CyberData
The IP Endpoint Company

Zoom Configuration Guide: Paging Amplifier

Document Part # 931708D

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Revision Information

- 9-27-19 Initial Release
- 1-31-20 Updated Device Type creation.
- 3-11-21 Updated registration process.
- 9-21-21 Update to cover new provisioning process.

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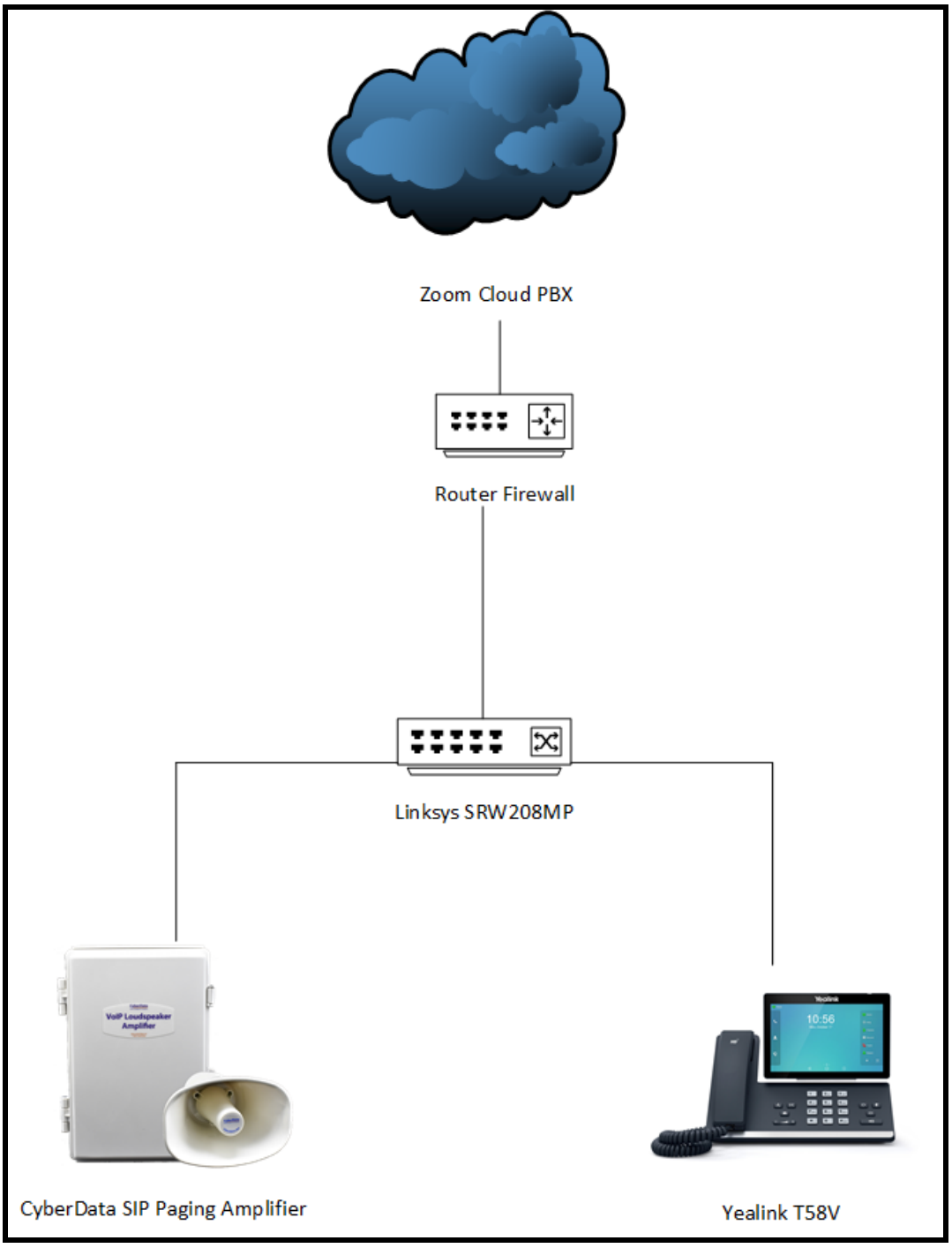


2.0 Test Setup Equipment

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

Table 2-1: Setup Equipment

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP PAGING AMPLIFIER	011324	12.1.0
CYBERDATA SIP LOUDSPEAKER AMPLFIER (POE)	011405	12.1.0
CYBERDATA SIP LOUDSPEAKER AMPLIFIER (AC-POWERED)	011404	12.1.0
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 Paging Amplifier.

Network Advisories

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

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

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

The amplifier'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 Amplifier's product webpage:

SIP Paging Amplifier (011324)
http://files.cyberdata.net/assets/011324/011324_931156K_SIP_Paging_Amplifier_Operations_Guide.pdf

SIP Loudspeaker Amplifier (AC)
http://files.cyberdata.net/assets/011405/011405_931236L_SIP_Loudspeaker_Amplifier_PoE_Operations_Guide.pdf

SIP Loudspeaker Amplifier (PoE)
http://files.cyberdata.net/assets/011404/011404_931240M_SIP_Loudspeaker_Amplifier_AC-Powered_Operations_Guide.pdf

4.0 Configuration Procedure: Intercom/Paging Device

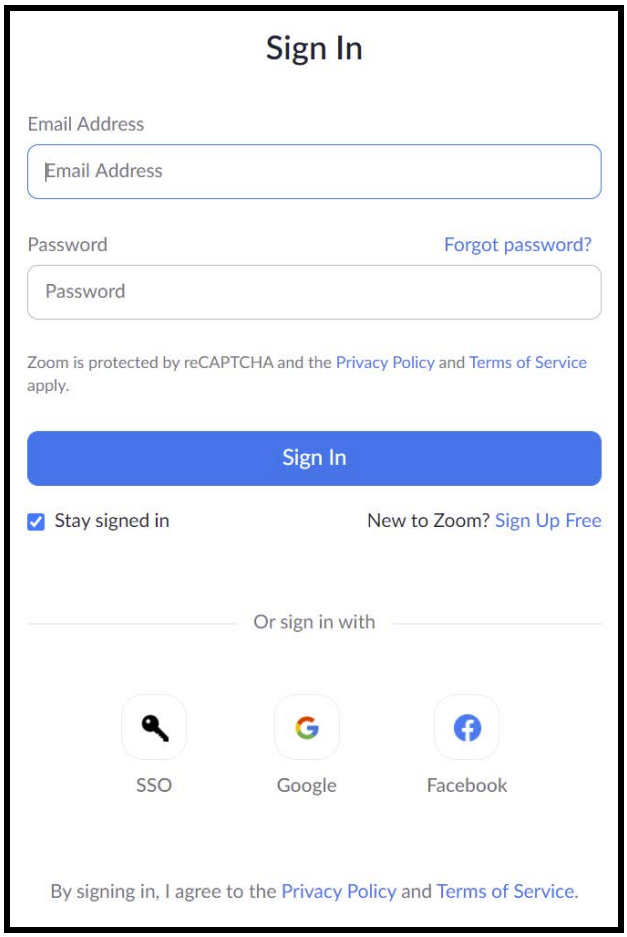
There are several different extension types that can be used on the Zoom platform. This guide provides instructions to register the CyberData Paging Amplifier as an Intercom/Paging Device.

As of 9/26/2021 Zoom has released an update that changes how CyberData products register with Zoom as Zoom has moved to an auto provisioning process. This changes the "CyberData" brand of products for Common Area Phones. Products like the SIP Speaker will continue to be manually provisioned, which is a very simple process. Contact your Zoom account manager and request they enable "Other/Generic" common area phone type. This will allow manual configuration of the CyberData device. Please follow the steps below to configure the device.

If you run into issues please contact our support department.

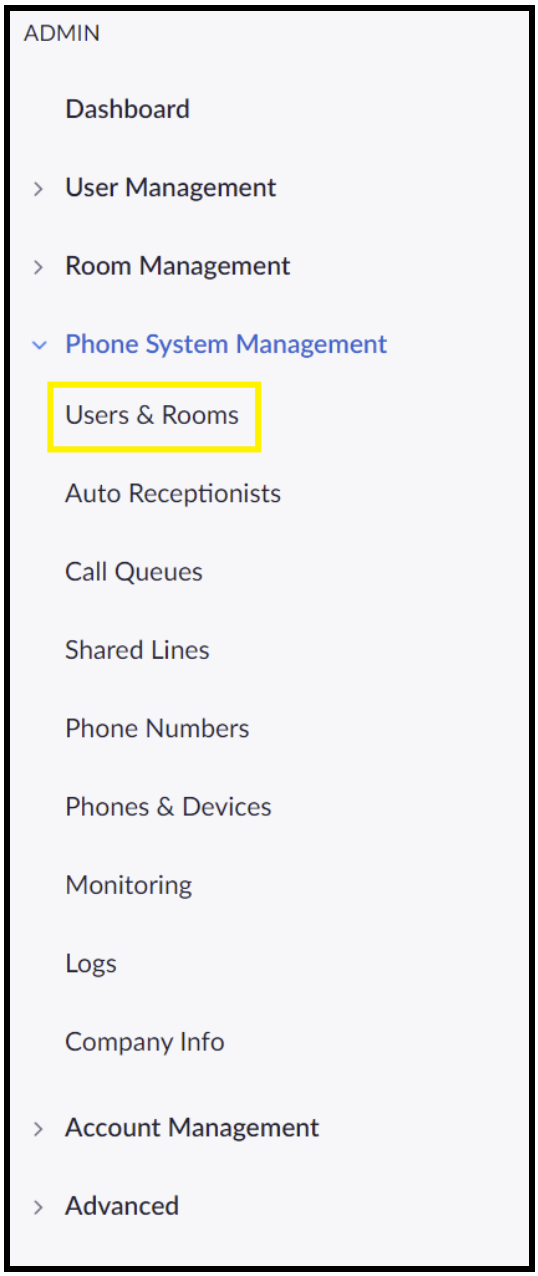
1. Log into Zoom. https://zoom.us/signin

