

# Leap Configuration Guide: IP to Analog Devices

Document Part #931953A

CyberData Corporation

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



### Leap Configuration Guide: IP to Analog Devices Document #931953A

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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.

### Table 1-1: <u>Supported CyberData Products</u>

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



## 2.0 Before You Start

#### Network Advisories

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

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

The device will need to traverse the public internet in order to operate with Leap 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: <a href="https://www.cyberdata.net/collections/sip/products/011146">https://www.cyberdata.net/collections/sip/products/011146</a>

The CyberData Discovery Utility can be used to locate CyberData devices on your network. You may download it from the following web address: <a href="https://www.cyberdata.net/pages/discovery">https://www.cyberdata.net/pages/discovery</a>

*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.



leap 😕		
A Dashboard	Ľ	Trail Traveler TEST
ACCOUNT >		Name Trail Traveler TEST Email
		site1.cust90003105.uc.leap.tel site2.cust90003105.uc.leap.tel New Instance
		Postal code Contact number



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

Name	Login	SIP Caller ID name	SIP Caller ID number	Edit	Delete	Origins	Registration Status	Routing
Ted Home Phone	tedxxx	Traveler Traveler		<u>#</u>	<u> </u>	*	•	M
Home Speaker	cyb3r	Traveler Traveler		Ø	<u> </u>	<u>+</u>	•	N
Test device	fubar	Traveler Traveler		Ø	<u> </u>	<u>+</u>	٠	M
Cyber Intercom	Intercom	Traveler Traveler		<u>#</u>	<u> </u>	<u>+</u>	٠	M
CyberNight	CyberNight	Traveler Traveler		Ø	<u> </u>	<u>+</u>	٠	M
CallButton	CallButton	Traveler Traveler		Ø	<u> </u>	<u>+</u>	٠	M
PaulSoftphone	PaulSoftphone	Traveler Traveler		<u>#</u>	<u> </u>	<u>+</u>	٠	<u>Al</u>
KERRY'S DESK PHONE	kgarrison123	Traveler Traveler		<u>#</u>	<u> </u>	<u>+</u>	•	M

### Figure 3-2: Workspaces Page

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



Figure	3-3:	Add	а	Device

Name 🖲	
CyberData SIP Paging Adapter	
Login	
PagingAdapter	
Password ()	REGENERATE PASSWORD

- 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

arch:						
Name	Number	Edit	Delete	Origins	Routing	
CyberData Ring Group	3004	<u>/</u>	<u> </u>	<b>#</b>	N	
Kerry Home Speaker	4001	<u>ø</u>	۵.	<u>+</u>	N	
Cyber Intercom	3006	<u>ø</u>	<u>۵</u>	<u>+</u>	N	
CyberNight	3008	<u>ø</u>	<u>۵</u>	<u>+</u>	N	
CallButton	3010	<u>ar</u>	<u> </u>	<u>+</u>	N	
PaulSoftphone	3011	<u>a</u>	<u> </u>	<u>+</u>	N	
Sales Conference Room Ext	4002	<u>ø</u> *	<u>ل</u>	<u>+</u>	M	
Kerry	1002	<u>ar</u>	<u> </u>	<u>+</u>	N	
Ted	2005	<u>ø</u>	<u> </u>	÷	N	
ow 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.

Name 🚯		
PagingAdapter		
Number 🚯		
2010		
Destination ()		
CyberData SIP Pagin	g Adapter (device:3432)	▼

Figure 3-5: New Extension Creation

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 the CyberData IP to Analog Device

This section outlines the required sections for the CyberData device and how the credentials supplied from Leap 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

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

Home Device	Network SI	P SSL Multicas	st Fault	Audiofiles	Events	Autoprov	Firmware
	Cyber	Data P	agin	g Ac	lapt	ter	
Current Status Serial Number: Mac Address: Firmware Version: Partition 2: Partition 3: Booting From: Boot From Other Partition	233200125 00:20:17:04:6e:95 v20:2.0 v20:2.0 v20:2.0 partition 2	Admin Setting Username: adm Password: Confirm Password:			nport Set hoose File No f mport Config	île chosen	
IP Addressing: IP Address: Subnet Mask: Default Gateway: DNS Server 1: DNS Server 2:	DHCP 192.168.1.4 255.255.255.0 192.168.1.1 192.168.1.1			E	xport Config		
SIP Mode: Multicast Mode: Event Reporting:	Enabled Disabled Disabled						
Primary SIP Server: Backup Server 1: Backup Server 2: Nightringer Server:	Not registered Not registered Not registered Not registered						



- 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.

