

*Webex Calling Configuration Guide: IP to  
Analog Devices*

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**Webex Calling Configuration Guide: IP to Analog Devices**  
**Document #931944A**

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## Revision Information

6/29/2022 – Initial Release

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## 1.0 Supported CyberData Products

This section describes the products used for interoperability testing with Webex Calling.

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

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP PAGING ADAPTER	011233	20.2.0
CYBERDATA SIP PAGING SERVER	011146	20.1.0

## 2.0 Before You Start

### Network Advisories

Webex Calling uses a Fully Qualified Domain Name (FQDN) for the SIP server and Outbound Proxy addresses. The CyberData IP to Analog device needs to perform a DNS query to resolve the IP address of Webex's Outbound Proxy FQDN. In addition, be sure to verify the following ports are available for the device to use:

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

The device will need to traverse the public internet in order to operate with Webex Calling in the cloud.

The device's paging and Nightringer 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 device's product webpage:

SIP Paging Adapter:

<https://www.cyberdata.net/collections/sip/products/011233>

SIP Paging Server:

<https://www.cyberdata.net/collections/sip/products/011146>

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.

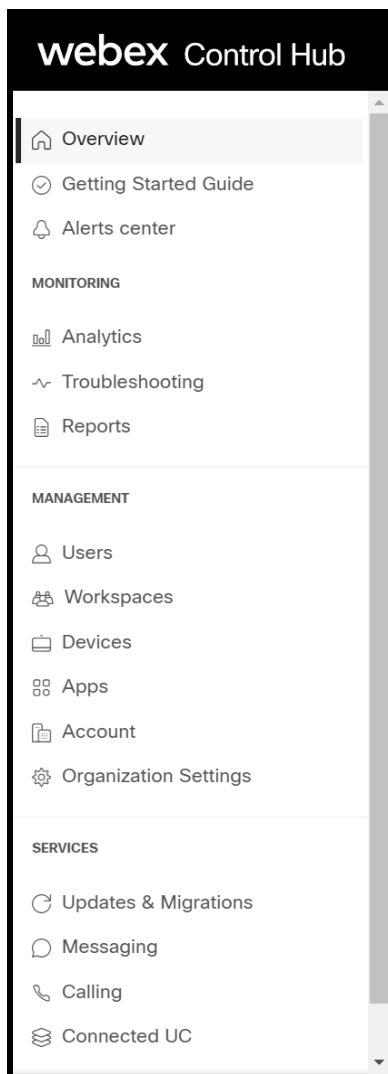
### 3.0 Setting up a Workspace in Webex Calling

This section outlines how to create a Webex Calling user in the Webex Control Hub (CH). This will provide the credentials to then setup the CyberData device.

[Cisco has detailed instructions in the Cisco Webex Help Center in the Add your customer managed device article.](#)

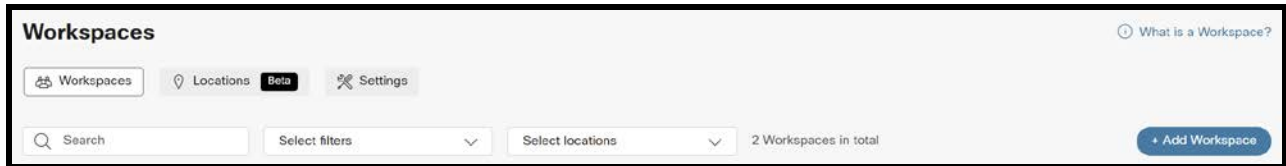
1. Login to [Webex Control Hub as the administrator](#).
2. From the overview page select **Workspaces**.

