

## *Leap Telecom Configuration Guide: SIP Enabled Call Buttons*

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**Leap Telecom Configuration Guide: SIP Call Button**  
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## Revision Information

8/26/2022 – Initial Release

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## 1.0 Supported CyberData Products

This section describes the products used for interoperability testing with Leap Telecom.

**Table 1-1: Supported CyberData Products**

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP CALL BUTTON	011049	20.4.1 or later
CYBERDATA SIP OUTDOOR CALL BUTTON	011491	20.4.1 or later

## 2.0 Before You Start

### Network Advisories

Leap Telecom uses a Fully Qualified Domain Name (FQDN) for the SIP server. The CyberData call button needs to perform a DNS query to resolve the IP address of Leap's Instance Name.

In addition, be sure to verify the following ports are available for the button to use:

- UDP 5060 (SIP)  
OR
- TCP 5060 (SIP)
- UDP 10500 (RTP)

The button will need to traverse the public internet in order to operate with Leap Telecom in the cloud.

The button's paging extension uses SIP port 5060 to send and receive SIP messages.

SIP ports 5060 and RTP port 10500 are the default values on all noted firmware levels. Alternatively, SIP ports are configurable on the **SIP** page of the web interface. The RTP port setting on the **SIP** page is used for both extensions.

### Product Documentation and Utilities

Before you start, download the Operation and Quick Start guides from the button's product webpage:

SIP Call Button:

<https://www.cyberdata.net/collections/sip/products/011049>

SIP Outdoor Call Button:

<https://www.cyberdata.net/collections/sip/products/011491>

The CyberData Discovery Utility can be used to locate CyberData devices on your network. You may download it from the following web address:

<https://www.cyberdata.net/pages/discovery>

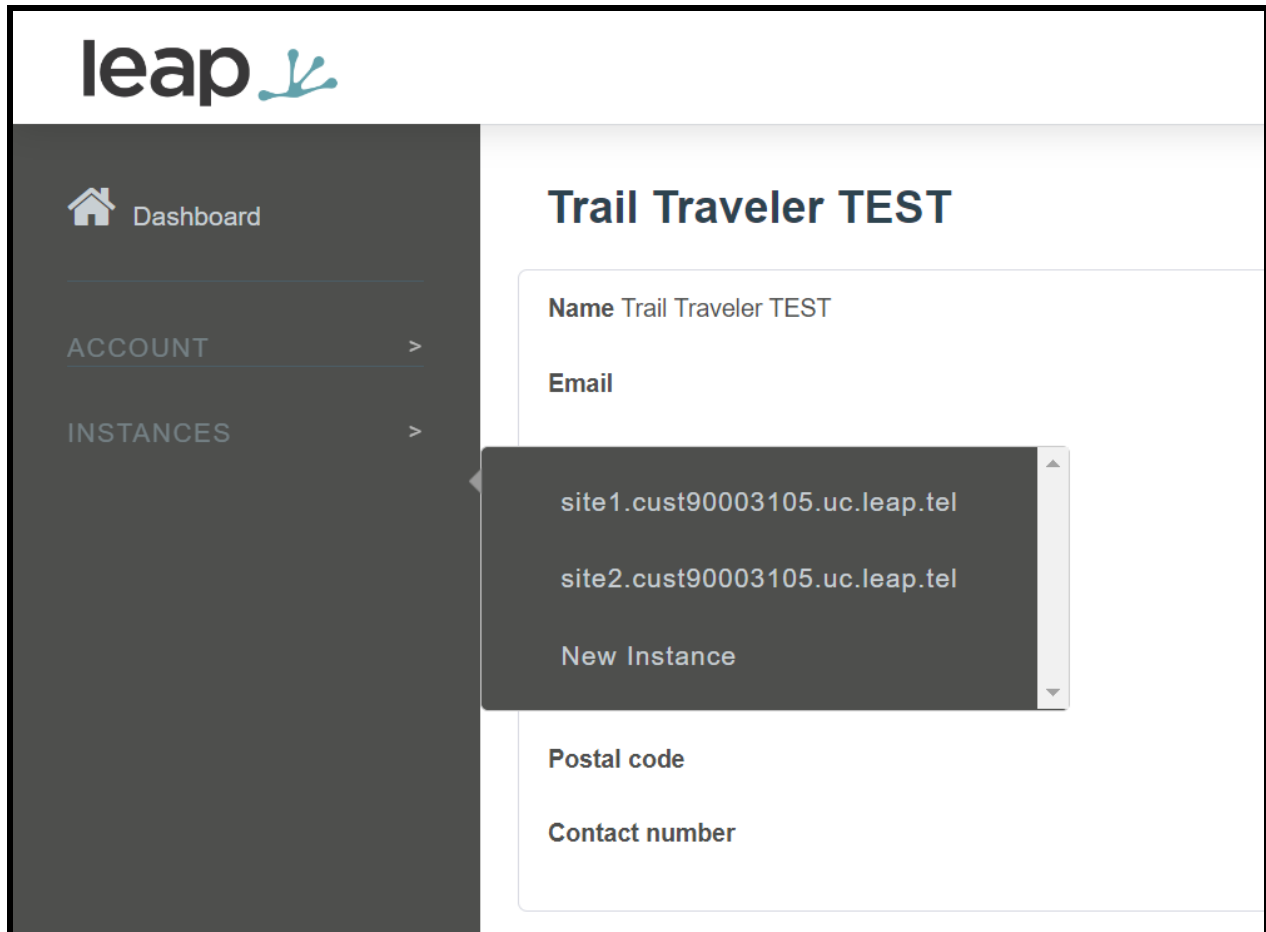
**Note:** DHCP addressing mode is enabled on default on all noted firmware levels.

