



# *SIP Paging Adapter Operations Guide*

*SIP Compliant  
Part #011233*

Document Part #930622R  
for Firmware Version 7.3.0

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**Operations Guide 930622R**  
**SIP Compliant 011233**

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

Email: [support@cyberdata.net](mailto:support@cyberdata.net)

Fax: (831) 373-4193

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

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## Revision Information

Revision 930622R, which corresponds to firmware version 7.3.0, was released on May 27, 2015, and has the following changes:

- Adds [Section 2.3.1, “Ground Connection”](#)
- Adds [Section 2.3.2, “Line In”](#)
- Adds [Section 2.3.3, “Line Out”](#)
- Adds [Section 2.3.4, “Page Port Output Connections”](#)
- Adds [Section 2.3.6, “Line-In Adjustment Potentiometer”](#)

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## Browsers Supported

The following browsers have been tested against firmware version 7.3.0:

- Internet Explorer (version: 10)
- Firefox (also called Mozilla Firefox) (version: 23.0.1 and 25.0)
- Chrome (version: 29.0.1547.66 m)
- Safari (version: 5.1.7)

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## Pictorial Alert Icons

	<p><b>General Alert</b></p> <p>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.</p>
	<p><b>Ground</b></p> <p>This pictorial alert indicates the Earth grounding connection point.</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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# 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.



## Warning

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



## Warning

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



## 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

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# 1 Product Overview

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The CyberData SIP Paging Adapter is a VoIP endpoint that interfaces analog paging systems with SIP and Multicast-based audio sources.

The SIP Paging Adapter (SPA) can be configured to support two separate SIP extensions. SIP extension one passes audio through to the analog output spoken from the caller's handset.

When called, SIP extension two plays a bell audio that can be used as a night ringer when configured in a night ring group.

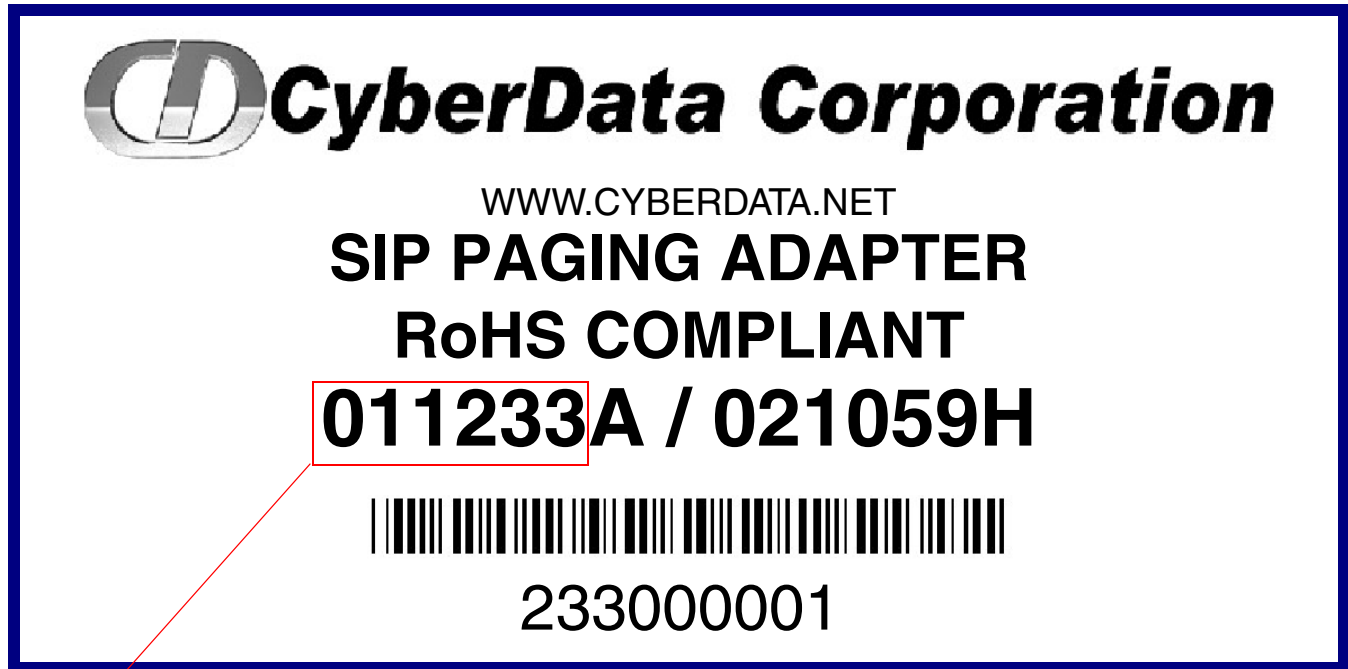
The SPA supports up to 9 user-uploadable messages that can be played by a DTMF command.

The SPA supports a line-In input for playing background music. During a page or night ring, this input is muted with its output restored once the page has stopped.

## 1.1 How to Identify This Product

To identify the SIP Paging Adapter, look for a model number label similar to the one shown in [Figure 1-1](#). The model number on the label should be **011233**.

Figure 1-1. Model Number Label



Model number

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## 1.2 Product features

- Two SIP extensions<sup>1</sup>
- SIP RFC 3261
- Two SIP endpoints (one for Night Ringer)
- Menu system to allow for live pages or playing pre-recorded audio
- RTP Version 2 Multicast and Unicast
- Polycom group paging
- 10k Ohm line out and 600 Ohm connectors for interfacing with analog amplifiers
- Audio Codecs
  - G.711 U-law
  - G.711 A-law
  - Speex
  - DTMF detection (via RFC 2833)
- Cisco SRST support
- 802.11Q VLAN support
- Ability to import and export configuration
- Autoprovisioning
- Support for NTP server for time keeping
  - TFTP or HTTP
  - Update at certain times of day
  - Update after a certain amount of idle time
- HTTP command interface
- Remote amp fault sensor
- Web-based configuration and firmware upload
- User uploadable audio files
- PoE 802.3af enabled (Power-over-Ethernet)
- 19-inch Rack mount option

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1. One of these extensions is a dedicated "night ringer," which is not capable of answering a call, and will only play a stored message while the call is ringing.

## 1.3 Product Specifications

**Table 1-1. Product Specifications**

<b>Specifications</b>	
Protocol	SIP RFC 3261 Compatible
Power Requirement	PoE or 48V DC
Ethernet I/F	10/100 Mbps
Power Input	PoE 802.3af or 48VDC
Operating Temperature	-10° C to 50° C (14° F to 122° F)
Payload Types	G711
Page Port Output	Balanced 600 Ohm 5VPP
Line In:	
Input Signal Amplitudes	2.0 VPP maximum
Input Impedance	10k Ohm
Line Out:	
Output Signal Amplitudes	2.0 VPP maximum
Output Level	+2dBm nominal
Total Harmonic Distortion	0.5% maximum
Output Impedance	10k Ohm
Dimensions	6.11" L x 4.05" W x 1.15" H
Weight	1.2 pounds
Boxed Weight	1.8 pounds
Part Number	011233



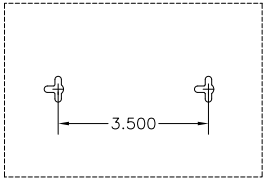

# 2 Setting Up the SIP Paging Adapter

The topics in this chapter provide information on setting up, configuring, and using the SIP Paging Adapter.

## 2.1 Parts List

The packaging for the SIP Paging Adapter includes the parts in [Table 2-2](#).

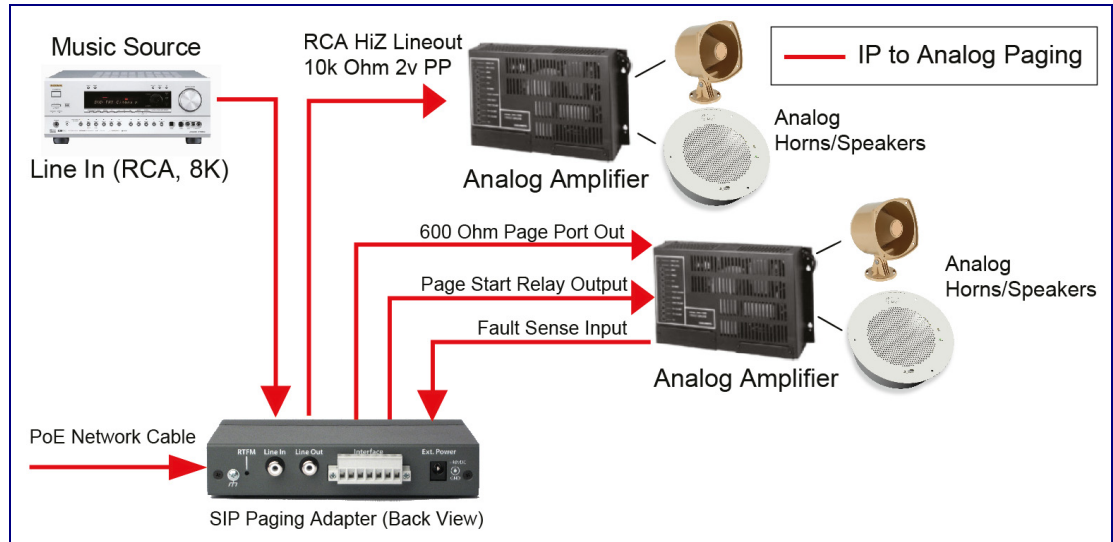
Table 2-2. Parts List

Quantity	Part Name	Illustration
1	SIP Paging Adapter	
1	Installation Quick Reference Guide	
1	Mounting Template (located on the last page of the <i>Installation Quick Reference</i> )	
1	Mounting Kit (part #070057A) which includes: (2) #4-6 x 7/8" Mounting Anchors (2) #4 x 1-1/4" Round Phillips Wood Screws	

## 2.2 Typical Installation

Figure 2-2 illustrates how the SIP Paging Adapter is normally installed as part of a paging system.

**Figure 2-2. Typical Installation**

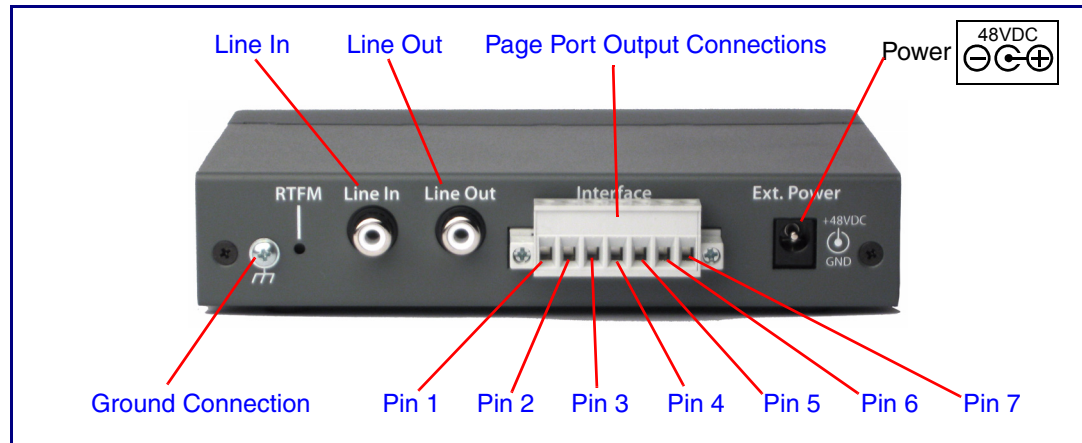


## 2.3 Connecting the SIP Paging Adapter

Before you connect the SIP Paging Adapter, be sure that you have received all of the parts described in [Section 2.1, "Parts List"](#).

See [Figure 2-3](#) for the connection options that are available for the SIP Paging Adapter.