**Figure 3-1:** Overview Side Bar



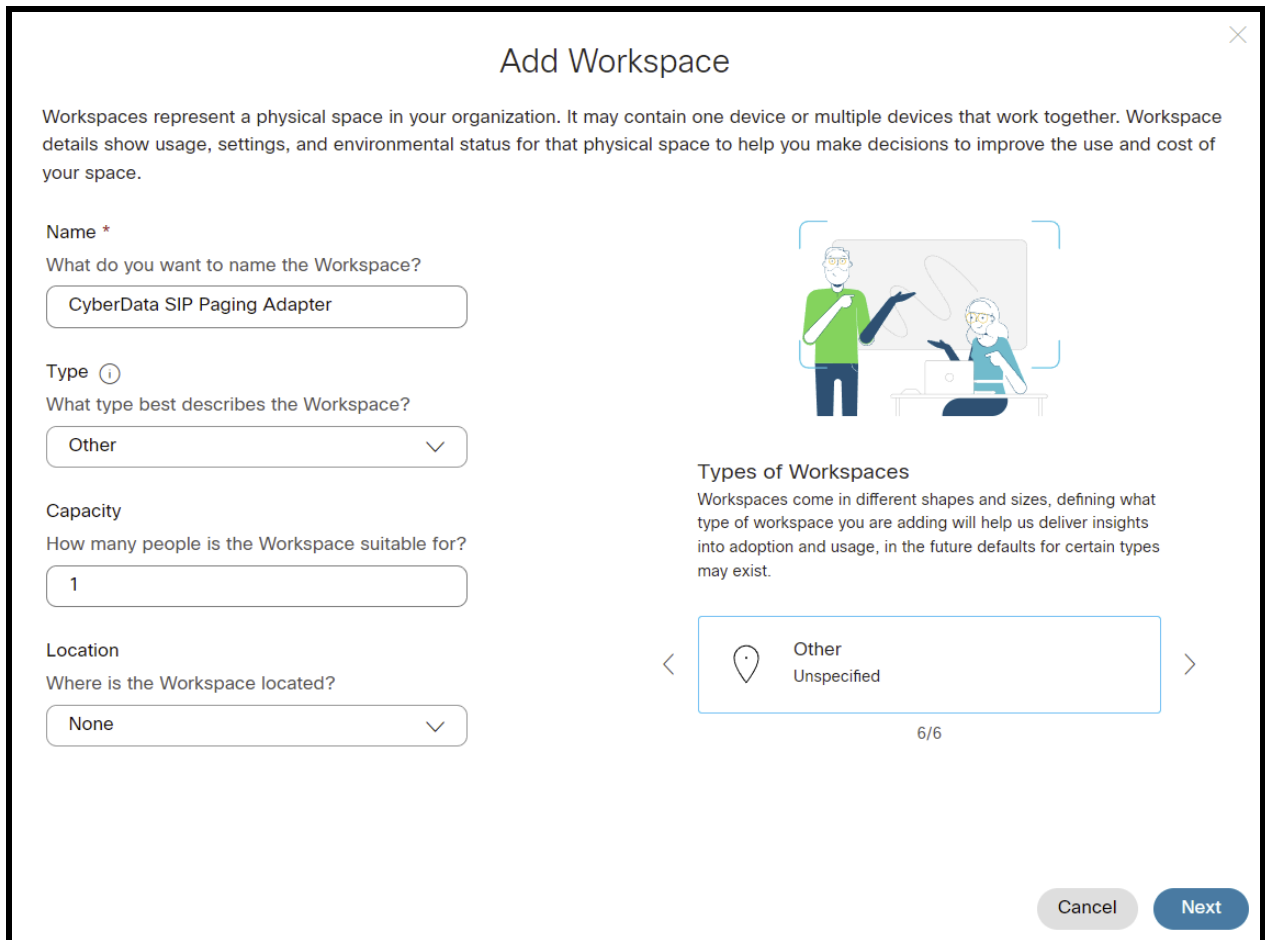
3. From the Workspaces page select the **Add Workspace** button.

**Figure 3-2: Workspaces Page**



4. On the Add Workspace popup create a Workspace for the adapter.

**Figure 3-3: Create a Workspace**





5. After creating the workspace select **Cisco IP Phone**.

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

**Add Workspace**

What kind of device do you want to set up in this workspace?