### 3.0 Setting up a Device in the Leap Tel System

This section outlines how to create a device in the Leap Tel system.

1. Login to the Leap system
2. Mouse over instances and select the site/instance where the device will be used.

**Figure 3-1:** Instance Selection



- From the site page select **Devices**, then press the + button to create a new device.

**Figure 3-2: Workspaces Page**

The screenshot shows a web interface titled "Devices" with a search bar and a table of 8 devices. Each device row includes a name, login ID, SIP caller information, and action icons for editing, deleting, and routing. The registration status is indicated by a colored dot (blue for most, green for Kerry's Desk Phone).

Name	Login	SIP Caller ID name	SIP Caller ID number	Edit	Delete	Origins	Registration Status	Routing
Ted Home Phone	tedxxx	Traveler Traveler						
Home Speaker	cyb3r	Traveler Traveler						
Test device	fubar	Traveler Traveler						
Cyber Intercom	Intercom	Traveler Traveler						
CyberNight	CyberNight	Traveler Traveler						
CallButton	CallButton	Traveler Traveler						
PaulSoftphone	PaulSoftphone	Traveler Traveler						
KERRY'S DESK PHONE	kgarrison123	Traveler Traveler						

At the bottom of the table, there is a pagination control showing "Show 1 - 8 of 8" and a blue button with a white plus sign for adding a new device.

- Set the **Name** of the device, being descriptive can help for device management in the future.
- Set the **Login** field as desired, CyberData recommends not using spaces, hyphens, or underscores.
- Press **Save** at the bottom of the page.



**Figure 3-3: Add a Device**

### New device

**Name** ⓘ

**Login** ⓘ

**Password** ⓘ REGENERATE PASSWORD

9EeNHMhDX3Dxz7Fpkcs1

7. After pressing save the page will refresh, click on **Extensions**.
8. In the **Extensions** section press the + to create a new extension.

**Figure 3-4: Pick a device**

Extensions 9 -

Search:

Name	Number	Edit	Delete	Origins	Routing
CyberData Ring Group	3004				
Kerry Home Speaker	4001				
Cyber Intercom	3006				
CyberNight	3008				
CallButton	3010				
PaulSoftphone	3011				
Sales Conference Room Ext	4002				
Kerry	1002				
Ted	2005				

Show 1 - 9 of 9 < < > >

+

9. In the New extension window set a **Name** for the extension. CyberData recommends having the name correlate to the device that will use the extension.
10. Set the **Number** as desired.
11. Set the **Destination** to the **Name** of the device set in step 4.
12. Press **Save**.

