



Zoom Configuration Guide: SIP Call Button

Document Part # 931711E

CyberData Corporation
3 Justin Court
Monterey, CA 93940
(831) 373-2601

**Zoom Configuration Guide: SIP Call Button
Document #931711E**

COPYRIGHT NOTICE:

© 2023, CyberData Corporation, ALL RIGHTS RESERVED.

This configuration guide and related materials are the copyrighted property of CyberData Corporation. No part of this configuration guide or related materials may be reproduced or transmitted, in any form or by any means (except for internal use by licensed customers), without prior express written permission of CyberData Corporation. This configuration guide, and the products, software, firmware, and/or hardware described in this configuration guide are the property of CyberData Corporation, provided under the terms of an agreement between CyberData Corporation and recipient of this configuration guide, and their use is subject to that agreement and its terms.

DISCLAIMER: Except as expressly and specifically stated in a written agreement executed by CyberData Corporation, CyberData Corporation makes no representation or warranty, express or implied, including any warranty or merchantability or fitness for any purpose, with respect to this configuration guide or the products, software, firmware, and/or hardware described herein, and CyberData Corporation assumes no liability for damages or claims resulting from any use of this configuration guide or such products, software, firmware, and/or hardware. CyberData Corporation reserves the right to make changes, without notice, to this configuration guide and to any such product, software, firmware, and/or hardware.

OPEN SOURCE STATEMENT: Certain software components included in CyberData products are subject to the GNU General Public License (GPL) and Lesser GNU General Public License (LGPL) “open source” or “free software” licenses. Some of this Open Source Software may be owned by third parties. Open Source Software is not subject to the terms and conditions of the CyberData COPYRIGHT NOTICE or software licenses. Your right to copy, modify, and distribute any Open Source Software is determined by the terms of the GPL, LGPL, or third party, according to who licenses that software. Software or firmware developed by CyberData that is unrelated to Open Source Software is copyrighted by CyberData, subject to the terms of CyberData licenses, and may not be copied, modified, reverse-engineered, or otherwise altered without explicit written permission from CyberData Corporation.

TRADEMARK NOTICE: CyberData Corporation and the CyberData Corporation logos are trademarks of CyberData Corporation. Other product names, trademarks, and service marks may be the trademarks or registered trademarks of their respective owners.

Revision Information

- 9-27-19 Initial Release
- 1-31-20 Updated Device type creation.
- 3-11-21 Updated for Zoom phone security update
- 9-13-21 Updated setup process
- 1-12-23 Update for Primary and Nightringer Extension usage.

Table of Contents

Table of Contents	3
1.0 Test Setup Equipment	4
2.0 Before You Start	5
3.0 Configuration Procedure: Intercom/Paging Device	6
4.0 Configuration Procedure: Setting up the Paging Extension	13
5.0 Using the CyberData Call Button in a Zoom system.....	17
5.1 Setting the Dialout extension and loading an audio file	17
5.2 Load the Audio file	18
6.0 Setup Diagram	21
7.0 Contact CyberData Corporation	22

1.0 Test Setup Equipment

This section describes the products configured following this document

Table 1-1: Setup Equipment

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

2.0 Before You Start

This configuration guide documents the integration process of a CyberData SIP Call Button.

Network Advisories

Zoom uses a Fully Qualified Domain Name (FQDN) for the SIP server and Outbound Proxy addresses. The CyberData SIP Call Button needs to perform a DNS A query to resolve the IP address of Zoom's Outbound Proxy FQDN. It is necessary to ensure the configured DNS server(s) have an A record for the Outbound Proxy address.

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

- TCP 5060, 5091 (SIP)
- UDP 10500 (RTP)

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

The button's paging extension uses SIP port 5060 to receive SIP messages. The paging extension will send SIP messages to port 5091, the port used by Zoom's Outbound Proxy.

SIP ports 5060 and RTP port 10500 are the default values on all noted firmware levels.

Alternatively, SIP ports for the paging extension are configurable on the **SIP** page of the web interface.

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.

Product Documentation and Utilities

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

CyberData SIP Call Button (011049)

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

CyberData SIP Outdoor SIP Call Button (011491)

