CyberData

The IP Endpoint Company

SIP Weatherproof Keypad Phone

Operations Guide

Part #*011460*

Document Part #*931475A*
for Firmware Version *11.0.1*

Revision Information

Revision 931475A, which corresponds to firmware version 11.0.1, was released on May 7, 2018.

Browsers Supported

The following browsers have been tested against firmware version 11.0.1:

- Internet Explorer (version: 10)
- Firefox (also called Mozilla Firefox) (version: 33.0)
- Chrome (version 48.0.2564.116)
- Safari (version: 5.1.7)

Pictorial Alert Icons

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

Hazard Levels

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

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

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

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

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

Important Safety Instructions

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.

6. Clean only with dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Only use attachments/accessories specified by the manufacturer.

12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

13. Prior to installation, consult local building and electrical code requirements.

14. **WARNING: The device enclosure is not rated for any AC voltages!**

⚠ GENERAL ALERT	**Warning** *Electrical Hazard:* This product should be installed by a licensed electrician according to all local electrical and building codes.
⚠ GENERAL ALERT	**Warning** *Electrical Hazard:* To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.
⚠ GENERAL ALERT	**Warning** The PoE connector is intended for intra-building connections only and does not route to the outside plant.

Contents

1 Product Overview

1.1 How to Identify This Product

To identify the SIP Weatherproof Keypad Phone, look for a model number label similar to the one shown in Figure 1-1. Confirm the following:

- The model number on the label should be **011460**.
- The serial number on the label should begin with **460**.

Figure 1-1. Model Number Label

CyberData www.cyberdata.net
SIP Weatherproof Keypad Phone
011460A / 021075M

CE

460000001

CAN ICES-3 (A)/NMB-3 (A)   00:20:F7:03:83:CA   V11.0.1

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Model number

Serial number begins with **460**

1.2 Typical System Installation

The following figures illustrate how the SIP Weatherproof Keypad Phone can be installed as part of a VoIP phone system.

Figure 1-2. Typical Installation
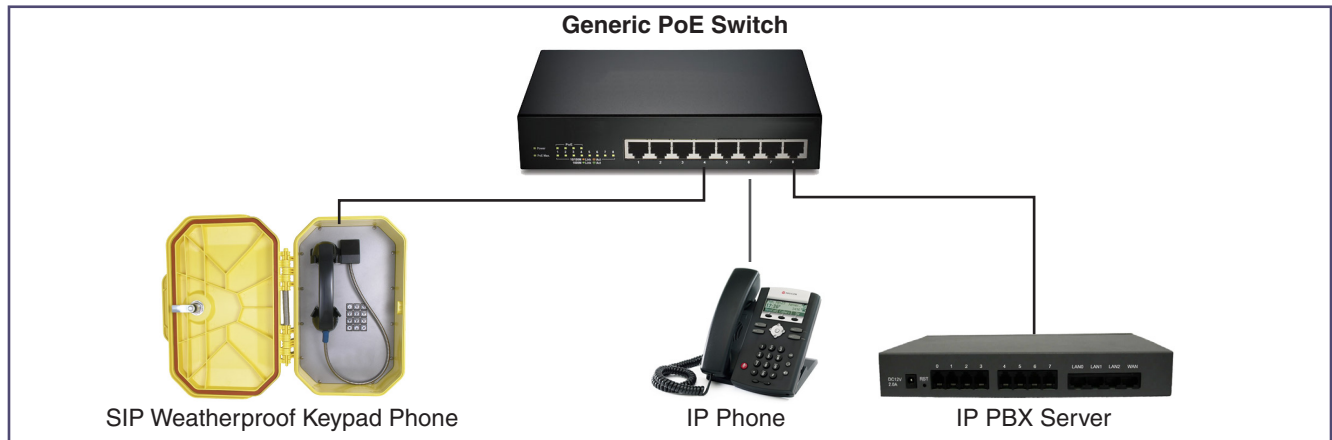
1.3 Product Features

The SIP Weatherproof Keypad Phone has the following features:

- PoE 802.3af enabled (Power-over-Ethernet)
- Water/dust-tight thermoplastic resin enclosure, Type 4X & IP66
- Waterproof connections and stainless steel fittings for longer life
- Corrosion protected and powder coated steel faceplate
- Heavy duty G Type industrial handset
- Spring-loaded door
- Vandal resistant armored handset cord with lanyard
- Magnetic reed hook switch to reduce parts subject to wear
- Surge arrestor to prevent voltage spike damage
- Easy support drill guides for top and bottom mount glands
- Electronic ringer
- Hearing aid compatible
- Receiver volume adjustment
- Electret noise reducing microphone for clear communication
- Supports SRST (Survivable Remote Site Telephony) in a Cisco environment
- Network web management and firmware download

1.4 Supported Protocols

The SIP Weatherproof Keypad Phone supports the following protocols:

- SIP (session initiation protocol)
- HTTPS Web-based configuration

    Provides an intuitive user interface for easy system configuration and verification of SIP Weatherproof Keypad Phone operations.

- DHCP Client

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

- TFTP Client

    Facilitates autoprovisioning configuration values on boot

- RTP
- Audio Encodings

    PCMU (G.711 mu-law), PCMA (G.711 A-law)

    G.722, G.722.1 (SIREN7)

    G.729, G.729J, G.729EV

1.5 Supported SIP Servers

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

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

1.6 Specifications

Table 1-1. Specifications

Specifications	
Ethernet I/F	10/100 Mbps
Protocol	SIP RFC 3261 Compatible
Power Input	PoE 802.3af compliant or 24 VDC @ 1000mA Regulated Power Supply[a]
On-Board Relay	1A at 30 VDC
Environmental	Water/Dust Tight Enclosure: Type 4X and IP66
	Temperature: -40° to +140° F (-40° to + 60° C)
	Humidity: 0 - 95% RH Non-Condensing
	Dust Resistant: Full Gasket Faceplate
Storage Temperature	-40° C to 70° C (-40° F to 158° F)
Storage Altitude	Up to 15,000 ft. (4573 m)
IP Rating	IP66
Payload Types	G711, A-law and μ-law, G.722
Dimensions[b]	11.6 inches [296 mm] Length 7.9 inches [200 mm] Width 16.1 inches [409 mm] Height
Weight	11.8 lbs (5.4 kg)
Boxed Weight	14.0 lbs (6.3 kg)
Compliance	CE; EMC Directive – Class A EN 55032 & EN 55024, LV Safety Directive – EN 60950-1, RoHS Compliant, FCC; Part 15 Class A, Industry Canada; ICES-3 Class A, IEEE 802.3 Compliant
Part Number	011460

a. Contacts 3 and 4 on the terminal block are only for powering the device from a non-PoE +24VDC power source as an alternative to Network PoE power. Use of these contacts for any other purpose will damage the device and void the product warranty.

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

1.7 Compliance

1.7.1 CE Testing

CE testing has been performed according to EN ISO/IEC 17050 for Emissions, Immunity, and Safety. The Declaration of Conformity can be supplied upon request.

1.7.2 FCC Statement

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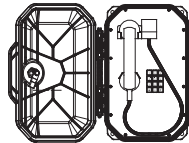
2 Installing the SIP Weatherproof Keypad Phone

2.1 Parts List

Table 2-1 illustrates the SIP Weatherproof Keypad Phone parts.

Note   See Appendix A, "Mounting the SIP Weatherproof Keypad Phone" for physical mounting information.

Table 2-1. Parts List

Quantity	Part Name	Illustration
1	SIP Weatherproof Keypad Phone Assembly	
1	Installation Quick Reference Guide	

2.2 SIP Weatherproof Keypad Phone Components

Figure 2-1 shows the components of the SIP Weatherproof Keypad Phone.

Figure 2-1. SIP Weatherproof Keypad Phone Components

MAGNETIC REED HOOK SWITCH

FACEPLATE-14 GA STEEL, SATIN COAT PRIMED AND POWDER COATED

HEAVY DUTY HANDSET WITH VOLUME CONTROL

HANDSET RETAINERS

ARMORED HANDSET CORD

THERMOPLASTIC RESIN ENCLOSURE
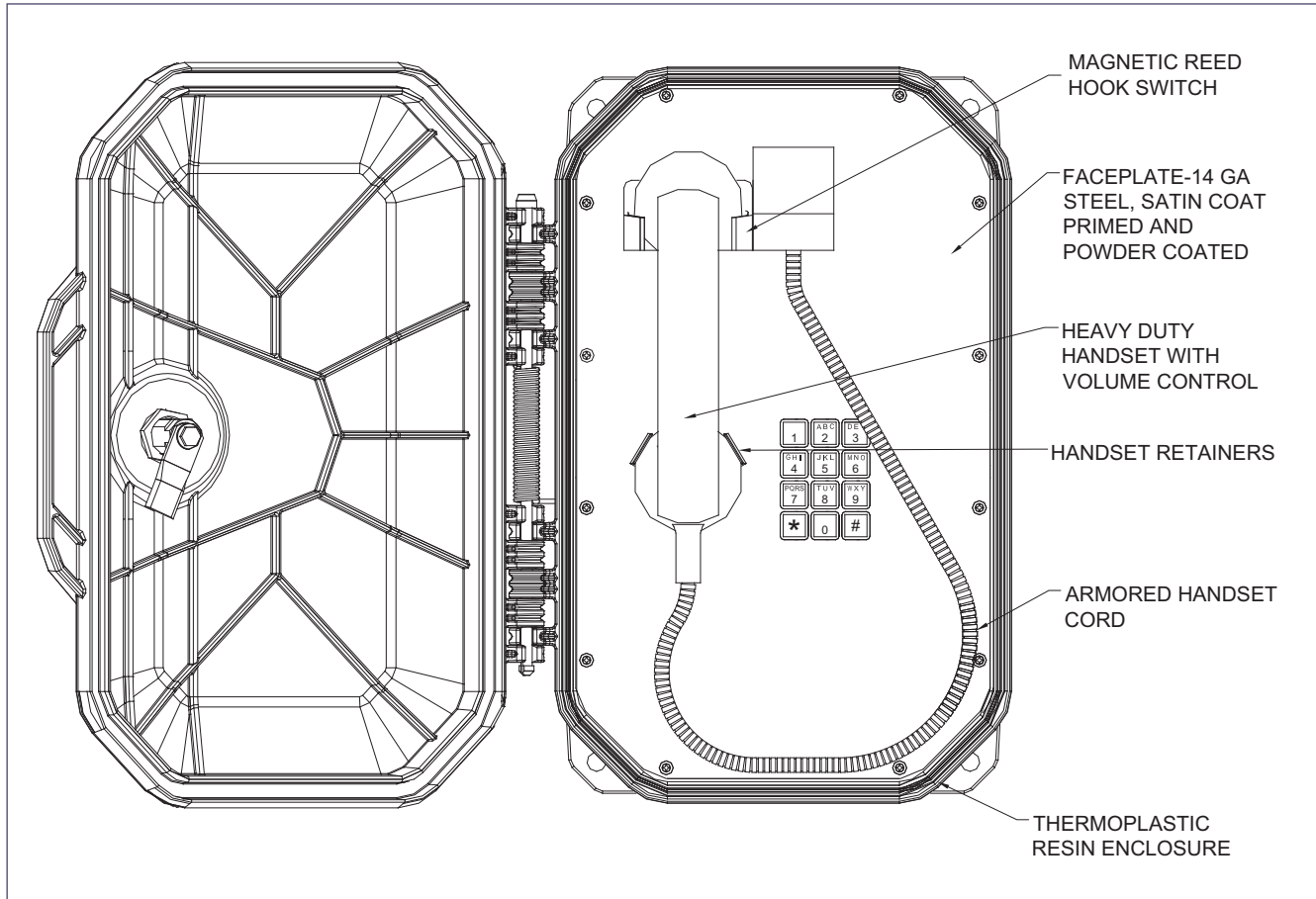
2.3 Setting up the Device

2.3.1 Terminal Block Connections

Figure 2-2 shows the pin connections on the J9 terminal block. This terminal block can accept a wire range from 16 AWG to 24 AWG.

Note   As an alternative to using PoE power +24 VDC at 1000 mA can be supplied to the terminal block.

> ⚠ **GENERAL ALERT**
>
> **Caution**
>
> *Equipment Hazard*: Contacts 3 and 4 on the terminal block are only for powering the device from a non-PoE +24 VDC power source as an alternative to Network PoE power. Use of these contacts for any other purpose will damage the device and void the product warranty.

Figure 2-2. Terminal Block Connections and Alternate Power Input

Alternate Power Input:
1 = Normally Open Common
2 = Normally Open Contact

Relay Contact:
(0.5 A at 30 VDC for continuous loads)
3 = +24 VDC @ 1000mA
4 = Power Ground
5 = Ringer +
6 = Ringer -

*Contacts 3 and 4 on the terminal block are only for powering the device from a non-PoE +24 VDC power source as an alternative to Network PoE power. Use of these contacts for any other purpose will damage the device and void the product warranty.