**Room, Board or Desk series**  
e.g. Cisco Webex Board, Room, and Desk series, and Webex Share.

**Cisco IP Phone**  
e.g. Cisco 8845, 8865, 8800 and Analog Telephone Adapter ports

**Select Device**  
Customer Managed Device

**Device Vendor**  
Cyberdata Customer Managed

**Enter MAC Address**  
Enter the MAC address of the IP phone you want to add.  
0020f7046e95

\*I confirm that creating this device profile will expose sensitive device credentials that could be misused and exploited by users with unauthorized access. You are responsible for securing and recycling these credentials. You agree that Cisco is not responsible for any fraudulent charges or phone calls that result from the exposure of these device credentials. Cisco offers limited support for third-party devices connected via this interface. Cisco will only investigate basic issues for third-party devices that are actively registered to the Webex Calling platform. Any other third-party device-related support issues should be directed to the third-party device vendor, including issues related to onboarding, deployment, configuration, or connectivity.

Back Next

6. Set the device to **Customer Managed Device**.
7. Select **CyberData Customer Managed** as the Device Vender.
8. Enter the MAC address of the CyberData device.
9. Check the box to confirm authorization.
10. Press **Next** to continue.

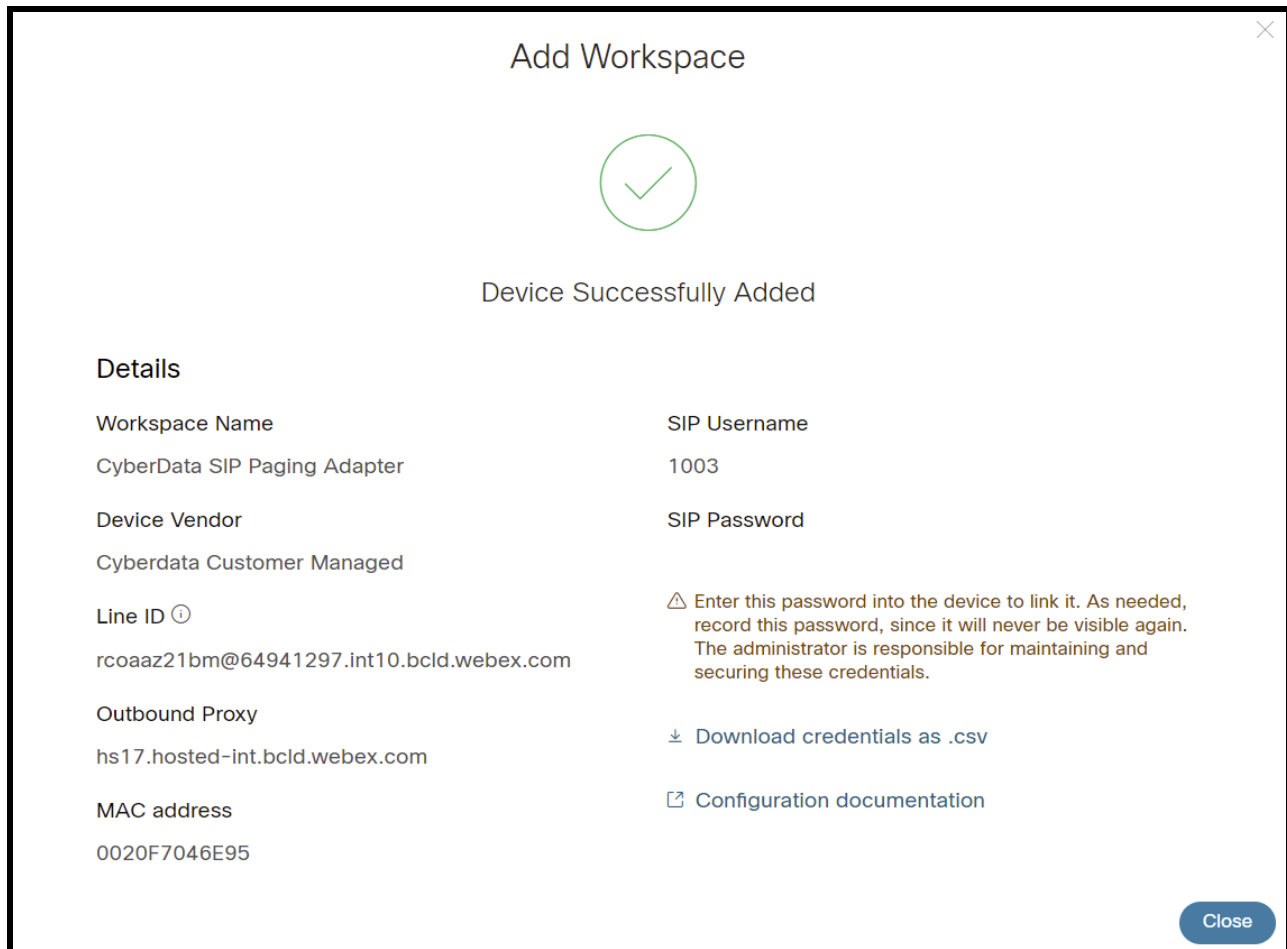
**Figure 3-5: Set an Extension Number**

User	Location	Phone Number	Extension	Calling Plan
CyberData SIP Paging Adapter	CyberData_Test	None	1003	

11. Set a location for the device.
12. If desired set a phone number for the device.
13. Set an Extension Number for the device

