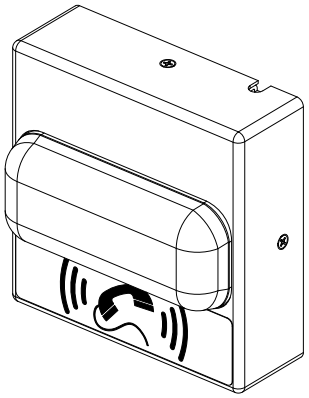
CyberData

The IP Endpoint Company



SIP Strobe Operations Guide

Part #011087

Document Part #930425J

for Firmware Version 8.0.1

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SIP Strobe Operations Guide 930425J
Part # 011087

CyberData
The IP Endpoint Company

Technical Support

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

Phone: (831) 373-2601, Ext. 333
Email: support@cyberdata.net
Fax: (831) 373-4193
Company and product information is at **www.cyberdata.net**.

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 SIP Strobe enclosure is not rated for any AC voltages!**

Warning

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

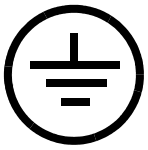
Warning

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

Warning

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

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.

Abbreviations and Terms

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

Revision Information

Revision 930425J, which corresponds to firmware version 8.0.1, was released on October 30, 2015 and has the following changes:

- Updates the following specifications in Table 1-1, "Specifications":
  - Power Input: PoE 802.3af compliant or +8 to +12VDC @ 1000mA Regulated Power Supply
  - Speaker Output: 1 Watt Peak Power
  - On-Board Relay: 1A at 30 VDC
  - Dimensions: 5.118 inches [130 mm] Length, 2.252 inches [57.21 mm] Width, 5.118 inches [130 mm] Height
  - Weight: 1.0 lbs. (0.45 kg)
  - Boxed Weight: 2.0 lbs. (0.90 kg)
- Updates Figure 2-3, "SIP Strobe Connections"

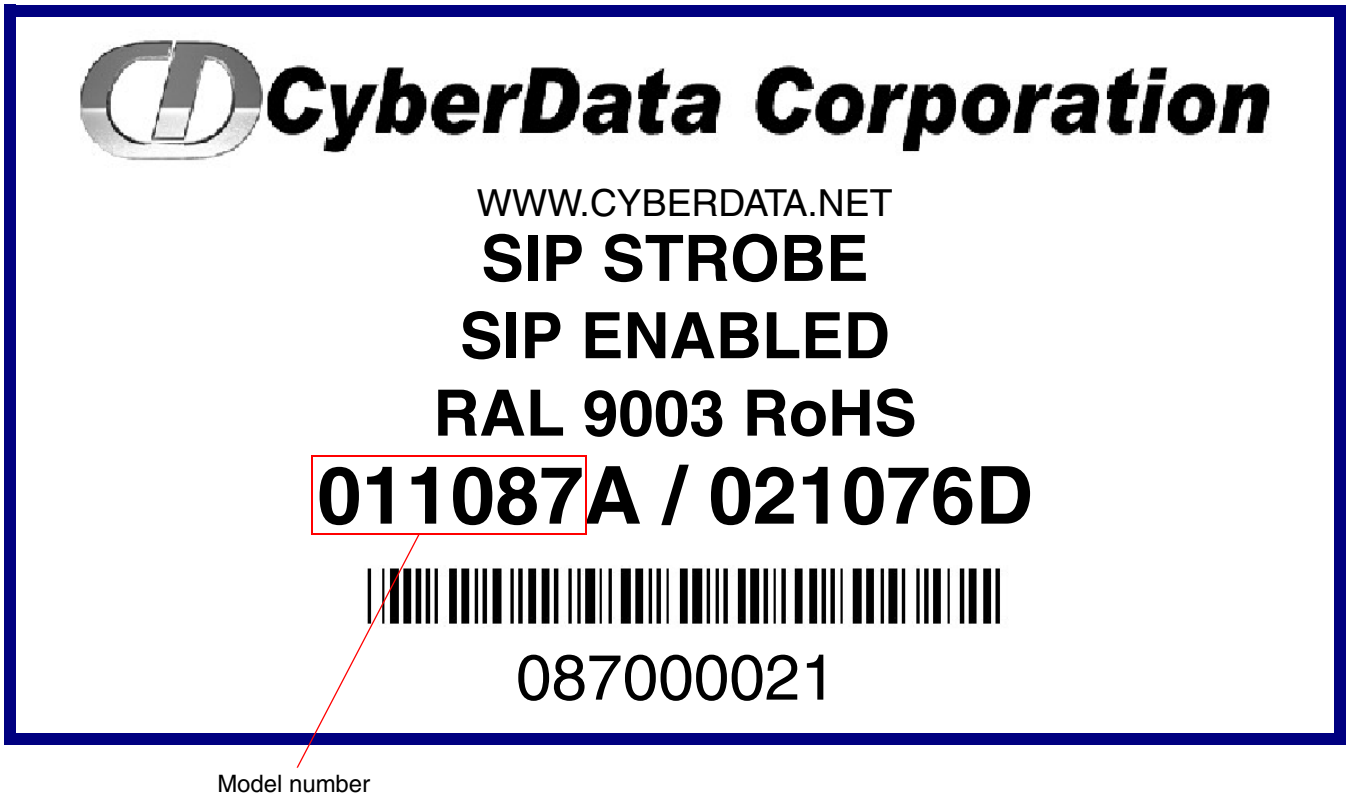
Contents

1 Product Overview

1.1 How to Identify This Product

To identify the SIP Strobe, look for a model number label similar to the one shown in Figure 1-1. The model number on the label should be **011087**.

Figure 1-1. Model Number Label

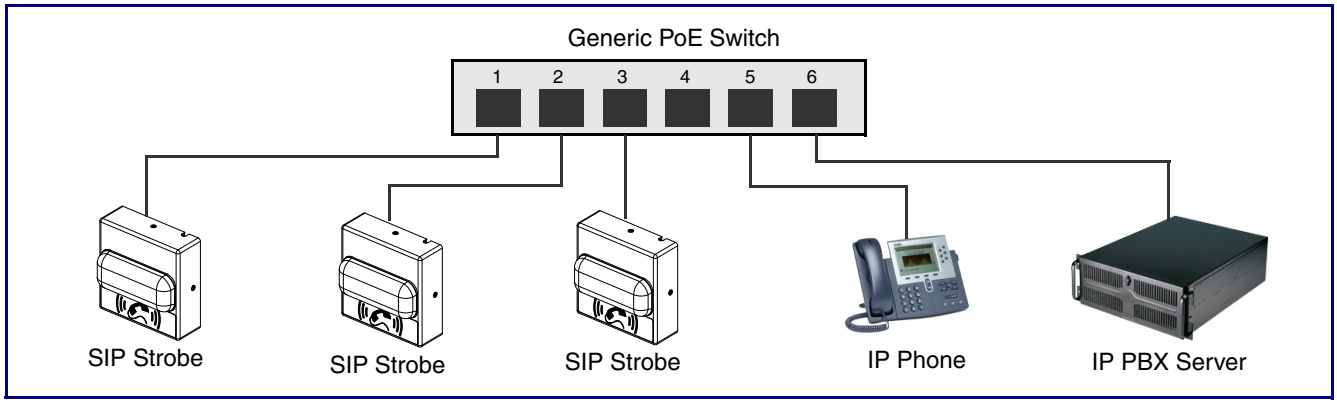


1.2 Typical System Installation

The Session Initiation Protocol (SIP) SIP Strobe is a SIP endpoint designed to provide VoIP phone connectivity in a tamper proof and secure package.

Figure 1-2 illustrate how the SIP Strobes can be installed as part of a VoIP phone system.

Figure 1-2. Typical Installation



Warning

Electrical Hazard: The SIP Strobe enclosure is not rated for any AC voltages.

Warning

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

Warning

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

Warning

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

1.3 Product Features

- Meets ADA requirements for telephony signaling and notification
- Program or listen to up to 10 multicast addresses
- SIP activation
- Mailbox message waiting indication
- Multicast activation
- Cisco SRST support
- Event-controlled relay

  Note: 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.
- Tamper sensor
- Web-based setup
- PoE-powered

1.4 Supported Protocols

The SIP Strobe supports:

- SIP
- HTTP Web-based configuration

  Provides an intuitive user interface for easy system configuration and verification of SIP Strobe operations.
- DHCP Client

  Dynamically assigns IP addresses in addition to the option to use static addressing.
- RTP
- RTP/AVP - Audio Video Profile
- Audio Encodings

  PCMU (G.711 mu-law)

  PCMA (G.711 A-law)

  Packet Time 20 ms

1.5 Supported SIP Servers

Go to the following link to find the SIP Strobe product page which will have information on how to configure the SIP Strobe for various supported SIP servers:

http://www.cyberdata.net/support/server/index.html

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 +8 to +12VDC @ 1000mA Regulated Power Supply[a]
Light power	Up to 90 candela (user-selectable)
Flash rate	5 user-defined scenes
LED MTBF	100,000 Hours
On-Board Relay	1A at 30 VDC
Operating Temperature	-10° C to 50° C (14° F to 122° F)
Payload Types	G711, A-law and µ-law
Dimensions	4.5 inches [115 mm] Length 2.1 inches [55 mm] Width 4.5 inches [115 mm] Height
Weight	1.0 lbs. (0.45 kg)
Boxed Weight	2.0 lbs. (0.90 kg)
Part Number	011087

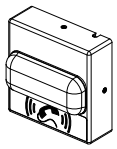
a. Contacts 1 and 2 on the J3 terminal block are only for powering the device from a non-PoE 12VDC power source as an alternative to Network PoE power. Use of these contacts for any other purpose will damage the device and void the product warranty.

2 Installing the SIP Strobe

2.1 Parts List

Table 2-2 illustrates the SIP Strobe parts.

Table 2-2. Parts List

Quantity	Part Name	Illustration
1	SIP Strobe Assembly	
1	Installation Quick Reference Guide	
1	SIP Strobe Mounting Accessory Kit	

2.1 SIP Strobe Setup

2.1.1 SIP Strobe Connections

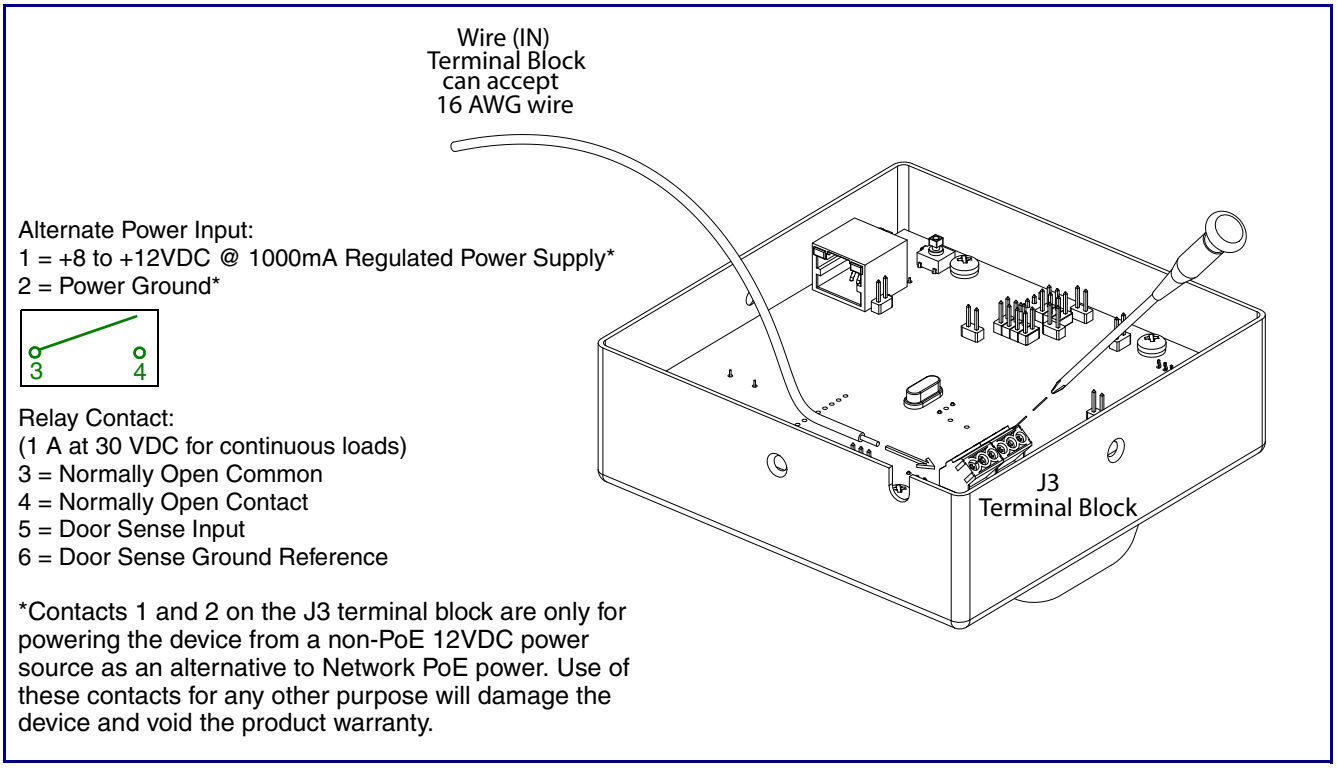
Figure 2-3 shows the pin connections on the J3 (terminal block). This terminal block can accept 16 AWG gauge wire.

Note As an alternative to using PoE power, you can supply +8 to +12VDC @ 1000mA Regulated Power Supply into the terminal block.

Caution

Equipment Hazard: Contacts 1 and 2 on the J3 terminal block are only for powering the device from a non-PoE 12 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 2-3. SIP Strobe Connections



2.1.2 Connecting the SIP Strobe to the On-Board Relay

Warning

Electrical Hazard: The SIP Strobe enclosure is not rated for any AC voltages.

Warning

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

Warning

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

Warning

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.

