CyberData

The IP Endpoint Company

Zoom CONFIGURATION GUIDE: Intercoms

Document Part # 931706B

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Revision Information

- 9-27-19 Initial Release
- 1-31-20 Update to revise Device type selection on Zoom.

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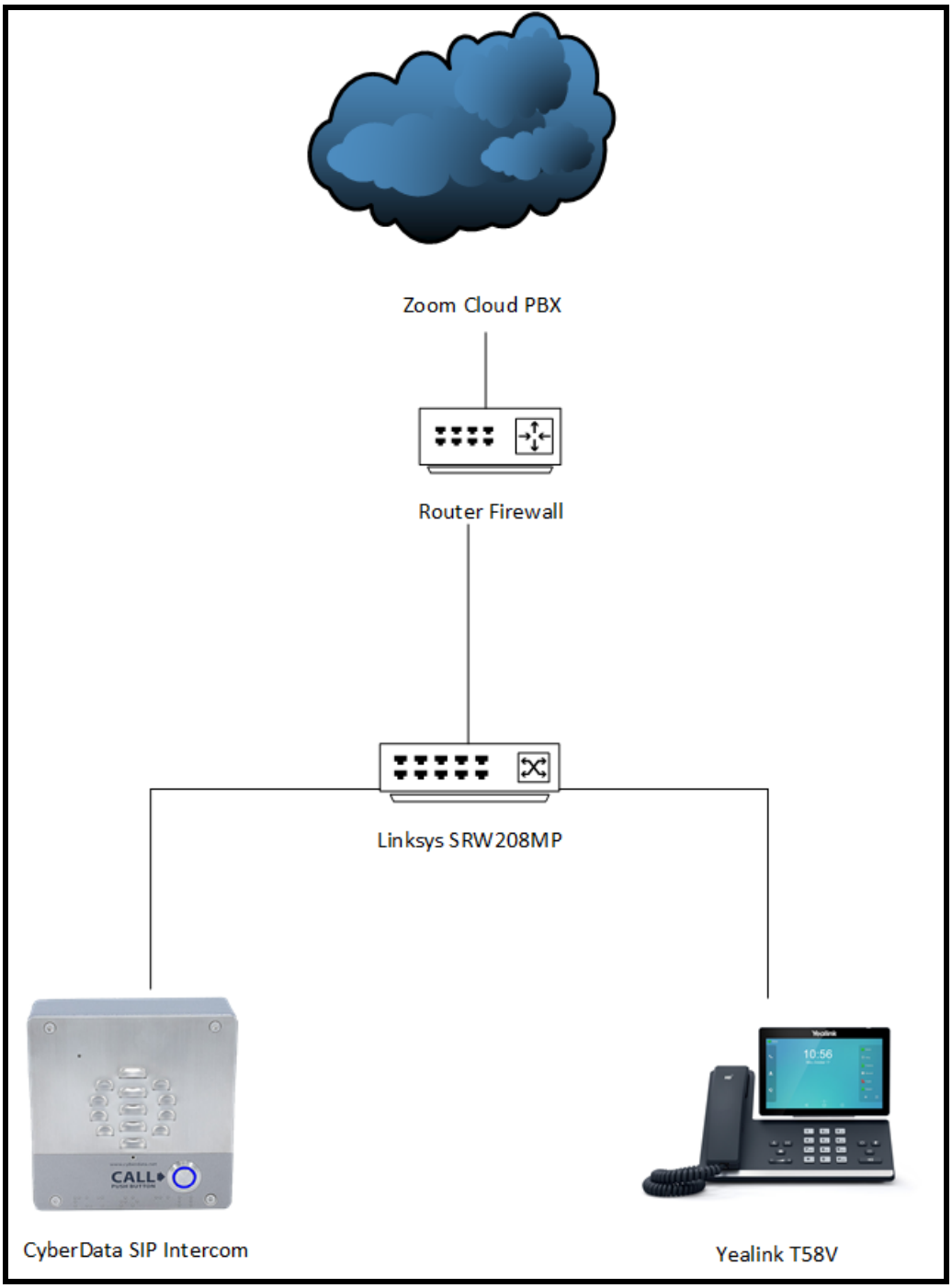
Figure 1-1: Interoperability Test Infrastructure



2.0 Test Setup Equipment

This section describes the products used for interoperability testing with Zoom.

Table 2-1: Setup Equipment

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA OUTDOOR INTERCOM	011186	20.1.0
CYBERDATA OUTDOOR KEYPAD INTERCOM	011214	20.0.0
CYBERDATA INDOOR INTERCOM	011211	20.0.0
CYBERDATA INDOOR INTERCOM WITH KEYPAD	011113	20.0.0
CYBERDATA INDOOR INTERCOM (FLUSH MOUNT)	011272	20.0.0
CYBERDATA INDOOR INTERCOM WITH KEYPAD (FLUSH MOUNT)	011123	20.0.0
CYBERDATA H.264 VIDEO INTERCOM	011410	1.4.1
CYBERDATA H.264 VIDEO INTERCOM WITH KEYPAD	011414	1.4.1
CYBERDATA OUTDOOR INTERCOM WITH RFID	011477	1.0.0
CYBERDATA H.264 VIDEO INTERCOM WITH RFID	011478	1.1.0
SIP EMERGENCY INTERCOM	011209	20.0.0
YEALINK	T58A	58.83.3.6
LINKSYS SWITCH	SRW208MP	---

3.0 Before You Start

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

Network Advisories

Zoom uses a Fully Qualified Domain Name (FQDN) for the SIP server and Outbound Proxy addresses. The CyberData Intercom 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 intercom to use:

- TCP 5060-5061, 5091 (SIP)
- UDP 10500 (RTP)

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

The intercom's paging extension uses SIP port 5060 to receive SIP messages. The Nightringer extension uses SIP port 5061 to receive SIP messages. Both extensions will send SIP messages to port 5091, the port used by Zoom's Outbound Proxy.

SIP ports 5060-5061 and RTP port 10500 are the default values on all noted firmware levels.

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

The RTP port setting on the **SIP** page is used for both extensions.

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 intercom's product webpage:

Outdoor Intercom (011186):
https://files.cyberdata.net/assets/011186/011186_931544E_SIP_Outdoor_Intercom_Operations_Guide.pdf

Outdoor Intercom with Keypad (011214):
https://files.cyberdata.net/assets/011214/011214_931562B_SIP_Outdoor_Intercom_with_Keypad_Ops_Guide.pdf

SIP H.264 Video Outdoor Intercom (011410):
http://files.cyberdata.net/assets/011410/011410_931334E_Video_Outdoor_Intercom_Ops_Guide.pdf

SIP H.264 Video Outdoor Intercom with Keypad (011414):
http://files.cyberdata.net/assets/011414/011414_931338E_Video_Outdoor_Keypad_Intercom_Ops_Guide.pdf

SIP Outdoor Intercom with RFID (011477):
http://files.cyberdata.net/assets/011477/011477_931663A_Outdoor_Intercom_with_RFID_Ops_Guide.pdf

SIP H.264 Video Outdoor Intercom with RFID (011478):
http://files.cyberdata.net/assets/011478/011478_931667A_Outdoor_Video_Intercom_with_RFID_Ops_Guide.pdf

SIP Indoor Intercom (011211):
http://files.cyberdata.net/assets/011211/011211_931604A_Indoor_Intercom_Ops_Guide.pdf

SIP Indoor Intercom with Keypad (011113):
http://files.cyberdata.net/assets/011113/011113_931579A_SIP_Indoor_Intercom_with_Keypad_Ops_Guide.pdf

SIP Indoor Intercom – Flush Mount (011272):
http://files.cyberdata.net/assets/011272/011272_931608B_Flush_Mount_Intercom_Ops_Guide.pdf

SIP Indoor Intercom with Keypad – Flush Mount (011123):
http://files.cyberdata.net/assets/011123/011123_931583A_SIP_Indoor_Intercom_with_Keypad_Flush_Mount_Ops_Guide.pdf

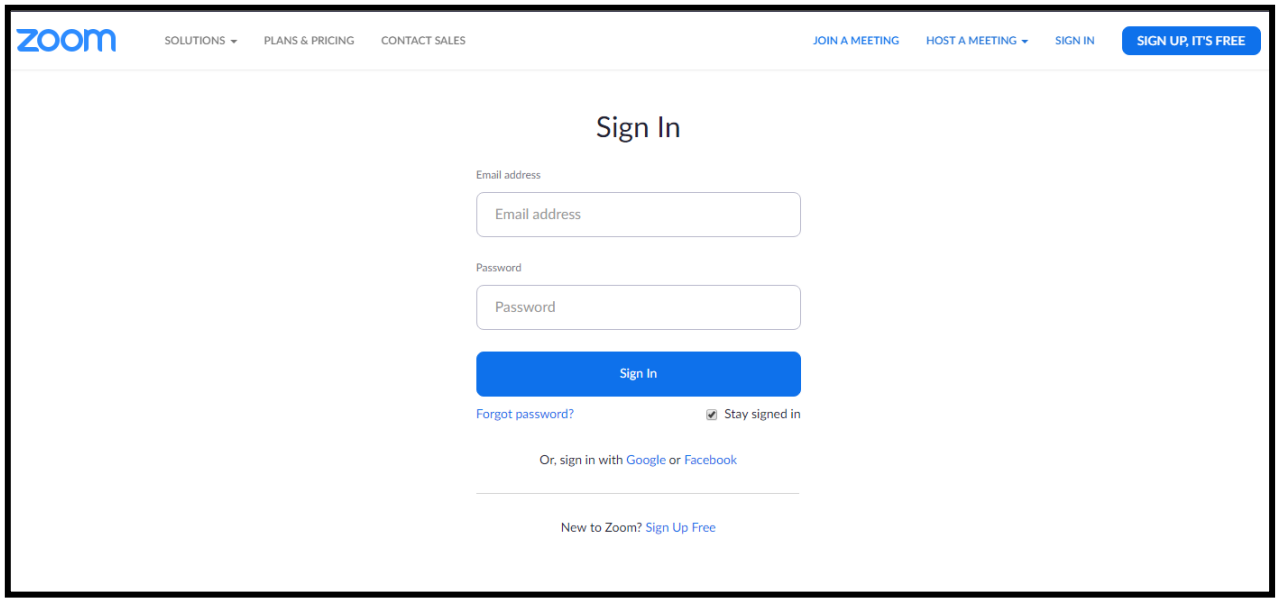
SIP Emergency Intercom (011209)
https://files.cyberdata.net/assets/011209/011209_931600A_Emergency_Intercom_Ops_Guide.pdf

4.0 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.

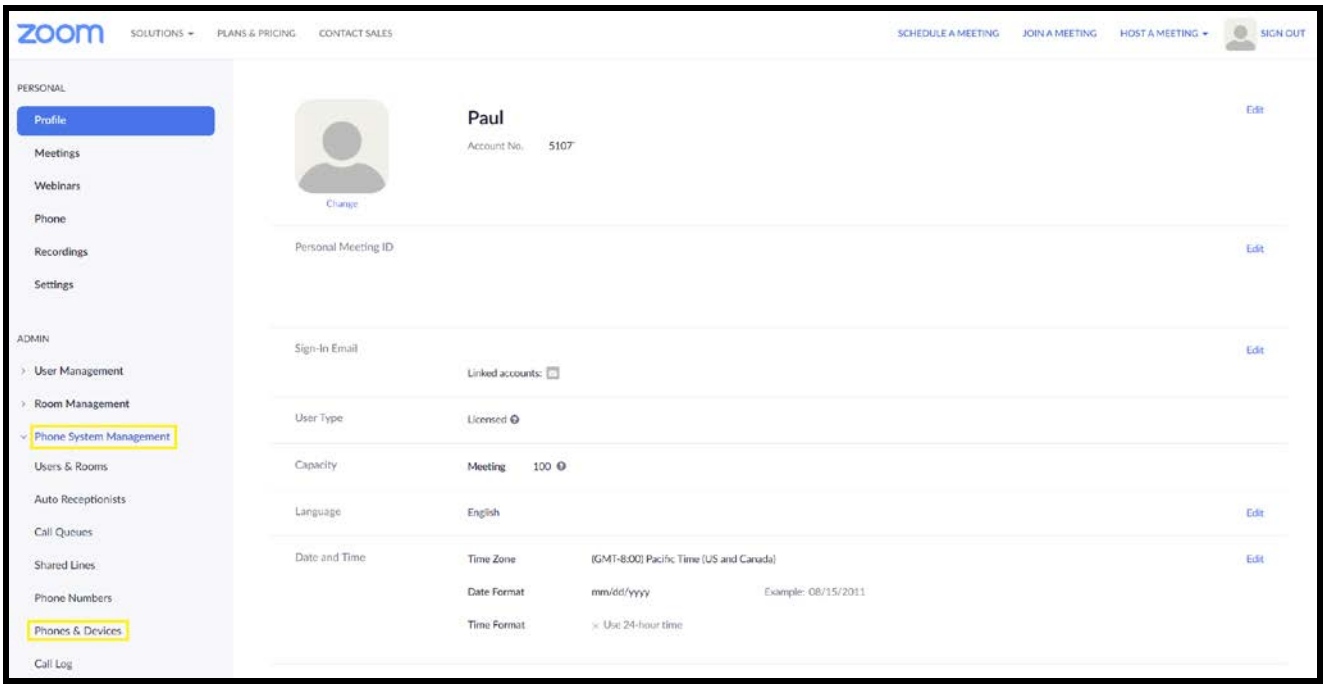
1. Log into Zoom. https://zoom.us/signin

Figure 4-1: Log into Zoom



2. From the Profile page select the "Phone System Management" section and the 'Phones & Devices' subsection.

Figure 4-2: Profile Landing Page



Note: Some text from the profile page has been hidden to protect sensitive information.

