



*Singlewire-enabled  
VoIP V2 Loudspeaker  
Amplifier (PoE)  
Operations Guide*

Part #011116  
Document Part #930377G  
for Firmware Version 3.0.1

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

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**VoIP V2 Paging Amplifier Operations Guide 930377G**  
**Part # 011116**

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Fax: (831) 373-4193

Company and product information is at [www.cyberdata.net](http://www.cyberdata.net).

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## Revision Information



Revision 930377G, released on August 20, 2015, corresponds to firmware version 3.0.1, and has the following changes:

- Adds the following feature to [Section 1.3, "Product Features"](#).
  - [Supports SingleWire/Informacast Server Resilience](#)
- Updates [Figure 2-16, "Home Page"](#).
- Updates [Figure 2-17, "Firmware Upgrade Page"](#).
- Updates [Figure 2-18, "Reboot System Section"](#).

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# Important Safety Instructions

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

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

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## Pictorial Alert Icons

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

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## 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.

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## Abbreviations and Terms

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

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# 1 Product Overview

The Singlewire-enabled VoIP V2 Loudspeaker Amplifier provides an easy method for implementing an IP-based overhead paging system for both new and legacy installations.

With up to 25 watts of driving power (802.3at), the Amplifier provides direct drive of a standard Horn speaker and supports a line-out connector for connection to an external amplifier. The interface is compatible with Singlewire's InformaCast software.

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

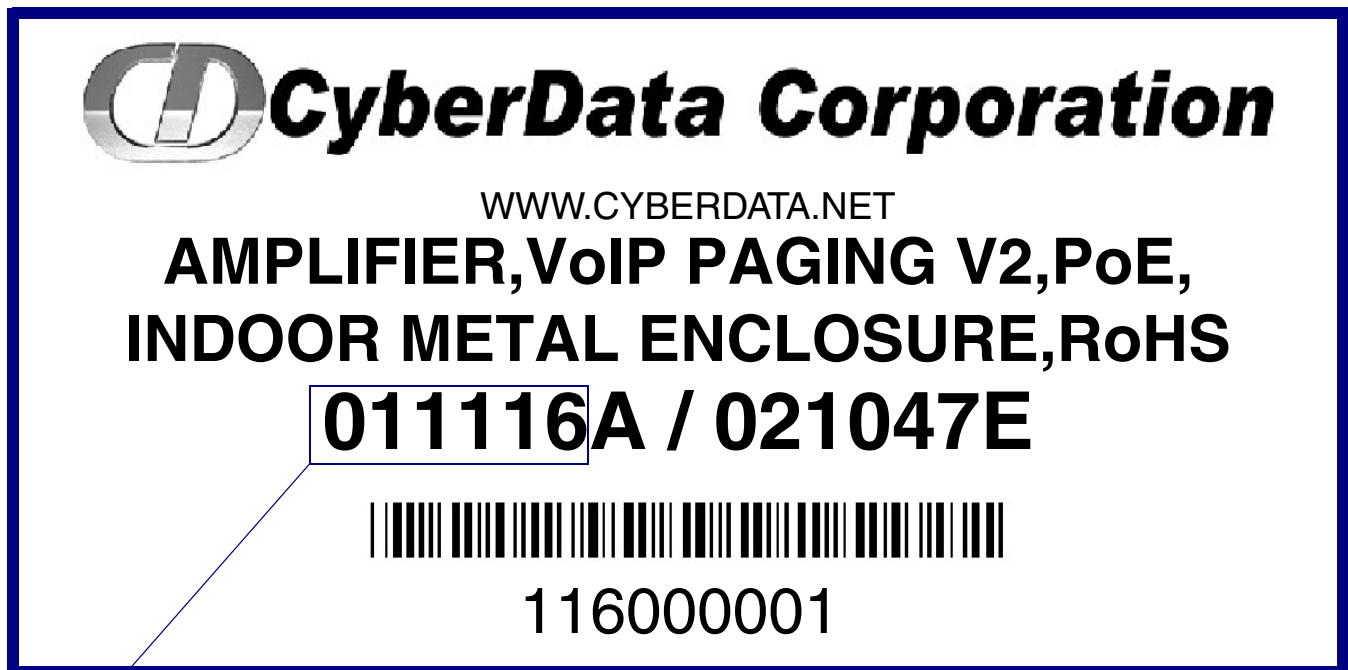
**Note** Prior to installation, create a plan for the locations of your units.

	<p>General Alert  <i>Consult local building and electrical code requirements prior to installation.</i></p>
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## 1.1 How to Identify This Product

To identify the VoIP V2 Loudspeaker Amplifier, look for a model number label similar to the one shown in [Figure 1-1](#). The model number on the label should be **011116**.

Figure 1-1. Model Number Label



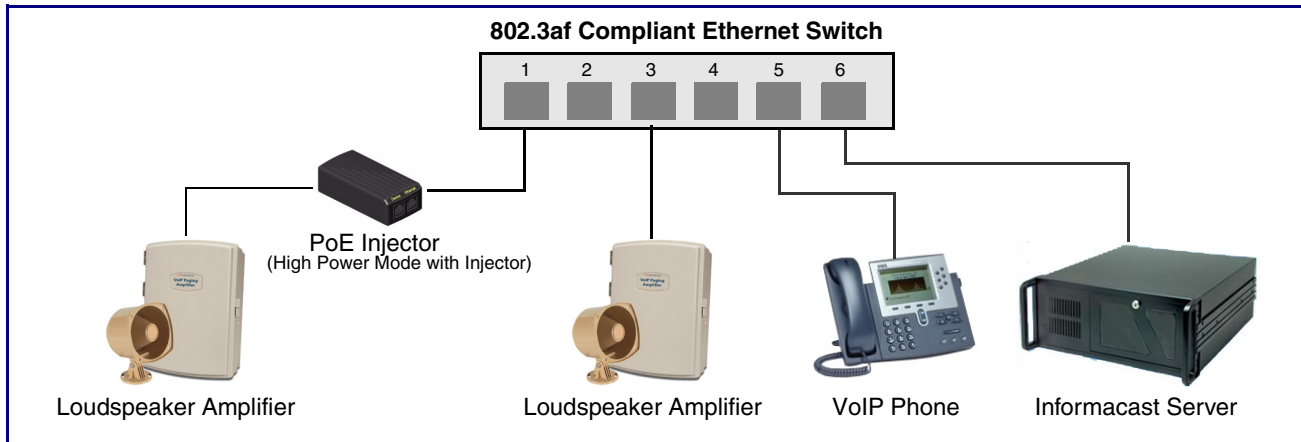
Model number



## 1.2 Typical System Installation

Figure 1-2 illustrates how the VoIP V2 Loudspeaker Amplifier is normally installed as part of a public address system.

Figure 1-2. Typical Installation



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## 1.3 Product Features

- InformaCast software compatible
- Supports SingleWire/Informacast Server Resilience
- Dual-speed ethernet 10/100 Mbps
- Web-based configuration
- Web-based firmware upgradeable
- PoE 802.3af-enabled (Powered-over-Ethernet)
- Line-out connector
- Direct speaker drive
- Network and external speaker volume control

---

## 1.4 Supported Protocols

The Loudspeaker Amplifier supports:

- HTTP Web-based configuration  
Provides an intuitive user interface for easy system configuration and verification of Loudspeaker Amplifier operations.
- DHCP Client  
Dynamically assigns IP addresses in addition to the option to use static addressing.
- TFTP Client  
Facilitates Web-based firmware upgrades of the latest Loudspeaker Amplifier capabilities.
- RTP
- RTP/AVP - Audio Video Profile
- SPEEX
- Audio Encodings  
PCMU (G.711 mu-law)  
PCMA (G.711 A-law)  
Packet Time 20 ms

## 1.5 Product Specifications

**Table 1. Product Specifications**

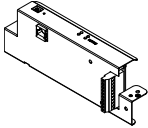

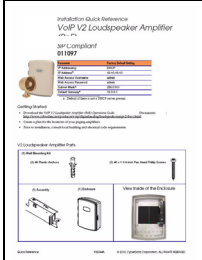

Category	Specification
Ethernet I/F	10/100 Mbps
Power Input	PoE 802.3at or 802.3af
Operating Temperature	-10° C to 50° C (14° F to 122° F)
Protocol	SIP RFC 3261
Payload Types	G711, SPEEX
Warranty	2 Years Limited
Dimensions	1.26" x 9.45" x 3.13"
Audio Output	802.3af - up to 10 Watts (default, 50% duty cycle [one second on and one second off]). 802.3at - up to 22 Watts (default, 50% duty cycle [one second on and one second off])
Line Out:	
Output Signal Amplitudes	2.0 VPP maximum
Output Level	+2dBm nominal
Total Harmonic Distortion	0.5% maximum
Output Impedance	10k Ohm
Part Number	011116

# 2 Installing the VoIP V2 Loudspeaker Amplifier

## 2.1 Parts List

Table 2-1 illustrates the parts for each Loudspeaker Amplifier and includes a kit for mounting.