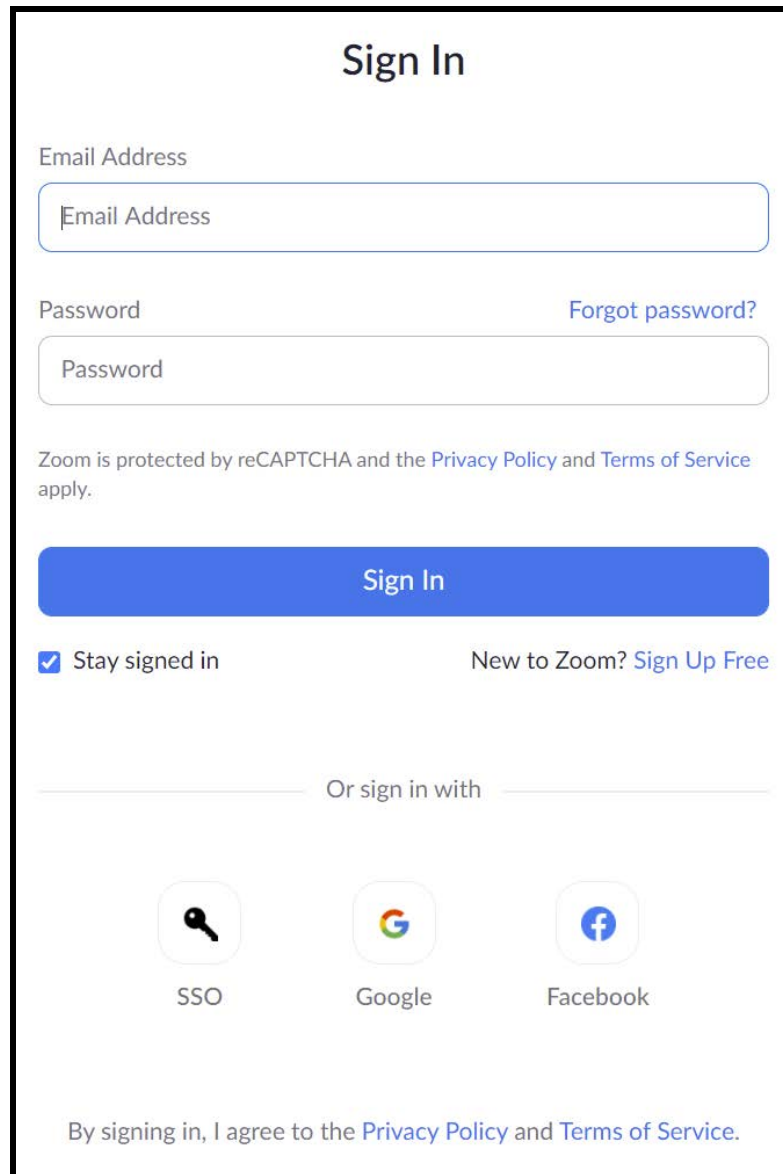
<https://www.cyberdata.net/collections/sip/products/011491>

3.0 Configuration Procedure: Intercom/Paging Device

There are several different extension types that can be used on the Zoom platform. This guide provides instructions to register the CyberData Intercom as an Intercom/Paging Device.

1. Log into Zoom. <https://zoom.us/signin>

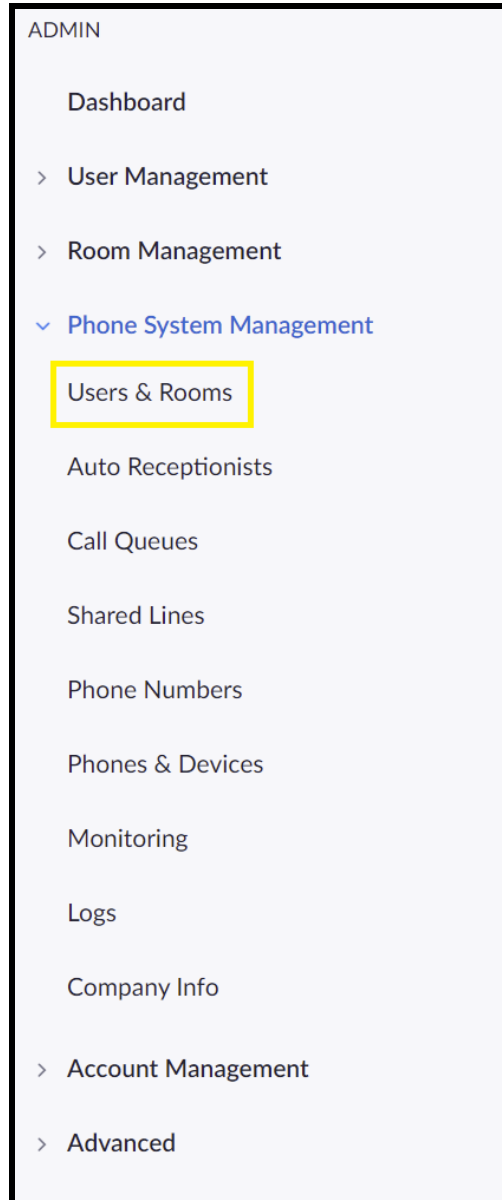
Figure 3-1: Log into Zoom



The image shows a screenshot of the Zoom Sign In page. At the top, it says "Sign In". Below that are two input fields: "Email Address" and "Password". The "Email Address" field contains the placeholder text "Email Address". The "Password" field contains the placeholder text "Password". To the right of the "Password" field is a link that says "Forgot password?". Below the input fields is a line of text: "Zoom is protected by reCAPTCHA and the Privacy Policy and Terms of Service apply." Below that is a large blue button that says "Sign In". Below the button is a checkbox labeled "Stay signed in" which is checked, and a link that says "New to Zoom? Sign Up Free". Below that is a horizontal line with the text "Or sign in with" in the center. Below the line are three icons: a key icon labeled "SSO", the Google logo labeled "Google", and the Facebook logo labeled "Facebook". At the bottom of the page is a line of text: "By signing in, I agree to the Privacy Policy and Terms of Service."