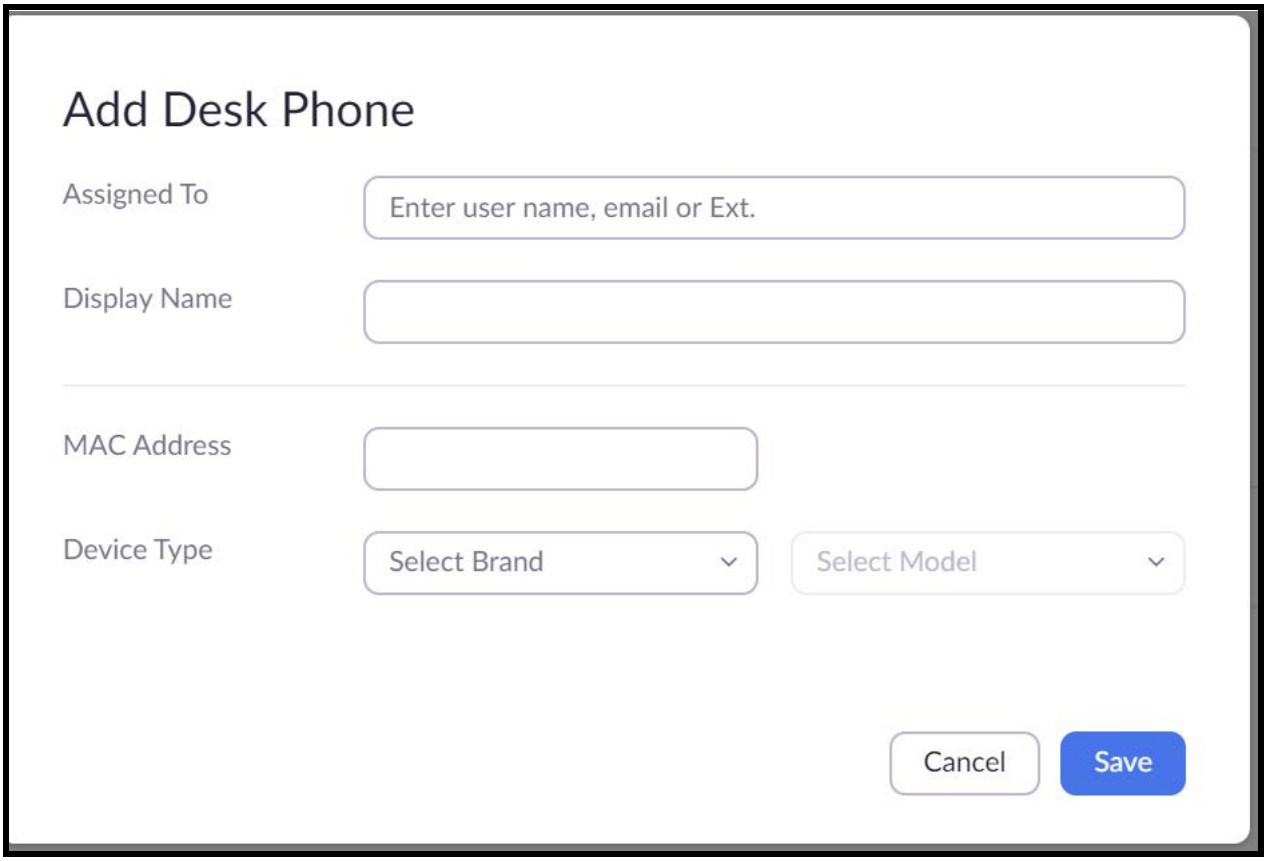
3. From the "Phones & Devices" page press the Add button.

Figure 4-3: Phone System Management

Note: Some text from this page has been hidden to protect sensitive information.

4. After clicking the Add button a Pop-up will appear that allows extension creation.

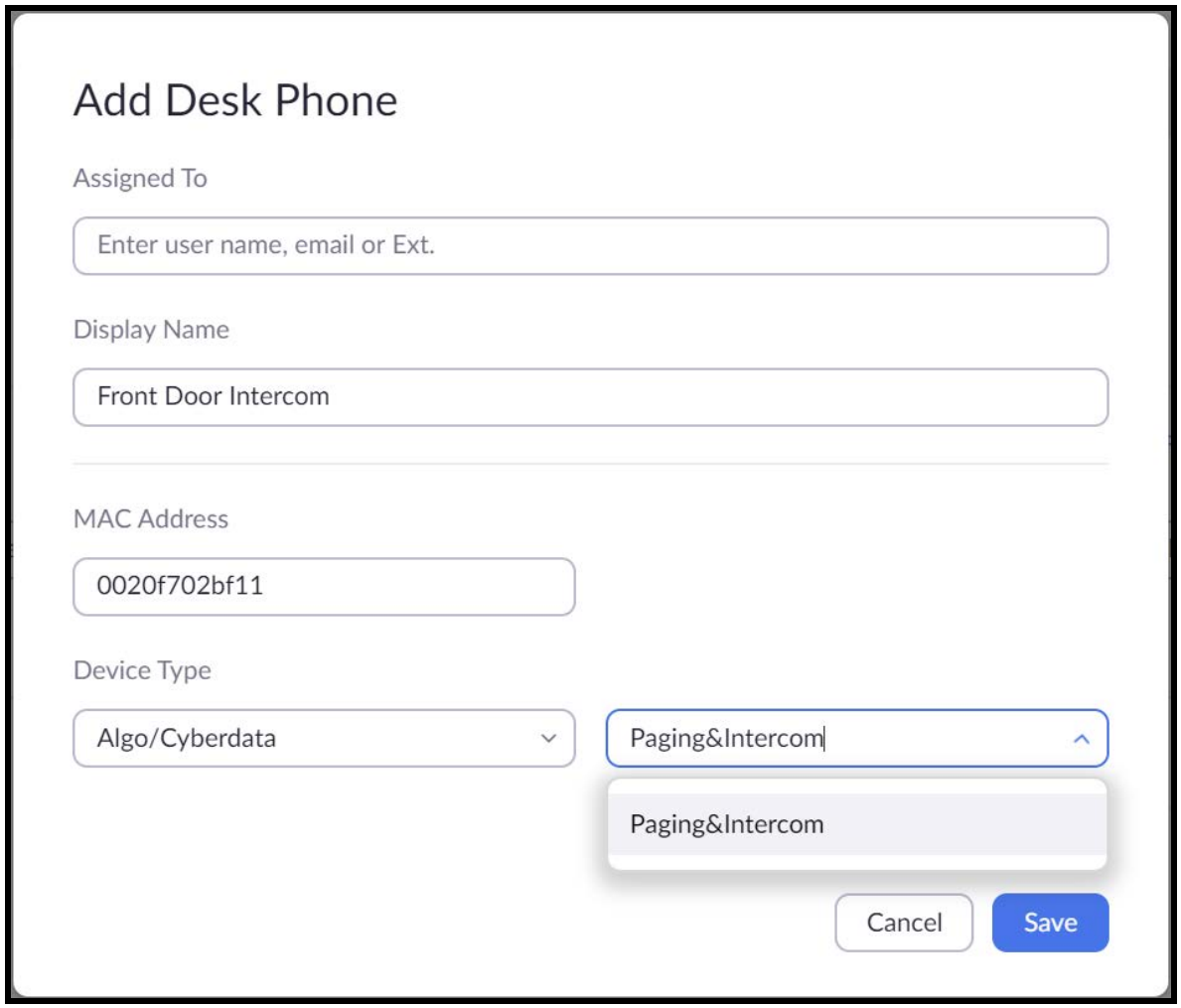
Figure 4-5: Add Phone Pop-up



5. Set the **Extension Number or User** the intercom is associated to.
6. Set the **Display Name** to the location of the intercom.
7. Set the **MAC address** of the device.

Note: *Adding the MAC Address will switch the device type to "Algo/CyberData" make sure Paging&Intercom is set for the model.*

Figure 4-6: Add Phone Pop-up – Filled



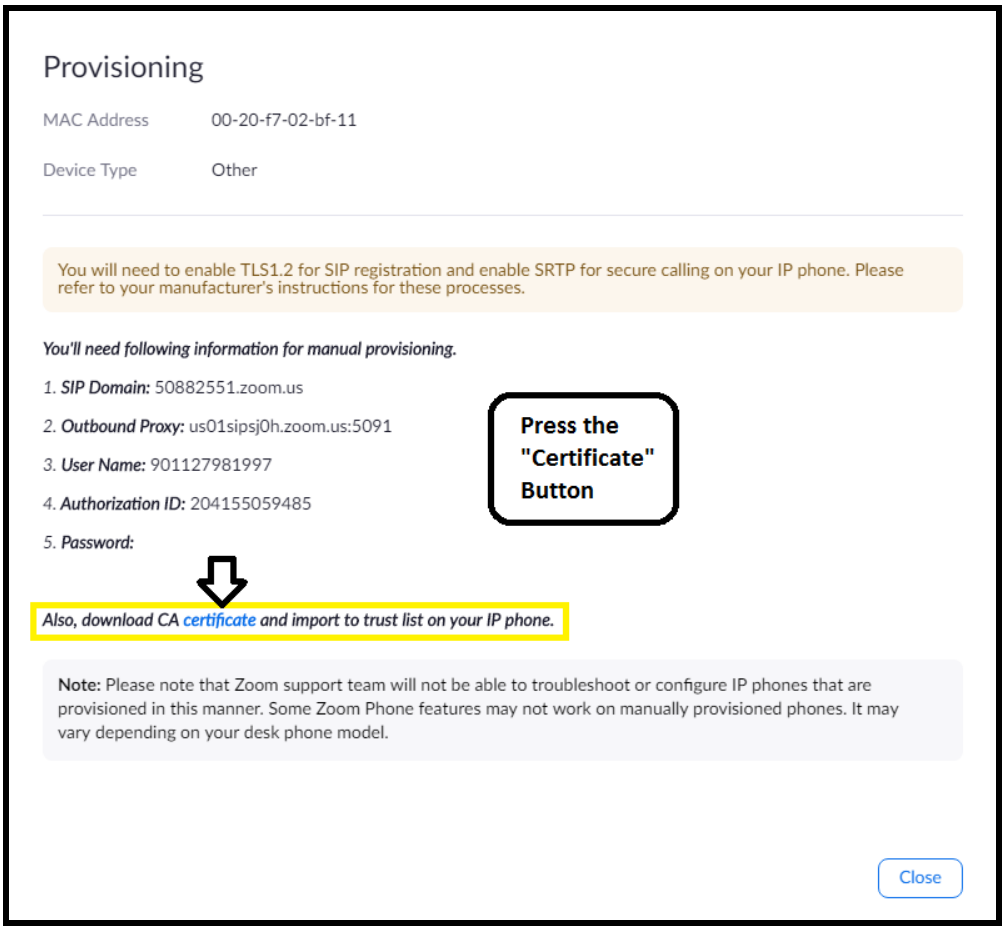
8. Click the **Save** button to create the Phone.

9. Once created, the new extension will appear in the list.

Figure 4-7: Phone & Devices list

10. Press the "Provision" button on the extension that was just created.

Figure 4-7: Provisioning Pop-up



Note: CyberData Devices do not support SRTP at the time of writing this document.

