0.0.0 {
    max-lease-time 3600;
    default-lease-time 3600;

    option routers                10.0.0.1;
    option subnet-mask            255.0.0.0;

    option domain-name            "voiplab";
    option domain-name-servers    10.0.0.252;

    option time-offset            -8;              # Pacific Standard Time

#    option www-server             99.99.99.99;                # OPTION 72

#    option tftp-server-name       "10.0.1.52";                # OPTION 66
#    option tftp-server-name       "http://test.cyberdata.net";   # OPTION 66

#    option option-150             10.0.0.252;                 # OPTION 150

# These two lines are needed for option 43
#    vendor-option-space VendorInfo;                           # OPTION 43
#    option VendorInfo.text "http://test.cyberdata.net";       # OPTION 43

    range 10.10.0.1 10.10.2.1; }
```

2.3.14.3 Download Template Button

The **Download Template** button allows the user to generate, download, edit, and then store an autoprovisioning template on the server that serves the autoprovisioning files for devices.

To generate an autoprovisioning template directly from the device, complete the following steps:

1. On the **Autoprovisioning** page, click on the **Download Template** button.

2. You will see a window prompting you to save a configuration file (**.xml**) to a location on your computer (Figure 2-38). The configuration file is the basis for the default configuration settings for your unit).

3. Choose a location to save the configuration file and click on **OK**. See Figure 2-38.

Figure 2-38. Configuration File
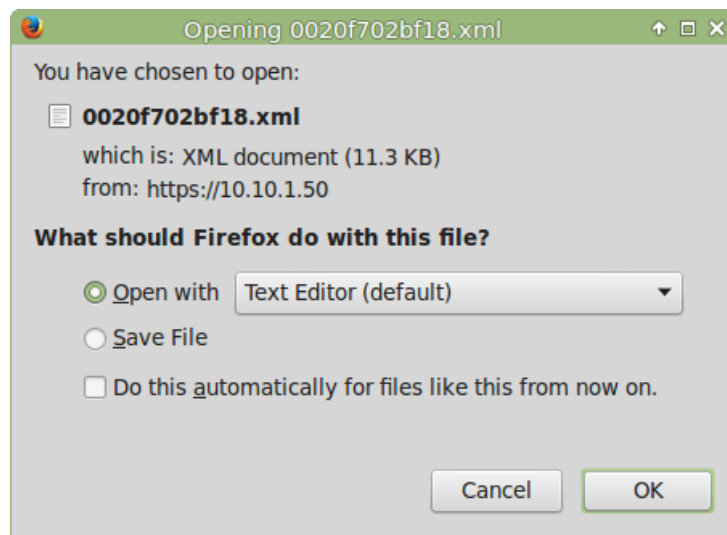
4. At this point, you can open and edit the autoprovisioning template to change the configuration settings in the template for the unit.

5. You can then upload the autoprovisioning file to a TFTP or HTTP server where the file can be loaded onto other devices.

2.4 Upgrade the Firmware and Reboot the InformaCast Enabled Speaker

⚠	**Caution**
GENERAL ALERT	*Equipment Hazard*: Devices with a serial number that begins with 0981xxxxx can only run firmware versions 10.0.0 or later.

2.4.1 Downloading the Firmware

To download the firmware to your computer:

1. Download the latest firmware file from the **Downloads** tab at the following webpage:

   https://www.cyberdata.net/products/011396

2. Unzip the firmware version file. This file may contain the following:

• Firmware file

• Release notes

3. Log in to the home page as instructed in Section 2.3.4, "Log in to the Configuration Home Page".

4. Click on the **Firmware** menu button to open the **Firmware** page. See Figure 2-39.

<table>
<tr>
<td>⚠
GENERAL ALERT</td>
<td>**Caution**
Equipment Hazard: CyberData strongly recommends that you first reboot the device before attempting to upgrade the firmware of the device. See Section 2.4.2, "Reboot the Device".</td>
</tr>
</table>

Figure 2-39. Firmware Page
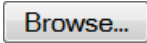
5. Click on the **Browse** button, and then navigate to the location of the firmware file.

6. Select the firmware file.

7. Click on the **Upload** button.