**Table 2-1. Parts List**

Quantity	Part Name	Illustration
1	Loudspeaker Amplifier Assembly	
1	Enclosure	
1	Installation Quick Reference Guide	
1	Loudspeaker Amplifier Mounting Accessory Kit, RoHS (part #071057A) which includes: (3) Plastic Ribbed Anchors (3) #6 Sheet Metal Screws	

---

## 2.2 Loudspeaker Amplifier Setup

Set up and configure each Loudspeaker Amplifier *before* you mount it.

CyberData delivers each Loudspeaker Amplifier with the factory default values indicated in [Table 2-2](#):

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

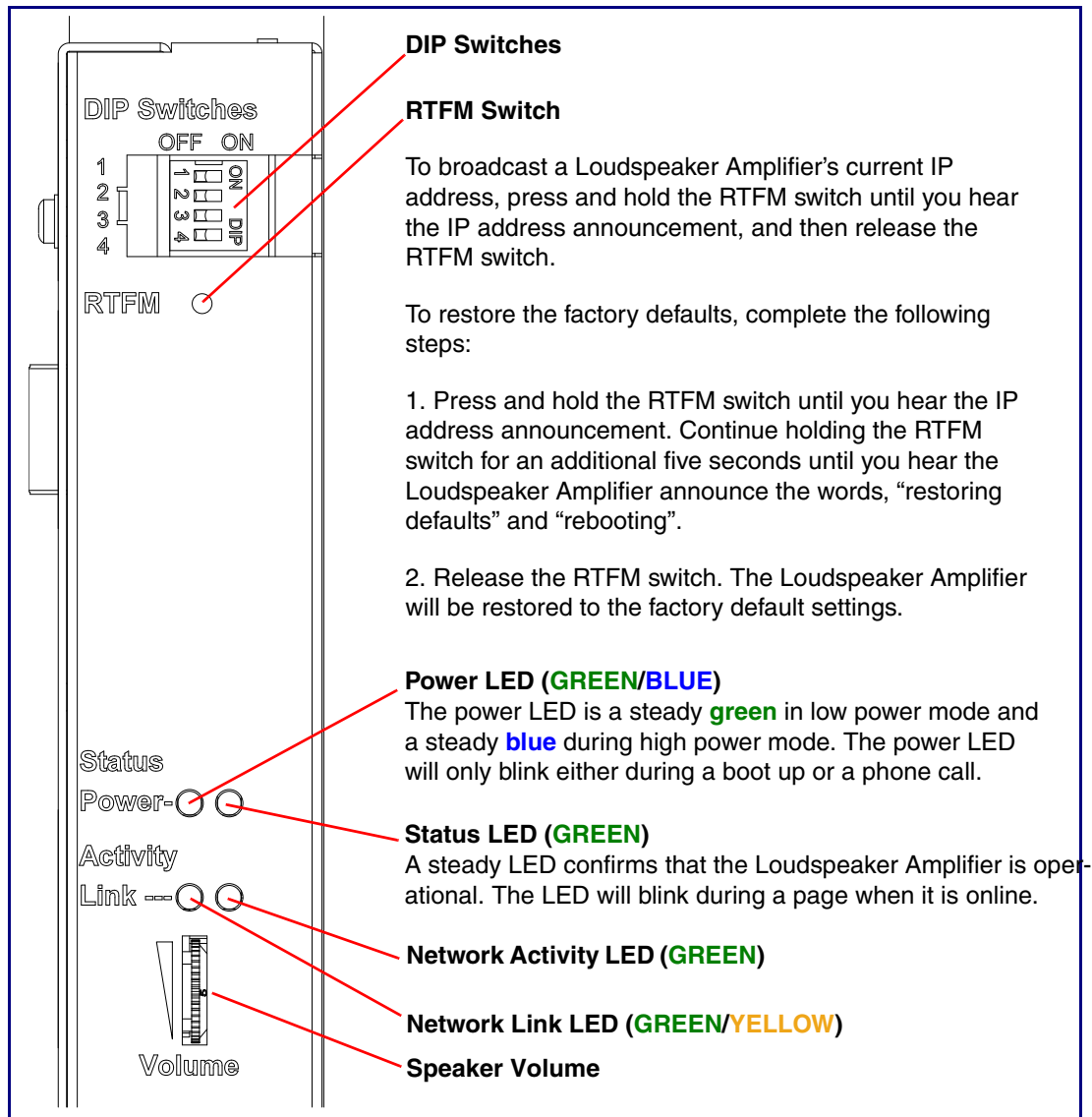
Parameter	Factory Default Setting
IP Addressing	DHCP
IP Address <sup>a</sup>	10.10.10.10
Web Access Username	admin
Web Access Password	admin
Subnet Mask <sup>a</sup>	255.0.0.0
Default Gateway <sup>a</sup>	10.0.0.1

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

## 2.2.1 Loudspeaker Amplifier Components

Figure 2-3 shows the components of the Loudspeaker Amplifier.

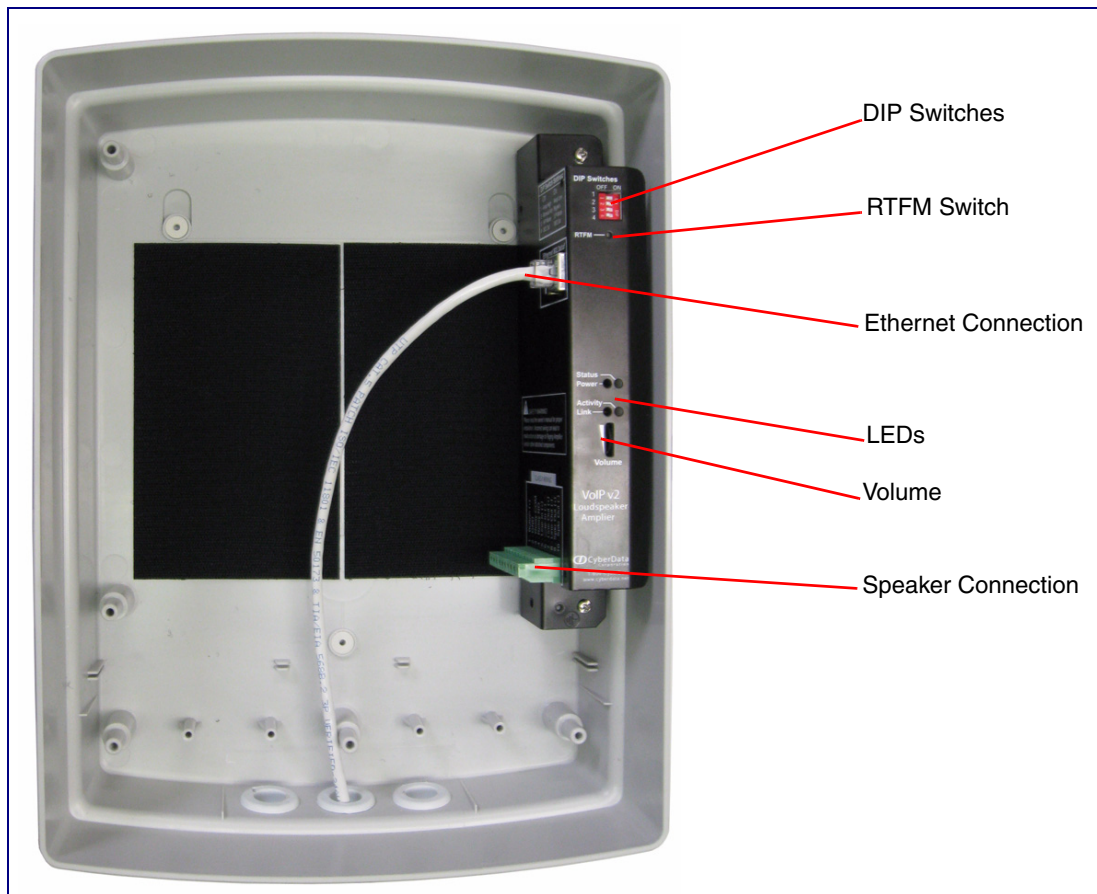
Figure 2-3. Loudspeaker Amplifier Components



## 2.2.2 Loudspeaker Amplifier NEMA Box Components

Figure 2-4 shows all of the NEMA box components of the loudspeaker amplifier.