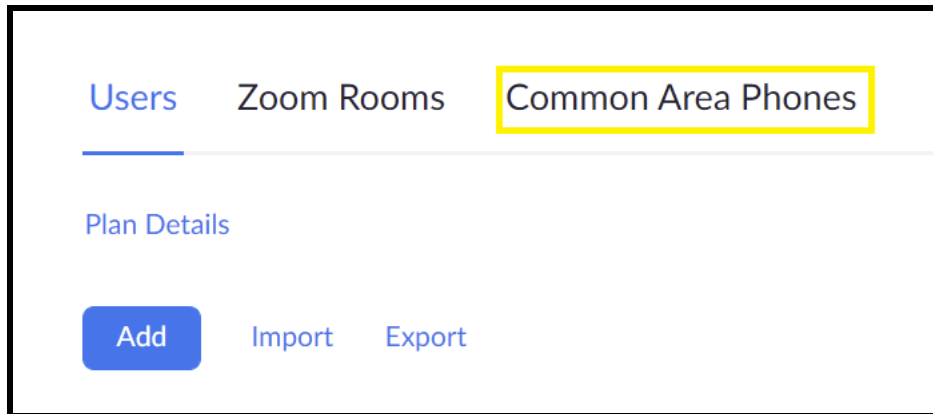
2. From the Profile page select the “Phone System Management” section and the ‘Users & Rooms’ subsection.

Figure 3-2: Profile Landing Page



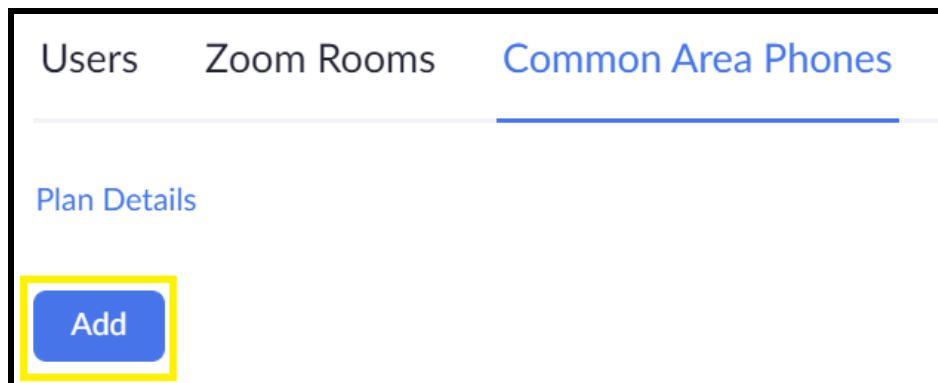
3. From “Users & Rooms” navigate to the Common Area Phones tab.

Figure 3-3: Users & Rooms



4. Press the Add button on the Common Area Phones Tab.

Figure 3-4: Add Common Area Phone



5. After clicking the Add button a Pop-up will appear that allows common area phone creation.

Figure 3-5: Add Common Area Phone Pop-up

Add Common Area

Display Name

Extension Number

Package Zoom Phone Basic (Migrated) ?
[Assign](#)

Country/Region

Time Zone

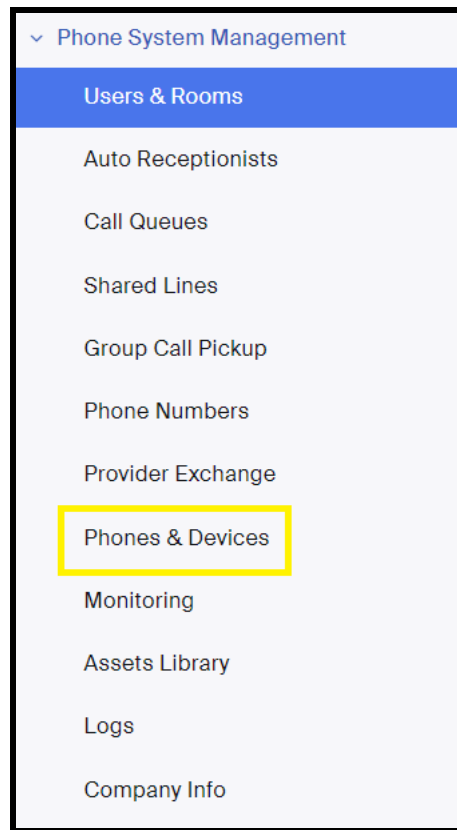
Specify a template to be assigned to the Common Area

6. Set the **Display Name** to the name of the intercom.
7. Adjust the **Extension Number** as necessary.
8. Select the desired **Package**.
9. Adjust the **Country/Region** as necessary
10. Adjust the Time Zone if required.
11. Press **Save**.

After creating the common area phone, a device will need to be created to add or associate with the common area phone.

12. From the side tool bar select **Phones & Devices**.

Figure 3-5: Phones & Devices



13. From the Phones & Devices page press the **Add** button to create a new phone.

Figure 3-6: Add Device

Add Device

Display Name

Description (Optional)

MAC Address

Device Type

This device type supports up to 2 assignees.