**Note:** *It is possible to create a workspace with both a phone number and extension number, or just one or the other. Depending on the nature of the use case set the numbers accordingly.*

Figure 3-6: Device Successfully Added



*Note: The password has been obscured.*

**11.** Make sure to press **Download credentials as .csv** because this page is only shown once.

## 4.0 Setting up the CyberData IP to Analog Device

This section outlines the required sections for the CyberData device and how the credentials supplied from Webex correlate to the CyberData settings. For the purposes of the document the SIP Paging Adapter is used to illustrate how to setup the device. There is no difference in configuration for the SIP Paging Adapter or SIP Paging Server.

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

Webex Calling Credential	CyberData Setting
2 <sup>nd</sup> Half of Line ID	Primary SIP Server
1 <sup>st</sup> Half of Line ID	Primary SIP User ID
SIP Username	Primary SIP Auth ID
SIP Password	Primary SIP Auth Password
Outbound Proxy	Outbound Proxy

**Note:** CyberData devices do not support 'Line IDs' and the ID provided by Webex must be broken up to be used by the CyberData device. Webex provides the line ID in the following format: "UserID@SIP\_Server\_Address". Everything before the @ symbol is used as CyberData's Primary SIP User ID and everything after the @ symbol is used as the Primary SIP Server.

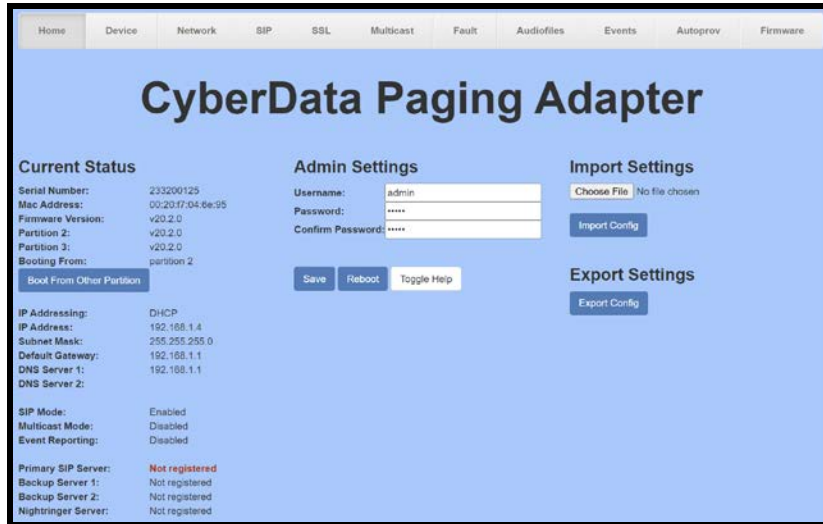
*CyberData's default login credentials are:*

*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 2<sup>nd</sup> half of the Line ID.
4. Set the **Primary SIP User ID** to the 1<sup>st</sup> half of the Line ID.