**Figure 2-4. Loudspeaker Amplifier Components—AC powered**



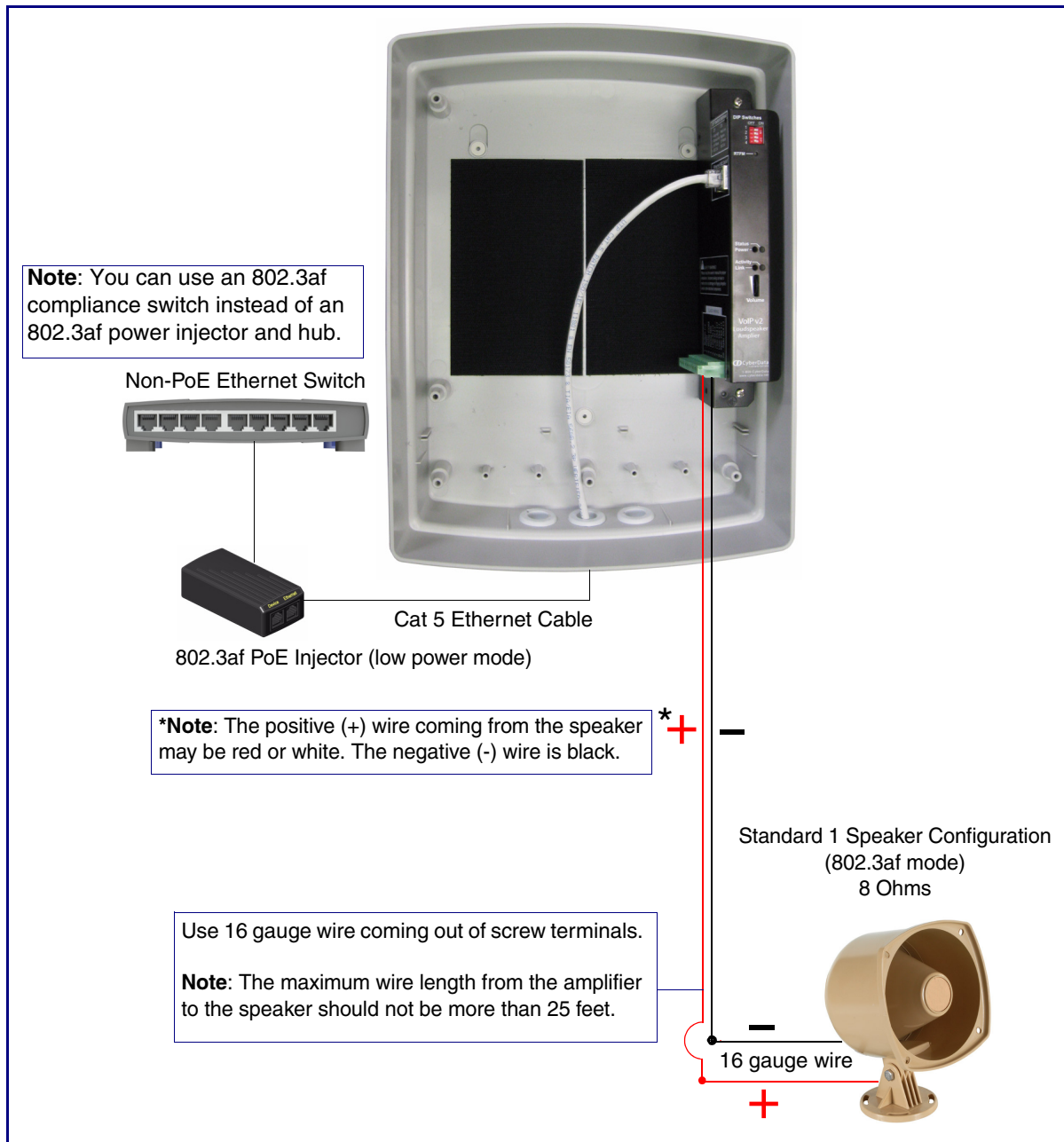
## 2.2.3 Connecting the Loudspeaker Amplifier

### 2.2.3.1 Using the Amplified Outputs

Figure 2-5 and Figure 2-6 illustrates how to connect the VoIP V2 Loudspeaker Amplifier and use the amplified outputs in low and high power mode.

Low Power Mode

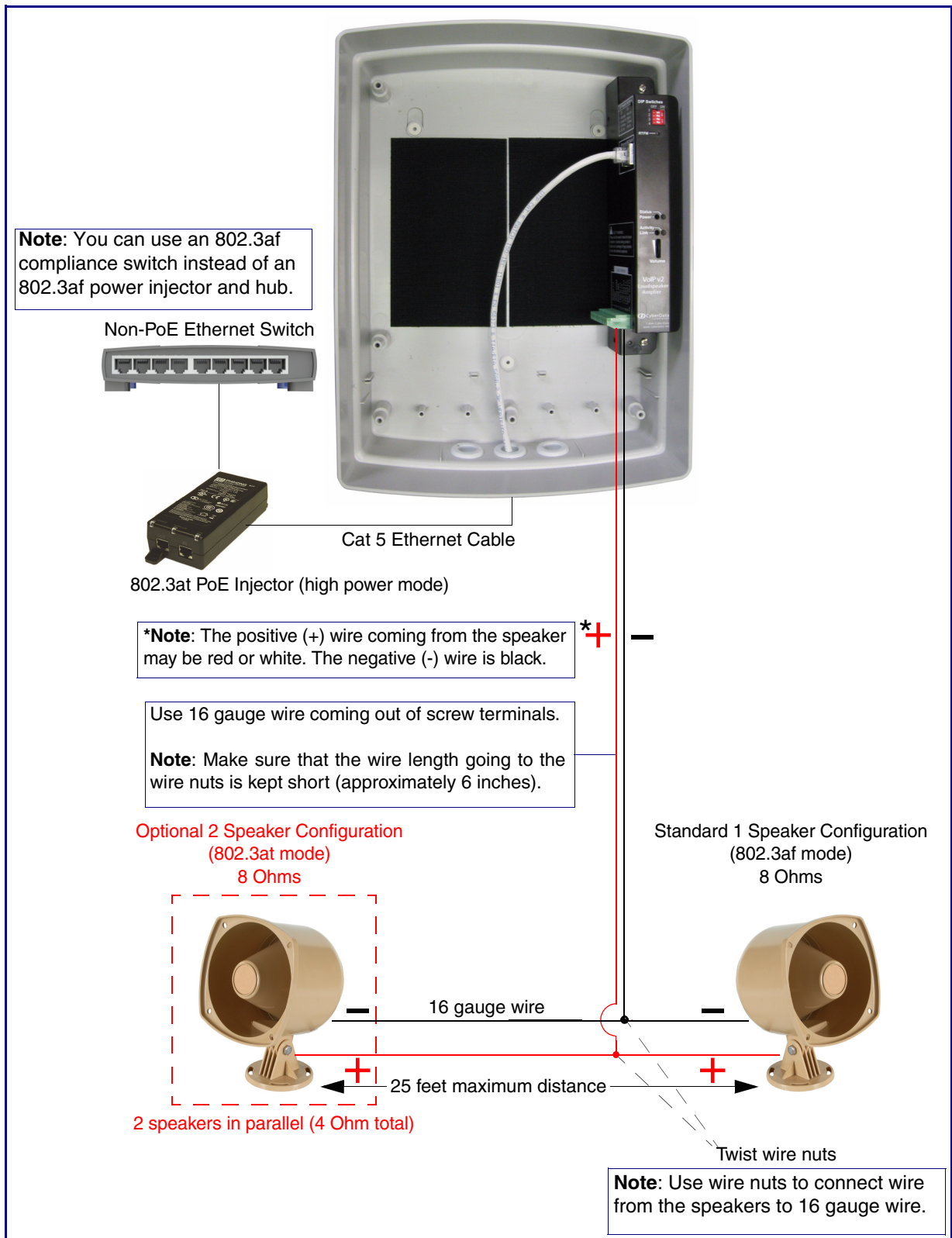
Figure 2-5. Using the Amplified Outputs—Low Power Mode





High Power Mode

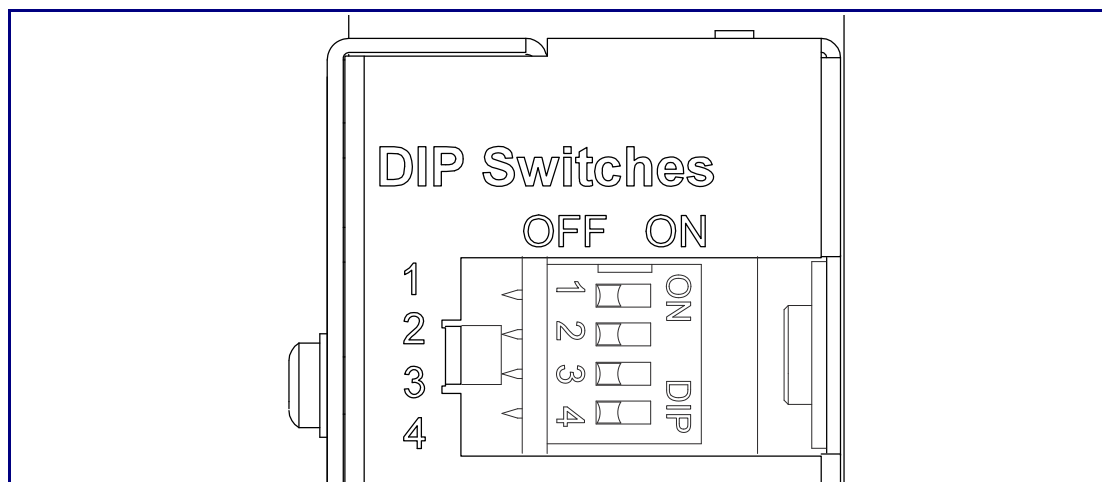
**Figure 2-6. Using the Amplified Outputs—High Power Mode**



## 2.2.4 Loudspeaker Amplifier DIP Switches

See [Figure 2-7](#) to identify the DIP Switches.