**Figure 2-3. Connection Options**



### 2.3.1 Ground Connection

This connection allows you to connect the device to an electrical ground.

### 2.3.2 Line In

This RCA 10K Ohm Hi-Z input connection allows you to connect the device to The RCA line-out (10K Ohm Hi-Z) of an external audio amplifier. The level of this input can be controlled by the potentiometer located on the front of the device (see [Section 2.6.9, "Configure the Fault Detection Parameters"](#)).

### 2.3.3 Line Out

This RCA 10K Ohm Hi-Z output connection allows you to connect the device to The RCA line-in (10K Ohm Hi-Z) of an external audio amplifier.

## 2.3.4 Page Port Output Connections

**Table 2-1. Page Port Output Connections**

Pin	Description
Pin 1	Fault Sense Input (Common). See <a href="#">Section 2.3.4.1, "Pin 1 and 2—Fault Sense Input (Common/Sense)"</a> .
Pin 2	Fault Sense Input (Sense). See <a href="#">Section 2.3.4.1, "Pin 1 and 2—Fault Sense Input (Common/Sense)"</a> .
Pin 3	Positive 600-Ohm Audio Output <sup>a</sup> . See <a href="#">Section 2.3.4.2, "Pin 3, 4, and 5—Positive/Negative 600-Ohm Audio Output/Audio Ground Reference"</a> .
Pin 4	Negative 600-Ohm Audio Output <sup>a</sup> . See <a href="#">Section 2.3.4.2, "Pin 3, 4, and 5—Positive/Negative 600-Ohm Audio Output/Audio Ground Reference"</a> .
Pin 5	Audio Ground Reference. See <a href="#">Section 2.3.4.2, "Pin 3, 4, and 5—Positive/Negative 600-Ohm Audio Output/Audio Ground Reference"</a> .
Pin 6	Relay Contact - Common <sup>b</sup> . See <a href="#">Section 2.3.4.3, "Pin 6 and 7—Relay Contact (Common/Normally Open)"</a> .
Pin 7	Relay Contact - Normally Open <sup>b</sup> . See <a href="#">Section 2.3.4.3, "Pin 6 and 7—Relay Contact (Common/Normally Open)"</a> .

a. The 600-Ohm audio output of the page port is also suited for interfaces with lower input impedances.

b. 1 Amp at 30 VDC for continuous loads

### 2.3.4.1 Pin 1 and 2—Fault Sense Input (Common/Sense)

This input was designed as a method of monitoring an external amplifier that is equipped with a fault sense relay.

When enabled via the web interface ([Section 2.6.9, "Configure the Fault Detection Parameters"](#)), this input (when closed) will play a user uploadable audio file out of the line-out connection and/or place a SIP call to a pre-determined extension and play that file.

### 2.3.4.2 Pin 3, 4, and 5—Positive/Negative 600-Ohm Audio Output/Audio Ground Reference

This output allows direct connection to paging amplifiers requiring a "Page Port" type input that meets a balanced 600 Ohm 5VPP signal.

### 2.3.4.3 Pin 6 and 7—Relay Contact (Common/Normally Open)

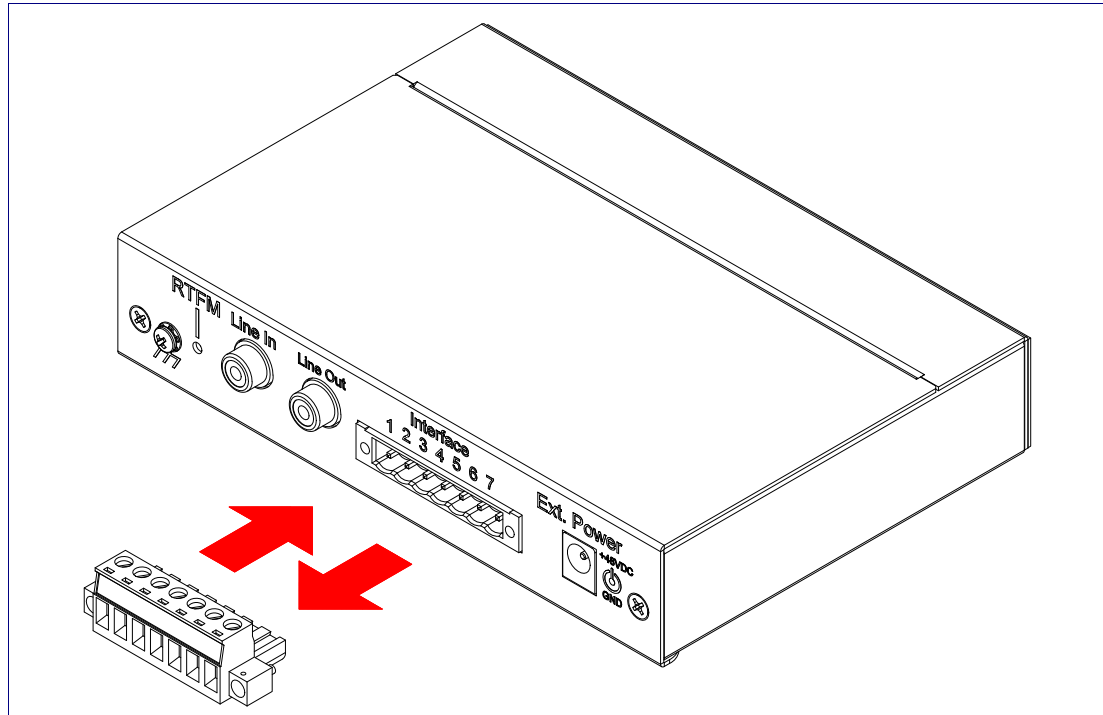
When enabled on the web interface ([Section 2.6.4, "Configure the Device Parameters"](#)), every time an audio file is played out of the local line-out or 600 Ohm output, the relay will close, thereby enabling amplifiers with a remote turn-on capability to become active.



## 2.3.5 Removable Interface Connector

Figure 2-4 shows the interface connector that is removable on the SIP Paging Adapter.


**Figure 2-4. Removable Interface Connector**



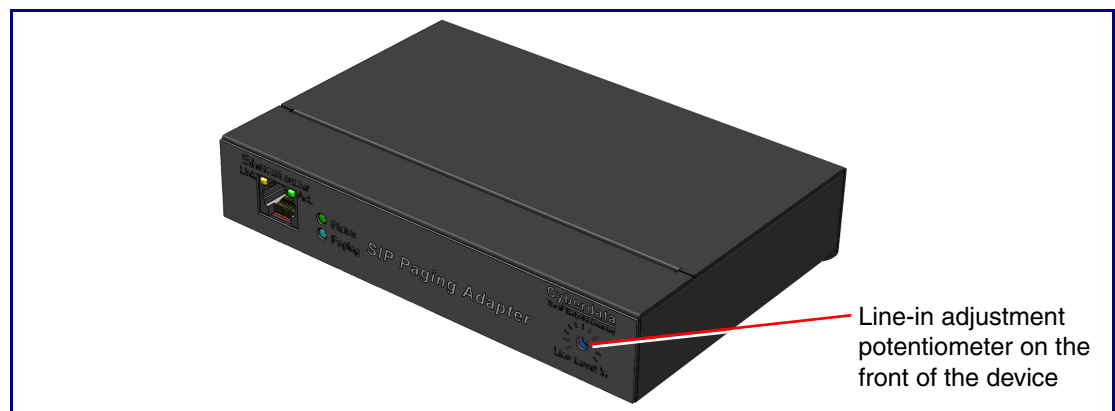
## 2.3.6 Line-In Adjustment Potentiometer

Located on the front of the device is a line-in adjustment potentiometer (see [Figure 2-5](#)).

**Note** Make sure that you only use a non-metallic screwdriver to adjust the line-in gain with the potentiometer.

 <p>GENERAL ALERT</p>	<p><b>Caution</b></p> <p><b>Equipment Hazard:</b> Do not over torque the non-metallic screwdriver while adjusting the line-in gain with the potentiometer.</p>
--	--




**Figure 2-5. Line-In Adjustment Potentiometer**



## 2.3.7 Connect to the Power Source

To use PoE, plug a Cat 5 Ethernet cable from the SIP Paging Adapter **Ethernet** port to your network. As an alternative to PoE, you can plug one end of a +48V DC power supply into the SIP Paging Adapter, and plug the other end into a receptacle. If required, connect the earth grounding wire to the chassis ground on the back of the unit. See [Figure 2-6](#).

**Figure 2-6. Connecting to the Power Source**

<p><b>PoE</b></p> 	<p>To set up the SIP Paging Adapter, connect the device to your network:</p> <p>Poe</p> <ul style="list-style-type: none"> <li>For <b>PoE</b>, plug one end of an 802.3af Ethernet cable into the SIP Paging Adapter Ethernet port. Plug the other end of the Ethernet cable into your network. See the figure on the left.</li> </ul>
<p><b>Non PoE with 48 VDC Power Supply</b></p> 	<p>Non-Poe</p> <ul style="list-style-type: none"> <li>For <b>Non-PoE</b>, connect the SIP Paging Adapter to a <b>48VDC power supply</b>. See the figure on the left.</li> <li><b>Note:</b> Do not use both PoE and external power.</li> <li>Alternatively, you can use our part# 010867 PoE Power Injector as a cost-effective option.</li> </ul>
<p><b>Chassis Ground</b></p>  <p>Chassis ground</p>	<p>Chassis Ground</p> <ul style="list-style-type: none"> <li>If required, connect the earth grounding wire to the <b>Chassis Ground</b>. See the figure on the left.</li> </ul>

---

## 2.3.8 Connect to the Network

Plug one end of a standard Ethernet cable into the SIP Paging Adapter **Ethernet** port. Plug the other end into your network.

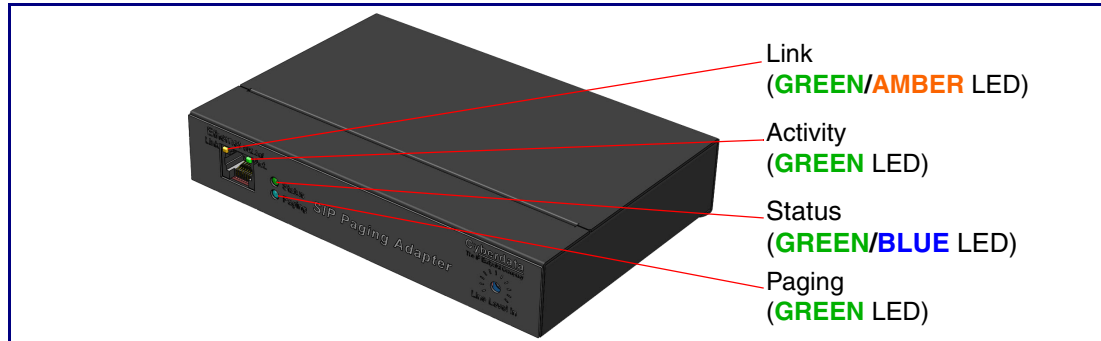
**Figure 2-7. Connecting to the Network**



## 2.3.9 Confirm that the SIP Paging Adapter is Up and Running

The LEDs on the front of the SIP Paging Adapter verify the unit's operations.

**Figure 2-8. SIP Paging Adapter LEDs**



### 2.3.9.1 Confirm Power on, Network Connectivity, and Connection Speed

When you plug in the Ethernet cable or power supply:

- The **GREEN/BLUE Status** LED and the **GREEN Paging** LED both blink at a rate of 10 times per second during the initial network setup.
- The round, **GREEN/BLUE Status** LED on the front of the SIP Paging Adapter comes on indicating that the power is on. Once the device has been initialized, this LED blinks at one second intervals.
- The square, **GREEN/AMBER Link** LED above the Ethernet port indicates that the network connection has been established. The Link LED changes color to confirm the auto-negotiated connection speed:
  - The Link LED is **GREEN** at 10 Mbps.
  - The Link LED is **AMBER** at 100 Mbps.
- The **GREEN Paging** LED comes on after the device is booted and initialized. This LED blinks when a page is in progress. You can disable **Beep on Initialization** on the **Device Configuration** page.