**Figure 3-5: New Extension Creation**

The screenshot shows a web-based configuration window titled "New extension". It contains three input fields, each with a help icon (i):  
1. "Name": A text input field containing "Call Button".  
2. "Number": A text input field containing "3010".  
3. "Destination": A dropdown menu with the selected option "CyberData SIP Call Button (device:3435)".  
At the bottom of the window, there are two buttons: "CANCEL" and "SAVE".

Configuration on the Leap Tel side is now complete and the CyberData device is ready to be configured. Values set on the Device tab are required for registration, CyberData recommends opening up the Device created in steps 3 - 6 for ease of copy and pasting.

## 4.0 Setting up a CyberData Call Button

This section outlines the required sections for the CyberData device and how the credentials supplied from Leap correlate to the CyberData settings.

**Table 4-1: SIP Credential Explanation**

Leap Credential	CyberData Setting
Instance	Primary SIP Server
Device Login	Primary SIP User ID
Device Login	Primary SIP Auth ID
Device Password	Primary SIP Auth Password

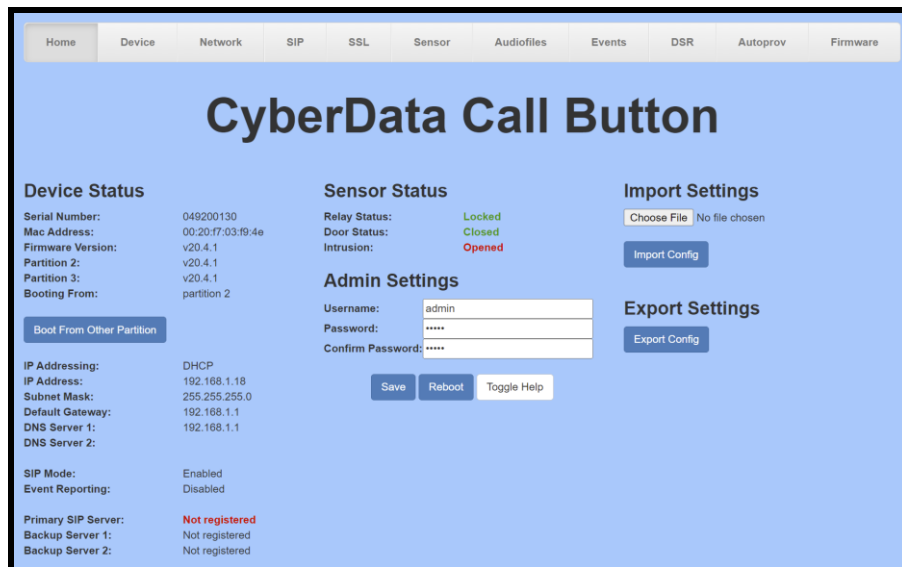
*CyberData's default login credentials are:*

*Username: admin*

*Password: admin*

1. Log into the web interface of the CyberData device.

**Figure 4-1: Home Tab**



2. Navigate to the SIP tab.
3. Set the **Primary SIP Server** field to the FQDN of the Instance.
4. Set the **Primary SIP User ID** to the Device Login set in step 3-5.
5. Set the **Primary SIP Auth ID** to the Device Login set in step 3-5.
6. Set the **Primary SIP Auth Password** to the Device Password.

**Note:** Leap Tel supports both UDP and TCP for SIP Transport. Please use either of the transport protocols, during testing CyberData found that TCP preforms best.

7. Save and Reboot.

**Figure 4-2: SIP Tab**

**SIP Settings**

Enable SIP operation:

Register with a SIP Server:

Primary SIP Server: site1.cust90003105.uc.leap.tel

Primary SIP User ID: CallButton

Primary SIP Auth ID: CallButton

Primary SIP Auth Password: .....