**Figure 2-7. DIP Switches**



See the following tables for the DIP Switch settings:

**Table 2-3. DIP Switch Settings—Low Power—802.3af Compliant**

DIP Switch	Default Setting	Description
1	OFF	Sets PoE for 802.3af class.
2	N/A	Not applicable for power setting.
3	ON	Switch mode current set to <b>LOW</b> .
4	OFF	Low gain amplifier setting.

**Table 2-4. DIP Switch Settings—High Power—802.3at Compliant<sup>a</sup>**

DIP Switch	Default Setting	Description
1	ON	Sets PoE for 802.3at class.
2	N/A	Not applicable for power setting.
3	OFF	Switch mode current set to <b>HIGH</b> .
4	ON	Force high gain amplifier.

- a. If set to high power, the unit will not power ON with 802.3af compliant switch. You must use a power injector in this mode (CyberData Part Number 011124). High power PoE mode conforms to IEEE 802.3at draft 3.0.

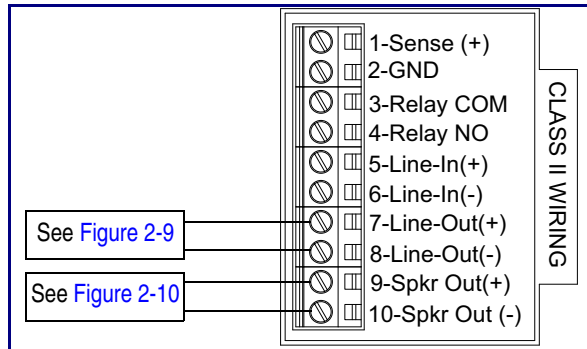
**Table 2-5. DIP Switch 2 Settings**

DIP Switch	Default Setting	Description
2	OFF	<b>Manual Vol.</b> The speaker volume is set manually by the analog volume trimmer.
2	ON	<b>Bypass.</b> Bypasses the manual volume control of the analog volume trimmer and uses the web page volume settings.

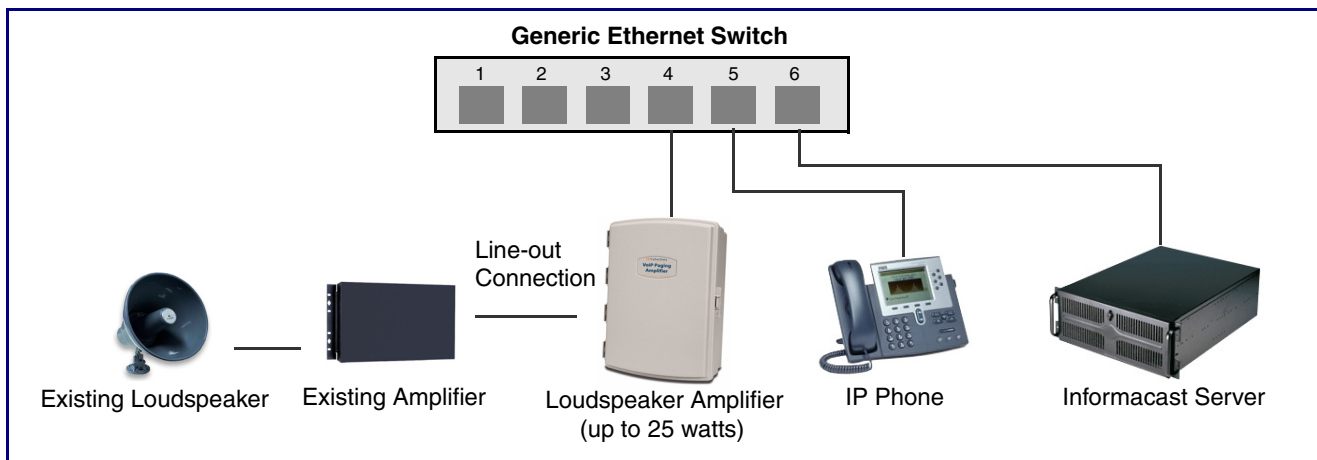
## 2.2.5 VoIP V2 Loudspeaker Amplifier System Installation and Connection Options

Figure 2-8 through Figure 2-9 illustrates connection options for the VoIP V2 Loudspeaker Amplifier.

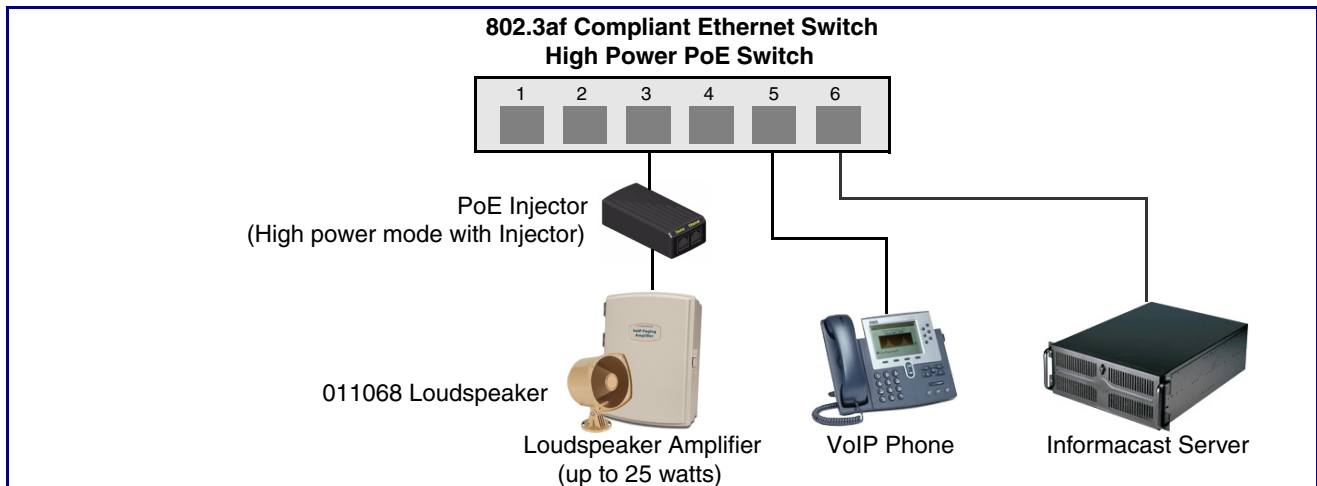
**Figure 2-8. V2 Paging Amplifier Connections**



**Figure 2-9. Line Out Connection**



**Figure 2-10. Speaker Out Connection**



See [Table 2-6](#) for details about the Loudspeaker Amplifier connections.

**Table 2-6. Loudspeaker Amplifier Connections**

Connection	Connection Details	Location
Ethernet	<ul style="list-style-type: none"> <li>Use a RJ 45 cable.</li> </ul>	VoIP V2 Loudspeaker Amplifier

### 2.2.5.1 Loudspeaker Type

Using the amplified output, the CyberData VoIP V2 Loudspeaker Amplifier supports the 011068 Loudspeaker or equivalent unamplified loudspeaker.

**Figure 2-11. 011068 Loudspeaker**



### 2.2.5.2 Cabling/Wiring

Using the amplified output, you may connect a loudspeaker to a Loudspeaker Amplifier with a good quality speaker cable that is limited to 25 feet in length.

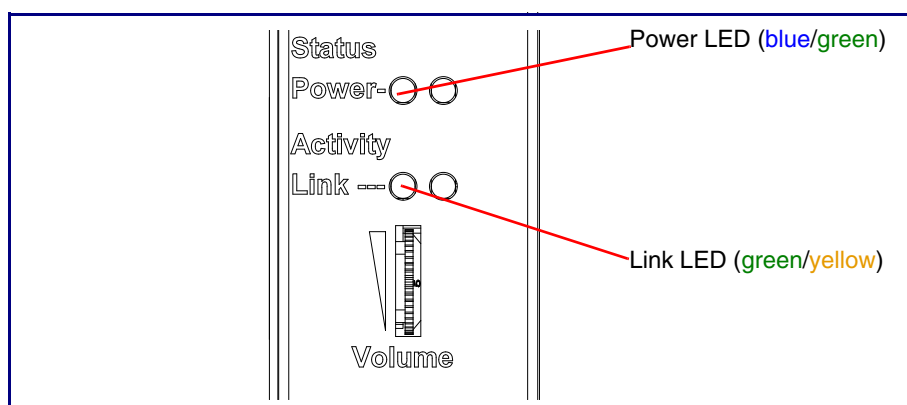
## 2.2.6 Confirm Operation

After connecting the Loudspeaker Amplifier to the ethernet hub, use the LEDs on the Loudspeaker Amplifier face to confirm that the Loudspeaker Amplifier is operational and linked to the network.