Assigned to **Assign**

Save **Cancel**

14. Set the Display Name.

15. Set an optional Description.

16. Set the MAC Address to that of the device

Setting the MAC address should automatically select CyberData as the device type

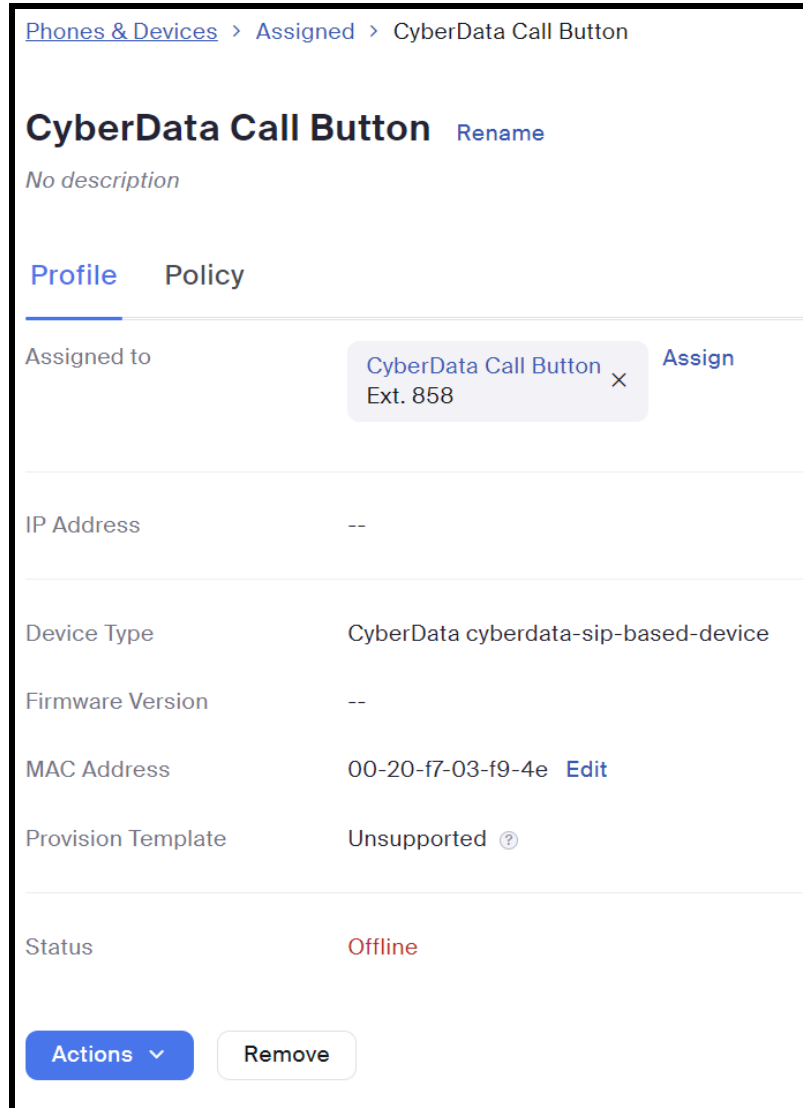
17. Set the device to “cyberdata-sip-based-device”

18. Search for and find the Common Area Phone created in the previous step

19. Press Save.

20. The page will refresh, and the device will have been created. Press the **Actions** button and select **Provision**.

Figure 3-7: Device Created



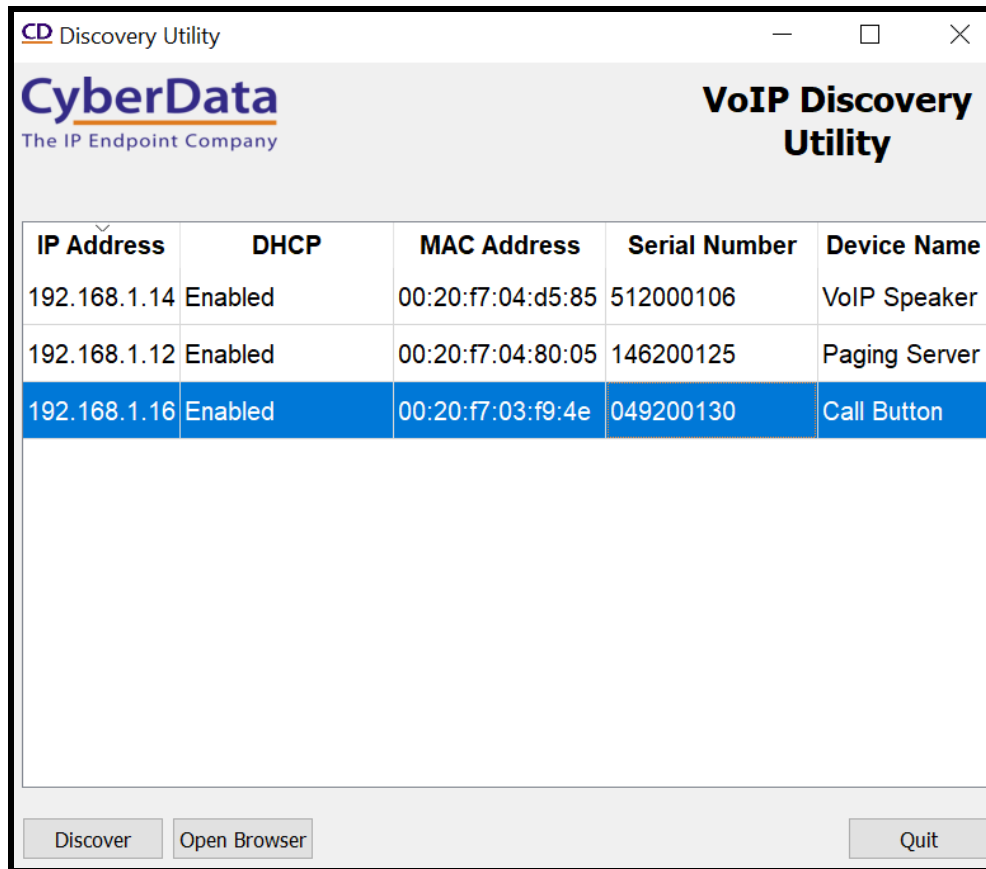
21. In the provisioning pop-up click the **Copy to Clipboard** button to copy the provisioning URL.

4.0 Configuration Procedure: Setting up the Paging Extension

If you are configuring through the web interface, use the following steps to login to the web interface of your CyberData device.

