

Blueface Configuration Guide: SIP Amplifiers and Horns

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

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Revision Information

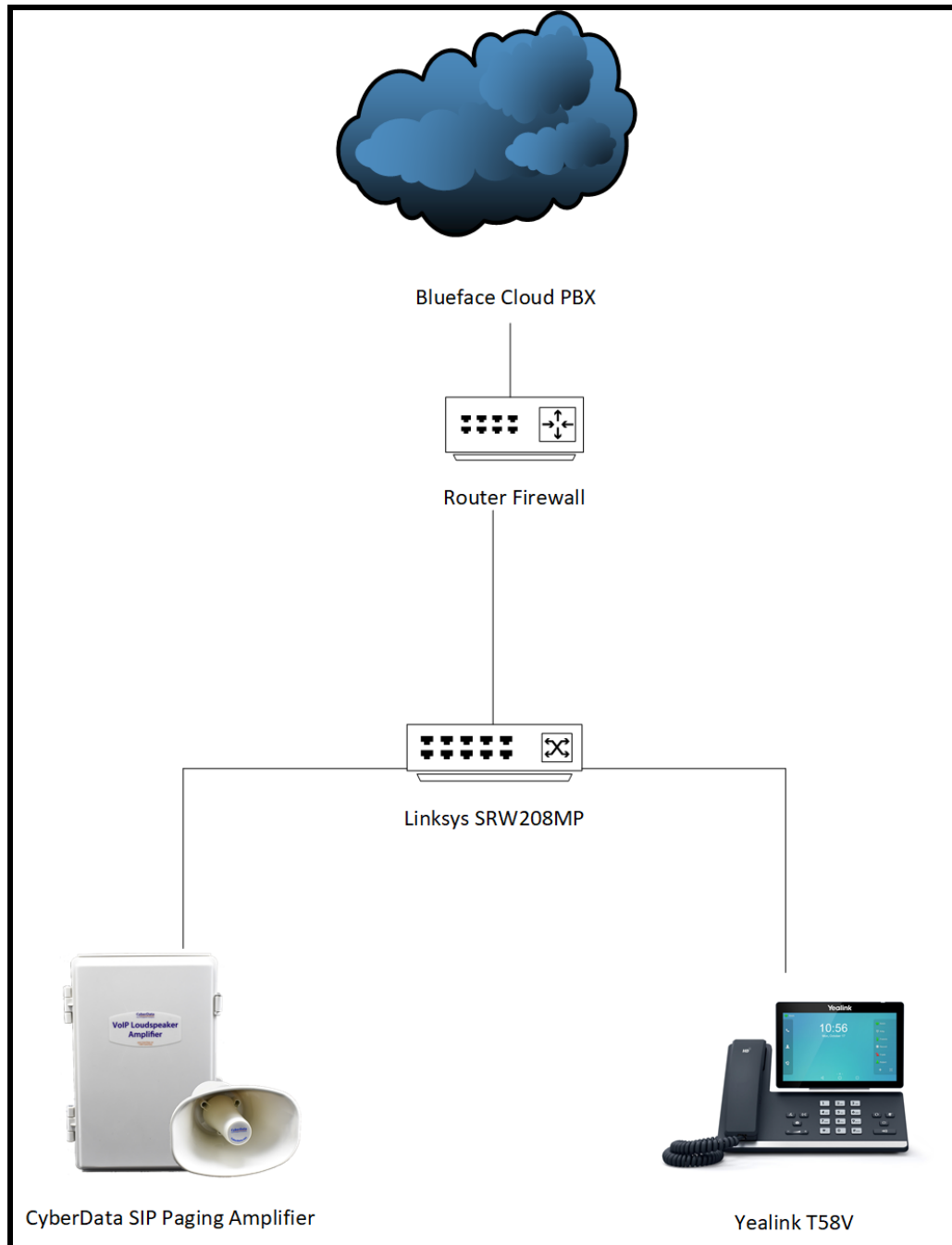
- 1/3/2022 – Initial Release
- 1/5/2022 – Name Update

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1.0 Setup Diagram

Figure 1-1: Interoperability Test Infrastructure



2.0 Test Setup Equipment

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

Table 2-1: Setup Equipment

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP PAGING AMPLIFIER	011324	12.1.0
CYBERDATA LOUDSPEAKER AMPLIFIER (AC-POWERED)	011404	12.1.0
CYBERDATA LOUDSPEAKER AMPLIFIER (POE)	011405	12.1.0
CYBERDATA SIP IP66 INDOOR/OUTDOOR HORN	011457	12.1.0
LINKSYS SWITCH	SRW208MP	---

3.0 Before You Start

This configuration guide documents the integration process of a CyberData SIP Amplifiers or SIP Horns.

Network Advisories

Blueface uses a Fully Qualified Domain Name (FQDN) for the SIP server address. The CyberData SIP Amplifiers and Horns need to perform a DNS A query to resolve the IP address of Blueface's SIP Server FQDN. It is necessary to ensure the configured DNS server(s) have an A record for the SIP Server address.