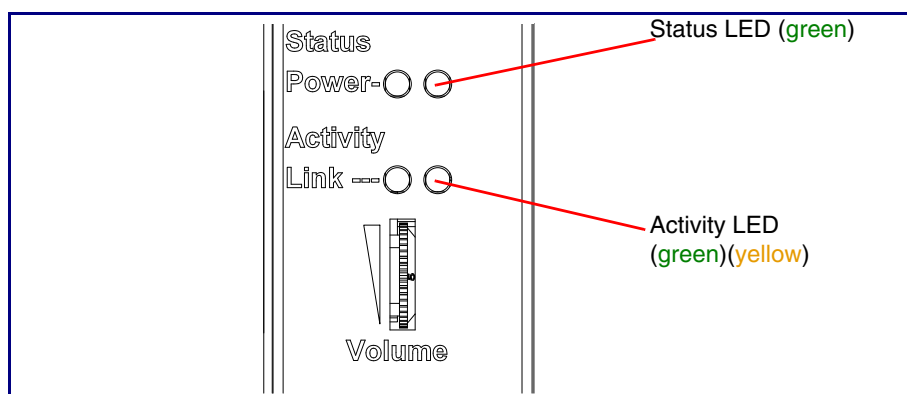
**Table 2-7. Loudspeaker Amplifier LEDs**

LED	Color	Function
Power	Blue/Green	The power LED is illuminated a steady green when the power is on and in low power mode. The power LED is illuminated a steady blue when the amplifier is in high power mode. The power LED will blink during a boot up or a phone call.
Status	Green	After supplying power to the Loudspeaker Amplifier, a steady LED confirms that the Loudspeaker Amplifier is operational. The status LED will blink during a page when it is online.
Link	Green/Yellow	The Link LED is illuminated green for a 10Mb link or yellow/green for a 100Mb link when the network link to the Loudspeaker Amplifier is established.
Activity	Green	The Activity LED blinks to indicate network traffic.

**Figure 2-12. Loudspeaker Amplifier LEDs—Power and Link**



**Figure 2-13. Loudspeaker Amplifier LEDs—Status and Activity**

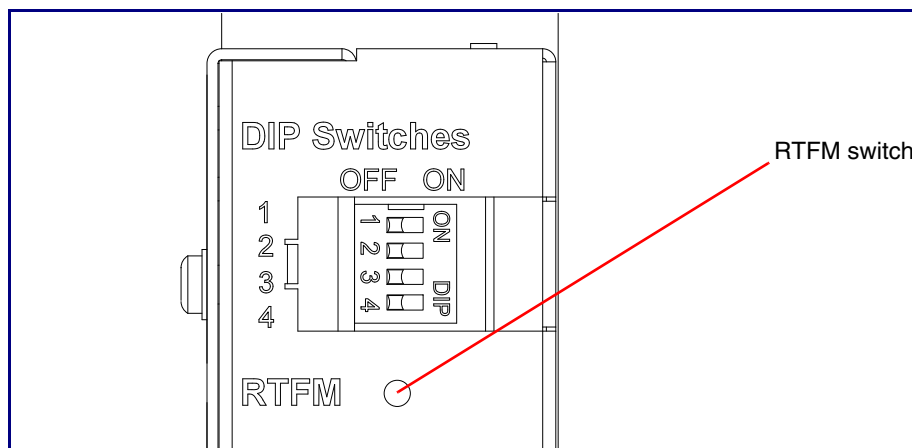


## 2.2.7 Confirm the IP Address and Test the Audio

### 2.2.7.1 RTFM Switch

When the Loudspeaker Amplifier is operational and linked to the network, use the Reset Test Function Management (**RTFM**) switch (Figure 2-14) on the Loudspeaker Amplifier face to announce and confirm the Loudspeaker Amplifier's IP Address, and test that the audio is working.

**Figure 2-14. RTFM Switch**



Announcing the IP Address To announce a Loudspeaker Amplifier's current IP address:

1. Press and hold the RTFM switch until you hear the IP address announcement.
2. Release the RTFM switch.



#### Caution

*Equipment Caution:* Pressing and holding the RTFM switch for more than five seconds after the IP address announcement will restore the V2 Paging Amplifier to the factory default settings. See the “[Restoring the Factory Default Settings](#)” section.

Restoring the Factory Default Settings

To restore the factory default settings, complete the following steps:

1. Press and hold the RTFM switch until you hear the IP address announcement. Continue holding the RTFM switch for an additional five seconds until you hear the Paging Amplifier announce the words, “restoring defaults” and “rebooting”.
2. Release the RTFM switch. The Paging Amplifier will be restored to the factory default settings.

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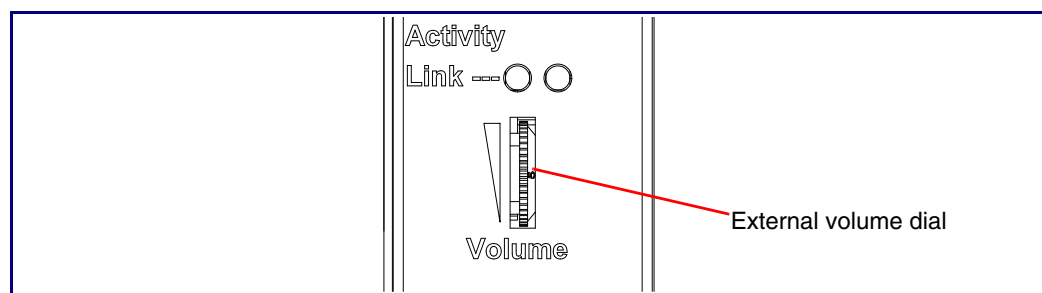
## 2.2.8 Adjust the Volume

### 2.2.8.1 External Volume Dial

To adjust the Loudspeaker Amplifier volume, turn the external **Volume** dial (Figure 2-15) on the Loudspeaker Amplifier face.

**Note** For the lineout volume, the volume is fixed and the volume control is adjusted through an external amplifier.

**Figure 2-15. External Volume Dial**



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## 2.3 Configure the Loudspeaker Amplifier Parameters

To configure the Loudspeaker Amplifier online, use a standard web browser.

Configure each Loudspeaker Amplifier and verify its operation *before* you mount it. When you are ready to mount a Loudspeaker Amplifier enclosure, refer to [Appendix A, "Mounting the Amplifier"](#) for instructions.

All Loudspeaker Amplifier are initially configured with the default IP settings indicated in [Table 2-8](#).

When configuring more than one Loudspeaker Amplifier, attach the Loudspeaker Amplifiers to the network one at a time to avoid IP address conflicts.

**Table 2-8. Factory Default Settings**

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



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



## 2.3.1 Loudspeaker Amplifier Web Page Navigation

Table 2-9 shows the navigation buttons that you will see on every Loudspeaker Amplifier web page.

**Table 2-9. V2 Paging Amplifier Web Page Navigation**

Web Page Item	Description
	Link to the <b>Home</b> page.
	Link to the <b>Update Firmware</b> page.

## 2.3.2 Log in to the Configuration Home Page

1. Open your browser to the Loudspeaker Amplifier 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 Loudspeaker Amplifier.

**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 on the VoIP V2 Loudspeaker Amplifier product page at:

[http://www.cyberdata.net/support/voip/discovery\\_utility.html](http://www.cyberdata.net/support/voip/discovery_utility.html)

The Loudspeaker Amplifier 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.

2. When prompted, use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-16):

Web Access Username: **admin**

Web Access Password: **admin**

Figure 2-16. Home Page

The screenshot displays the web interface for the CyberData Singlewire Paging Amp. The page has a blue header with the title "CyberData Singlewire Paging Amp". On the left side, there are two buttons: "Home" and "Update Firmware". The main content area is divided into several sections:


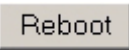
- Device Settings:** Contains three input fields. The first is labeled "Change Username:" and contains the text "admin". The second is labeled "Change Password:" and is empty. The third is labeled "Re-enter Password:" and is empty.
- Current Settings:** Lists various system parameters:
  - Serial Number: 116000108
  - Mac Address: 00:20:f7:01:6f:6b
  - Firmware Version: v3.0.1
  - IP Addressing: dhcp
  - IP Address: 10.10.1.243
  - Subnet Mask: 255.0.0.0
  - DNS Server 1: 10.0.0.252
  - DNS Server 2:
  - Boot Time:
  - Current Time: 2015/08/19 15:40:02
  - IC Servers: 10.0.1.195, 10.0.1.196
  - Configuration File: InformaCastSpeaker.cfg
  - B'casts Accepted: 2
  - B'casts Rejected: 0
  - B'casts Active: 0
  - RTP Packets Rx'd: 5103
- Miscellaneous Settings:** Contains three options with radio buttons:
  - Beep on Initialization:  Yes  No
  - Two Speakers Connected:  Yes  No
  - Disable Volume Control Dial:
- Relay Settings:** Contains one option with a checkbox:
  - Activate Relay While Page Active:

At the bottom of the page, there is a note: "\* You need to reboot for changes to take effect". Below the note are two buttons: "Save" and "Reboot".