**Note:** Do not add an @ to SIP Server or User ID.

5. Set the **Primary SIP Auth ID** to the Extension Number.
6. Set the **Primary SIP Auth Password** to the SIP Password.
7. Set the **Outbound Proxy** to the Outbound Proxy.
8. Leave the **Outbound Proxy port** set to 0.
9. Set the **SIP Transport** to TLS.
10. Ensure **TLS Version** is set to **1.2 Only (Recommended)**.
11. Set RTP Encryption to **Mandatory**.
12. Save and Reboot.

Figure 4-2: SIP Tab

The screenshot shows the 'SIP Settings' tab in the CyberData Paging Adapter configuration interface. The page is titled 'CyberData Paging Adapter' and is divided into several sections:

- SIP Settings:** Includes checkboxes for 'Enable SIP operation' and 'Register with a SIP Server' (both checked). Fields for 'Primary SIP Server' (64941297.int10.bcld.webex.com), 'Primary SIP User ID' (rcoaaaz21bm), 'Primary SIP Auth ID' (1003), and 'Primary SIP Auth Password' (masked with asterisks). 'Re-registration Interval (in seconds)' is set to 360. Backup SIP settings for three servers are also present, each with fields for Host or IP address, User ID, Auth ID, Password, and Re-registration Interval (360).
- Nightringer Settings:** Fields for 'SIP Server', 'SIP User ID', 'SIP Auth ID', and 'SIP Auth Password' (all with dropdown menus). 'Re-registration Interval (in seconds)' is set to 360.
- Call Disconnection:** 'Terminate Call after delay' is set to 0.
- Audio Codec Selection:** 'Codec' is set to 'Auto Select'.
- RTP Settings:** 'RTP Port (even)' is 10500, 'Asymmetric RTP' is unchecked, 'Jitter Buffer' is 50, and 'RTP Encryption (SRTP)' is set to 'Mandatory'.
- Other Settings:** 'Remote SIP Port' and 'Local SIP Port' are both 5060. 'SIP Transport Protocol' is 'TLS' with 'NTP enabled'. 'TLS Version' is '1.2 only (recommended)'. 'Verify Server Certificate' is unchecked. 'Outbound Proxy' is 'hs17.hosted-int.bcld.webex.com' and 'Outbound Proxy Port' is 0. 'Use Cisco SRST', 'Disable rport Discovery', and 'Keep Alive Period' (10000) are also present.

At the bottom right, there are buttons for 'Save', 'Reboot', and 'Toggle Help'.

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

**Figure 4-3: Home Tab – Registered**

The screenshot displays the 'Home' tab of the CyberData Paging Adapter web interface. The interface has a blue header with a navigation menu containing: Home, Device, Network, SIP, SSL, Multicast, Fault, Audiofiles, Events, Autopro, and Firmware. The main content area is titled 'CyberData Paging Adapter' and is divided into several sections:

- Current Status:** Lists device information such as Serial Number (233200125), Mac Address (00:20:f7:04:6e:95), Firmware Version (v20.2.0), and Partition details. A 'Boot From Other Partition' button is present.
- Admin Settings:** Includes fields for Username (admin), Password (masked with dots), and Confirm Password (masked with dots). It features 'Save', 'Reboot', and 'Toggle Help' buttons.
- Import Settings:** Contains a 'Choose File' button (with 'No file chosen' text) and an 'Import Config' button.
- Export Settings:** Features an 'Export Config' button.
- Network Settings:** Lists IP Addressing (DHCP), IP Address (192.168.1.4), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.1), and DNS Servers (192.168.1.1).
- SIP and Multicast Settings:** Shows SIP Mode (Enabled), Multicast Mode (Disabled), and Event Reporting (Disabled).
- Registration Status:** Lists Primary SIP Server (Registered), Backup Server 1 (Not registered), Backup Server 2 (Not registered), and Nightringer Server (Not registered).