Note   Do not reboot the device after clicking on the **Upload** button.

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

8. Table 2-22 shows the web page items on the **Firmware** page.

Table 2-22. Firmware Parameters

Web Page Item	Description
Current Firmware Version	Shows the current firmware version.
Browse...	Use the **Browse** button to navigate to the location of the firmware file that you want to upload.
Upload	Click on the **Upload** button to automatically upload the selected firmware and reboot the system.

2.4.2 Reboot the Device

To reboot a InformaCast Enabled Speaker, log in to the web page as instructed in Section 2.3.4, "Log in to the Configuration Home Page".

1. Click on the **Reboot** button on the **Home** page (Figure 2-40). A normal restart will occur.

Figure 2-40. Home Page

Reboot

2.5 Command Interface

Some functions on the device can be activated using simple POST commands to the web interface. The examples in Table 2-23 use the free unix utility, **wget**, but any program that can send http POST commands to the device should work.

2.5.1 Command Interface Post Commands

Note These commands require an authenticated session (a valid username and password to work).

Table 2-23. Command Interface Post Commands

Device Action	HTTP Post Command[a]
Trigger relay (for configured delay)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "test_relay=yes"
Place call to extension (example: extension 130)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "call=130"
Terminate active call	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "terminate=yes"
Force reboot	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "reboot=yes"
Test Audio button	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "test_audio=yes"
Announce IP address	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "speak_ip_address=yes"
Play the "0" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_0=yes"
Play the "1" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_1=yes"
Play the "2" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_2=yes"
Play the "3" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_3=yes"
Play the "4" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_4=yes"

Table 2-23. Command Interface Post Commands (continued)

Device Action	HTTP Post Command[a]
Play the "5" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_5=yes"
Play the "6" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_6=yes"
Play the "7" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_7=yes"
Play the "8" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_8=yes"
Play the "9" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_9=yes"
Play the "Dot" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_d=yes"
Play the "Audio Test" audio file (from Audio Config)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_audiotest=yes"
Play the "Page Tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_pagetone=yes"
Play the "Your IP Address Is" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_youripaddressis=yes"
Play the "Rebooting" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_rebooting=yes"