SIP Settings		Nightringer Settings	
	Image: site 1.cust 90003105.uc.leap.tel     PagingAdapter     PagingAdapter     Image: site 1.cust 90003105.uc.leap.tel	SIP Server: SIP User ID: SIP Auth ID: SIP Auth Password: Re-registration Interval (in seconds): Call Disconnection	Host or IP address User ID Auth ID Password 360
Backup SIP Server 1: Backup SIP User ID: Backup SIP Auth ID: Backup SIP Auth Password:	Host or IP address User ID Auth ID Password	Terminate Call after delay: 0 Audio Codec Selectio Codec: Auto Select	n
Re-registration Interval (in seconds): Backup SIP Server 2: Backup SIP User ID: Backup SIP Auth ID: Backup SIP Auth Password: Re-registration Interval (in seconds):	Host or IP address User ID Auth ID Password	RTP Settings         RTP Port (even):       10500         Asymmetric RTP:	
Remote SIP Port: Local SIP Port: SIP Transport Protocol: TLS Version:	5060 5060 TCP ➤ 1.2 only (recommended)	Save Reboot Toggle Help	
Verify Server Certificate: Outbound Proxy: Outbound Proxy Port: Use Cisco SRST:	Host or IP address 0		
Disable rport Discovery: Keep Alive Period:	10000		

Figure 4-2: SIP Tab



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 Device page.

Figure 4-3: Home Tab – Registered

Home	Device	Network	SIP	SSL	Multicast	Fault	Audiofiles	Events	Autoprov	Firmware
	(	Cybe	erD	ata	a Pa	gin	g Ac	lapt	er	
Current Serial Number Mac Address: Firmware Vers Partition 2: Partition 3: Booting From: Boot From O	: 2 () () () () () () () () () () () () ()	233200125 00:20:77:04:6e:95 /20.2.0 /20.2.0 /20.2.0 partition 2		Username: Password: Confirm Pas	Settings admin  sword: teboot Toggle	Help		nport Set choose File No f mport Config xport Set	ile chosen	
IP Addressing: IP Address: Subnet Mask: Default Gatew: DNS Server 1: DNS Server 2:	ay: 1	DHCP 192.168.1.4 255.255.255.0 192.168.1.1 192.168.1.1						Export Config		
SIP Mode: Multicast Mode Event Reportin	e: [	Enabled Disabled Disabled								
Primary SIP Se Backup Server Backup Server Nightringer Se	r 1: 1 r 2: 1	Registered Not registered Not registered Not registered								



## 5.0 Using the CyberData SIP Paging Adapter in a Leap Tel environment.

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 <u>website</u>. If your amplifier is not on our website please reach out to our <u>support department</u> to see if and how to connect to the amplifier.

## 5.1 Setting up stored messages

Once the adapter has been registered with Leap 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

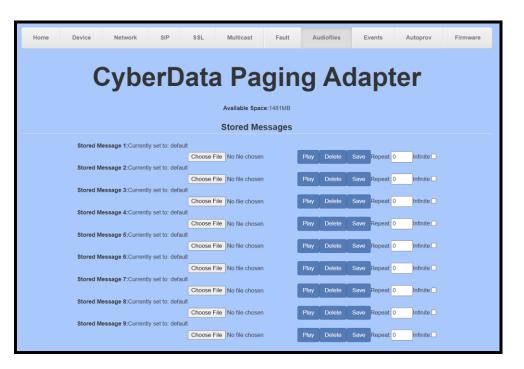
### 5.1.2 Uploading the Audiofile

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

Home	Device	Network	SIP	SSL	Multicast	Fault	Audiofiles	Events	Autoprov	Firmwar
CyborData Paging Adaptor										
CyberData Paging Adapter										
					Available Spa	ce:1481MB				
					Stored Me	ssages				
Stor	red Message 1:	Currently set to: 0	Gas_Vent_Ea				_			
Stor	red Message 2:	Currently set to: d	lefault	L	Choose File No	file chosen	Play	Delete Save	Repeat: 0	nfinite:
Sto	red Message 3:	Currently set to: d	lefault		Choose File No	file chosen	Play	Delete Save	Repeat: 0 In	nfinite:
Stor	red Message 4:	Currently set to: d	lefault	[	Choose File No	file chosen	Play	Delete Save	Repeat: 0 In	nfinite:
Stor	red Message 5:	Currently set to: d	lefault		Choose File No	ile chosen	Play	Delete Save	Repeat: 0 Ir	nfinite:
Sto	red Message 6:	Currently set to: d	lefault		Choose File No	file chosen	Play	Delete Save	Repeat: 0	nfinite:
Sto	red Message 7:	:Currently set to: d	lefault		Choose File No	file chosen	Play	Delete Save	Repeat: 0 In	nfinite:
Sto	red Message 8:	:Currently set to: d	lefault		Choose File No	file chosen	Play	Delete Save	Repeat: 0 In	nfinite:
Sto	red Message 9:	Currently set to: d	lefault		Choose File No	file chosen	Play	Delete Save	Repeat: 0	nfinite:
					Choose File No	ile chosen	Play	Delete Save	Repeat: 0 In	nfinite:



## 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

Home	Device	Network	SIP	SSL	Multicast	Fault	Audiofiles	Events	Autoprov	Firmware				
CyberData Paging Adapter														
Line-in S	ettings					Relay Settings								
Enable Line-in	to Line-out Loo	opback:				Activate Relay on Local Audio:								
Clock Se	ettings					DTMF Settings								
Timezone:	anorth-america.pc America/Los_An Thu, 19 May 202	geles				DTMF Duration:       500         Bypass DTMF Menus (Go straight to page):          Send pre-configured DTMF for Analog Zone:          Analog Zone:       0-9, *, #         Manual DTMF Entry for Analog Zone:          Require Security Code:          Security Code:								
Misc Set	tings													
Device Name:		Paging A	dapter											
Beep Before P	Beep on Init:													
Test Audio	G (NOT recomme Test Relay	·												



## 6.0 Using the CyberData SIP Paging Server in a Leap Tel 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.

Home	De	vice	Network	SIP	PGROUPS	SSL	Schedules	Fault	Audiofiles	Events	Autoprov	Firmware
			Cv	bo	rDa	ta	Dag	inc		rvo	r	
			Cy	ne	ГDа	เล	Pag	mg	56	Ive	I	
	Paging Groups											
	#	Addres	s	Po	rt Na	me		Co	de TTL	. Lineo	out	
	0	234.2.1	.1	20	00 Pa	gingGroup00			255	Yes	Edit	
	1	234.2.1	.2	20	02 Pa	gingGroup01			255	Yes	Edit	
	2	234.2.1	.3	20	04 Pa	gingGroup02			255	Yes	Edit	
	3	234.2.1	.4	20	06 Pa	gingGroup03			255	Yes	Edit	
	4	234.2.1	.5	20	08 Pa	gingGroup04			255	Yes	Edit	
	5	234.2.1	.6	20	10 Pa	gingGroup05			255	Yes	Edit	
	6	234.2.1	.7	20	12 Pa	gingGroup06			255	Yes	Edit	
	7	234.2.1	.8	20	14 Pa	gingGroup07			255	Yes	Edit	
	8	234.2.1	.9	20	16 Pa	gingGroup08			255	Yes	Edit	
	9	234.2.1	.10	20	18 Pa	gingGroup09			255	Yes	Edit	
					« 1	2 3 4	5 6 7	8 9 10	) »			
							Save					

### Figure 6-1: PGroups Tab



- 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

Configure PGROUP									
PGROUP	0								
Address	234.2.1.1								
Port	2000								
Name	General Paging								
Security Code	0-9, *, #								
TTL	255								
Line-out									
Play Stored Message									
Audio File	~								
Times to Play	1								
	Toggle Help Cancel Ok	¢							

8. Save the changes.



## 7.0 Setup Diagram

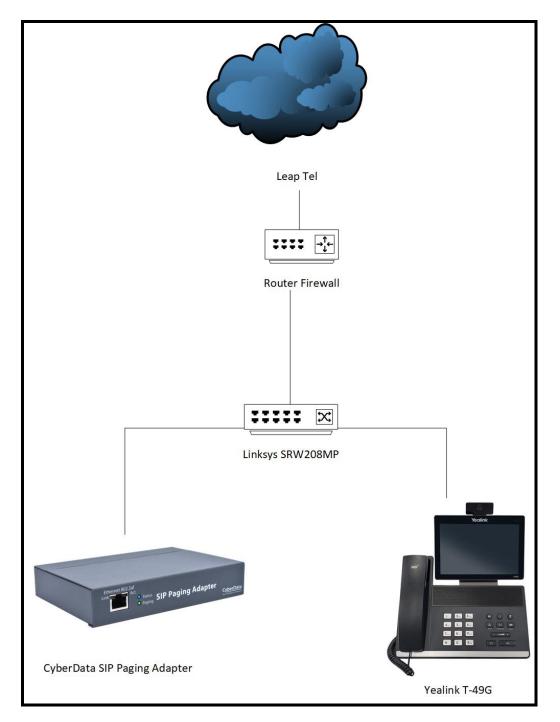


Figure 7-1: Interoperability Test Infrastructure



## 8.0 Contact CyberData Corporation

#### Sales

For sales-related questions, please visit our <u>Contact CyberData Sales</u> web page for more information.

#### **Technical Support**

For CyberData Technical Support, please submit a <u>Contact CyberData VoIP Technical Support</u> 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 Tel platform may render this document obsolete. We welcome and encourage documentation feedback to ensure continued applicability.