WIRE IN
Can accept wire range from
16 AWG to 24 AWG
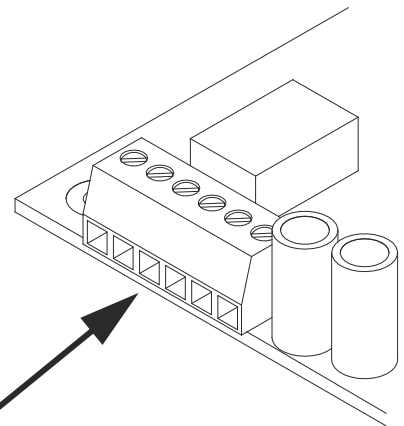
2.3.2 Using the On-Board Relay

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

⚠ GENERAL ALERT	**Warning**
	Electrical Hazard: The relay contacts are dry and provided for a normally open and momentarily closed configuration. Neither the alternate power input nor PoE power can be used to drive a door strike.

⚠ GENERAL ALERT	**Warning**
	Electrical Hazard: The relay does not support AC powered door strikes. Any use of this relay beyond its normal operating range can cause damage to the product and is not covered under our warranty policy.

The SIP Weatherproof Keypad Phone incorporates one on-board relay located on the PCBA, which enables users to control a low current external relay or device (see Figure 2-3). An external relay could control a ringer, strobe light, door lock or any other apparatus. The on board relay is protected by a 1 Amp, non-replaceable fuse. Power switched by the relay should not exceed 0.5 Amps @ 30VDC. The PCBA is not designed to handle AC voltages.

⚠ GENERAL ALERT	**Warning**
	Equipment Hazard: The relay circuitry contains a non-replaceable 250VAC 1A fuse. If the fuse blows, the board must be returned to CyberData or an approved service center for repair.

The device relay activation time is selectable through the web interface on the Device Configuration Page (see Section 2.3.11, "Configure the Device"). The relay is controlled by DTMF tones generated from the phone to which the VoIP phone is connected; no matter which one initiated the call.

The device has a built-in relay that can be activated by a web configurable DTMF string that can be received from a VoIP phone supporting out of band (RFC2833) DTMF as well as a number of other triggering events. See the **Device Configuration Page** on the web interface for relay settings.

This relay can be used to trigger low current devices like LED strobes and security camera input.

Figure 2-3. Auxiliary Relay Wiring Diagram
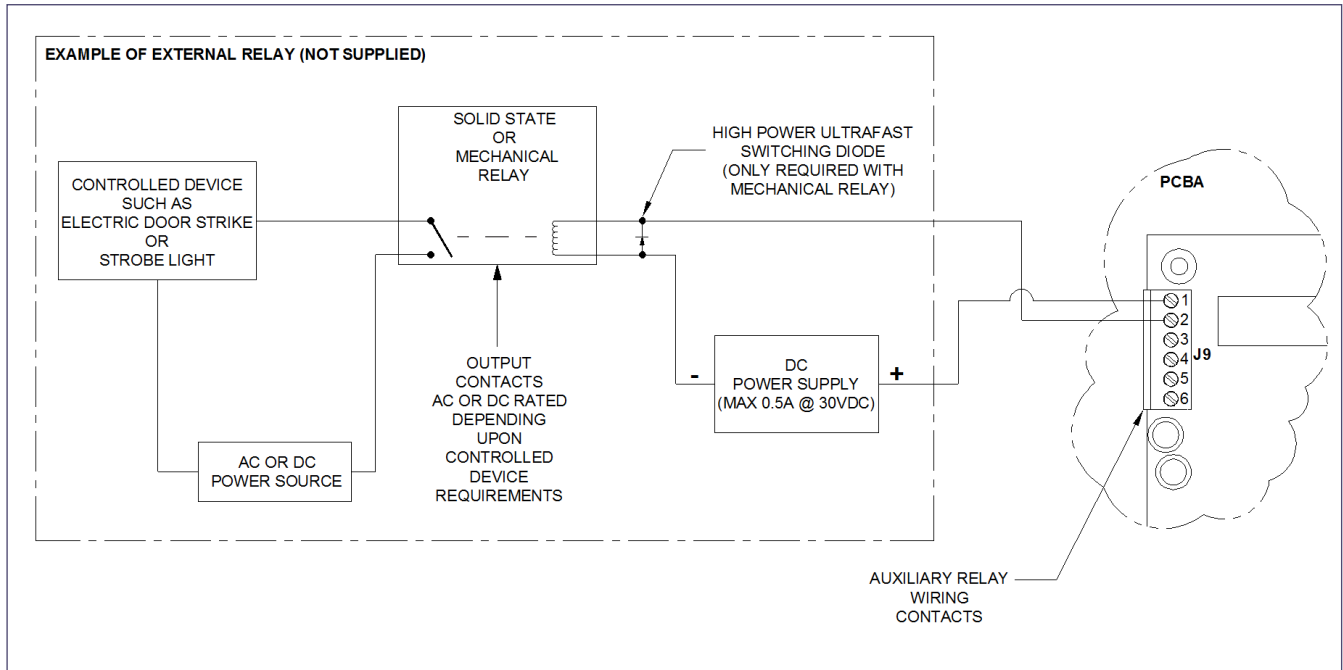
2.3.3 SIP Weatherproof Keypad Phone Connectors

See Figure 2-4 and Table 2-2 to identify the connectors and functions of the board.

Figure 2-4. Connector Locations

Cat 5/6 ethernet cable
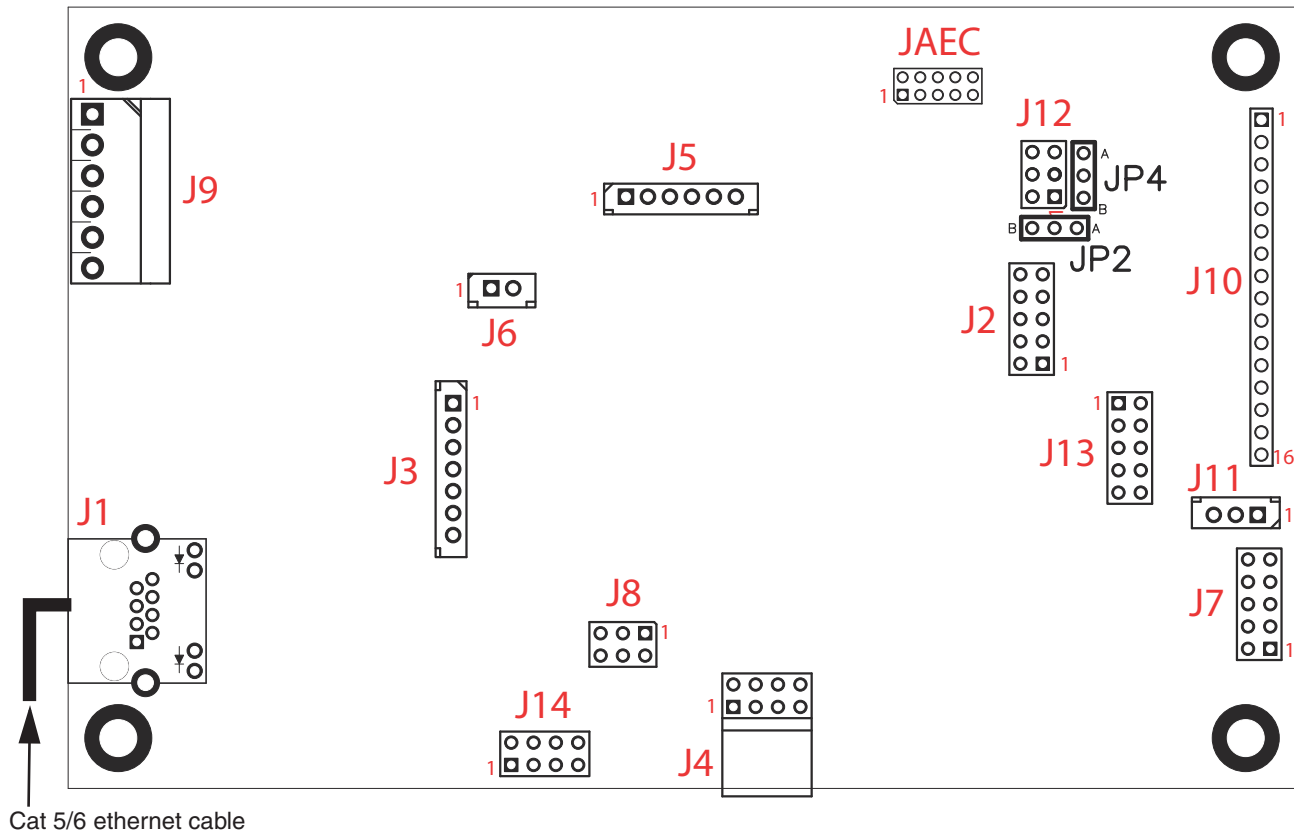
Table 2-2. Connector Functions

Connector	Function
J1	PoE Network Connection (RJ-45)
	J1: STANDARD 8 PIN RJ45 10/100Base-T And power input via Power over Ethernet
J2	Hands free Microphone Interface/LED Interface
J3	Opto-Isolated Inputs/Outputs
J4	JTAG Interface — Factory Only
J5	Handset/Reed Switch Interface
J6	Speaker Interface
J7	Keypad Interface
J8	Console Port — Factory Only
J9	Terminal Block (see Figure 2-2) — Users Interface
J10	LCD Interface — Not Used
J11	Handset Volume Control Interface

Table 2-2. Connector Functions (continued)

Connector	Function
J12	ISP-DIP/Debug UART — Factory Only
JAEC	AEC ISP — Factory Only

2.3.4 Wiring

See Figure 2-5 for the wiring of the SIP Weatherproof Keypad Phone.

Figure 2-5. Wiring[1]

Relay pins 1and 2   Alternate power pins 3 and 4   Ringer pins 5 nd 6   Handset RX pins 3 and 4   Reed switch

RJ45 connector   Reset switch   Handset RX pins 1 and 2   Handset Volume Control   Keypad
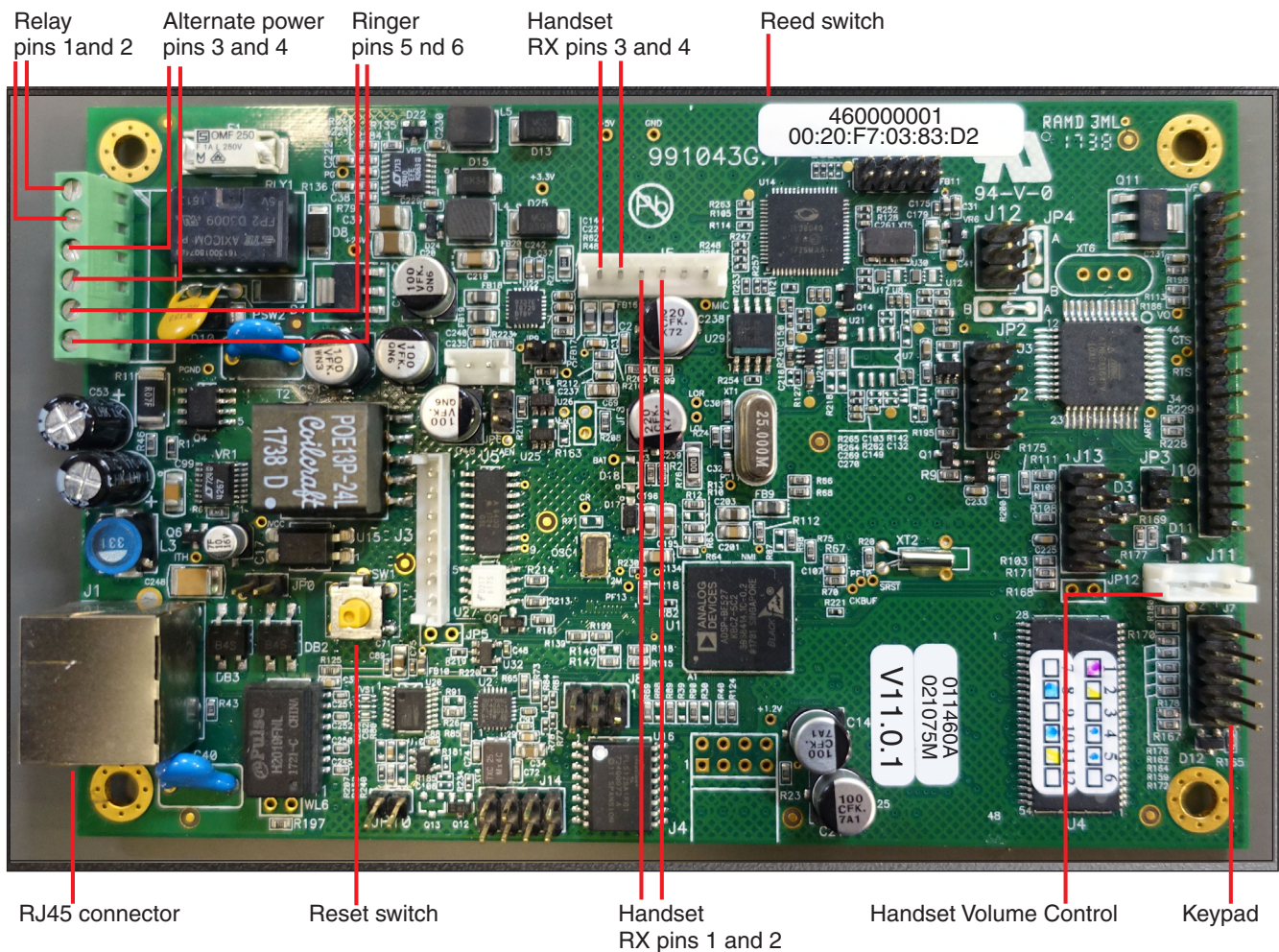
1. This figure is just an example, and the information on the board and labels may be different.