Figure 4-1: Log into Zoom



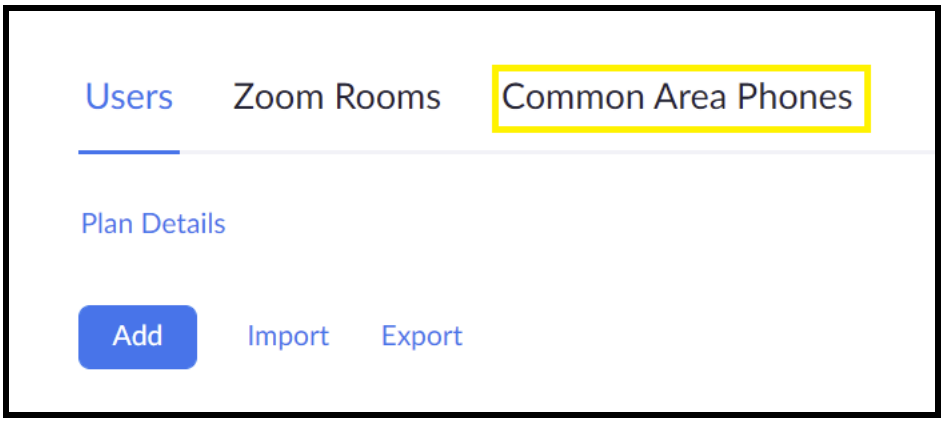
2. From the Profile page select the "Phone System Management" section and the 'Users & Rooms' subsection.

Figure 4-2: Profile Landing Page



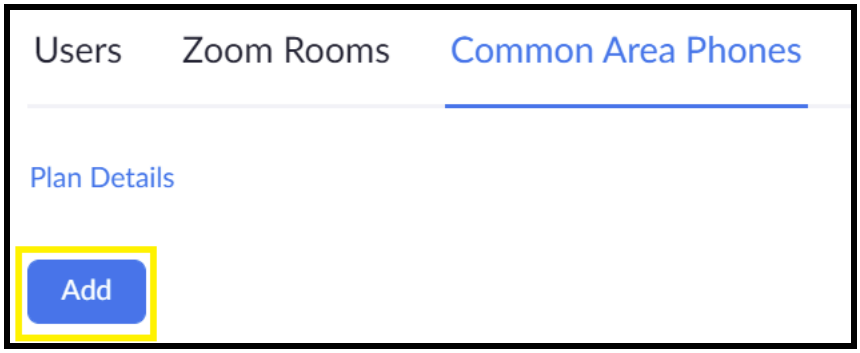
3. From the Users & Rooms page navigate to the Common Area Phones tab.

Figure 4-4: Users & Rooms



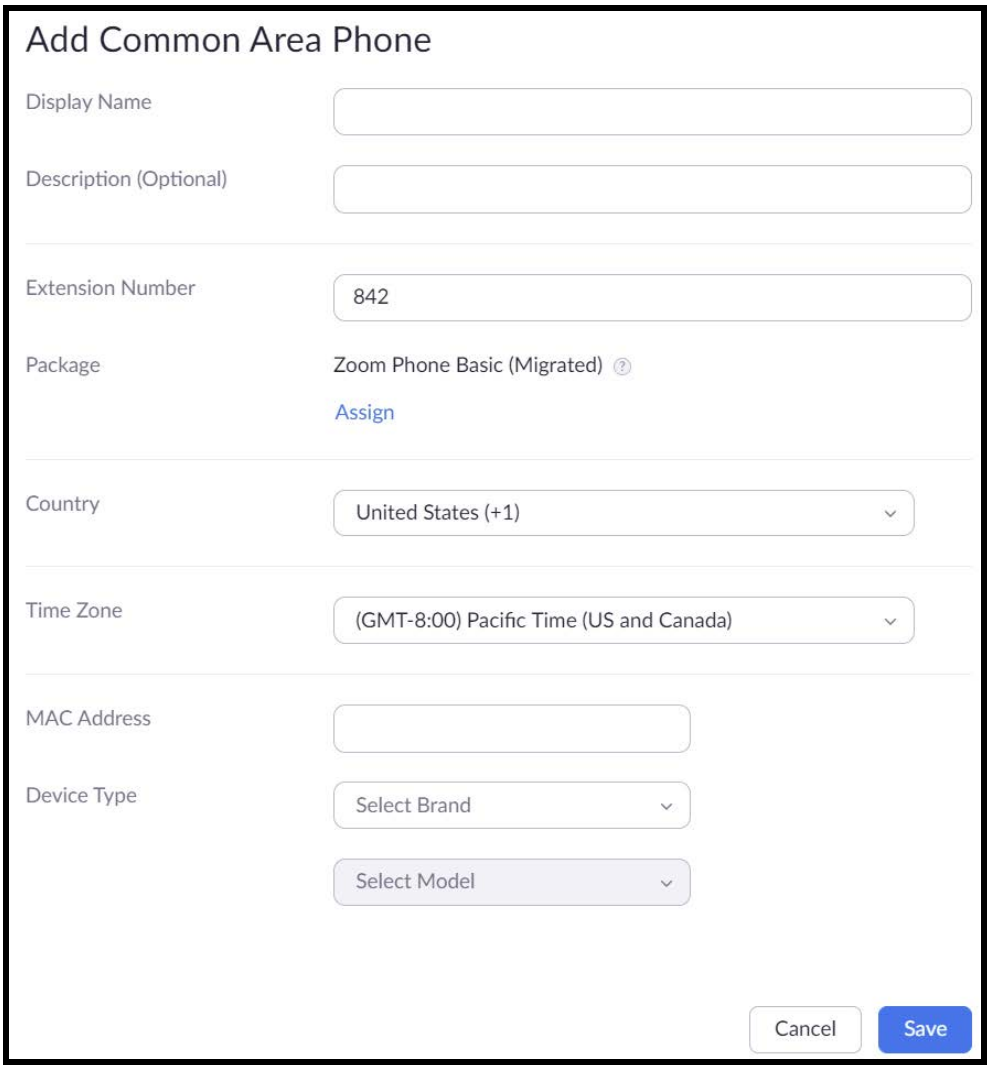
4. Press the Add button on the Common Area Phones tab.

Figure 4-5: Add Common Area Phone



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

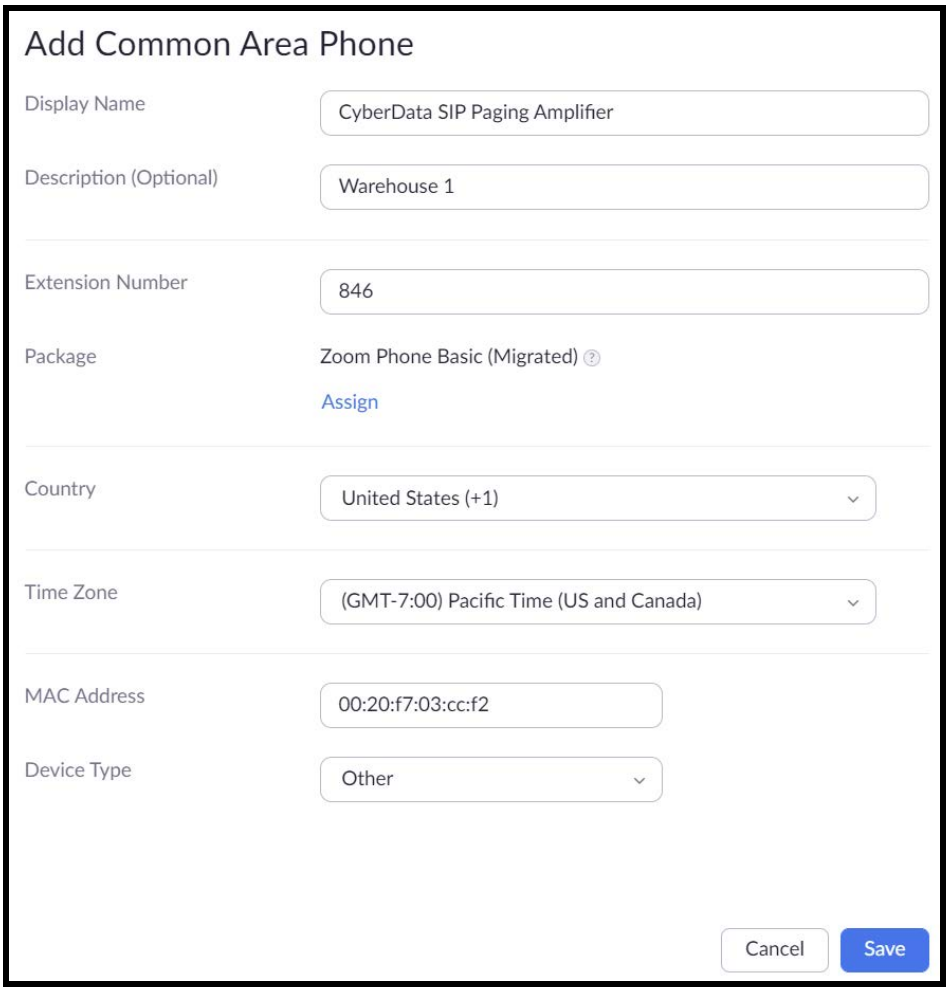
Figure 4-5: Phone Pop-up



6. Set the Display Name for the device
7. Set the Description to the location of the amplifier..
8. Adjust the extension number as necessary.
9. Set the MAC address of the device.
10. Set the Device Type to **Other**.