**Note** Figure 2-16 shows the factory default settings.

3. On the **Home Page**, review the setup details and navigation buttons described in [Table 2-10](#).

**Table 2-10. Home Page Overview**

Web Page Item	Description
<b>Device Settings</b>	
Device Name	Shows the device name (25 character limit).
Change Username	Type in this field to change the username (25 character limit).
Change Password	Type in this field to change the password (19 character limit).
Re-enter Password	Type the password again in this field to confirm the new password (19 character limit).
<b>Current Settings</b>	
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 ( <b>DHCP</b> or <b>Static</b> ).
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.
Boot Time	Shows the boot time.
Current Time	Shows the current time.
I C Servers	Shows the InformaCast Server IP addresses.
Configuration File	Shows the configuration file.
B'casts Accepted	Shows the number of B'casts accepted.
B'casts Rejected	Shows the number of B'casts rejected.
B'casts Rejected	Shows the number of active B'casts.
RTP Packets Rx'd	Shows the number of RTP packets Rx'd.
<b>Miscellaneous Settings</b>	
Two Speakers Connected	Select either <b>Yes</b> or <b>No</b> to indicate whether you have two speakers connected.
Beep on Initialization	Select either <b>Yes</b> or <b>No</b> to indicate if you want to hear a beep when the unit is powered up.
	Click the <b>Save</b> button to save your configuration settings. <b>Note:</b> You need to reboot for changes to take effect.
	Click on the <b>Reboot</b> button to reboot the system.

---

## 2.3.3 Upgrade the Firmware and Reboot the Loudspeaker Amplifier

To upload the Loudspeaker Amplifier firmware from your PC:

1. Set up a TFTP server.

If you do not already have a TFTP server running on your network, see [Appendix B, "Setting up a TFTP Server"](#).

2. Retrieve the latest Loudspeaker Amplifier firmware from the VoIP V2 Loudspeaker Amplifier **Downloads** page at:

<http://www.cyberdata.net/products/voip/digitalanalog/singlewireloudspeakerampv2/downloads.html>

3. Unzip the Loudspeaker Amplifier version file. This file may contain the following:

- Firmware file
- Release notes

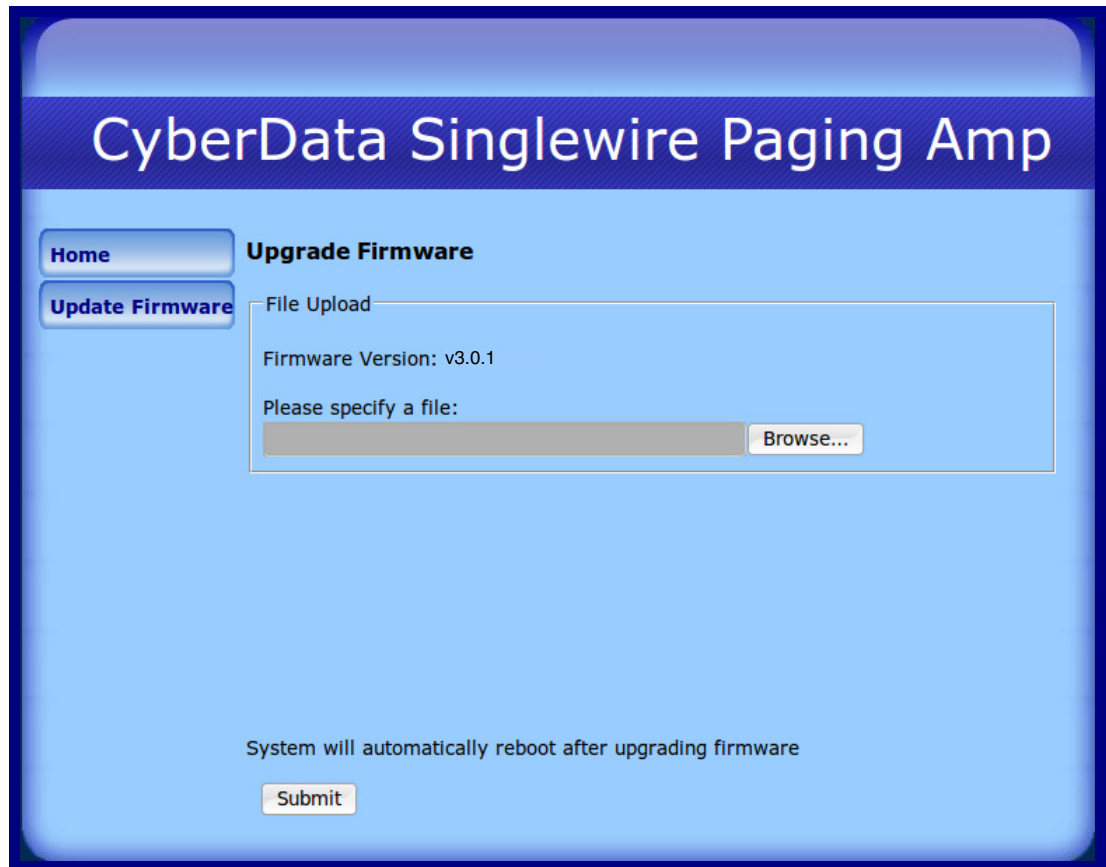
4. Copy the firmware files to be upgraded to the appropriate TFTP server directory:

- c:\tftp-root\for Windows
- /tftpboot/for Linux

5. Log in to the Loudspeaker Amplifier home page as instructed in [Section 2.3.2, "Log in to the Configuration Home Page"](#).

- Click the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-17](#).

**Figure 2-17. Firmware Upgrade Page**



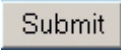
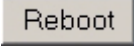
**Note** [Figure 2-17](#) shows the factory default settings.

- Enter the IP address of your TFTP server into the **TFTP Server IP** parameter field.
- Enter the firmware filename of the file to be uploaded into the **New Filename** parameter field. For example, kernel filename **100-ulmage-pagingamp.bin**.
- Click **Upload File**.

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

Table 2-11 shows the web page items on the **Upgrade Firmware** page.

**Table 2-11. Firmware Upgrade Parameters**

Web Page Item	Description
Firmware Version	Shows the current firmware version.
TFTP Server IP address	Enter the IP address of your TFTP server into the <b>TFTP Server IP</b> parameter field (15 character limit).
New Filename	Use this field to enter the new file name for the firmware file that you are uploading (25 character limit).
	Click on the <b>Submit</b> button to automatically upload the selected firmware and reboot the system.
	Click on the <b>Reboot</b> button to reboot the system.

## 2.3.4 Reboot the Loudspeaker Amplifier

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

1. Click **Update Firmware** to open the **Upgrade Firmware** page ([Figure 2-18](#)).

**Figure 2-18. Reboot System Section**

The screenshot displays the web interface for the CyberData Singlewire Paging Amp. The page title is "CyberData Singlewire Paging Amp". On the left side, there are two buttons: "Home" and "Update Firmware". The main content area is divided into several sections:

- Device Settings:** Contains three input fields: "Change Username:" with the value "admin", "Change Password:", and "Re-enter Password:".
- Current Settings:** A list of system parameters including Serial Number (116000108), Mac Address (00:20:f7:01:6f:6b), Firmware Version (v3.0.1), IP Addressing (dhcp), IP Address (10.10.1.243), Subnet Mask (255.0.0.0), DNS Server 1 (10.0.0.252), DNS Server 2, Boot Time, Current Time (2015/08/19 15:40:02), IC Servers (10.0.1.195, 10.0.1.196), Configuration File (InformaCastSpeaker.cfg), B'casts Accepted (2), B'casts Rejected (0), B'casts Active (0), and RTP Packets Rxd (5103).
- Miscellaneous Settings:** Includes three options: "Beep on Initialization:" (radio buttons for Yes and No, with Yes selected), "Two Speakers Connected:" (radio buttons for Yes and No, with No selected), and "Disable Volume Control Dial:" (checkbox).
- Relay Settings:** Includes "Activate Relay While Page Active:" (checkbox).