Re-registration Interval (in seconds): 360

Backup SIP Server 1: Host or IP address

Backup SIP User ID: User ID

Backup SIP Auth ID: Auth ID

Backup SIP Auth Password: Password

Re-registration Interval (in seconds): 360

Backup SIP Server 2: Host or IP address

Backup SIP User ID: User ID

Backup SIP Auth ID: Auth ID

Backup SIP Auth Password: Password

Re-registration Interval (in seconds): 360

Remote SIP Port: 5060

Local SIP Port: 5060

SIP Transport Protocol: TCP

TLS Version: 1.2 only (recommended)

Verify Server Certificate:

Outbound Proxy: Host or IP address

Outbound Proxy Port: 0

Use Cisco SRST:

Disable rport Discovery:

Unregister on Boot:

Keep Alive Period: 10000

**Dial Out Settings**

Dial out Extension: 204

Extension ID: id204

Send Multicast Audio:

Multicast Address: 224.5.5.5

Multicast Port: 5050

Repeat Message: 1

**Call Disconnection**

Terminate Call after delay: 0

**Audio Codec Selection**

Codec: Auto Select

**RTP Settings**

RTP Port (even): 10500

Asymmetric RTP:

Jitter Buffer: 50

RTP Encryption (SRTP): Disabled

Save Reboot Toggle Help

If the credentials have been entered correctly the device should now be registered with Leap. This can be verified on the home tab of the web interface or on the Leap Telecom site.

Figure 4-3: Home Tab – Registered

The screenshot displays the 'Home Tab' of the CyberData Call Button web interface. The top navigation bar includes tabs for Home, Device, Network, SIP, SSL, Sensor, Audiofiles, Events, DSR, Autopro, and Firmware. The main content area is titled 'CyberData Call Button' and is divided into several sections:

- Device Status:** Lists Serial Number (049200130), Mac Address (00:20:f7:03:f9:4e), Firmware Version (v20.4.1), Partition 2 (v20.4.1), Partition 3 (v20.4.1), and Booting From (partition 2). A 'Boot From Other Partition' button is present.
- Sensor Status:** Shows Relay Status (Locked), Door Status (Closed), and Intrusion (Opened).
- Admin Settings:** Includes fields for Username (admin), Password (masked with dots), and Confirm Password (masked with dots). Buttons for 'Save', 'Reboot', and 'Toggle Help' are located below.
- Import Settings:** Features a 'Choose File' button and 'No file chosen' text, with an 'Import Config' button below.
- Export Settings:** Includes an 'Export Config' button.
- IP Addressing:** Lists IP Addressing (DHCP), IP Address (192.168.1.18), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.1), DNS Server 1 (192.168.1.1), and DNS Server 2 (192.168.1.1).
- SIP Mode:** Shows SIP Mode (Enabled) and Event Reporting (Disabled).
- Primary SIP Server:** Lists Primary SIP Server (Registered), Backup Server 1 (Not registered), and Backup Server 2 (Not registered).

## 5.0 Using the CyberData Call Button in a Leap system.

CyberData Call Buttons are used for notification. When the button is depressed the call button can call a predetermined number and play a preloaded audiofile. It can also send multicast across the local area network simultaneously.

### 5.1 Setting the Dialout Extension

Once the button is registered with Leap, the “Dial out Extension” will need to be set for the device to call a number when the call button has been pressed. This number can be either a direct extension, hunt group, call queue, or a direct phone number.

1. After Logging into the device go to the **SIP** Tab.
2. On the SIP Tab set the Dial out Extension to the address you want the device to call.
3. The Extension ID of the call button is what should appear as the caller ID to the Recipient.

**Figure 5-1:** Set the Dial out Extension

<b>Dial Out Settings</b>	
Dial out Extension:	1001
Extension ID:	CyberData SIP Call Button
Send Multicast Audio:	<input type="checkbox"/>
Multicast Address:	224.5.5.5
Multicast Port:	5050
Repeat Message:	1

## 5.2 Creating up an Audiofile

CyberData devices require audio files to be in a specific format. CyberData recommends using a free tool like Audacity to convert an audio file into the specific required format.