Note: *Adding the MAC Address will switch the device type to "Algo/CyberData" make sure to set the Device Type to "Other".*

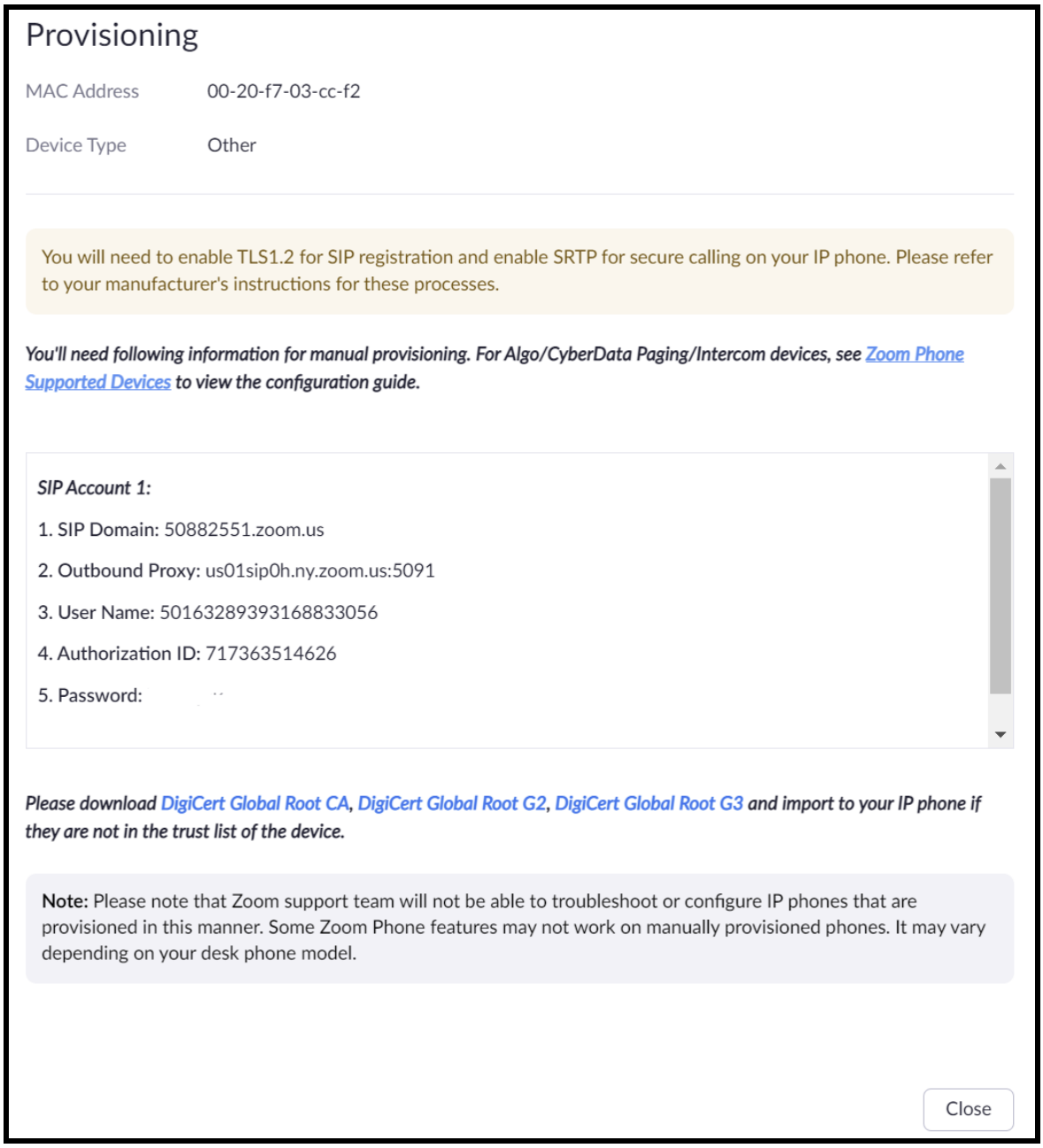
Figure 4-6: Common Area Phone Pop-up – Filled



11. Click the Save button to create the Phone.
12. Once saved the browsers will redirect to the newly created extension's page
13. Click on the Provision Button at the bottom of the device's page.

Figure 4-7: Provision

Figure 4-7: Provisioning Pop-up



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

15. Make sure to download all the certificates listed which will be needed for device configuration.

5.0 Configuration Procedure: Setting up the Paging Extension

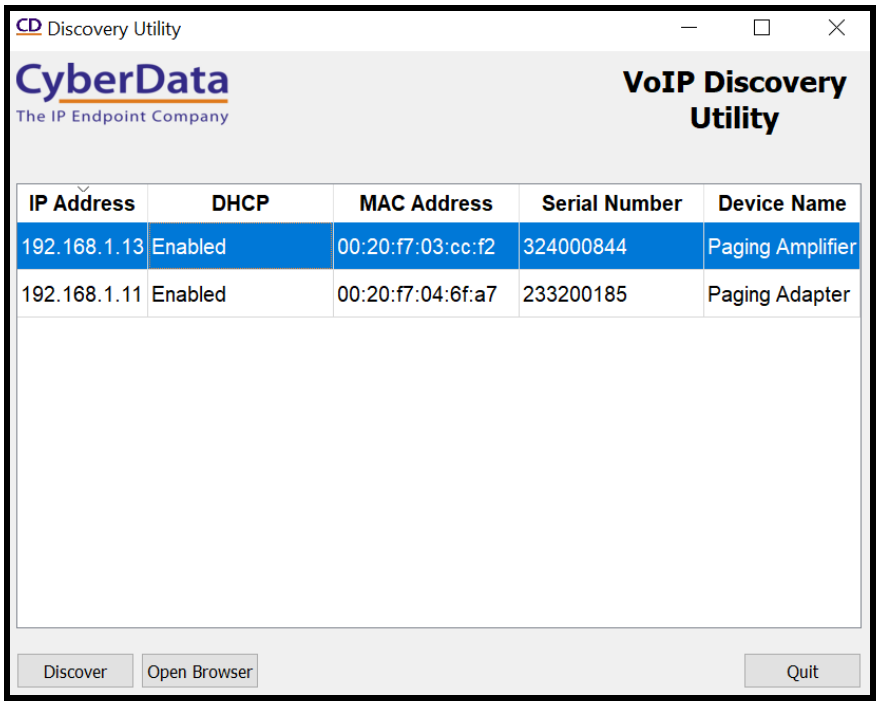
If you are configuring through the web interface, use the following steps to login to the web interface of your CyberData device.

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 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 5-1: CyberData Discovery Utility



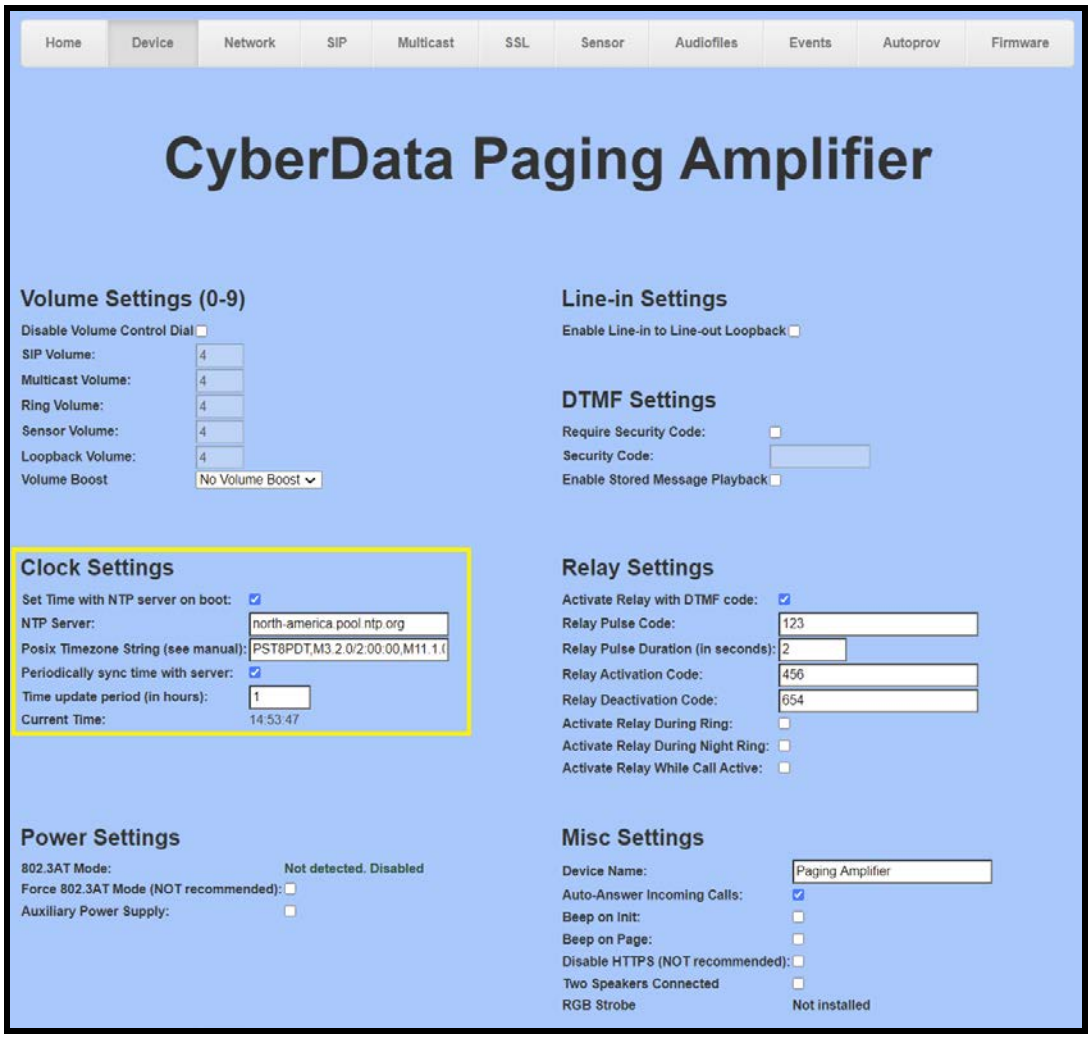
2. Enter the default credentials when prompted and click the Log In button.