### 2.3.9.2 Verify Network Activity

The square, **GREEN Activity** LED blinks when there is network traffic.

## 2.4 Announcing the IP Address

To announce the IP address for the SIP Paging Adapter, briefly press and then quickly release the **RTFM** switch. See [Figure 2-9](#).

**Note** The IP address announcement can be heard if a speaker or amplified speaker is connected to the unit.

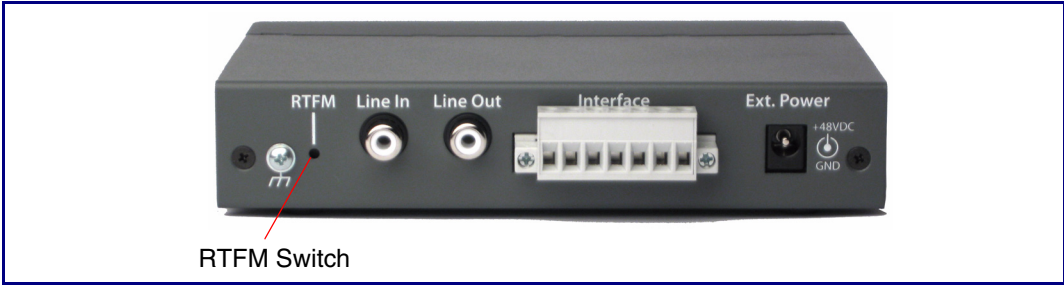
**Figure 2-9. RTFM Switch**



## 2.5 Restore the Factory Default Settings

The SIP Paging Adapter is delivered with factory set default values for the parameters in [Table 2-3](#). Use the **RTFM** switch (see [Figure 2-10](#)) on the back of the unit to restore these parameters to the factory default settings.

Figure 2-10. RTFM Switch



**Note** When you perform this procedure, the factory default settings are restored. The default parameters for access are shown in [Table 2-3](#).

Table 2-3. 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.

To restore these parameters to the factory default settings:

1. Press and hold the **RTFM** switch until the status and paging lights come on.
2. Continue to press the switch until after the indicator lights go off, and then release it.

**Note** The “Restoring Defaults” announcement can be heard if a speaker or amplified speaker is connected to the unit.

3. The SIP Paging Adapter settings are restored to the factory defaults.

---

## 2.6 Configuring the SIP Paging Adapter

Use this section to configure the SIP Paging Adapter.

---

### 2.6.1 Gather the Required Configuration Information

Have the following information available before you configure the SIP Paging Adapter.

#### 2.6.1.1 Static or DHCP Addressing?

Know whether your system uses static or dynamic (DHCP) IP addressing. If it uses static addressing, you also need to know the values to assign to the following SIP Paging Adapter parameters:

- IP Address
- Subnet Mask
- Default Gateway

#### 2.6.1.2 Username and Password for Configuration GUI

Determine the Username and Password that will replace the defaults after you initially log in to the configuration GUI.

- The Username is case-sensitive, and must be from four to 25 alphanumeric characters long.
- The Password is case-sensitive, and must be from four to 20 alphanumeric characters long.

#### 2.6.1.3 SIP Settings

To configure the SIP parameters, determine whether you want to register with the server. If you do, determine the number of minutes the registration lease remains valid, and whether you want to automatically unregister when you reboot. To configure the SIP parameters, you also need to determine the values for these parameters:










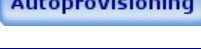

- SIP Server IP Address
- Remote and Local SIP Port Numbers
- SIP User ID, and Authenticate ID and Password for this User ID



## 2.6.2 SIP Paging Adapter Web Page Navigation

Table 2-4 shows the navigation buttons that you will see on every SIP Paging Adapter web page.

**Table 2-4. V3 Paging Amplifier Web Page Navigation**

Web Page Item	Description
	Link to the <b>Home</b> page.
	Link to the <b>Device Configuration</b> page.
	Link to the <b>Networking</b> page.
	Link to go to the <b>SIP Configuration</b> page.
	Link to the <b>Multicast Configuration</b> page.
	Link to go to the <b>Nightringer</b> page.
	Link to go to the <b>Fault Detection</b> page.
	Link to the <b>Audio Configuration</b> page.
	Link to the <b>Event Configuration</b> page.
	Link to the <b>Autoprovisioning Configuration</b> page.
	Link to the <b>Upgrade Firmware</b> page.

---

## 2.6.3 Log in to the Configuration GUI

1. Open your browser to the SIP Paging Adapter 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 SIP Paging Adapter.

**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:

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

The unit 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.

**Note** To work with the SIP Paging Adapter configuration *after* the initial configuration, log in using the IP address you assign to the device. [Section 2.6.5, "Configure the Network Parameters"](#) provides instructions for entering the IP address.

2. When prompted, use the following default **Username** and **Password** to open the configuration Home page:

Username: **admin**

Password: **admin**

Change the  
Default Username  
and Password

To change the default Web access Username and Password:

1. Enter the new Username from four to 25 alphanumeric characters in the **Change Username** field. The Username is case-sensitive.
2. Enter the new Password from four to 20 alphanumeric characters in the **Change Password** field. The Password is case-sensitive.
3. Enter the new password again in the **Re-enter New Password** field.

Click **Save Settings**.

Figure 2-11. Home Page

The screenshot displays the 'CyberData SPA' configuration interface. On the left is a vertical sidebar with buttons for 'Home', 'Device Config', 'Networking', 'SIP Config', 'Multicast Config', 'Nightringer', 'Fault Detection', 'Audio Config', 'Event Config', 'Autoprovisioning', and 'Update Firmware'. The main content area is divided into three sections: 'Device Settings', 'Current Settings', and 'Import/Export Settings'. The 'Device Settings' section includes fields for 'Device Name' (CyberData SPA), 'Change Username' (admin), 'Change Password', and 'Re-enter Password'. The 'Current Settings' section lists various parameters: Serial Number (233000735), Mac Address (00:20:f7:02:95:74), Firmware Version (v7.3.0), IP Addressing (dhcp), IP Address (10.10.1.239), Subnet Mask (255.0.0.0), Default Gateway (10.0.0.1), DNS Server 1 (10.0.0.252), DNS Server 2, SIP Mode (enabled), Multicast Mode (disabled), Event Reporting (disabled), Nightringer (disabled), and SIP server registration status (all servers are 'NOT Registered with SIP Server'). The 'Import/Export Settings' section contains a file selection area with 'Browse...', 'No file selected.', and 'Import Configuration' buttons, and an 'Export Configuration' button. At the bottom, a note states '\* You need to reboot for changes to take effect' with 'Save' and 'Reboot' buttons.

## CyberData SPA

[Home](#)  
[Device Config](#)  
[Networking](#)  
[SIP Config](#)  
[Multicast Config](#)  
[Nightringer](#)  
[Fault Detection](#)  
[Audio Config](#)  
[Event Config](#)  
[Autoprovisioning](#)  
[Update Firmware](#)

**Device Settings**  
Device Name:   
Change Username:   
Change Password:   
Re-enter Password:



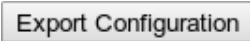


**Current Settings**  
Serial Number: 233000735  
Mac Address: 00:20:f7:02:95:74  
Firmware Version: v7.3.0  
  
IP Addressing: dhcp  
IP Address: 10.10.1.239  
Subnet Mask: 255.0.0.0  
Default Gateway: 10.0.0.1  
DNS Server 1: 10.0.0.252  
DNS Server 2:  
  
SIP Mode is: enabled  
Multicast Mode is: disabled  
Event Reporting is: disabled  
Nightringer is: disabled (NOT Registered with SIP Server)  
  
Primary SIP Server: (NOT Registered with SIP Server)  
Backup Server 1: (NOT Registered with SIP Server)  
Backup Server 2: (NOT Registered with SIP Server)

**Import/Export Settings**  
Please specify a configuration file\*:  
 No file selected.

\* You need to reboot for changes to take effect

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

**Table 2-5. 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 (20 character limit).
Re-enter Password	Type the password again in this field to confirm the new password (20 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.
SIP Mode is	Shows the current status of the SIP Mode.
Multicast Mode is	Shows the current status of the Multicast Mode.
Event Reporting is	Shows the current status of the Event Reporting.
Nightring is	Shows the current status of the Nightringer.
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.
<b>Import/Export Settings</b>	The user can export and edit the device's configuration (in XML format), and then reload it to a device (or devices) instead of making changes through the web interface.
	Press the <b>Browse</b> button to select a configuration file to import.
	Press the <b>Import Configuration</b> button to save a board configuration to the board. <b>Note:</b> The board will have to be reset before changes will take effect.
	Press the <b>Export Configuration</b> button to download the current board configuration.
	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.

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

At this point you can:

- Review the SIP Paging Adapter's **Current Settings**. Use the RTFM switch to restore the factory default settings. See [Section 2.5, "Restore the Factory Default Settings"](#).
- Configure the device parameters. Click on the **Device Config** button and see [Section 2.6.4, "Configure the Device Parameters"](#).
- Configure the network parameters. Click on the **Networking** button and refer to [Section 2.6.5, "Configure the Network Parameters"](#) for instructions.
- Configure the SIP parameters. Click on the **SIP Config** button and see [Section 2.6.6, "Configure the SIP Parameters"](#).
- Configure the multicast parameters. Click on the **Multicast Config** button and see [Section 2.6.7, "Configure the Multicast Parameters"](#) for instructions.
- Configure the Night Ringer parameters. Click on the **Nightringer** button and see [Section 2.6.8, "Configure the Night Ringer Parameters"](#).
- Configure the fault detection parameters. Click on the **Fault Detection** button and see [Section 2.6.9, "Configure the Fault Detection Parameters"](#).
- Configure the audio parameters. Click on the **Audio Config** button and see [Section 2.6.10, "Configure the Audio Parameters"](#) for instructions.
- Configure the event parameters. Click on the **Event Config** button and see [Section 2.6.11, "Configure the Event Parameters"](#) for instructions.
- Configure the autoprovisioning parameters. Click on the **Autoprovisioning** button and see [Section 2.6.12, "Configure the Autoprovisioning Parameters"](#) for instructions.

**Note** Click on the **Update Firmware** button any time you need to upload new versions of the firmware. See [Section 2.7, "Upgrading the Firmware"](#) for instructions.

## 2.6.4 Configure the Device Parameters




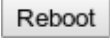
1. Click on the **Device Configuration** button to open the **Device Configuration** page. See [Figure 2-12](#).

Figure 2-12. Device Configuration Page

The screenshot displays the 'CyberData SPA' web interface. On the left is a vertical navigation menu with buttons for: Home, Device Config (highlighted), Networking, SIP Config, Multicast Config, Nightringer, Fault Detection, Audio Config, Event Config, Autoprovisioning, and Update Firmware. The main content area is titled 'Device Configuration' and contains a section for 'Miscellaneous Settings'. This section includes the following configuration options: 'Beep on Initialization' (checkbox, unchecked), 'Beep on page' (checkbox, checked), 'Enable line-in to line-out loopback' (checkbox, unchecked), 'Enable relay on local audio' (checkbox, unchecked), 'DTMF duration (milliseconds)' (text input, value 500), 'Bypass DTMF Menus (Go straight to page)' (checkbox, unchecked), 'Send pre-configured DTMF for Analog Zone' (checkbox, unchecked), 'Zone' (text input, empty), 'Manual DTMF Entry for Analog Zone' (checkbox, unchecked), 'Require Security Code' (checkbox, unchecked), and 'Security Code' (text input, empty). At the bottom of the page, a note states '\* You need to reboot for changes to take effect', followed by four buttons: 'Save', 'Test Audio', 'Test Relay', and 'Reboot'.