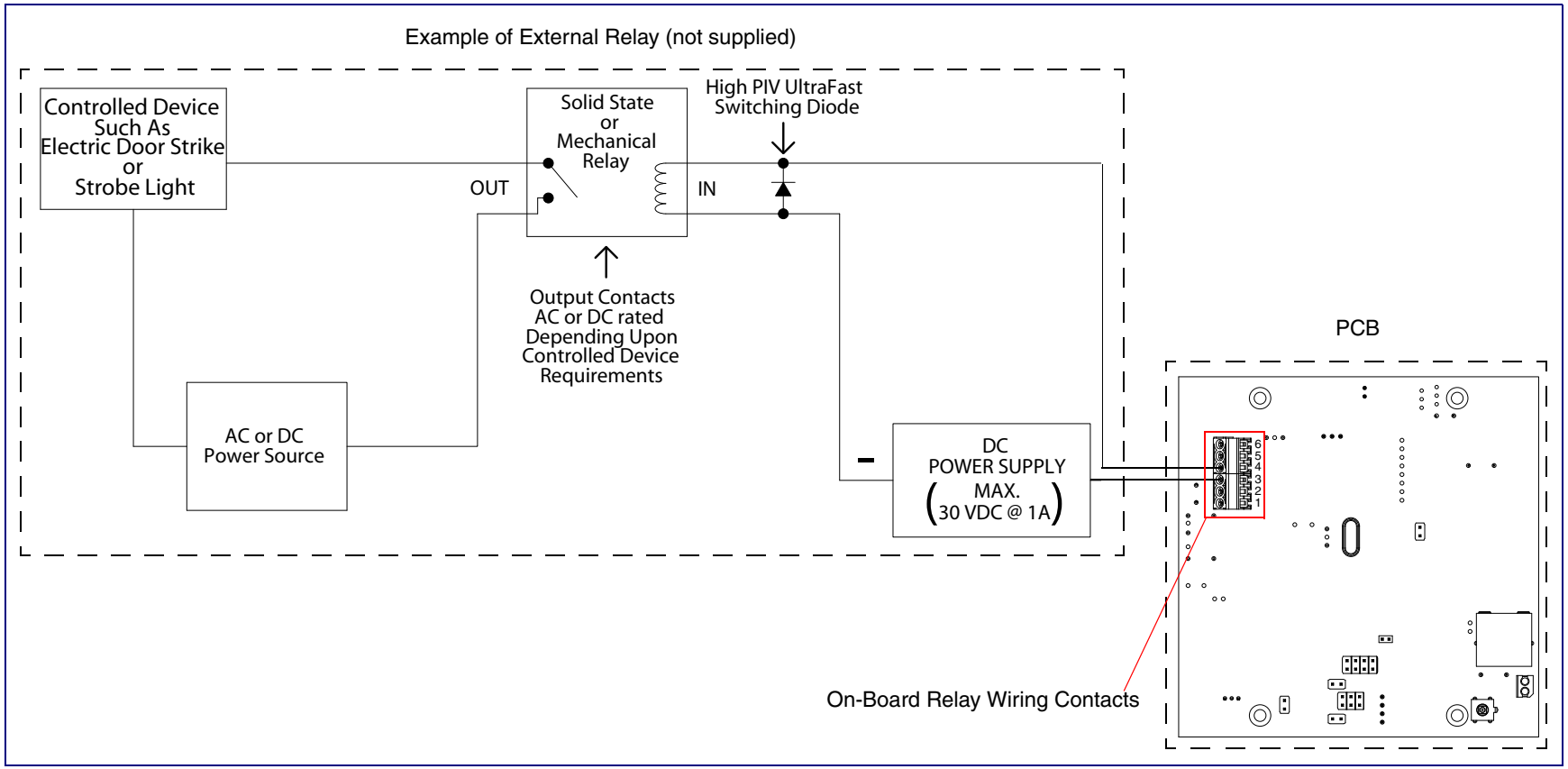
Warning

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

The device incorporates an on-board relay which enables users to control an external relay for activating an auxiliary device such as an electric door strike (see Figure 2-4, "Wiring Diagram").

The relay contacts are limited to 1A at 30 VDC. The relay activation time is selectable through the web interface and is controlled by DTMF tones generated from the phone being called. The DTMF tones are selectable from the web interface as well.

Figure 2-4. Wiring Diagram



2.1.3 Identifying the SIP Strobe Connectors and Jumpers

See the following figures and tables to identify the SIP Strobe connector locations and functions.

Figure 2-5. Connector Locations

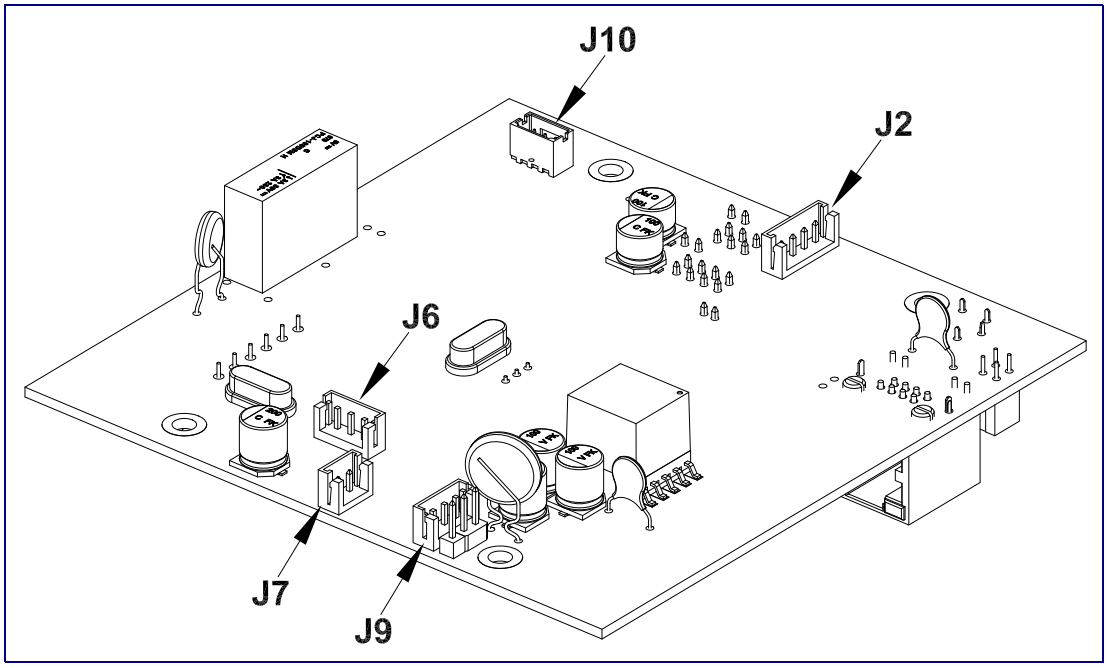


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Table 2-3. Connector Functions

Connector	Function
J2	Call Button Interface — Not Used
J6	Microphone Interface — Not Used
J7	Speaker Interface — Not Used
J9	Strobe Power Interface
J10	Proximity Sensor Interface — Not Used

Figure 2-6. Connector Locations

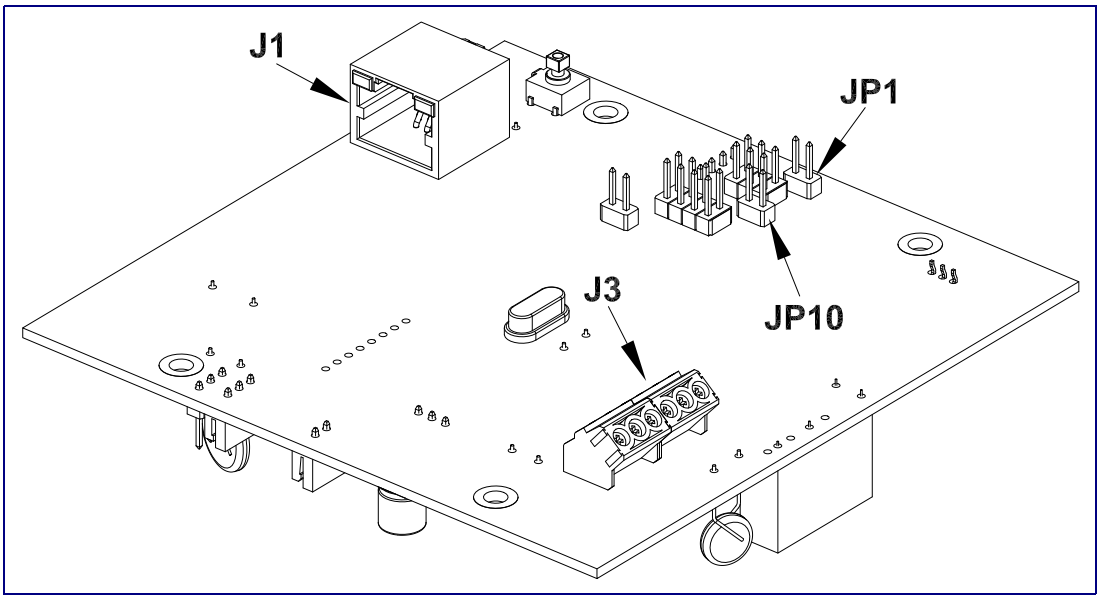

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Table 2-4. Connector Functions

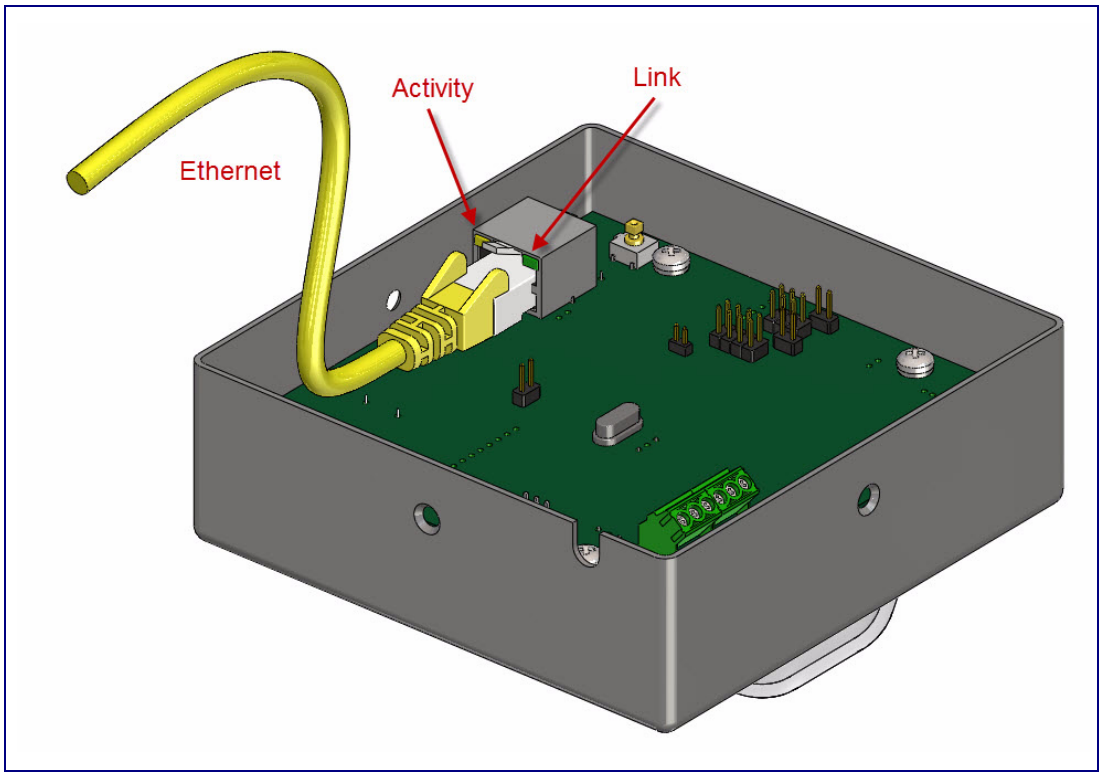
Connector	Function
J1	Ethernet Connector
J3	User Terminal Block Interface
JP1	Manual Reset — Factory only
JP10	Intrusion Sensor Disable. Place jumper on to disable.

2.1.4 Network Connectivity, and Data Rate

When you plug in the Ethernet cable or power supply:

- The square, green **Link** light above the Ethernet port indicates that the network connection has been established (see Figure 2-7).

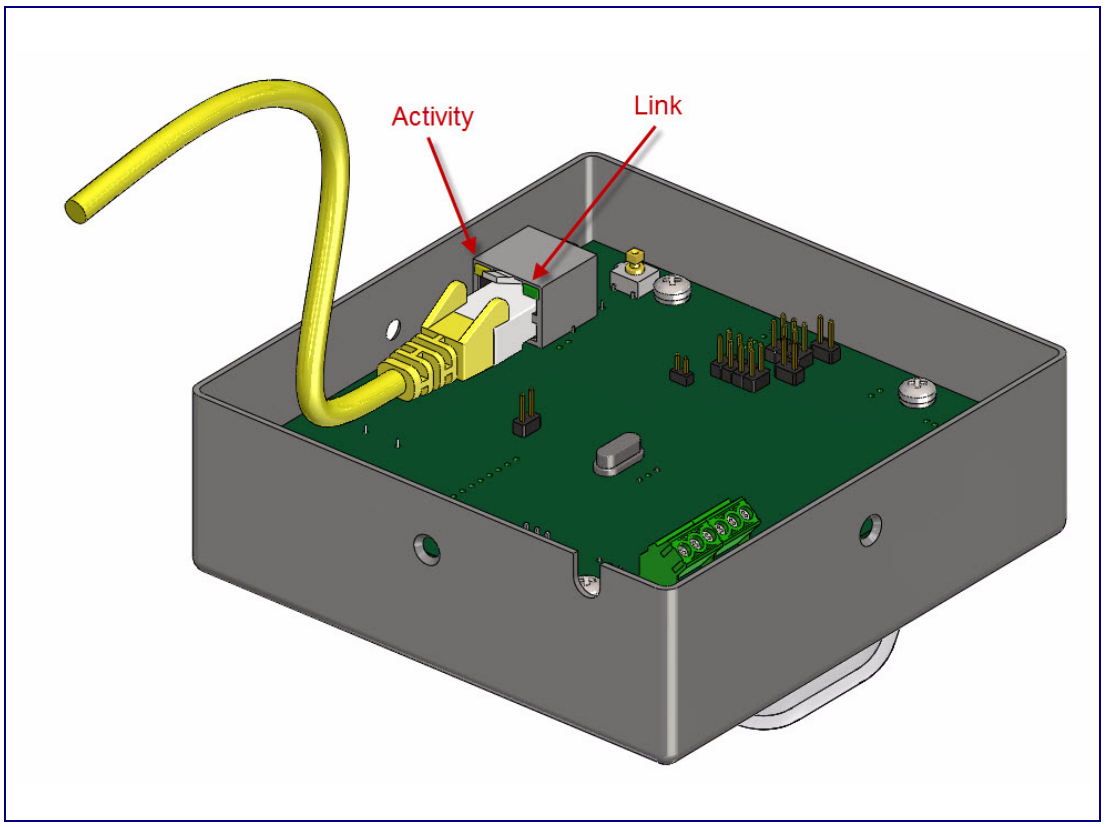
Figure 2-7. Network Connector Prior to Installation



2.1.4.1 Verify Network Activity

The square, yellow **Activity** light blinks when there is network activity.