1. Click **Open Browser** from the CyberData Discovery Utility or point your browser to the CyberData device's IP address to access the Home Page of the web interface.

Figure 4-1: CyberData Discovery Utility



The screenshot shows a web browser window titled "CD Discovery Utility". The page header includes the CyberData logo and the text "VoIP Discovery Utility". Below the header is a table with the following data:

IP Address	DHCP	MAC Address	Serial Number	Device Name
192.168.1.14	Enabled	00:20:f7:04:d5:85	512000106	VoIP Speaker
192.168.1.12	Enabled	00:20:f7:04:80:05	146200125	Paging Server
192.168.1.16	Enabled	00:20:f7:03:f9:4e	049200130	Call Button

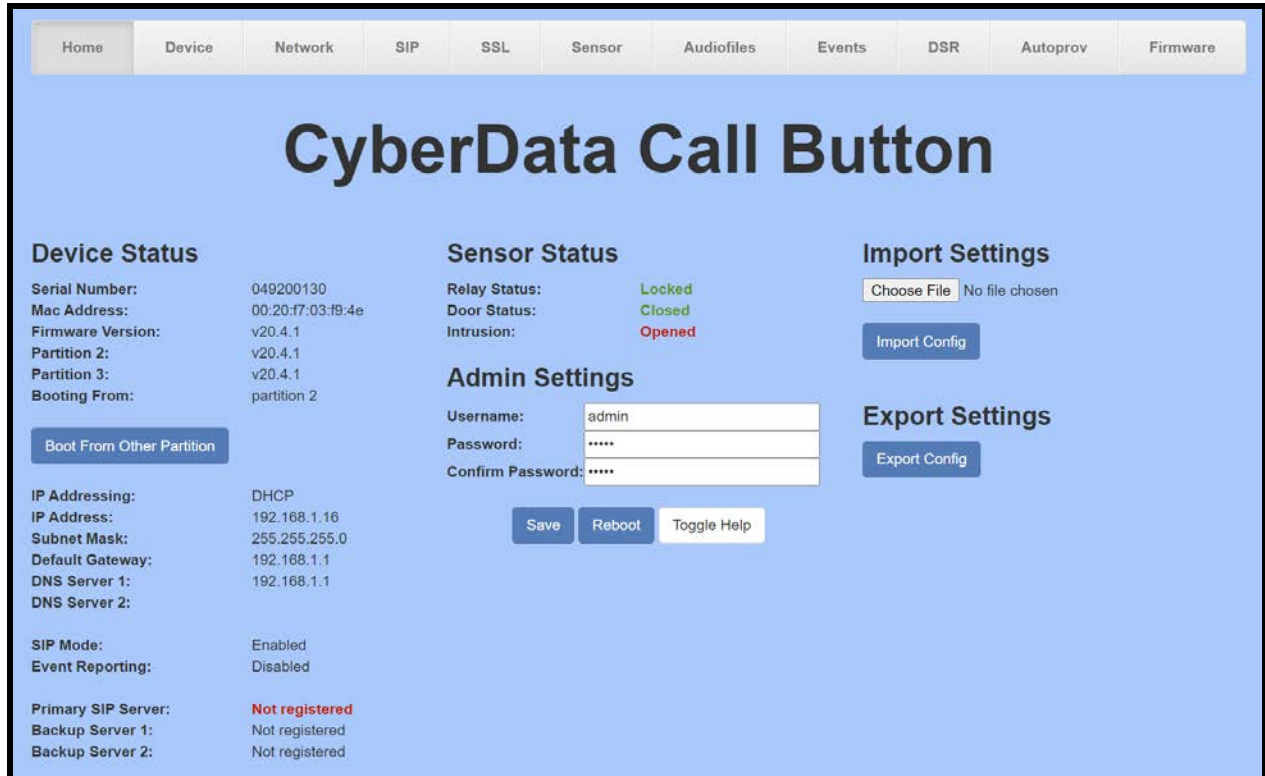
At the bottom of the interface, there are three buttons: "Discover", "Open Browser", and "Quit".

2. Enter the default credentials when prompted and click the **Log In** button.

Username: admin

Password: admin

Figure 4-2: Web Interface Login



3. From the Home tab navigate to the Autopro Tab.

Figure 4-3: Autoprov Tab

The screenshot shows the 'Autoprov' tab in the CyberData Call Button configuration interface. The page title is 'CyberData Call Button'. The navigation bar includes tabs for Home, Device, Network, SIP, SSL, Sensor, Audiofiles, Events, DSR, Autoprov, and Firmware. The main content area is light blue and contains the following configuration options:

- Enable Autoprovisioning:**
- Autoprovisioning Server:**
- Autoprovisioning Filename:**
- Use tftp:**
- Verify Server Certificate:**
- Username:**
- Password:**
- Autoprovisioning autoupdate (in minutes):**
- Autoprovision at time (HHMM):**
- Autoprovision when idle (in minutes > 10):**

Below the form, there is instructional text:

See the manual to learn how to use autoprovisioning to configure your device.
Autoprovisioning happens on boot.
The device will first look for a configured server address and filename.
If these haven't been configured, it will look for an autoprovisioning server in your list of DHCP options and try to download '0020f703f94e.xml' and if this fails, '000000cd.xml'.

At the bottom, there are three buttons: **Save**, **Reboot**, and **Toggle Help**.

4. Paste the URL copied from the provisioning popup in the **Autoprovisioning Server**.
5. Check the box for **Verify Server Certificate**.
6. Save.
7. Reboot.