Play the "Restoring Default" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_restoringdefault=yes"
Play the "Ringback tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_ringback=yes"
Play the "Ring tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_ringtone=yes"
Play the "Intrusion Sensor Triggered" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_intrusionsensortriggered=yes"
Play the "Door Ajar" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_doorajar=yes"
Play the "Night Ring" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_nightring=yes"

Table 2-23. Command Interface Post Commands (continued)

Device Action	HTTP Post Command[a]
Delete the "0" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_0=yes"
Delete the "1" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_1=yes"
Delete the "2" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_2=yes"
Delete the "3" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_3=yes"
Delete the "4" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_4=yes"
Delete the "5" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_5=yes"
Delete the "6" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_6=yes"
Delete the "7" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_7=yes"
Delete the "8" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_8=yes"
Delete the "9" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_9=yes"
Delete the "Audio Test" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_audiotest=yes"
Delete the "Page Tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_pagetone=yes"
Delete the "Your IP Address Is" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_youripaddressis=yes"
Delete the "Rebooting" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_rebooting=yes"
Delete the "Restoring Default" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_restoringdefault=yes"
Delete the "Ringback tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_ringback=yes"

Table 2-23. Command Interface Post Commands (continued)

Device Action	HTTP Post Command[a]
Delete the "Ring tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_ringtone=yes"
Delete the "Intrusion Sensor Triggered" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_intrusionsensortriggered=yes"
Delete the "Door Ajar" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_doorajar=yes"
Delete the "Night Ring" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "delete_nightring=yes"
Trigger the Door Sensor Test (Sensor Config page)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/sensor.cgi" --post-data "doortest=yes"
Trigger the Intrusion Sensor Test (Sensor Config page)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/sensor.cgi" --post-data "intrusiontest=yes"

a.Type and enter all of each http POST command on one line.

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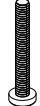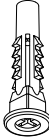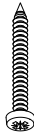
Quantity	Part Name	Illustration
3	#8 Nylon Thumb Nuts	
3	#8 Fender Washers	
3	8-32 x 1 1/4" Mounting Screws	