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

- UDP 5062 (SIP)
- UDP 10500 (RTP)

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

The amplifier's paging extension uses SIP port 5060 to receive SIP messages. The device will send SIP messages to port 5062, the port used by Blueface's SIP Server.

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

Alternatively, SIP ports for the device 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 device's product webpage:

SIP Paging Amplifier (011324):

https://files.cyberdata.net/assets/011324/011324_931156L_SIP_Paging_Amplifier_Operations_Guide.pdf

SIP Loudspeaker Amplifier (AC-Powered) (011404):

https://files.cyberdata.net/assets/011404/011404_931240O_SIP_Loudspeaker_Amplifier_AC-Powered_Operations_Guide.pdf

SIP Loudspeaker Amplifier (PoE) (011405):

https://files.cyberdata.net/assets/011405/011405_931236M_SIP_Loudspeaker_Amplifier_PoE_Operations_Guide.pdf

SIP IP66 Indoor/Outdoor Horn (011457):

https://files.cyberdata.net/assets/011457/011457_931508D_SIP_IP66_Outdoor_Horn_Speaker_Operations_Guide.pdf

4.0 Configuration Procedure: Callflow Setup

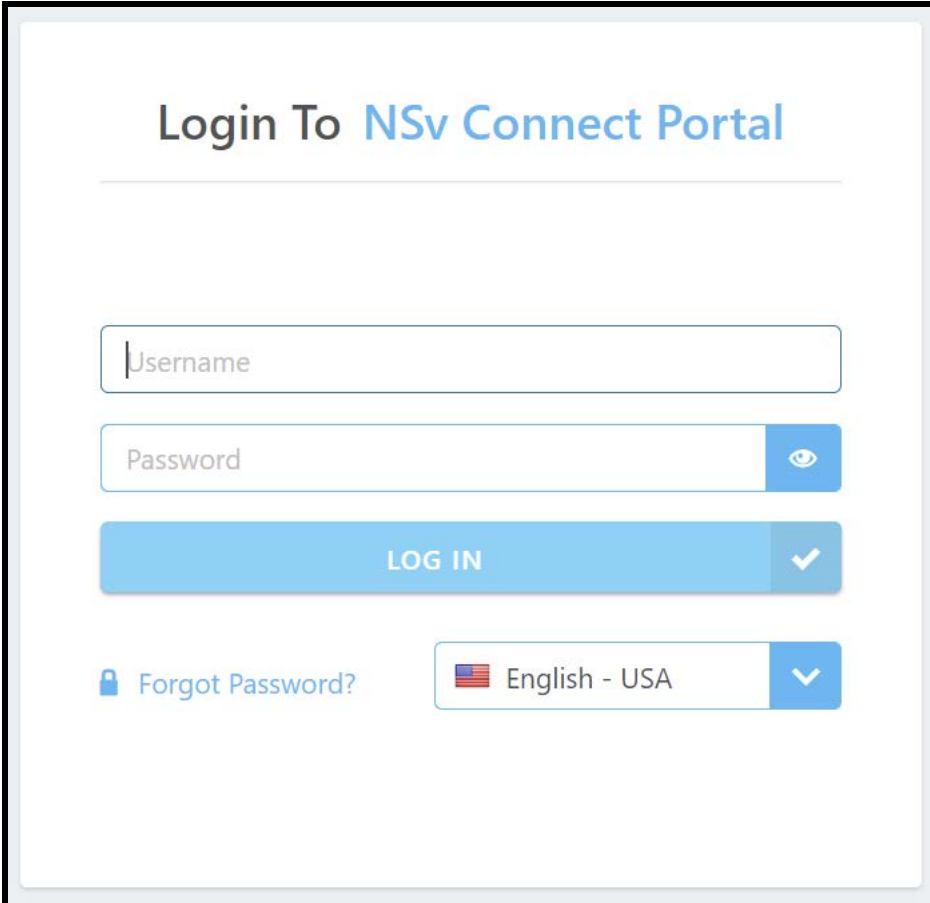
Blueface does not allow users to add their own devices to the platform. The MAC addresses of the devices must be provided to the account manager, who can then add the devices to the platform for you. An email will then be generated and sent to you that will contain the registration information for the CyberData device.

Blueface requires a callflow to be created to call or make a call from any device. This section will outline how to create the dial plan.