Once the unit reboots it will attempt to download the provisioning file from Zoom, which should succeed. This can be verified on the Home tab of the Call button and through the Zoom provisioning popup.

Figure 4-4: Home page - Registered

The screenshot displays the CyberData Call Button web interface. At the top, a navigation menu includes Home, Device, Network, SIP, SSL, Sensor, Audiofiles, Events, DSR, Autopro, and Firmware. The main heading is "CyberData Call Button".

Device Status

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
Booting From:	partition 2

IP Addressing: DHCP

IP Address:	192.168.1.16
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.1
DNS Server 1:	192.168.1.1
DNS Server 2:	

SIP Mode: Enabled
Event Reporting: Disabled

Primary SIP Server: Registered
Backup Server 1: Not registered
Backup Server 2: Not registered

Sensor Status

Relay Status:	Locked
Door Status:	Closed
Intrusion:	Opened

Admin Settings

Username:	<input type="text" value="admin"/>
Password:	<input type="password" value="*****"/>
Confirm Password:	<input type="password" value="*****"/>

Import Settings

No file chosen

Export Settings

5.0 Using the CyberData Call Button in a Zoom system.

CyberData SIP Call Buttons are designed for sending a call to a phone or making an announcement. The button can call an extension number, ring group/call queue, or send multicast audio. When the call button is pressed it will make a call to the configured number and play a pre-recorded WAV File.

5.1 Setting the Dialout extension and loading an audio file

Once the call button is registered with Zoom the Dialout extension will need to be configured and an audio file may be loaded to customize the message. The Dialout extension is set on the SIP tab.

Figure 5-1: Set Dialout Extension

The screenshot displays the 'CyberData Call Button' configuration page. The 'Dial Out Settings' section is highlighted with a yellow box. The 'SIP Settings' section includes fields for enabling SIP operation, registering with a SIP server, and configuring primary and backup SIP servers with their respective user IDs, authentication IDs, and passwords. The 'Dial Out Settings' section includes fields for dial out extension (802), extension ID (Emergency Call Button), multicast address (224.5.5.5), multicast port (5050), and repeat message (1). Other sections include 'Call Disconnection' (terminate call after delay: 0), 'Audio Codec Selection' (PCM (G.711, u-law)), 'RTP Settings' (RTP port: 10500, jitter buffer: 50), and 'SIP Transport Protocol' (TLS 1.2 only, NTP enabled). Buttons for 'Save', 'Reboot', and 'Toggle Help' are located at the bottom right.

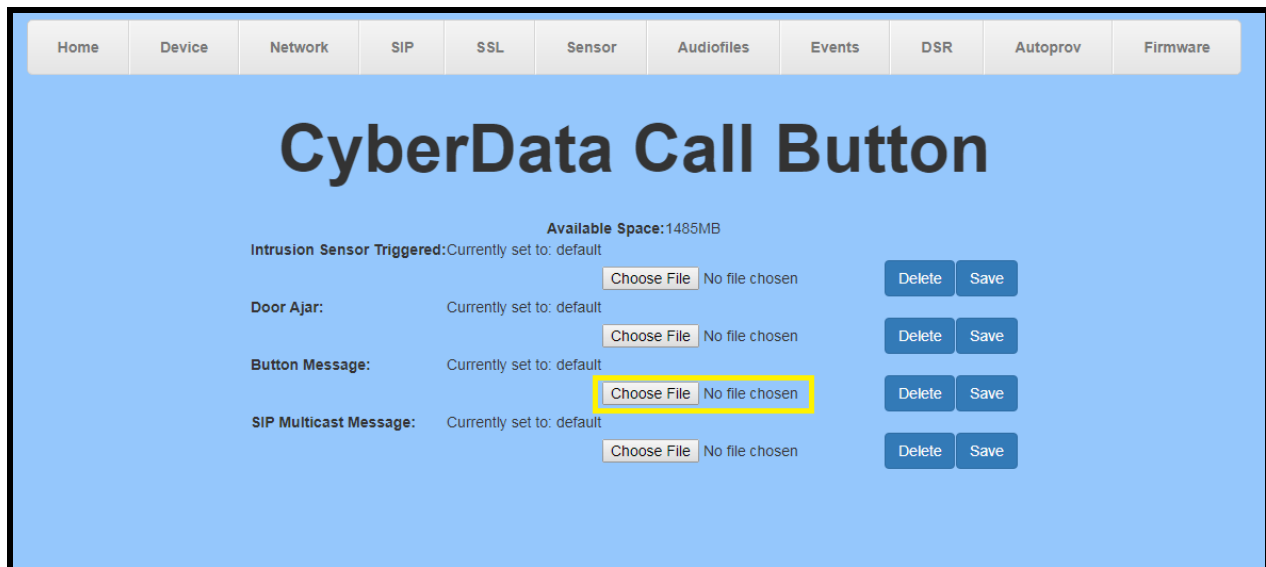
5.2 Load the Audio file

CyberData devices require audio files in a specific format. The process to convert audio files to WAV format is covered in the operations manual for the SIP Call button