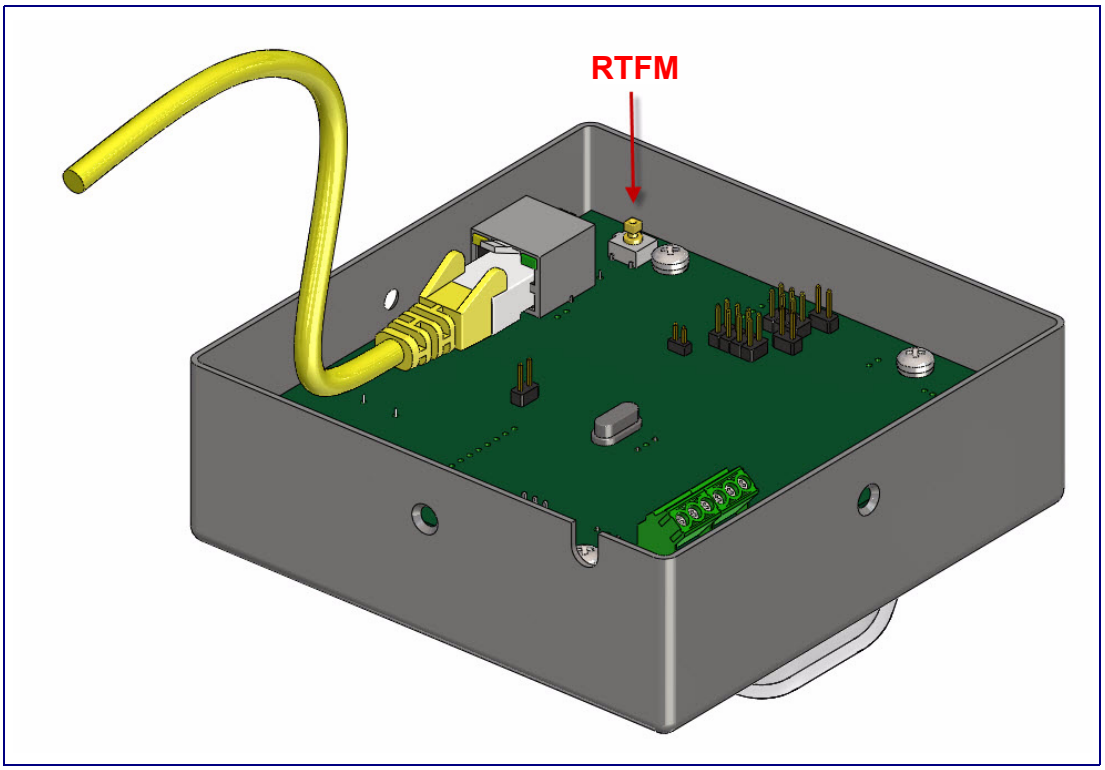
Figure 2-8. Network Connector



2.1.5 RTFM Switch

When the SIP Strobe is operational and linked to the network, use the Reset Test Function Management **(RTFM)** switch (Figure 2-9) on the SIP Strobe board to restore the unit to the factory default settings.

Figure 2-9. RTFM Switch



2.1.6 Restore the Factory Default Settings

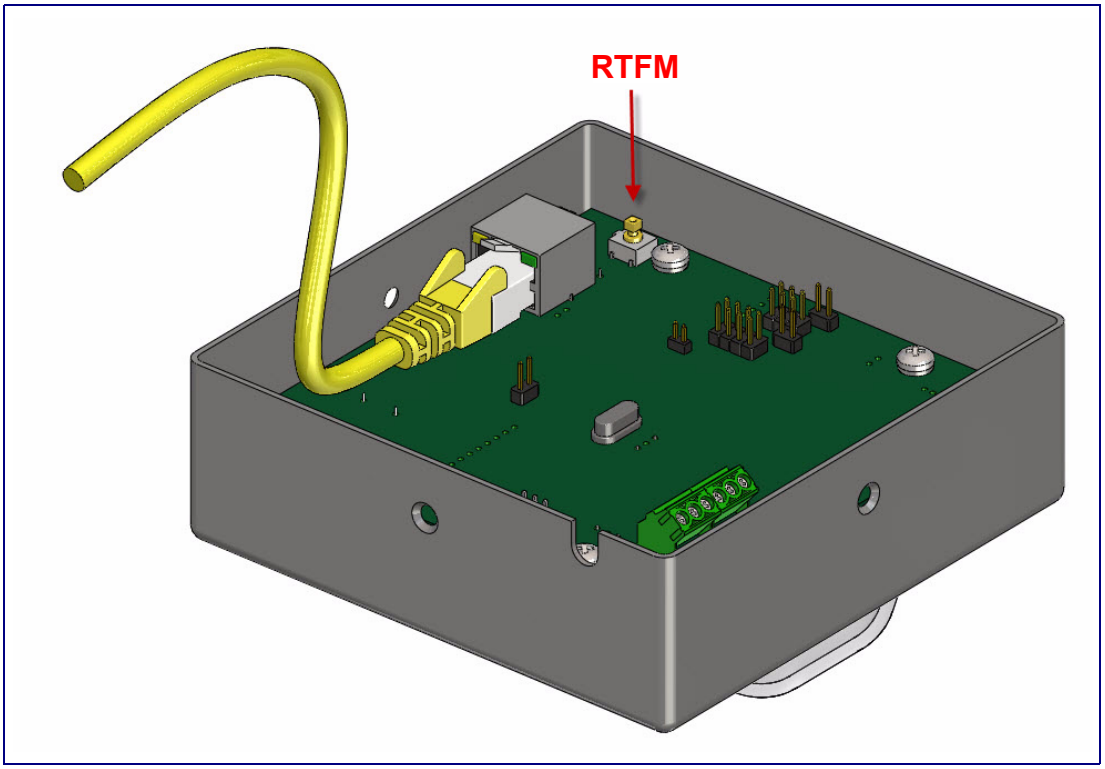
2.1.6.1 RTFM Switch

When the SIP Strobe is operational and linked to the network, use the Reset Test Function Management (RTFM) switch (Figure 2-10) to set the factory default settings.

Note Each SIP Strobe is delivered with factory set default values.

Note The SIP Strobe 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 2-10. RTFM Switch



To set the factory default settings:

1. Press and hold the RTFM switch for seven seconds, and then release the RTFM switch.

2.2 Configure the SIP Strobe Parameters

To configure the SIP Strobe online, use a standard web browser.

Configure each SIP Strobe and verify its operation *before* you mount it. When you are ready to mount an SIP Strobe, refer to Appendix A, "Mounting the SIP Strobe" for instructions.

All SIP Strobes are initially configured with the following default IP settings:

When configuring more than one SIP Strobe, attach the SIP Strobes to the network and configure one at a time to avoid IP address conflicts.

Table 2-5. Factory Default Settings

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

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

2.2.1 SIP Strobe Web Page Navigation

Table 2-6 shows the navigation buttons that you will see on every SIP Strobe web page.

Table 2-6. Web Page Navigation

Web Page Item	Description
	Link to the **Home** page.
	Link to the **Device Configuration** page.
	Link to the **Networking** page.
	Link to go to the **SIP Configuration** page.
	Link to go to the **Nightringer** page.
	Link to the **Sensor Configuration** page.
	Link to the **Multicast Configuration** page.
	Link to the **Event Configuration** page.
	Link to the **Autoprovisioning Configuration** page.
	Link to the **Update Firmware** page.

2.2.2 Log in to the Configuration Home Page

1. Open your browser to the SIP Strobe 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 Strobe.

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

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

http://www.cyberdata.net/support/voip/discovery_utility.html

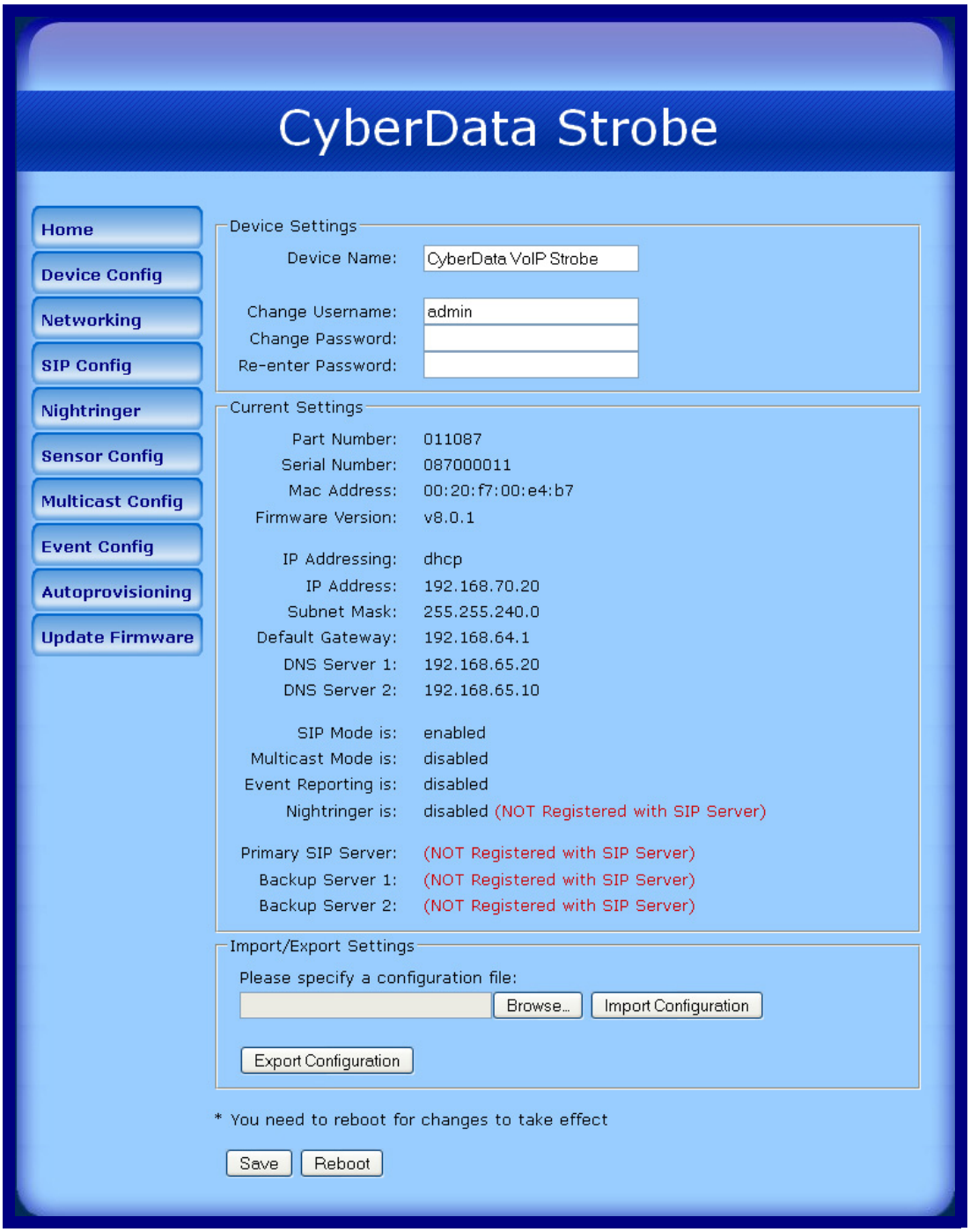
Note The SIP Strobe ships in DHCP mode. To get to the **Home** page, use the discovery utility to scan for the device on the network and open your browser from there.

2. When prompted, use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-11):

   Web Access Username: **admin**

   Web Access Password: **admin**

Figure 2-11. Home Page



3. On the **Home Page**, review the setup details and navigation buttons described in Table 2-7.

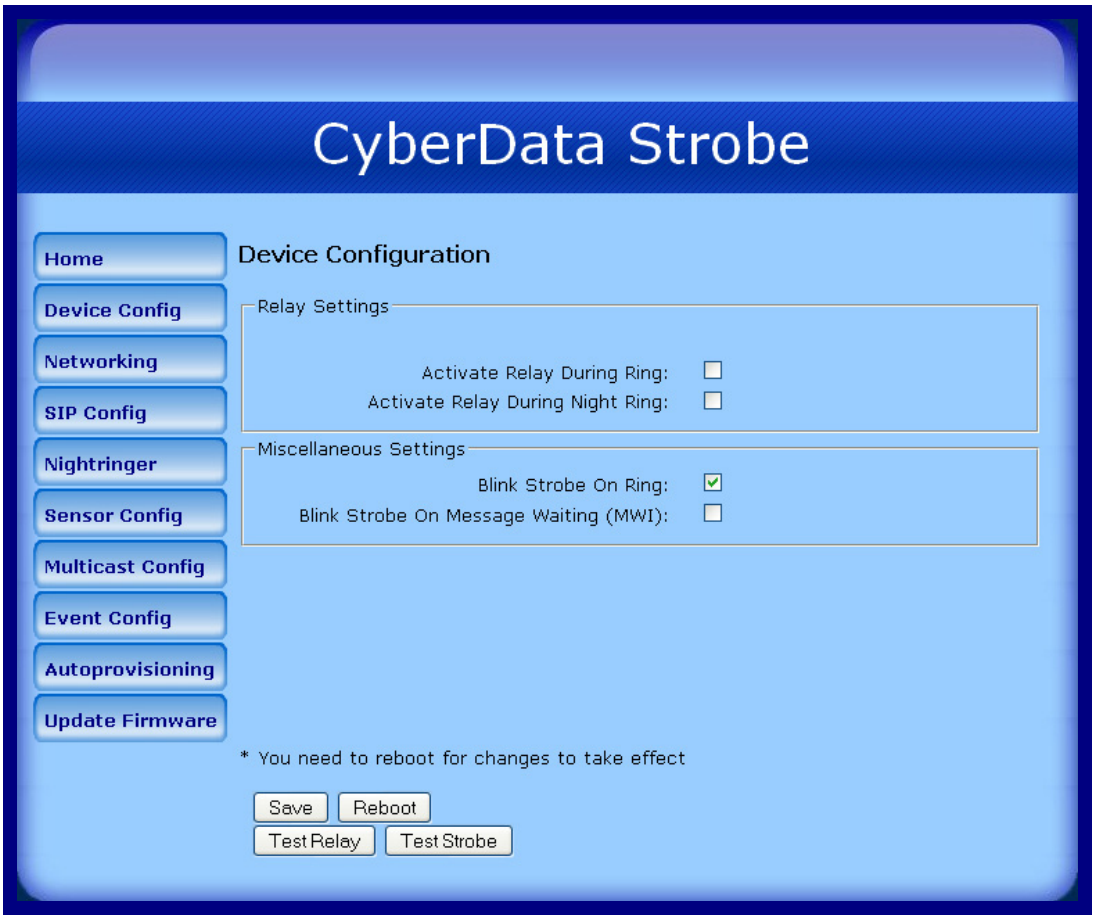
Table 2-7. Home Page Overview

Web Page Item	Description
Device Settings	
Device Name	Shows the device name.
Change Username	Type in this field to change the username.
Change Password	Type in this field to change the password.
Re-enter Password	Type the password again in this field to confirm the new password.
Current Settings	
Part Number	Shows the device 01 part number.
Serial Number	Shows the device serial number.
Mac Address	Shows the device Mac address.
Firmware Version	Shows the current firmware version.
IP Addressing	Shows the current IP addressing setting (**DHCP** or **static**).
IP Address	Shows the current IP address.
Subnet Mask	Shows the current subnet mask address.
Default Gateway	Shows the current default gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
SIP Mode is	Shows the current status of the SIP mode.
Multicast Mode is	Shows the current status of the Multicast mode.
Event Reporting is	Shows the current status of the Event Reporting mode.
Nightringer is	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.
Import/Export Settings	
Browse...	Press the **Browse** button to select a configuration file to import.
Import Configuration	Press the **Import Configuration** button to save a board configuration to the board. **Note**: The board will have to be reset before changes will take effect.
Export Configuration	Press the **Export Configuration** button to download the current board configuration.
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.