11. A popup will appear with manual provisioning information to setup the CyberData Intercom. Keep this popup open.

12. Make sure to download the "CA Certificate," which will be needed for device configuration.

5.0 Configuration Procedure: Setting up the Paging Extension

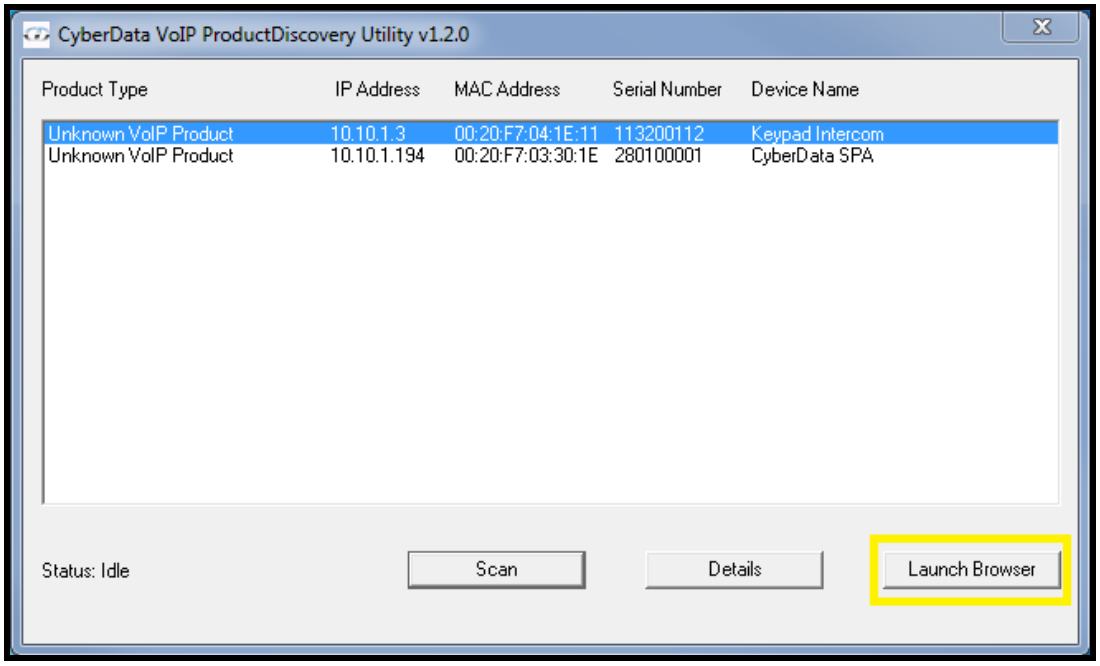
If you are configuring through the web interface, use the following steps to login to the web interface of your CyberData device.

Table 5-1: Setting Name correlation

CyberData Setting	Zoom Provisioning Pop-up
Primary SIP Server	SIP Domain
Outbound Proxy Outbound Proxy Port	Outbound Proxy
Primary SIP User ID	User Name
Primary SIP Auth ID	Authorization ID
Primary SIP Auth Password	Password

1. Click **Launch 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.

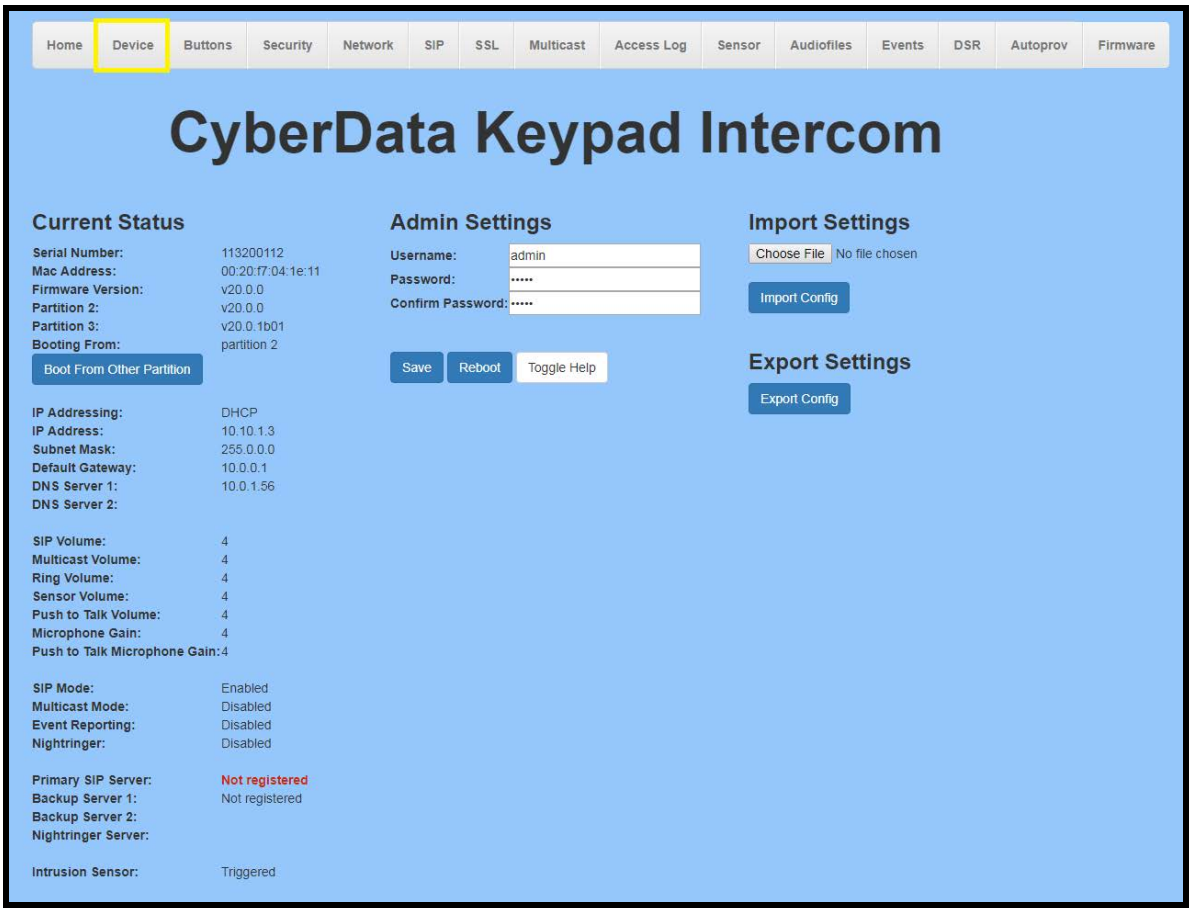
Figure 5-1: CyberData Discovery Utility



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

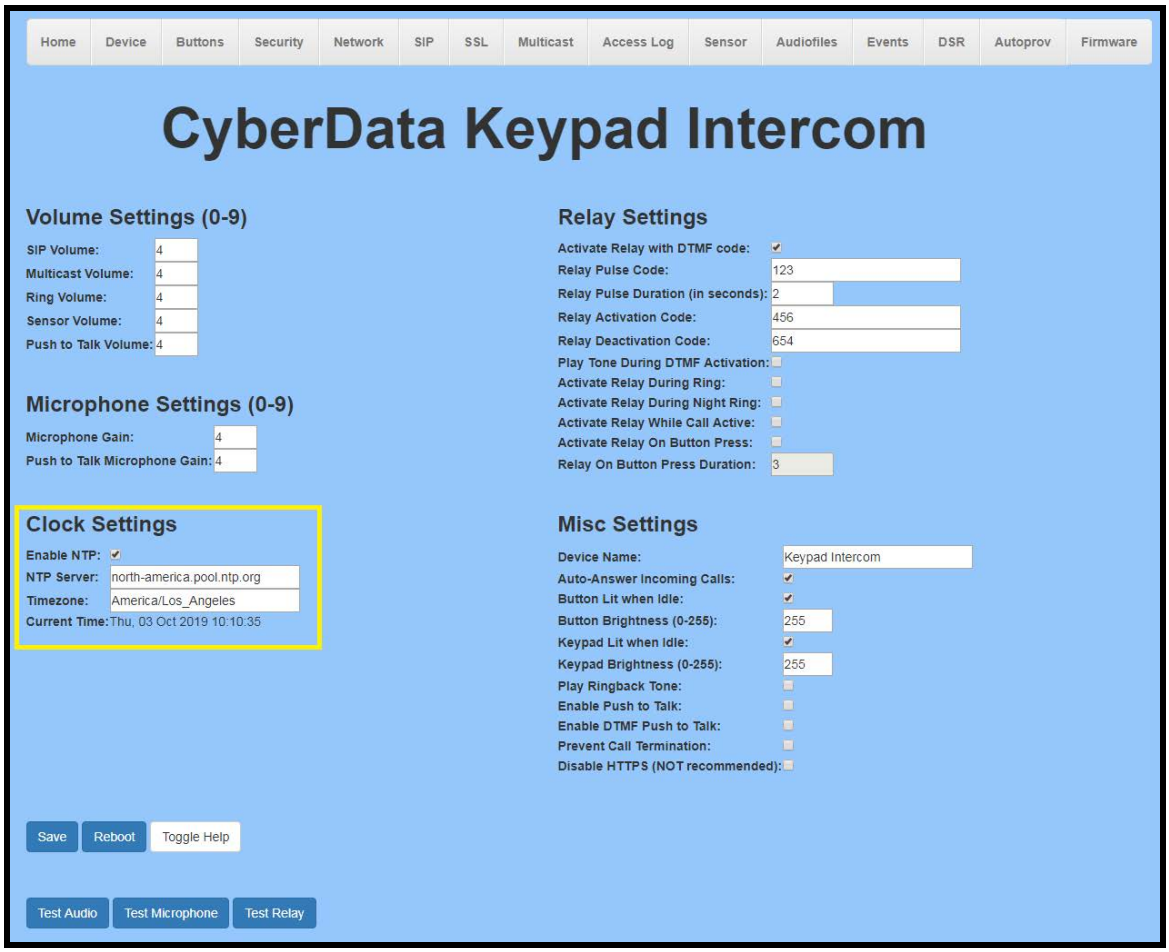
Username: admin
Password: admin

Figure 5-2: Web Interface Login



3. From the Home tab press the 'Device' Tab.

Figure 5-3: Device Tab

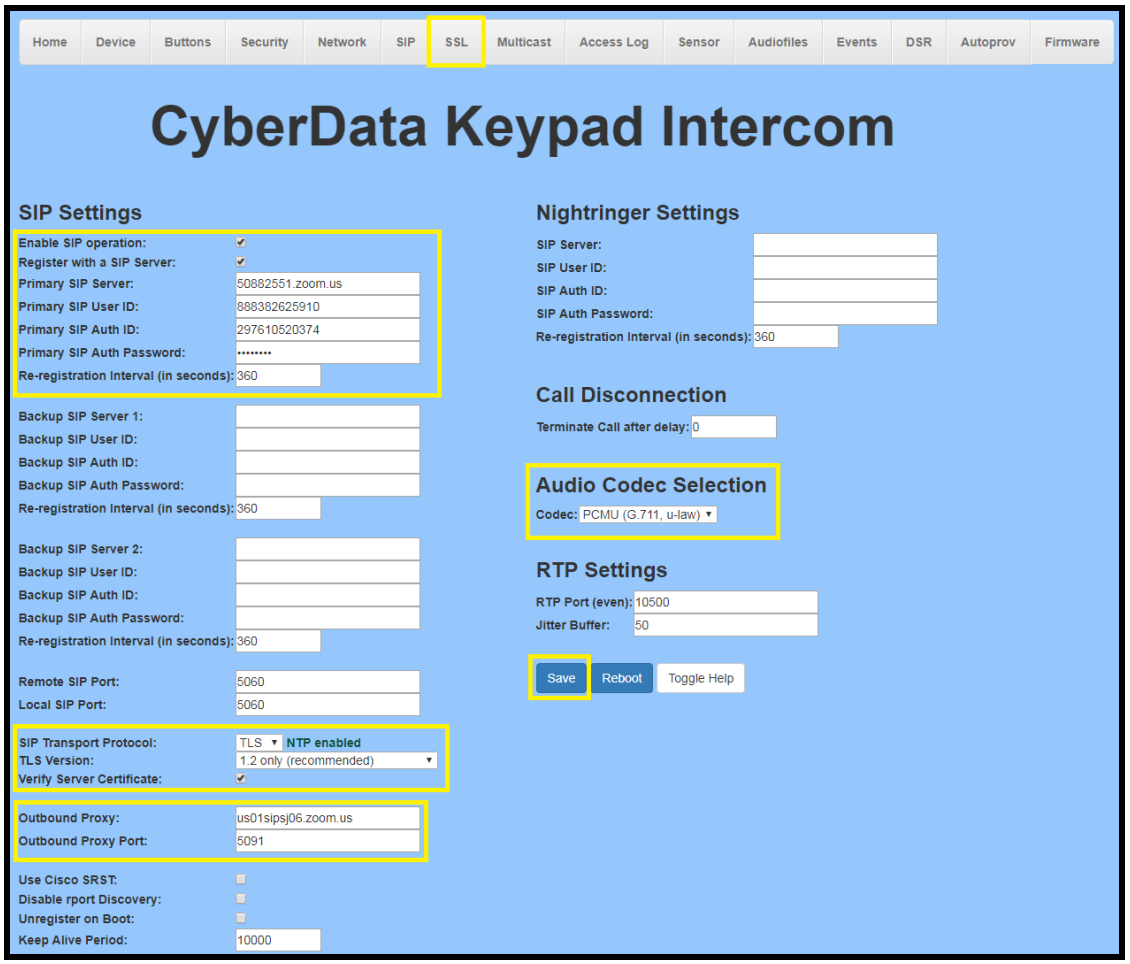


4. Confirm that "**Enable NTP**" is enabled.
5. Change the **NTP server** if necessary.
6. Set the **Timezone** to the local area.

Note: See the operations manual for other time zone strings.

7. **Save.**
8. Go to the SIP Tab.