- Microsoft PCM
- 16 Bit
- Mono
- 8000Hz
- WAV format

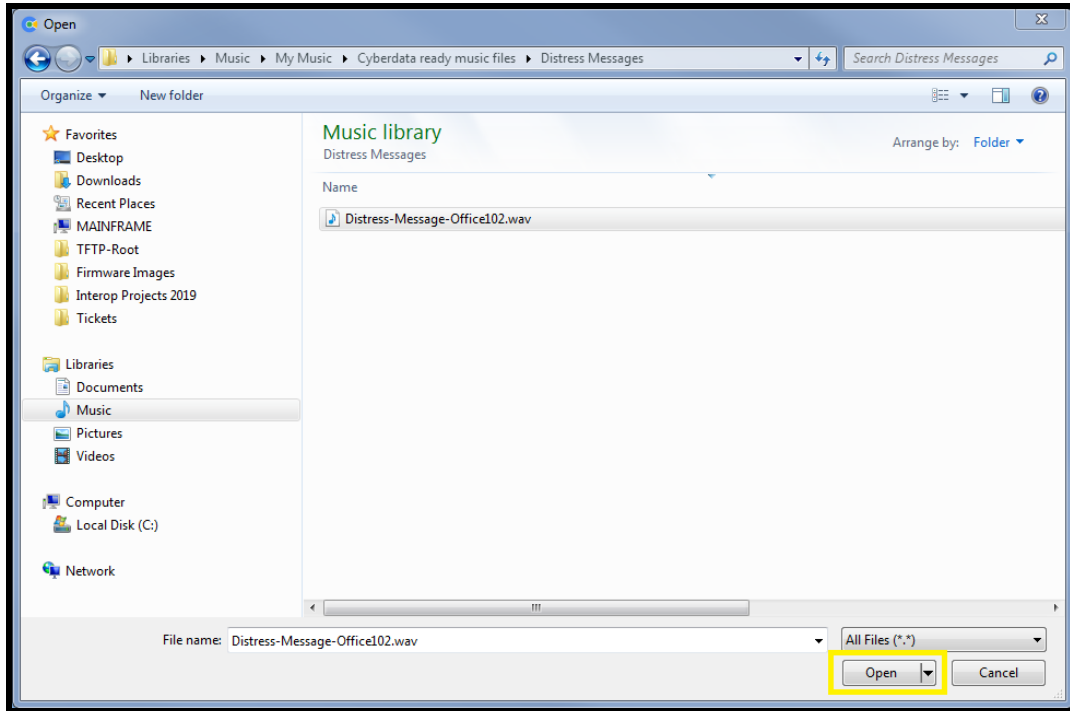
1. After creating the audio file that will be used, load that file on the **Audiofiles** Tab.

Figure 5-2: Audiofiles tab



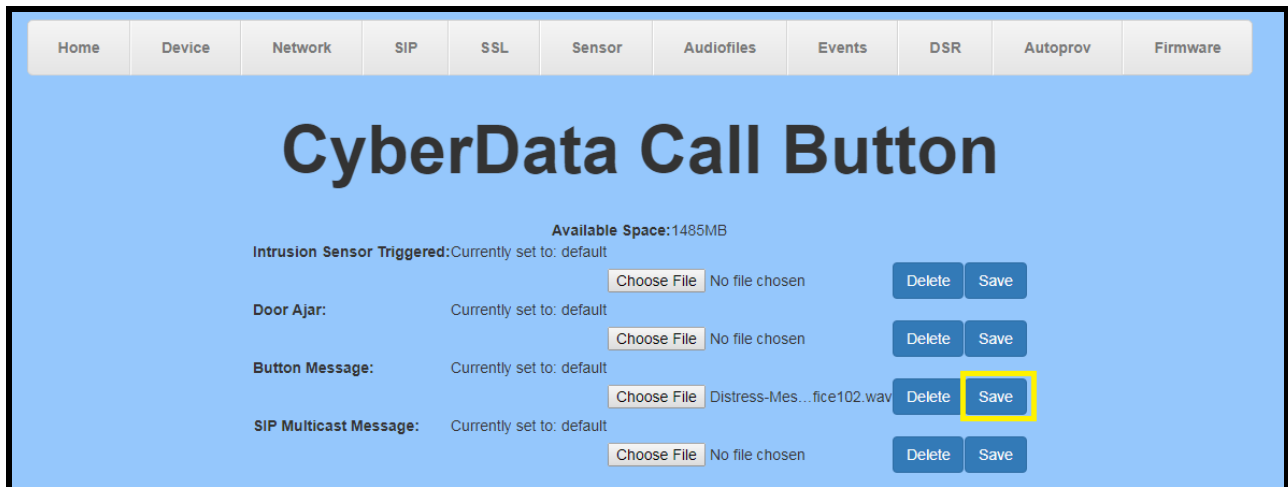
2. Press the Choose File button, then select the audio file.

