



VoIP Call Button Operations Guide

Part #011049
Document Part #930292A
for Firmware Version 4.0

CyberData Corporation
2555 Garden Road
Monterey, CA 93940
(831) 373-2601

PoE VoIP Intercom Operations Guide 930292A
Part # 011049

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Phone: (831) 373-2601
Technical Support Ext. 333
support@cyberdata.net
Fax: (831) 373-4193
Company and product information 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 VoIP Call Button enclosure is not rated for any AC voltages!**

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

Pictorial Alert Icons

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

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.

Revision History

Revision	Date Released	Description of Changes
A	6/10/2008	This is the first release of the 010935B manual.

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1 Product Overview

1.1 How to Identify This Product

To identify the VoIP Call Button, look for a model number label similar to the one shown in [Figure 1-1](#). The model number on the label should be **011049**.

Figure 1-1. Model Number Label



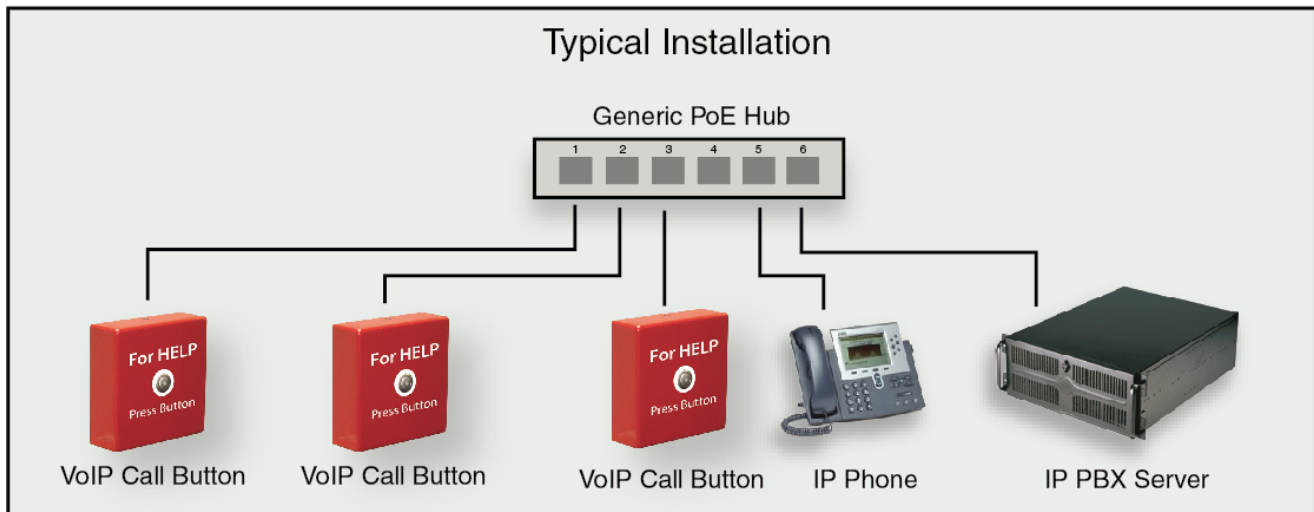
Model number




1.2 Typical System Installation

The Voice-over-IP (VoIP) Call Button is a SIP endpoint designed to provide VoIP phone connectivity in a tamper proof and secure package.


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

Figure 1-2. Typical Installation



	<p>Warning <i>Electrical Hazard:</i> The VoIP Call Button enclosure is not rated for any AC voltages.</p>
	<p>Warning <i>Electrical Hazard:</i> This product should be installed by a licensed electrician according to all local electrical and building codes.</p>
	<p>Warning <i>Electrical Hazard:</i> To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.</p>

1.3 Product Features



- SIP
- User downloadable message up to 80 seconds
- Single button call to pre-set number
- Continuous repeat of message
- Call progress light
- Event-controlled relay
- Tamper sensor
- Web-based setup
- PoE-powered

1.4 Supported Protocols

The Call Button supports:

- SIP
- HTTP Web-based configuration
Provides an intuitive user interface for easy system configuration and verification of Call Button operations.
- DHCP Client
Dynamically assigns IP addresses in addition to the option to use static addressing.
- TFTP Client
Facilitates Web-based firmware upgrades of the latest Call Button capabilities.
- 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 VoIP Call Button product page which will have information on how to configure the VoIP Call Button for various supported SIP servers:

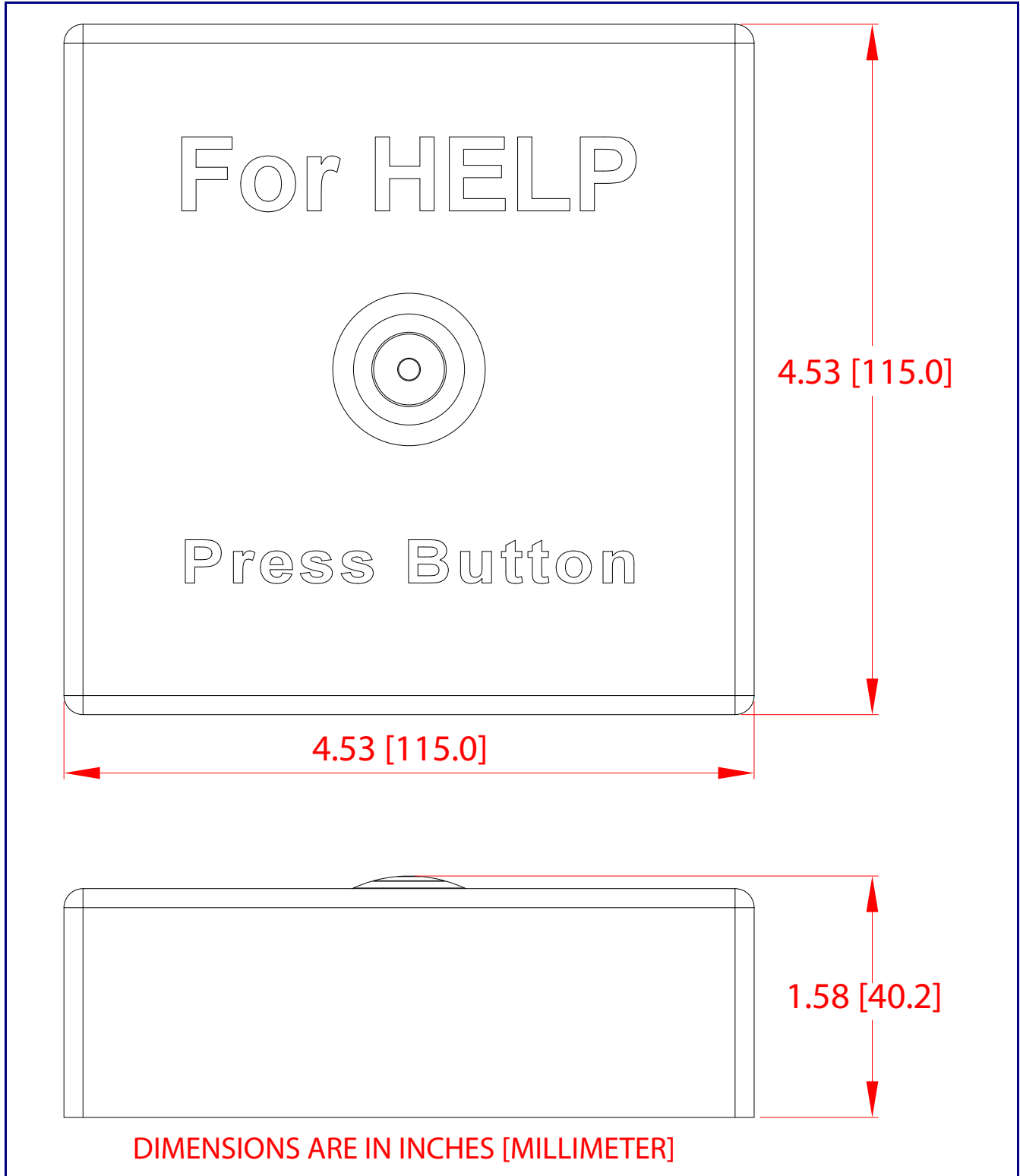
<http://www.cyberdata.net/support/voip/index.html>

1.6 Product Specifications

Category	Specification
Network Rate	10/100 Mbps
Power Requirement	802.3af compliant or 5V at 1000 mA
Protocol	SIP
Part Number	011049
Dimensions	4.5" x 4.5" x 1.5"
Weight	1.6 lbs./shipping weight of 2.2 lbs.
Auxiliary Relay	(0.7 kg/shipping weight of 1.0kg) 2 A at 30 VDC

1.7 Dimensions

Figure 1-3. Dimensions—Size of Unit with Case






2 Installing the VoIP Call Button

2.1 Parts List

Table 2-1 illustrates the VoIP Call Button parts.

Table 2-1. Parts List

Quantity	Part Name	Illustration
1	VoIP Call Button Assembly	 A red rectangular button assembly with a circular button in the center. The text "For HELP" is printed above the button and "Press Button" is printed below it.
1	Installation Quick Reference Guide	 A document titled "Installation Quick Reference Guide" with a red header and various sections of text and diagrams.
1	VoIP Call Button Mounting Accessory Kit	 A small, clear plastic bag containing mounting accessories.

