

Speakers with Talk-Back Operations Guide

Part #011394, 011396

Document Part #932055A
for Firmware Version 22.0

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Speaker with Talk-Back Operations Guide 932055A
Part # 011394, 011396

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CyberData

The IP Endpoint Company

Technical Support

The fastest way to get technical support for your VoIP product is to submit a VoIP Technical Support form at the following website:

<https://support.cyberdata.net/>

Phone: (831) 373-2601, Ext. 333

Email: support@cyberdata.net



Fax: (831) 373-4193

Company and product information is at www.cyberdata.net.

Revision Information

Revision 932055A, which corresponds to firmware version 22.0, was released on November 19, 2024.

Pictorial Alert Icons

 <p>GENERAL ALERT</p>	<p>General Alert</p> <p><i>This pictorial alert indicates a potentially hazardous situation. This alert will be followed by a hazard level heading and more specific information about the hazard.</i></p>
	<p>Ground</p> <p><i>This pictorial alert indicates the Earth grounding connection point.</i></p>

Hazard Levels

Danger: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This is limited to the most extreme situations.

Warning: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Caution: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also alert users against unsafe practices.




Notice: Indicates a statement of company policy (that is, a safety policy or protection of property).

The safety guidelines for the equipment in this manual do not purport to address all the safety issues of the equipment. It is the responsibility of the user to establish appropriate safety, ergonomic, and health practices and determine the applicability of regulatory limitations prior to use. Potential safety hazards are identified in this manual through the use of words Danger, Warning, and Caution, the specific hazard type, and pictorial alert icons.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. Prior to installation, consult local building and electrical code requirements.

14. WARNING: The Speaker with Talk-Back enclosure is not rated for any AC voltages!

 <p>GENERAL ALERT</p>	<p>Warning <i>Electrical Hazard:</i> This product should be installed by a licensed electrician according to all local electrical and building codes.</p>
 <p>GENERAL ALERT</p>	<p>Warning <i>Electrical Hazard:</i> To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.</p>
 <p>GENERAL ALERT</p>	<p>Warning The PoE connector is intended for intra-building connections only and does not route to the outside plant.</p>

Abbreviations and Terms

Abbreviation or Term	Definition
A-law	A standard companding algorithm, used in European digital communications systems to optimize, i.e., modify, the dynamic range of an analog signal for digitizing.
AVP	Audio Video Profile
Cat 5	TIA/EIA-568-B Category 5
DHCP	Dynamic Host Configuration Protocol
LAN	Local Area Network
LED	Light Emitting Diode
Mbps	Megabits per Second.
NTP	Network Time Protocol
PBX	Private Branch Exchange
PoE	Power over Ethernet (as per IEEE 802.3af standard)
RTFM	Reset Test Function Management
SIP	Session Initiated Protocol
SRTP	Secure Real Time Protocol
u-law	A companding algorithm, primarily used in the digital telecommunication
UC	Unified Communications
VoIP	Voice over Internet Protocol

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1 Installing the Speaker with Talk-Back

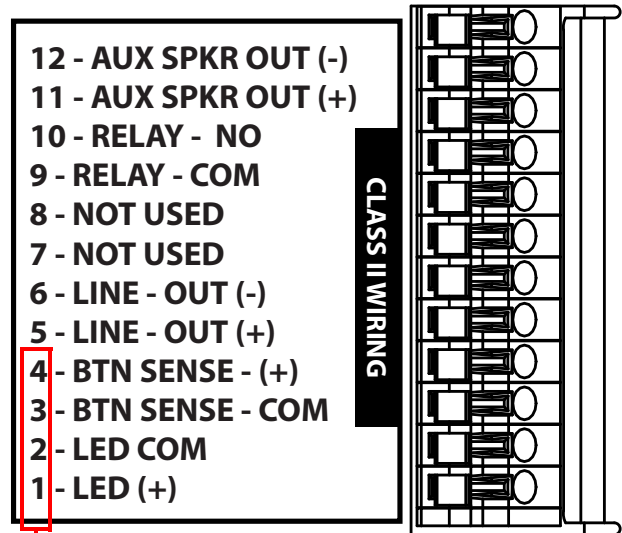
The installation template for the Speaker with Talk-Back is located on the Installation Quick Reference Guide that is included in the packaging with each Speaker.