Figure 5-4: SIP Tab

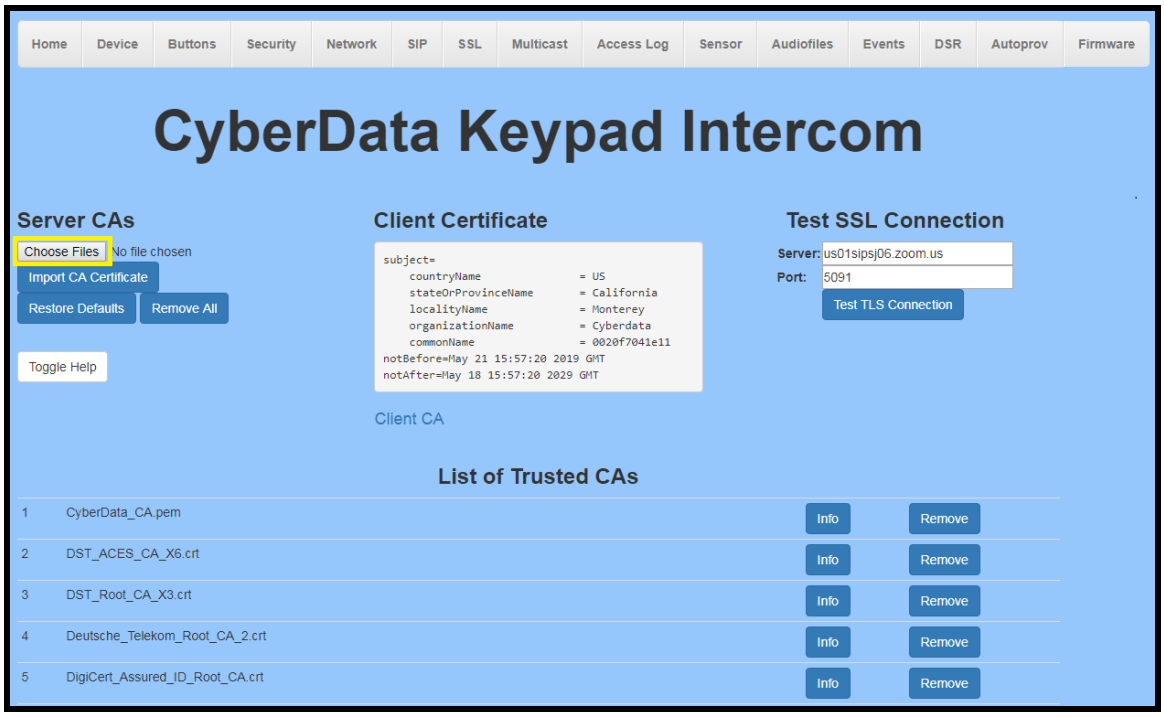


9. Set the 'SIP Transport Protocol' to **TLS**.
10. Keep TLS version set to "**1.2 Only (Recommended)**".
11. Check the box for "**Verify Server Certificate**".
12. Set the **Primary SIP Server** to the SIP Domain from the configuration Popup.
13. Set the **Primary SIP User ID** to the Username from the configuration Popup.
14. Set the **Primary SIP Auth ID** to the Authorization ID from the configuration Popup.
15. Set the **Primary SIP Auth Password** to the password provided in the configuration Popup.
16. Set the **Outbound proxy** and **Outbound Proxy port** to the address provided in the configuration Popup.

Note: Make sure to separate the port from the outbound proxy information provided by zoom.

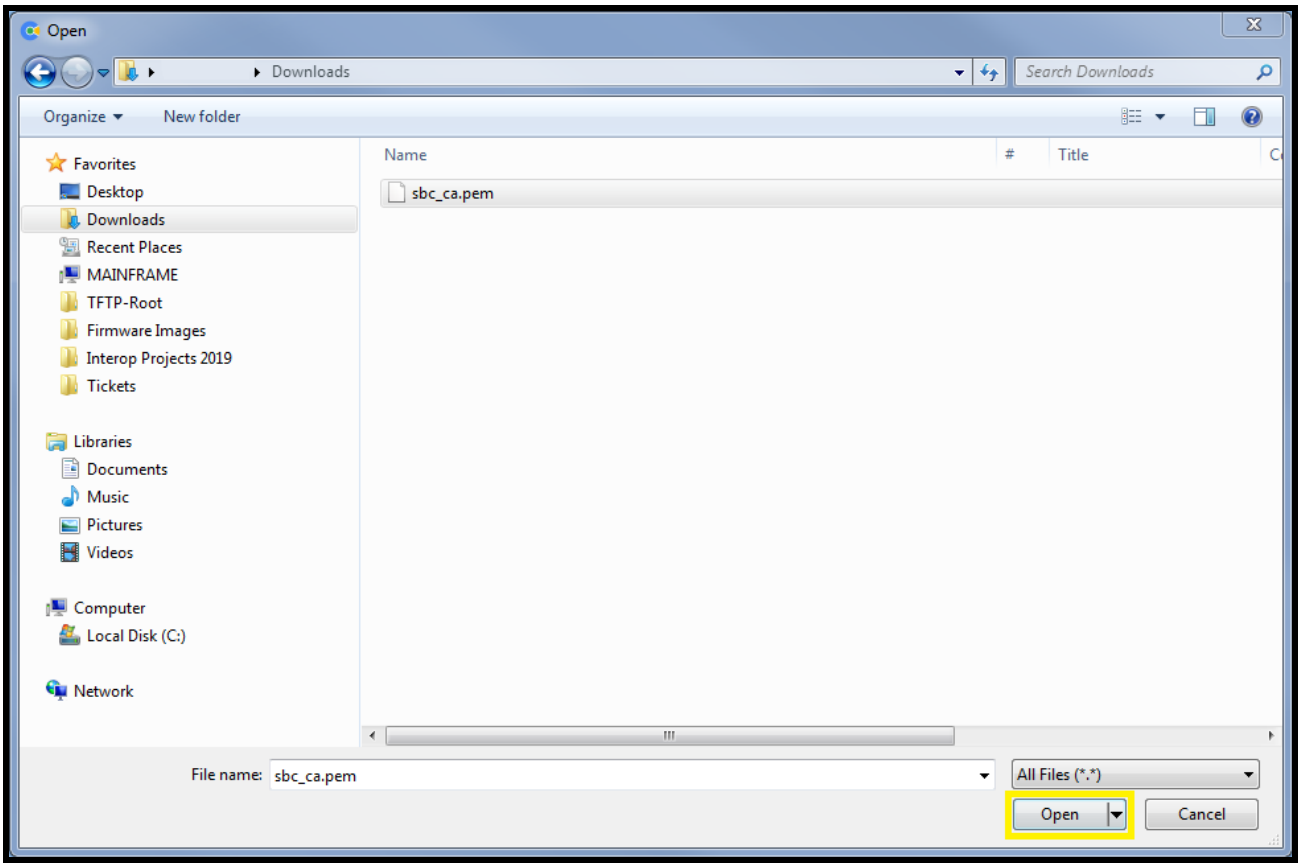
17. Check the box for "**Force Selected Codec**".
18. **Save.**
19. Go to the '**SSL**' Tab.

Figure 5-5: SSL Tab



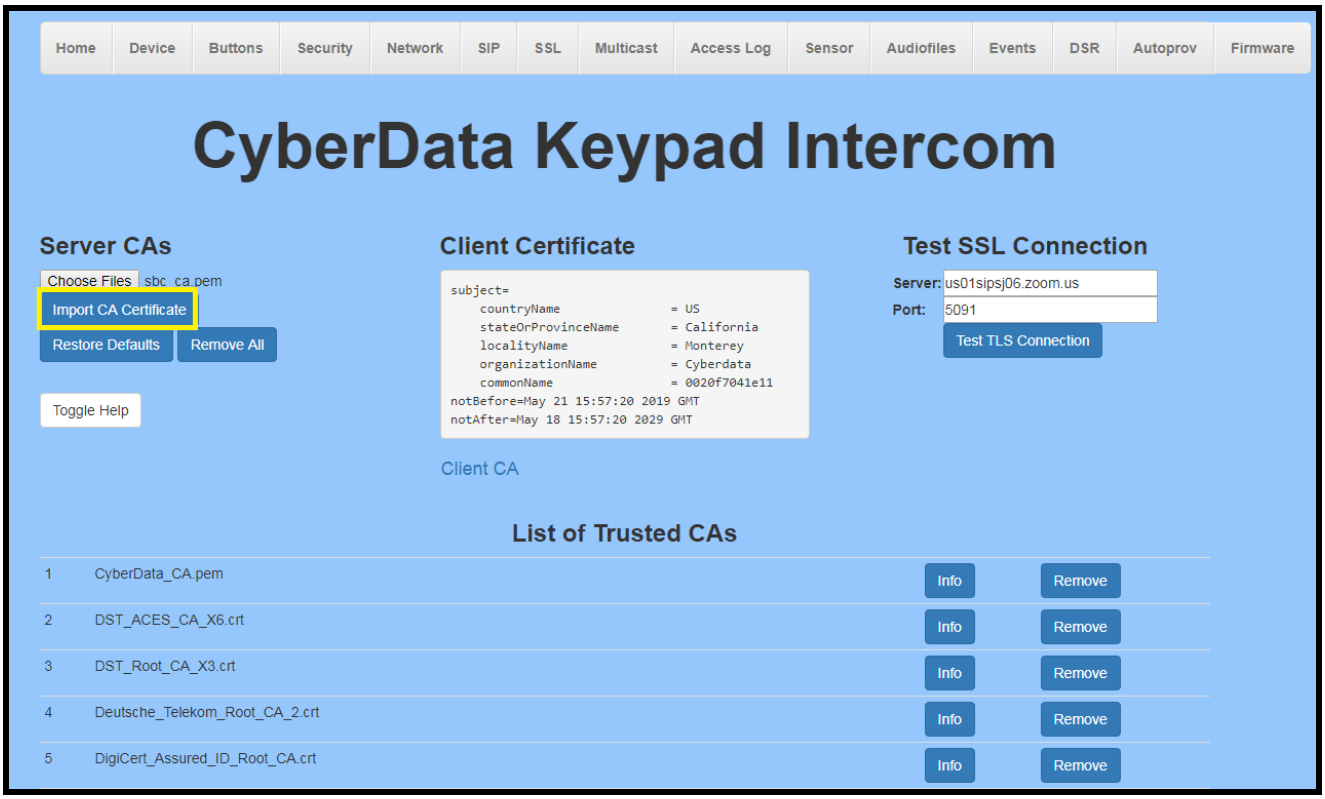
20. Press the ‘Choose Files’ button.

Figure 5-6: Choose file Pop-up



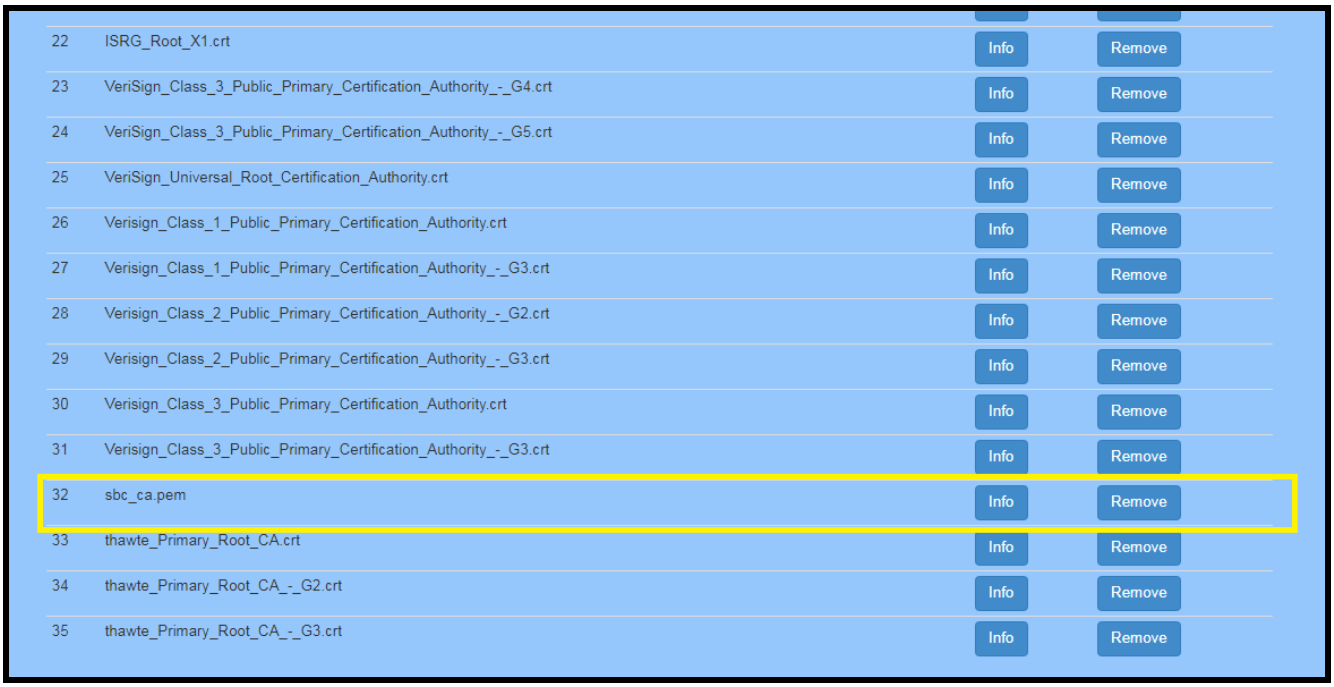
21. Select the "sbc_ca.pem" file and press the Open button.
22. Press the "Import CA Certificate" button to load the cert.