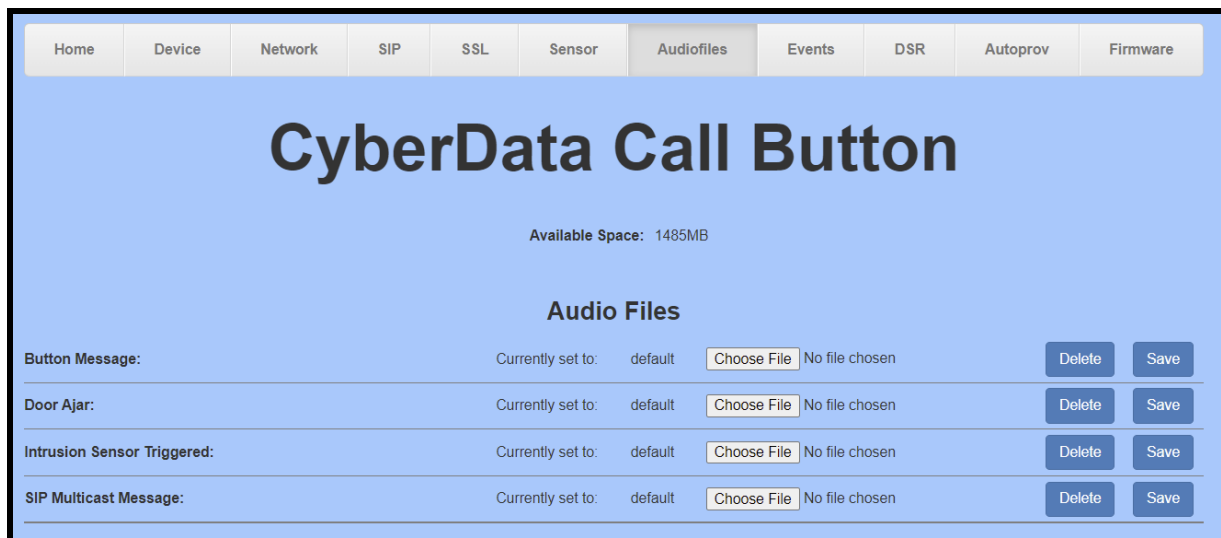
- RIFF (little-endian) data,
- WAVE audio, Microsoft PCM
  - 16 bit, mono 8000 Hz

### 5.2.1 Uploading the Audiofile

Once the audiofile is created it must then be uploaded to the CyberData device.

1. Navigate to the **Audiofiles** tab.

**Figure 5-2: Audiofiles Tab**



1. Upload the audiofile to one of the 9 stored message options by pressing **Choose File**.
2. Select the desired audiofile and press **open**.
3. Click **Save** to upload the audiofile.

**Figure 5-3: Audiofile Uploaded**

The screenshot shows a web interface for configuring call buttons. At the top, there is a navigation menu with tabs: Home, Device, Network, SIP, SSL, Sensor, **Audiofiles**, Events, DSR, Autoprovisioning, and Firmware. The main heading is "CyberData Call Button". Below the heading, it indicates "Available Space: 1485MB".