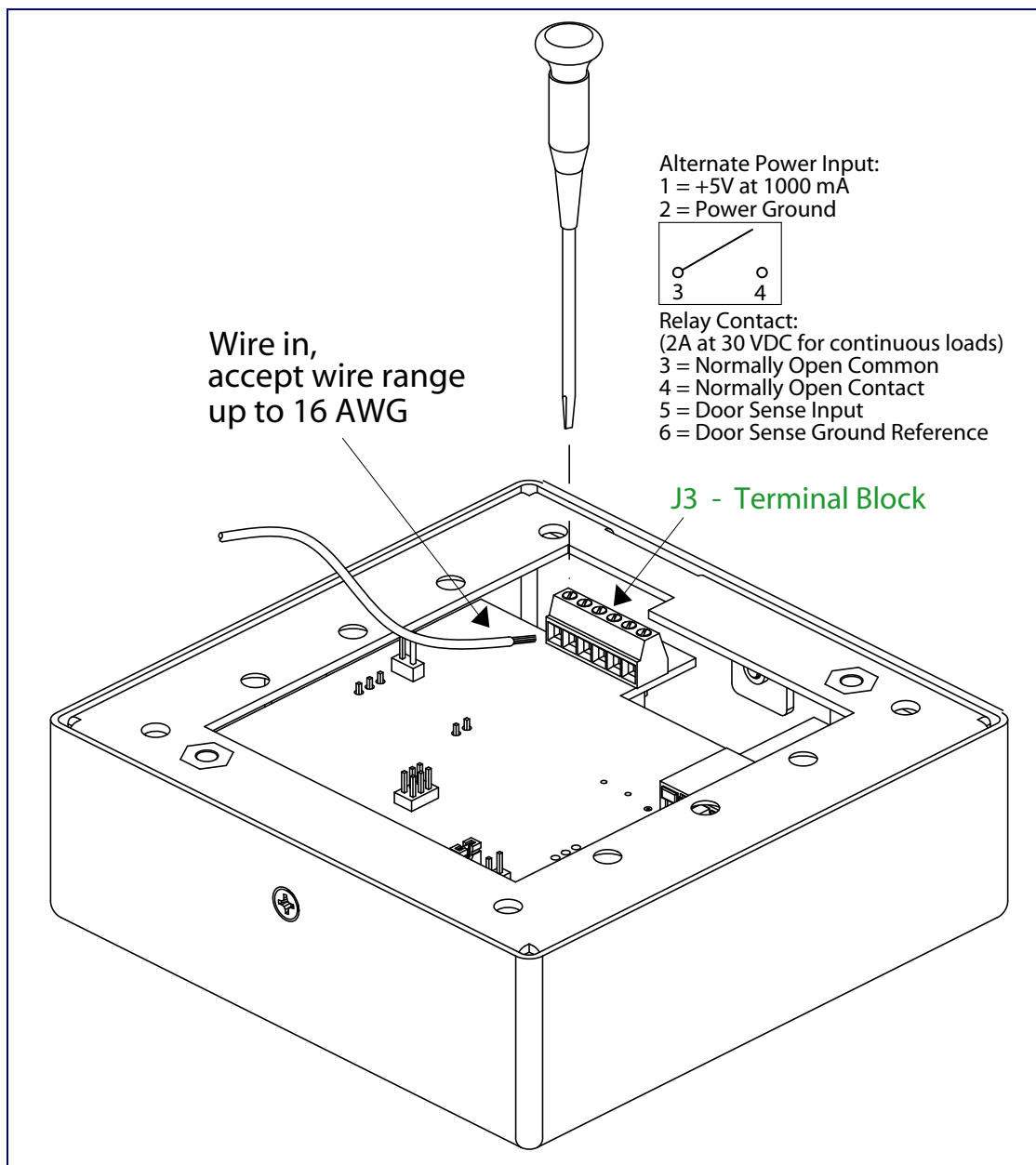
2.1 VoIP Call Button Setup

2.1.1 VoIP Call Button Connections

Figure 2-4 shows the pin connections on the J7 (terminal block). This terminal block can accept a wire range from 16 AWG to 26 AWG.




Note As an alternative to using PoE power, you can supply 5 VDC at 1000 mA into the terminal block.

Figure 2-4. VoIP Call Button Connections



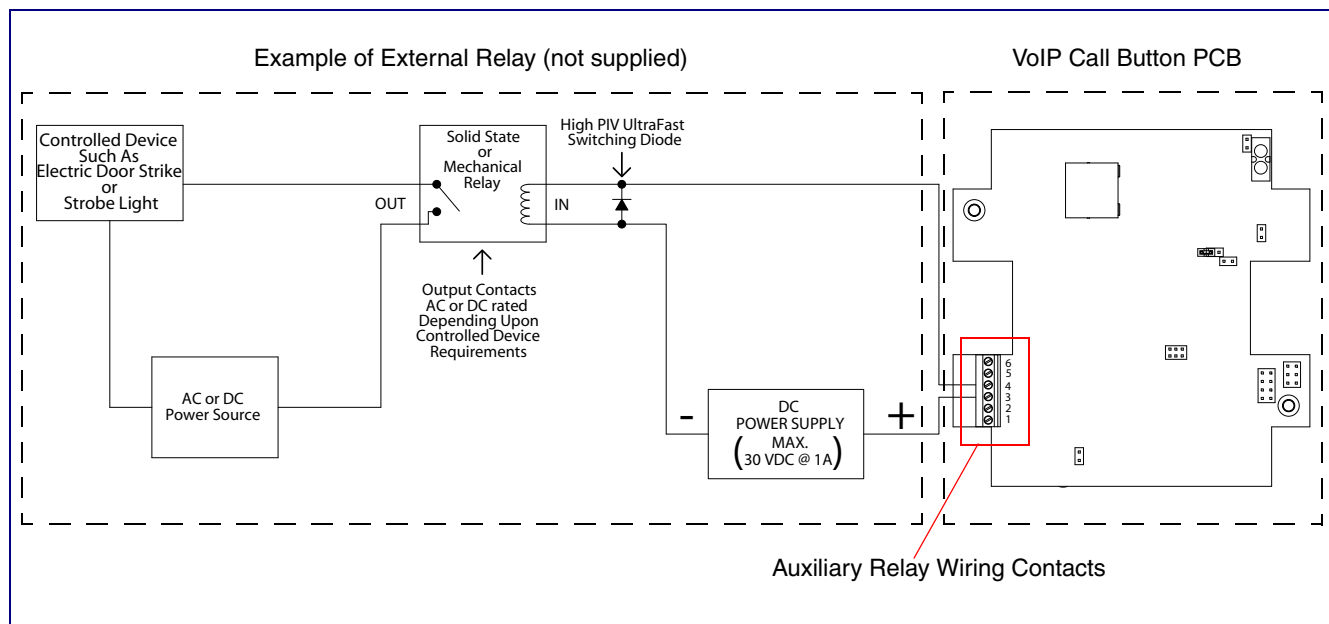
2.1.2 Connecting a Device to the Auxiliary Relay

The VoIP Call Button 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 2-5](#)). The VoIP Call Button relay contacts are limited to 1 amp at 30VDC. The VoIP Call Button 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.

 <p>GENERAL ALERT</p>	<p>Warning <i>Electrical Hazard:</i> The VoIP Call Button enclosure is not rated for any AC voltages.</p>
 <p>GENERAL ALERT</p>	<p>Warning <i>Electrical Hazard:</i> This product should be installed by a licensed electrician according to all local electrical and building codes.</p>
 <p>GENERAL ALERT</p>	<p>Warning <i>Electrical Hazard:</i> To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.</p>

Note The three digit code for the auxiliary relay must be sent in conformance with RFC2833 DTMF generation.

Figure 2-5. Auxiliary Relay Wiring Diagram



2.1.3 Identifying the VoIP Call Button Connectors

See the following figures and tables to identify the VoIP Call Button connector locations and functions.