Figure 5-7: Import CA Certificate



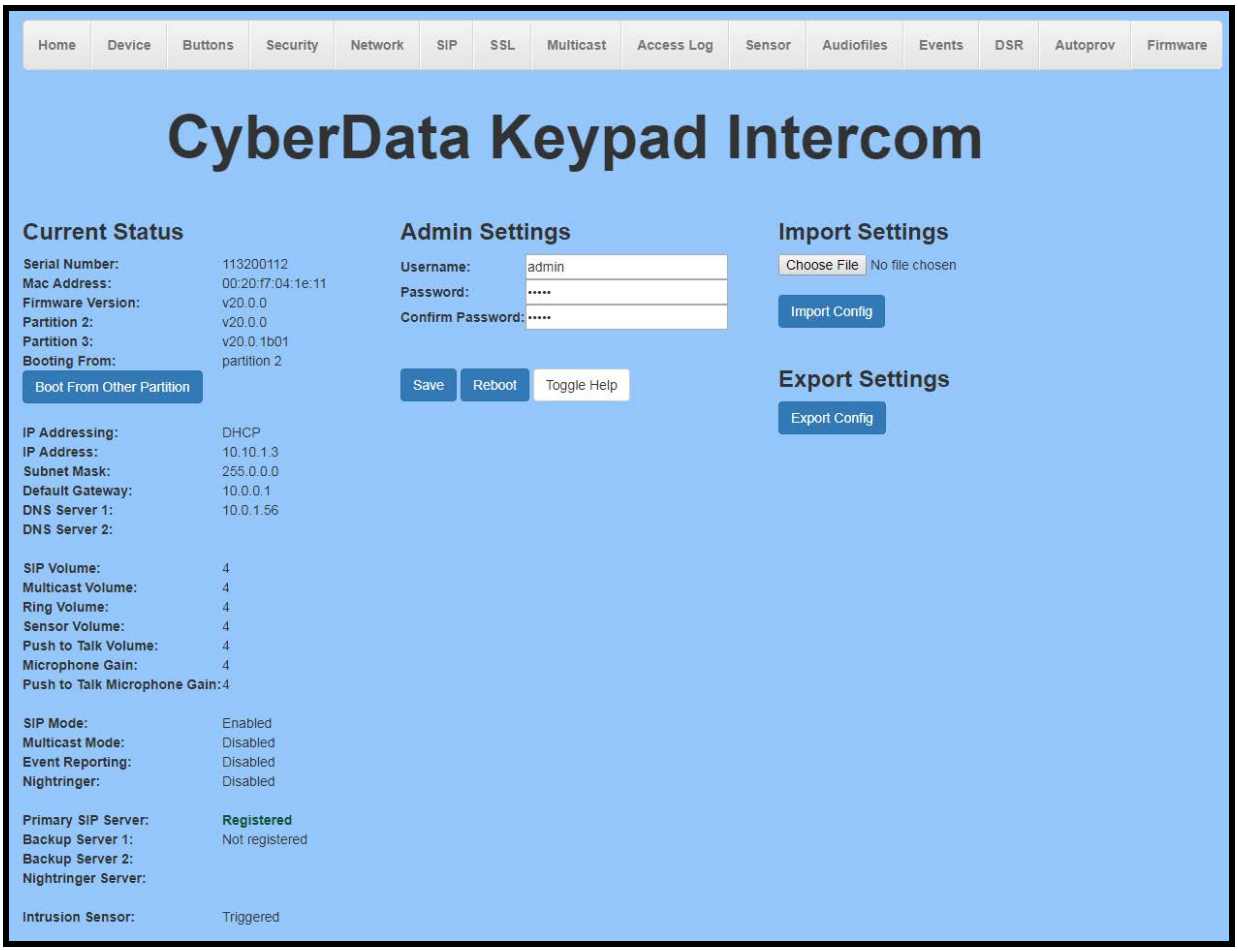
23. Once imported, confirm the file is listed with the other certificates.

Figure 5-8: Certificate List



24. Once the certificate is loaded a reboot will be required to make the changes take effect.

Figure 5-10: Home page – Registered



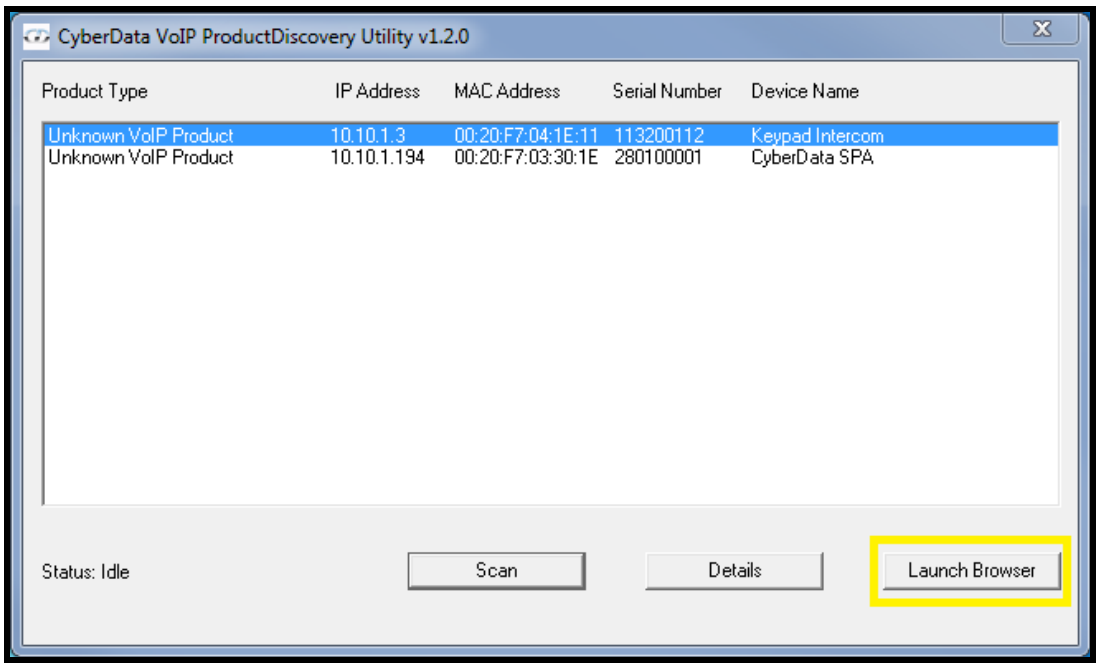
6.0 Configuration Procedure: Setting up the Nightringer extension

Table 6-1: Setting Name correlation

CyberData Setting	Zoom Provisioning Pop-up
SIP Server	SIP Domain
Outbound Proxy Outbound Proxy Port	Outbound Proxy
User ID	User Name
Authenticate ID	Authorization ID
Authenticate Password	Password