Figure 5-3: Select the Audio file



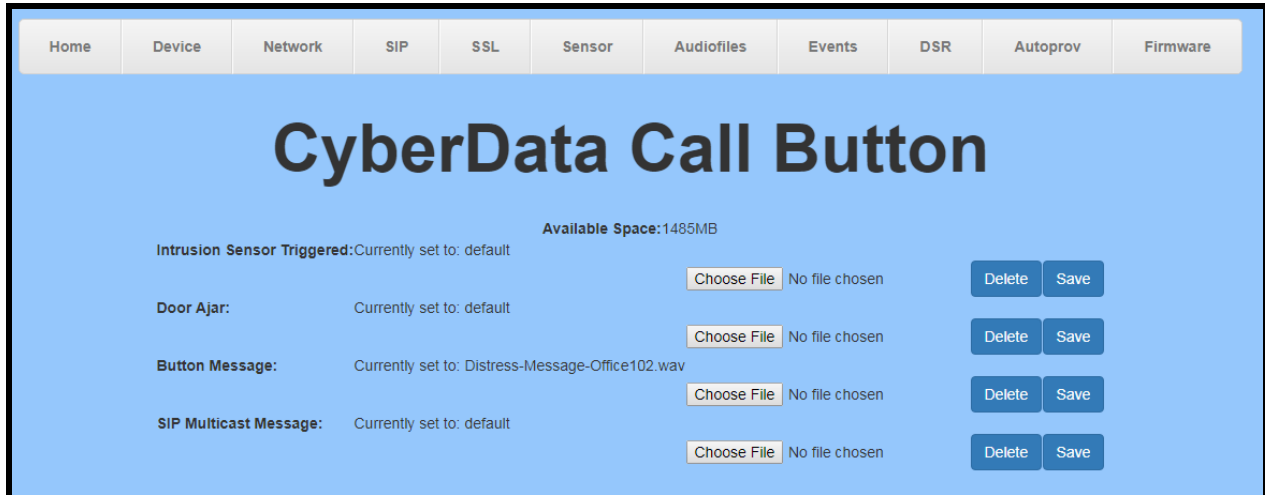
3. Once the audio file is selected, press the save button to load the audio file.

Figure 5-4: Save File



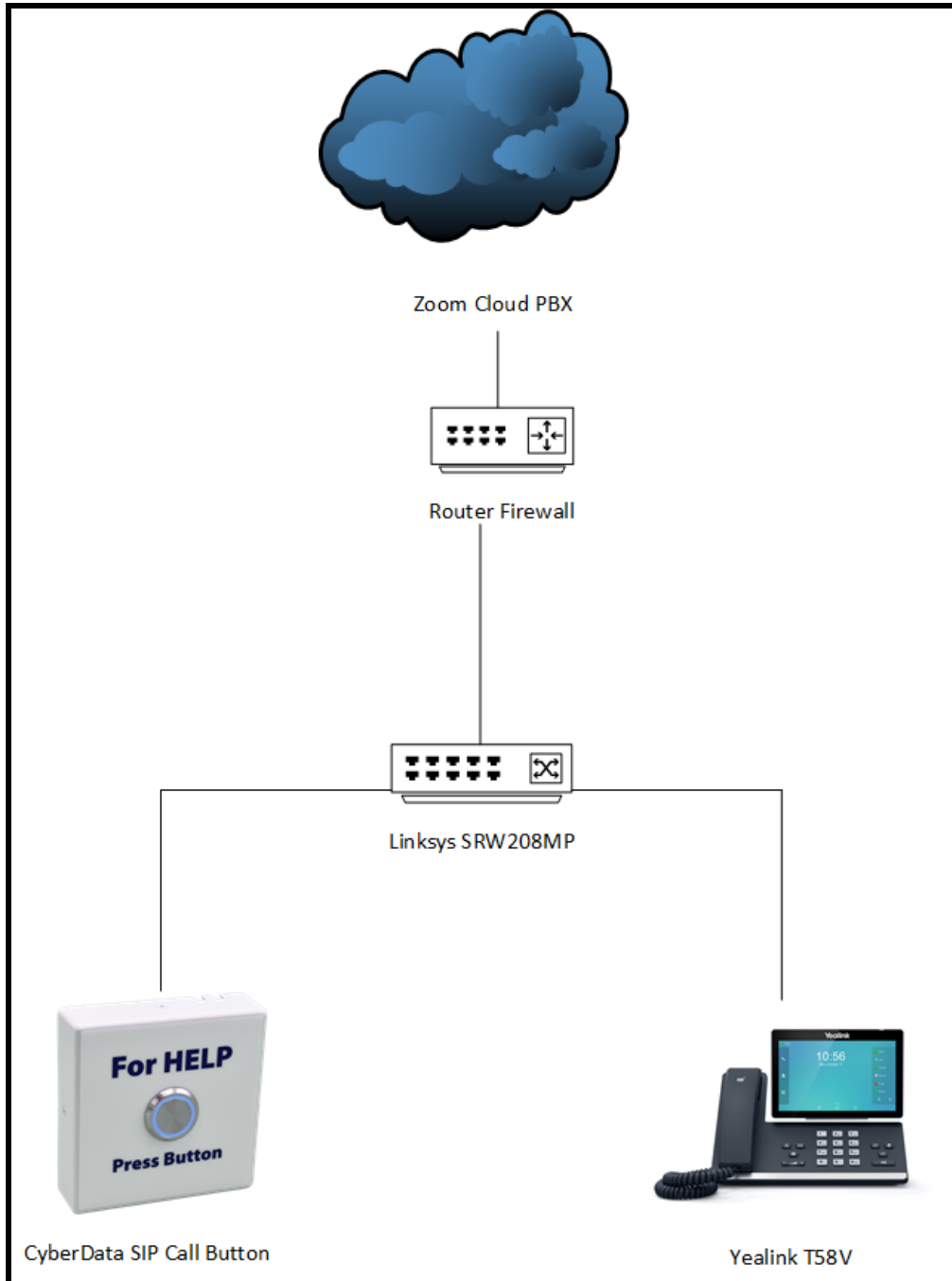
- Once the file is loaded, a press of the call button will trigger the message.

Figure 5-5: Loaded Audio File



6.0 Setup Diagram

Figure 1-1: 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 Zoom PBX solution may render this document obsolete. We welcome and encourage documentation feedback to ensure continued applicability.