1. Log into Blueface.

<https://portal.nsvconnect.com/login>

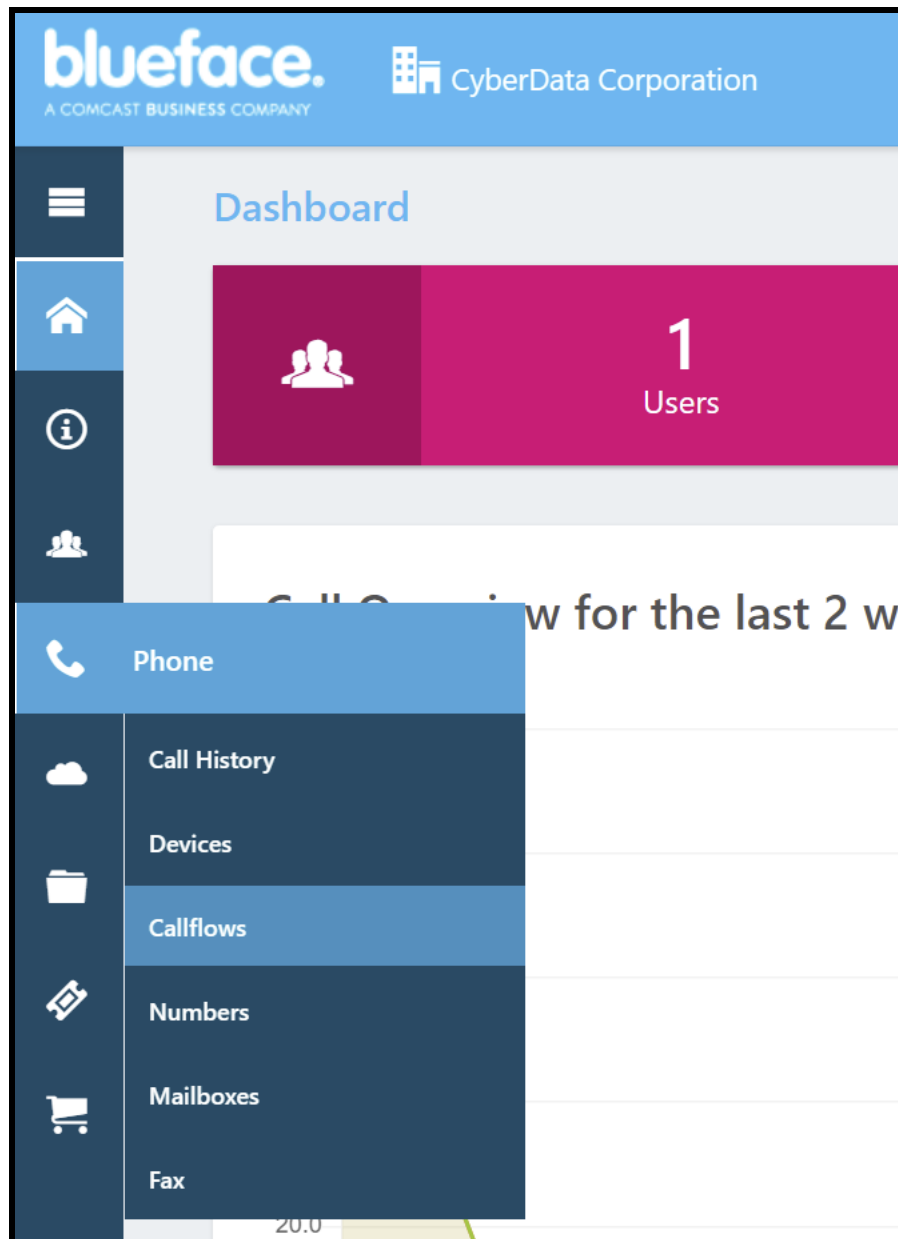
Figure 4-1: Login



The screenshot shows the login interface for the NSv Connect Portal. At the top, the text "Login To NSv Connect Portal" is displayed. Below this, there are two input fields: "Username" and "Password". The "Password" field has a blue eye icon on the right side, indicating a toggle for password visibility. Below the input fields is a large blue button labeled "LOG IN" with a white checkmark icon on the right. At the bottom left, there is a link labeled "Forgot Password?" with a lock icon. At the bottom right, there is a language selection dropdown menu showing "English - USA" with a flag icon and a downward arrow.

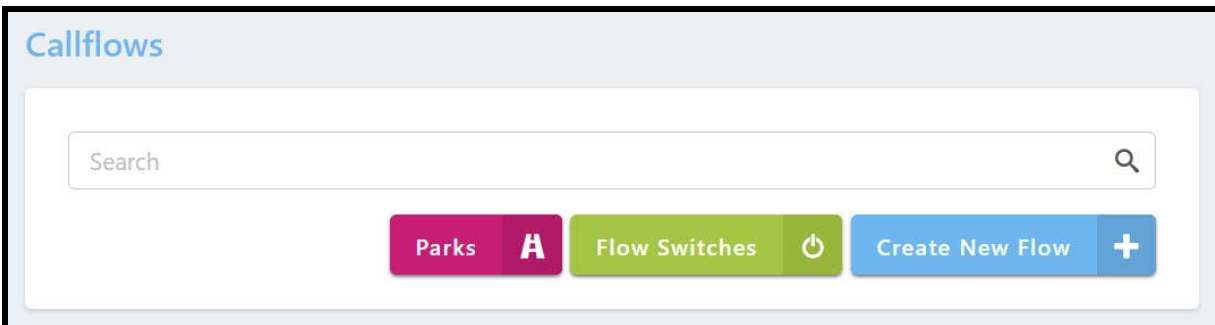
2. From the landing page **Phone** and then **callflows**.