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

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

**Figure 2-19. Reboot Page**





## 2.4 Identifying and Testing a Loudspeaker Amplifier when Using InformaCast 4.0 or Later

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

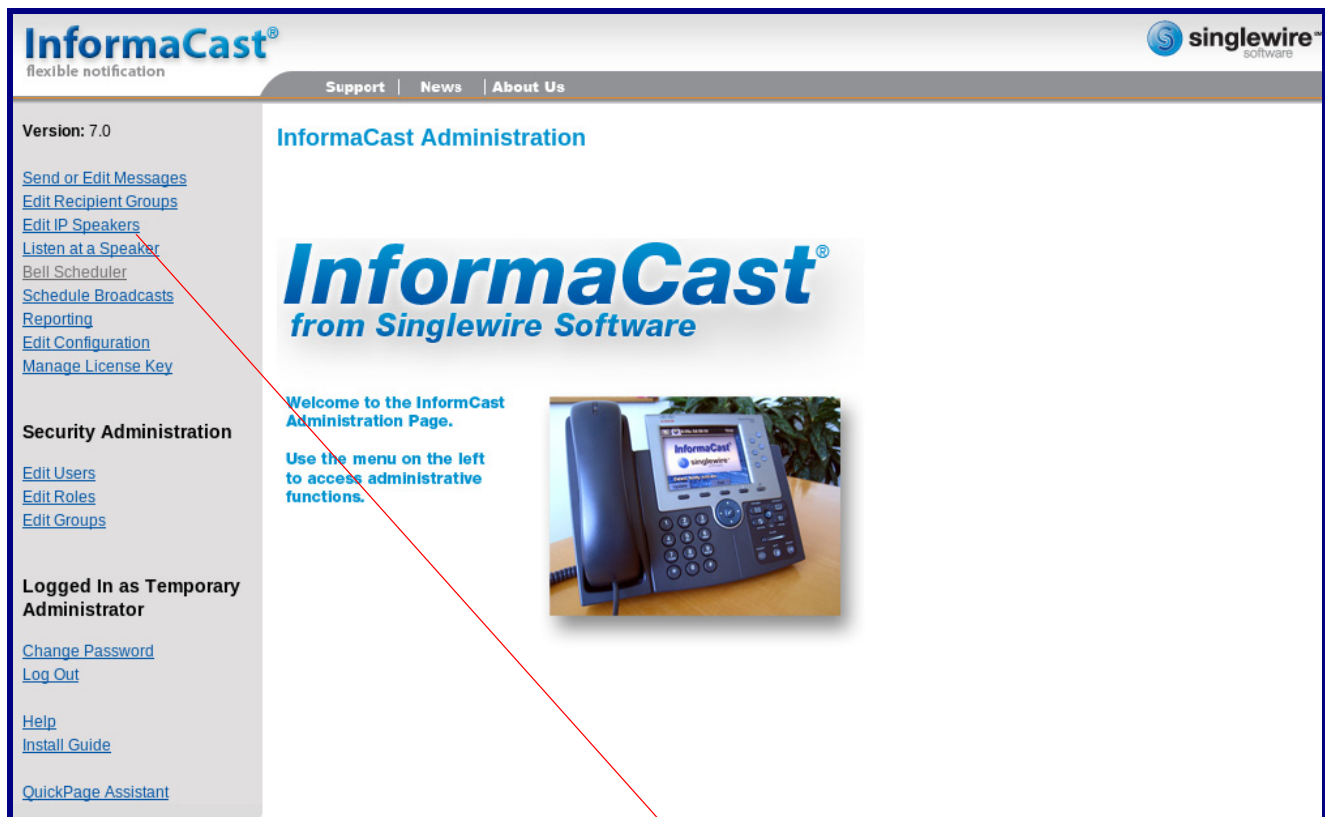
**Note** If you have questions or need help, please consult your InformaCast documentation and or contact the CyberData support team.

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

To add the Loudspeaker Amplifier to the InformaCast server:

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

Figure 2-20. Main Screen of the Singlewire InformaCast Server Web Interface



Edit IP Speakers

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

Figure 2-21. IP Amplifier Configuration Page

**InformaCast**  
flexible notification

singlewire  
software

Support | News | About Us

Version: 7.0

[Send or Edit Messages](#)  
[Edit Recipient Groups](#)  
[Edit IP Speakers](#)  
[Listen at a Speaker](#)  
[Bell Scheduler](#)  
[Schedule Broadcasts](#)  
[Reporting](#)  
[Edit Configuration](#)  
[Manage License Key](#)

**Security Administration**  
[Edit Users](#)  
[Edit Roles](#)  
[Edit Groups](#)

**Logged In as Temporary Administrator**  
[Change Password](#)  
[Log Out](#)  
[Help](#)  
[Install Guide](#)  
[QuickPage Assistant](#)

### InformaCast Administration: IP Speaker Configuration

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

Filter:

**There are no IP Speakers known to InformaCast.**

You can reboot IP speakers using these options:

Only selected speakers will be rebooted. The number of selected speakers is shown above.

This will attempt to reboot all speakers that have registered with InformaCast, whether they are listed on this page or are "new" speakers.

You can adjust IP speaker volume using these options:

Volume Adjustment:

Only selected speakers will have their volume adjusted. The number of selected speakers is shown above.

This will attempt to adjust the volume of all configured speakers.

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

InformaCast has detected new Speakers.

View

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

Figure 2-22. IP Speaker Configuration Page

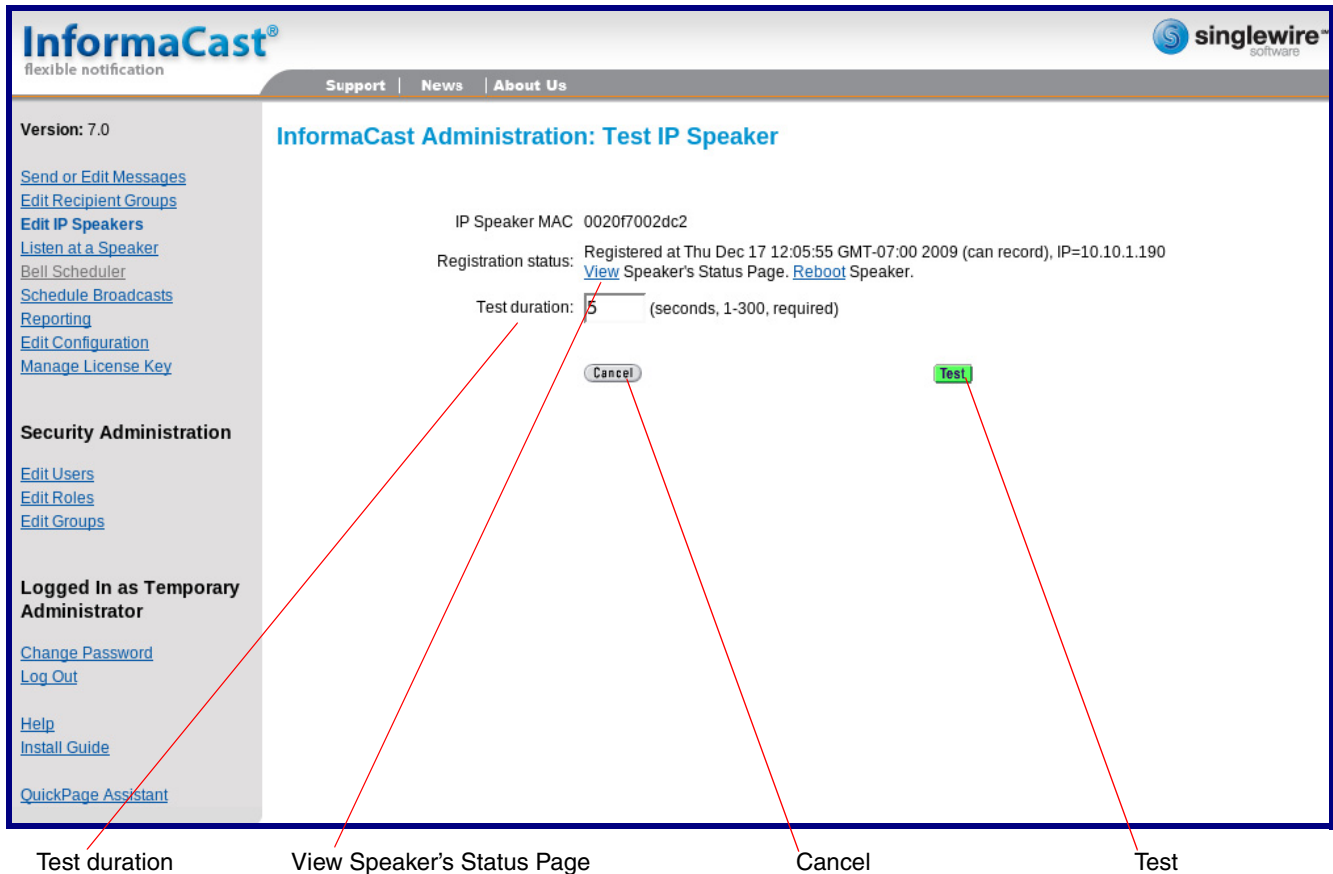
The screenshot displays the InformaCast Administration interface for IP Speaker Configuration. The page title is "InformaCast Administration: IP Speaker Configuration". Below the title, there is a count of "0" speakers. A table lists four registered speakers with their MAC addresses, registration details, and action buttons. A "View" button is located below the table, followed by the text "configured speakers." The left sidebar contains navigation links for various administrative functions. A red arrow points from the "Test" button in the first row of the table to the word "Test" centered below the screenshot.