2.2.3 Configure the Device

1. Click the **Device Configuration** button to open the **Device Configuration** page. See Figure 2-12.

Figure 2-12. Device Configuration Page



2. On the **Device Configuration** page, you may enter values for the parameters indicated in Table 2-8.

Table 2-8. Device Configuration Parameters

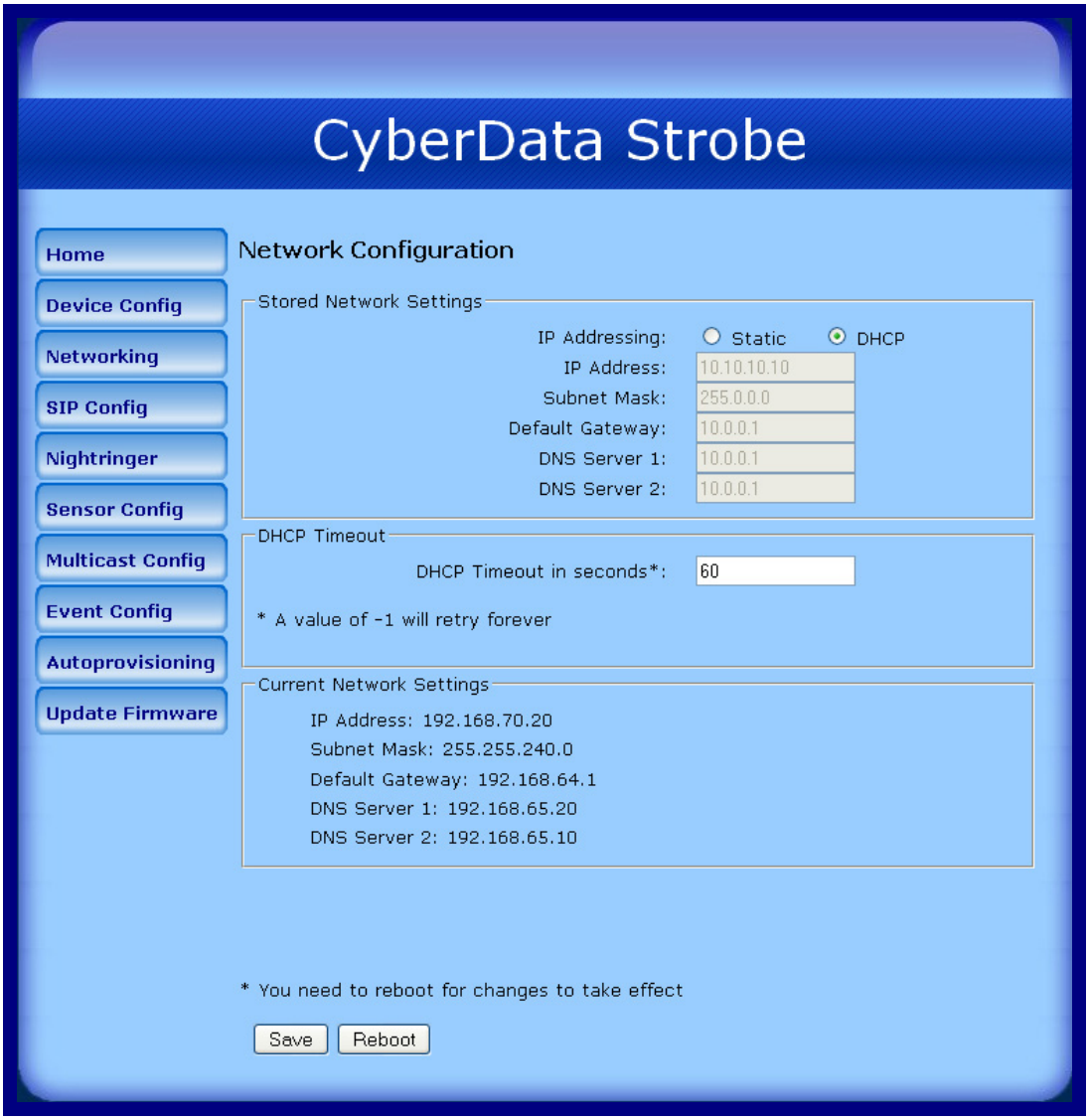
Web Page Item	Description
Relay Settings	
Activate Relay During Ring	When selected, the relay will be activated for as long as the call is active.
Activate Relay During Night Ring	Check this box to activate the relay for as long as a Night Ring tone is ringing.
Miscellaneous Settings	
Blink Strobe on Ring	When selected, the strobe light will blink during an incoming call.
Blink Strobe on Message Waiting (MWI)	When selected, the strobe light will blink if there is a message waiting.
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.
Test Relay	Click on the **Test Relay** button to do a relay test.
Test Strobe	Click on the **Test Strobe** button to do a strobe test.

3. After changing the parameters, click the **Save** button.

2.2.4 Configure the Network Parameters

1. Click the **Networking** button to open the **Network Configuration** page (Figure 2-13).

Figure 2-13. Network Configuration Page



2. On the **Network Configuration** page, enter values for the parameters indicated in Table 2-9.

Table 2-9. Network Configuration Parameters

Web Page Item	Description
IP Addressing	Select either **DHCP IP Addressing** or **Static IP Addressing** by marking the appropriate radio button. If you select **Static**, configure the remaining parameters indicated in Table 2-9. If you select **DHCP**, go to Step 3.
Stored Network Settings	
IP Address	Enter the Static IP address.
Subnet Mask	Enter the Subnet Mask address.
Default Gateway	Enter the Default Gateway address.
DNS Server 1	Enter the DNS Server 1 address.
DNS Server 2	Enter the DNS Server 2 address.
DHCP Timeout	
DHCP Timeout in seconds	Enter the desired timeout duration (in seconds) that the device will wait for a response from the DHCP server before defaulting back to the stored static IP address. **Note**: A value of **-1** will cause the device to retry indefinitely and a value of **0** will cause the device to reset to a default of 60 seconds.
Current Network Settings	Shows the current network settings.
IP Address	Shows the current Static IP address.
Subnet Mask	Shows the current Subnet Mask address.
Default Gateway	Shows the current Default Gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Reboot	Click on the **Reboot** button to reboot the system.

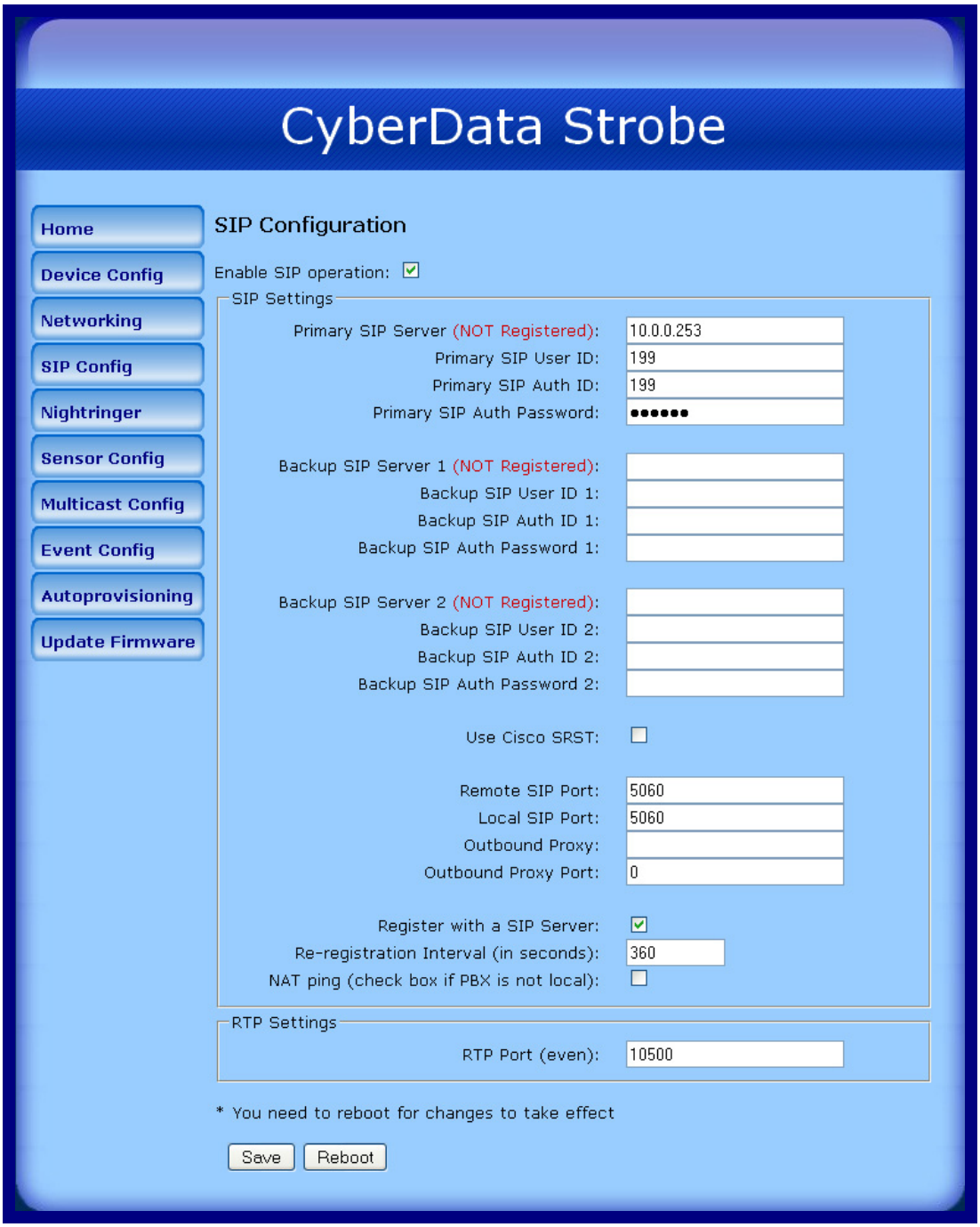
3. After changing the parameters, click **Save Settings**. This updates the changed parameters and reboots the SIP Strobe if appropriate.
4. Connect the SIP Strobe to the target network.
5. From a system on the same network as the SIP Strobe, open a browser with the new IP address of the SIP Strobe.

2.2.5 Configure the SIP Parameters

1. Click **SIP Config** to open the **SIP Configuration** page (Figure 2-14).

Note For specific server configurations, go to the following website address: http://www.cyberdata.net/support/server/index.html

Figure 2-14. SIP Configuration Page



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

Table 2-10. SIP Configuration Parameters

Web Page Item	Description
Enable SIP Operation	Enables or disables SIP operation.
SIP Settings	
Primary SIP Server	Use this field to set the address (in dotted decimal notation or as a canonical name) for the Primary SIP Server. This field can accept canonical names of up to 255 characters in length.
Primary SIP User ID	Type the **SIP User ID** for the Primary SIP Server (up to 64 alphanumeric characters).
Primary Auth ID	Type the **Authenticate ID** for the Primary SIP Server (up to 64 alphanumeric characters).
Primary Auth Password	Type the **Authenticate Password** for the Primary SIP Server (up to 64 alphanumeric characters).
Backup SIP Server 1 Backup SIP Server 2	• If all of the **Primary SIP Server** and **Backup SIP Server** fields are populated, the device will attempt to stay registered with all three servers all of the time. You can leave the **Backup SIP Server 1** and **Backup SIP Server 2** fields blank if they are not needed. • In the event of a registration failure on the **Primary SIP Server**, the device will use the next highest priority server for outbound calls (**Backup SIP Server 1**). If **Backup SIP Server 1** fails, the device will use **Backup SIP Server 2**. • If a higher priority SIP Server comes back online, the device will switch back to this server.
Backup SIP User ID 1 Backup SIP User ID 2	Type the **SIP User ID** for the Backup SIP Server (up to 64 alphanumeric characters).
Backup SIP Auth ID 1 Backup SIP Auth ID 2	Type the **SIP Authenticate ID** for the Backup SIP Server (up to 64 alphanumeric characters).
Backup SIP Auth Password 1 Backup SIP Auth Password 2	Type the **SIP Authenticate Password** for the Backup SIP Server (up to 64 alphanumeric characters).
Use Cisco SRST	When selected, the backup servers are handled according to Cisco SRST (Survivable Remote Site Telephony).
Remote SIP Port	Type the **Remote SIP Port** number (default 5060) (8 character limit).
Local SIP Port	Type the **Local SIP Port** number (default 5060) (8 character limit).
Outbound Proxy	Type the Outbound Proxy as either a numeric IP address in dotted decimal notation or the fully qualified host name (255 character limit [FQDN]).
Outbound Proxy Port	Type the Outbound Proxy Port number (8 character limit).
Register with a SIP Server	Check this box to enable SIP Registration.
Re-registration Interval (in seconds)	Type the SIP Registration lease time (in seconds)

Table 2-10. SIP Configuration Parameters (continued)

Web Page Item	Description
Re-registration Interval (in seconds)	Type the SIP Registration lease time in minutes (default is 60 minutes) (8 character limit). Re-registration Interval (in seconds)
NAT ping (check box if PBX is not local)	Check this box if the PBX server is remote and you are experiencing problems establishing calls with the PBX.
RTP Settings	
RTP Port (even)	Specify the port number used for the RTP stream after establishing a SIP call. This port number has to be an even number and defaults to 10500.
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.