Figure 4-2: Dashboard



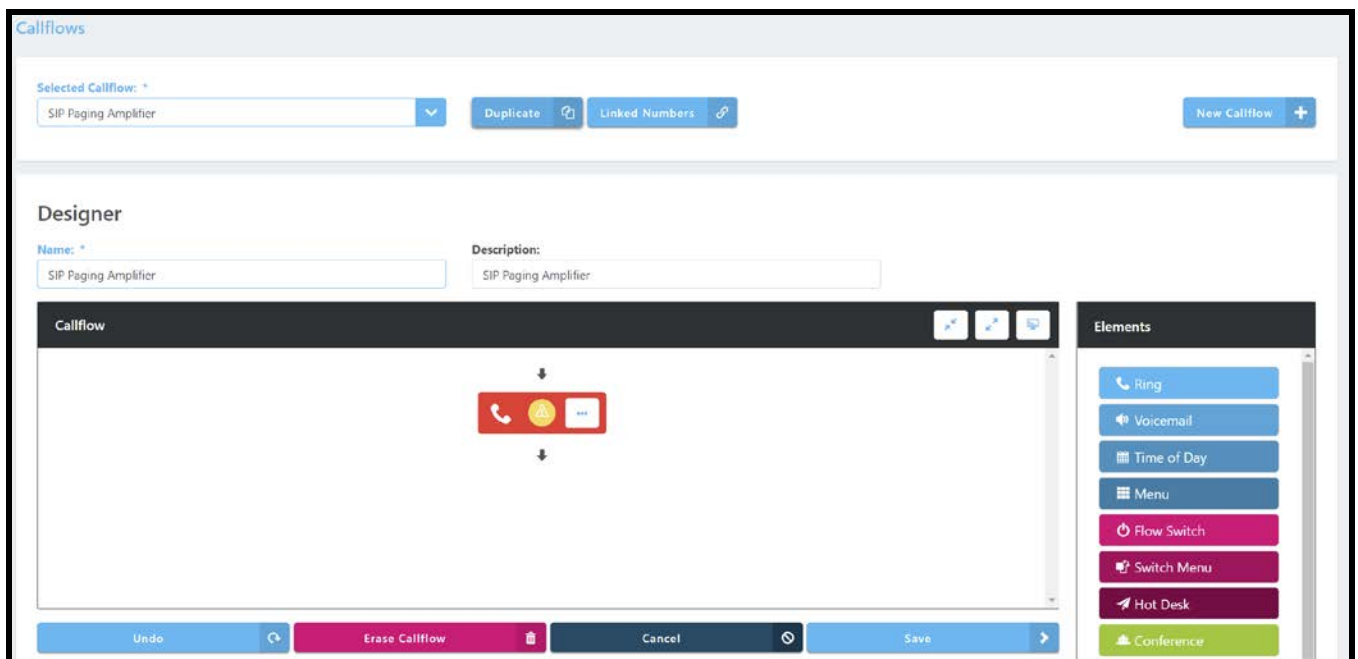
3. On the **Callflows** page press **Create New Flow**.

Figure 4-3: Callflow Page



4. Name the new callflow and set a description.

Figure 4-4: Callflow designer



5. From Elements drag **Ring** into the Callflow.

6. Click the yellow exclamation point to open the **Ring Element Settings** popup.
7. Select the Phone tab in the popup.
8. Select the Device that will be used in the group.

Figure 4-5: Ring Element Settings

Ring Element Settings

Timeout: *
20

This configuration rings the destination for 20 seconds

ampl

No Devices Found

Selected destinations

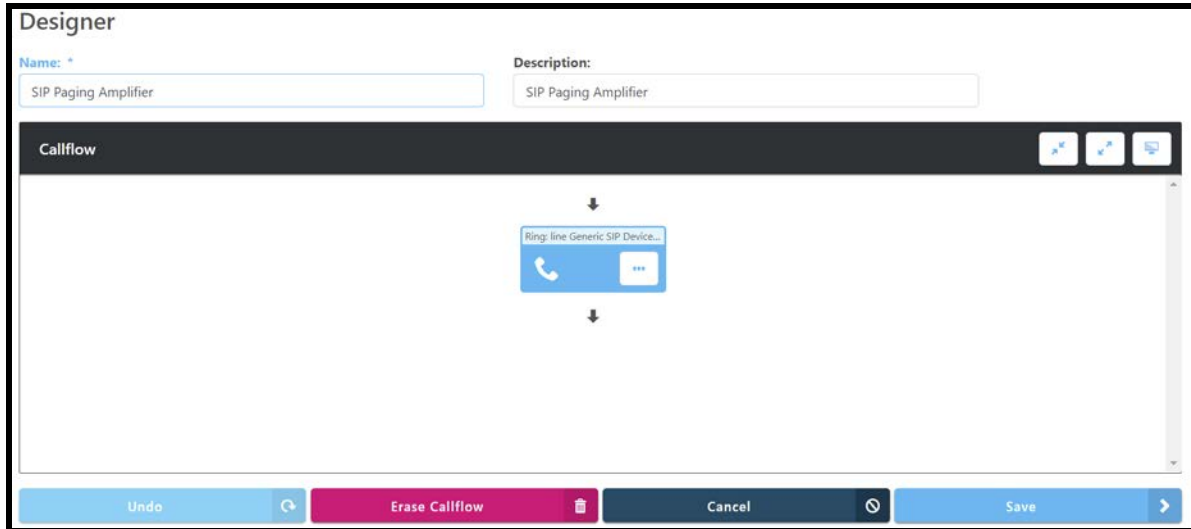
- Generic SIP Device - SIP Paging Amplifier - Line 1