Username: admin
Password: admin

Figure 5-2: Home tab

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

Figure 5-3: Device Tab

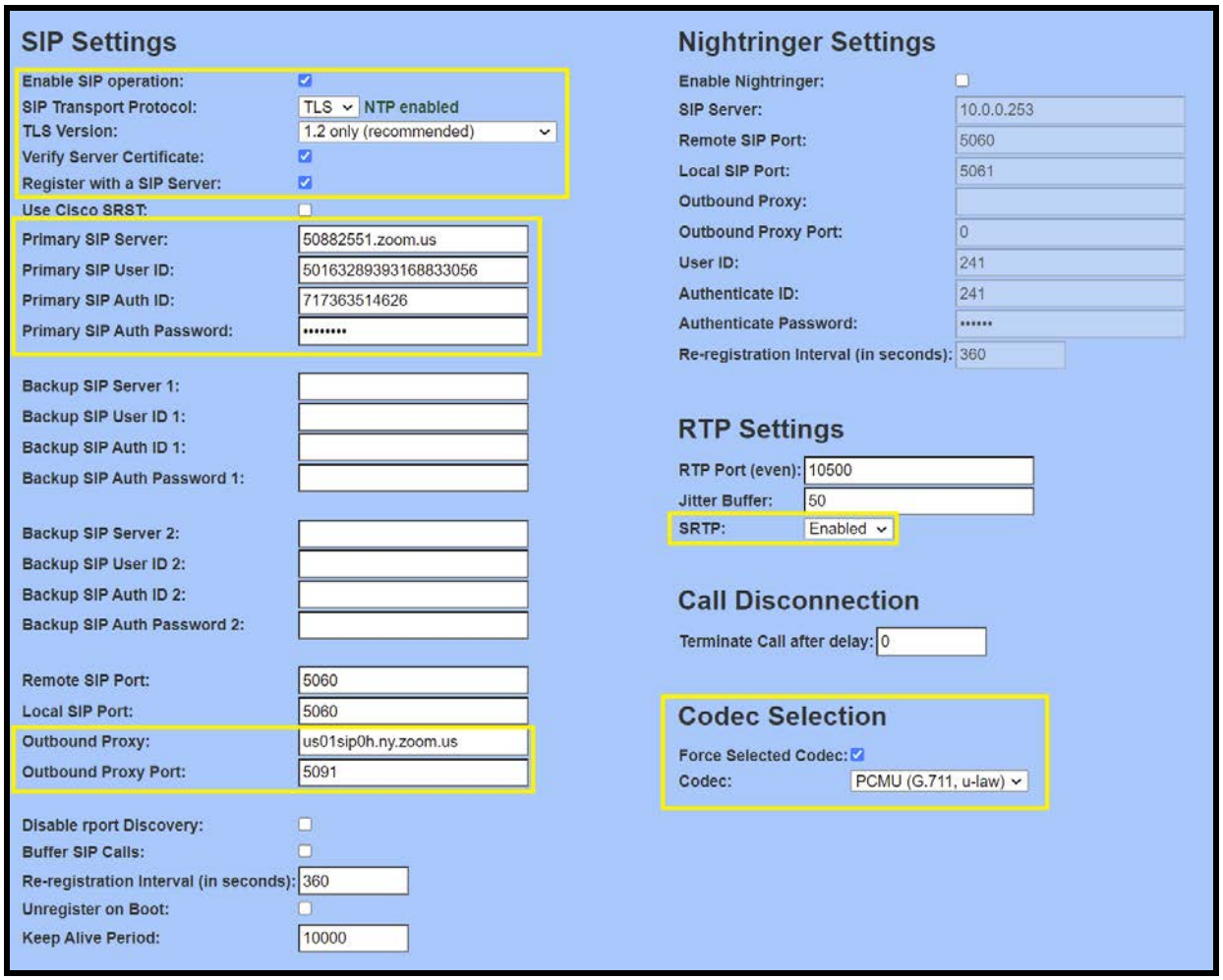


1. Check the box for “Set Time with NTP Server on Boot”.
2. Change the NTP server if necessary.
3. Set the Posix Timezone String to the local area.

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

4. Check the box for “Periodically sync time with server”.
5. Set the “Time update period (in hours)” to 1.
6. Save.
7. Go to the SIP Tab.

Figure 5-4: SIP Tab

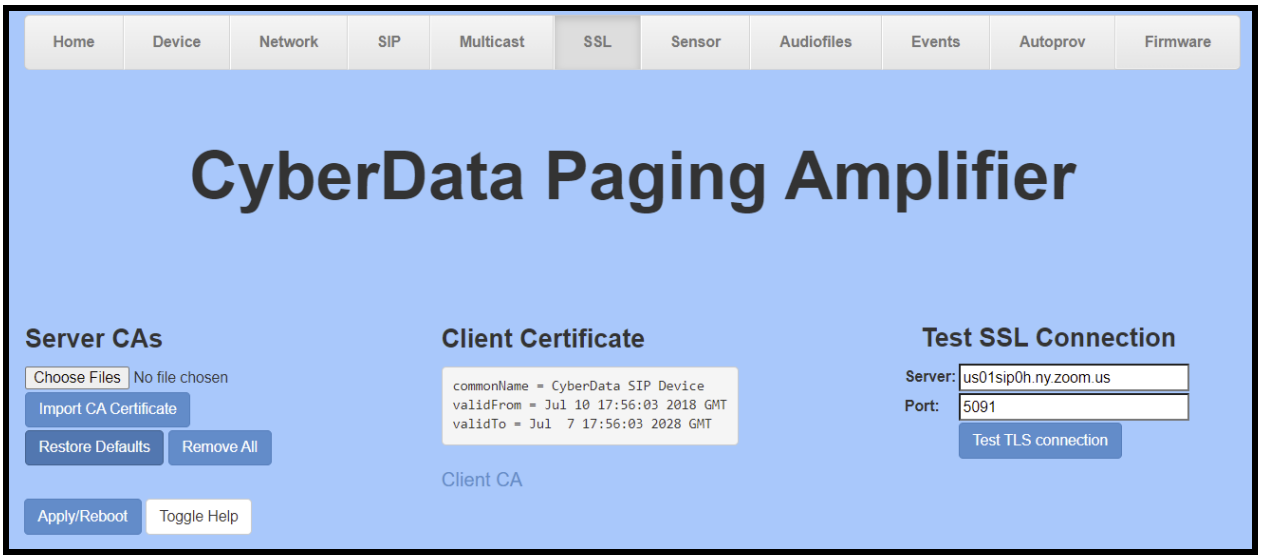


8. Set the 'SIP Transport Protocol' to TLS.
9. Keep TLS version set to "1.2 Only (Recommended)".
10. Check the box for "Verify Server Certificate".
11. Set the Primary SIP Server to the SIP Domain from the configuration Popup.
12. Set the Primary SIP User ID to the Username from the configuration Popup.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

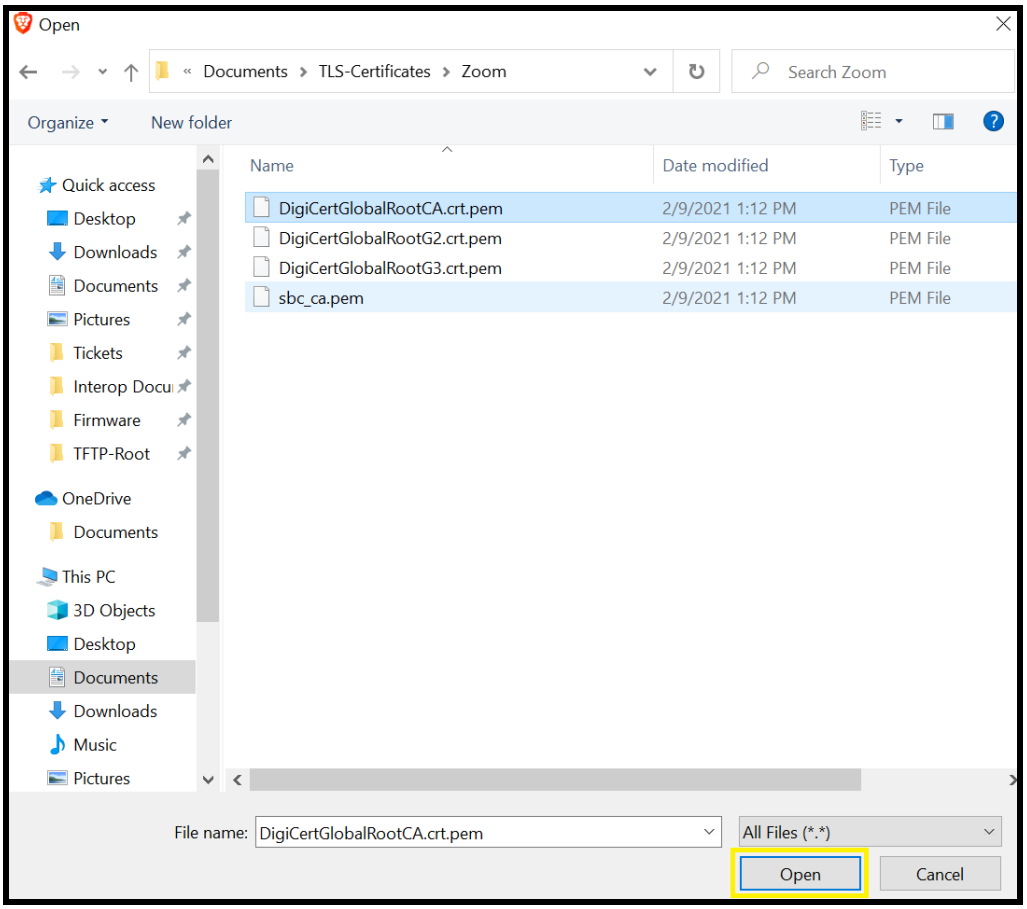
16. Set SRTP to **Enabled**.
17. Check the box for "Force Selected Codec".
18. Save.
19. Go to the 'SSL' Tab.