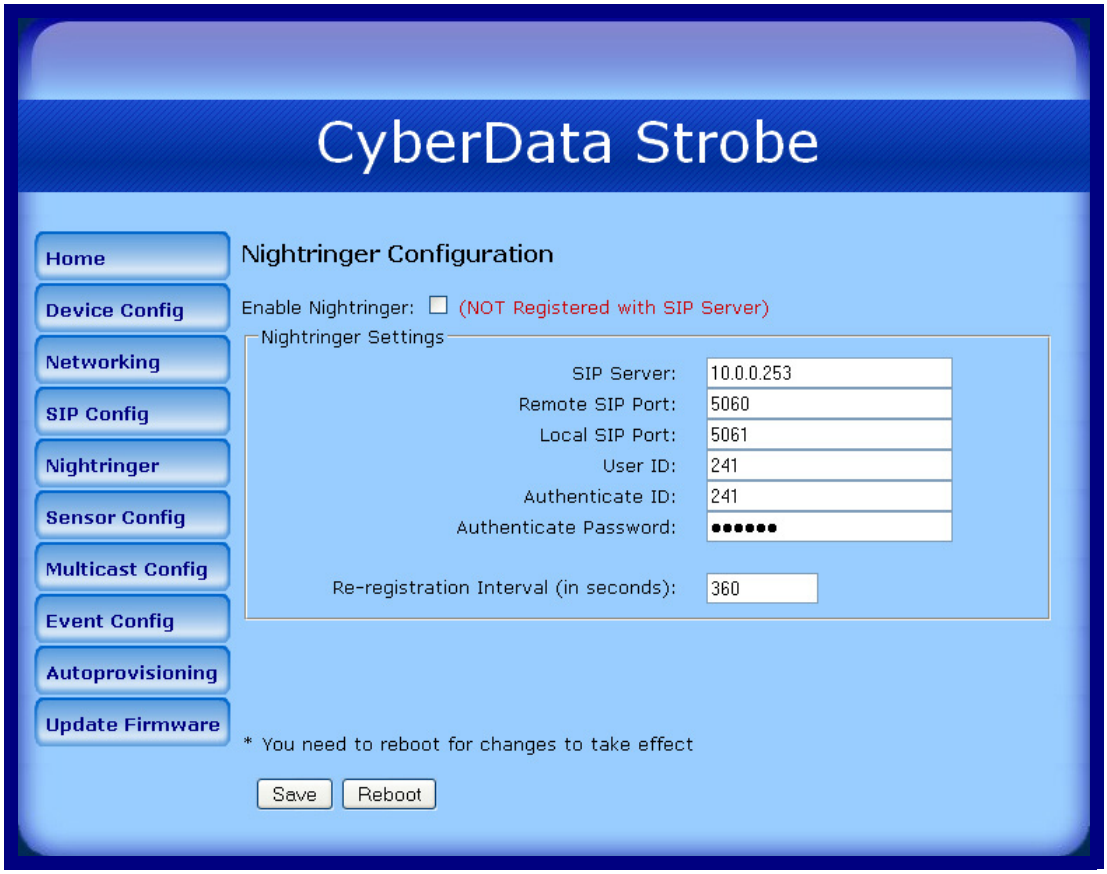
3. After changing the parameters, click **Save Settings**.

2.2.6 Configure the Night Ringer Parameters

When the Nightringer is enabled, the device will register as a second SIP extension. Registration does not have to be to the same server as the primary SIP registration. Any calls made to the Nightringer extension will cause the device to play a ring tone. There is no way to answer this call. The Nightringer is designed to be used in buildings where calls made after hours are directed to a ring group.

1. Click on the **Nightringer** button to open the **Nightringer Configuration** page. See Figure 2-15.

Figure 2-15. Nightringer Configuration Setup



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

Table 2-11. Nightringer Configuration Parameters

Web Page Item	Description
Enable Nightringer	When the nightringer is enabled, the SIP Strobe will attempt to register a second extension with the SIP server. Any calls made to this extension will cause the strobe to flash.
Nightringer Settings	
SIP Server	Type the SIP server represented as either a numeric IP address in dotted decimal notation.
Remote SIP Port	Type the Remote SIP Port number (default 5060) (8 character limit).
Local SIP Port	Type the Local SIP Port number (default 5060) (8 character limit). **Note**: This value cannot be the same as the **Local SIP Port** found on the **SIP Configuration Page**.
User ID	Type the **User ID** (up to 64 alphanumeric characters).
Authenticate ID	Type the **Authenticate ID** (up to 64 alphanumeric characters).
Authenticate Password	Type the **Authenticate Password** (up to 64 alphanumeric characters).
Re-registration Interval (in seconds)	Type the SIP Registration lease time in minutes (default is 60 minutes) (8 character limit). Re-registration Interval (in seconds)
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.

3. After changing the parameters, click on the **Save** button.

2.2.7 Configure the Sensor Configuration Parameters

The sensor (pins 5 and 6) on the header can be used to monitor the open or closed state of a switch. There is an option on the **Sensor Configuration** page to trigger on an open or short condition on these pins.

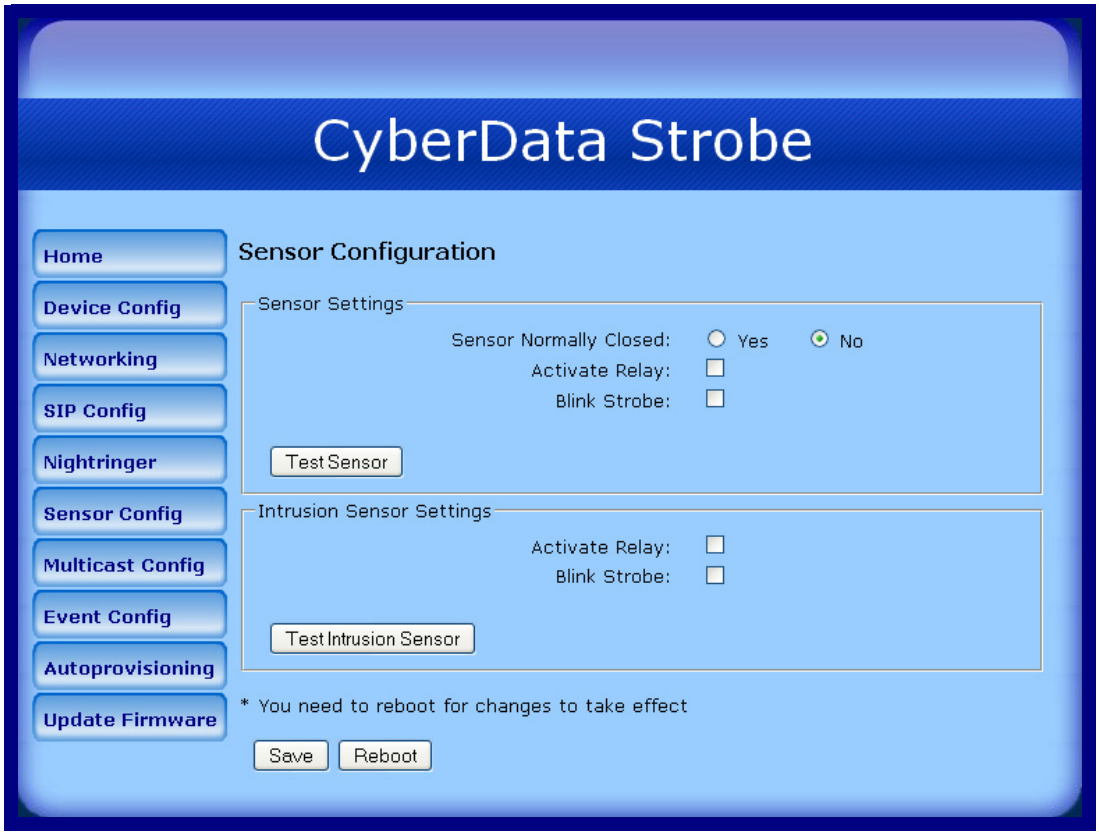
The intrusion sensor is an optical sensor installed on the SIP Strobe board and will be activated when the SIP Strobe is removed from the case.

For each sensor there are two actions the SIP Strobe can take:

- Flash the LED until the sensor is deactivated (roughly 10 times/second)
- Activate the relay until the sensor is deactivated

1. Click **Sensor Config** to open the **Sensor Configuration** page (Figure 2-16).

Figure 2-16. Sensor Configuration Page



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

Table 2-12. Sensor Configuration Parameters

Web Page Item	Description
Sensor Settings	
Sensor Normally Closed	Select the inactive state of the sensors.
Activate Relay	Check this box to blink the strobe light until the sensor is deactivated.
Blink Strobe	Check this box to activate the blinking strobe until the sensor is deactivated.
Test Sensor	Use this button to test the sensor.
Intrusion Sensor Settings	
Activate Relay	Check this box to activate the relay until the sensor is deactivated.
Blink Strobe	Check this box to blink the strobe light until the sensor is deactivated.
Test Intrusion Sensor	Use this button to test the Intrusion sensor.
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.

3. After changing the parameters, click **Save Settings**.

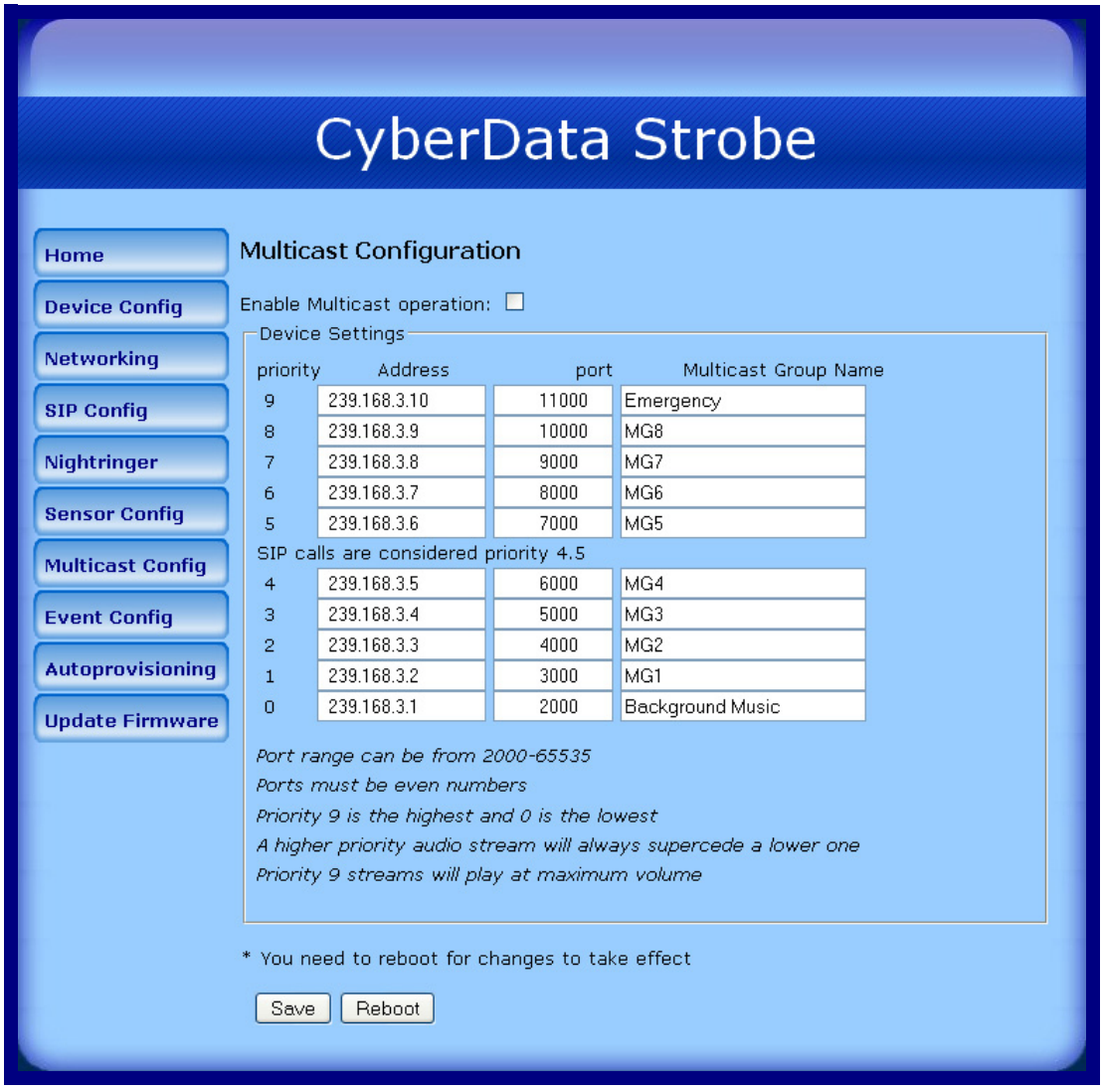
2.2.8 Configure the Multicast Parameters

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

The **Multicast Configuration** page allows the device to join up to 10 paging zones for receiving ulaw/alaw encoded RTP audio streams. A paging zone can consist of one or many CyberData multicast group-enabled products. There is no limit to how many devices can be in a given paging zone. Each multicast group is defined by a multicast address and port number. Each multicast group is assigned a priority, allowing simultaneously arriving pages to be serviced based on importance. Multicast groups are compatible with IGMP through version three. The device supports simultaneous SIP and Multicast.