Extra options

Cancel Ok

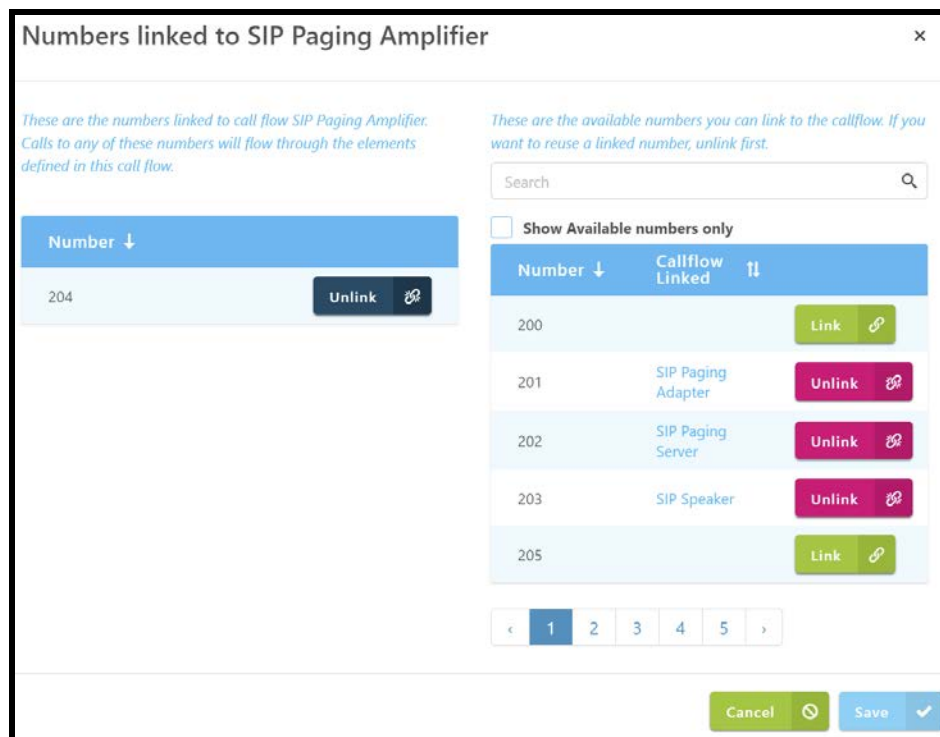
9. Press Ok to save the device to the callflow.
10. Press Save to save the callflow.

Figure 4-6: Callflow Designer



11. Click the **Save** button to create the Phone.
12. Next link a number to the new callflow.
13. Save the number to the callflow.

Figure 4-7: Link a Number



5.0 Configuration Procedure: Setting up the Paging Extension

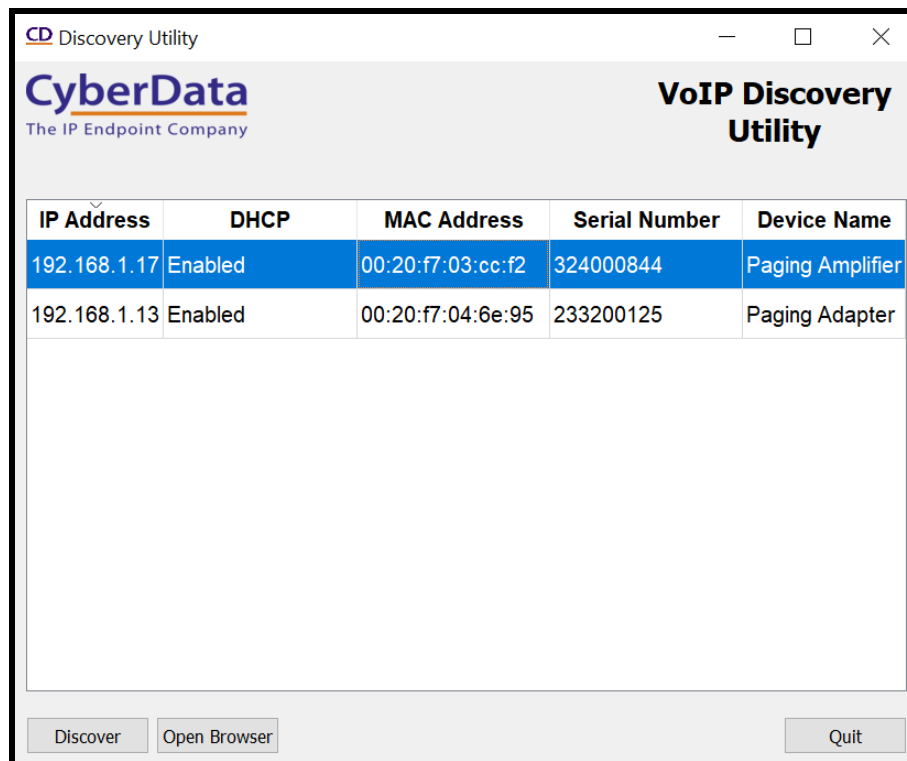
For configuring through the web interface, use the following steps to login to the web interface of your CyberData device.