Figure 2-6. J2, J5, and J6 Connector Locations

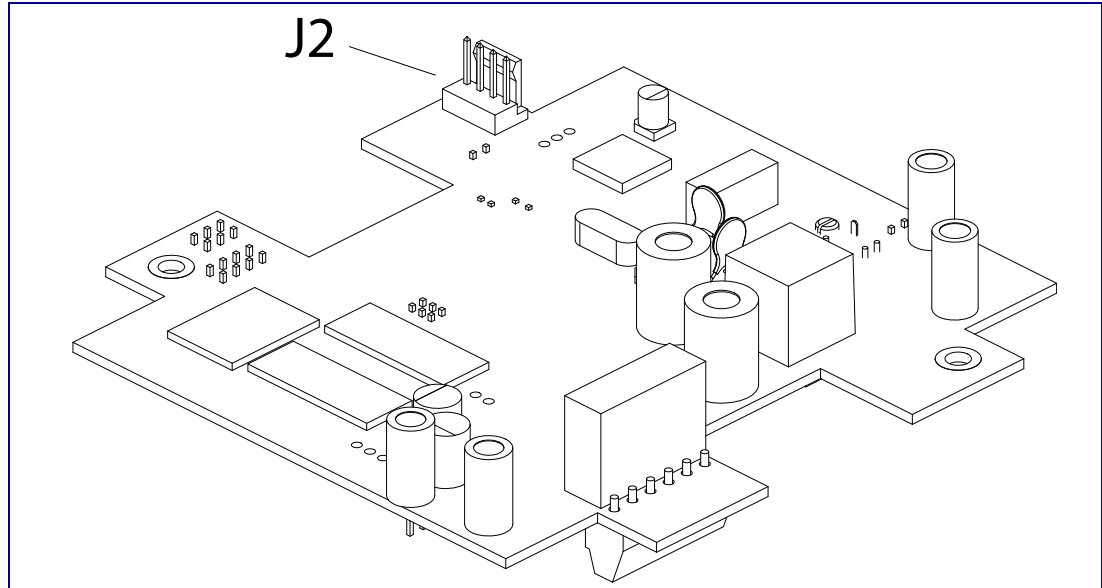


Table 2-2. Connector Functions

Connector	Function
J2	Call Button - LED Interface

Figure 2-7. J1 and J3 Connector Locations

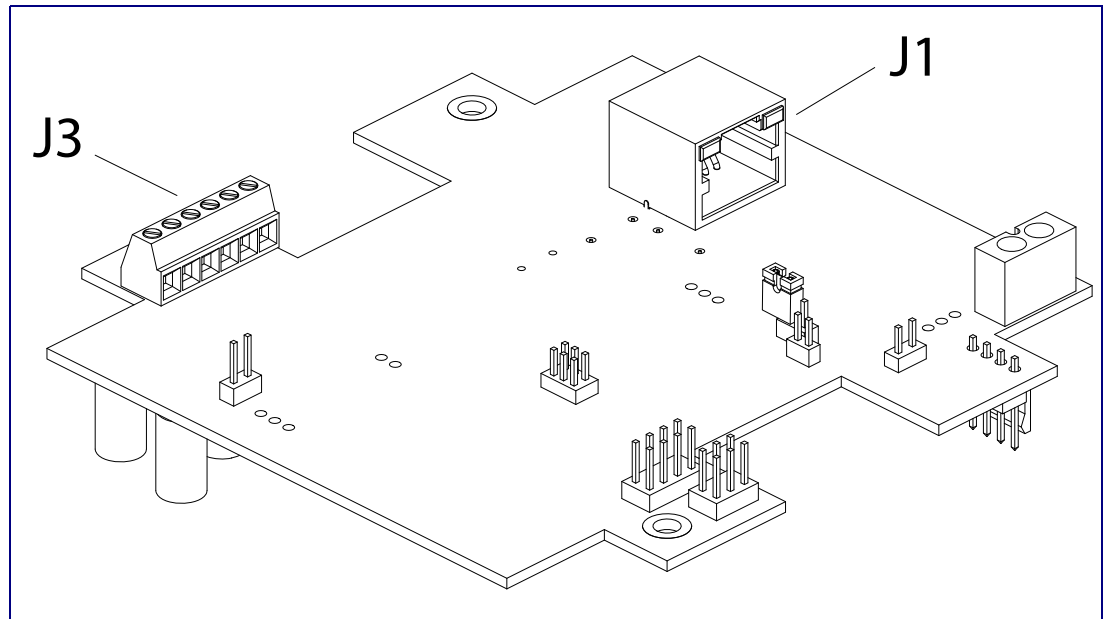
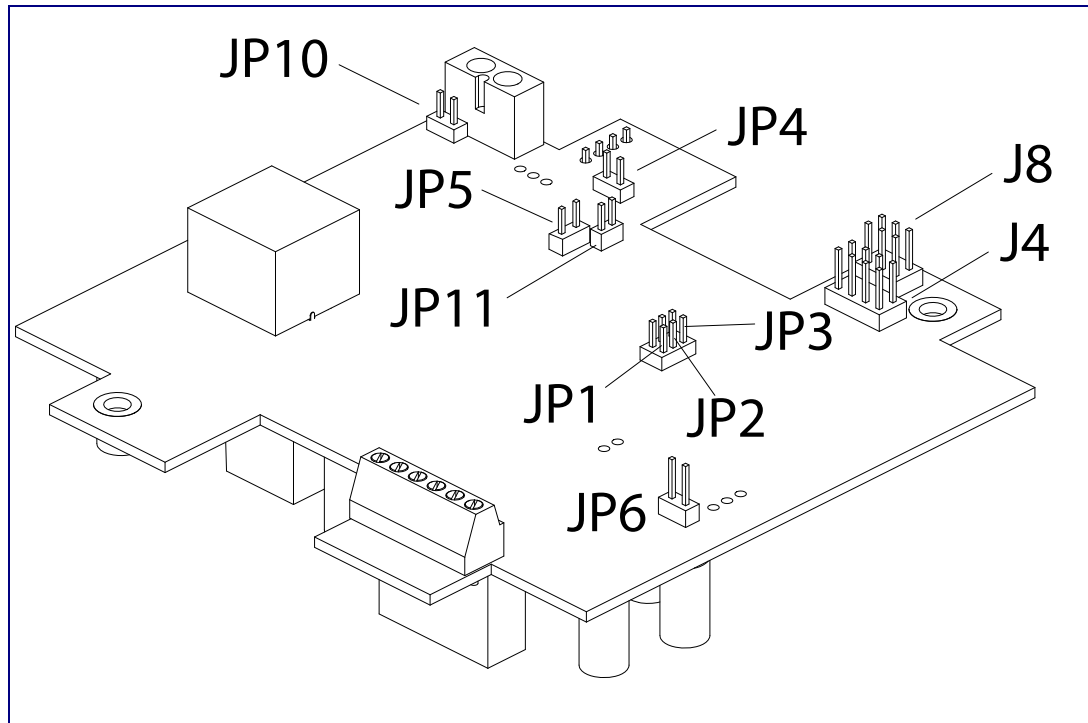


Table 2-3. Connector Functions

Connector	Function
J1	PoE Network Connection (RJ-45 ethernet) with link and activity LEDs
J3	Terminal Block (see Figure 2-4)

Figure 2-8. JP11—RTFM Switch Jumper



See [Table 2-4](#) for the connector settings.

Table 2-4. Connector Settings

Connector	Function
J4	J-Tag (Factory only)
J8	Console (Factory only)
JP1	Processor Boot Mode (Factory Only)
JP2	Processor Boot Mode (Factory Only)
JP3	Processor Boot Mode (Factory Only)
JP4	Reset (Factory only)
JP5	Watchdog Timer (Factory only)
JP6	Audio Enable (Factory only)
JP10	Intrusion Detector Bypass (Install JP10 to disable Intrusion detector)
JP11	RTFM (see Section 2.1.5.2, "Restore the Factory Default Settings")

2.1.4 Call Button and Indicator Light

2.1.4.1 Initial Power

Upon initial power or reset, you will see the following:

- The light is on.
- The light will blink twice to indicate that the VoIP Call Button has acquired its network settings and is operational.
- The first blink indicates that the VoIP Call Button has acquired its network settings.
- The second blink indicates that the VoIP Call Button is operational.

2.1.4.2 Calling

- You may initiate a call by pressing the Call button.
- An active call is indicated by the light blinking at one second intervals.
- Once pressed, the Call button will automatically call a preset extension or number and play an audio file to the phone being called. This audio file can be uploaded from the web interface.

Figure 2-9. Call Button and Indicator Light

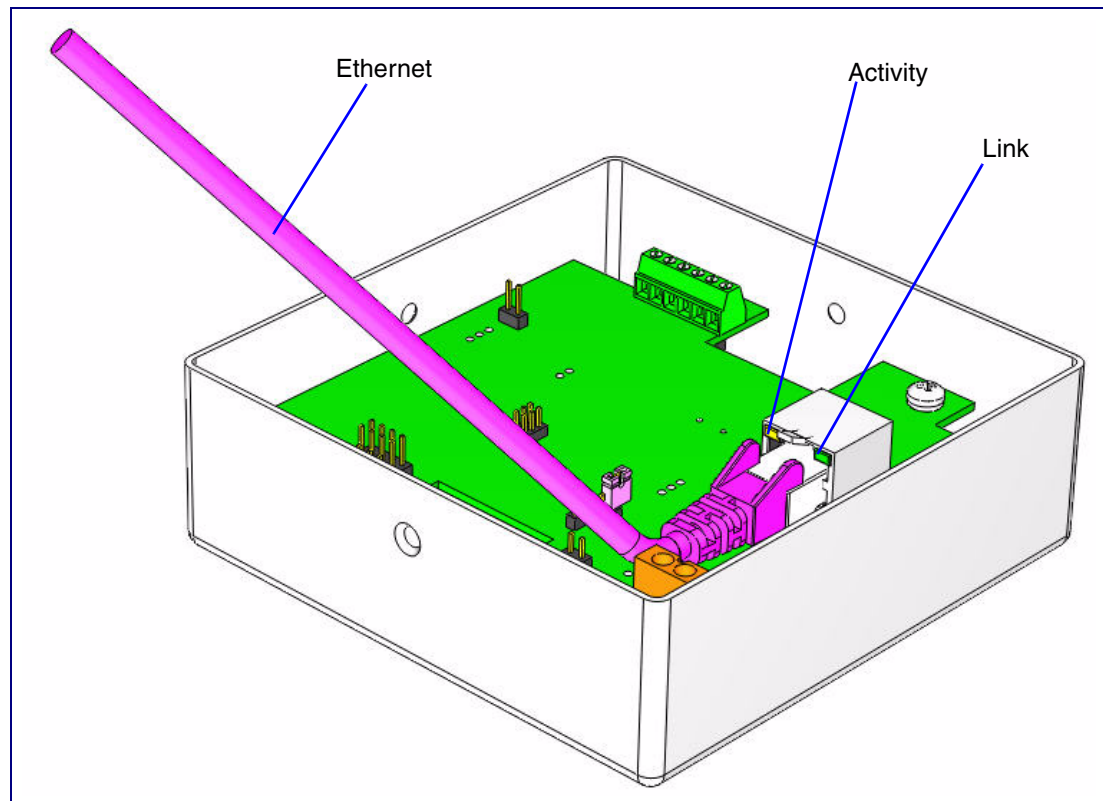


2.1.5 Network Connectivity, and Data Rate

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 2-10](#) and [Figure 2-11](#)). The Link light changes color to confirm the auto-negotiated baud rate:
 - This light is yellow at 10 Mbps.
 - It is orange at 100 Mbps.