1. Click **Launch 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.

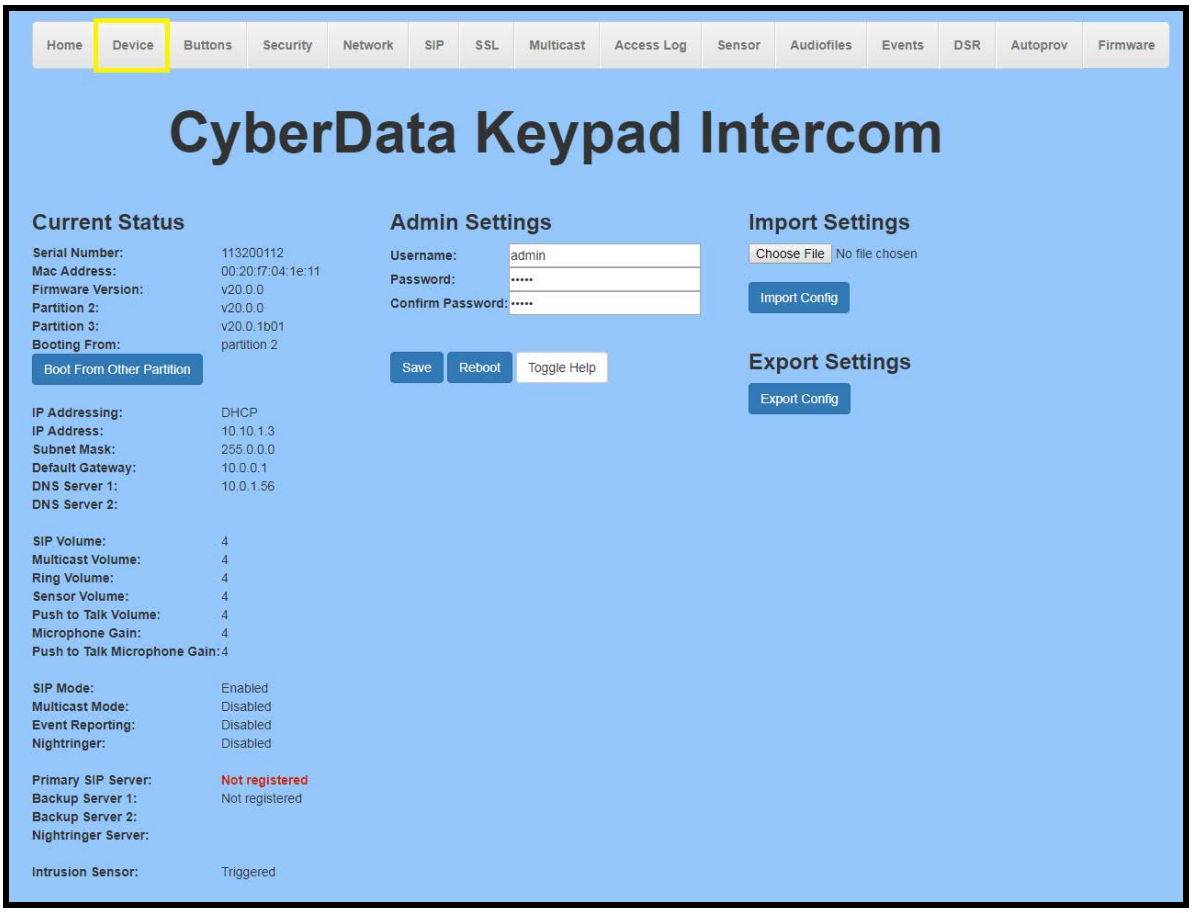
Figure 6-1: CyberData Discovery Utility



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

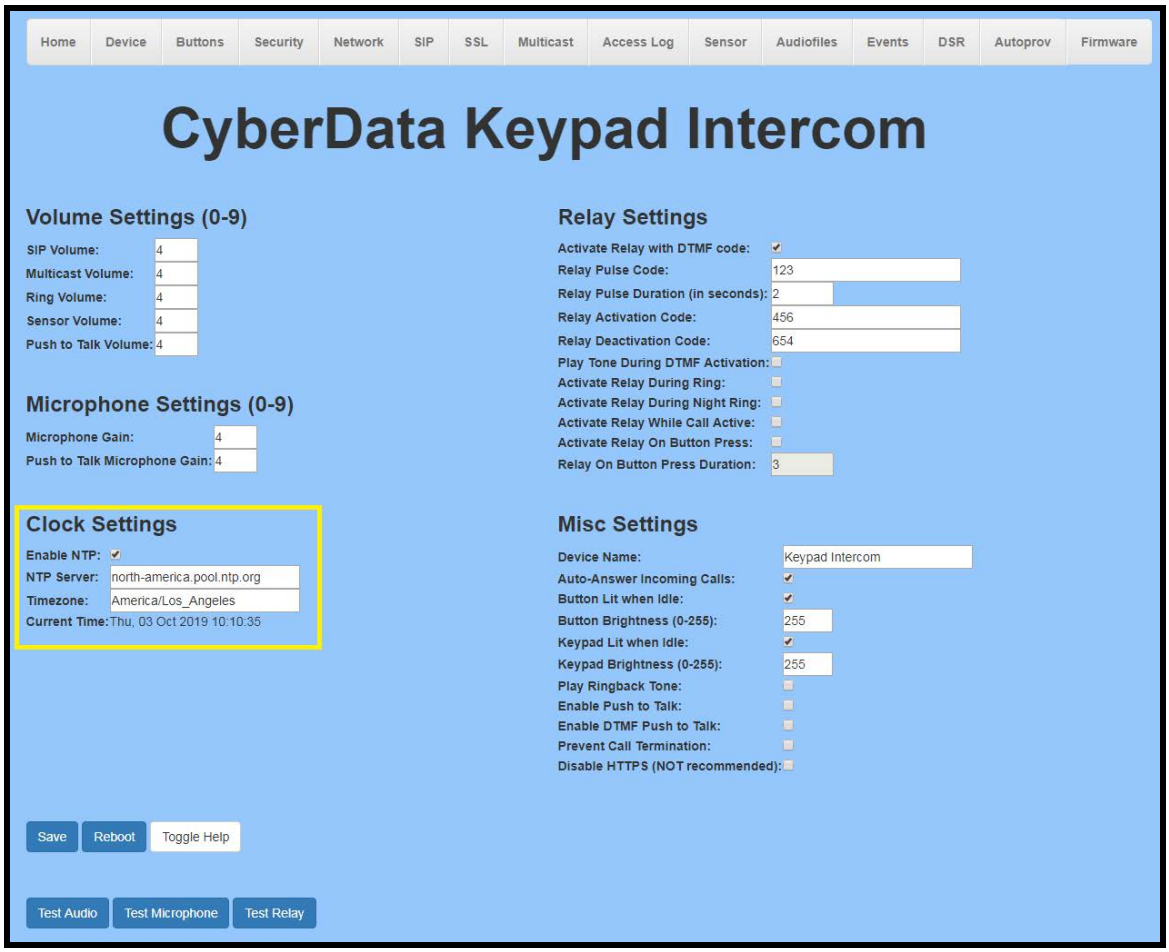
Username: admin
Password: admin

Figure 6-2: Web Interface Login



3. From the Home tab press the 'Device' Tab.

Figure 6-2: Device Tab

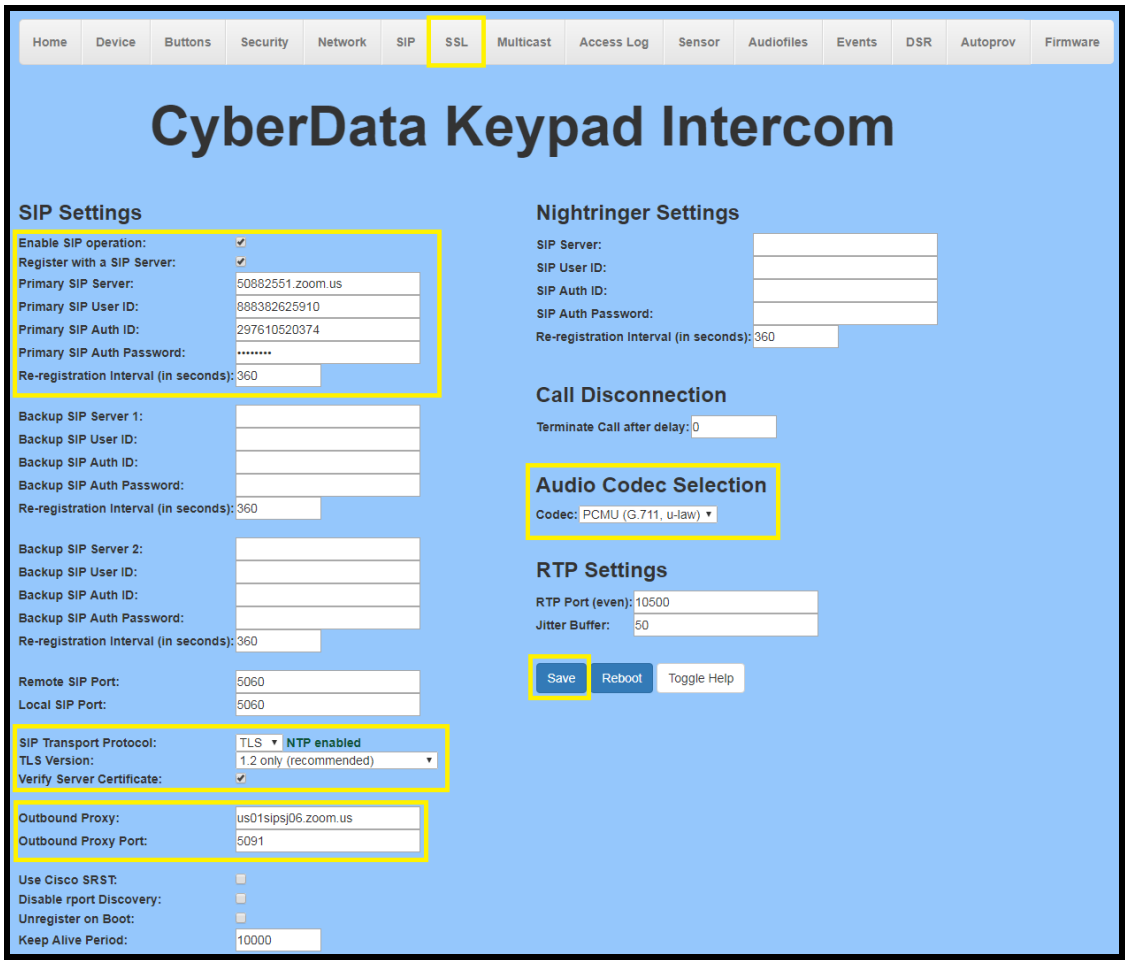


4. Confirm that "**Enable NTP**" is enabled.
5. Change the **NTP server** if necessary.
6. Set the **Timezone** to the local area.

Note: See the operations manual for other time zone strings.

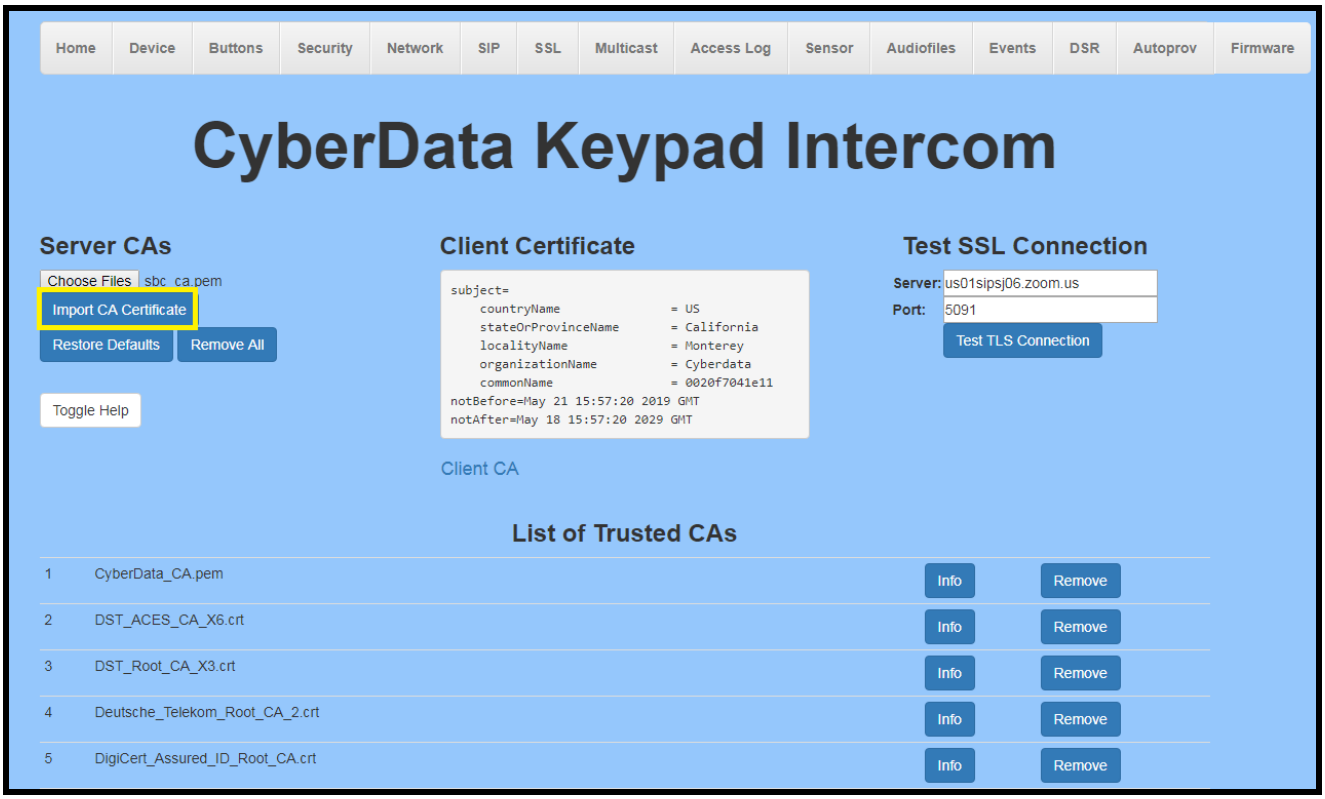
7. **Save.**
8. Go to the SIP Tab.

Figure 6-3: SIP Tab



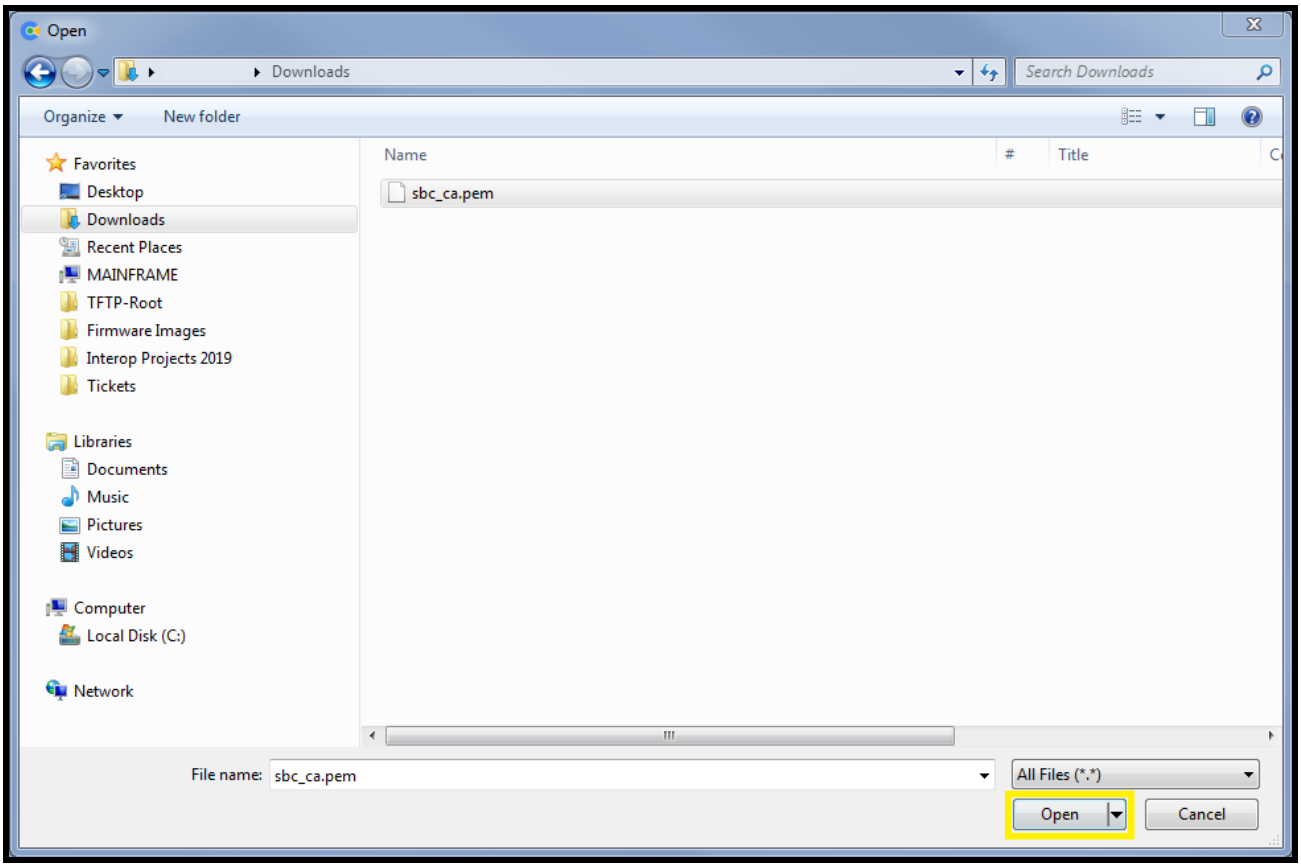
9. Set the 'SIP Transport Protocol' to **TLS**.
10. Keep TLS version set to "**1.2 Only (Recommended)**".
11. Check the box for "**Verify Server Certificate**"
12. Set the **SIP Server** to the SIP Domain from the configuration Popup.
13. Set the **User ID** to the Username from the configuration Popup.
14. Set the **Authenticate ID** to the Authorization ID from the configuration Popup.
15. Set the **Authenticate Password** to the password provided in the configuration Popup.
16. Set the **Outbound proxy** and **Outbound Proxy port** to the address provided in the configuration Popup.
17. Save.
18. Go to the '**SSL**' Tab.