Figure 5-5: SSL Tab



20. Press the 'Choose Files' button.

Figure 5-6: Choose file Pop-up



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

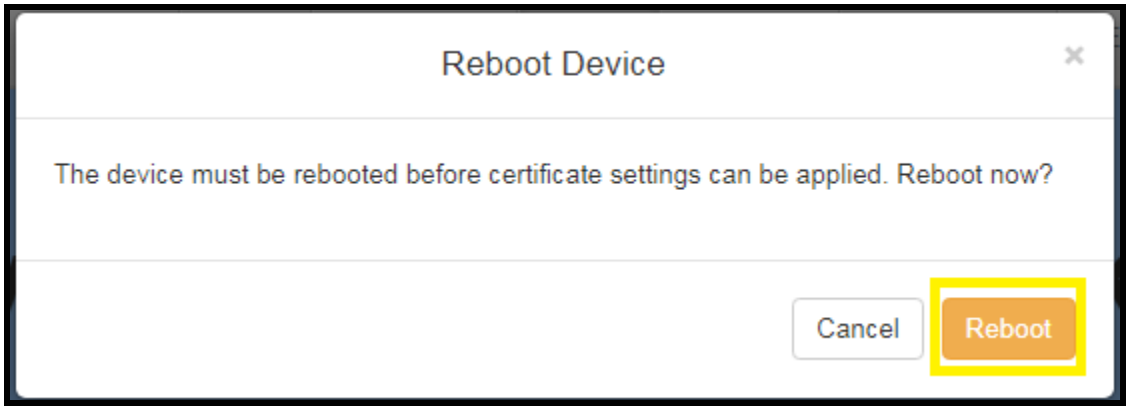
Figure 5-7: Import CA Certificate

23. Repeat this process for all certificates downloaded during the extension creation process.

24. Once the certificates are loaded a reboot will be required to make the changes take effect Use the "Apply/Reboot Button.

25. Click Reboot in the Popup.

Figure 5-8: Apply/Reboot Popup



Once rebooted, “Registered” will appear in green in the “Status” section of the Home page.

Figure 5-9: Home page – Registered

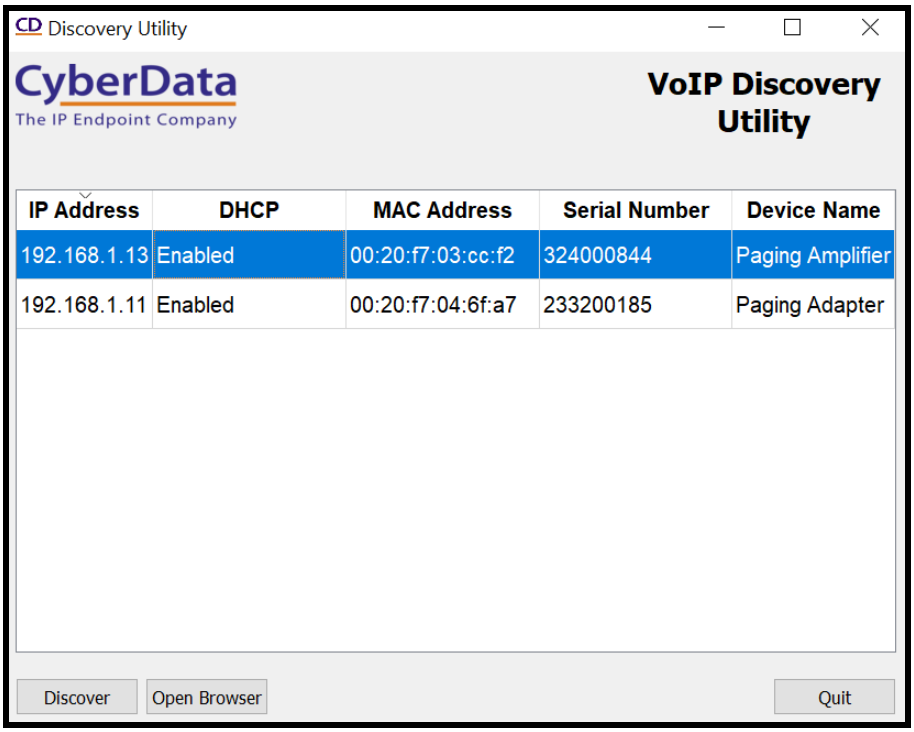
6.0 Configuration Procedure: Setting up the Nightringer extension

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 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 6-1: CyberData Discovery Utility



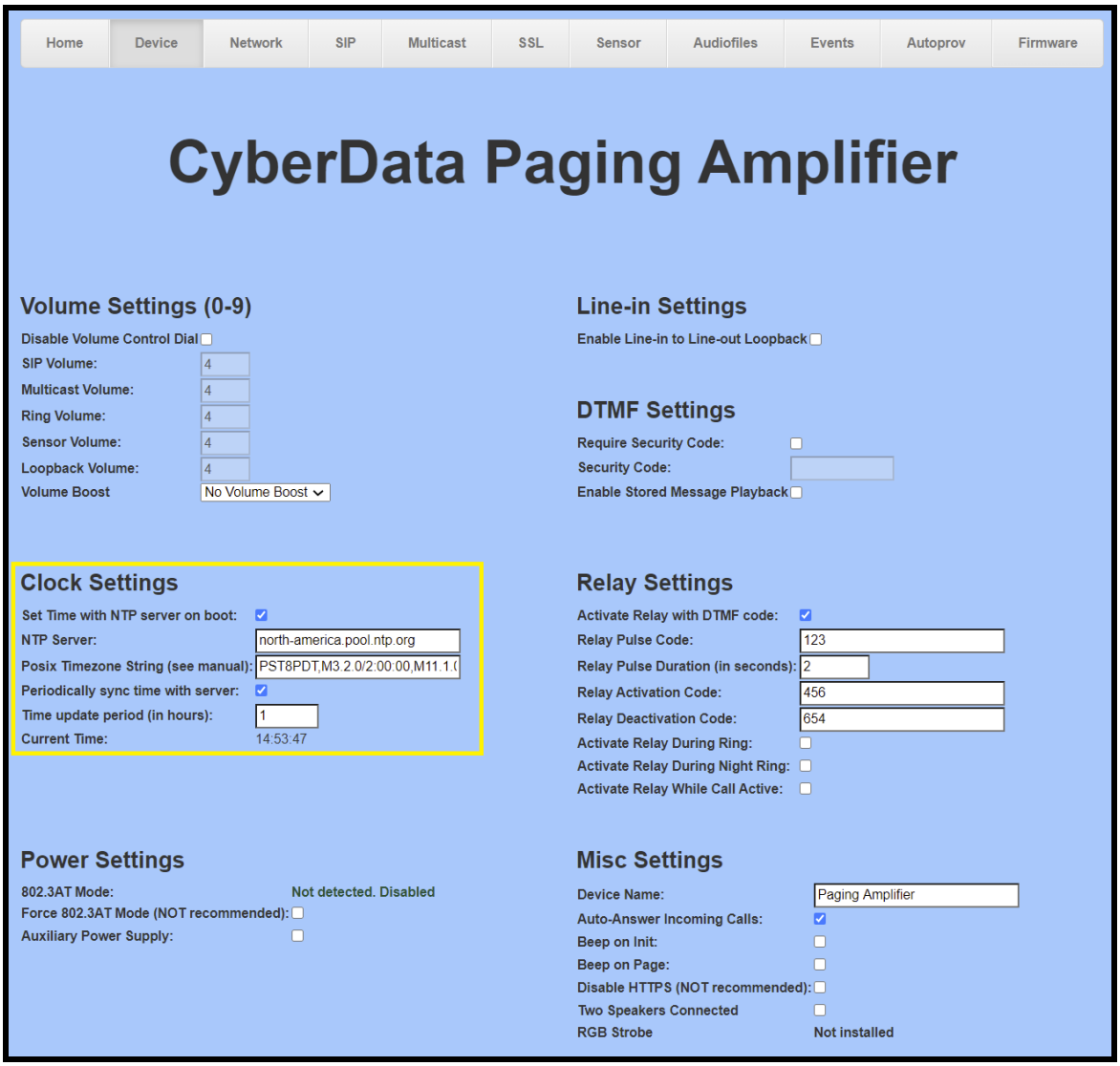
2. Enter the default credentials when prompted and click the Log In button.