Table 5-1: Setting Name correlation

CyberData Setting	Blueface Email
Primary SIP Server	SIP Server
Primary SIP User ID	Username
Primary SIP Auth ID	Authentication 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: Home Tab

Current Status

Serial Number: 324000844
 Mac Address: 00:20:f7:03:cc:f2
 Firmware Version: v12.1.0

IP Addressing: DHCP
 IP Address: 192.168.1.17
 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
 Multicast Mode: Disabled
 Event Reporting: Disabled
 Nightringer: Disabled

Primary SIP Server: **Not registered**
 Backup Server 1: Not registered
 Backup Server 2: Not registered
 Nightringer Server: Not registered

Admin Settings

Username:
 Password:
 Confirm Password:

Import Settings

No file chosen

Export Settings

3. Navigate to the SIP tab.

***Note:** All SIP credentials are listed in an email sent by Blueface after the device was added to the platform.*

- 4. Set the Primary SIP Server** to the value listed for SIP Server.
- 5. Set the Primary SIP User ID** to the value listed for the Username.
- 6. Set the Primary SIP Auth ID** to the value listed for the Authentication ID.
- 7. Set the Primary SIP Auth Password** to the value listed for the Password.
- 8. Set the Remote SIP Port** to 5062.

Figure 5-2: SIP Tab

SIP Settings		Nightringer Settings	
Enable SIP operation:	<input checked="" type="checkbox"/>	Enable Nightringer:	<input type="checkbox"/>
SIP Transport Protocol:	UDP ▾	SIP Server:	10.0.0.253
TLS Version:	1.2 only (recommended) ▾	Remote SIP Port:	5060
Verify Server Certificate:	<input type="checkbox"/>	Local SIP Port:	5061
Register with a SIP Server:	<input checked="" type="checkbox"/>	Outbound Proxy:	
Use Cisco SRST:	<input type="checkbox"/>	Outbound Proxy Port:	0
Primary SIP Server:	cust-uc-us.nsvconnect.com	User ID:	241
Primary SIP User ID:	LqXrkegMcuJ5FkTuM4ug	Authenticate ID:	241
Primary SIP Auth ID:	LqXrkegMcuJ5FkTuM4ug	Authenticate Password:	*****
Primary SIP Auth Password:	*****	Re-registration Interval (in seconds):	360
Backup SIP Server 1:		RTP Settings	
Backup SIP User ID 1:		RTP Port (even):	10500
Backup SIP Auth ID 1:		Jitter Buffer:	50
Backup SIP Auth Password 1:		SRTP:	Disabled ▾
Backup SIP Server 2:		Call Disconnection	
Backup SIP User ID 2:		Terminate Call after delay:	0
Backup SIP Auth ID 2:		Codec Selection	
Backup SIP Auth Password 2:		Force Selected Codec:	<input type="checkbox"/>
Remote SIP Port:	5062	Codec:	PCMU (G.711, u-law) ▾
Local SIP Port:	5060		
Outbound Proxy:			
Outbound Proxy Port:	0		
Disable rport Discovery:	<input type="checkbox"/>		
Buffer SIP Calls:	<input type="checkbox"/>		
Re-registration Interval (in seconds):	360		
Unregister on Boot:	<input type="checkbox"/>		
Keep Alive Period:	10000		
<input type="button" value="Save"/> <input type="button" value="Reboot"/> <input type="button" value="Toggle Help"/>			

9. Save and Reboot.

Once the device finishes rebooting the unit should show Registered on the home tab.

Figure 5-3: Home Tab – Registered

The screenshot shows the 'Home' tab of the CyberData Paging Amplifier web interface. The page has a light blue background and a navigation bar at the top with tabs: Home, Device, Network, SIP, Multicast, SSL, Sensor, Audiofiles, Events, Autopro, and Firmware. The main heading is 'CyberData Paging Amplifier'. Below this, there are three main sections: 'Current Status', 'Admin Settings', and 'Import Settings'. The 'Current Status' section displays various system parameters. The 'Admin Settings' section includes fields for Username, Password, and Confirm Password, along with 'Save', 'Reboot', and 'Toggle Help' buttons. The 'Import Settings' section has a 'Choose File' button and an 'Import Config' button. Below these is an 'Export Settings' section with an 'Export Config' button.