2.3.5 Activity and Link LEDs

2.3.5.1 Verifying the Network Connectivity and Data Rate

When you plug in the Ethernet cable or power supply to the device, the following occurs:

- The square, AMBER **100 Mb Link** LED above the Ethernet port indicates that the network connection has been established with a 100 Mb connection (see Figure 2-6).

- The square, GREEN **Link/Activity** LED indicates and Ethernet link and blinks when there is network activity (see Figure 2-6).

Figure 2-6. Activity and Link LED

100 Mb Link LED

Link/Activity

J1
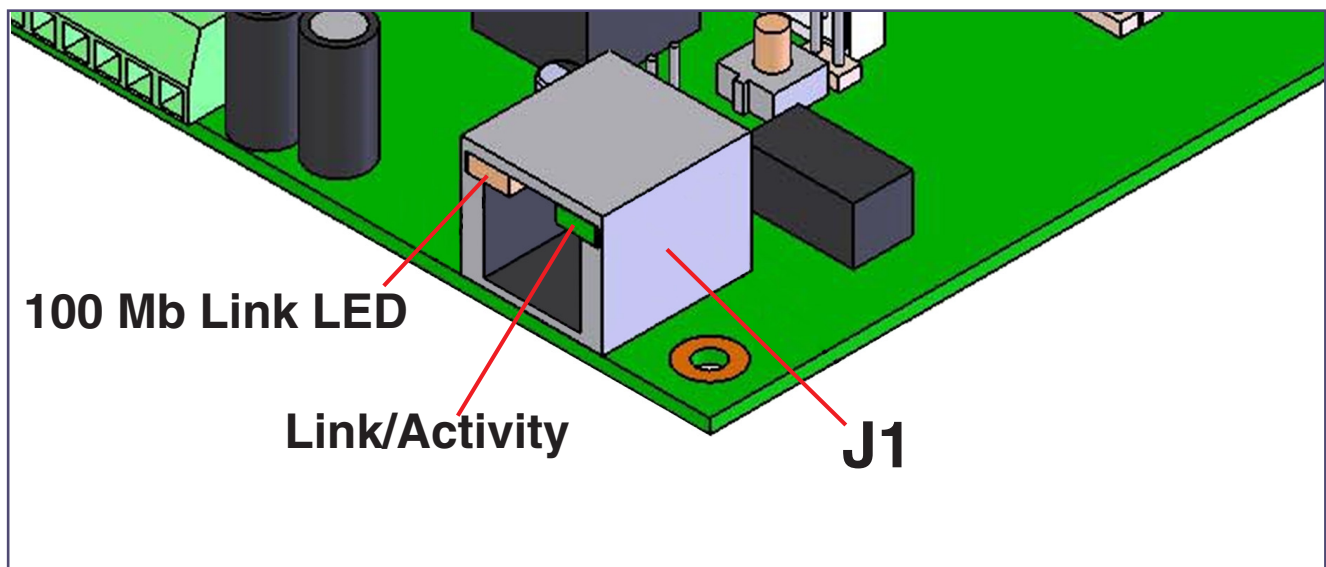
2.3.5.2 Reset Test Function Management (RESET) Switch

When the device is operational and linked to the network, use the Reset Test Function Management (RESET) switch on the board (see **SW1** in Figure 2-7) to announce the device's IP Address and test that the audio is working (see Section 2.3.5.3, "Announcing the IP Address"). During the IP address announcement, you will hear the IP address through the handset receiver.

Note   You must do these tests prior to final assembly.

Figure 2-7. RESET Switch
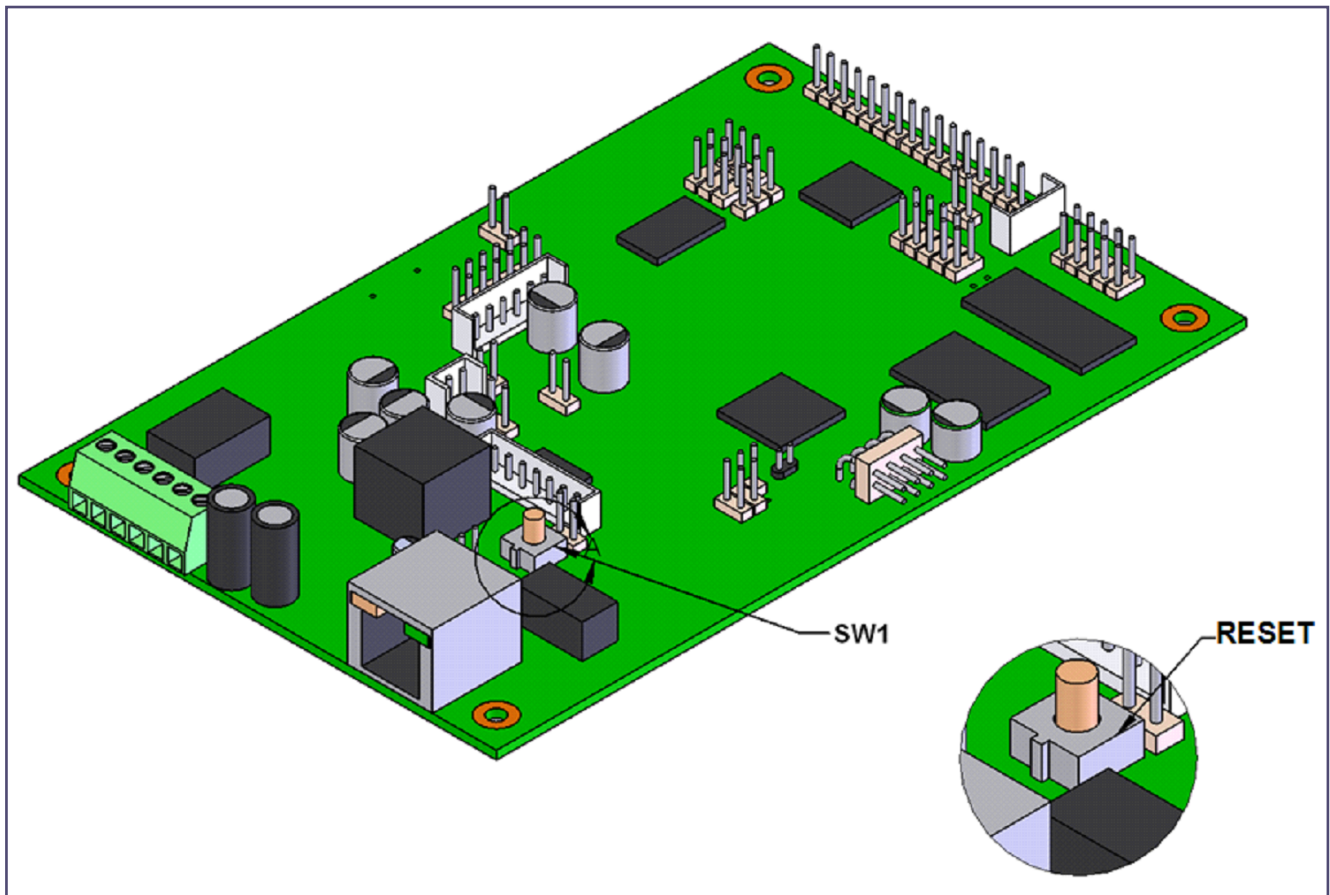
2.3.5.3 Announcing the IP Address

To announce the device's current IP address:

1. Press and hold for two seconds.

2. Release the **RESET** switch (see **SW1** in Figure 2-8).

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

Note   Pressing and holding the RESET switch for longer than five seconds will restore the device to the factory default settings.

Figure 2-8. RESET Switch
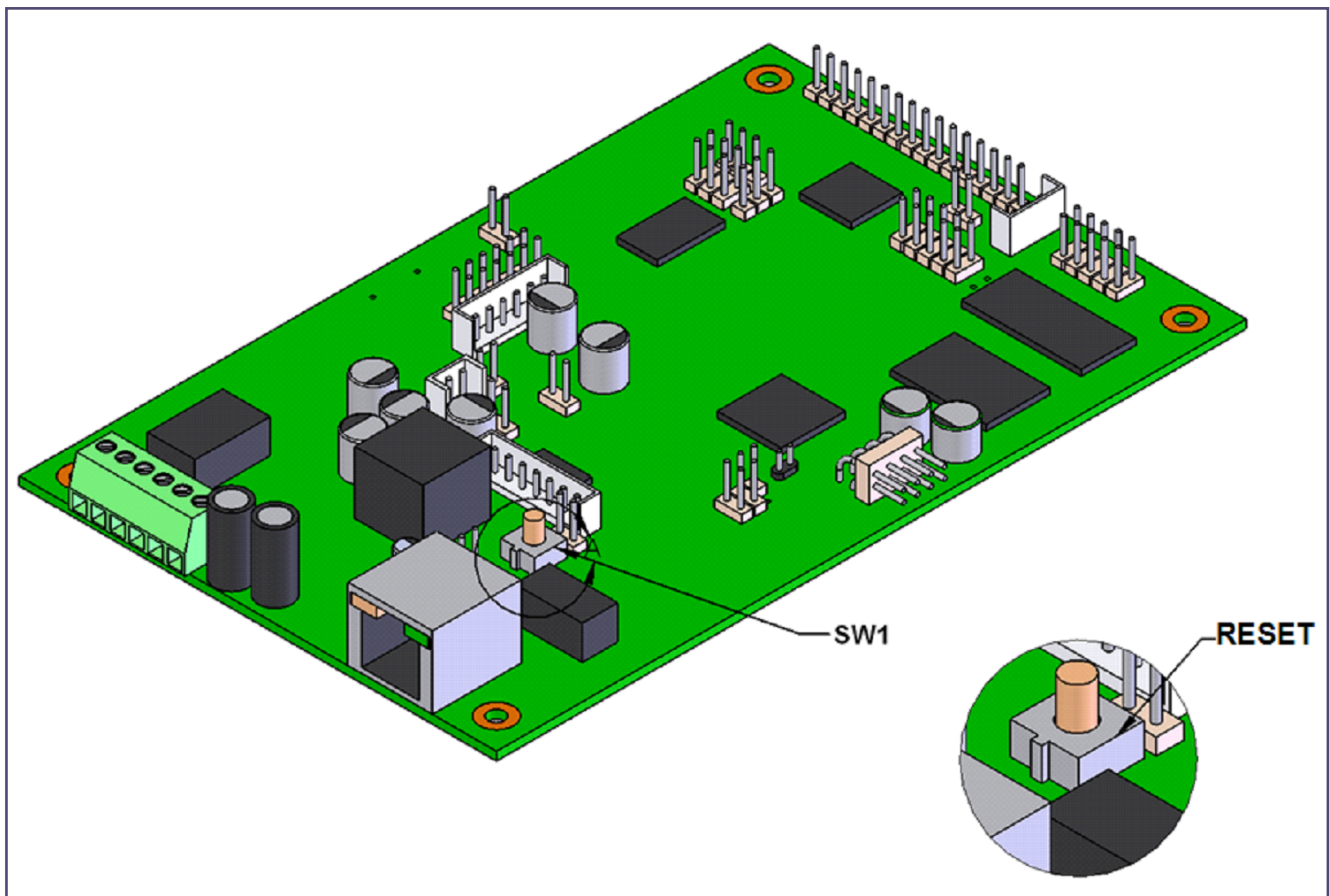
2.3.5.4 Restoring the Factory Default Settings

When troubleshooting configuration problems, it is sometimes convenient to restore the device to a known state.

Note Each SIP Weatherproof Keypad Phone is delivered with factory set default values.

To restore the factory default settings:

1. Press and hold the **RESET** switch (see **SW1** in Figure 2-9) until the device announces it is restoring to factory defaults (approximately 5 seconds).