2. On the **Device Configuration** page, you may enter values for the parameters indicated in [Table 2-6](#).

**Table 2-6. Device Configuration Parameters**

Web Page Item	Description
<b>Miscellaneous Settings</b>	
Beep on Initialization	When selected, you will hear a beep when the device initializes.
Beep on page	When selected, the device will play a beep before a page is sent to the analog ports when "Lineout" is enabled on a paging group (works for both buffered and live pages).
Enable Line In to Line Out Loopback	When selected, audio is sent from the line -in to the line-out output. <b>Note:</b> Please be advised that when both <a href="#">Enable Line In to Line Out Loopback</a> (on the <a href="#">Device Configuration Page</a> ) and <a href="#">Buffer SIP Calls</a> (on the <a href="#">SIP Configuration Page</a> ) are enabled, the SIP Paging Adapter cannot pass DTMF tones.
Enable relay on local audio	When selected, the relay will be closed any time that audio is played out of the line-out/page port. This setting is for legacy analog amplifiers that are often connected to the page port. Analog amplifiers will often have a noticeable hum if they are turned on while there is no audio being played. The relay closure causes these amplifiers to turn on only when audio is sent to them.
DTMF duration (milliseconds)	Type the DTMF sound duration (in milliseconds).
Bypass DTMF Menus (Go straight to page)	When selected, the DTMF menu options are bypassed when a page is sent, and the device begins a live/buffered page (no ability to send stored messages).
Send pre-configured DTMF for Analog Zone	When selected, a pre-configured DTMF sequence is sent to activate an analog zone when the <a href="#">Bypass DTMF Menus (Go straight to page)</a> setting is enabled.
Zone (field)	Type the pre-configured DTMF sequence for the analog zone. <b>Note:</b> This setting is only enabled when the <a href="#">Send pre-configured DTMF for Analog Zone</a> setting is enabled.
Manual DTMF Entry for Analog Zone	When selected, the device will prompt the caller to enter a DTMF sequence to activate an analog zone before prompting the caller to press <b>1</b> through <b>9</b> to send a stored message or press <b>0</b> to page. <b>Note:</b> The user must press the <b>#</b> key after entering the zone.
Require Security Code	When selected, the user will be prompted to enter a <a href="#">Security Code</a> (entered on this page) before being able to execute a page when calling the device.
Security Code	Type the security code in this field.
	Click the <b>Save</b> button to save your configuration settings. <b>Note:</b> You need to reboot for changes to take effect.
	When the <b>Test Audio</b> button is pressed, you will hear a voice message for testing the device audio quality and volume.
	Click on the <b>Test Relay</b> button to do a relay test.
	Click on the <b>Reboot</b> button to reboot the system.

- Note** When **Send pre-configured DTMF for Analog Zone** or **Manual DTMF Entry for Analog Zone** is selected, the SIP Paging Adapter will send the DTMF tones to the line-out port, in addition to the analog amplifier connected to the Page Port Output. If secrecy or security of Analog Zone Codes is desired, CyberData recommends not connecting to the line-out port when these options are selected.
- Note** You must click on the **Save** button and then the **Reboot** button for the changes to take effect.



## 2.6.5 Configure the Network Parameters

Configuring the network parameters enables your network to recognize the SIP Paging Adapter and communicate with it. Click on the **Networking** button to open the **Network Configuration** page.

**Figure 2-13. Network Configuration Page**

**CyberData SPA**

**Network Configuration**

Home  
Device Config  
**Networking**  
SIP Config  
Multicast Config  
Nightringer  
Fault Detection  
Audio Config  
Event Config  
Autoprovisioning  
Update Firmware

**Stored Network Settings**

IP Addressing: ☐ Static ☒ DHCP

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

Hostname: SPA02501c

VLAN ID (0-4095): 0

VLAN Priority (0-7): 0

**DHCP Timeout**

DHCP Timeout in seconds\*: 60

\* A value of -1 will retry forever

**Current Network Settings**

IP Address: 10.10.0.79

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server 1: 8.8.4.4



DNS Server 2:

\* You need to reboot for changes to take effect

Save Reboot

On the **Network Configuration** page, enter values for the parameters indicated in [Table 2-7](#).

**Table 2-7. Network Configuration Parameters**

Web Page Item	Description
<b>Stored Network Settings</b>	Shows the settings stored in non-volatile memory.
IP Addressing	Select either <b>DHCP IP Addressing</b> or <b>Static IP Addressing</b> by marking the appropriate radio button. If you select <b>Static</b> , configure the remaining parameters indicated in <a href="#">Table 2-7</a> . If you select <b>DHCP</b> , go to <a href="#">Step 3</a> .
IP Address	Enter the Static IP address.
Subnet Mask	Enter the Subnet Mask address.
Default Gateway	Enter the Default Gateway address.
DNS Server 1	Enter the DNS Server 1 address.
DNS Server 2	Enter the DNS Server 2 address.
Hostname	This is the hostname provided to the DHCP server. This can be used in conjunction with a DNS server to address the device by host name instead of by IP address. Check your DHCP server and DNS server documentation for more information.
VLAN ID (0-4095)	Enter the VLAN ID number.  <b>Note:</b> The device supports 802.11Q 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)	Enter the VLAN priority number.
<b>DHCP Timeout</b>	
DHCP Timeout in seconds	Enter the desired timeout duration (in seconds) that the device will wait for a response from the DHCP server before defaulting back to the stored static IP address.  <b>Note:</b> A value of <b>-1</b> will cause the device to retry indefinitely and a value of <b>0</b> will cause the device to reset to a default of 60 seconds.
<b>Current Network Settings</b>	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.
	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.

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

On this page:

1. Specify whether you use **Static** or **DHCP IP Addressing** by marking the appropriate radio button. Then, if you select Static, go to [Step 2](#).
2. For Static IP Addressing, also enter values for the following parameters:
  - The SIP Paging Adapter's **IP Address**: The SIP Paging Adapter is delivered with a factory default IP address. Change the default address to the correct IP address for your system.
  - The **Subnet Mask**.
  - The **Default Gateway**.
3. Click **Save** when you are finished.
4. Click **Reboot** for the new settings to take effect.

## 2.6.6 Configure the SIP Parameters

The SIP parameters enable the SIP Paging Adapter to contact and register with the SIP server. Click on the **SIP Config** button to open the **SIP Configuration** page.

Figure 2-14. SIP Configuration Page

**CyberData SPA**

**SIP Configuration**

Home Device Config **SIP Config** Multicast Config Nightringer Fault Detection Audio Config Event Config Autoprovisioning Update Firmware

Enable SIP operation: ☒ (NOT Registered with SIP Server)

**SIP Settings**

SIP Server: 10.0.0.253  
Backup SIP Server 1:  
Backup SIP Server 2:

Use Cisco SRST: ☐

Remote SIP Port: 5060  
Local SIP Port: 5060  
Outbound Proxy:  
Outbound Proxy Port: 0  
SIP User ID: 199  
Authenticate ID: 199  
Authenticate Password: •••••

Register with a SIP Server: ☒  
Re-registration Interval (in seconds): 360  
Unregister on Reboot: ☐  
Disable rport Discovery: ☐

Buffer SIP Calls: ☐

**Call disconnection**

Terminate call after delay (in seconds): 0  
Note: A value of 0 will disable this function

**Misc Settings**

RTP Port (even): 10500

\* You need to reboot for changes to take effect



Save Reboot

5. On the **SIP Configuration** page, enter values for the parameters indicated in [Table 2-8](#).

**Table 2-8. SIP Configuration Parameters**

Web Page Item	Description
Enable SIP Operation	Enables or disables SIP operation.
<b>SIP Settings</b>	
SIP Server	Type the SIP server represented as either a numeric IP address in dotted decimal notation or the fully qualified host name (255 character limit [FQDN]).
Backup SIP Server 1 Backup SIP Server 2	<ul style="list-style-type: none"> <li>• If all of the <b>SIP Server</b> and <b>Backup SIP Server</b> fields are populated, the device will attempt to stay registered with all three servers all of the time. You can leave the <b>Backup SIP Server 1</b> and <b>Backup SIP Server 2</b> fields blank if they are not needed.</li> <li>• In the event of a registration failure on the <b>Primary SIP Server</b>, the device will use the next highest priority server for outbound calls (<b>Backup SIP Server 1</b>). If <b>Backup SIP Server 1</b> fails, the device will use <b>Backup SIP Server 2</b>.</li> <li>• If a higher priority SIP Server comes back online, the device will switch back to this server.</li> </ul>
Use Cisco SRST	When selected, the backup servers are handled according to Cisco SRST (Survivable Remote Site Telephony).
Remote SIP Port	Type the <b>Remote SIP Port</b> number (default 5060) (5 character limit [values from 1 to 65535]).
Local SIP Port	Type the <b>Local SIP Port</b> number (default 5060) (5 character limit [values from 2000 to 65535]).
Outbound Proxy	Type the Outbound Proxy as either a numeric IP address in dotted decimal notation or the fully qualified host name (255 character limit [FQDN]).
Outbound Proxy Port	Type the Outbound Proxy Port number (5 character limit [values from 1 to 65535]).
SIP User ID	Type the <b>SIP User ID</b> (up to 64 alphanumeric characters).
Authenticate ID	Type the <b>Authenticate ID</b> (up to 64 alphanumeric characters).
Authenticate Password	Type the <b>Authenticate Password</b> (up to 64 alphanumeric characters).
Register with a SIP Server	Enable or disable SIP Registration.
Re-registration Interval (in seconds)	Type the SIP Registration lease time in seconds (default is 60 minutes) (4 character limit [values from 30 to 3600]). Re-registration Interval (in seconds)
Unregister on Reboot	When selected, on boot, the device will first register with a SIP server with a expiration delay of 0 seconds. This has the effect of unregistering any current devices on this extension.
Disable rport Discovery	Prevents the device from including the public WAN IP address in the contact information sent to remote SIP servers. This will generally only need to be enabled when using an SBC in conjunction with a remote SIP server.

**Table 2-8. SIP Configuration Parameters (continued)**

Web Page Item	Description
Buffer SIP Calls	<p>When this is enabled, SIP calls to the device will be stored in memory and will play when either the call is terminated or the buffer is full. The receive buffer is 2MB in size and this is equal to about four minutes of ulaw encoded audio.</p> <p><b>Note:</b> Please be advised that it is not possible to pass DTMF tones through the device when both <b>Buffer SIP Calls</b> (on the <a href="#">SIP Configuration Page</a>) and <b>Enable Line In to Line Out Loopback</b> (on the <a href="#">Device Configuration Page</a>) are enabled.</p>
<b>Call Disconnection</b>	
Terminate call after delay (in seconds)	<p>Type the desired number of seconds that you want to transpire after a connection delay before a call is terminated.</p> <p><b>Note:</b> A value of <b>0</b> will disable this function.</p>
<b>Misc Settings</b>	
RTP Port (even)	Specify the port number used for the RTP stream after establishing a SIP call. This port number has to be an even number and defaults to 10500 (values from 2000 to 65534).
	<p>Click the <b>Save</b> button to save your configuration settings.</p> <p><b>Note:</b> You need to reboot for changes to take effect.</p>
	Click on the <b>Reboot</b> button to reboot the system.