Additional connections options are shown below.

1.1 Optional Connections

Figure 1-1. Optional Connections

Function	Connections
Auxiliary 8-Ohm speaker connection (not to be used when the Clock is connected)	AUX SPEAKER OUT(-) AUX SPEAKER OUT(+)
Relay contacts rated at 30 VDC @ 1A.	RELAY NO RELAY COM
NOT USED	LINE IN (+) LINE IN (-)
Audio line - level output to external audio amplifier. 2v P-P into 10k Ohms.	LINE OUT (-) LINE OUT (+)
Button positive sense connection Button negative sense connection	SENSE (+) SENSE- COM
LED negative connection LED positive connection	LED COM LED (+)

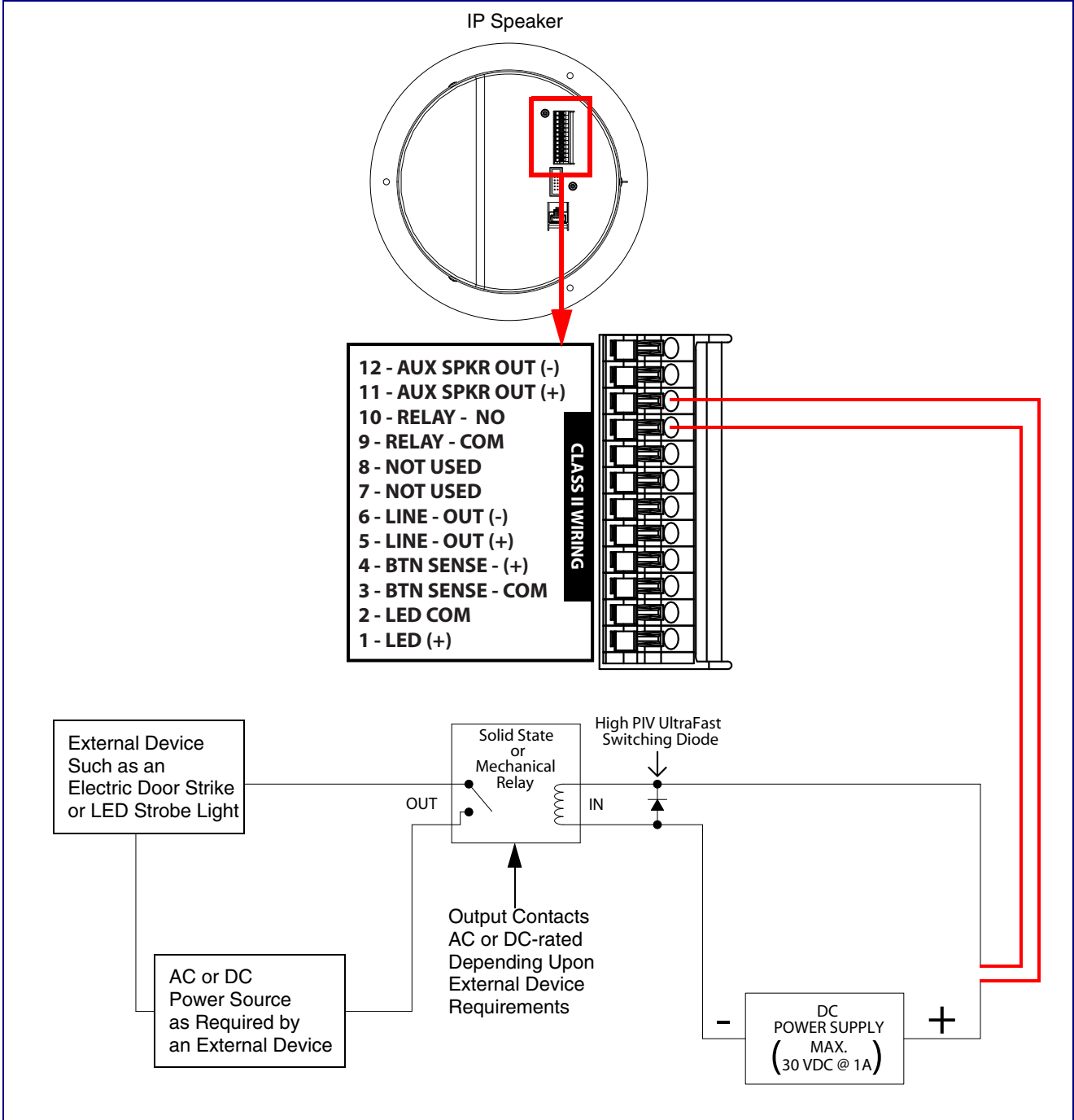


Connections 1 through 4 are intended for use with the [011508 Remote Call Button](#)

1.2 Speaker with Talk-Back with an External Device

In [Figure 1-2](#), when the Speaker with Talk-Back is called from a remote phone, the relay on the speaker can be programmed to drive an external device such as an alert strobe. This external device may also be addressed from a separate Unified Communication (UC) server.