## **5.0 Using the CyberData SIP Paging Adapter in a Webex Calling system.**

CyberData SIP Paging Adapters are designed as an interface to an existing analog paging system. Connecting to the analog speaker system is crucial and CyberData has a matrix of different compatible amplifiers available on our [website](#). If your amplifier is not on our website please reach out to our [support department](#) to see if and how to connect to the amplifier.

### **5.1 Setting up stored messages**

Once the adapter has been registered with Webex Calling it is possible to either make a live announcement or play a stored message. Follow these steps to setup a stored message.

#### **5.1.1 Creating the 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

#### **5.1.2 Uploading the Audiofile**

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

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

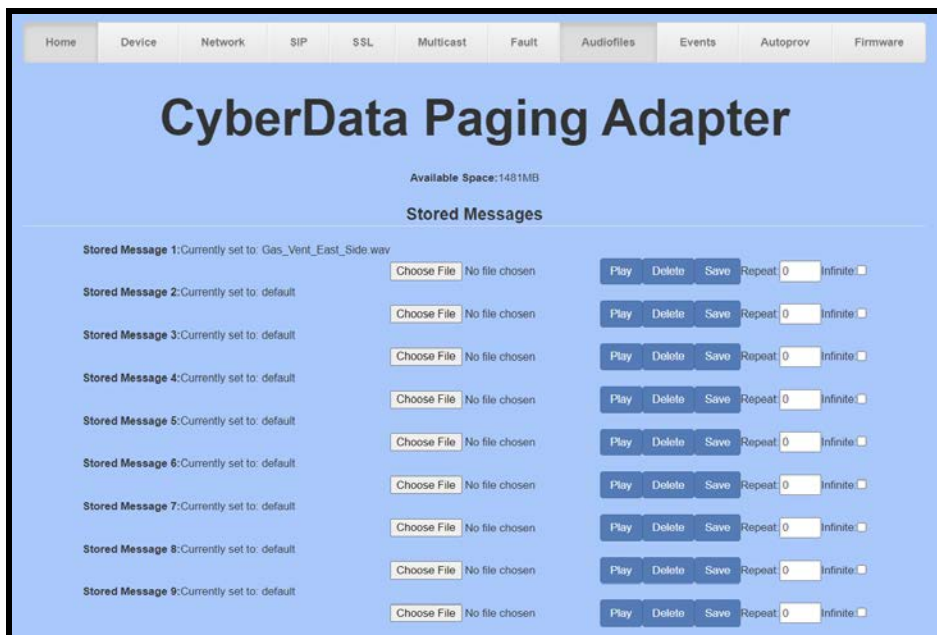


Figure 5-1: Audiofiles Tab



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

Figure 5-2: Audiofile Uploaded



## 5.2 Manual DTMF for Analog Zone

Some analog amplifiers require a DTMF pattern to select a physical zone. In those situations, the setting “Manual DTMF Entry for Analog Zone” is required. Follow these steps to enable the setting.

1. Navigate to the **Device** tab.
2. Check the box for “**Manual DTMF Entry for Analog Zone**” located in the DTMF settings section (Bottom Right).
3. Save.

Figure 5-3: Device Tab

The screenshot displays the configuration page for a CyberData Paging Adapter. At the top, there is a navigation menu with tabs for Home, Device, Network, SIP, SSL, Multicast, Fault, Audiofiles, Events, Autoprovisioning, and Firmware. The main heading is "CyberData Paging Adapter".