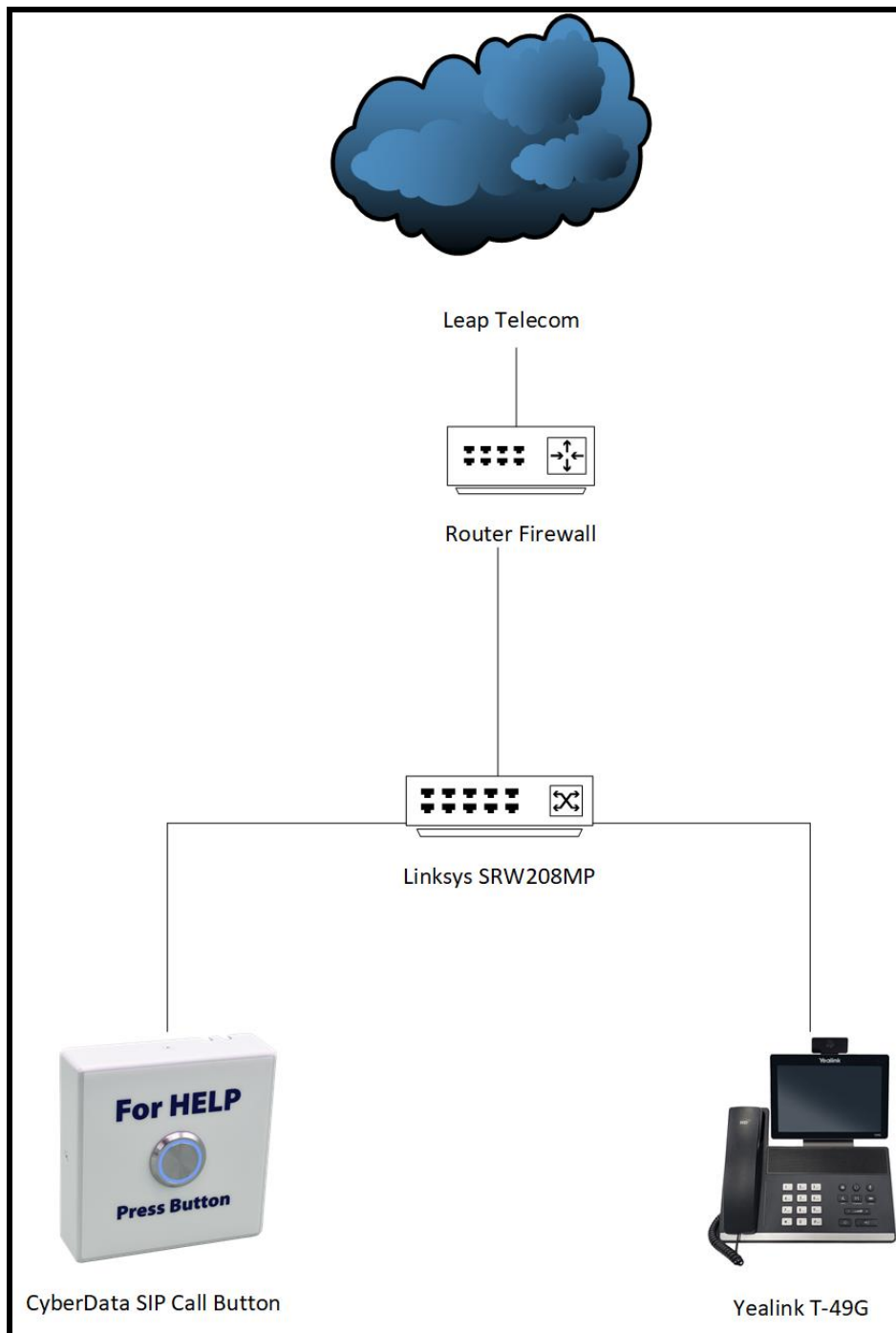
The "Audio Files" section contains a table with four rows, each representing a different call button message type. Each row has a "Currently set to:" field, a "Choose File" button, a "No file chosen" status, and "Delete" and "Save" buttons.

Message Type	Currently set to:	File Selection	Status	Actions
Button Message:	default	Choose File	No file chosen	Delete Save
Door Ajar:	default	Choose File	No file chosen	Delete Save
Intrusion Sensor Triggered:	default	Choose File	No file chosen	Delete Save
SIP Multicast Message:	Hr_Button_1_button.wav	Choose File	No file chosen	Delete Save



## 6.0 Setup Diagram

Figure 6-1: Interoperability Test Infrastructure



## 7.0 Contact CyberData Corporation

### Sales

For sales-related questions, please visit our [Contact CyberData Sales](#) web page for more information.

### Technical Support

For CyberData Technical Support, please submit a [Contact CyberData VoIP Technical Support](#) form on our website.

The CyberData VoIP Technical Support Contact form initiates a troubleshooting ticket which CyberData uses for quality assurance purposes.

Additionally, the Contact VoIP Tech Support form tells us which phone system you are using, the make and model of the network switch, and other essential troubleshooting information we need to efficiently assist with a resolution. Please also include as much detail as possible in the Describe Problem section of the form. Your installation is extremely important to us.

### Documentation Feedback

We realize changes to the software or hardware of the Leap Telecom solution may render this document obsolete. We welcome and encourage documentation feedback to ensure continued applicability.