2. Release the **RESET** switch.

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

Figure 2-9. RESET Switch
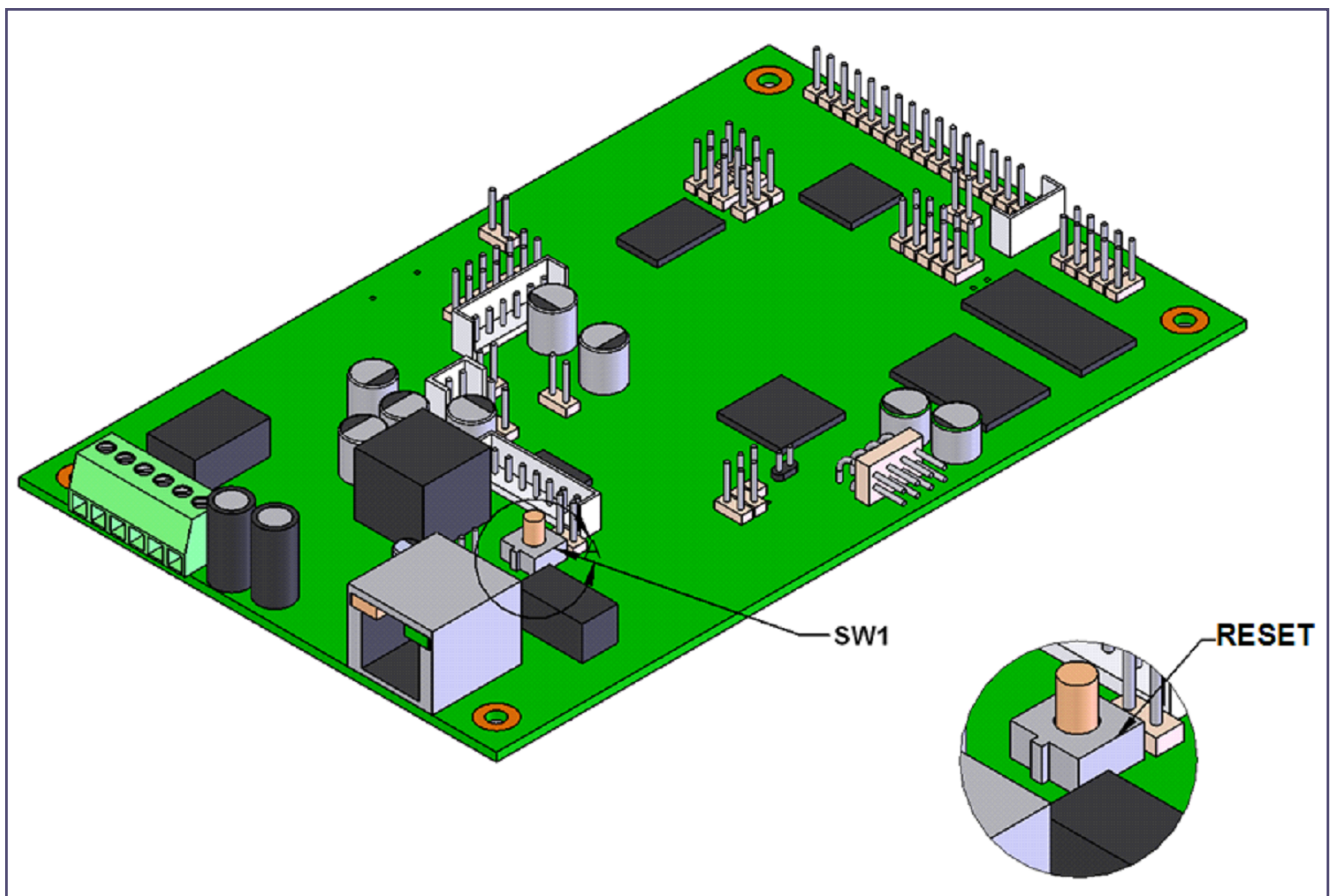
2.3.6 Adjusting the Volume

You can adjust the SIP Weatherproof Keypad Phone default handset volume through the volume settings on the Device Configuration Page. The volume can be adjusted in-call by using the buttons on the handset.
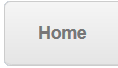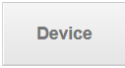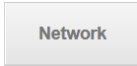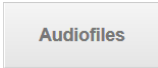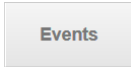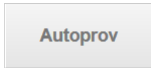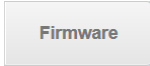
2.3.7 Operation

- The user will hear a dial tone when the handset is lifted.

- Adjust the receiver volume with the switch in the handset.

2.3.8 SIP Weatherproof Keypad Phone Web Page Navigation

Table 2-3 shows the navigation buttons that you will see on every SIP Weatherproof Keypad Phone web page.

Table 2-3. Web Page Navigation

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

2.3.9 Using the Toggle Help Button

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

1. Click on the **Toggle Help** button that is on the UI webpage. See Figure 2-10 and Figure 2-11.

Figure 2-10. Toggle/Help Button
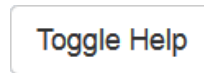
2. You will see a question mark (?) appear next to each web page item that has been provided with a short description by the Help feature. See Figure 2-11.

Figure 2-11. Toggle Help Button and Question Marks
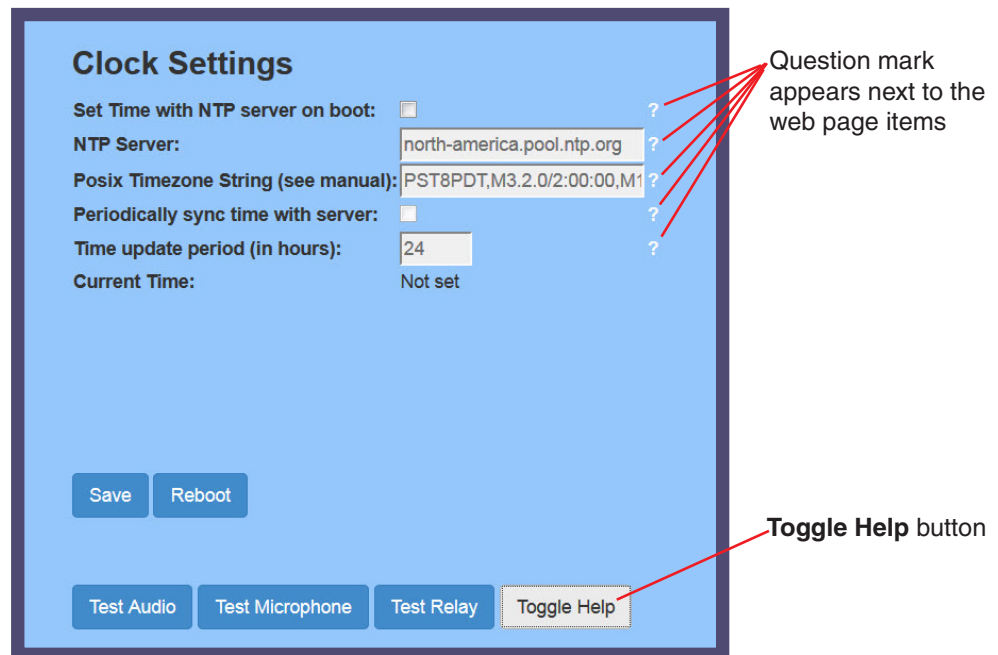
3. Move the mouse pointer to hover over the question mark (?), and a short description of the web page item will appear. See Figure 2-12.

Figure 2-12. Short Description Provided by the Help Feature

Set Time with NTP server on boot

When selected, the time is set with an external NTP server when the device restarts.

Clock Settings

Set Time with NTP server on boot:	☐	?
NTP Server:	north-america.pool.ntp.org	?
Posix Timezone String (see manual):	PST8PDT,M3.2.0/2:00:00,M1	?
Periodically sync time with server:	☐	?
Time update period (in hours):	24	?
Current Time:	Not set	

Question mark   A short description of the web page item will appear

2.3.10 Log in to the Configuration Home Page

1. Open your browser to the SIP Weatherproof Keypad Phone 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 Weatherproof Keypad Phone.

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/assets/common/discovery.zip

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

2. When prompted, use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-13):

Web Access Username: **admin**

Web Access Password: **admin**

Figure 2-13. Home Page

CyberData Industrial VoIP Phone

| Home | Device | Network | SIP | Audiofiles | Events | Autoprov | Firmware |

Current Status

Serial Number:	460100001
Mac Address:	00:20:f7:03:b9:73
Firmware Version:	v11.0.1
IP Addressing:	DHCP
IP Address:	10.10.0.137
Subnet Mask:	255.0.0.0
Default Gateway:	10.0.0.1
DNS Server 1:	10.0.1.56
DNS Server 2:	
Handset Volume:	4
Handset Gain:	1
SIP Mode:	Enabled
Event Reporting:	Disabled
Nightringer:	Disabled
Primary SIP Server:	Not registered
Backup Server 1:	Not registered
Backup Server 2:	Not registered
Nightringer Server:	Not registered

Admin Settings

Username:	admin
Password:	
Confirm Password:	

Save   Reboot   Toggle Help

Import Settings

Choose File   No file chosen

Import Config

Export Settings

Export Config

3. On the **Home** page, review the setup details and navigation buttons described in Table 2-4.

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

Table 2-4. Home Page Overview

Web Page Item	Description
Admin Settings	
Username ?	The username to access the web interface. Enter up to 25 characters.
Password ?	The password to access the web interface. Enter up to 25 characters.
Confirm Password ?	Confirm the web interface password.
Current Status	
Serial Number	Shows the device serial number.
Mac Address	Shows the device Mac address.
Firmware Version	Shows the current firmware version.
IP Addressing	Shows the current IP addressing setting (**DHCP** or **static**).
IP Address	Shows the current IP address.
Subnet Mask	Shows the current subnet mask address.
Default Gateway	Shows the current default gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
Handset Volume	Shows the Handset volume level.
Handset Gain	Shows the Handset Gain level.
SIP Mode	Shows the current status of the SIP mode.
Event Reporting	Shows the current status of the Event Reporting mode.
Nightringer	Shows the current status of the Nightringer mode.
Primary SIP Server	Shows the current status of the Primary SIP Server.
Backup Server 1	Shows the current status of Backup Server 1.
Backup Server 2	Shows the current status of Backup Server 2.
Nightringer Server	Shows the current status of Nightringer Server.
Import Settings	
Browse...	Use this button to select a configuration file to import.
Import Config	After selecting a configuration file, click Import to import the configuration from the selected file. Then, click Save and Reboot to store changes.
Export Settings	
Export Config	Click Export to export the current configuration to a file.

Table 2-4. Home Page Overview (continued)

Web Page Item	Description
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

Note   The user name and password will be saved immediately, but the user will not be prompted to enter them until there is a reboot. It is advisable to restart the web browser after this change.

2.3.11 Configure the Device

1. Click the **Device** menu button to open the **Device** page. See Figure 2-14.

Figure 2-14. Device Configuration Page

Home	Device	Network	SIP	Audiofiles	Events	Autoprov	Firmware

CyberData Industrial VoIP Phone

Volume Settings

Handset Volume: 4
Handset Mic Gain: 1
Ring Volume: 4

Relay Settings

Activate Relay with DTMF code: ☑
Relay Pulse Code: 321
Relay Pulse Duration (in seconds):   2
Activate Relay During Ring: ☐
Activate Relay During Night Ring: ☐
Pulse Relay During Ring: ☐
Pulse Buzzer During Ring: ☐
Activate Relay While Call Active: ☐
Activate Relay While Off-Hook: ☐

Clock Settings

Set Time with NTP server on boot: ☐
NTP Server: north-america.pool.ntp.org
Posix Timezone String (see manual):   PST8PDT,M3.2.0/2:00:00,M11.1.0
Periodically sync time with server: ☐
Time update period (in hours):   24
Current Time: Not set

Misc Settings

Device Name: CyberData Industrial VoIP
Disable HTTPS (NOT recommended):   ☐

Save   Reboot

Test Relay   Start Button Test   Toggle Help
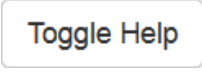
2. On the **Device** page, you may enter values for the parameters indicated in Table 2-5.

Note The question mark icon (?) in the following table shows which web page items will be defined after the **Toggle Help** button is pressed.
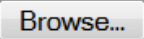
Table 2-5. Device Configuration Parameters

Web Page Item	Description
Volume Settings (0-9)	
Handset Volume ?	Default volume level of the Handset Speaker (0-9). This is the volume that will be set when a call is established. The volume can be adjusted in-call by using the buttons on the handset
Handset Mic Gain ?	The gain level of the Handset Microphone (0-2).
Ring Volume ?	Set the ring volume for incoming calls (0-9).
Clock Settings	
Set Time with NTP Server on boot ?	When selected, the time is set with an external NTP server when the device restarts.
NTP Server ?	Use this field to set the address (in IPv4 dotted decimal notation or as a canonical name) for the NTP Server. This field can accept canonical names of up to 64 characters in length. **Note**: The **NTP Server** setting needs to be restarted to spawn NTP or to change the server.
Posix Timezone String ?	See Section 2.3.11.1, "Time Zone Strings" for information about how to use the Posix Timezone String to specify time zone and daylight savings time where applicable. Enter up to 63 characters.
Periodically sync time with server ?	When selected, the time is periodically updated with the NTP server at the configured interval below.
Time update period (in hours) ?	The time interval after which the device will contact the NTP server to update the time. Enter up to 4 digits. **Note**: Syncing and changing the **Time update period (in hours)** setting does not require a reboot for the changes to take effect.
Current Time	Allows you to input the current time. (6 character limit)
Relay Settings	**Note**: None of the **Relay Settings** require a reboot for the changes to take effect.
Activate Relay with DTMF Code ?	Activates the relay when the DTMF Activation Code is entered on the phone during a SIP call with the device. RFC2833 DTMF payload types are supported.
Relay Pulse Code ?	DTMF code used to pulse the relay when entered on a phone during a SIP call with the device. Relay will activate for Relay Pulse Duration seconds then deactivate. Activate Relay with DTMF Code must be enabled. Enter up to 25 digits (* and # are supported).
Relay Pulse Duration (in seconds) ?	The length of time (in seconds) during which the relay will be activated when the DTMF Relay Activation Code is detected. Enter up to 5 digits.
Activate Relay During Ring ?	When selected, the relay will be activated for as long as the device is ringing. When Auto-Answer Incoming Calls is enabled, the device will not ring and this option does nothing.
Activate Relay During Night Ring ?	When selected, the relay will be activated as long as the Nightringer extension is ringing.