1. Enter the IP address of the **SIP Server**.
2. Enter the port numbers used for SIP signaling:
  - a. **Remote SIP Port**
  - b. **Local SIP Port**
3. Enter the SIP registration parameters:
  - a. **SIP User ID**
  - b. **Authenticate ID**
  - c. **Authenticate Password**
4. For **SIP Registration**, designate whether you want the SIP Paging Adapter to register with your SIP server.
5. At **Unregister on Reboot**:
  - a. Select **Yes** to automatically unregister the SIP Paging Adapter when you reboot it.
  - b. Select **No** to keep the SIP Paging Adapter registered when you reboot it.
6. In the **Register Expiration** field, enter the number of seconds the SIP Paging Adapter registration lease remains valid with the SIP Server. The SIP Paging Adapter automatically re-registers with the SIP server before the lease expiration timeout.

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

## 2.6.7 Configure the Multicast Parameters

Multicast groups use multicasting to create public address paging zones. Multicasting is based on the concept of a group. Multicast addresses specify an arbitrary group of IP hosts that have joined the group and want to receive traffic sent to the group. Group members send IGMP messages to their local multicast routers, allowing the group traffic traversal from the source.

The **Multicast Configuration** page allows the device to join up to 10 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 devices 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 three. The device supports simultaneous SIP and Multicast.

1. Click on the **Multicast Configuration** button to open the **Multicast Configuration** page. See [Figure 2-15](#).

**Figure 2-15. Multicast Configuration Page**

**CyberData SPA**

**Multicast Configuration**

Enable Multicast operation: ☐

Priority	Address	Port	Name	Buffer	Beep
9	239.168.3.10	11000	Emergency	<input type="checkbox"/>	<input type="checkbox"/>
8	239.168.3.9	10000	MG8	<input type="checkbox"/>	<input type="checkbox"/>
7	239.168.3.8	9000	MG7	<input type="checkbox"/>	<input type="checkbox"/>
6	239.168.3.7	8000	MG6	<input type="checkbox"/>	<input type="checkbox"/>
5	239.168.3.6	7000	MG5	<input type="checkbox"/>	<input type="checkbox"/>
SIP calls are considered priority 4.5					
4	239.168.3.5	6000	MG4	<input type="checkbox"/>	<input type="checkbox"/>
3	239.168.3.4	5000	MG3	<input type="checkbox"/>	<input type="checkbox"/>
2	239.168.3.3	4000	MG2	<input type="checkbox"/>	<input type="checkbox"/>
1	239.168.3.2	3000	MG1	<input type="checkbox"/>	<input type="checkbox"/>
0	239.168.3.1	2000	Background Music	<input type="checkbox"/>	<input type="checkbox"/>

Polycom Default Channel:

Polycom Priority Channel:



Polycom Emergency Channel:

Port range can be from 2000-65534  
Priority 9 is the highest and 0 is the lowest  
A higher priority audio stream will always supercede a lower one

\* You need to reboot for changes to take effect

2. On the **Multicast Configuration** page, enter values for the parameters indicated in [Table 2-9](#).

**Table 2-9. Multicast Configuration Parameters**

Web Page Item	Description
Enable Multicast Operation	Enables or disables multicast operation.
<b>Device Settings</b>	
Priority	Indicates the priority for the multicast group. Priority <b>9</b> is the highest (emergency streams). <b>0</b> is the lowest (background music). SIP calls are considered priority <b>4.5</b> . See <a href="#">Section 2.6.7.1, "Assigning Priority"</a> 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). <b>Note:</b> The range can be from 2000 to 65535.
Name	Assign a descriptive name for this multicast group (25 character limit).
Buffer	When this is enabled, multicast pages to the device will be stored in memory and will play when either the page is terminated or the buffer is full. The receive buffer is 2MB in size and this is equal to about four minutes of ulaw encoded audio.
Beep	When selected, the device will play a beep before multicast audio is sent.
Polycom Default Channel	When a default Polycom channel/group number is selected, the SIP Paging Adapter will subscribe to the default channel for one-way group pages. Group Numbers 1-25 are supported. Or, select <b>Disabled</b> to disable this channel.
Polycom Priority Channel	When a priority Polycom channel/group number is selected, the SIP Paging Adapter will subscribe to the priority channel for one-way group pages. Group Numbers 1-25 are supported. Or, select <b>Disabled</b> to disable this channel.
Polycom Emergency Channel	When an emergency Polycom channel/group number is selected, the SIP Paging Adapter will subscribe to the default channel for one-way group pages. Group Numbers 1-25 are supported. Or, select <b>Disabled</b> to disable this channel.
	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.

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



### 2.6.7.1 Assigning Priority

When playing multicast streams, audio on different streams will preempt each other according to their priority in the list. An audio stream with a higher priority will interrupt a stream with a lower priority.

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**.

**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.
------------------------------	--

### 2.6.7.2 Polycom Paging

Page your entire paging infrastructure, including legacy analog paging systems, using Polycom IP phones and a CyberData SIP Paging Adapter. Simultaneously paging your IP phones and overhead speakers can be as simple as pressing the Paging soft key on a Polycom IP phone.

The Polycom Paging feature is supported on Polycom IP phones using UC Software 4.0.0 and higher. The Polycom paging feature operates in two modes: Push-to-Talk (PTT) and Group Paging. Only Group Paging mode pages are supported by the SIP Paging Adapter.

Polycom phones use the same multicast IP address and port number for both PTT and Group Paging multicasts. Make sure to note the Polycom multicast IP address and port number before configuring the CyberData SIP Paging Adapter. Polycom phones use a default multicast IP address of 224.0.1.116 and odd-numbered port 5001.

While the same multicast IP address and port number is used for all Polycom pages in both modes, Polycom uses numbered "groups" or "channels" to differentiate between each paging group. Each "group" or "channel" is numbered 1 through 25.

The SIP Paging Adapter can subscribe to Group Numbers 1 through 25 for Group Paging one-way audio pages. You may configure up to three group numbers or "channels", which are labeled **Polycom Default Channel**, **Polycom Priority Channel**, and **Polycom Emergency Channel** on the **Multicast Configuration Page**. Each of the three available channels can be disabled.

It is important to note the SIP Paging Adapter assigns a priority to each multicast group, as referenced in [Section 2.6.7.2, "Polycom Paging"](#). Polycom priority assignments by channel are ignored.

When configuring Polycom phones for their Group Paging feature, be sure the following settings are configured:

- Payload Size = 20 ms (milliseconds)
- Codec = G.711Mu

The SIP Paging Adapter supports Polycom Group Paging multicasts that are G.711Mu encoded with a payload size of 20 ms.

Use the following steps to configure Polycom Group Paging on the SIP Paging Adapter:

1. Identify the Polycom multicast IP address and port number used by the Polycom phones.

2. Check the box to **Enable Multicast Operation** on the **Multicast Configuration Page**.
3. Choose a priority group and enter the Polycom IP address and port number into the **Priority**, **Address**, and **Port** fields on the **Multicast Configuration Page**.
4. Select up to three channel/group numbers for Group Paging subscriptions at the bottom of the **Multicast Configuration Page**.
5. Save and reboot to store changes.

## 2.6.8 Configure the Night Ringer Parameters

1. Click on the **Nightringer** button to open the **Nightringer Configuration** page. See [Figure 2-16](#).

**Figure 2-16. Nightringer Configuration Page**

**CyberData SPA**

**Nightringer Configuration**

Enable Nightringer: ☐ (NOT Registered with SIP Server)

Nightringer Settings



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

\* You need to reboot for changes to take effect

2. On the **Nightringer Configuration** page, enter values for the parameters indicated in [Table 2-10](#).

**Table 2-10. Nightringer Configuration Parameters**

Web Page Item	Description
Enable Nightringer	When the nightringer is enabled, the unit will attempt to register a second extension with the SIP server. Any calls made to this extension will play a ringtone.
<b>Nightringer Settings</b>	
SIP Server	Type the SIP server represented as either a numeric IP address in dotted decimal notation.
Remote SIP Port	Type the Remote SIP Port number (default 5060) (5 character limit [values from 1 to 65535]).
Local SIP Port	Type the Local SIP Port number (default 5061) (5 character limit [values from 2000 to 65535]). <b>Note:</b> This value cannot be the same as the <a href="#">Local SIP Port</a> found on the <a href="#">SIP Configuration Page</a> .
User ID	Type the <b>User ID</b> (up to 64 alphanumeric characters).
Authenticate ID	Type the <b>Authenticate ID</b> (up to 64 alphanumeric characters).
Authenticate Password	Type the <b>Authenticate Password</b> (up to 64 alphanumeric characters).
Re-registration Interval (in seconds)	Type the SIP Registration lease time in seconds (default is 60 minutes) (4 character limit [values from 30 to 3600]). Re-registration Interval (in seconds)
	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.

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

## 2.6.9 Configure the Fault Detection Parameters

1. Click on the **Fault Detection** button to open the **Fault Detection Configuration** page. See [Figure 2-17](#).

Figure 2-17. Fault Detection Configuration Page

**CyberData SPA**

**Fault Detection**

Triggered Settings

Play Audio Locally: ☐

Play while active: ☐

Play fixed number: ☒

Repeats:  \*\*

Make call to extension: ☐

Dial Out Extension:




Dial Out ID:

\* You need to reboot for changes to take effect

\*\* How many times the file playback will repeat. 0 means the file will play once. 1 means the file will play twice (repeat once)

- On the **Fault Detection Configuration** page, enter values for the parameters indicated in [Table 2-11](#).

**Table 2-11. Fault Detection Configuration Parameters**

Web Page Item	Description
<b>Triggered Settings</b>	
Play Audio Locally	When selected, when the sensor is triggered, the audio file for "Sensor Triggered" will play out of the line-out and 600-Ohm connectors.
Play while active	The device will play the fault detection message while the fault is active.
Play fixed number	The device will play the fault detection message a fixed number of times when the fault is activated, regardless of activation duration.
Repeats	Type how many times the file playback will repeat. <b>0</b> means that the file will play once. <b>1</b> means that the file will play twice (repeat once).
Make call to extension	When selected, when the sensor is triggered, the SIP Paging Adapter will call the <a href="#">Dial Out Extension</a> and play the "Sensor Triggered" audio file when someone answers.
Dial Out Extension	Enter the Dial Out Extension that you want the SIP Paging Adapter to call when the sensor is triggered.
Dial Out ID	Enter the caller ID for <a href="#">Dial Out Extension</a> .
	Click on the <b>Test Fault</b> button to test the fault detection feature.
	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.

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

## 2.6.10 Configure the Audio Parameters

Click on the **Audio Config** button to open the **Audio Configuration** page. See [Figure 2-18](#). The **Audio Configuration** page is used to add custom audio to the board. User uploaded audio will take precedence over the audio files shipped with the device.

**Figure 2-18. Audio Configuration Page**

**CyberData SPA**

**Audio Configuration**

Available Space = 14.92MB

**Stored Messages**

**Stored Message 1:** Currently set to default

New File:  No file selected.

Repeat:  \*

Infinite: ☐ \*

**Stored Message 2:** Currently set to default

New File:  No file selected.

Repeat:  \*

Infinite: ☐ \*

**Stored Message 3:** Currently set to default

New File:  No file selected.

Repeat:  \*

Infinite: ☐ \*

**Stored Message 4:** Currently set to default

New File:  No file selected.

Repeat:  \*

Infinite: ☐ \*

**Stored Message 5:** Currently set to default

New File:  No file selected.

Repeat:  \*

Infinite: ☐ \*

**Figure 2-19. Audio Configuration Page (continued)**

The screenshot displays the 'Audio Configuration Page (continued)' with a light blue background and a dark blue border. It is divided into two main sections: 'Stored Messages' and 'Audio Files'.

**Stored Messages Section:**

- Stored Message 6:** Currently set to default. Fields: New File:  No file selected.; Repeat:  \*; Infinite: ☐ \*. Buttons: , , .
- Stored Message 7:** Currently set to default. Fields: New File:  No file selected.; Repeat:  \*; Infinite: ☐ \*. Buttons: , , .
- Stored Message 8:** Currently set to default. Fields: New File:  No file selected.; Repeat:  \*; Infinite: ☐ \*. Buttons: , , .
- Stored Message 9:** Currently set to default. Fields: New File:  No file selected.; Repeat:  \*; Infinite: ☐ \*. Buttons: , , .