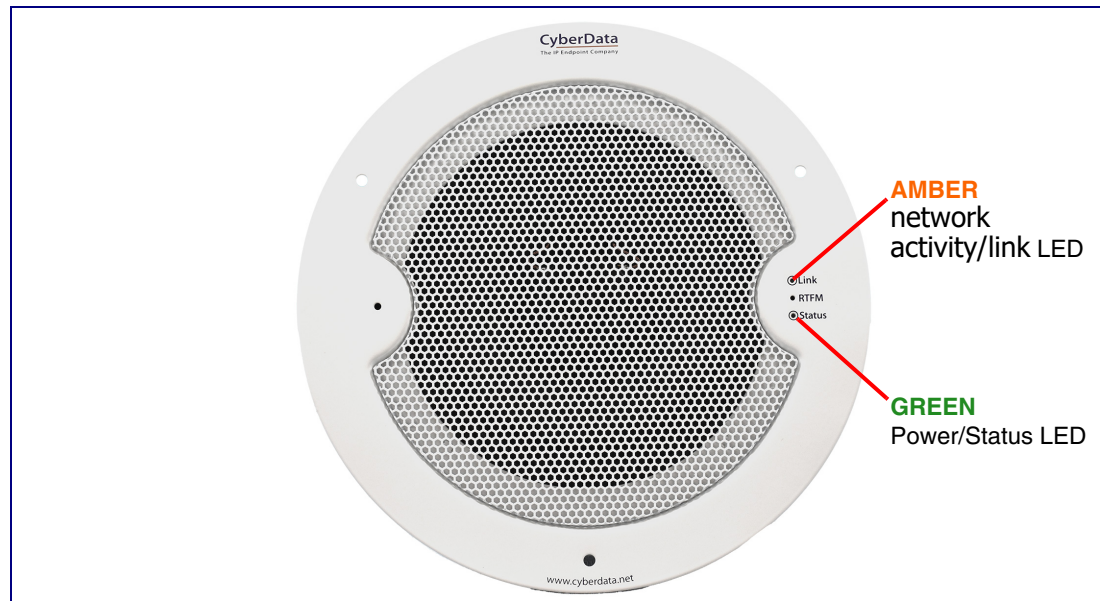
Figure 1-2. SIP Speaker with Talk-Back with an External Device



1.3 Confirm that the Speaker is Operational and Linked to the Network

After connecting the speaker to the 802.3af compliant Ethernet hub, the LEDs on the speaker face confirm that the speaker is operational and linked to the network.

Figure 1-3. Status and Activity LEDs



1.3.1 Status LED

After supplying power to the speaker:

1. The green power/status LED and the amber network activity/link LED comes on immediately.
2. After about 23 seconds with a static IP address (or 27 seconds if the board is set to use DHCP), the green LED will blink twice to indicate that the board is fully booted. The speaker will beep at this time if the **Beep on Init** option is enabled on the **Device Page** (see [Section 2.3, "Device"](#)).