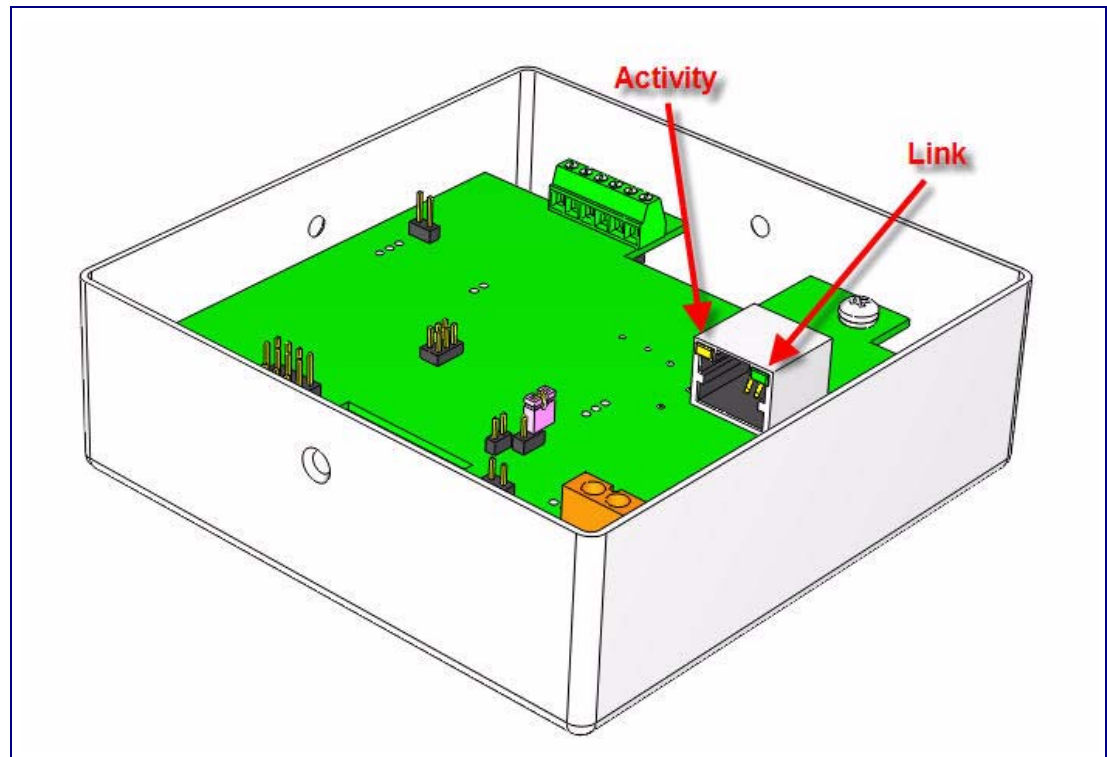
Figure 2-10. Network Connector Prior to Installation



2.1.5.1 Verify Network Activity

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

Figure 2-11. Network Connector



2.1.5.2 Restore the Factory Default Settings

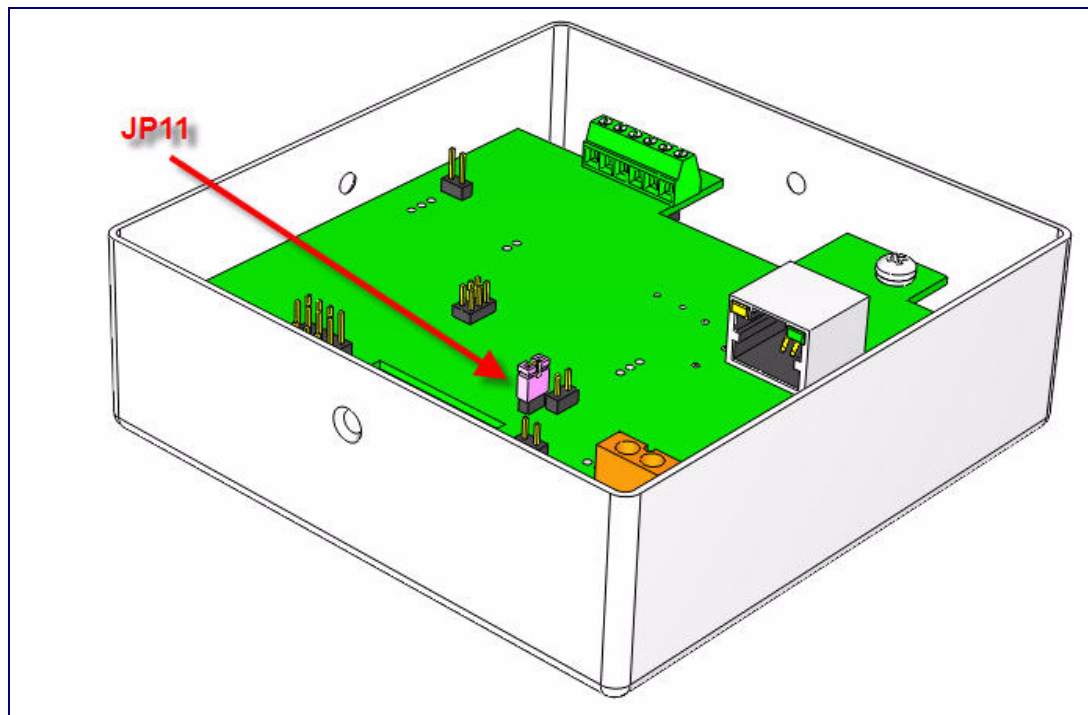
When troubleshooting configuration problems, it is sometimes convenient to restore the device to a known state.

Each VoIP Call Button is delivered with factory set default values. Use the **RTFM** switch on the VoIP Call Button face to restore these parameters to the factory default settings.

To restore the factory default settings:

1. Complete steps 1 through 4 in Section 2.1.6.1, "Announcing the IP Address". **[REMOVE?]**
2. Press and hold the **Call** button for **10** seconds.
3. When you hear the announcement, release the **Call** button. The factory default settings are restored, and the VoIP Call Button will automatically restart.
4. After the VoIP Call Button has rebooted, remove the jumper from JP11.
5. Cycle power by disconnecting the PoE cable from J1 and plugging the PoE cable back into J1.

Figure 2-12. RTFM Switch Jumper



2.1 Configure the VoIP Call Button Parameters

To configure the VoIP Call Button online, use a standard web browser.

Configure each VoIP Call Button and verify its operation *before* you mount it. When you are ready to mount an VoIP Call Button, refer to [Appendix A, "Mounting the VoIP Call Button"](#) for instructions.

All VoIP Call Buttons are initially configured with the following default IP settings:

When configuring more than one VoIP Call Button, attach the VoIP Call Buttons 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 no DHCP server is present

2.1.1 Log in to the Configuration Home Page

1. Open your browser to the VoIP Call Button IP address.

For the initial configuration of the VoIP Call Button, open your browser to the default IP address:

<http://10.10.10.10>

Note Make sure that the PC is on the same IP network as the VoIP Call Button.

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

CyberData's VoIP Discovery Utility program is available on the VoIP Call Button product page at:

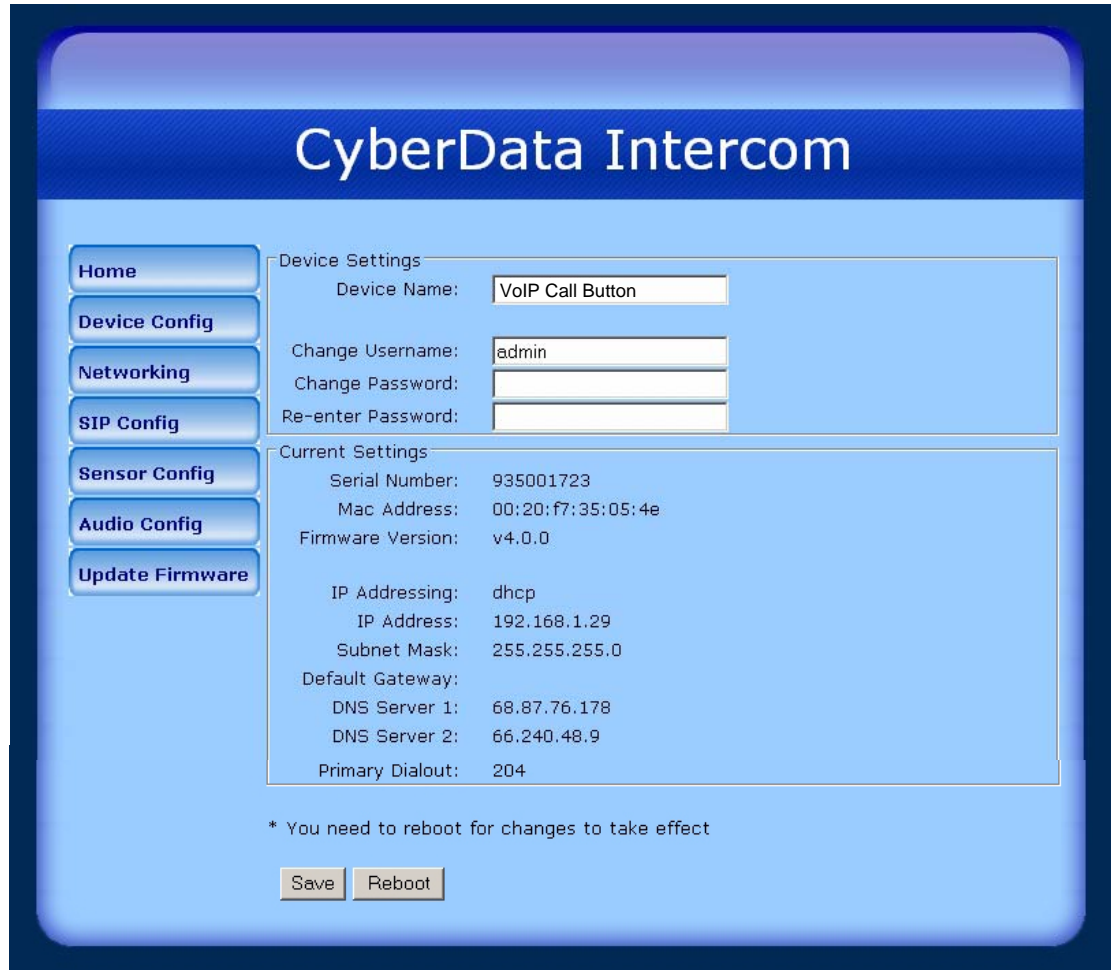
<http://www.cyberdata.net/support/voip/index.html>

- 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





- On the **Home Page**, review the setup details and navigation buttons described in Table 2-6.

Table 2-6. 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.

Table 2-6. Home Page Overview

Web Page Item	Description
Current Settings	
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.
Primary Dialout	Shows the current dialout number.
	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 the Sensor Configuration page.
	Link to the Audio Configuration page.
	Link to the Update Firmware page.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

2.1.2 Configure the Device

1. Click the **Device Configuration** button to open the **Device Configuration** page. See [Figure 2-14](#).

Figure 2-14. Device Configuration Page

CyberData Intercom

Device Configuration

Autoprovisioning

Enable Autoprovisioning:

Get Autoprovisioning from DHCP:

Autoprovisioning Server (IP Address):

Autoprovisioning autoupdate (in minutes):

Relay Settings

Activate Relay with DTMF code:

DTMF Activation Code:

DTMF Activation Duration (in seconds):

Activate Relay During Ring:

Activate Relay on Button Press:

Relay on Button Press Timeout (in seconds):

Miscellaneous Settings

Button Lit when Idle:

* You need to reboot for changes to take effect

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

Table 2-7. Device Configuration Parameters









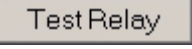
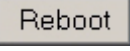
Web Page Item	Description
Autoprovisioning	
Enable Autoprovisioning	See Section 2.1.2.1, "Autoprovisioning" .
Get Autoprovisioning from DHCP	See Section 2.1.2.1, "Autoprovisioning" .
Autoprovisioning Server (IP Address)	See Section 2.1.2.1, "Autoprovisioning" .
Autoprovisioning autoupdate (in minutes)	See Section 2.1.2.1, "Autoprovisioning" .
Relay Settings	
Activate Relay with DTMF Code	Check this box to use a DTMF code to activate the relay.
DTMF Activation Code	Type the desired DTMF activation code.
DTMF Activation Duration (in seconds)	Type the desired DTMF activation duration (in seconds). NOTE: A DTMF activation duration of 0 will toggle the relay indefinitely or until the activation code is sent again
Activate Relay During Ring	Check this box to activate the relay for as long as the phone is ringing. NOTE: When the phone is set to Auto Answer , it will not ring and this option does nothing.
Activate Relay on Button Press	Check this box to activate the relay for a user-selectable amount of time when the button is pressed.
Relay on Button Press Timeout (in seconds)	Type the desired number of seconds for the timeout on the relay after the button is pressed.
Miscellaneous Settings	
Button Lit When Idle	Check this box to have the Call Button light on when the Intercom is idle.
	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 the Sensor Configuration page.
	Link to the Audio Configuration page.
	Link to the Update Firmware page.

Table 2-7. Device Configuration Parameters

Web Page Item	Description
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Test Relay button to do a relay test.
	Click on the Reboot button to reboot the system.

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

2.1.2.1 Autoprovisioning

Enable Autoprovisioning Option	With autoprovisioning enabled, the board will get it's configuration from a remote TFTP server. These autoprovisioned values will take precedence over values stored in the boards own non-volatile memory. The board gets it's 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.
Get Autoprovisioning from DHCP	On the webpage you can specify an address where the board will look for autoprovisioning information or have it use an address supplied by your DHCPD server through option 66 (tftp-server-name) or 150.
Autoprovisioning Autoupdate	If autoprovisioning is turned on 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 it's autoprovisioning file. It will compare it's previously autoprovisioned file with this new file and if there are differences, it will reboot the board.

Autoprovisioning Server (IP Address) On boot the device will go to it's autoprovisioning server address and try to read a configuration file. The board will look for a configuration file named <mac address>.config. For example:

```
0020f7350185.config
```

The mac address has to be all lower case.

It's possible to only configure a subset of all configuration options using autoprovisioning. Options not autoprovisioned will default to the values stored in the on board memory.

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";

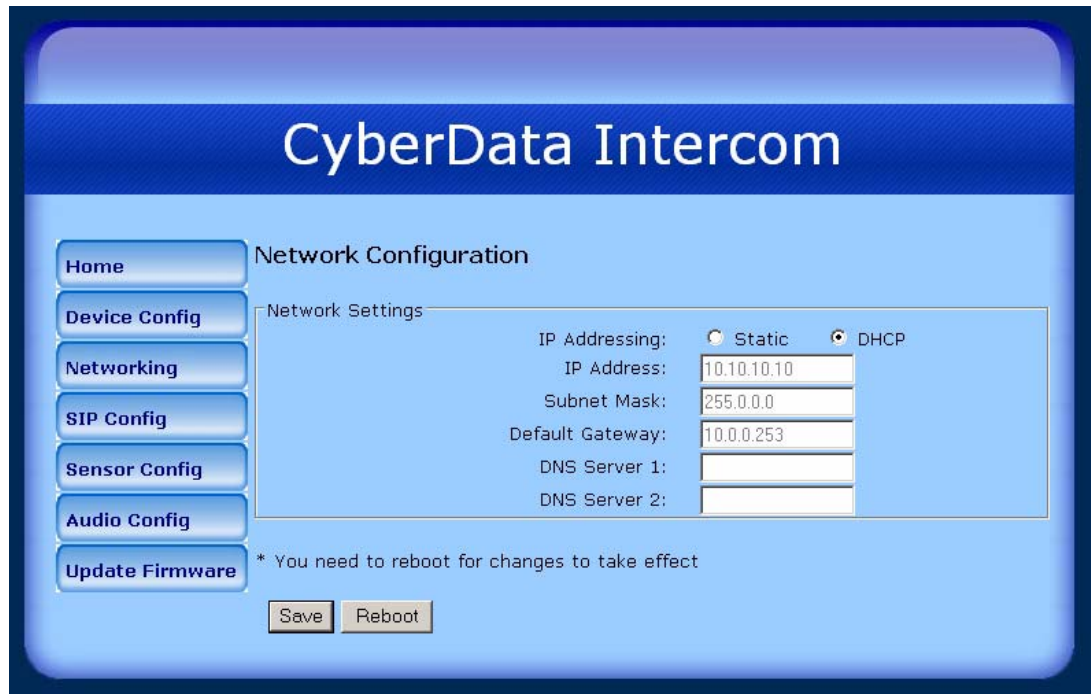
    option option-150             10.0.0.254;