Table 2-5. Device Configuration Parameters (continued)

Web Page Item	Description
Pulse Relay During Ring ❓	When selected, the relay will pulse as long as the device is ringing. When Auto-Answer Incoming Calls is enabled, the device will not ring and this option does nothing. Activate Relay During Ring must be selected to use this option.
Pulse Buzzer During Ring ❓	When selected, the buzzer will pulse as long as the device is ringing. When Auto-Answer Incoming Calls is enabled, the device will not ring and this option does nothing.
Activate Relay While Call Active ❓	When selected, the relay will be activated as long as the SIP call is active.
Activate Relay While Off-Hook ❓	When selected, the relay will be activated when the handset is off-hook.
Misc Settings	
Device Name ❓	Type the device name. Enter up to 25 characters.
Disable HTTPS (NOT recommended) ❓	Disables the encrypted connection to the webpage. We do not recommend disabling HTTPS for security reasons. **Note**: This setting requires a reboot for the changes to take effect.
Test Relay	Click on the **Test Relay** button to do a relay test.
Start Button Test	Click on the **Start** button to start a button test.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (❓) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

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

2.3.11.1 Time Zone Strings

The posix time zone string tells the internal date and time utilities how to handle daylight savings time for different time zones. Table 2-6 shows some common strings.

Table 2-6. Common Time Zone Strings

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

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

Table 2-7 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 2-7. 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 2-8 has some more examples of time zone strings.

Table 2-8. Time Zone String Examples

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

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

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

Figure 2-15. 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 2-9 has information about the GMT time in various time zones.

Table 2-9. World GMT Table

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

Table 2-9. World GMT Table (continued)

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

2.3.12 Configure the Network Parameters

1. Click the **Network** menu button to open the **Network** page (Figure 2-16).

Figure 2-16. Network Configuration Page

Home	Device	Network	SIP	Audiofiles	Events	Autoprov	Firmware

CyberData Industrial VoIP Phone

Stored Network Settings

Addressing Mode:	○ Static ● DHCP
Hostname:	SipDevice03b92c
IP Address:	10.10.10.10
Subnet Mask:	255.0.0.0
Default Gateway:	10.0.0.1
DNS Server 1:	10.0.0.1
DNS Server 2:	10.0.0.1
DHCP Timeout in seconds*:	60

* A value of -1 will retry forever

VLAN Settings

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

[Save] [Reboot] [Toggle Help]

Current Network Settings

IP Address:	10.10.0.226
Subnet Mask:	255.0.0.0
Default Gateway:	10.0.0.1
DNS Server 1:	10.0.1.56
DNS Server 2:	

2. On the **Network** page, enter values for the parameters indicated in Table 2-10.

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

Table 2-10. Network Configuration Parameters

Web Page Item	Description
Stored Network Settings	
Addressing Mode ?	Select either DHCP IP Addressing or Static Addressing by marking the appropriate radio button. DHCP Addressing mode is enabled on default and the device will attempt to resolve network addressing with the local DHCP server upon boot. If DHCP Addressing fails, the device will revert to the last known IP address or the factory default address if no prior DHCP lease was established. See Section 2.3.5.4, "Restoring the Factory Default Settings" for factory default settings. Be sure to click **Save** and **Reboot** to store changes when configuring a Static address.
Hostname ?	This is the hostname provided by the DHCP server. See the DHCP/DNS server documentation for more information. Enter up to 64 characters.
IP Address ?	Enter the Static IPv4 network address in dotted decimal notation.
Subnet Mask ?	Enter the Subnet Mask in dotted decimal notation.
Default Gateway ?	Enter the Default Gateway IPv4 address in dotted decimal notation.
DNS Server 1 ?	Enter the primary DNS Server IPv4 address in dotted decimal notation.
DNS Server 2 ?	Enter the secondary DNS Server IPv4 address in dotted decimal notation.
DHCP Timeout in seconds ?	Specify the desired time-out duration (in seconds) that the device will wait for a response from the DHCP server before reverting back to the stored static IP address. The stored static IP address may be the last known IP address or the factory default address if no prior DHCP lease was established. Enter up to 8 characters. A value of -1 will retry forever.
VLAN Settings	
VLAN ID (0-4095) ?	Specify the IEEE 802.1Q VLAN ID number. Enter up to 4 digits. **Note**: The device supports 802.1Q VLAN tagging support. The switch port connected to the device will need to be in "trunking mode" for the VLAN tags to propagate.
VLAN Priority (0-7) ?	Specify the IEEE 802.1p VLAN priority level. Enter 1 digit. A value of 0 may cause the VLAN ID tag to be ignored.
Current Network Settings	Shows the current network settings.
IP Address	Shows the current Static IP address.
Subnet Mask	Shows the current Subnet Mask address.
Default Gateway	Shows the current Default Gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.

Table 2-10. Network Configuration Parameters (continued)

Web Page Item	Description
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

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

2.3.13 Configure the SIP (Session Initiation Protocol) Parameters

1. Click on the **SIP** menu button to open the **SIP** page (Figure 2-17).

Figure 2-17. SIP Configuration Page

2. On the **SIP** page, enter values for the parameters indicated in Table 2-11.

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

Table 2-11. SIP Configuration Parameters

Web Page Item	Description
SIP Settings	
Enable SIP Operation ?	When enabled, the device will transmit, receive, and process SIP messages according to the configured SIP settings below.
SIP Transport Protocol ?	Choose the transport protocol for SIP signaling. This will affect all extensions, including the Nightringer. Default is UDP.
Register with a SIP Server ?	When enabled, the device will attempt to register to the configured SIP Server(s) on this page. To configure the device to send and receive point-to-point SIP calls, enable **SIP Operation** and disable **Register with a SIP Server** (see Section 2.3.13.2, "Point-to-Point Configuration").
Use Cisco SRST ?	When enabled, the backup servers are handled according to Cisco SRST (Survivable Remote Site Telephony). It is required for use in clustered Cisco Unified Communications Manager topologies.
Primary SIP Server ?	Enter the SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's extension on the primary SIP server. This field can accept entries of up to 255 characters in length.
Primary SIP User ID ?	Specify the SIP User ID for the Primary SIP Server. This parameter becomes the user portion of the SIP-URI for the device's extension on the primary SIP server. Enter up to 64 alphanumeric characters.
Primary SIP Auth ID ?	Specify the Authenticate ID for the Primary SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Primary SIP Auth Password ?	Specify the Authenticate Password for the Primary SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Backup SIP Server 1 ?	Enter the backup SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's extension on the backup SIP server. This field can accept entries of up to 255 characters in length.
Backup SIP User ID 1 ?	Specify the SIP User ID for the first backup SIP Server. This parameter becomes the user portion of the SIP-URI for the device's extension on the first backup SIP server. Enter up to 64 alphanumeric characters.
Backup SIP Auth ID 1 ?	Specify the Authenticate ID for the first backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Backup SIP Auth Password 1 ?	Specify the Authenticate Password for the first backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.

Table 2-11. SIP Configuration Parameters (continued)

Web Page Item	Description
Backup SIP Server 2 [?]	Enter a second backup SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's extension on the second backup SIP server. This field can accept entries of up to 255 characters in length.
Backup SIP User ID 2 [?]	Specify the SIP User ID for the second backup SIP Server. This parameter becomes the user portion of the SIP-URI for the device's extension on the second backup SIP server. Enter up to 64 alphanumeric characters.
Backup SIP Auth ID 2 [?]	Specify the Authenticate ID for the second backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Backup SIP Auth Password 2 [?]	Specify the Authenticate Password for the second backup SIP server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Remote SIP Port [?]	The Remote SIP Port is the port number the device will use as the destination port when sending SIP messages. The default Remote SIP Port is 5060. The supported range is 0-65536. Enter up to 5 digits.
Local SIP Port [?]	The Local SIP Port is the port number the device will use to receive SIP messages. The default Local SIP Port is 5060. The supported range is 0-65536. Enter up to 5 digits.
Outbound Proxy [?]	Enter the Outbound Proxy address as an IPv4 address in dotted decimal notation or a fully qualified domain name (FQDN). When an IP address is configured, the device will send all SIP messages to this IP address. When an FQDN is configured, the device will run DNS NAPTR, SRV, and A queries on the FQDN to resolve an IP address to which it will send all SIP messages. This field can accept entries of up to 255 characters in length.
Outbound Proxy Port [?]	The Outbound Proxy Port is port number used as the destination port when sending SIP messages to the outbound proxy. A value of 0 will default to 5060. The supported range is 0-65536. Enter up to 5 digits.
Disable rport Discovery [?]	Disabling rport Discovery will prevent the device from including the public WAN IP address and port number in the contact information that is sent to the remote SIP servers. This will generally only need to be enabled when using an SBC or SIP ALG in conjunction with a remote SIP server.
Re-registration Interval (in seconds) [?]	The SIP Re-registration interval (in seconds) is the SIP Registration lease time, also known as the expiry. The supported range is 30-3600 seconds. Enter up to 4 digits.
Unregister on Boot [?]	When enabled, the device will send one registration with an expiry of 0 on boot.
Keep Alive Period [?]	The minimum time in milliseconds between keep-alive packets sent for nat traversal. A value of 0 will disable keep alive packets.
Nightringer Settings	
Enable Nightringer [?]	When Nightringer is enabled, the device will attempt to register a second extension with the SIP server. Any calls made to this extension will play a ringtone (corresponds to **Night Ring** on the **Audiofiles** page). By design, it is not possible to answer a call to the Nightringer extension.

Table 2-11. SIP Configuration Parameters (continued)

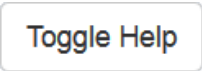| Web Page Item	Description
SIP Server ?	Enter the SIP server address as an IPv4 address in dotted decimal notation or a fully qualified domain name. This parameter also becomes the host portion of the SIP-URI for the device's Nightringer extension on the SIP server. This field can accept entries of up to 255 characters in length.
Remote SIP Port ?	The Remote SIP Port is the port number the device will use as the destination port when sending SIP messages for the Nightringer extension. The default Remote SIP Port is 5060. The supported range is 0-65536. Enter up to 5 digits.
Local SIP Port ?	The Local SIP Port is the port number the device will use to receive SIP messages for the Nightringer extension. This value cannot be the same as the **Local SIP Port** for the primary extension. The default Local SIP Port is 5061. The supported range is 0-65536. Enter up to 5 digits.
Outbound Proxy ?	Enter the Outbound Proxy address as an IPv4 address in dotted decimal notation or a fully qualified domain name (FQDN). When an IP address is configured, the device will send all SIP messages to this IP address for the Nightringer extension. When an FQDN is configured, the device will run DNS NAPTR, SRV, and A queries on the FQDN to resolve an IP address to which it will send all SIP messages for the Nightringer extension. This field can accept entries of up to 255 characters in length.
Outbound Proxy Port ?	The Outbound Proxy Port is port number used as the destination port when sending SIP messages to the outbound proxy for the Nightringer extension. A value of 0 will default to 5060. The supported range is 0-65536. Enter up to 5 digits.
User ID ?	Specify the SIP User ID for the SIP server. This parameter becomes the user portion of the SIP-URI for the device's Nightringer extension. Enter up to 64 alphanumeric characters.
Authenticate ID ?	Specify the Authenticate ID for the SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Authenticate Password ?	Specify the Authenticate Password for the SIP Server. This parameter is required for SIP registration authentication. Enter up to 64 alphanumeric characters.
Re-registration Interval (in seconds) ?	The SIP Re-registration Interval (in seconds) is the SIP Registration lease time, also known as the expiry. The supported range is 30-3600 seconds. Enter up to 4 digits.
Call Disconnection	
Terminate Call After Delay ?	Automatically terminate an active call after a given delay in seconds. A value of 0 will disable this function. Enter up to 8 digits. **Note**: This setting does not require a reboot for the changes to take effect.
Codec Selection	
Force Selected Codec ?	When configured, this option will allow you to force the device to negotiate for the selected codec. Otherwise, the device will perform codec negotiation using the default list of supported codecs.
Codec ?	Select the desired codec (only one may be chosen).

Table 2-11. SIP Configuration Parameters (continued)

Web Page Item	Description
RTP Settings	
RTP Port (even) ?	Specify the port number used for the RTP stream after establishing a SIP call. This port number must be an even number and defaults to 10500. The supported range is 0-65536. Enter up to 5 digits.
Jitter Buffer ?	Specify the size of the jitter buffer (in milliseconds) used for SIP calls. Valid values are 50-1000.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.

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

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

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

2.3.13.1 Dial Out Extension Strings and DTMF Tones (using rfc2833)

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

Table 2-12. Examples of Dial-Out Extension Strings

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

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

2.3.13.2 Point-to-Point Configuration

When the device is set to not register with a SIP server (see Figure 2-18), it is possible to set the device to dial out to a single endpoint.

In this case, the dial-out extension should be the IP address of the remote device. The device can also receive Point-to-Point calls. The delayed DTMF functionality is available in the Point-to-Point Mode.