Username: admin
Password: admin

Figure 6-2: Web Interface Login

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

Figure 6-3: Device Tab

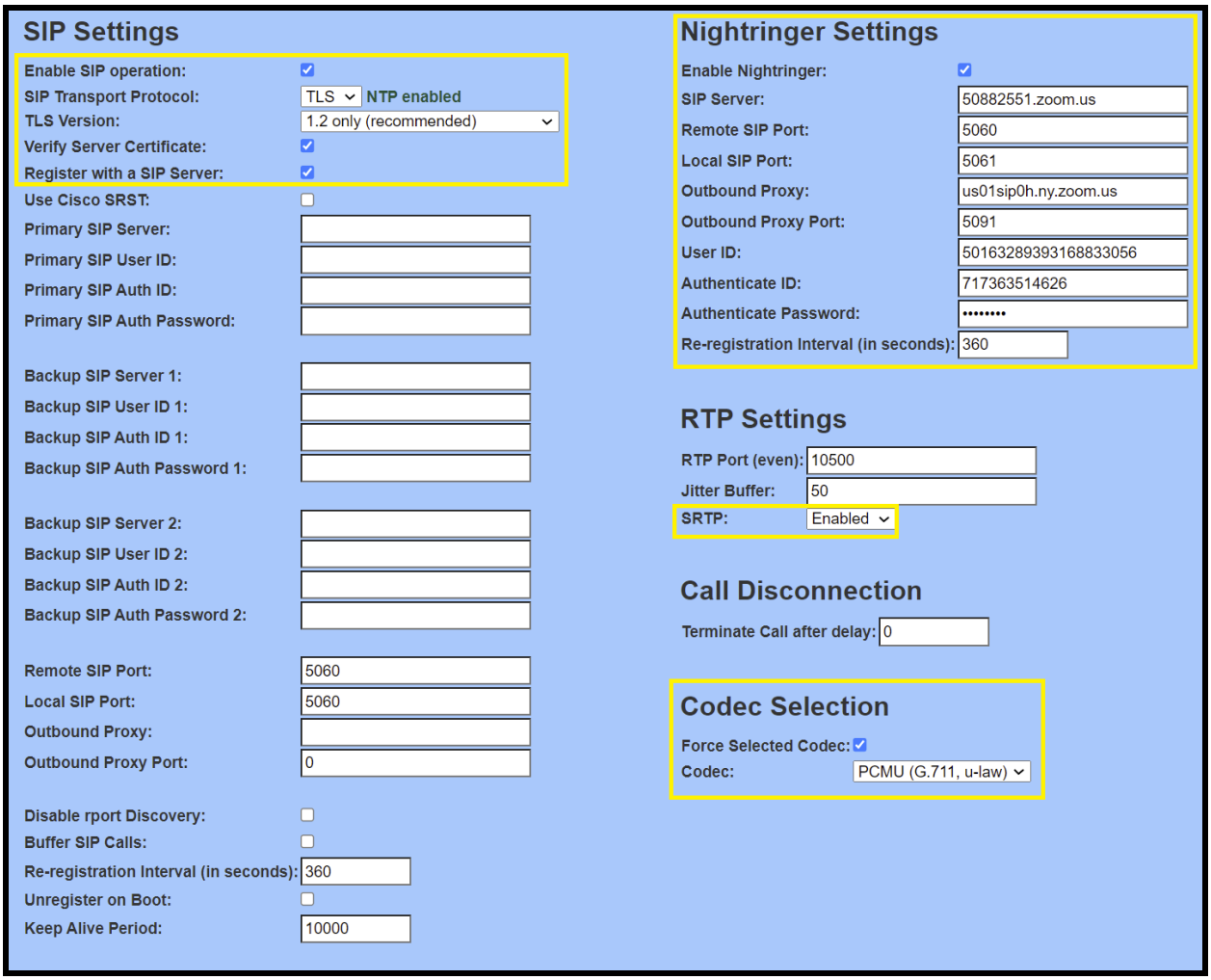


4. Check the box for "Set Time with NTP Server on Boot".
5. Change the NTP server if necessary.
6. Set the Posix Timezone String to the local area.

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

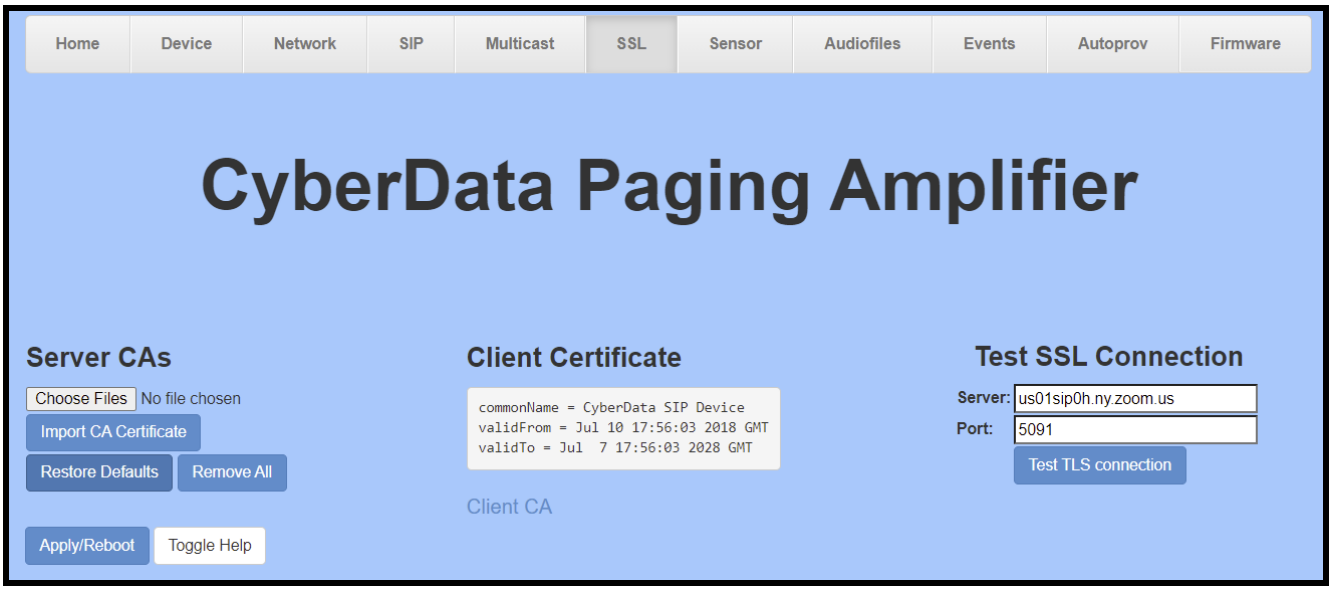
7. Check the box for "Periodically sync time with server".
8. Set the "Time update period (in hours)" to 1.
9. Save.
10. Go to the SIP Tab.

Figure 6-4: SIP Tab



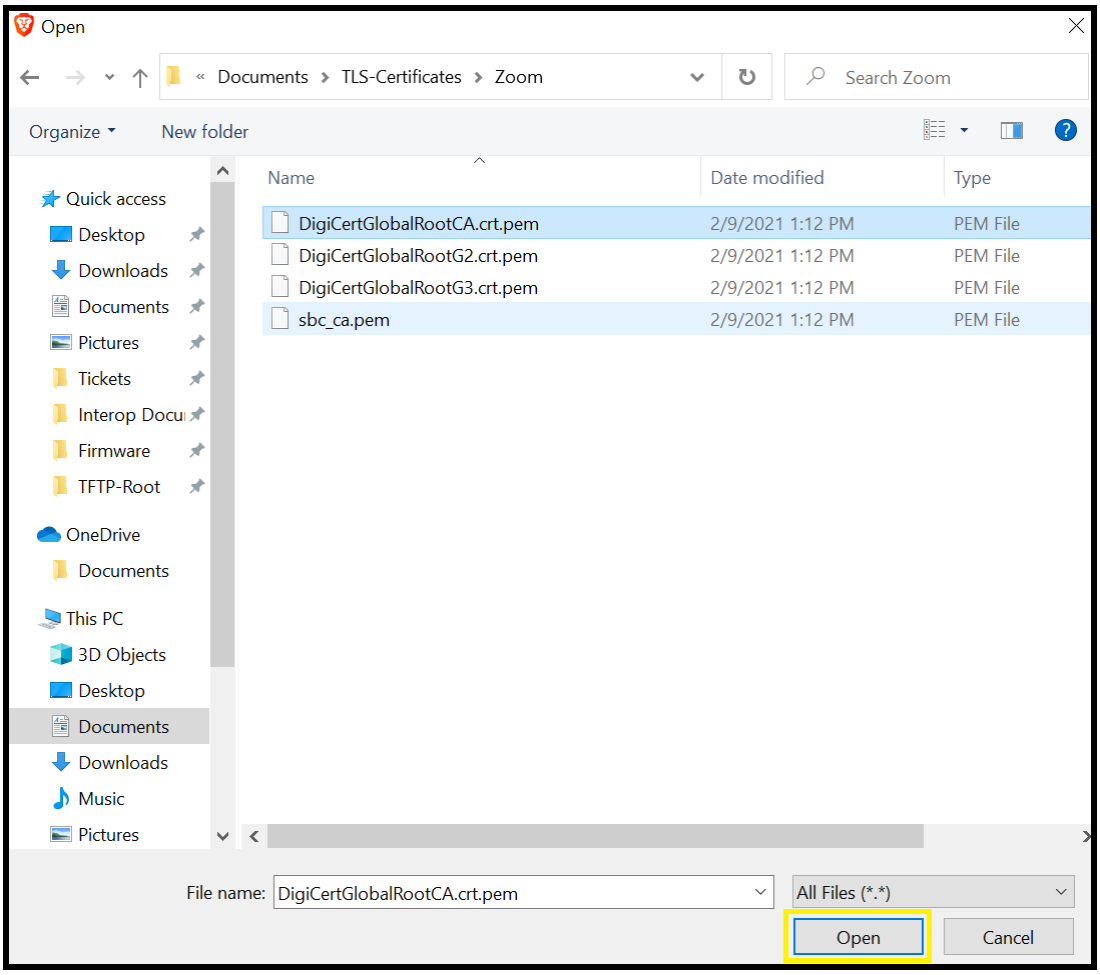
11. Set the 'SIP Transport Protocol' to TLS.
12. Keep TLS version set to "1.2 Only (Recommended)".
13. Check the box for "Verify Server Certificate".
14. Set the SIP Server to the SIP Domain from the configuration Popup.
15. Set the User ID to the Username from the configuration Popup.
16. Set the Authenticate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

Figure 6-5: SSL Tab



26. Press the 'Choose Files' button.

Figure 6-6: Choose file Pop-up



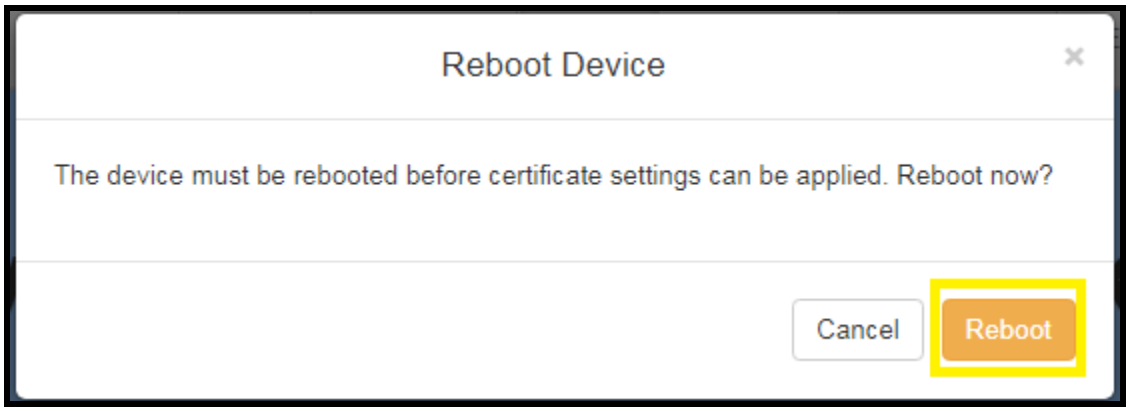
27. Select the certificate file and press the Open button.
28. Press the "Import CA Certificate" button to load the cert.