**Audio Files Section:**

- 0:** Currently set to default. Field: New File:  No file selected.; Buttons: , , .
- 1:** Currently set to default. Field: New File:  No file selected.; Buttons: , , .
- 2:** Currently set to default. Field: New File:  No file selected.; Buttons: , , .
- 3:** Currently set to default. Field: New File:  No file selected.; Buttons: , , .



**Figure 2-20. Audio Configuration Page (continued)**

<b>4:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>5:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>6:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>7:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>8:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>9:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Dot:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Audio test:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Page tone:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Your IP Address is:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected.	<input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>

Figure 2-21. Audio Configuration Page (continued)

<b>Rebooting:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Restoring Default:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Sensor Triggered:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Night Ring:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>

**Menu Audio Files**

<b>Cancel:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Currently Playing:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Fault Detection Message:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Invalid Entry:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Page:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>
<b>Play Stored Message:</b> Currently set to default New File: <input type="button" value="Browse..."/> No file selected. <input type="button" value="Play"/> <input type="button" value="Delete"/> <input type="button" value="Save"/>

**Figure 2-22. Audio Configuration Page (continued)**

**Pound (#):** Currently set to default  
New File:  No file selected.

**Press:** Currently set to default  
New File:  No file selected.

**Stored Message:** Currently set to default  
New File:  No file selected.

**Through:** Currently set to default  
New File:  No file selected.

**To:** Currently set to default  
New File:  No file selected.

**Enter Zone:** Currently set to default  
New File:  No file selected.

*\* If repeat/infinite values are changed, device must be rebooted for those changes to take effect*






On the **Audio Configuration** page, enter values for the parameters indicated in [Table 2-12](#).

**Note** Each entry on the **Audio Configuration** page replaces one of the stock audio files on the board. When the input box displays the word **default**, the SIP Paging Adapter is using the stock audio file. If that file is replaced with a user file, it will display the uploaded filename.

**Table 2-12. Audio Configuration Parameters**

Web Page Item	Description
<b>Stored Messages</b>	Stored Messages are user-uploadable messages that the caller can choose to play by pressing 1 through 9 on a phone keypad <u>after calling the device</u> .
Stored Message 1 through 9	<p><b>Stored Message 1</b> corresponds to the message played after pressing <b>1</b> on a phone keypad.</p> <p><b>Stored Message 2</b> corresponds to the message played after pressing <b>2</b> on a phone keypad.</p> <p><b>Stored Message 3</b> corresponds to the message played after pressing <b>3</b> on a phone keypad.</p> <p><b>Stored Message 4</b> corresponds to the message played after pressing <b>4</b> on a phone keypad.</p> <p><b>Stored Message 5</b> corresponds to the message played after pressing <b>5</b> on a phone keypad.</p> <p><b>Stored Message 6</b> corresponds to the message played after pressing <b>6</b> on a phone keypad.</p> <p><b>Stored Message 7</b> corresponds to the message played after pressing <b>7</b> on a phone keypad.</p> <p><b>Stored Message 8</b> corresponds to the message played after pressing <b>8</b> on a phone keypad.</p> <p><b>Stored Message 9</b> corresponds to the message played after pressing <b>9</b> on a phone keypad.</p>
Repeat	Type the number of times that you want the specific <b>Stored Message</b> to repeat. A value of <b>0</b> means the message will play once (no repeat). A value of <b>1</b> means the message will play twice (one repeat).
Infinite	When selected, the specific <b>Stored Message</b> will repeat indefinitely after pressing the specific number key on a phone keypad.
<b>Audio Files</b>	The name of the audio configuration option is the same as the spoken audio that plays on the board (24 character limit).
0-9	<p><b>0</b> corresponds to the spoken word “zero.”</p> <p><b>1</b> corresponds to the spoken word “one.”</p> <p><b>2</b> corresponds to the spoken word “two.”</p> <p><b>3</b> corresponds to the spoken word “three.”</p> <p><b>4</b> corresponds to the spoken word “four.”</p> <p><b>5</b> corresponds to the spoken word “five.”</p> <p><b>6</b> corresponds to the spoken word “six.”</p> <p><b>7</b> corresponds to the spoken word “seven.”</p> <p><b>8</b> corresponds to the spoken word “eight.”</p> <p><b>9</b> corresponds to the spoken word “nine.”</p>
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).
Page tone	Corresponds to a simple tone that is unused by default (24 character limit).
Your IP Address is	Corresponds to the message “Your IP address is...” (24 character limit).
Rebooting	Corresponds to the message “Rebooting” (24 character limit).
Restoring default	Corresponds to the message “Restoring default” (24 character limit).

**Table 2-12. Audio Configuration Parameters (continued)**

<b>Web Page Item</b>	<b>Description</b>
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 <b>Ring Tone</b> parameter.
<b>Menu Audio Files</b>	<b>Menu Audio Files</b> 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).
Fault Detection Message	Corresponds to the words "Fault Detection Message" 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).
Enter Zone	Corresponds to the words "Enter Zone" used in the audio menu played to the caller. (24 character limit).
	The <b>Browse</b> button will allow you to navigate to and select an audio file.
	The <b>Play</b> button will play that audio file.
	The <b>Delete</b> button will delete any user uploaded audio and restore the stock audio file.
	The <b>Save</b> button will download a new user audio file to the board once you've selected the file by using the <b>Choose File</b> button. The <b>Save</b> button will delete any pre-existing user-uploaded audio files.
	Click on the <b>Reboot</b> button to reboot the system.

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

## 2.6.10.1 User-created Audio Files

User-created audio files must be saved in one of the following formats:

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

**Note** These audio format restrictions are enforced by the webpage.

You can use the free utility *Audacity* to convert audio files into this format. See [Figure 2-23](#) through [Figure 2-25](#).

**Figure 2-23. Audacity 1**

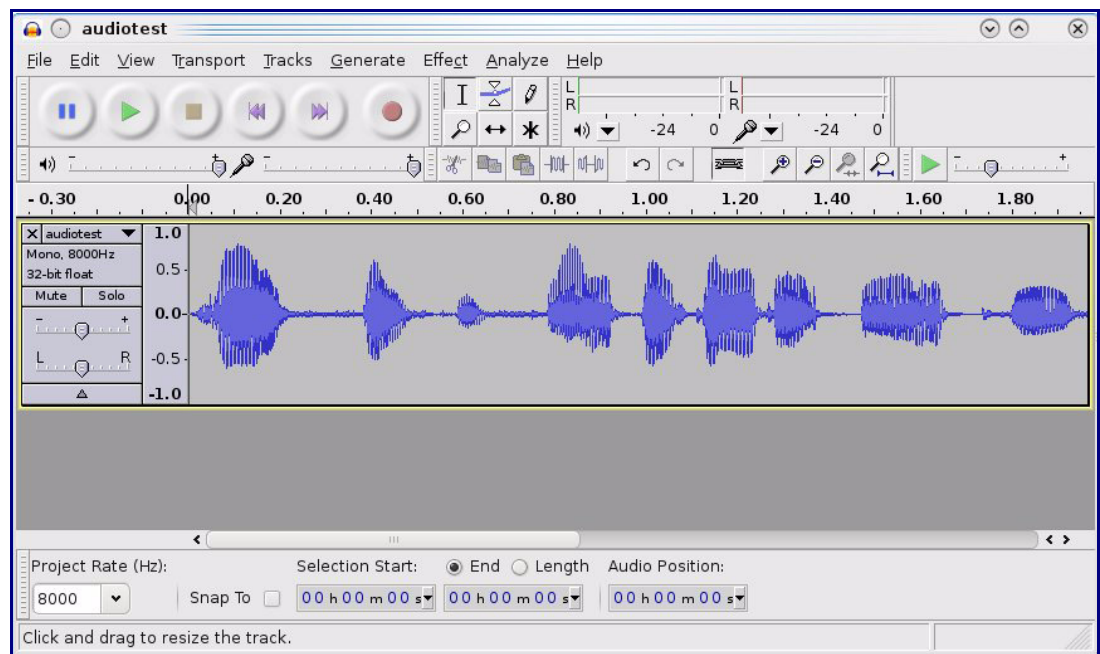



Figure 2-24. Audacity 2

 **Edit Metadata** ⌵ ⬆ ✕

Use arrow keys (or RETURN key after editing) to navigate fields.

Tag Name	Tag Value
Artist Name	
Track Title	
Album Title	
Track Number	
Year	
Genre	
Comments	

Add

Remove

Clear

Genres

Template


Edit...


Reset...

Load...

Save...

Set Default

 Cancel

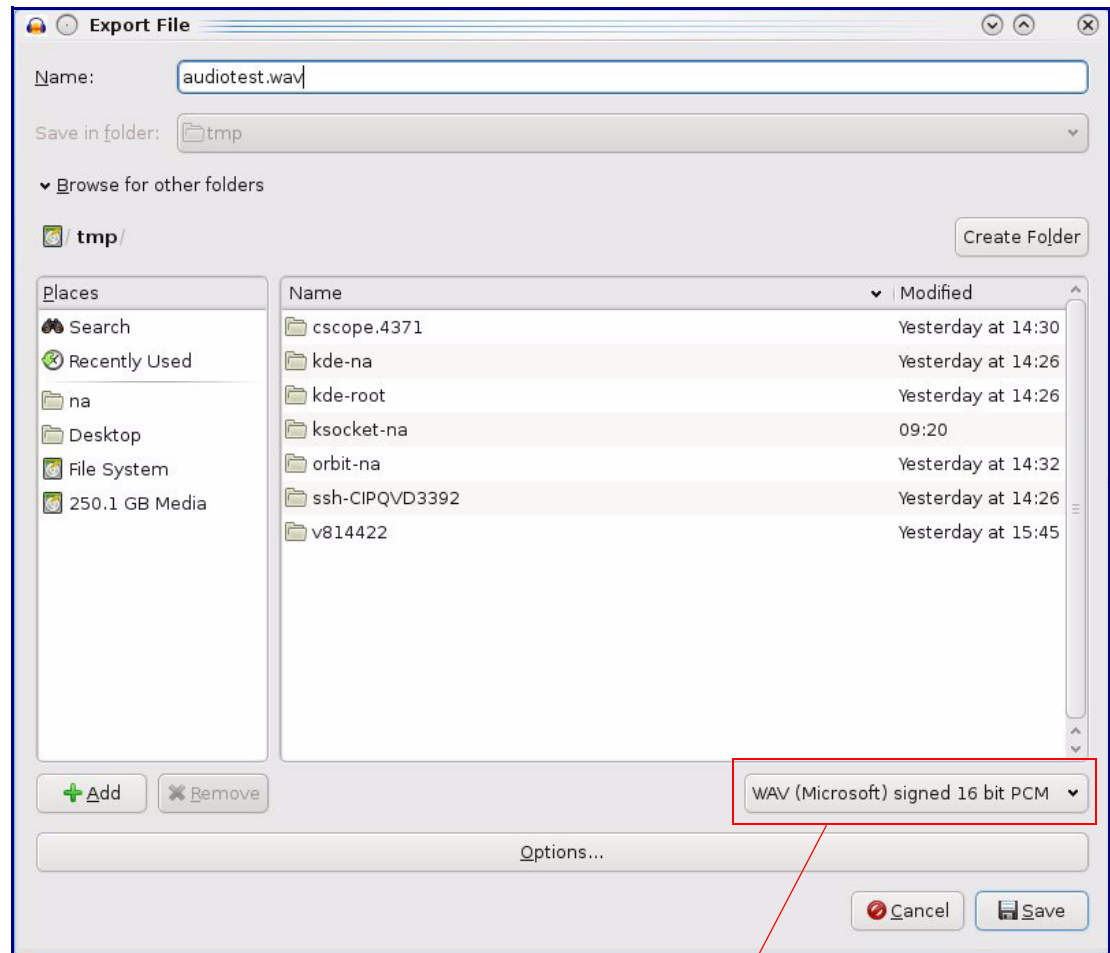
 OK

When you export an audio file with Audacity, save the output as:

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

**Note** The file name cannot contain spaces or special characters.

**Figure 2-25. WAV (Microsoft) signed 16 bit PCM**



WAV (Microsoft) signed 16 bit PCM



## 2.6.11 Configure the Event Parameters

Click on the **Event Config** button to open the **Event Configuration** page (Figure 2-26). The **Event Configuration** page specifies a remote server that can be used to receive HTTP POST events when actions take place on the board.