Current Status	
Serial Number:	324000844
Mac Address:	00:20:f7:03:cc:f2
Firmware Version:	v12.1.0
IP Addressing:	DHCP
IP Address:	192.168.1.17
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
Multicast Mode:	Disabled
Event Reporting:	Disabled
Nightringer:	Disabled
Primary SIP Server:	Registered
Backup Server 1:	Not registered
Backup Server 2:	Not registered
Nightringer Server:	Not registered

Admin Settings	
Username:	<input type="text" value="admin"/>
Password:	<input type="password"/>
Confirm Password:	<input type="password"/>
<input type="button" value="Save"/> <input type="button" value="Reboot"/> <input type="button" value="Toggle Help"/>	

Import Settings	
Choose File	No file chosen
<input type="button" value="Import Config"/>	

Export Settings	
<input type="button" value="Export Config"/>	

6.0 Using the CyberData Amplifiers and Horns.

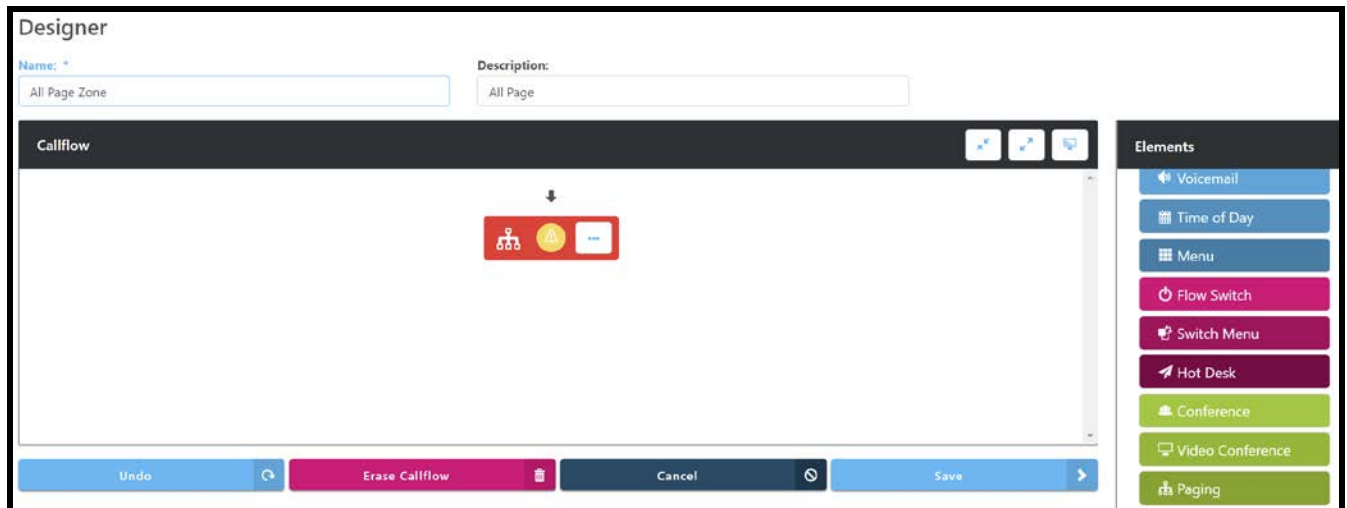
CyberData SIP Amplifiers and Horns are designed for one-way communication. When a call is made to the device an announcement can be made. The units can be used by directly calling the SIP extension, in a page group, or with multicast. This makes the horns and amplifiers extremely versatile paging endpoints

6.1 Setting up a page group

After registering the device to Blueface a page group can be created which allows a call to be made which can reach multiple endpoints simultaneously. This allows for zoned paging directly through the service and does not require additional hardware.

1. Select **Callflows** in Phones on Blueface.
2. Name the new callflow and set a description.
3. In the callflow designer select the Paging Element.

Figure 6-1: Page Group Designer



4. After adding the paging element, click on it to assign users.
5. Add all necessary users for the paging group.

Figure 6-2: Paging Element Creation

Paging Element Settings

① PIN:

① Display Name:

Devices

- SIP Paging Server**
- Video Intercom with Keypad**
- Yealink VP-T49G IP Video Phone**

Selected destinations

- Generic SIP Device - SIP Paging Amplifier - Line 1
- Generic SIP Device - SIP Paging Adapter - Line 1
- Generic SIP Device - SIP Speaker - Line 1
- Generic SIP Device - SIP Strobe - Line 1

Extra options

No media available

① Broadcast media:

Media Uploader

Drag & Drop Files or Browse

Maximum file size 5mb

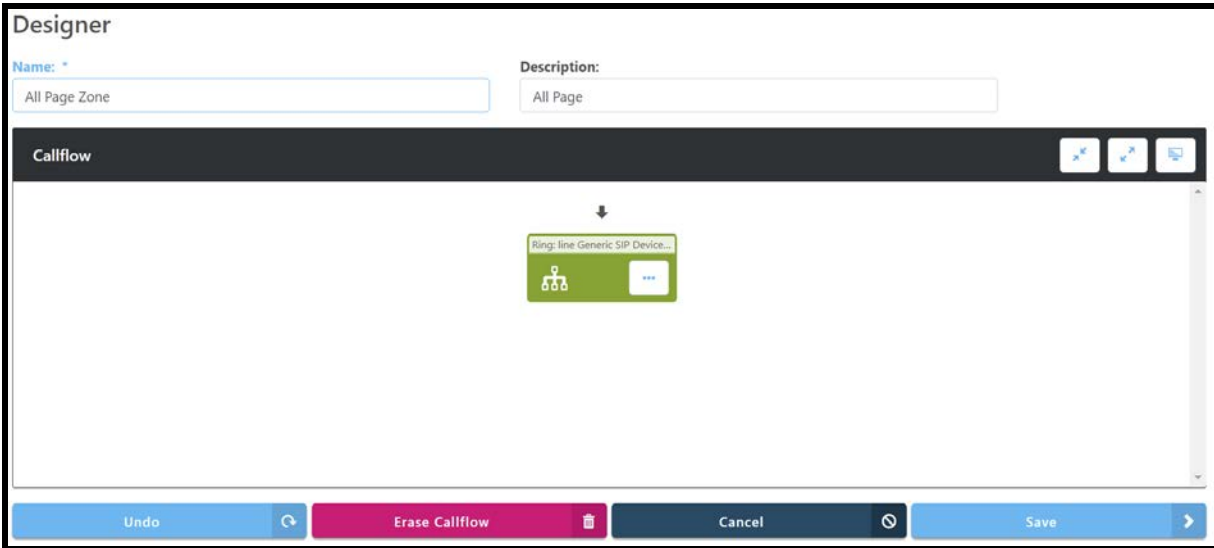
Acceptable file formats: wav, ogg, aac, wma, flac, mp1, mp2, mp3, mp4, opus, ra

① Accessible From Off Net: ☐ OFF

① Bypass on Call Protection: ☐ OFF

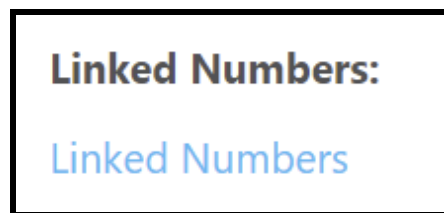
6. Once all the desired users are added, press Ok.
7. Next save the new call flow.

Figure 6-3: Callflow Created



8. After saving the callflow click **Linked Numbers** to set an extension number for the paging group callflow.

Figure 6-4: Linked Numbers



9. Set a number for the paging group.

Figure 6-5: Linking Number

Numbers linked to All Page Zone

These are the numbers linked to call flow All Page Zone. Calls to any of these numbers will flow through the elements defined in this call flow.

Number ↓	
200	Unlink

These are the available numbers you can link to the callflow. If you want to reuse a linked number, unlink first.

Search

☐ Show Available numbers only

Number ↓	Callflow Linked	
201	SIP Paging Adapter	Unlink
202	SIP Paging Server	Unlink
203	SIP Speaker	Unlink
204	SIP Paging Amplifier	Unlink
205		Link

<

1

2

3

4

5

>

Cancel

Save

10. Press Save to save the number to the callflow.

The callflow is now ready to be used. When called it will send a SIP call to all group elements and allow a page to be made.

6.2 Multicast Setup

Most CyberData devices support Multicast which is a protocol that allows for easy paging on a local area network (LAN). This section will illustrate how to setup the device to listen for multicast and the different settings that work with multicast.

Figure 6-6: Multicast Tab

Multicast Settings

Enable Multicast Operation: ☒

Priority	Address	Port	Name	Buffer	Beep	Relay
9	239.168.3.10	11000	Emergency Warning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	239.168.3.9	10000	All Page	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	239.168.3.8	9000	Warehouse Only	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	239.168.3.7	8000	Unused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	239.168.3.6	7000	Unused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	239.168.3.5	6000	Unused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	239.168.3.4	5000	Unused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	239.168.3.3	4000	Unused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	239.168.3.2	3000	Unused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	239.168.3.1	2000	Background Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Polycom Default Channel

Polycom Priority Channel

Polycom Emergency Channel

SIP calls are considered priority 4.5

Port range can be from 2000-65535

Priority 9 is the highest and 0 is the lowest

A higher priority audio stream will always supersede a lower one

* You need to reboot for changes to take effect

The multicast engine workings on priority, higher priority supersedes a lower priority. CyberData recommends setting all pages or emergency pages to a higher priority, this will prevent a non-emergency message playing over any emergency notifications. There are also options to Buffer the message, play a beep tone before the message or enable the onboard relay for the duration of the message.

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

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