1. Click on the **Multicast Configuration** button to open the **Multicast Configuration** page. See Figure 2-17.

Figure 2-17. Multicast Configuration Page



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

Table 2-13. Multicast Configuration Parameters

Web Page Item	Description
Enable Multicast Operation	Enables or disables multicast operation.
Device Settings	
Priority	Indicates the priority for the multicast group. Priority **9** is the highest (emergency streams). **0** is the lowest (background music). SIP calls are considered priority **4.5**. See Section 2.2.8.1, "Assigning Priority" for more details.
Address	Enter the multicast IP Address for this multicast group (15 character limit).
Port (range can be from 2000 to 65535)	Enter the port number for this multicast group (5 character limit). **Note**: The multicast ports have to be even values. The webpage will enforce this restriction.
Multicast Group Name	Assign a descriptive name for this multicast group (25 character limit).
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.

3. After changing the parameters, click on the **Save** button.

2.2.8.1 Assigning Priority

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

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

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

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

Ringtones and Nightringtones

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

2.2.9 Configure the Event Parameters

Click the **Event Config** button to open the **Event Configuration** page (Figure 2-18). The **Event Configuration** page specifies a remote server that can be used to receive HTTP POST events when actions take place on the board.

Figure 2-18. Event Configuration Page

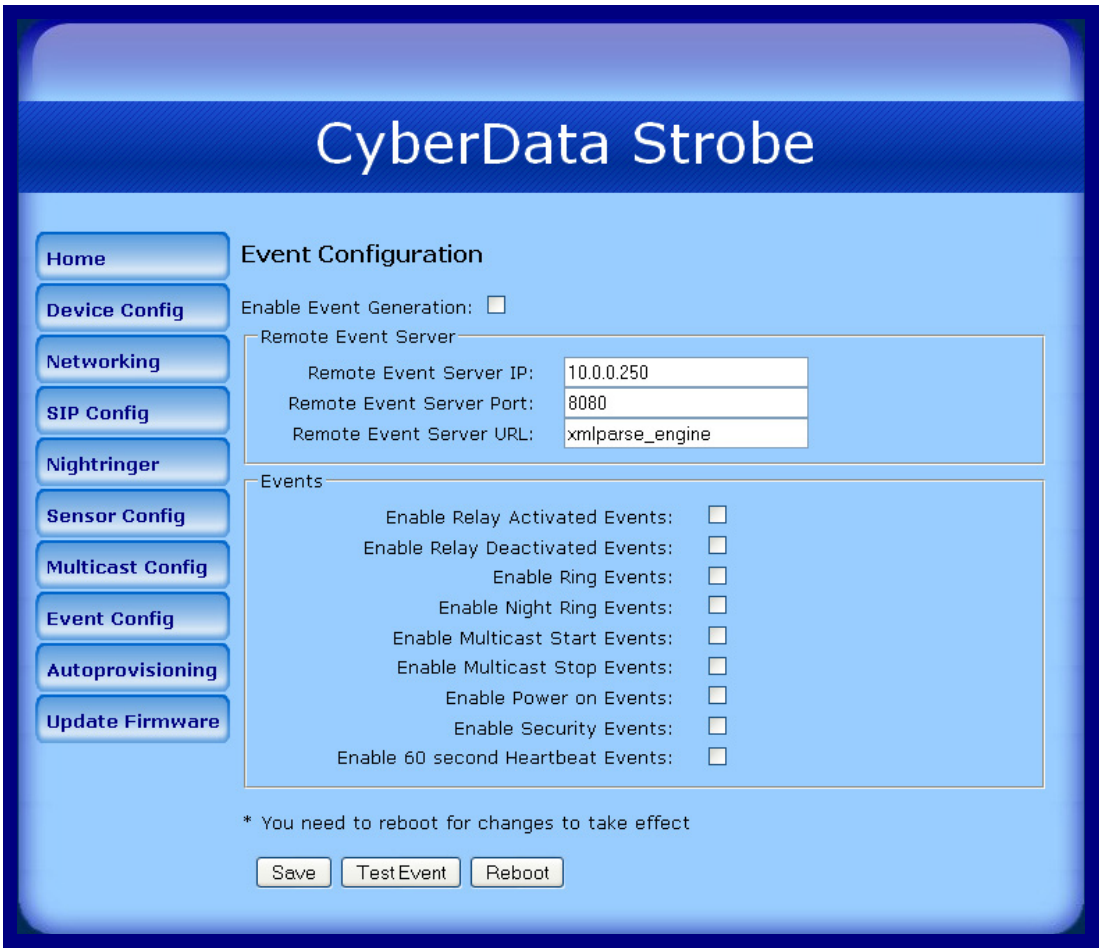


Table 2-14 shows the web page items on the **Event Configuration** page.

Table 2-14. Event Configuration

Web Page Item	Description
Enable Event Generation	When selected, Event Generation is enabled.
Remote Event Server	
Remote Event Server IP	Type the Remote Event Server IP address. (64 character limit)
Remote Event Server Port	Type the Remote Event Server port number. (8 character limit)
Remote Event Server URL	Type the Remote Event Server URL. (127 character limit)
Events	
Enable Relay Activated Events	When selected, Relay Activated Events are enabled.
Enable Relay Deactivated Events	When selected, Relay Deactivated Events are enabled.
Enable Ring Events	When selected, Ring Events are enabled.
Enable Night Ring Events	When selected, there is a notification when the device receives a night ring.
Enable Multicast Start Events	When selected, Multicast Start Events are enabled.
Enable Multicast Stop Events	When selected, Multicast Stop Events are enabled.
Enable Power On Events	When selected, Power On Events are enabled.
Enable Security Events	When selected, Security Events are enabled.
Enable 60 Second Heartbeat Events	When selected, 60 Second Heartbeat Events are enabled.
Save	Click the **Save** button to save your configuration settings. **Note**: You need to reboot for changes to take effect.
Test Event	Click on the **Test Event** button to test an event.
Reboot	Click on the **Reboot** button to reboot the system.

2.2.9.1 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 SIP 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 SIP 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 SIP 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 SIP 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 SIP 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 SIP 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 SIP 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 SIP 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 SIP Device' MAC='0020f70015b6'>
<event>RELAY_ACTIVATED</event>
</cyberdata>
POST xmlparse_engine HTTP/1.1
```

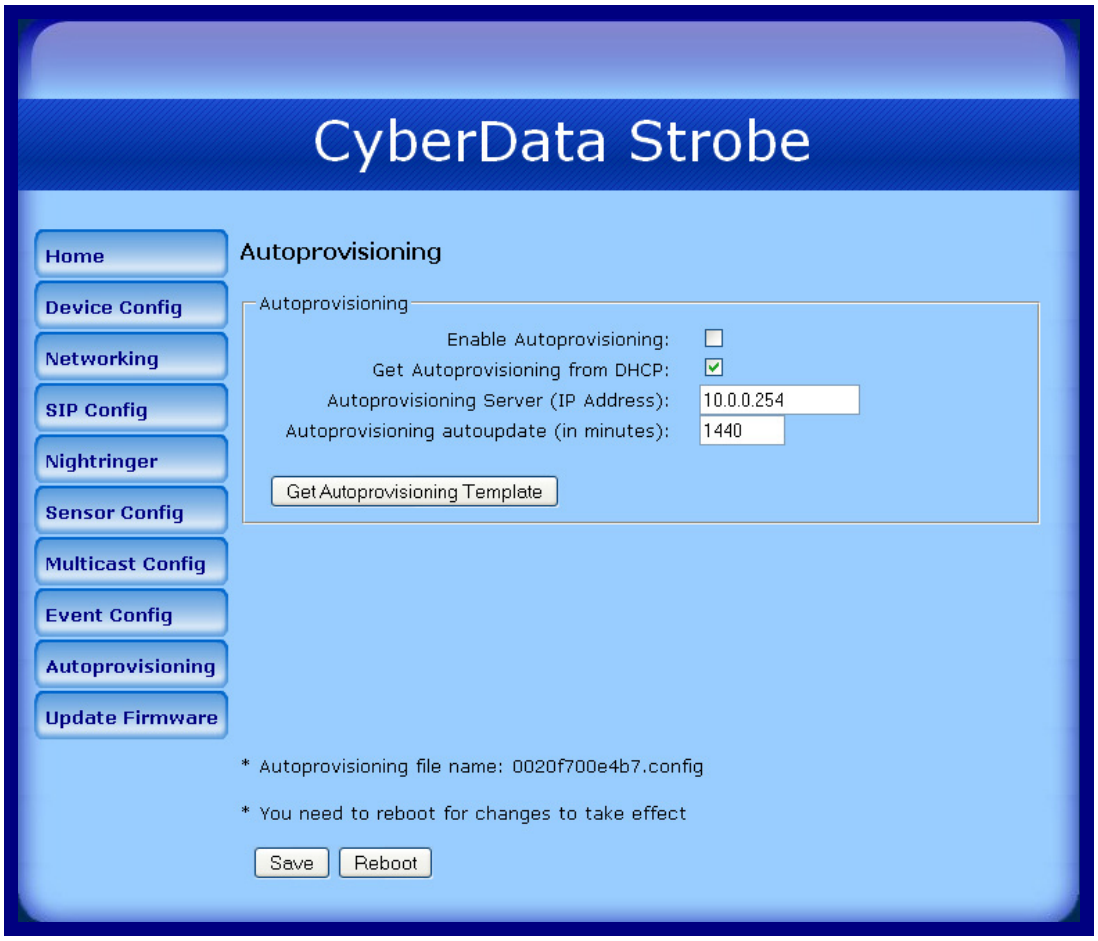
```
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData SIP Device' MAC='0020f70015b6'>
<event>RELAY_DEACTIVATED</event>
</cyberdata>

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 SIP Device' MAC='0020f70015b6'>
<event>NIGHTRINGING</event>
</cyberdata>
```

2.2.10 Configure the Autoprovisioning Parameters

1. Click the **Autoprovisioning** button to open the **Autoprovisioning Configuration** page. See Figure 2-19.

Figure 2-19. Autoprovisioning Configuration Page



2. On the **Autoprovisioning Configuration** page, you may enter values for the parameters indicated in Table 2-15.

Table 2-15. Autoprovisioning Configuration Parameters

Web Page Item	Description
Autoprovisioning	
Enable Autoprovisioning	See Section 2.2.10.2, "Autoprovisioning".
Get Autoprovisioning from DHCP	See Section 2.2.10.2, "Autoprovisioning".
Autoprovisioning Server (IP Address)	See Section 2.2.10.2, "Autoprovisioning" (15 character limit).
Autoprovisioning Autoupdate (in minutes)	Type the desired time (in minutes) that you want the Autoprovisioning feature to update (6 character limit).
Get Autoprovisioning Template	Press the **Get Autoprovisioning Template** button to create an autoprovisioning file for this unit. See Section 2.2.10.1, "Get Autoprovisioning Template Button"
Autoprovisioning file name	Displays the current autoprovisioning file name.
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.

3. After changing the parameters, click the **Save** button.

2.2.10.1 Get Autoprovisioning Template Button

The **Get Autoprovisioning Template** button allows you to create the autoprovisioning template directly from the device by completing the following steps:

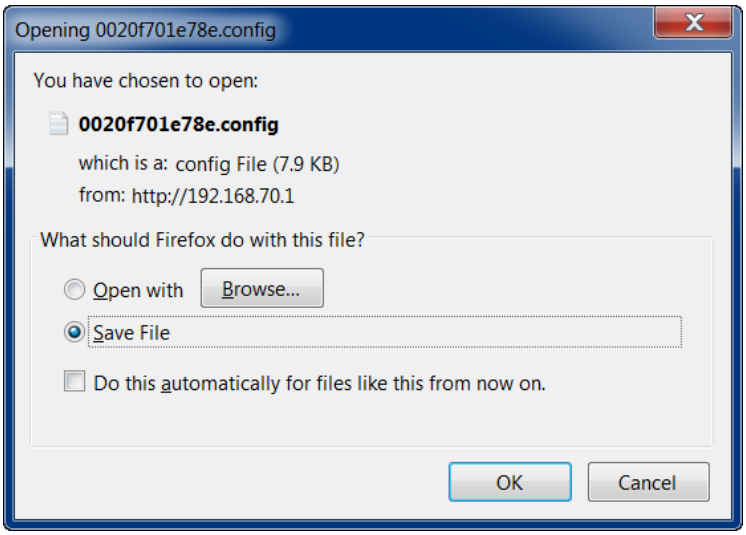
1. On the **Autoprovisioning** page, click on the **Get Autoprovisioning Template** button.

Note You can also create the autoprovisioning template directly from the device by entering the following web address into your web browser address field:
http://<ip address of unit>/ cgi-bin/autoprovisioning.cgi

2. You will see a window prompting you to save a configuration file (**.config**) to a location on your computer (Figure 2-20). 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 2-20.

Figure 2-20. 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.

GENERAL ALERT

Caution

Make sure that you do not change the configuration file name. If any part of the configuration file name is changed, the device will not be able to find the file. If you are going to use the configuration file to create multiple configurations, then the configuration files must all be named correctly: **<device mac address>.config**.

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

2.2.10.2 Autoprovisioning

Enable Autoprovisioning Option

With autoprovisioning enabled, the board will get its configuration from a remote TFTP server on startup or periodically on a scheduled delay. Autoprovisioned values will override values stored in on-board memory and will be visible on the web page. The board gets its autoprovisioning information from an XML-formatted file hosted from a TFTP server. CyberData will provide a template for this XML file and the user can modify it for their own use.

To use autoprovisioning, create a copy of the autoprovisioning template with the desired settings and name this file with the mac address of the device to configure (for example: **0020f7350058.config**). Put this file into your TFTP server directory and manually set the TFTP server address on the board.

It is not necessary to set every option found in the autoprovisioning template. As long as the XML is valid, the file can contain any subset. Options not autoprovisioned will default to the values stored in the on board memory. For example if you only wanted to modify the device name, the following would be a valid autoprovisioning file:

```
<?xml version="1.0" encoding="utf-8" ?>
<specific>
    <MiscSettings>
        <DeviceName>auto SIP Strobe</DeviceName>
    </MiscSettings>

</specific>
```

Networking

The board will only apply networking settings or firmware upgrades after a reboot.

Get Autoprovisioning from DHCP

When this option is checked, the device will automatically fetch its autoprovisioning server address from the DHCP server. The device will use the address specified in **OPTION 150** (TFTP-server-name) or **OPTION 66**. If both options are set, the device will use **OPTION 150**.

Refer to the documentation of your DHCP server for setting up **OPTION 150**.

To set up a Linux DHCPD server to serve autoprovisioning information (in this case using both option 66 and 150), here's an example dhcpd.conf:

```
# dhcpd.conf
#
# Configuration file for ISC dhcpd (see 'man dhcpd.conf')
#
ddns-update-style ad-hoc;

option option-150 code 150 = ip-address;

subnet 10.0.0.0 netmask 255.0.0.0 {
        max-lease-time 120;
        default-lease-time 120;

        option routers                  10.0.0.1;
        option subnet-mask              255.0.0.0;

        option domain-name              "voiplab";
        option domain-name-servers       10.0.0.1;

        option time-offset              -8;     # Pacific Standard Time

        option tftp-server-name         "10.0.0.254";

        option option-150               10.0.0.254;

        range 10.10.0.1 10.10.2.1;}
```

Autoprovisioning Server (IP Address)

Instead of using DHCP to provide the autoprovisioning tftp server address, you can specify an address manually.

Autoprovisioning Autoupdate

If **Autoprovisioning** is enabled and the **Autoprovisioning Autoupdate** value is something other than **0** minutes, a service is started on startup that will wait the configured number of minutes and then try to re-download its autoprovisioning file. It will compare its previously autoprovisioned file with this new file and if there are differences, it will reboot the board.

Autoprovisioned Firmware Upgrades

An Autoprovisioned firmware upgrade only happens after a reboot, will take roughly three minutes, and the web page will be unresponsive during this time.

The '**FirmwareVersion**' value in the xml file *must* match the version stored in the '**FirmwareFile**'.