Figure 6-7: Import CA Certificate

29. Repeat this process for all certificates downloaded during extension creation.

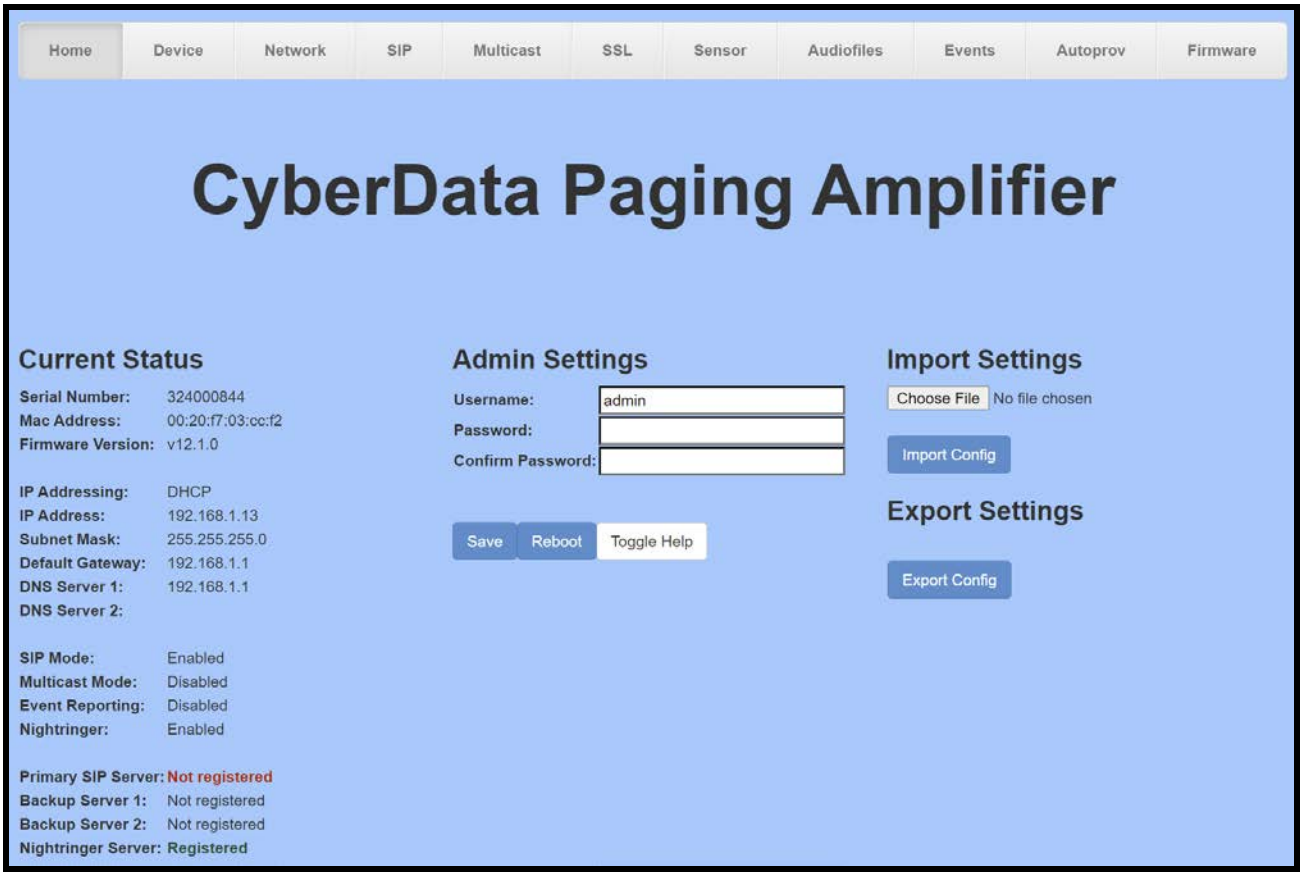
30. Once the certificates are loaded a reboot will be required to make the changes take effect Use the "Apply/Reboot Button.
31. Click Reboot in the Popup.

Figure 6-8: Apply/Reboot Popup



Once rebooted, “Registered” will appear in green in the “Status” section of the Home page.

Figure 6-9: Home page – Registered



7.0 Using the CyberData SIP Paging Amplifier in a Zoom system.

Once the amplifier is registered with Zoom, it can be used in several ways. The unit can be directly called by dialing the extension number of the unit. It is also possible to add the unit to a call queue to reach multiple endpoints simultaneously. Keep in mind that with a call queue, multiple devices will ring, but only one device may answer. Due to this operation, it is not possible to page to multiple amplifiers at once.

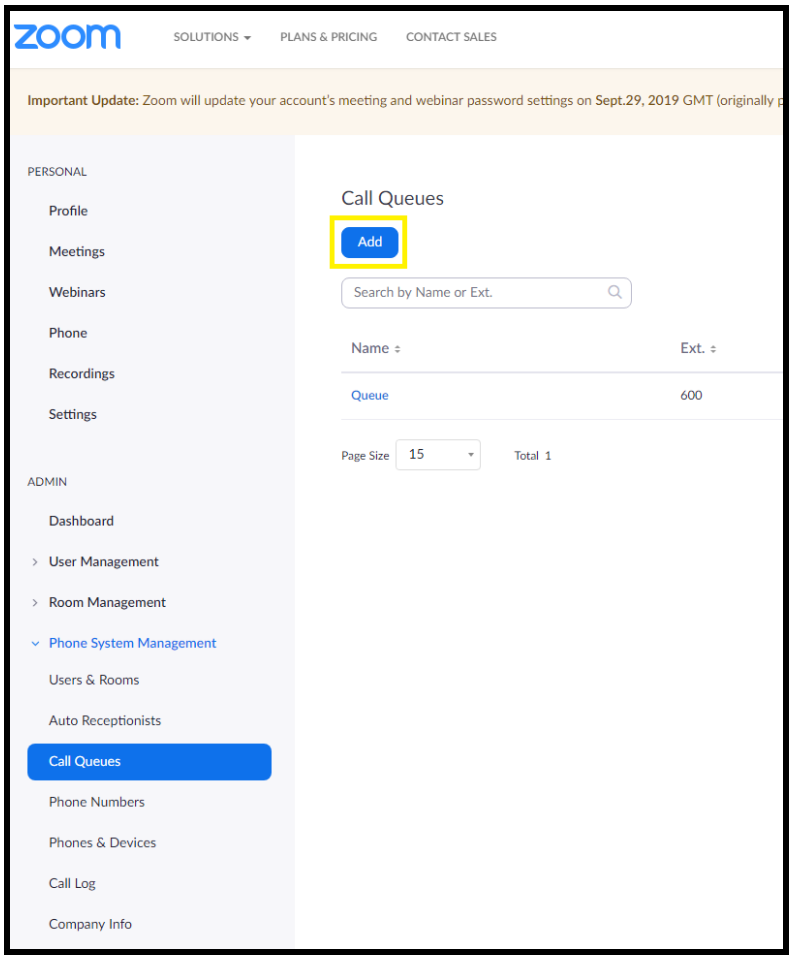
To page multiple amplifiers simultaneously, CyberData recommends using Multicast, which can be sent from most modern SIP phones (e.g. Yealink, Poly, Snom) or a CyberData Paging Server or Multicast Microphone. (Consult your phone's documentation to enable multicast).

7.1 Creating a Call queue

CyberData recommends using the Nightringer extension as part of a call queue, allowing the amplifier to also serve as an additional notification for incoming calls.

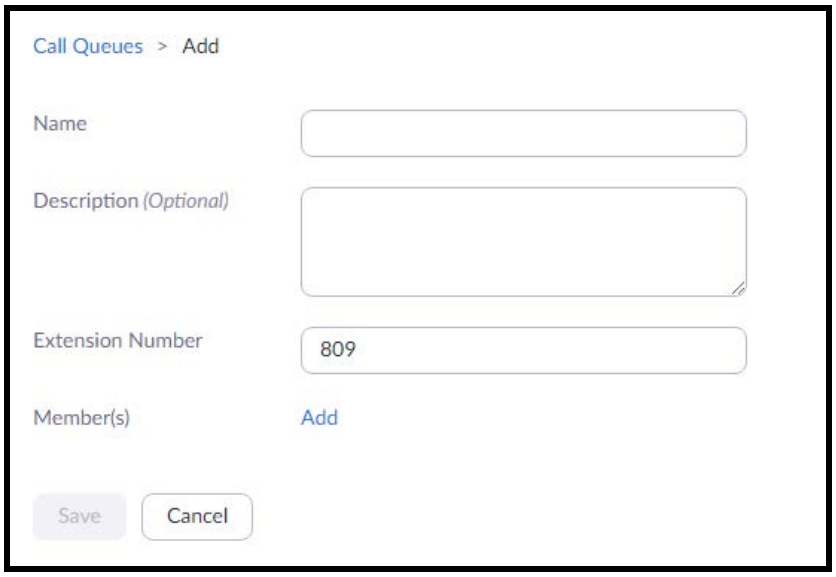
1. From the Phone System Management page select call queues and press the Add button to create a new queue.