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. Mounting the Speaker

Dry Wall Mounting Kit
Plastic Ribberd Anchor (3x)

#8 Nylon Thumb Nut (3x)
#8 Fender Washer (3x)

*Ceiling Tile or Dry Wall
*Optional Reinforcement Mount
P/N: 010991A (Sold Seperately)

Template

Speaker Assembly

Dry Wall Mounting Kit
#6 Screw (3x)

Ceiling Mounting Screw
#8-32x1 1/4" (3X)
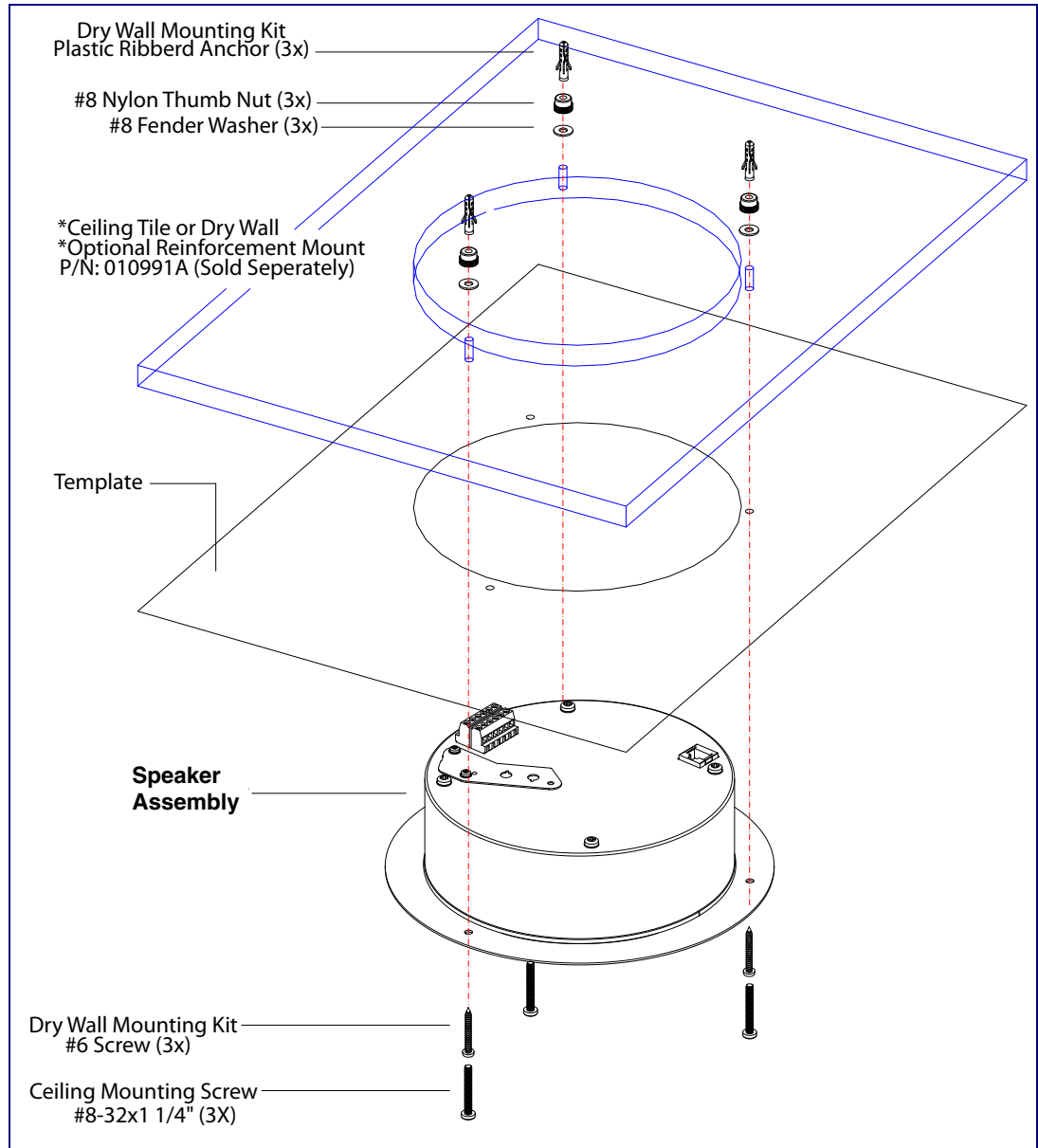
2. Plug the Ethernet cable into the Speaker Assembly. Section 2.2.3, "Confirm that the Speaker is Operational and Linked to the Network" explains how the **Link** and **Status** LEDs work.

3. At this point:

   • For *drop ceiling mounting*, position the **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 **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.

A.2 Dimensions

Figure A-2 shows the dimensions for the InformaCast Enabled Speaker.

Figure A-2. Dimensions

9.000 [228.60]
DIMENSIONS ARE IN INCHES [MILLIMETER]

3.140 [79.75]
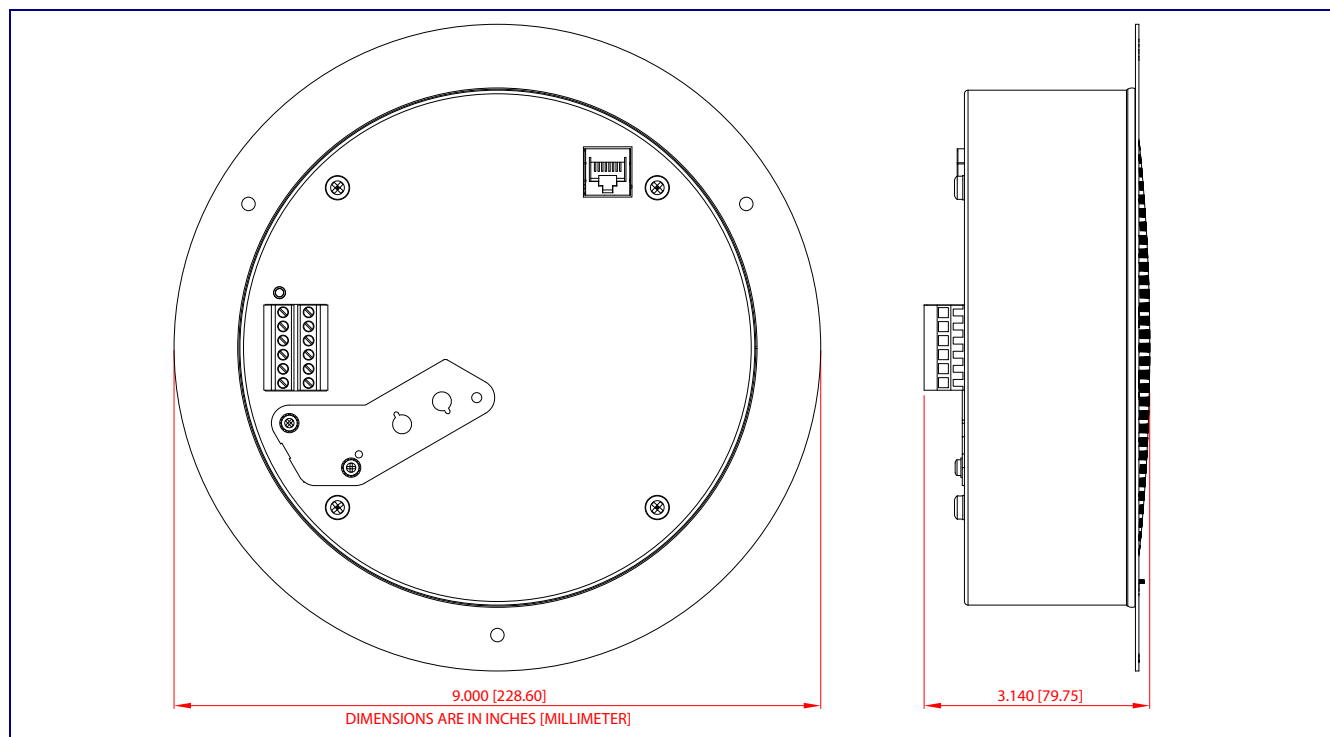
Appendix B: Setting up a TFTP Server

B.1 Set up a TFTP Server

B.1.1 Autoprovisioning requires a TFTP server for hosting the configuration file.

B.1.2 In a LINUX Environment

To set up a TFTP server on LINUX:

1. Create a directory dedicated to the TFTP server, and move the files to be uploaded to that directory.

2. Run the following command where `/tftpboot/` is the path to the directory you created in Step 1: the directory that contains the files to be uploaded. For example:

   `in.tftpd -l -s /tftpboot/`*`your_directory_name`*

B.1.3 In a Windows Environment

You can find several options online for setting up a Windows TFTP server. This example explains how to use the Solarwinds freeware TFTP server, which you can download at:

https://www.cyberdata.net/pages/solarwinds

To set up a TFTP server on Windows:

1. Install and start the software.

2. Select **File**/**Configure**/**Security** tab/**Transmit Only**.

3. Make a note of the default directory name, and then move the firmware files to be uploaded to that directory.

Appendix C: Troubleshooting/Technical Support

C.1 Frequently Asked Questions (FAQ)

To see a list of frequently asked questions for your product, click on the **FAQs** tab at the following webpage:

https://www.cyberdata.net/products/011396

C.2 Documentation

The documentation for this product is released in an English language version only.

To download PDF copies of CyberData product documentation, click on the **Downloads** tab at the following webpage:

https://www.cyberdata.net/products/011396

C.3 Contact Information

Contact	CyberData Corporation 3 Justin Court Monterey, CA 93940 USA **www.CyberData.net** Phone: 800-CYBERDATA (800-292-3732) Fax: 831-373-4193
Sales	Sales 831-373-2601, Extension 334
Technical Support	The fastest way to get technical support for your VoIP product is to submit a VoIP Technical Support form at the following website: **http://support.cyberdata.net/** 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. Phone: (831) 373-2601, Extension 333

C.4 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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