MAC address	Registration Status	Action
0020f7002dc2	Registered at Thu Dec 17 12:05:55 GMT-07:00 2009 (can record), IP=10.10.1.190	<a href="#">Add</a> <a href="#">Test</a>
0020f7002dc3	Registered at Thu Dec 17 12:05:52 GMT-07:00 2009 (can record), IP=10.10.0.192	<a href="#">Add</a> <a href="#">Test</a>
0020f7002dc4	Registered at Thu Dec 17 12:06:12 GMT-07:00 2009 (can record), IP=10.10.1.191	<a href="#">Add</a> <a href="#">Test</a>
0020f7002dc5	Registered at Thu Dec 17 12:05:59 GMT-07:00 2009 (can record), IP=10.10.0.193	<a href="#">Add</a> <a href="#">Test</a>

Test

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

Figure 2-23. Test IP Speaker Page



**Note** When viewing the unit's status page via Informacast, Informacast links to the wrong port and path.

Informacast expects our unit's status page to be at:

<http://<ipaddr>:10004/status>.

The status page is actually at:

[http://<ipaddr>/ \(port 80\)](http://<ipaddr>/ (port 80))

Therefore, if a user clicks the link to view the status page and is directed to:

<http://10.10.10.10:1004/status>

The user will need to edit the url in the address bar to:

<http://10.10.10.10/>

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

Figure 2-24. IP Configuration Page

The screenshot displays the InformaCast Administration interface for IP Speaker Configuration. The page title is "InformaCast Administration: IP Speaker Configuration". On the left sidebar, there are navigation links for "Send or Edit Messages", "Edit Recipient Groups", "Edit IP Speakers", "Listen at a Speaker", "Bell Scheduler", "Schedule Broadcasts", "Reporting", "Edit Configuration", "Manage License Key", "Security Administration", "Logged In as Temporary Administrator", "Change Password", "Log Out", "Help", "Install Guide", and "QuickPage Assistant". The main content area shows a table of registered speakers. The table has three columns: "MAC address", "Registration Status", and "Action". There are four rows of data, each with an "Add" and "Test" button in the Action column. Below the table, there is a "View" button followed by the text "configured speakers." A red arrow points from the "Add" button in the table to the "Add" button at the bottom of the page.

MAC address	Registration Status	Action
0020f7002dc2	Registered at Thu Dec 17 12:05:55 GMT-07:00 2009 (can record), IP=10.10.1.190	<a href="#">Add</a> <a href="#">Test</a>
0020f7002dc3	Registered at Thu Dec 17 12:05:52 GMT-07:00 2009 (can record), IP=10.10.0.192	<a href="#">Add</a> <a href="#">Test</a>
0020f7002dc4	Registered at Thu Dec 17 12:06:12 GMT-07:00 2009 (can record), IP=10.10.1.191	<a href="#">Add</a> <a href="#">Test</a>
0020f7002dc5	Registered at Thu Dec 17 12:05:59 GMT-07:00 2009 (can record), IP=10.10.0.193	<a href="#">Add</a> <a href="#">Test</a>

[View](#) configured speakers.

Add

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

Figure 2-25. Add IP Speaker Page

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

- IP Speaker Name: TestSpeaker001 (required)
- Speaker Description: First Test Speaker
- Dial Code: 9999 (numeric shortcut for optional phone interface)
- MAC Address: 0020f7002dc2 (required, 12 hex digits)
- Volume: 10

At the bottom of the form are two buttons: "Cancel" and "Add". A red arrow originates from the "Add" button and points to the word "Add" located at the bottom right of the page.



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

# Appendix A: Mounting the Amplifier

## A.1 Mount the Loudspeaker Amplifier

Before you mount the enclosure, make sure that you have received all of the parts for each enclosure. Refer to [Table A-12](#).

**Table A-12. Wall Mounting Components (Part of the Accessory Kit)**

Quantity	Part Name	Illustration
3	#6 Plastic Ribbed Anchors	
3	#6 Sheet Metal Screws	

**Note** The Loudspeaker Amplifier was designed for indoor use. Mounting it on the external part of a building will require additional hardware for weatherproofing, cabling access, and lightning suppression. Consult a certified electrician for details.

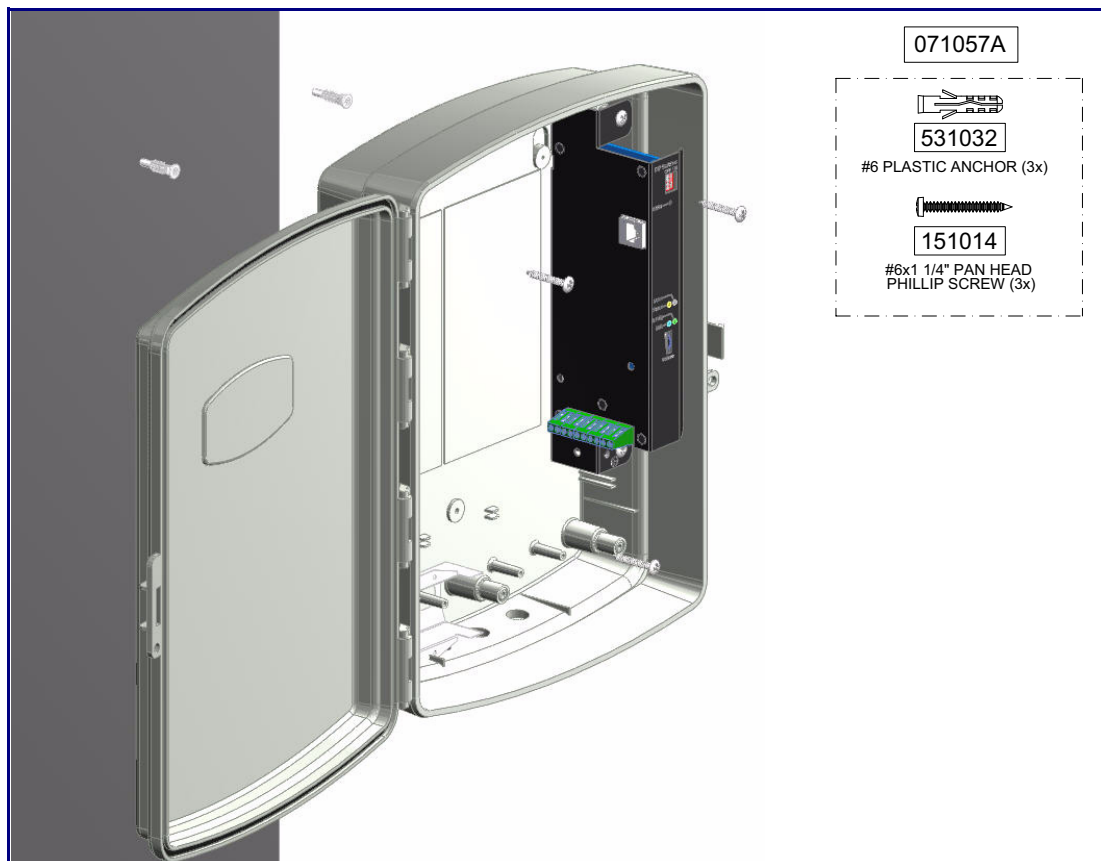
**Note** For mounting, use the three **#6 SHEET METAL SCREWS** to secure the enclosure.

## A.1.1 Mounting the Enclosure

To mount the enclosure:

1. Prepare holes for the screws.
2. Plug in the power adapter and use the green Power light to verify that the power is on.
3. Plug the Ethernet cable into the Loudspeaker Amplifier. The yellow Link light verifies the network connection.
4. For wall mounting, use the three #6 x 1-1/4-inch Pan Head Phillip screws to secure the speaker. See [Figure A-1](#).

**Figure A-1. Mounting the Enclosure**





# Appendix B: Setting up a TFTP Server

---

## B.1 Set up a TFTP Server

Upgrading the VoIP V2 Loudspeaker Amplifier firmware requires a TFTP server on which you access the Web interface where you can upload the firmware files.

---

### B.1.1 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.1.2 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:

<http://www.cyberdata.net/support/voip/solarwinds.html>

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, do the following:

1. Go to the following URL:

<http://www.cyberdata.net/products/voip/digitalanalog/singlewireloudspeakerampv2/faqs.html>

2. Go to the support page for your product, and click on the **FAQs** tab.

---

## C.2 Documentation

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

1. Go to the following URL:

<http://www.cyberdata.net/products/voip/digitalanalog/singlewireloudspeakerampv2/docs.html>

2. Go to the support page for your product, and click on the **Documentation** tab.

---

## C.3 Contact Information

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

---

## 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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