Figure 2-26. Event Configuration Page

**CyberData SPA**

**Event Configuration**

Enable Event Generation: ☐

Remote Event Server

Remote Event Server IP: 10.0.0.250

Remote Event Server Port: 8080

Remote Event Server URL: xmlparse\_engine

Events

Enable Call Active Events: ☐

Enable Call Terminated Events: ☐

Enable Relay Activated Events: ☐

Enable Relay Deactivated Events: ☐

Enable Night Ring Events: ☐

Enable Multicast Start Events: ☐

Enable Multicast Stop Events: ☐

Enable Power on Events: ☐

Enable Security Events: ☐




Enable 60 second Heartbeat Events: ☐

\* You need to reboot for changes to take effect

Save Test Event Reboot

Table 2-13 shows the web page items on the **Event Configuration** page.

**Table 2-13. Event Configuration**

Web Page Item	Description
Enable Event Generation	When selected, Event Generation is enabled.
<b>Remote Event Server</b>	
Remote Event Server IP	Type the Remote Event Server IP address. (64 character limit)
Remote Event Server Port	Type the Remote Event Server port number. (8 character limit)
Remote Event Server URL	Type the Remote Event Server URL. (127 character limit)
<b>Events</b>	
Enable Call Active Events	When selected, Call Active Events are enabled.
Enable Call Terminated Events	When selected, Call Terminated Events are enabled.
Enable Relay Activated Events	When selected, Relay Activated Events are enabled.
Enable Relay Deactivated Events	When selected, Relay Deactivated Events are enabled.
Enable Night Ring Events	When selected, there is a notification when the unit receives a night ring.
Enable Multicast Start Events	When selected, Multicast Start Events are enabled.
Enable Multicast Stop Events	When selected, Multicast Stop Events are enabled.
Enable Power On Events	When selected, Power On Events are enabled.
Enable Security Events	When selected, Security Events are enabled.
Enable 60 Second Heartbeat Events	When selected, 60 Second Heartbeat Events are enabled.
	Click on 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>Test Event</b> button to test an event.
	Click on the <b>Reboot</b> button to reboot the system.

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

### 2.6.11.1 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 VoIP 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 VoIP 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 VoIP 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 VoIP 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 VoIP 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 VoIP 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 VoIP 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 VoIP 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 VoIP 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 VoIP 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 VoIP Device' MAC='0020f70015b6'>
<event>NIGHTRINGING</event>
</cyberdata>
```

## 2.6.12 Configure the Autoprovisioning Parameters

1. Click on the **Autoprovisioning** button to open the **Autoprovisioning Configuration** page.  
See [Figure 2-27](#).

Figure 2-27. Autoprovisioning Configuration Page

**CyberData SPA**

**Autoprovisioning**

Autoprovisioning

Disable Autoprovisioning: ☐

Autoprovisioning Server:

Autoprovisioning Filename:

Use TFTP: ☐

Autoprovisioning autoupdate (in minutes):

Autoprovision at time (HHMMSS):

Autoprovision when idle (in minutes > 10):

Get Autoprovisioning Template

Clock

NTP Server:

Posix Timezone String (see manual):

Set Time with external NTP server on boot: ☐

Periodically update with time server: ☐

Time update period (in hours):

Set time from NTP Server

Current Time

Current Time (UTC) in 24 hour format (HHMMSS):

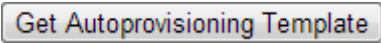
Set Time

See the manual to learn how to use autoprovisioning to configure your device.  
Autoprovisioning happens on boot. The device will first look for a configured server address and filename. If these haven't been configured, it will look for an autoprovisioning server in your list of DHCP options and try to download '0020f7029574.xml' and if this fails, '000000cd.xml'.





Save Reboot

2. On the **Autoprovisioning Configuration** page, you may enter values for the parameters indicated in [Table 2-14](#).

**Table 2-14. Autoprovisioning Configuration Parameters**

Web Page Item	Description
<b>Autoprovisioning</b>	
Disable Autoprovisioning	Prevent the device from automatically trying to download a configuration file. See <a href="#">Section 2.6.12.1, "Autoprovisioning"</a> for more information.
Autoprovisioning Server	Enter the IPv4 address of the provisioning server in dotted decimal notation.
Autoprovisioning Filename	<p>The autoprovisioning filename is the configuration filename. The default autoprovisioning filename is in the format of <b>&lt;mac address&gt;.xml</b>.</p> <p>Supported filename extensions are .txt, and .xml. The current filename is denoted by an asterisk at the bottom of the <a href="#">Autoprovisioning Configuration Page</a>. Enter up to 256 characters.</p> <p>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.</p>
Use tftp	The device will use TFTP (instead of http) to download autoprovisioning files.
Autoprovisioning Autoupdate (in minutes)	<p>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.</p> <p><b>Note:</b> To use the auto update options, enable the <a href="#">Set Time with NTP Server on boot</a> setting on the <a href="#">Device Configuration Page</a> (see <a href="#">Table 2-6</a>).</p>
Autoprovision at time (HHMMSS)	<p>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.</p> <p><b>Note:</b> To use the auto update options, enable the <a href="#">Set Time with NTP Server on boot</a> setting on the <a href="#">Device Configuration Page</a> (see <a href="#">Table 2-6</a>).</p>
Autoprovision when idle (in minutes > 10)	<p>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.</p> <p><b>Note:</b> To use the auto update options, enable the <a href="#">Set Time with NTP Server on boot</a> setting on the <a href="#">Device Configuration Page</a> (see <a href="#">Table 2-6</a>).</p>
	Press the <b>Get Autoprovisioning Template</b> button to create an autoprovisioning file for this unit. See <a href="#">Section 2.6.12.3, "Get Autoprovisioning Template Button"</a>
<b>Clock</b>	
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.

**Table 2-14. Autoprovisioning Configuration Parameters (continued)**

Web Page Item	Description
Posix Timezone String	See <a href="#">Section 2.6.12.4, "Time Zone Strings"</a> 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.
Set Time with NTP Server on boot	When selected, the time is set with an external NTP server when the device restarts.
Periodically update with time 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.
	Allows you to set the time from the NTP server.
<b>Current Time</b>	
Current Time (UTC) in 24 hour format (HHMMSS)	Allows you to input the current time in the 24 hour format. (6 character limit)
	Click on this button to set the clock after entering the current time.
	Click on 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.

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

### 2.6.12.1 Autoprovisioning

On boot, the device will look for an autoprovisioning server configured on the [Autoprovisioning Configuration 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 2.6.12.2, "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 Configuration Page](#) using the **Download Template** button (see [Table 2-14](#)). 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 VoIP Intercom</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](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 2-15. Autoprovisioning File Name**

<b>Autoprovisioning Filename</b>	<b>Autoprovisioning Server</b>	<b>File Downloaded</b>
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 <FirmwareSettings>
Firmware Updates <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-ulmage-[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.

## 2.6.12.2 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; }
```



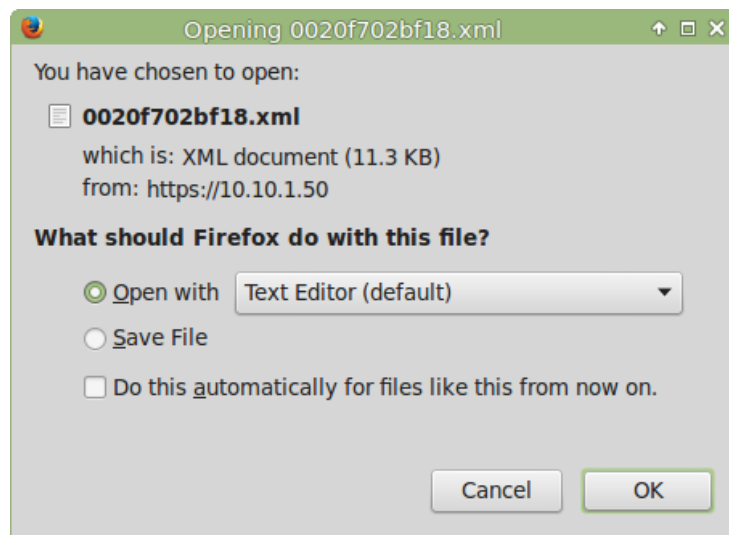
### 2.6.12.3 Get Autoprovisioning Template Button

The **Get Autoprovisioning 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 **Get Autoprovisioning Template** button.
2. You will see a window prompting you to save a configuration file (.xml) to a location on your computer (Figure 2-28). 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 2-28.

**Figure 2-28. 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.

## 2.6.12.4 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 2-16](#) shows some common strings.

**Table 2-16. 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 <sup>a</sup>	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 2-17](#) 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 2-17. 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 2-18](#) has some more examples of time zone strings.

**Table 2-18. Time Zone String Examples**

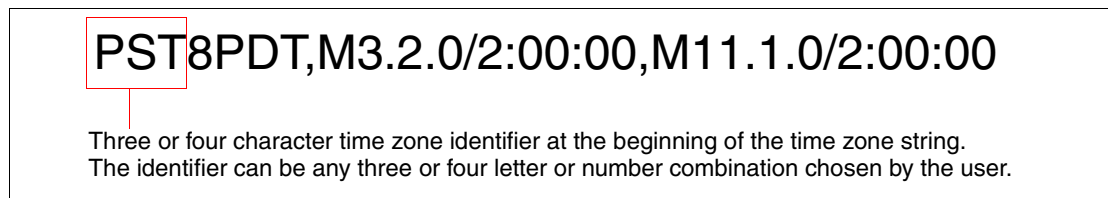
Time Zone	Time Zone String
Tokyo <sup>a</sup>	IST-9
Berlin <sup>b</sup>	CET-1MET,M3.5.0/1:00,M10.5.0/1:00

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 2-29. 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 2-19](#) has information about the GMT time in various time zones.

**Table 2-19. 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

**Table 2-19. World GMT Table (continued)**

<b>Time Zone</b>	<b>City or Area Zone Crosses</b>
GMT+1	Berlin, Rome
GMT+2	Israel, Cairo
GMT+3	Moscow, Kuwait
GMT+4	Abu Dhabi, Muscat
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

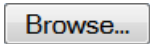
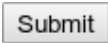
## 2.7 Upgrading the Firmware

1. Click on the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-30](#).

Figure 2-30. Upgrade Firmware Page

Table 2-20 shows the web page items on the **Upgrade Firmware** page.

Table 2-20. Upgrade Firmware Parameters

Web Page Item	Description
<b>File Upload</b>	
Firmware Version	Shows the current firmware version.
Please specify a file	Click on the <b>Choose File</b> button to navigate to the application firmware file that you want to upload.
	The <b>Browse</b> button will allow you to navigate to and select an application firmware file.
	Click on the <b>Submit</b> button to automatically upload the selected firmware and reboot the system.