Figure 6-4: SSL Tab



19. Press the 'Choose Files' button.

Figure 6-5: Choose file Pop-up



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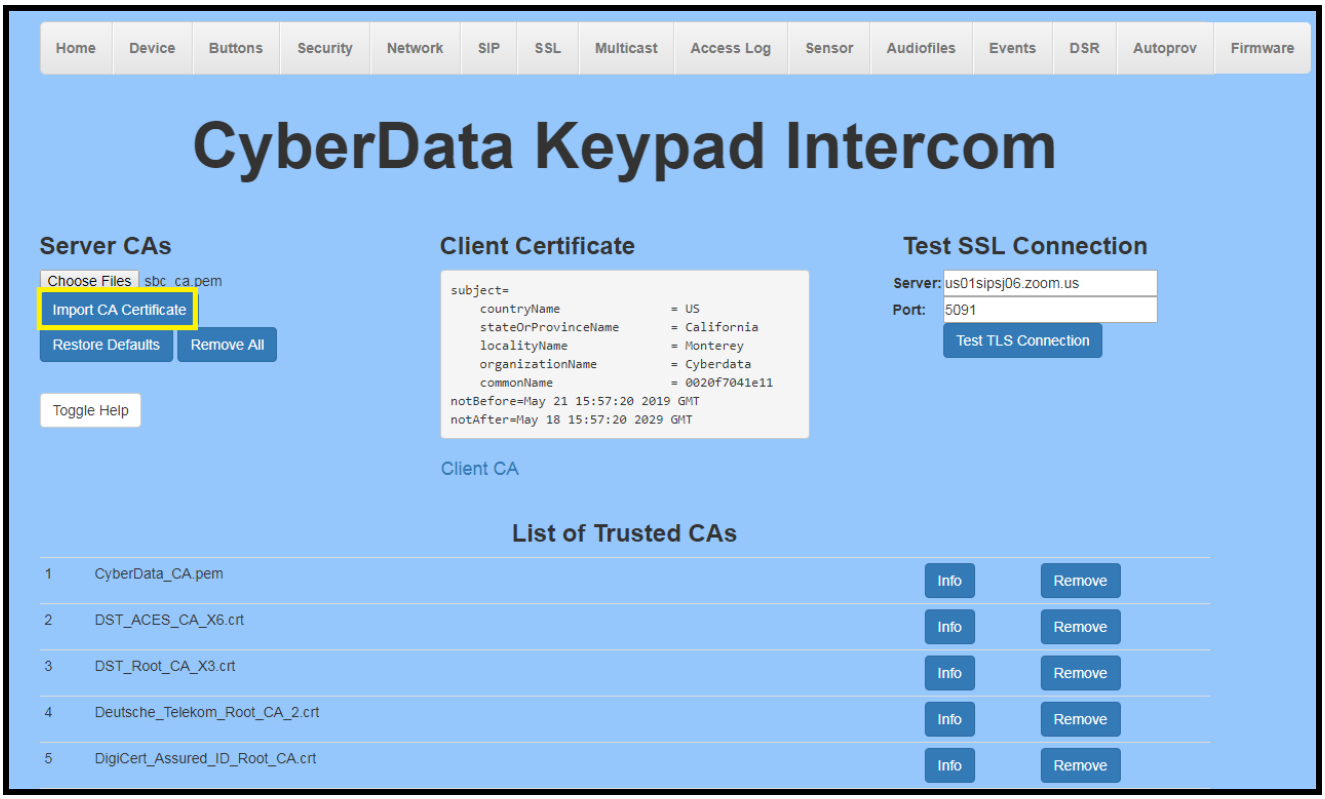

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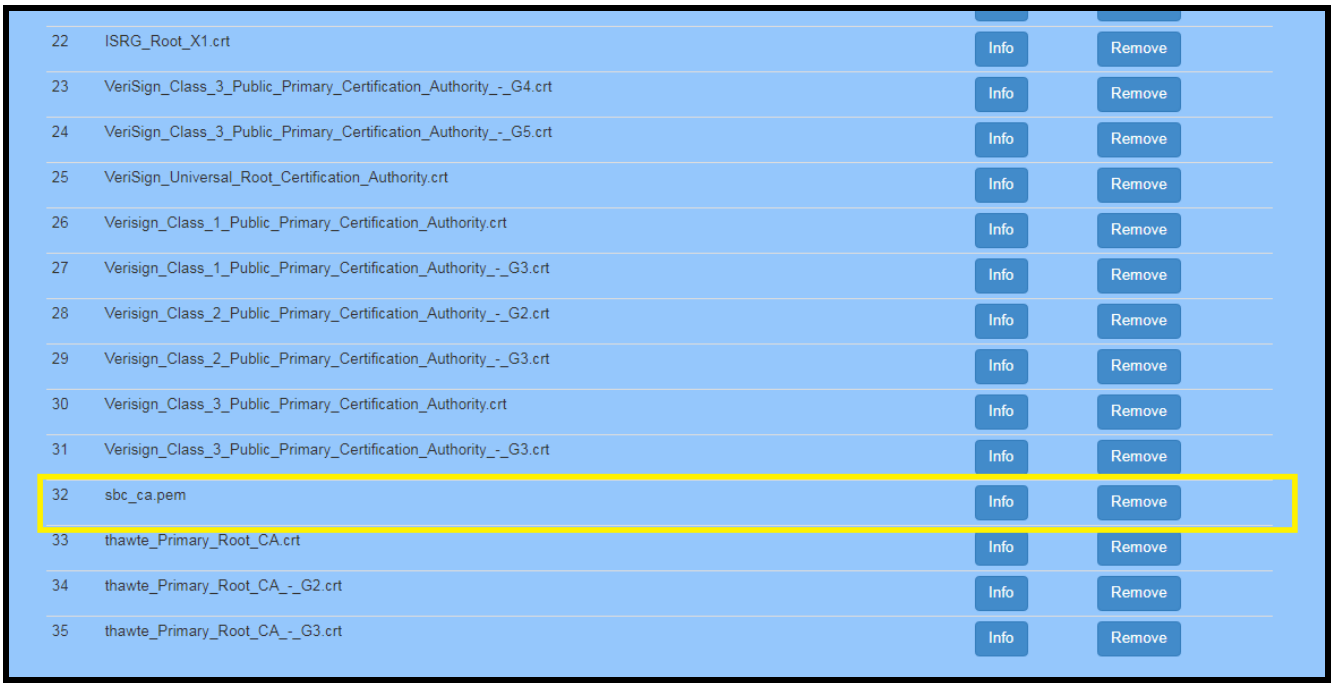
Figure 6-7: Certificate List



22	ISRG_Root_X1.crt	Info	Remove
23	VeriSign_Class_3_Public_Primary_Certification_Authority_-_G4.crt	Info	Remove
24	VeriSign_Class_3_Public_Primary_Certification_Authority_-_G5.crt	Info	Remove
25	VeriSign_Universal_Root_Certification_Authority.crt	Info	Remove
26	Verisign_Class_1_Public_Primary_Certification_Authority.crt	Info	Remove
27	Verisign_Class_1_Public_Primary_Certification_Authority_-_G3.crt	Info	Remove
28	Verisign_Class_2_Public_Primary_Certification_Authority_-_G2.crt	Info	Remove
29	Verisign_Class_2_Public_Primary_Certification_Authority_-_G3.crt	Info	Remove
30	Verisign_Class_3_Public_Primary_Certification_Authority.crt	Info	Remove
31	Verisign_Class_3_Public_Primary_Certification_Authority_-_G3.crt	Info	Remove
32	sbc_ca.pem	Info	Remove
33	thawte_Primary_Root_CA.crt	Info	Remove
34	thawte_Primary_Root_CA_-_G2.crt	Info	Remove
35	thawte_Primary_Root_CA_-_G3.crt	Info	Remove

23. Once the certificate is loaded a reboot will be required to make the changes take effect.

Figure 6-8: Common Area Phones

7.0 Using the CyberData Intercom in a Zoom system.

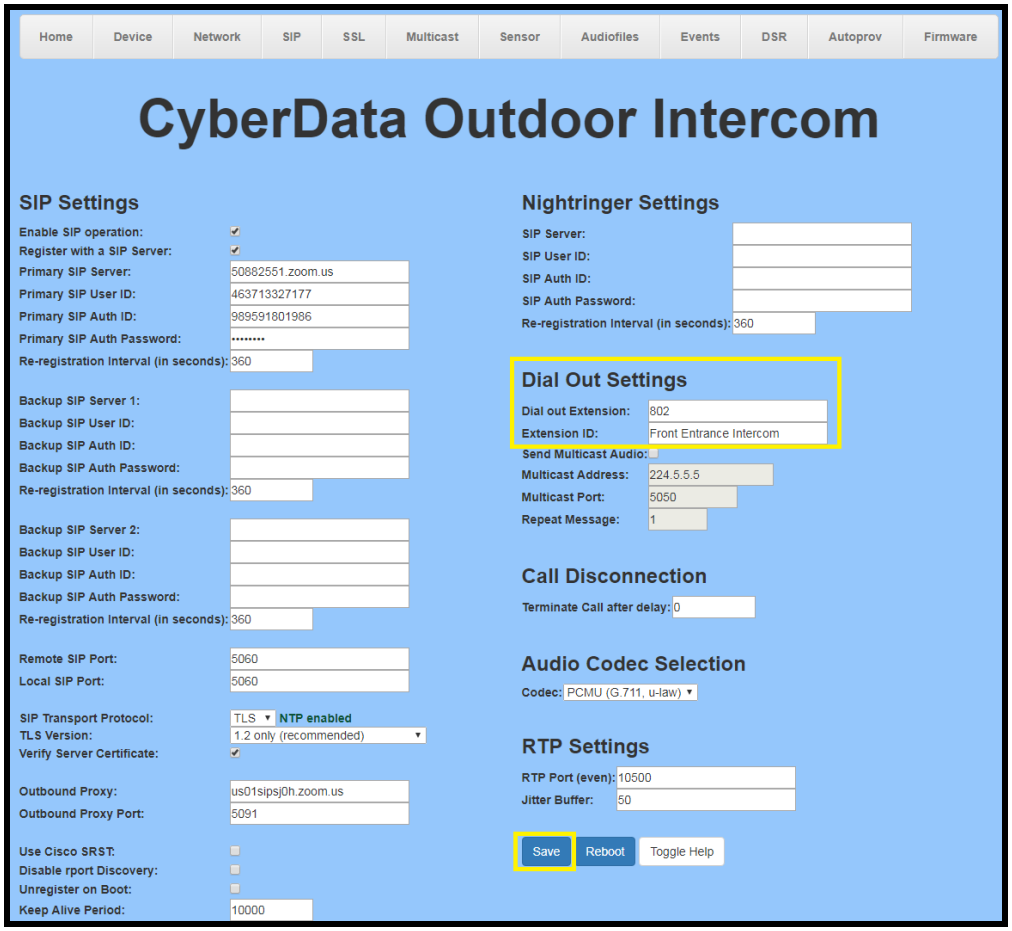
CyberData Intercoms are used for access control. Depending on the number of keys the intercom has there are different ways to use the intercom. A single button intercom can be configured to call a number when the call button is pressed. The Keypad variants can take advantage of the keypad and dial numbers to make a call. There are several different modes that can be used on Keypad intercoms.

7.1 Setting the Dialout Extension – Single button intercom

Once the intercom is registered with Zoom the "Dial out Extension" will need to be set for the intercom to call a number when the front Call Button has been pressed. This number can be either a direct extension, ring group/ call queue, or a direct phone number.

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

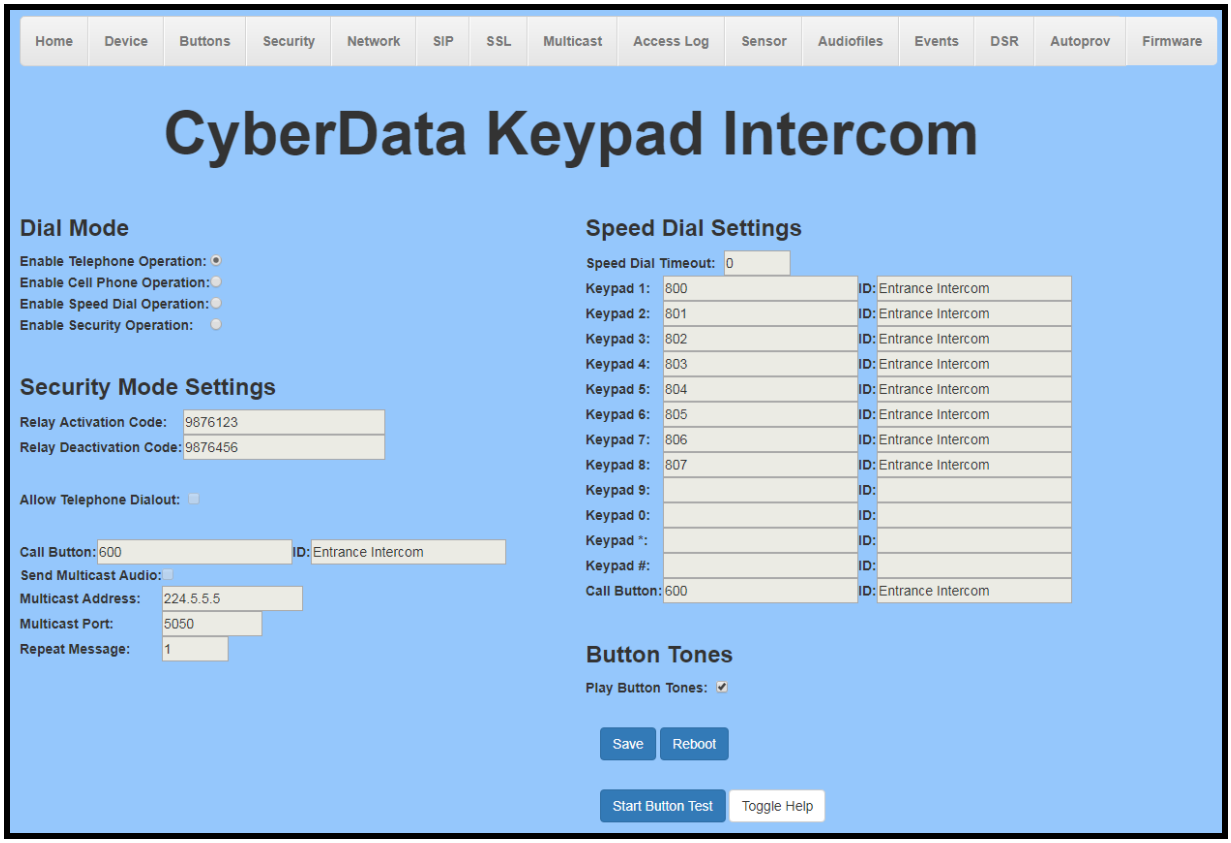
Figure 7-1: Set the Dial out Extension



7.2 Calling with a Keypad Intercom

The Keypad Intercom (Indoor or Outdoor) has multiple different 'Dial Modes' that can be used which will make the intercom operate in a slightly different manner. There are four different dial modes that can be used; Telephone Operation, Cell Phone Operation, Speed Dial Operation, and Security Operation. These different modes are selected on the Buttons page.