The settings are organized into several sections:

- Line-in Settings:** Includes "Enable Line-in to Line-out Loopback" with an unchecked checkbox.
- Relay Settings:** Includes "Activate Relay on Local Audio" with an unchecked checkbox.
- Clock Settings:** Includes "Enable NTP" (checked), "NTP Server" (north-america.pool.ntp.org), "Timezone" (America/Los\_Angeles), and "Current Time" (Thu, 19 May 2022 15:42:46).
- DTMF Settings:** Includes "DTMF Duration" (500), "Bypass DTMF Menus (Go straight to page)" (unchecked), "Send pre-configured DTMF for Analog Zone" (unchecked), "Analog Zone" (0-9, \*, #), "Manual DTMF Entry for Analog Zone" (checked), "Require Security Code" (unchecked), and "Security Code" (masked with asterisks).
- Misc Settings:** Includes "Device Name" (Paging Adapter), "Beep on Init" (unchecked), "Beep Before Page" (unchecked), and "Disable HTTPS (NOT recommended)" (unchecked).

At the bottom, there are buttons for "Test Audio", "Test Relay", "Save", "Reboot", and "Toggle Help".

## 6.0 Using the CyberData SIP Paging Server in a Webex Calling system.

CyberData’s SIP Paging Server is designed as a SIP to Multicast style device that can receive a SIP call and convert the audio to Multicast to send across the local area network. The SIP Paging Server supports up to 100 Multicast Groups or Zones, CyberData refers to these as ‘PGroups’.

### 6.1 Setting up a PGroup.

Once the SIP Paging Server is registered with the platform, use the PGroups tab to configure the Paging Group.

1. After Logging into the Paging Server go to the **PGroups** Tab.
2. On the PGroups Tab press **edit** on the group to be configured, for the purpose of this document group 0 will be edited.

Figure 6-1: PGroups Tab

#	Address	Port	Name	Code	TTL	Lineout
0	234.2.1.1	2000	PagingGroup00		255	Yes <input type="button" value="Edit"/>
1	234.2.1.2	2002	PagingGroup01		255	Yes <input type="button" value="Edit"/>
2	234.2.1.3	2004	PagingGroup02		255	Yes <input type="button" value="Edit"/>
3	234.2.1.4	2006	PagingGroup03		255	Yes <input type="button" value="Edit"/>
4	234.2.1.5	2008	PagingGroup04		255	Yes <input type="button" value="Edit"/>
5	234.2.1.6	2010	PagingGroup05		255	Yes <input type="button" value="Edit"/>
6	234.2.1.7	2012	PagingGroup06		255	Yes <input type="button" value="Edit"/>
7	234.2.1.8	2014	PagingGroup07		255	Yes <input type="button" value="Edit"/>
8	234.2.1.9	2016	PagingGroup08		255	Yes <input type="button" value="Edit"/>
9	234.2.1.10	2018	PagingGroup09		255	Yes <input type="button" value="Edit"/>

« 1 2 3 4 5 6 7 8 9 10 »

3. Adjust the Multicast Address if necessary.
4. Adjust the Multicast Port if necessary.
5. Name the PGroup.
6. If required set a security code for the group.
7. Press **OK** to finish editing.

**Figure 6-2: Edit PGroup**

The screenshot shows a 'Configure PGROUP' dialog box with the following fields and values:

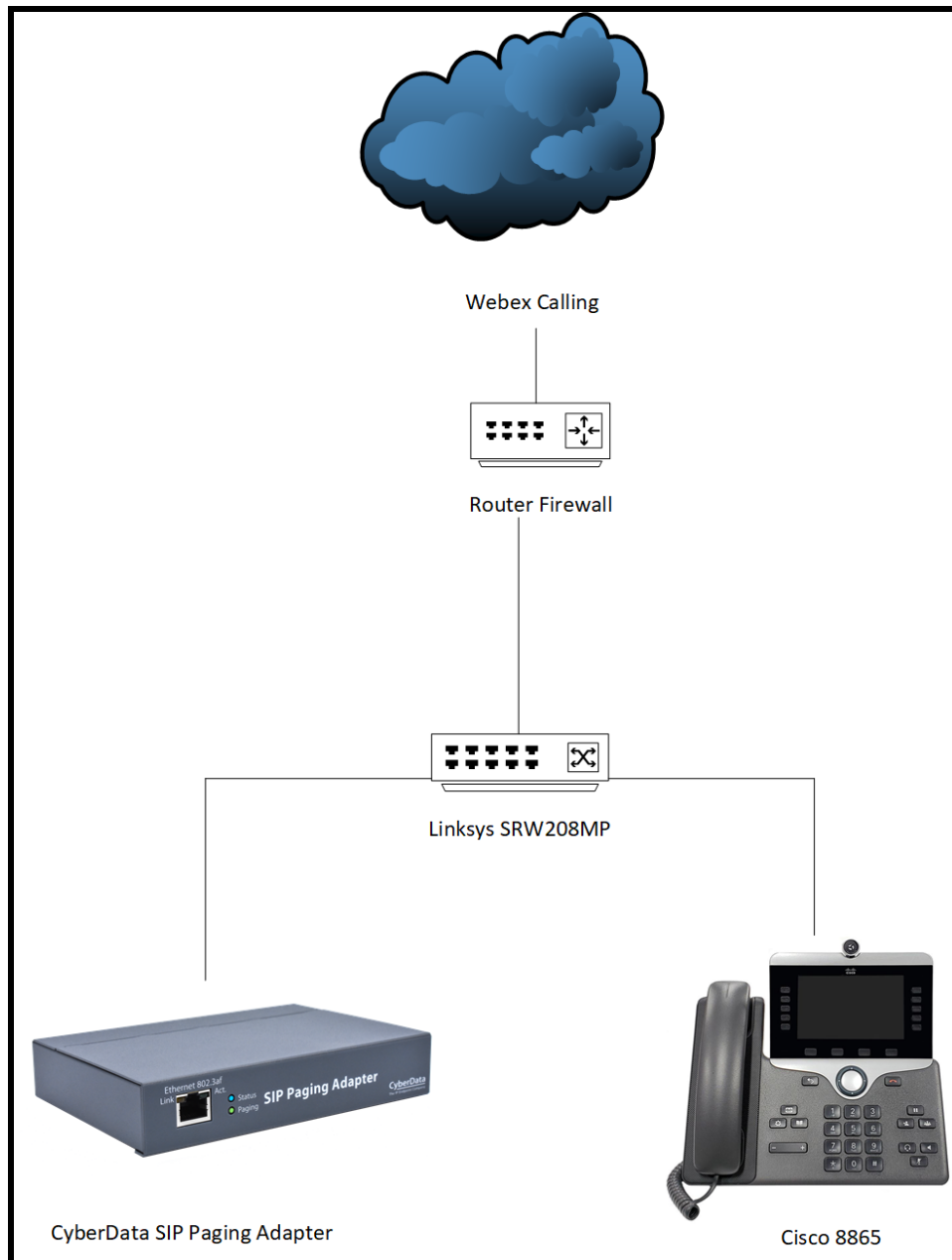
PGROUP	0
Address	234.2.1.1
Port	2000
Name	General Paging
Security Code	0-9, *, #
TTL	255
Line-out	<input checked="" type="checkbox"/>
Play Stored Message	<input type="checkbox"/>
Audio File	▼
Times to Play	1

Buttons at the bottom right: Toggle Help, Cancel, Ok

8. Save the changes.

## 7.0 Setup Diagram

Figure 7-1: Interoperability Test Infrastructure



## 8.0 FAQ

*Why is the device registering to a backup server and not the primary server listed in the SRV record?*

CyberData devices have a bug where they will not fall back to the primary server listed in the SRV record in the event it switches to a backup server. To resolve this issue simply reboot the device. This will be fixed in a future release.

## 9.0 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 Webex solution may render this document obsolete. We welcome and encourage documentation feedback to ensure continued applicability.