```
<FirmwareVersion>v5.0.5b01</FirmwareVersion>
<FirmwareFile>505b01-uImage-SIP Strobe</FirmwareFile>
```

If these values are mismatched, the board can get stuck in a loop where it goes through the following sequence of actions:

1. The board downloads and writes a new firmware file.
2. After the next reboot, the board recognizes that the firmware version does not match.
3. The board downloads and writes the firmware file again.

CyberData has timed a firmware upgrade at 140 seconds. Therefore, if you suspect the board is stuck in a loop, either remove or comment out the **FirmwareVersion** line in the XML file and let the board boot as it normally does.

2.3 Upgrade the Firmware and Reboot the SIP Strobe

Note To guard against failed firmware upgrades, units shipped from CyberData with firmware version 1.0.2 and later feature a built-in "fail safe" mechanism.

Note A new firmware signature prevents users from loading firmware intended for one device to a different device.

Use Table 2-16 to determine the purpose of various firmware versions.

Table 2-16. Firmware Versions

Firmware Version	Purpose
801-uImage-strobe	This image must be used to UPGRADE to v8.0.1. Customers wishing to upgrade from v1.0.1 MUST upgrade to v7.1.7 first, then on to later versions.
717-uImage-strobe	This image must be used to UPGRADE to v7.1.7 from v1.0.1 or older.
717-uImage-d-strobe	This image must be used to DOWNGRADE from v7.1.8 or LATER to v7.1.7
101-uImage-d-strobe	This image must be used to DOWNGRADE from v7.1.7 or LATER to v1.0.1.

Note It is not possible to do any of the following:

- It is not possible to upgrade v1.0.1 or older with 717-uImage-d-strobe.
- It is not possible to downgrade from future revisions to v7.1.7 with 717-uImage-strobe.
- It is not possible to downgrade from v7.1.7 or newer to v1.0.1 with the existing v1.0.1 on our website; 101-uImage-d-strobe must be used.

Note Customers wishing to upgrade from v1.0.1 MUST upgrade to v7.1.7 first, then on to later versions.

To upload the firmware from your computer:

1. Retrieve the latest SIP Strobe firmware file from the SIP Strobe **Downloads** page at:

   http://www.cyberdata.net/products/voip/digitalanalog/strobe/downloads.html

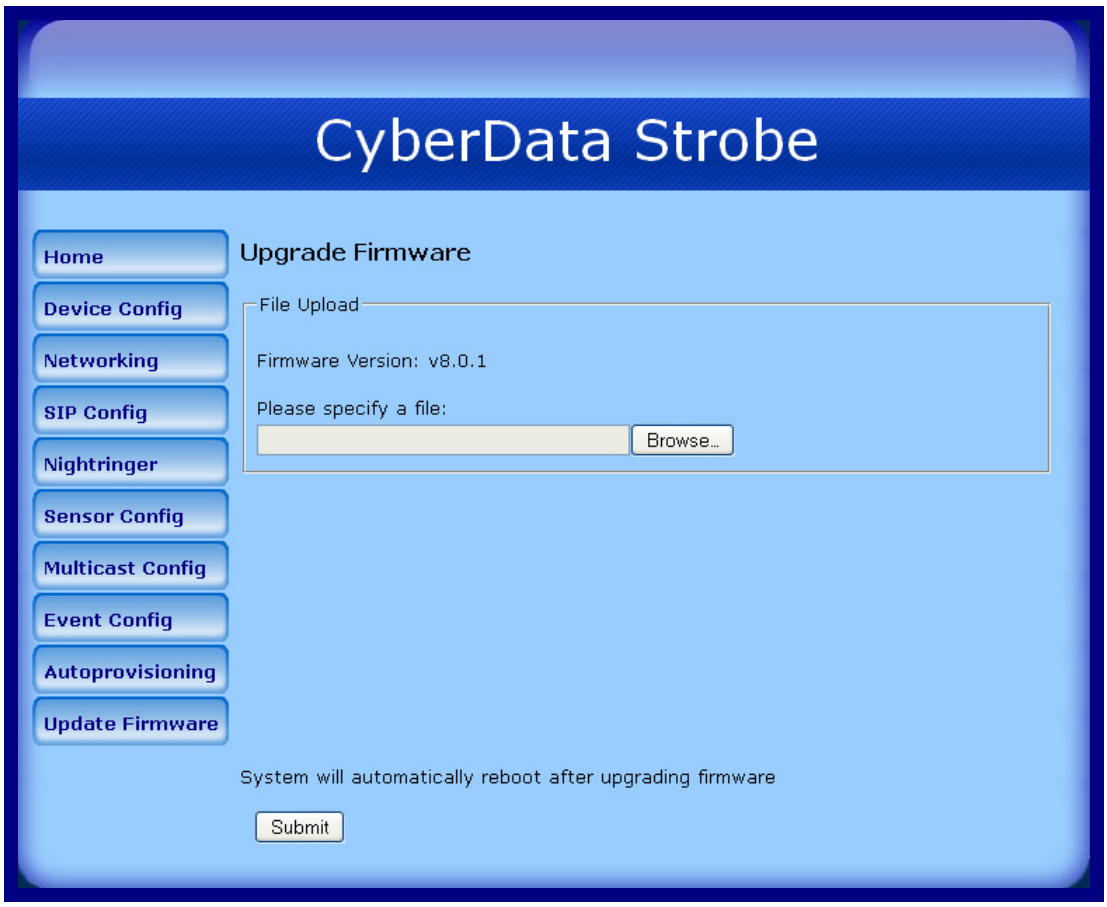
2. Unzip the firmware version file. This file may contain the following:

- Firmware file
- Release notes

3. Log in to the SIP Strobe home page as instructed in Section 2.2.2, "Log in to the Configuration Home Page".

4. Click the **Update Firmware** button to open the **Upgrade Firmware** page. See Figure 2-21.

Figure 2-21. Upgrade Firmware Page



5. Select **Browse**, and then navigate to the location of the SIP Strobe firmware file.
6. Click **Submit**.

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

Table 2-17 shows the web page items on the **Upgrade Firmware** page.

Table 2-17. Firmware Upgrade Parameters

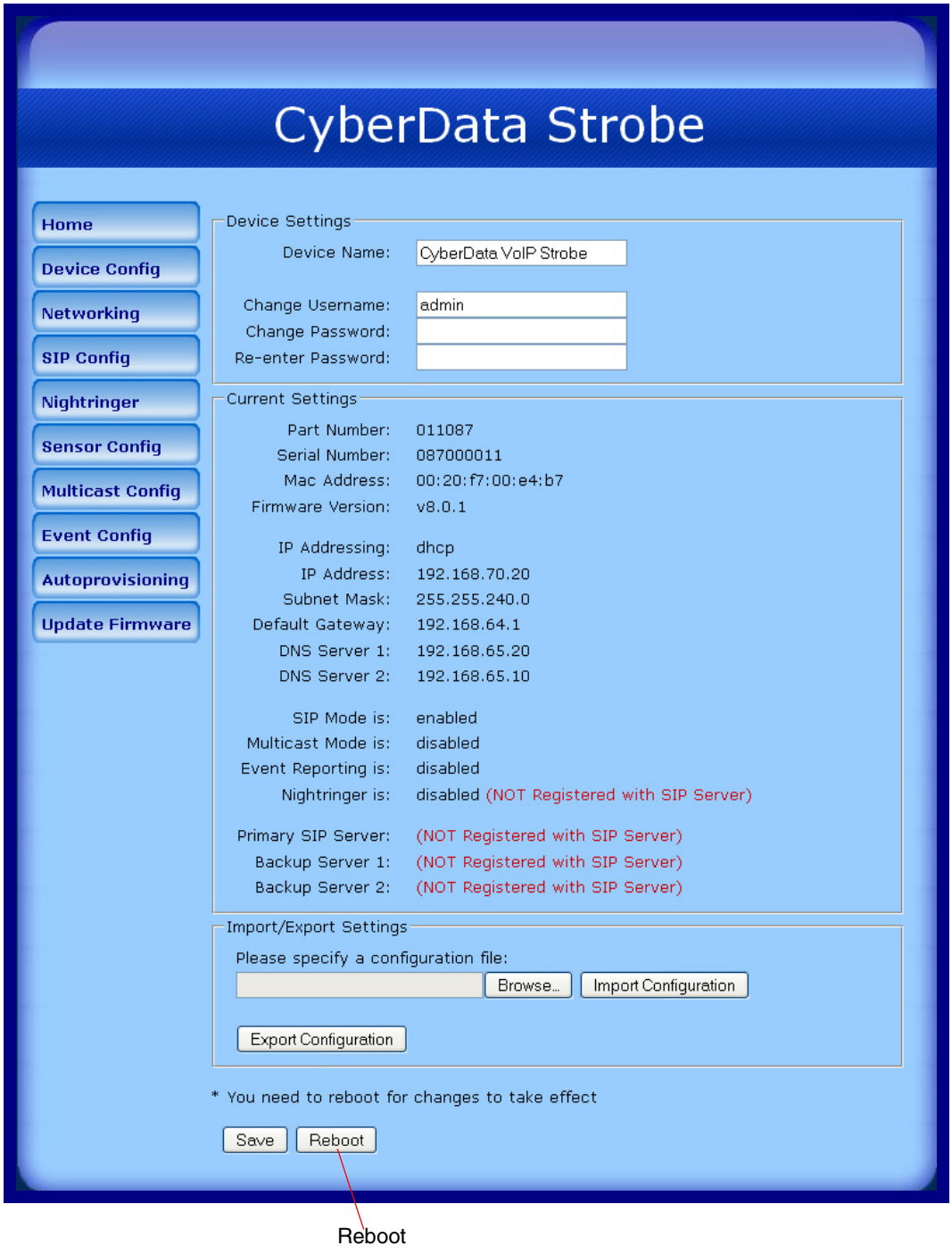
Web Page Item	Description
File Upload	
Firmware Version	Shows the current firmware version.
Browse...	Use the **Browse** button to navigate to the location of the firmware file that you want to upload.
Submit	Click on the **Submit** button to automatically upload the selected firmware and reboot the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

2.3.1 Reboot the SIP Strobe

To reboot a SIP Strobe:

1. Log in to the web page as instructed in Section 2.2.2, "Log in to the Configuration Home Page".
2. Click the **Reboot** button (Figure 2-22). A normal restart will occur.

Figure 2-22. Reboot System Section



2.4 Command Interface

Some functions on the device can be activated using simple POST commands to the web interface. The examples in Table 2-18 use the free unix utility, **wget commands**. However, any program that can send HTTP POST commands to the device should work.

2.4.1 Command Interface Post Commands

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

Table 2-18. Command Interface Post Commands

Device Action	HTTP Post Command[a]
Trigger relay (for configured delay)	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/command.cgi" --post-data "test_relay=yes"
Place call to extension (example: extension 130)	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/command.cgi" --post-data "call=130"