    range 10.10.0.1 10.10.2.1;}
```

2.1.3 Configure the Network Parameters

1. Click the **Networking** button to open the **Network Configuration** page (Figure 2-15).

Figure 2-15. Network Configuration Page



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

Table 2-8. Network Configuration Parameters









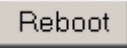
Web Page Item	Description
IP Addressing	Select either DHCP IP Addressing or Static IP Addressing by marking the appropriate radio button. If you select Static , configure the remaining parameters indicated in Table 2-8. If you select DHCP , go to Step 3 .
Network Settings	
IP Address	Enter the Static 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.
	Link to the Home page.
	Link to the Device Configuration page.

Table 2-8. Network Configuration Parameters

Web Page Item	Description
	Link to the Networking page.
	Link to go to the SIP Configuration page.
	Link to the Sensor Configuration page.
	Link to the Audio Configuration page.
	Link to the Update Firmware page.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	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 VoIP Call Button if appropriate.
4. Connect the VoIP Call Button to the target network.
5. From a system on the same network as the VoIP Call Button, open a browser with the new IP address of the VoIP Call Button.

2.1.4 Configure the SIP Parameters

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

Note For specific server configurations, go to the VoIP Call Button product page at:

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

Figure 2-16. SIP Configuration Page

The screenshot shows the 'SIP Configuration' page. On the left is a navigation menu with buttons for Home, Device Config, Networking, SIP Config, Sensor Config, Audio Config, and Update Firmware. The main area is titled 'SIP Configuration' and contains a 'SIP Settings' section with the following fields:

- SIP Server: 10.0.1.4
- Outbound Proxy: (empty)
- Remote SIP Port: 5060
- Local SIP Port: 5060
- SIP User ID: 199
- Authenticate ID: 199
- Authenticate Password: ext199
- Register with a SIP Server:
- Re-registration Interval (in seconds): 60
- Unregister on Reboot:




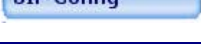
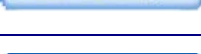
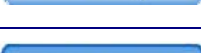


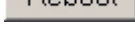
At the bottom, there is a note: '* You need to reboot for changes to take effect' and two buttons: 'Save' and 'Reboot'.

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

Table 2-9. SIP Configuration Parameters

Web Page Item	Description
SIP Settings	
SIP Server*	Enter the SIP server represented as either a numeric IP address in dotted decimal notation or the fully qualified host name (FQHN) up to 64 characters.
Outbound Proxy	Enter the Outbound Proxy as either a numeric IP address in dotted decimal notation or the fully qualified host name (FQHN) up to 64 characters.
Remote SIP Port*	Enter the Remote SIP Port number (default 5060).
Local SIP Port*	Enter the Local SIP Port number (default 5060).
SIP User ID*	Enter the SIP User ID (up to 25 alphanumeric characters).
Authenticate ID*	Enter the Authenticate ID (up to 25 alphanumeric characters).
Authenticate Password*	Enter the Authenticate Password (up to 25 alphanumeric characters).

Table 2-9. SIP Configuration Parameters

Web Page Item	Description
Register with a SIP Server*	When selected, SIP Registration is enabled. For information about the Point-to-Point Configuration, see Section 2.1.4.1, "Point-to-Point Configuration" .
Re-registration Interval (in seconds)*	Enter the SIP Registration lease time in seconds (default 60 seconds).
Unregister on Reboot	When selected, the SIP registration is disabled after a reboot.
	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 the Sensor Configuration page.
	Link to the Audio Configuration page.
	Link to the Update Firmware page.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

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

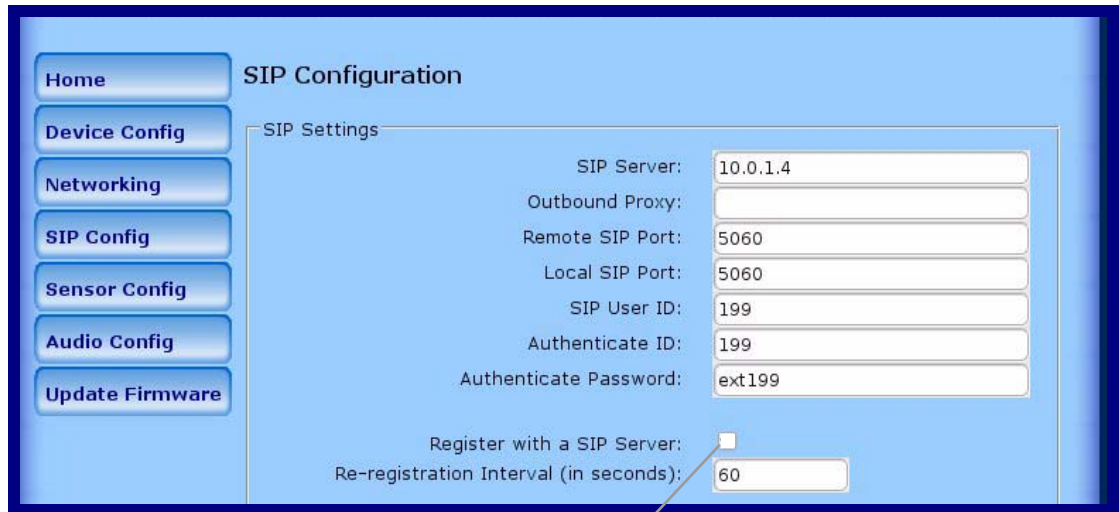
2.1.4.1 Point-to-Point Configuration

When the board is set to not register with a SIP server (see [Figure 2-17](#)), it's possible to set the VoIP Call Button to dial out to a single endpoint.

In this case, the dial-out extension should be the IP address of the remote device. The VoIP Call Button 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 2-17. SIP Configuration Page Set to Point-to-Point Mode



The screenshot shows the 'SIP Configuration' page with a sidebar on the left containing buttons for 'Home', 'Device Config', 'Networking', 'SIP Config', 'Sensor Config', 'Audio Config', and 'Update Firmware'. The main content area is titled 'SIP Configuration' and contains a 'SIP Settings' section. The settings are as follows:

Field	Value
SIP Server:	10.0.1.4
Outbound Proxy:	
Remote SIP Port:	5060
Local SIP Port:	5060
SIP User ID:	199
Authenticate ID:	199
Authenticate Password:	ext199
Register with a SIP Server:	<input type="checkbox"/>
Re-registration Interval (in seconds):	60

Board is set to NOT register with a SiP server

2.1.4.2 Delayed DTMF

On the **SIP Configuration** page the dial out extension now 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 2-10. 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.

2.1.5 Configure the Sensor Configuration Parameters

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

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

For each sensor there are four actions the VoIP Call Button can take:

- Flash the LED until the sensor is deactivated (roughly 10 times/second)
- Activate the relay until the sensor is deactivated
- Call a preset extension and play a pre-recorded audio file (once)

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

1. Click **Sensor Config** to open the **Sensor Configuration** page (Figure 2-18).