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

Figure 2-18. SIP Page Set to Point-to-Point Mode

Device is set to NOT register with a SiP server

2.3.13.3 Delayed DTMF

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

Table 2-13. Examples of Dial-Out Extension Strings

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

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

2.3.14 Configure the Audio Configuration Parameters

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

1. Click on the **Audiofiles** menu button to open the **Audiofiles** page (Figure 2-19).
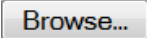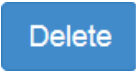
Figure 2-19. Audiofiles Configuration Page

Home	Device	Network	SIP	Audiofiles	Events	Autoprov	Firmware

CyberData Industrial VoIP Phone

Available Space: 36.08MB

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

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

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

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

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

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

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

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

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

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

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

Your IP Address Is: Currently set to default
Browse... No file chosen   Play Delete Save

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

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

2. On the **Audiofiles** page, enter values for the parameters indicated in Table 2-14.

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

Table 2-14. Audiofiles Configuration Parameters

Web Page Item	Description
Available Space	Shows the space available for the user to save custom audio files if they want to change the message when the door or sensor is triggered.
0-9	The name of the audio configuration option is the same as the spoken audio that plays on the board (24 character limit).
	'0' corresponds to the spoken word "zero."
	'1' corresponds to the spoken word "one."
	'2' corresponds to the spoken word "two."
	'3' corresponds to the spoken word "three."
	'4' corresponds to the spoken word "four."
	'5' corresponds to the spoken word "five."
	'6' corresponds to the spoken word "six."
	'7' corresponds to the spoken word "seven."
	'8' corresponds to the spoken word "eight."
	'9' corresponds to the spoken word "nine."
Dot	Corresponds to the spoken word "dot." (24 character limit)
Your IP Address is	Corresponds to the message "Your IP address is..." (24 character limit).
Rebooting	Corresponds to the spoken word "Rebooting" (24 character limit).
Restoring default	Corresponds to the message "Restoring default" (24 character limit).
Browse...	Click on the **Browse** button to navigate to and select an audio file.
Play	The **Play** button will play that audio file.
Delete	The **Delete** button will delete any user uploaded audio and restore the stock audio file.
Save	The **Save** button will download a new user audio file to the board once you've selected the file by using the **Browse** button. The **Save** button will delete any pre-existing user-uploaded audio files.

2.3.14.1 User-created Audio Files

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

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

You can use the free utility *Audacity* to convert audio files into this format. See Figure 2-20 through Figure 2-22.

Figure 2-20. Audacity 1
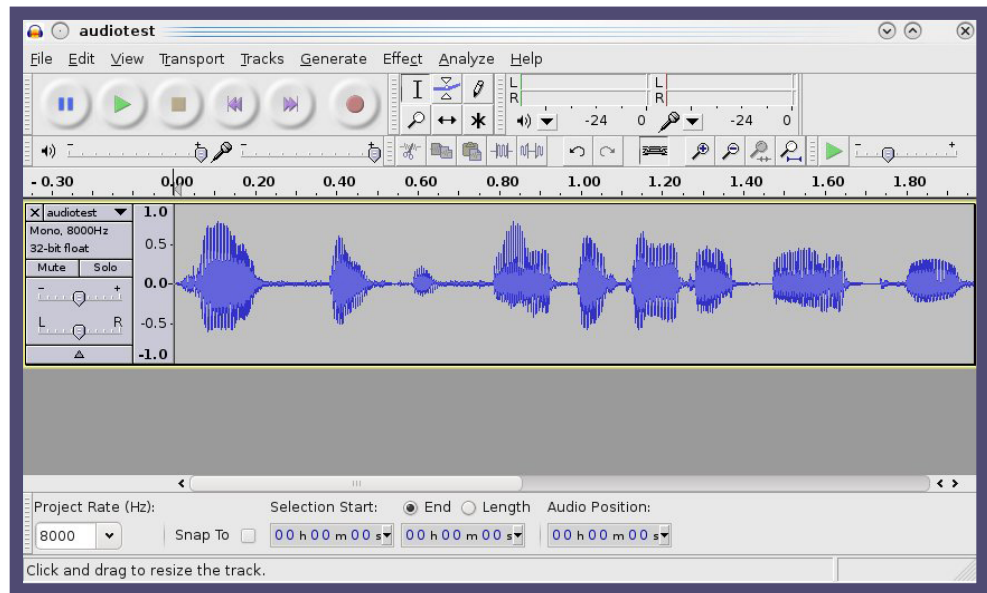
Figure 2-21. Audacity 2
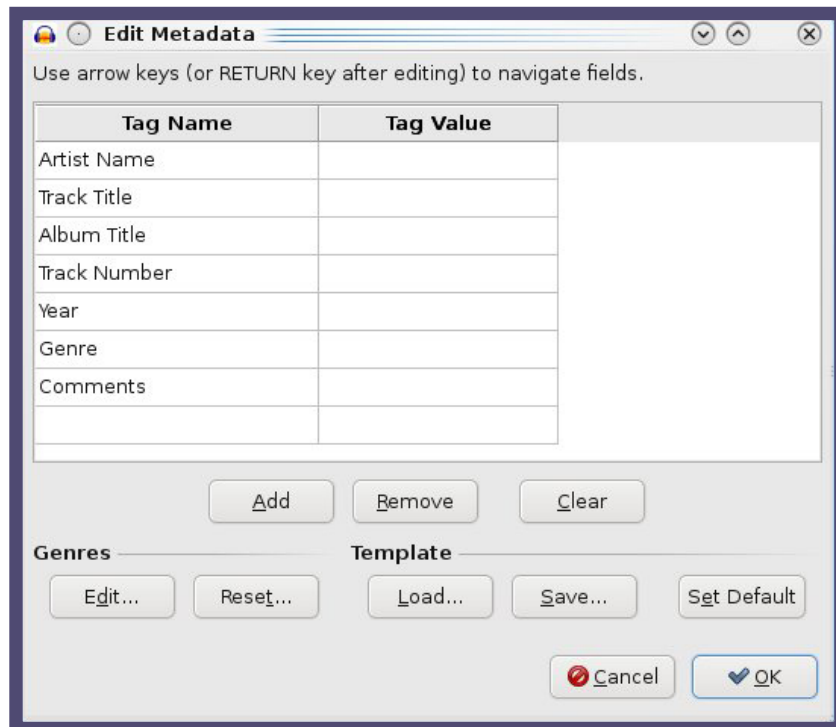
When you export an audio file with Audacity, save the output as:

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

Figure 2-22. WAV (Microsoft) signed 16 bit PCM
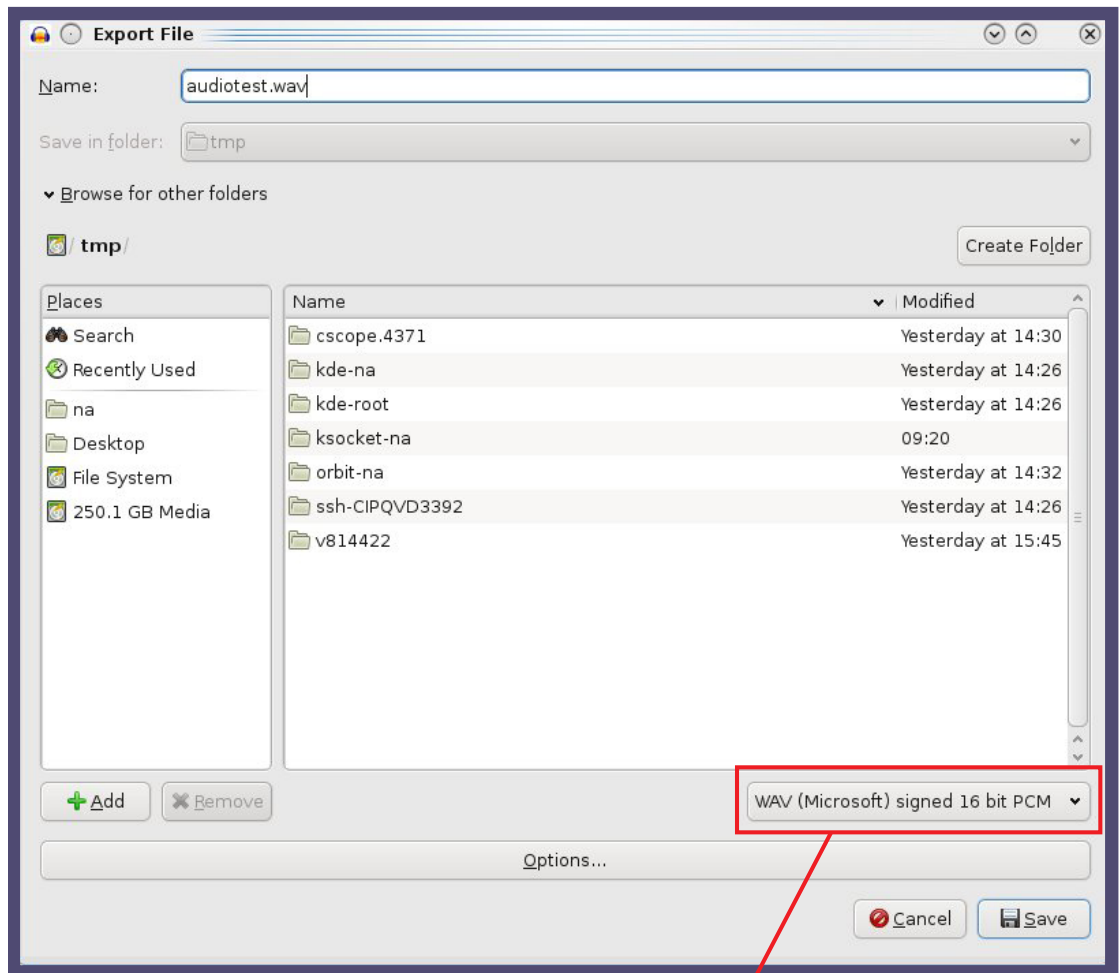
WAV (Microsoft) signed 16 bit PCM

2.3.15 Configure the Events Parameters

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

1. Click on the **Events** menu button to open the **Events** page (Figure 2-23).

Figure 2-23. Event Configuration Page

Home	Device	Network	SIP	Audiofiles	Events	Autoprov	Firmware

CyberData Industrial VoIP Phone

Enable Event Generation: ☐

Events

Enable Button Events: ☐
Enable Call Start Events: ☐
Enable Call Terminated Events: ☐
Enable Relay Activated Events: ☐
Enable Relay Deactivated Events: ☐
Enable Ring Events: ☐
Enable Night Ring Events: ☐
Enable Power On Events: ☐
Enable 60 Second Heartbeat: ☐
Check All   Uncheck All

Event Server

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

[Save] [Reboot] [Toggle Help]

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

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

Table 2-15. Events Configuration Parameters

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

Table 2-15. Events Configuration Parameters(continued)

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

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

Note   Selecting particular events, **Check All**, or **Uncheck All** does not require a reboot for the changes to take effect.

2.3.15.1 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>
```

2.3.16 Configure the Autoprovisioning Parameters

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

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

1. Click the **Autoprov** menu button to open the **Autoprovisioning** page. See Figure 2-24.

Figure 2-24. Autoprovisioning Page

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

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

Table 2-16. Autoprovisioning Configuration Parameters
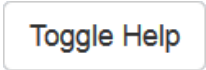
Web Page Item	Description
Disable Autoprovisioning ?	Prevent the device from automatically trying to download a configuration file. See Section 2.3.16.1, "Autoprovisioning" for more information.
Autoprovisioning Server ?	Enter the IPv4 address of the provisioning server in dotted decimal notation.
Autoprovisioning Filename ?	The autoprovisioning filename is the configuration filename. The default autoprovisioning filename is in the format of **<mac address>.xml**.
	Supported filename extensions are .txt, and .xml. The current filename is denoted by an asterisk at the bottom of the **Autoprovisioning Page**. Enter up to 256 characters.
	A file may have any name with an xml extension. If a file name is entered, the device will look for the specified file name, and only that file.
Use tftp ?	The device will use TFTP (instead of http) to download autoprovisioning files.
Username ?	The username used to authenticate with an autoprovisioning server. Leave this field blank to disable authentication.
Password ?	The password used to authenticate with an autoprovisioning server. Leave this field blank to disable authentication.
Autoprovisioning Autoupdate (in minutes) ?	The reoccurring time (in minutes) the device will wait before checking for new autoprovisioning files. Enter up to 6 digits. A value of 0 will disable this option.
	Note: To use the auto update options, enable the **Set Time with NTP Server on boot** setting on the **Device Configuration Page** page (see Table 2-5).
Autoprovision at time (HHMMSS) ?	The time of day the device will check for a new autoprovisioning file. The time must be 6 characters in length and in HHMMSS format. An empty value will disable this option.
	Note: To use the auto update options, enable the **Set Time with NTP Server on boot** setting on the **Device Configuration Page** page (see Table 2-5).
Autoprovision when idle (in minutes > 10) ?	The idle time (in minutes greater than 10) after which the device will check for a new autoprovisioning file. Enter up to 6 digits. A value of 0 will disable this option.
	Note: To use the auto update options, enable the **Set Time with NTP Server on boot** setting on the **Device Configuration Page** page (see Table 2-5).
Save	Click the **Save** button to save your configuration settings.
	Note: You need to reboot for changes to take effect.

Table 2-16. Autoprovisioning Configuration Parameters (continued)

Web Page Item	Description
Reboot	Click on the **Reboot** button to reboot the system.
Toggle Help	Click on the **Toggle Help** button to see a short description of some of the web page items. First click on the **Toggle Help** button, and you will see a question mark (?) appear next to some of the web page items. Move the mouse pointer to hover over a question mark to see a short description of a specific web page item.
Download Template	Press the **Download Template** button to create an autoprovisioning file for the device. See Section 2.3.16.3, "Download Template Button"
Autoprovisioning log	The autoprovisioning log provides information about the latest autoprovisioning attempt (i.e. dhcp options and server accessed and files parsed or not found).

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

2.3.16.1 Autoprovisioning

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

1. The file configured on the autoprovisioning page.

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

3. The file 000000cd.xml

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

By default, the device will get its autoprovisioning server from the DHCP options. See Section 2.3.16.2, "Sample dhcpd.conf" for an example of how to configure dhcpd to offer autoprovisioning server addresses. If multiple options are set, the device will attempt to download autoprovisioning files from every server.

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

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

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

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

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

You can download an autoprovisioning template file from the Autoprovisioning Page using the **Download Template** button (see Table 2-16). 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 Device</DeviceName>
<!--    <AutoprovFile>common.xml</AutoprovFile>-->
<!--    <AutoprovFile>sip_reg[macaddress].xml</AutoprovFile>-->
<!--    <AutoprovFile>audio[macaddress]</AutoprovFile>-->
<!--    <AutoprovFile>device[macaddress].xml</AutoprovFile>-->
    </MiscSettings>
```