## 2.7.0.1 Upgrade the Firmware

To upload the firmware from your computer:

1. Retrieve the latest SIP Paging Adapter firmware from the SIP Paging Adapter **Downloads** page at:  
<http://www.cyberdata.net/products/voip/legacyanalog/sippagingadapter/downloads.html>
2. Unzip the SIP Paging Adapter version file. This file may contain the following:
  - Firmware file
  - Release notes
3. Log in to the SIP Paging Adapter home page as instructed in [Section 2.6.3, "Log in to the Configuration GUI"](#).
4. Click on the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-30](#).
5. Click **Browse**, and then navigate to the location of the SIP Paging Adapter firmware file.
6. Click **Submit**.

**Note** This starts the upload process. Once the SIP Paging Adapter has uploaded the file, the **Uploading Firmware** countdown page appears, indicating that the firmware is being written to flash. The SIP Paging Adapter 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).

## 2.7.1 Reboot the SIP Paging Adapter

To reboot a SIP Paging Adapter, log in to the web page as instructed in [Section 2.6.3, "Log in to the Configuration GUI"](#).

1. Click **Reboot** ([Figure 2-31](#)). A normal restart will occur.

**Figure 2-31. Home Page**

**CyberData SPA**

**Home**  
**Device Config**  
**Networking**  
**SIP Config**  
**Multicast Config**  
**Nightringer**  
**Fault Detection**  
**Audio Config**  
**Event Config**  
**Autoprovisioning**  
**Update Firmware**

**Device Settings**

Device Name: CyberData SPA

Change Username: admin

Change Password:

Re-enter Password:

**Current Settings**

Serial Number: 233000735  
Mac Address: 00:20:f7:02:95:74  
Firmware Version: v7.3.0

IP Addressing: dhcp  
IP Address: 10.10.1.239  
Subnet Mask: 255.0.0.0  
Default Gateway: 10.0.0.1  
DNS Server 1: 10.0.0.252  
DNS Server 2:

SIP Mode is: enabled  
Multicast Mode is: disabled  
Event Reporting is: disabled  
Nightringer is: disabled (NOT Registered with SIP Server)

Primary SIP Server: (NOT Registered with SIP Server)  
Backup Server 1: (NOT Registered with SIP Server)  
Backup Server 2: (NOT Registered with SIP Server)

**Import/Export Settings**

Please specify a configuration file\*:  
Browse... No file selected. Import Configuration

Export Configuration

\* You need to reboot for changes to take effect

Save Reboot

Reboot

## 2.8 Command Interface

Some functions on the device can be activated using simple POST commands to the web interface. The examples in [Table 2-21](#) use the free unix utility, **wget** **commands**. However, any program that can send HTTP POST commands to the device should work.

### 2.8.1 Command Interface Post Commands

The commands in [Table 2-21](#) require an authenticated session (a valid username and password to work).

**Table 2-21. Command Interface Post Commands**

Device Action	HTTP Post Command <sup>a</sup>
Test relay (fixed at 5 seconds)	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/command.cgi" --post-data "test_relay=yes"
Close relay indefinitely	wget http://10.10.3.71/cgi-bin/command.cgi --user admin --password admin --post-data "activate_relay=yes"
Open relay indefinitely	wget http://10.10.3.71/cgi-bin/command.cgi --user admin --password admin --post-data "deactivate_relay=yes"
Close relay (specified duration)	wget http://10.10.3.71/cgi-bin/command.cgi --user admin --password admin --post-data "kick_relay=X" (Replace X with a numerical value from 1-65535. If value is invalid, relay will close for 5 seconds)
Terminate active call	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/command.cgi" --post-data "terminate=yes"
Stop current playback <sup>b</sup>	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/command.cgi" --post-data "stop_playback=yes"
Force reboot	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/command.cgi" --post-data "reboot=yes"
Play "audio test message"	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/command.cgi" --post-data "test_audio=yes"
Announce IP address	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://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 --quiet -O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_0=yes"
Play the "1" audio file	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_1=yes"
Play the "2" audio file	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_2=yes"



**Table 2-21. Command Interface Post Commands (continued)**

Play the "3" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_3=yes"
Play the "4" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_4=yes"
Play the "5" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_5=yes"
Play the "6" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_6=yes"
Play the "7" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_7=yes"
Play the "8" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_8=yes"
Play the "9" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_9=yes"
Play the "Dot" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_d=yes"
Play the "Page Tone" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_pagetone=yes"
Play the "Your IP Address Is" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_youripaddressis=yes"
Play the "Rebooting" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_rebooting=yes"
Play the "Restoring Default" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_restoringdefault=yes"
Play the "Sensor Triggered" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_sensortriggered=yes"
Play the "Night Ring" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_nightring=yes"
Play the "Stored Message "1" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_stored_1=yes"
Play the "Stored Message "2" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_stored_2=yes"

**Table 2-21. Command Interface Post Commands (continued)**

Play the "Stored Message "3" audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_stored_3=yes"
Play the "Stored Message "4" audio file	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_stored_4=yes"
Play the "Stored Message "5" audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_stored_5=yes"
Play the "Stored Message "6" audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_stored_6=yes"
Play the "Stored Message "7" audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_stored_7=yes"
Play the "Stored Message "8" audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_stored_8=yes"
Play the "Stored Message "9" audio file	wget --user admin --password admin --auth-no- challenge --quiet -
Play the "Cancel" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_cancel=yes"
Play the "Currently Playing" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_currentlyplaying=yes"
Play the "Fault Detection Message" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_faultdetectionmessage=yes"
Play the "Invalid Entry" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet -O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_invalidentry=yes"
Play the "Page" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_page=yes"
Play the "Play Stored Message" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_playstoredmessage=yes"
Play the "Pound (#)" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_pound=yes"
Play the "Press" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_press=yes"
Play the "Stored Message" menu audio file	wget --user admin --password admin --auth-no- challenge --quiet - O /dev/null "http://10.0.3.71/cgi- bin/audioconfig.cgi" --post-data "play_menu_storedmessage=yes"

**Table 2-21. Command Interface Post Commands (continued)**

Play the "Through" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_menu_through=yes"
Play the "To" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "play_menu_to=yes"
Delete the "0" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_0=yes"
Delete the "1" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_1=yes"
Delete the "2" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_2=yes"
Delete the "3" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_3=yes"
Delete the "4" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_4=yes"
Delete the "5" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_5=yes"
Delete the "6" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_6=yes"
Delete the "7" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_7=yes"
Delete the "8" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_8=yes"
Delete the "9" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_9=yes"
Delete the "Audio Test" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_audiotest=yes"
Delete the "Page Tone" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_pagetone=yes"
Delete the "Your IP Address Is" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_youripaddressis=yes"
Delete the "Rebooting" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_rebooting=yes"

**Table 2-21. Command Interface Post Commands (continued)**

Delete the "Restoring Default" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_restoringdefault=yes"
Delete the "Sensor Triggered" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_sensortriggered=yes"
Delete the "Night Ring" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_nightring=yes"
Delete the "Stored Message "1" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_1=yes"
Delete the "Stored Message "2" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_2=yes"
Delete the "Stored Message "3" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_3=yes"
Delete the "Stored Message "4" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_4=yes"
Delete the "Stored Message "5" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_5=yes"
Delete the "Stored Message "6" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_6=yes"
Delete the "Stored Message "7" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_7=yes"
Delete the "Stored Message "8" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_8=yes"
Delete the "Stored Message "9" audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_stored_9=yes"
Delete the "Cancel" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_cancel=yes"
Delete the "Currently Playing" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_currentlyplaying=yes"
Delete the "Fault Detection Message" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_faultdetectionmessage=yes"
Delete the "Invalid Entry" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_invalidentry=yes"

**Table 2-21. Command Interface Post Commands (continued)**

Delete the "Page" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet - O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_page=yes"
Delete the "Play Stored Message" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet - O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_playstoredmessage=yes"
Delete the "Pound (#)" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet - O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_pound=yes"
Delete the "Press" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet - O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_press=yes"
Delete the "Stored Message" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet - O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_storedmessage=yes"
Delete the "Through" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet - O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_through=yes"
Delete the "To" menu audio file	wget --user admin --password admin --auth-no-challenge --quiet - O /dev/null "http://10.0.3.71/cgi-bin/audioconfig.cgi" --post-data "delete_menu_to=yes"
Trigger the Fault Detection Test (Fault Detection page)	wget --user admin --password admin --auth-nochallenge--quiet - O /dev/null "http://10.0.3.71/cgi-bin/sensorconfig.cgi" --post-data "intrusiontest=yes"

- a. Type and enter all of each http POST command on one line.
- b. This command will only stop the playback of stored audio messages.

# Appendix A: Setting Up a TFTP Server

---

## A.1 Set up a TFTP Server

Autoprovisioning requires a TFTP server for hosting the configuration file.

---

### A.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 `/tftpbboot/` 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 /tftpbboot/your_directory_name
```

---

### A.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 SIP Paging Adapter 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**.

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

# Appendix B: Troubleshooting/Technical Support

---

## B.1 Frequently Asked Questions (FAQ)

Go to the following URL to see CyberData's list of frequently asked questions:

<http://www.cyberdata.net/products/voip/legacyanalog/sippagingadapter/faqs.html>

---

### B.1.1 Documentation

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

<http://www.cyberdata.net/products/voip/legacyanalog/sippagingadapter/docs.html>

## B.2 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>



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## B.3 Warranty

CyberData warrants its product against defects in material or workmanship for a period of two years from the date of purchase. Should the product fail Within Warranty, CyberData will repair or replace the product free of charge. This warranty includes all parts and labor.

Should the product fail Out of the Warranty period, a flat rate repair charge of one half of the purchase price of the product will be assessed. Repairs that are Within Warranty period but are damaged by improper installation, modification, or abuse are deemed Out of Warranty and will be charged at the Out of Warranty rate. A device is deemed Out of Warranty when its purchase date is longer than two years or when the device has been damaged due to human error during installation, modification, or abuse. A replacement unit will be offered at full cost if the device cannot be repaired.

**End of Life Devices** are included under this policy. End of Life devices are devices that are no longer produced or sold. Technical support is still available for these devices. However, no firmware revisions or updates will be provided. If an End of Life device cannot be repaired, the replacement offered may be the current version of the device.

Products shipped to CyberData, both within and out of warranty, are shipped at the expense of the customer. CyberData will pay return shipping charges for repaired products.

CyberData shall not under any circumstances be liable to any person for any special, incidental, indirect or consequential damages, including without limitation, damages resulting from use or malfunction of the products, loss of profits or revenues or costs of replacement goods, even if CyberData is informed in advance of the possibility of such damages.

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### B.3.1 Warranty & RMA Returns within the United States

If service is required, you must contact CyberData Technical Support prior to returning any products to CyberData. Our Technical Support staff will determine if your product should be returned to us for further inspection. If Technical Support determines that your product needs to be returned to CyberData, an RMA number will be issued to you at this point.

Your issued RMA number must be printed on the outside of the shipping box. No product will be accepted for return without an approved RMA number. The product in its original package should be sent to the following address:

CyberData Corporation

3 Justin Court.

Monterey, CA 93940

Attn: RMA "xxxxxx"

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### B.3.2 Warranty & RMA Returns outside of the United States

If you purchased your equipment through an authorized international distributor or reseller, please contact them directly for product repairs.

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### B.3.3 Spare in the Air Policy

CyberData now offers a *Spare in the Air* no wait policy for warranty returns within the United States and Canada. More information about the *Spare in the Air* policy is available at the following web address:

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

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### B.3.4 Return and Restocking Policy

For our authorized distributors and resellers, please refer to your CyberData Service Agreement for information on our return guidelines and procedures.

For End Users, please contact the company that you purchased your equipment from for their return policy.

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### B.3.5 Warranty and RMA Returns Page

The most recent warranty and RMA information is available at the CyberData Warranty and RMA Returns Page at the following web address:

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

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