Figure 7-1: Add call queue



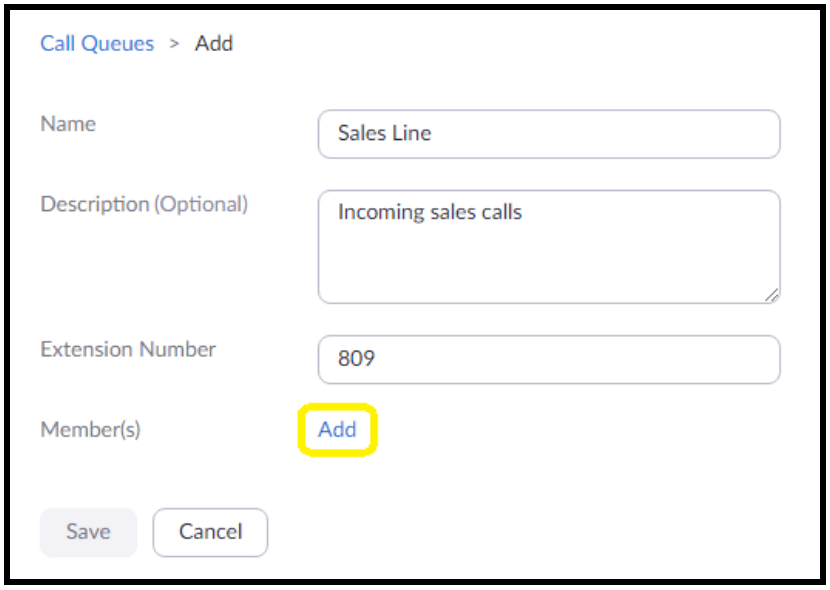
2. After clicking 'Add' a pop-up will appear that allows naming and assigning a number to the call queue.

Figure 7-2: Name the queue



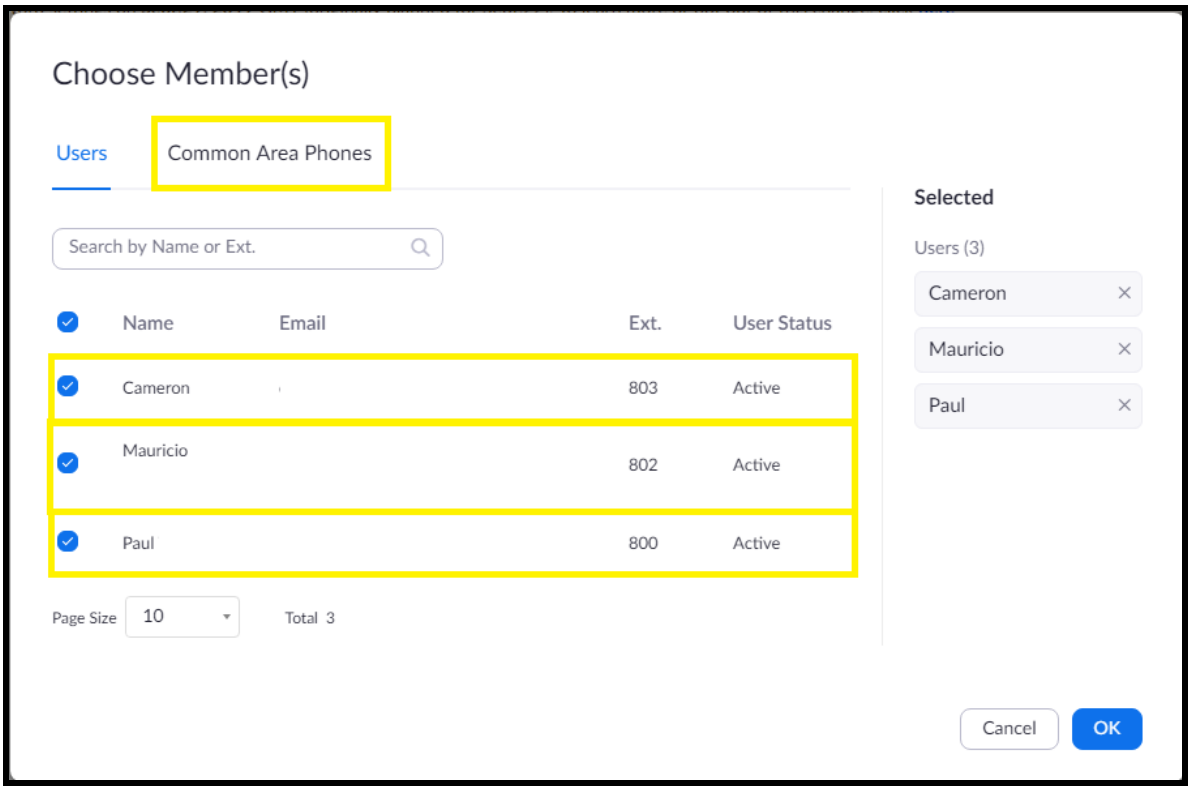
3. Name the queue, set a description and change the extension number if necessary.

Figure 7-3: Add users



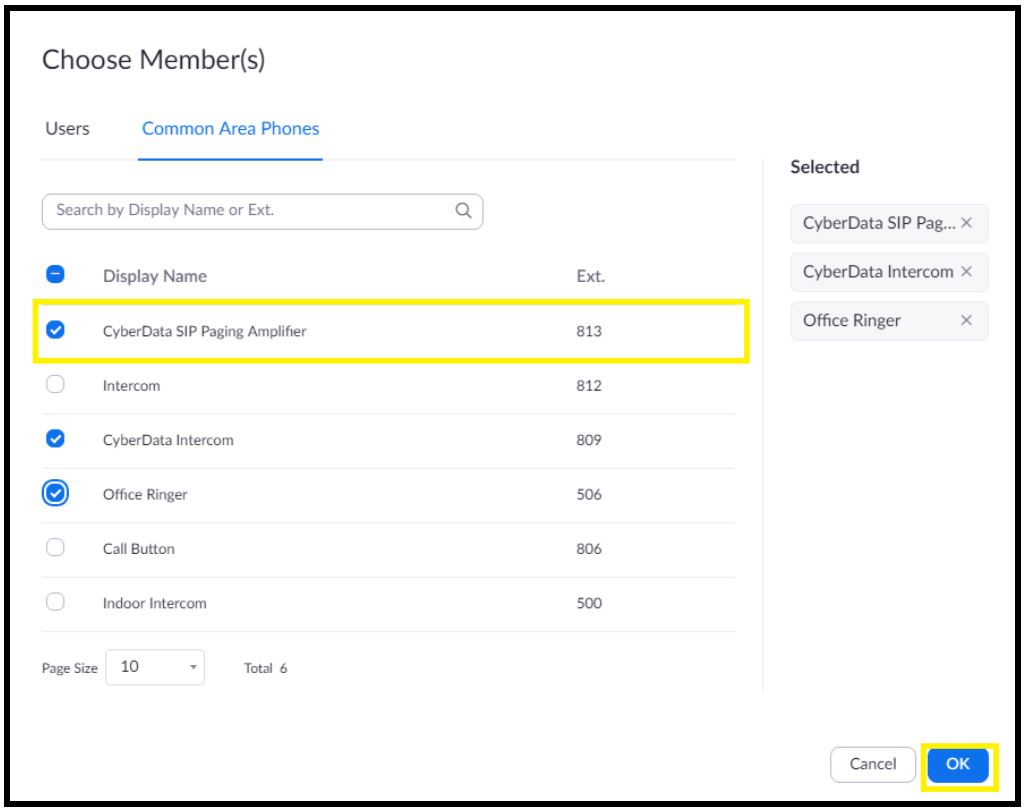
4. Press the Add button to add Users and Common Area Phones to the queue.

Figure 7-4: Add Users



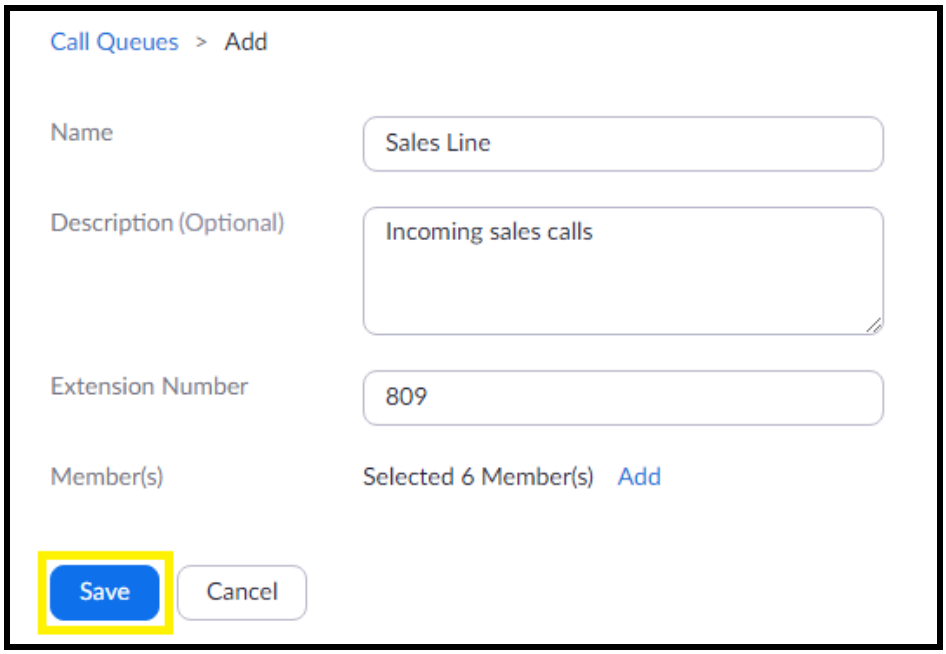
5. Select the users who will participate in the call group, then select "Common Area Phones."
6. In the "Common Area Phones" section, select the phones you wish to add to the queue.

Figure 7-5: Add Common Area Phones



7. Click “OK” to confirm your selections.
8. Finally, press ‘Save’ to complete the queue.

Figure 7-6: Call queue complete



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.