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

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

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

The file 0020f7123456.xml contains:

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

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

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

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

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

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

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

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

Checking for New Autoprovisioning Files after Boot

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

The
Autoprovisioning
Filename

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

Table 2-17. Autoprovisioning File Name

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

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

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

For example:

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

The autoprovisioning filename is set to "cyberdata/"

On boot, the device will try to download:

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

...and if this fails:

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

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

Autoprovisioning
Firmware Updates

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

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

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

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

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

The list of valid product strings:

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

Autoprovisioning
Example 1

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

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

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

```
000000cd.xml

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

sip_common.xml

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

sip_0020f7020001.xml

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

sip_0020f7020002.xml

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

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

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

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

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

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

Autoprovisioning
Example 2

Here is another example of setting up your autoprovisioning files:

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

```
0020f7020001.xml

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

0020f7020002.xml

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

common_settings.xml

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

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

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

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

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

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

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

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

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

From the common file, a pointer to sip_common.xml

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

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

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

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

2.3.16.2 Sample dhcpd.conf

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

ddns-update-style none;

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

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

    option routers              10.0.0.1;
    option subnet-mask          255.0.0.0;

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

    option time-offset          -8;                # Pacific Standard Time

#    option www-server           99.99.99.99;                  # OPTION 72

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

#    option option-150            10.0.0.252;                 # OPTION 150

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

    range 10.10.0.1 10.10.2.1; }
```

2.3.16.3 Download Template Button

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

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

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

2. You will see a window prompting you to save a configuration file (**.xml**) to a location on your computer (Figure 2-25). 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 2-25.

Figure 2-25. Configuration File
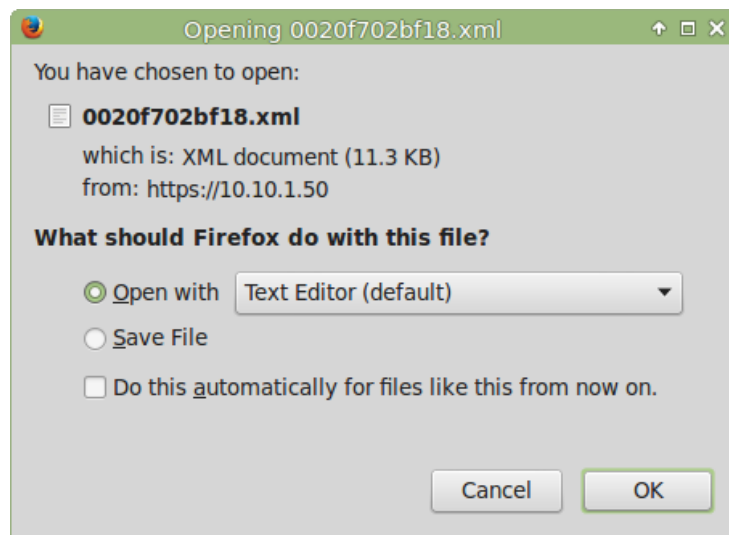
4. At this point, you can open and edit the autoprovisioning template to change the configuration settings in the template for the unit.

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

2.4 Upgrade the Firmware and Reboot the SIP Weatherproof Keypad Phone

<table>
<tr>
<td>⚠
GENERAL ALERT</td>
<td>**Caution**
Equipment Hazard: Devices with a serial number that begins with 460xxxxxx can only run firmware versions 10.0.0 or later.</td>
</tr>
</table>

2.4.1 Downloading the Firmware

To download the firmware to your computer:

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

   http://www.cyberdata.net/voip/011460/

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

   • Firmware file

   • Release notes

3. Log in to the SIP Weatherproof Keypad Phone home page as instructed in Section 2.3.10, "Log in to the Configuration Home Page".

4. Click on the **Firmware** menu button to open the **Firmware** page. See Figure 2-26.

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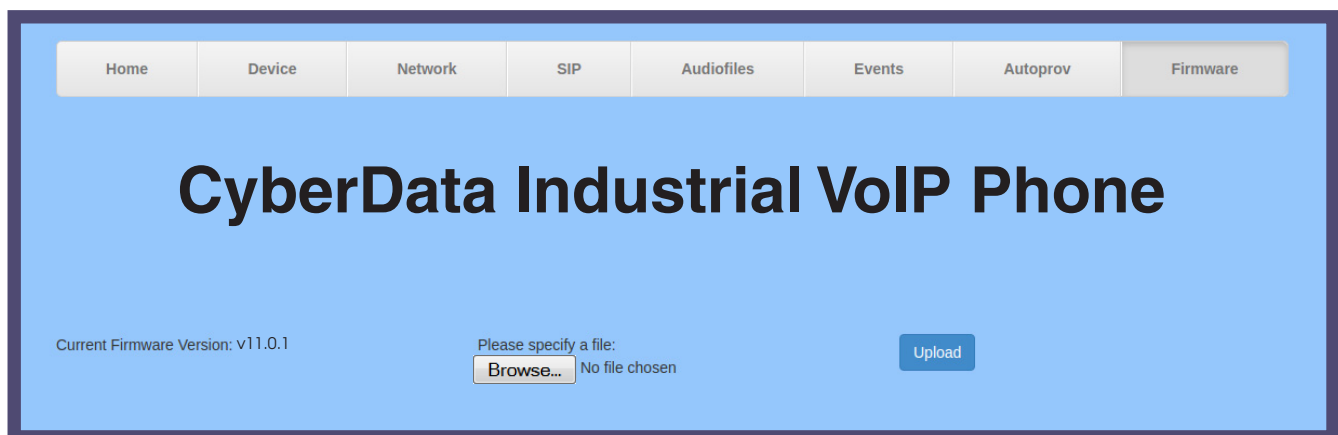<td>⚠
GENERAL ALERT</td>
<td>**Caution**
Equipment Hazard: CyberData strongly recommends that you first reboot the device before attempting to upgrade the firmware of the device. See Section 2.4.2, "Reboot the Device".</td>
</tr>
</table>

Figure 2-26. Firmware Page

5. Click on the **Browse** button, and then navigate to the location of the firmware file.

6. Select the firmware file.

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

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

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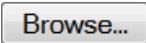
⚠️ GENERAL ALERT

Caution

Equipment Hazard: Restore the factory defaults after upgrading the firmware. See Section 2.4.2, "Reboot the Device".

8. Table 2-18 shows the web page items on the **Firmware** page.

Table 2-18. Firmware Parameters

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

2.4.2 Reboot the Device

To reboot a SIP Weatherproof Keypad Phone, log in to the web page as instructed in Section 2.3.10, "Log in to the Configuration Home Page".

1. Click on the **Reboot** button on the **Home** page (Figure 2-27). A normal restart will occur.

Figure 2-27. Home Page

Reboot button

2.5 Command Interface

Some functions on the device can be activated using simple POST commands to the web interface. The examples in Table 2-19 use the free unix utility, **wget commands**. However, any program that can send HTTP POST commands to the device should work.

2.5.1 Command Interface Post Commands

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

Table 2-19. Command Interface Post Commands

Device Action	HTTP Post Command[a]
Trigger relay (for configured delay)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "test_relay=yes"
Place call to extension (example: extension 130)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "call=130"
Place point-to-point call[b] (example: IP phone address = 10.0.3.72)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "call=10.0.3.72"
Terminate active call	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "terminate=yes"
Force reboot	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "reboot=yes"
Test Audio button	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "test_audio=yes"
Announce IP address	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/command.cgi" --post-data "speak_ip_address=yes"
Play the "0" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_0=yes"
Play the "1" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_1=yes"
Play the "2" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_2=yes"
Play the "3" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_3=yes"

Table 2-19. Command Interface Post Commands (continued)

Device Action	HTTP Post Command[a]
Play the "4" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_4=yes"
Play the "5" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_5=yes"
Play the "6" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_6=yes"
Play the "7" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_7=yes"
Play the "8" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_8=yes"
Play the "9" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_9=yes"
Play the "Dot" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_d=yes"
Play the "Audio Test" audio file (from Audio Config)	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_audiotest=yes"
Play the "Page Tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_pagetone=yes"
Play the "Your IP Address Is" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_youripaddressis=yes"
Play the "Rebooting" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_rebooting=yes"
Play the "Restoring Default" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_restoringdefault=yes"
Play the "Ringback tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_ringback=yes"