Figure 2-18. Sensor Configuration Page

CyberData Intercom

Sensor Configuration

Home
Device Config
Networking
SIP Config
Sensor Config
Audio Config
Update Firmware

Door Sensor Settings

Door Sensor Normally Closed: Yes No
Door Open Timeout (in seconds):

Flash Button LED:
Activate Relay:

Play Audio Remotely:
Dial Out Extension:

Test Door Sensor

Intrusion Sensor Settings

Flash Button LED:
Activate Relay:

Play Audio Remotely:
Dial Out Extension:

Test Intrusion Sensor

* You need to reboot for changes to take effect

Save Reboot

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

Table 2-11. Sensor Configuration Parameters








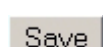
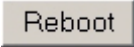
Web Page Item	Description
Door Sensor Settings	
Door Sensor Normally Closed	Select the inactive state of the door sensors.
Door Open Timeout (in seconds)	Select the number of seconds that you want to pass before the door sensor is activated.
Flash Button LED*	Check this box to flash the LED until the sensor is deactivated (roughly 10 times/second).
Activate Relay	Check this box to activate the relay until the sensor is deactivated.
Play Audio Remotely	Check this box to call a preset extension and play a pre-recorded audio file (once).
Dial Out Extension	Enter the button dial-out extension number.
Test Door Sensor	Use this button to test the door sensor.
Intrusion Sensor Settings	
Flash Button LED*	Check this box to flash the LED until the sensor is deactivated (roughly 10 times/second).
Activate Relay	Check this box to activate the relay until the sensor is deactivated.
Play Audio Remotely	Check this box to call a preset extension and play a pre-recorded audio file (once).
Dial Out Extension	Enter the button dial-out extension number.
Test Intrusion Sensor	Use this button to test the Intrusion sensor.
	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 the Sensor Configuration page.
	Link to the Audio Configuration page.
	Link to the Update Firmware page.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.

Table 2-11. Sensor Configuration Parameters

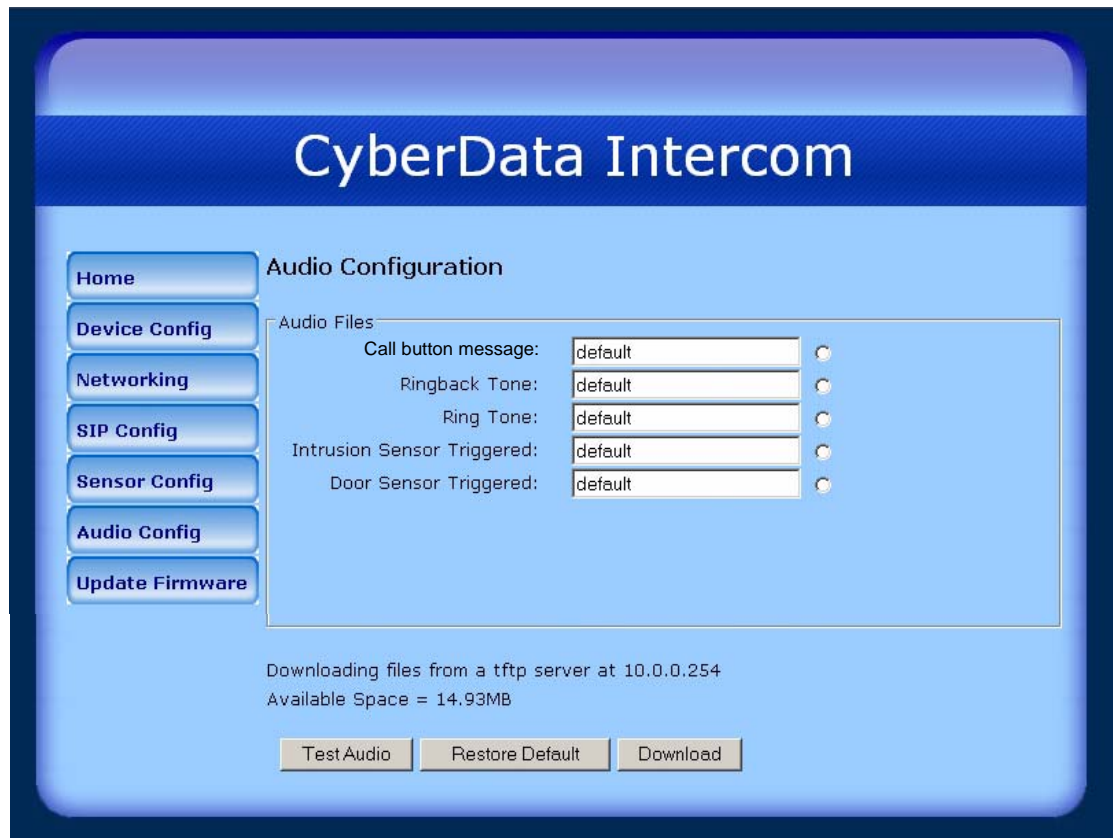
Web Page Item	Description
	Click on the Reboot button to reboot the system.

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

2.1.6 Configure the Audio Configuration Parameters









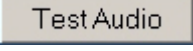
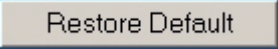
1. Click **Audio Config** to open the **Audio Configuration** page (Figure 2-18).

Figure 2-19. Audio Configuration Page



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

Table 2-12. Audio Configuration Parameters

Web Page Item	Description
Audio Files	
Radio button (to the right of each input box)	For each entry, if the user selects the radio button to the right of the input box they have several options: The Test Audio button will play that audio file. The Restore Defaults button will delete any user uploaded audio and restore the stock audio file. The Download button will download a new user audio file to the board. It will delete any pre-existing user uploaded audio files.
Restoring default	Corresponds to the message "Restoring default."
Intrusion Sensor Triggered	Corresponds to the message "Intrusion sensor triggered."
Door Sensor Triggered	Corresponds to the message "Door ajar."
Available Space =	Indicates how much space is left in the internal non-volatile memory.
	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 the Sensor Configuration page.
	Link to the Audio Configuration page.
	Link to the Update Firmware page.
	Click on the Download button to download a file from a TFTP server at the address specified on the Update Firmware page. Note: Downloading large files can sometimes take a long time. It's not recommended to interrupt the process once it has started.
	Click on the Test Audio button to test the audio.
	Click on the Restore Default button to restore the default settings.

2.1 Upgrade the Firmware and Reboot the VoIP Call Button

To upload the VoIP Call Button firmware from your PC:

1. Set up a TFTP server.
If you do not already have a TFTP server running on your network, see [Appendix B, "Setting up a TFTP Server"](#).
2. Retrieve the latest VoIP Call Button firmware from the VoIP Call Button product page at:
<http://www.cyberdata.net/support/voip/index.html>
3. Unzip the VoIP Call Button version file. This file may contain the following:
 - Firmware file
 - Release notes
4. Copy the firmware files to be upgraded to the appropriate TFTP server directory:
 - c:\tftp-root\for Windows
 - /tftpboot/for Linux
5. Log in to the VoIP Call Button home page as instructed in [Section 2.1.1, "Log in to the Configuration Home Page"](#).

- Click the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-20](#).

Figure 2-20. Upgrade Firmware Page

The screenshot shows the 'Upgrade Firmware' page of the CyberData Intercom web interface. The page has a blue header with the text 'CyberData Intercom'. On the left side, there is a vertical menu with buttons for 'Home', 'Device Config', 'Networking', 'SIP Config', 'Sensor Config', 'Audio Config', and 'Update Firmware'. The main content area is titled 'Upgrade Firmware' and displays the current 'Firmware Version: v4.0.0'. There are two input fields: 'TFTP Server IP:' with the value '10.0.0.254' and 'New Filename:' which is empty. Below these fields, it states 'System will automatically reboot after upgrading firmware'. At the bottom of the form, there are 'Submit' and 'Reboot' buttons.

- Enter the IP address of your TFTP server into the **TFTP Server IP** parameter field.
- Enter the firmware filename of the file to be uploaded into the **New Filename** parameter field. For example, kernel filename **201-image-spk-sip.bin**.
- Click **Upload File**.

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