Terminate active call	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/command.cgi" --post-data "terminate=yes"
Force reboot	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/command.cgi" --post-data "reboot=yes"
Trigger the Door Sensor Test (Sensor Config page)	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/sensorconfig.cgi" --post-data "doortest=yes"
Trigger the Intrusion Sensor Test (Sensor Config page)	wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null "http://10.0.3.71/cgi-bin/sensorconfig.cgi" --post-data "intrusiontest=yes"

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

Appendix A: Mounting the SIP Strobe

A.1 Important Safety Instructions

Warning

Electrical Hazard: The SIP Strobe enclosure is not rated for any AC voltages.

Warning

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

Warning

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

Warning

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

A.2 Mount the SIP Strobe

Before you mount the SIP Strobe, make sure that you have received all the parts for each SIP Strobe. Refer to Table A-1.

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

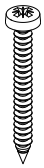
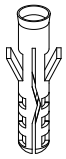
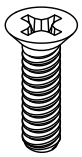
Quantity	Part Name	Illustration
4	#6 x 1.5 inches Sheet Metal Screw	
4	#6 Ribbed Plastic Anchor	

Table A-2. Gang Box Mounting Components

Quantity	Part Name	Illustration
4	#6-32 x 0.625-inch Flat-Head Machine Screw.	

After the SIP Strobe is assembled, plug the Ethernet cable into the SIP Strobe Assembly (see Figure A-1).

Section 2.1.4, "Network Connectivity, and Data Rate" explains how the **Link** and **Status** LEDs work.

Figure A-1. Network Connector Prior to Installation

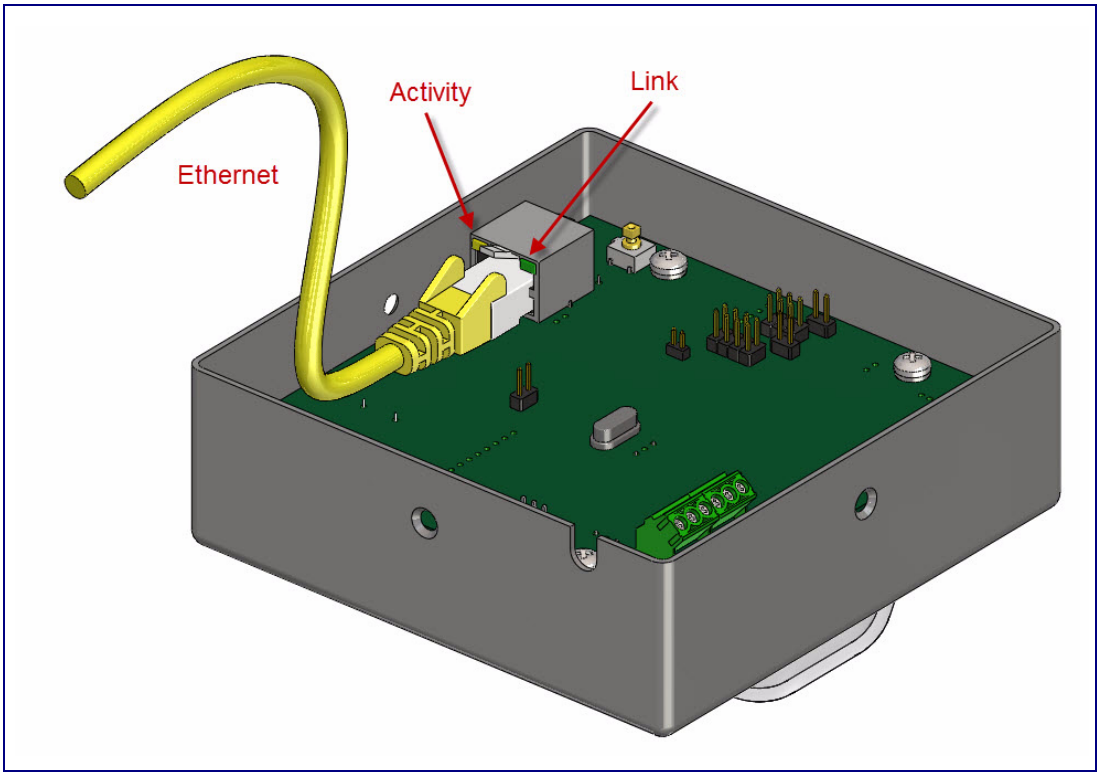


Figure A-2 shows the wall mounting options for the SIP Strobe.

Note Be sure to connect the SIP Strobe up to the Earth Ground.

Figure A-2. Wall Mounting Options

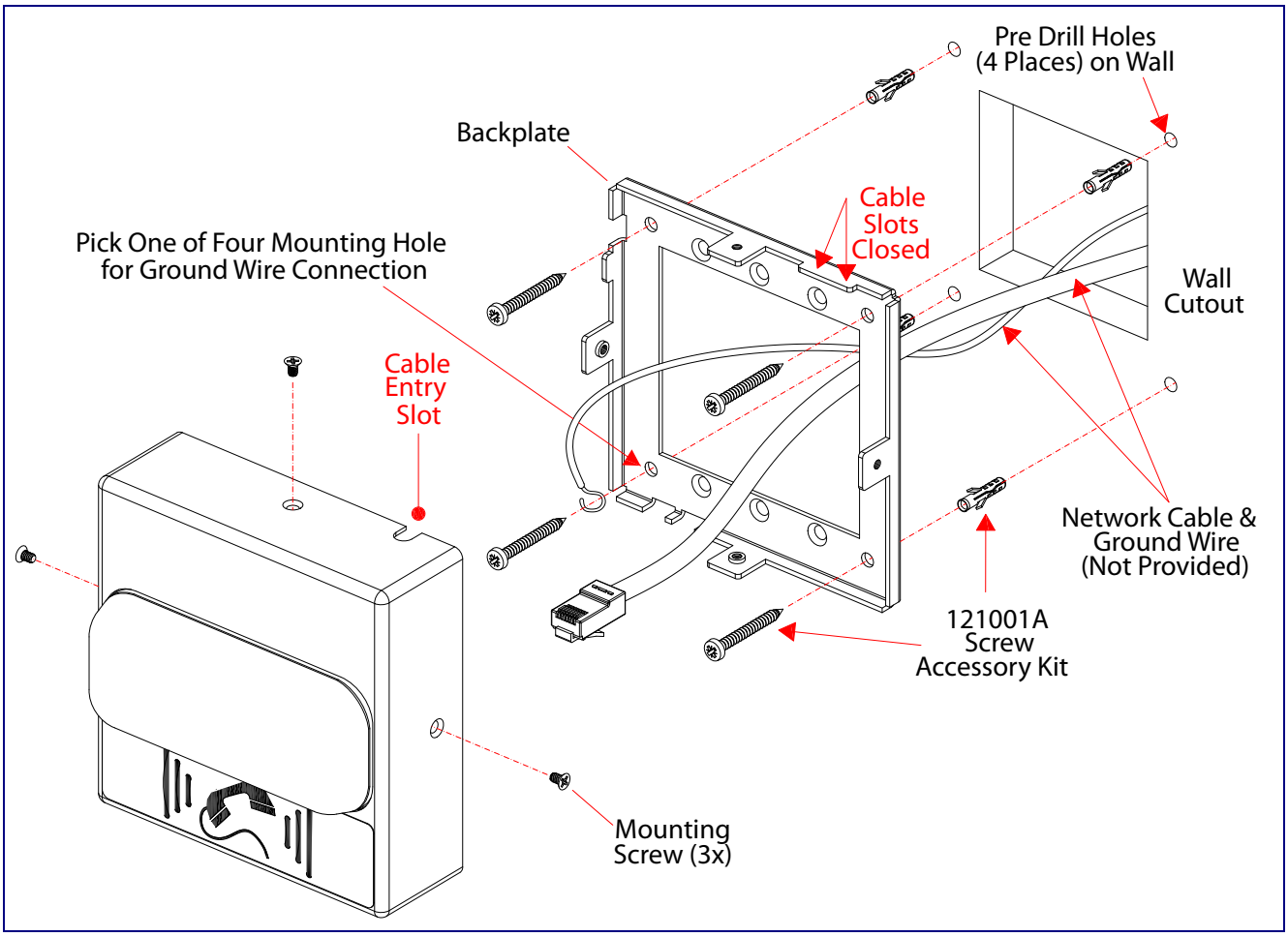


Figure A-2 shows the gang box mounting options for the SIP Strobe.

Note Be sure to connect the SIP Strobe up to the Earth Ground.

Figure A-3. Gang Box Mounting Options

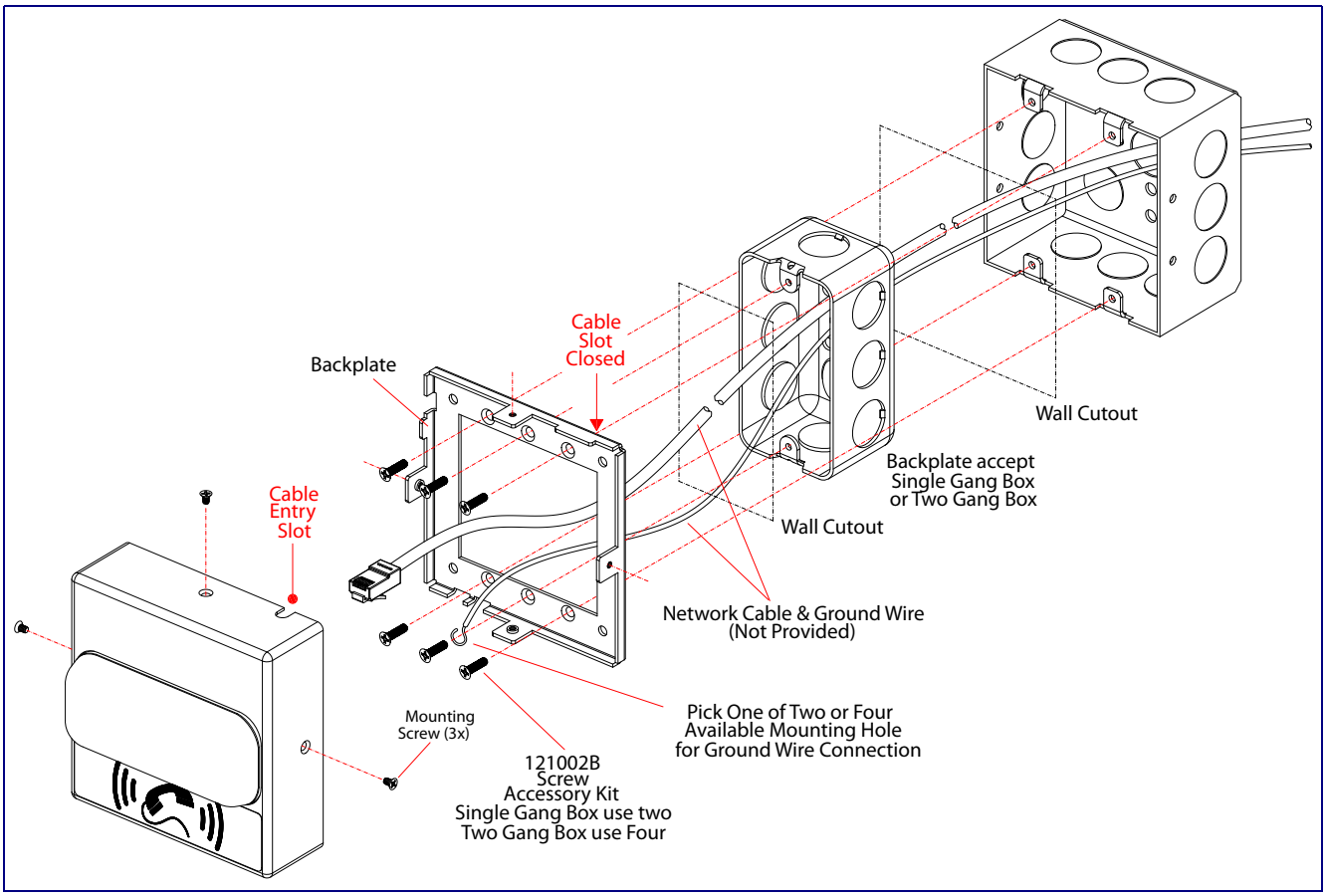
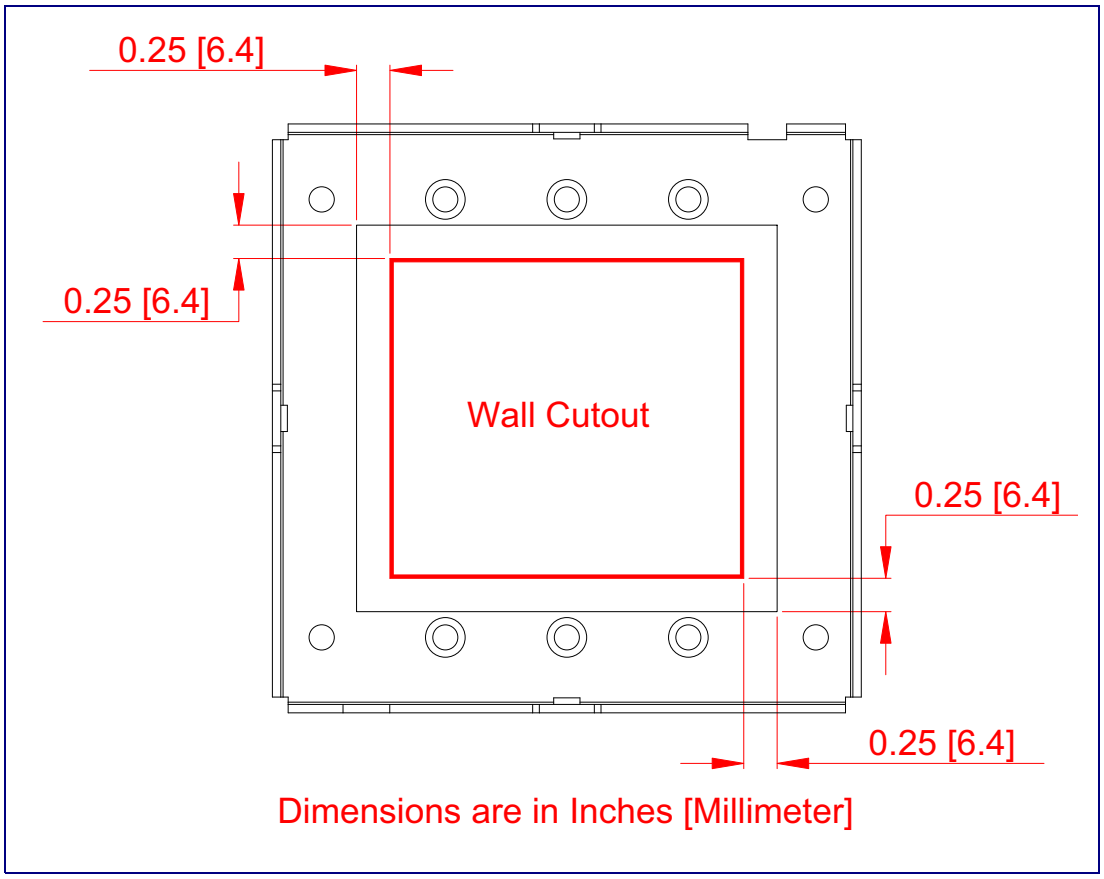


Figure A-4 shows the maximum recommended wall cutout dimensions for mounting the SIP Strobe.

Figure A-4. Maximum Recommended Wall Cutout Dimensions



Appendix B: Troubleshooting/Technical Support

B.1 Frequently Asked Questions (FAQ)

A list of frequently asked questions (FAQs) are available on the SIP Strobe product page at:

http://www.cyberdata.net/products/voip/digitalanalog/strobe/faqs.html

Select the support page for your product to see a list of frequently asked questions for the CyberData product:

B.2 Documentation

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

http://www.cyberdata.net/products/voip/digitalanalog/strobe/docs.html

B.3 Contact Information

Contact

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

Sales

Sales 831-373-2601 Extension 334

Technical Support

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

http://support.cyberdata.net/

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

Phone: (831) 373-2601, Ext. 333
Email: support@cyberdata.net

Returned Materials Authorization

To return the product, contact the Returned Materials Authorization (RMA) department:

Phone: 831-373-2601, Extension 136
Email: RMA@CyberData.net

When returning a product to CyberData, an approved CyberData RMA number must be printed on the outside of the original shipping package. Also, RMA numbers require an active VoIP Technical Support ticket number. A product will not be accepted for return without an approved RMA number. Send the product, in its original package, to the following address:

CyberData Corporation
3 Justin Court
Monterey, CA 93940
Attention: RMA "your RMA number"

RMA Status Form

If you need to inquire about the repair status of your product(s), please use the CyberData RMA Status form at the following web address:

http://support.cyberdata.net/

B.4 Warranty and RMA Information

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

http://support.cyberdata.net/

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