Play the "Ring tone" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_ringtone=yes"
Play the "Intrusion Sensor Triggered" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_intrusionsensortriggered=yes"
Play the "Door Ajar" audio file	wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.0.3.71/cgi-bin/audiofiles.cgi" --post-data "play_doorajar=yes"

Table 2-19. Command Interface Post Commands (continued)

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

Table 2-19. Command Interface Post Commands (continued)

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

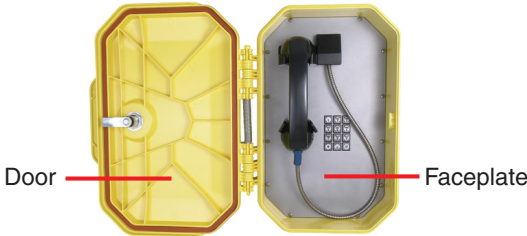a.Type and enter all of each http POST command on one line.
b. Must be in point-to-point mode see Section 2.3.13.2, "Point-to-Point Configuration"

Appendix A: Mounting the SIP Weatherproof Keypad Phone

A.1 Parts List

Table A-1 illustrates the SIP Weatherproof Keypad Phone parts.

Table A-1. Parts List

Quantity	Part Name	Illustration
1	SIP Weatherproof Keypad Phone Assembly	Door — Faceplate
1	Installation Quick Reference Guide	

A.2 Installation

Follow all appropriate electrical codes and use only approved electrical fittings for the installation.

1. Determine if power to operate the device will be provided via the Ethernet or if external power will be required. If external power is required, install an Auxiliary Power Supply or the equivalent. See the Section 2.3.1, "Terminal Block Connections" section.

2. To maintain Ingress Protection / NEMA ratings, use appropriately rated hardware and waterproofing techniques.

3. Choose a wall location that is free of obstructions and permits space for conduit runs.

4. Ensure mounting can support 11 lbs. (4.99kg) and any additional foreseeable load.

If using an auxiliary power supply, ensure it is unplugged during installation to avoid the danger of an accidental shock or circuit damage.

5. Remove the faceplate (see Section A.1, "Parts List") while drilling access holes.

6. Separate the faceplate from the housing by removing the two temporary, factory installed screws.

7. Use the provided template to locate and drill holes for mounting screws. (see Section A.4, "Drilling Holes on the Outside of the Chassis" for suggested locations to route conduit. Remove the faceplate (see Section A.1, "Parts List") while drilling access holes.

8. Bring the Network cable into the enclosure through the conduit entrance and plug into the RJ-45 connector on the PCBA.

9. If using an alternate power supply connect the supply to the terminal block J9. Before doing so determine if power is supplied over the Ethernet cable. See Section 2.3.1, "Terminal Block Connections".

10. Connect the on-board relay if utilized. See the Operations Guide for details.

11. Ensure all connections are secure.

12. Determine that the device is properly connected by pressing the **RESET** switch to announce the IP address (see Section 2.3.5.2, "Reset Test Function Management (RESET) Switch"). LEDs on the RJ45 connector indicate network connection and activity. See the Operations Guide for LED details.

13. Install all mounting screw to secure faceplate to back box.

14. Set up and configure if changes are required to the default settings.

15. Test the unit by calling to and from another device, preferably a VoIP device. See the Operations Guide for LED details.

A.3 Dimensions

Figure A-1. Dimensions
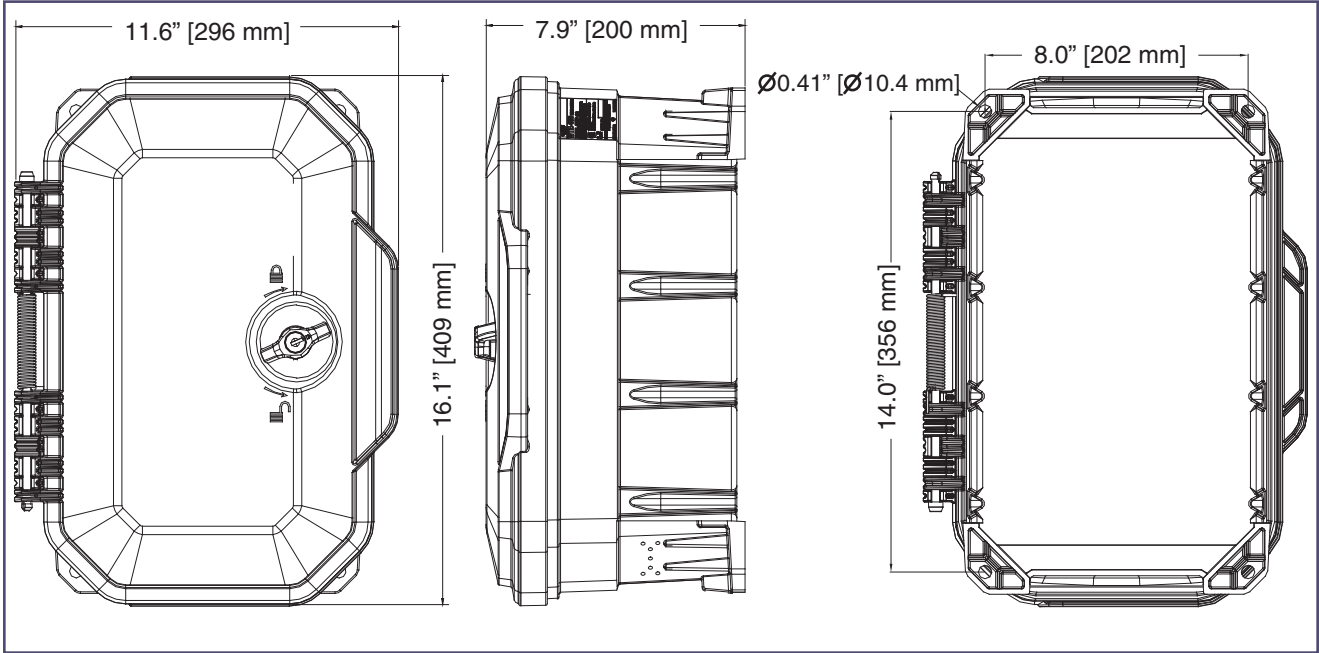
A.4 Drilling Holes on the Outside of the Chassis

See Figure A-2 through Figure A-4 for the dot locations on the outside of the chassis where the drill bit can be placed as a guide for the cutout.

Note The size of the hole depends on the installer's conduit size and location is based on the routing.

Figure A-2. Back of Chassis—Can be used for routing cable
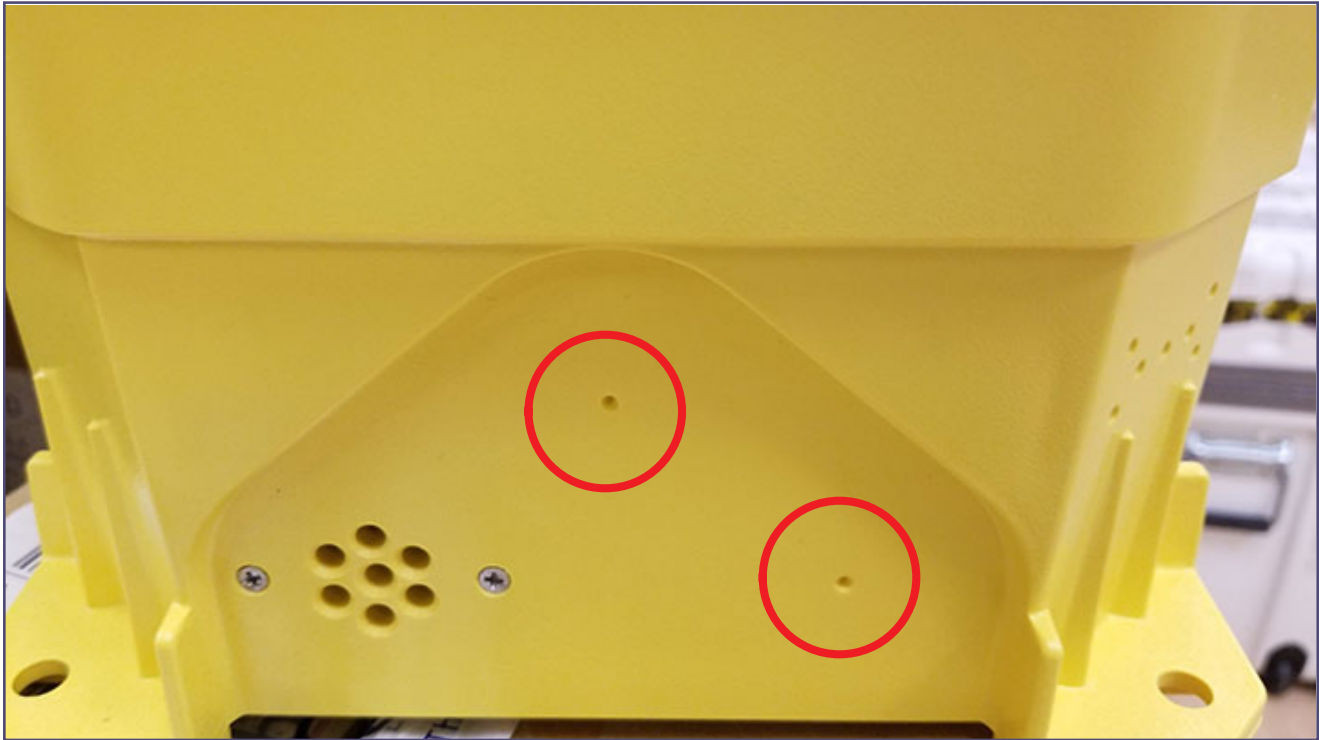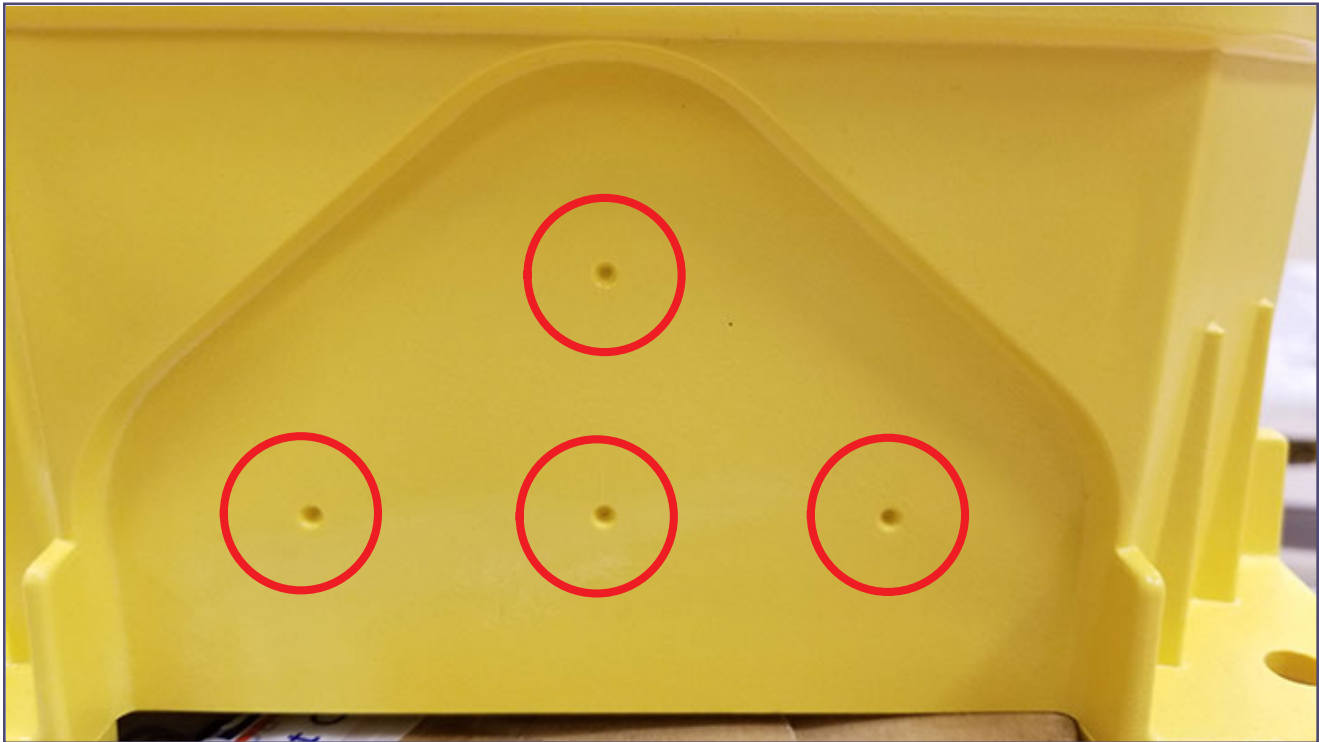
Figure A-3. Bottom of Chassis

Figure A-4. Top of Chassis

Appendix B: Setting up a TFTP Server

B.1 Set up a TFTP Server

Autoprovisioning requires a TFTP server for hosting the configuration file.

B.1.1 In a LINUX Environment

To set up a TFTP server on LINUX:

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

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

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

B.1.2 In a Windows Environment

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

http://www.cyberdata.net/assets/common/Solarwinds.zip

To set up a TFTP server on Windows:

1. Install and start the software.

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

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

Appendix C: Troubleshooting/Technical Support

C.1 Frequently Asked Questions (FAQ)

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

http://www.cyberdata.net/voip/011460/

C.2 Documentation

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

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

http://www.cyberdata.net/voip/011460/

C.3 Contact Information

Contact   CyberData Corporation
                 3 Justin Court
                 Monterey, CA 93940 USA
                 www.CyberData.net
                 Phone: 800-CYBERDATA (800-292-3732)
                 Fax: 831-373-4193

Sales   Sales 831-373-2601, Extension 334

Technical   The fastest way to get technical support for your VoIP product is to submit a VoIP Technical
Support   Support form at the following website:

                 http://support.cyberdata.net/

                 The Support Form initiates a ticket which CyberData uses for tracking customer requests. Most
                 importantly, the Support Form tells us which PBX system and software version that you are
                 using, the make and model of the switch, and other important information. This information is
                 essential for troubleshooting. Please also include as much detail as possible in the **Comments**
                 section of the Support Form.

                 Phone: (831) 373-2601, Extension 333

C.4 Warranty and RMA Information

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

                 http://support.cyberdata.net/

Index

A

activity LED 14
address, configuration login 22
alternative power input 5
audio configuration 43
audio configuration page 43
audio encodings 4
audio files, user-created 45
autoprovision at time (HHMMSS) 54
autoprovision when idle (in minutes > 10) 54
autoprovisioning 55
   download template button 55
   setting up a TFTP server 77
autoprovisioning autoupdate (in minutes) 54
autoprovisioning configuration 53, 54
autoprovisioning filename 54
autoprovisioning server (IP Address) 54
auxiliary relay wiring diagram 11

B

backup SIP server 1 36
backup SIP server 2 36
backup SIP servers, SIP server
   backups 36

C

changing
   the web access password 26
Cisco SRST 36
command interface 68
commands 68
configurable parameters 27, 33
configuration
   audio 43
   network 32
   SIP 35
configuration home page 22
configuration page
   configurable parameters 27, 33
contact information 79
contact information for CyberData 79
current network settings 33
CyberData contact information 79

D

default
   web login username and password 22
default gateway 33
default login address 22
default settings 17, 80
device configuration 26
   device configuration parameters 54
   the device configuration page 53
device configuration page 26
device configuration parameters 27
device configuration password
   changing for web configuration access 26
DHCP Client 4
dial out extension strings 40
dial-out extension strings 42
dimensions 5, 74
   unit dimensions—front and side view 74
discovery utility program 22
DNS server 33
download autoprovisioning template button 55
DTMF tones 40, 42
DTMF tones (using rfc2833) 40

E

enable night ring events 48
ethernet I/F 5
event configuration
   enable night ring events 48
expiration time for SIP server lease 37, 38
export settings 24

F

factory default settings 17
firmware
   where to get the latest firmware 65

G

get autoprovisioning template 55
GMT table 30
GMT time 30

H

home page 22
http POST command 68
http web-based configuration 4

I

identifier names (PST, EDT, IST, MUT) 30
identifying your product 1
import settings 24
import/export settings 24
installation 2
IP address 33

L

lease, SIP server expiration time 37, 38
LED
    green link LED 14
    yellow activity LED 14
link LED 14
Linux, setting up a TFTP server on 77
local SIP port 37
log in address 22

M

mounting 72
    overview of installation types 72, 74, 75, 76
multicast configuration 43

N

navigation (web page) 19
navigation table 19
network configuration 32
Nightringer 9, 64
nightringer settings 37
NTP server 27

O

on-board relay 5, 10
overview of installation types 74, 75, 76

P

part number 5
parts list 7, 72
password
    for SIP server login 36
    login 22
payload types 5
point-to-point configuration 41
port
    local SIP 37
    remote SIP 37
posix timezone string
    timezone string 27
POST command 68
power input 5
    alternative 5
product features 3
product overview
    product features 3
    product specifications 5
    supported protocols 4
    supported SIP servers 4
    typical system installation 2
product specifications 5
protocol 5
protocols supported 4

R

reboot 66, 67
remote SIP port 37
resetting the IP address to the default 78
restoring factory default settings 17, 80
rport discovery setting, disabling 37
RTFM jumper 15, 16, 17
RTP/AVP 4

S

sales 79
server address, SIP 36
service 79
set time with external NTP server on boot 27
setting up the device 9
settings, default 17
SIP
    enable SIP operation 36
    local SIP port 37
    user ID 36
SIP configuration 35
SIP configuration parameters

T

U

V

W