Note If you are upgrading an older version of the VoIP Call Button firmware to version 3.3.0 or later, several features will be in an unknown or random state. Therefore, in the case of a firmware upgrade to version 3.3.0 or later, CyberData recommends that you go to the **Device Config** page and make sure the following values are set properly.

- Auto Answer
- Activate Relay on Ring
- Activate Relay on Button Press
- Relay on Button Press Timeout
- Button Lit when Idle
- Play Ringback Tone








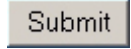
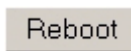
On the **Sensor Configuration** page make sure that all of the settings are set properly.

10. Repeat steps 8 and 9 if you are uploading the **Kernel** and **Application** files.

For example, **Application** filename **201-romdisk-spk-sip.img**.

[Table 2-13](#) shows the web page items on the **Upgrade Firmware** page.

Table 2-13. Firmware Upgrade Parameters

Web Page Item	Description
Firmware Version	Shows the current firmware version.
TFTP Server IP	Enter the TFTP Server IP address.
New Filename	Use this field to enter the new file name for the kernel or application firmware file that you are uploading.
	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 the Sensor Configuration page.
	Link to the Audio Configuration page.
	Link to the Update Firmware page.
	Click on the Submit button to automatically upload the selected firmware and reboot the system.
	Click on the Reboot button to reboot the system.

2.1.1 Reboot the VoIP Call Button

To reboot a VoIP Call Button, log in to the web page as instructed in [Section 2.1.1, "Log in to the Configuration Home Page"](#).

1. Click **Update Firmware** to open the **Upgrade Firmware** page ([Figure 2-21](#)).

Figure 2-21. Reboot System Section



2. Click **Reboot**. A normal reboot will occur.

Appendix A: Mounting the VoIP Call Button

A.1 Mount the VoIP Call Button

Before you mount the VoIP Call Button, make sure that you have received all the parts for each VoIP Call Button. Refer to [Table A-1](#).

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

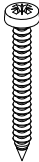
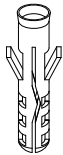
Quantity	Part Name	Illustration
4	#6 x 1.5 inches Sheet Metal Screw	
4	#6 Ribbed Plastic Anchor	

Table A-1. Gang Box Mounting Components

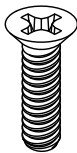
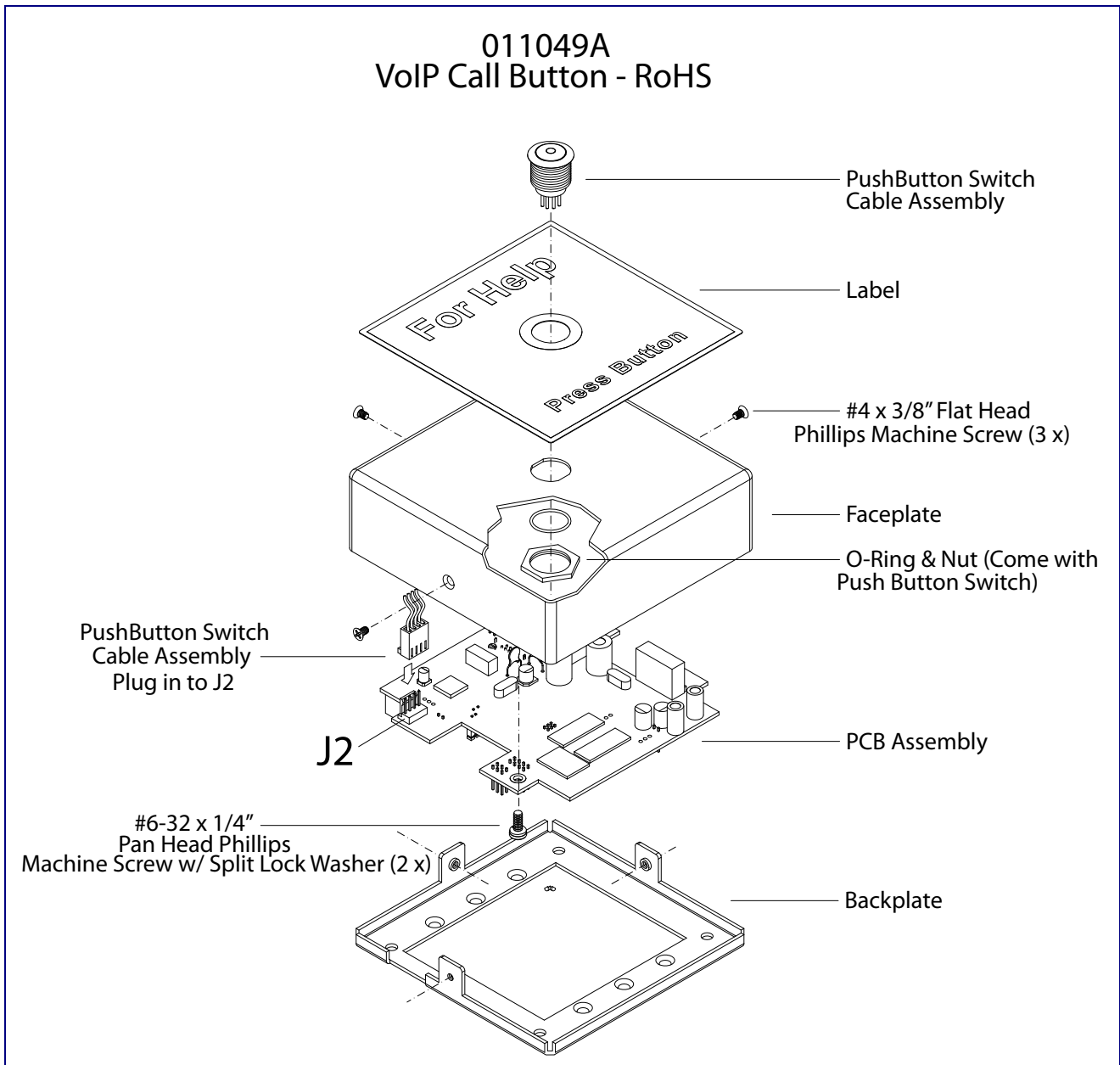
Quantity	Part Name	Illustration
4	#6-32 x .375-inch Flat-Head Machine Screw.	

Figure A-1 shows how to properly assemble and connect the VoIP Call Button.

Figure A-1. Cable Connections



After the VoIP Call Button is assembled, plug the Ethernet cable into the VoIP Call Button Assembly (see Figure A-1).

Section 2.1.5, "Network Connectivity, and Data Rate" explains how the **Link** and **Status** LEDs work.

Figure A-1. Network Connector Prior to Installation

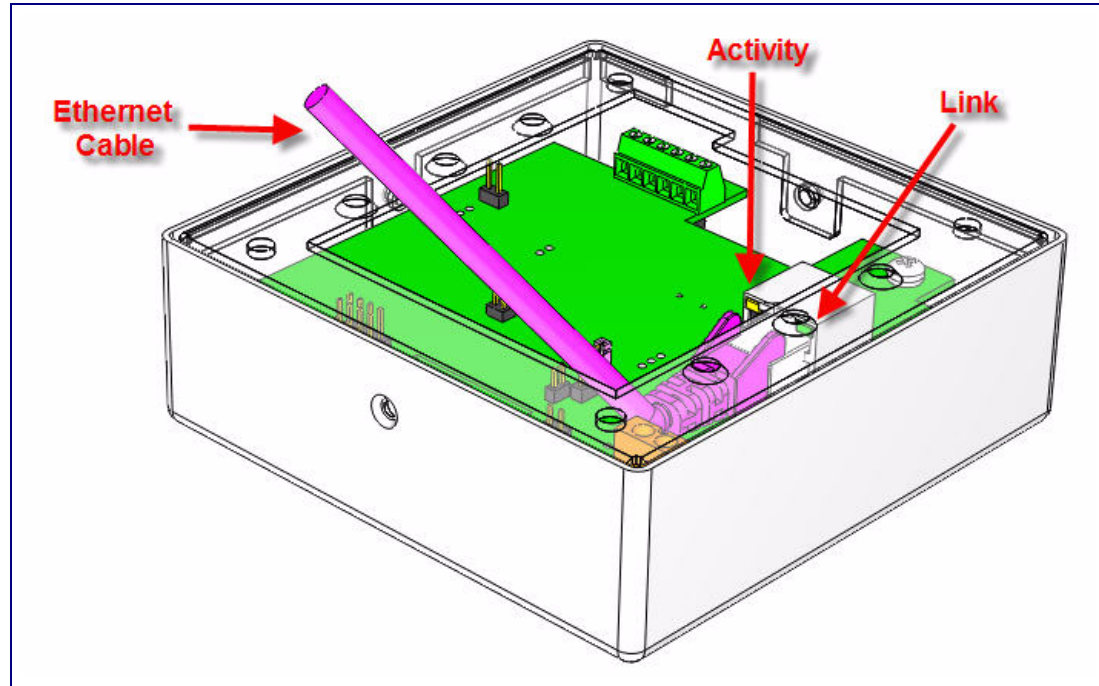
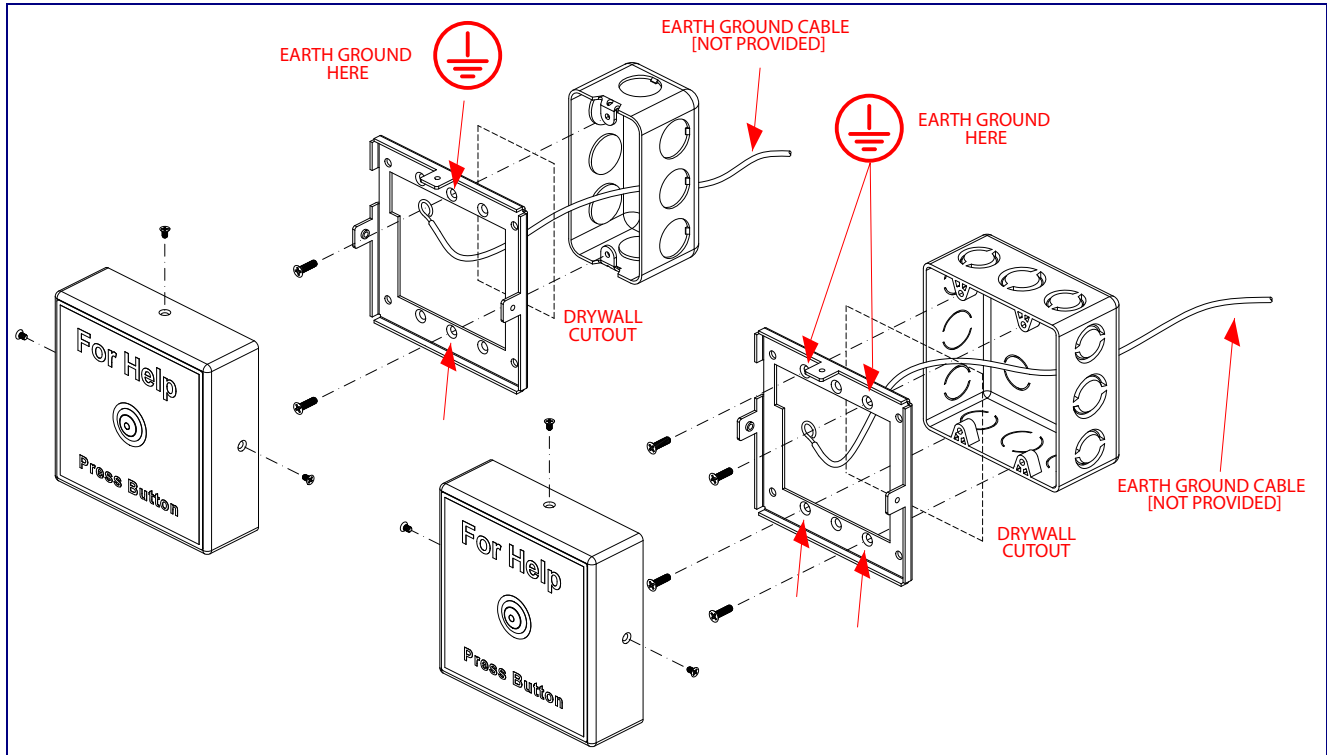


Figure A-2 shows a 1-Gang Box and a 2-Gang Box mounting option.

Note Be sure to connect the Intercom up to the Earth Ground.

Figure A-2. Gang Box Mounting



Appendix B: Setting up a TFTP Server

B.1 Set up a TFTP Server

Upgrading the VoIP Call Button firmware requires a TFTP server on which you access the Web interface where you can upload the firmware files.

B.1.1 In a LINUX Environment

To set up a TFTP server on LINUX:

1. Create a directory dedicated to the TFTP server, and move the files to be uploaded to that directory.
2. Run the following command where `/tftpbboot/` is the path to the directory you created in [Step 1](#): the directory that contains the files to be uploaded. For example:

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

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 VoIP Call Button product page at:

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

To set up a TFTP server on Windows:

1. Install and start the software.
2. Select **File/Configure/Security** tab/**Transmit Only**.
3. Make a note of the default directory name, and then move the firmware files to be uploaded to that directory.

B.1.3 In a Solarwinds Server Environment

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

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

Appendix C: Troubleshooting/Technical Support

C.1 Frequently Asked Questions (FAQ)

A list of frequently asked questions (FAQs) are available on the VoIP Call Button product page at:

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

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

C.2 Documentation

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

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

C.3 Contact Information

Contact	CyberData Corporation 2555 Garden Road 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	Phone: 831-373-2601 Extension 333 Email: support@CyberData.net
Returned Materials Authorization	To return the product, contact the CyberData Returned Materials Authorization (RMA) department at: 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. No product will be accepted for return without an approved RMA number. Send the product, in its original package, to the following address:

CyberData Corporation
2555 Garden Road
Monterey, CA 93940
Attention: RMA "your RMA number"

C.4 Warranty

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

If the product is out-of-warranty and fails, a flat rate repair charge of one half the product purchase price will be assessed. Repair costs for products that are in warranty, but damaged by improper modifications or abuse, will be charged at the out-of-warranty rate. Products returned to CyberData, both in and out-of-warranty, are shipped to CyberData at the expense of the customer. Charges for shipping repaired products back to the customer will be paid by CyberData.

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