Figure 7-2: Dial Modes

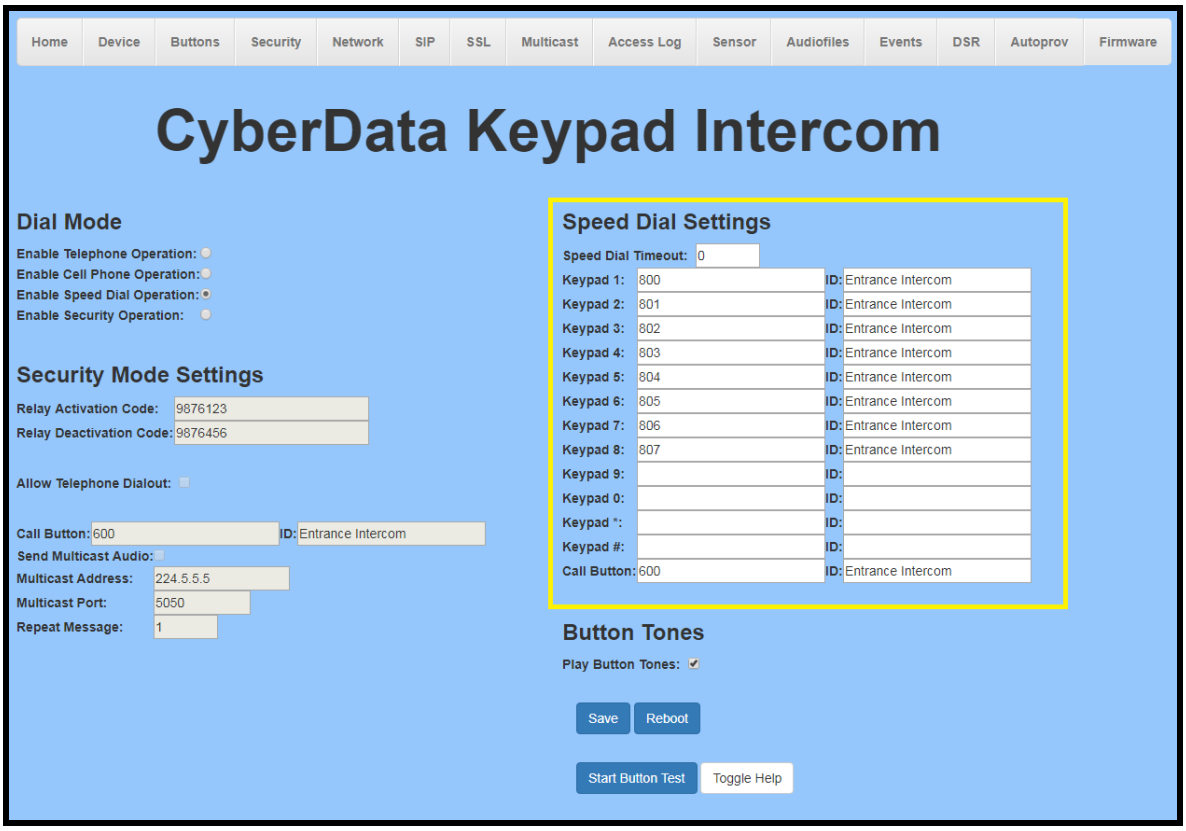


- **Telephone Operation**
  - This mode operates like a telephone. Press the call button and then dial the number.
- **Cell Phone Operation**
  - This mode operates like a cell phone. Dial the number then press the call button.
- **Speed Dial Operation**
  - This allows each button (0-9 * # Call Button) to be for a specific speed dial number. The Speed Dial Timeout is how long the button must be pressed before the call will send.
- **Security Operation**
  - This mode restricts the calling options to only the call button. The keypad is then used for "Security Codes" for access control without making a call. Check the operations manual for more details on the Security Codes.

7.2.1 Setting up Speed Dial Operation

After setting the dial mode to **Speed Dial Operation**, the **Speed Dial settings** will be configurable. **Speed Dial Timeout** is how long the button will need to be pressed to make a call; if set to 0 the call will send immediately.

Figure 7-3: Speed Dial Settings

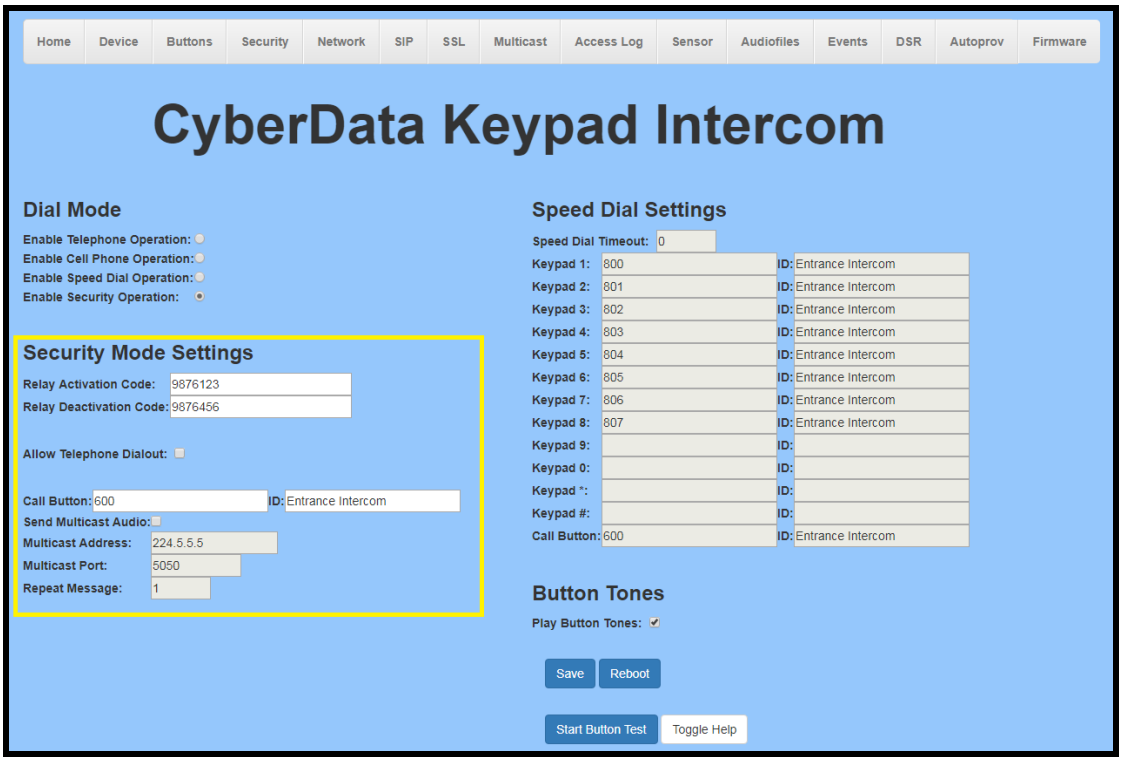


7.2.2 Setting up Security Mode Operation

Security Mode Operation will make the call button function as the main way to make a call. The call button can call a direct extension, ring group/call queue, or a standard phone number. The keypad can then be used for security codes that are configured on the security tab.

Relay activation and Relay deactivation are codes that can be entered on the keypad to activate and deactivate the relay. If those fields are left blank, they will be disabled.

Figure 7-4: Security Mode Operation

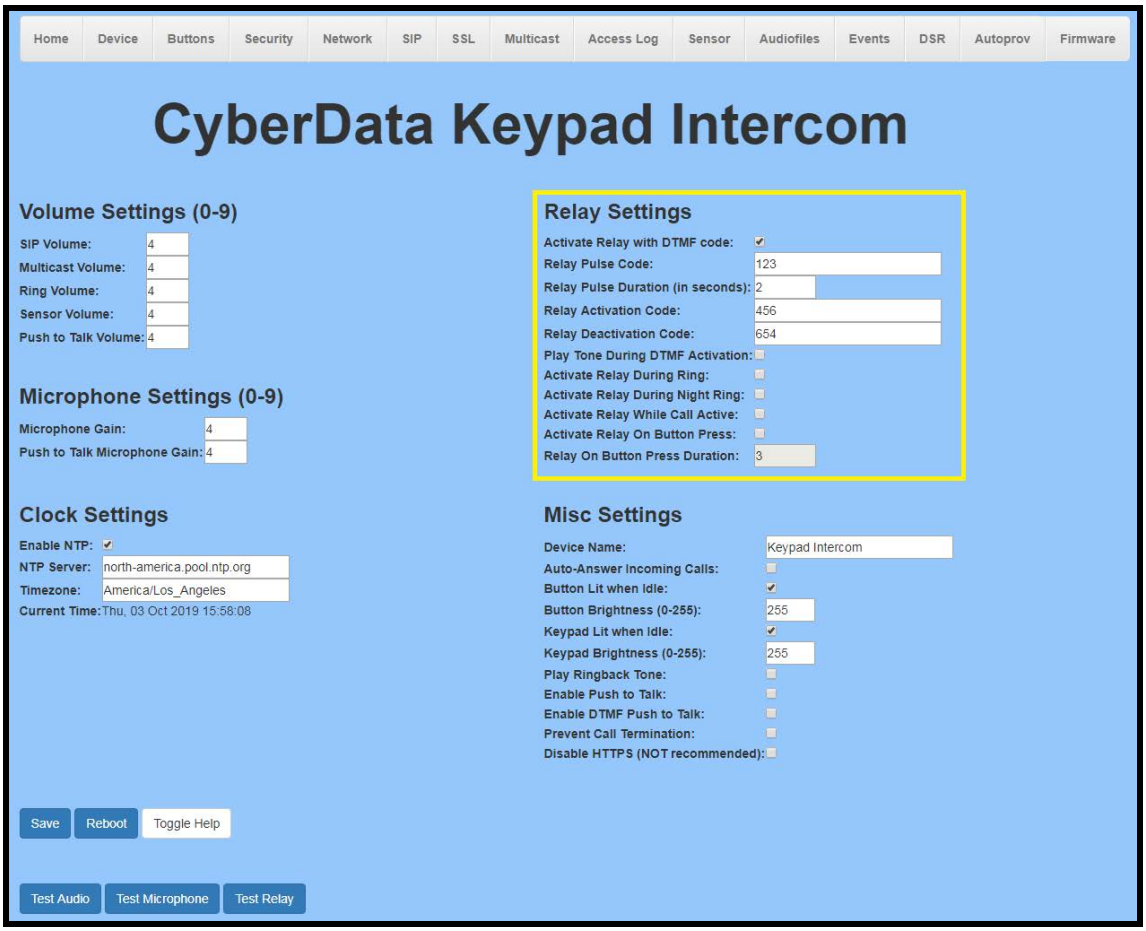


7.3 Activating the on-board relay

While in a call with the intercom DTMF codes can be entered on the phone to trigger the onboard relay of the intercom.

- Relay Pulse code
  - Activates the relay for the configured Relay Pulse Duration.
- Relay Pulse Duration
  - How long the relay will activate when the Pulse code is sent.
- Relay Activation Code
  - This code activates the relay.
- Relay Deactivation Code
  - This code deactivates the relay.

Figure 7-5: Relay Settings



Note: *Enable "Play Tone During DTMF Activation" if you want a tone to play when the onboard relay is active.*

8.0 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.