Note If the board is set to use DHCP and there is not a DHCP server available on the network, it will try 12 times with a three second delay between tries and eventually fall back to the programmed static IP address (by default 192.168.1.23). This process will take approximately 80 seconds.

Note The front power/status LED will remain solid on during operation.

1.3.2 Link LED

- The **Link** LED is illuminated when the network link to the speaker is established.
- The **Link** LED blinks to indicate network traffic.

2 Configure the Device

2.1 Log In Page

1. Open your browser to the device IP address.

Note If the network does not have access to a DHCP server, the device will default to an IP address of 192.168.1.23.

Note Make sure that the PC is on the same IP network as the Speaker with Talk-Back.

Note You may also download CyberData's VoIP Discovery Utility program which allows you to easily find and configure the default web address of the CyberData VoIP products.

CyberData's VoIP Discovery Utility program is available at the following website address:

<https://www.cyberdata.net/pages/discovery>

Note The Intercom ships in DHCP mode. To get to the **Home** page, use the discovery utility to scan for the device on the network and open your browser from there.

2. On the Log In Page ([Figure 2-1](#)), use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** ([Figure 2-3](#)):

Web Access Username: **admin**

Web Access Password: **admin**

Figure 2-1. Log In Page

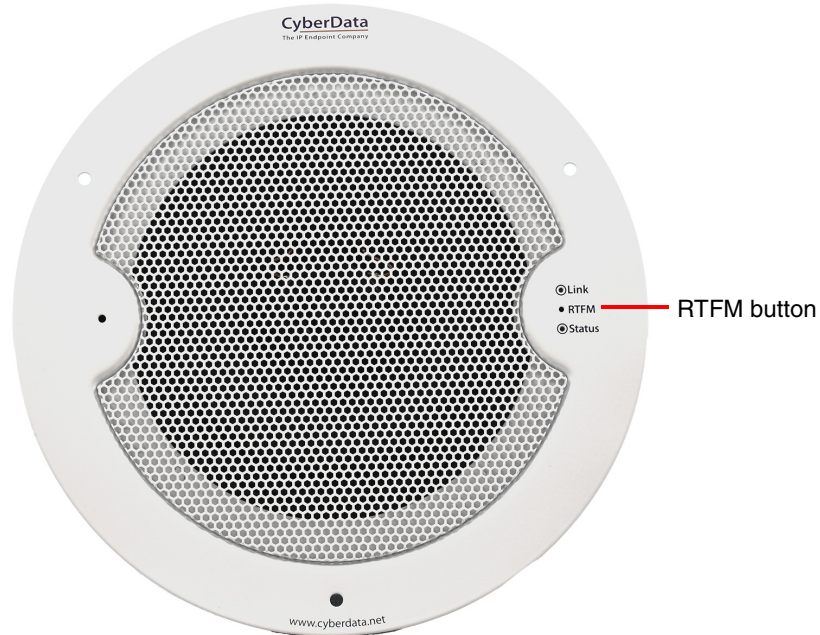


2.1.1 Announcing the IP Address

The RTFM button is located on the front of the each device (Figure 2-2). Use a paper clip to access the button through the hole.

Briefly pressing the RTFM button prompts the device to announce its IP address.

Figure 2-2. RTFM Button



2.1.2 Restoring Factory Defaults

To restore the device to its factory default settings (Table 2-1), hold the RTFM button for approximately seven seconds. After 15 to 20 seconds, "Restoring defaults, rebooting" is announced.

The device will default to DHCP to obtain an IP address, or will use 192.168.1.23 if a DHCP server is not present.

Table 2-1. Factory Default Settings

Parameter	Factory Default Setting
IP Addressing	DHCP
IP Address ^a	192.168.1.23
Web Access Username	admin
Web Access Password	admin
Subnet Mask ^a	255.255.255.0
Default Gateway ^a	192.168.1.1

a. Default if there is not a DHCP server present.

2.2 Home Page

The **Home** page provides device specific information such as Serial Number, Mac Address, and Firmware version. This page is designed as an initial landing page to provide general information on the status of the device.

Figure 2-3. Home Page

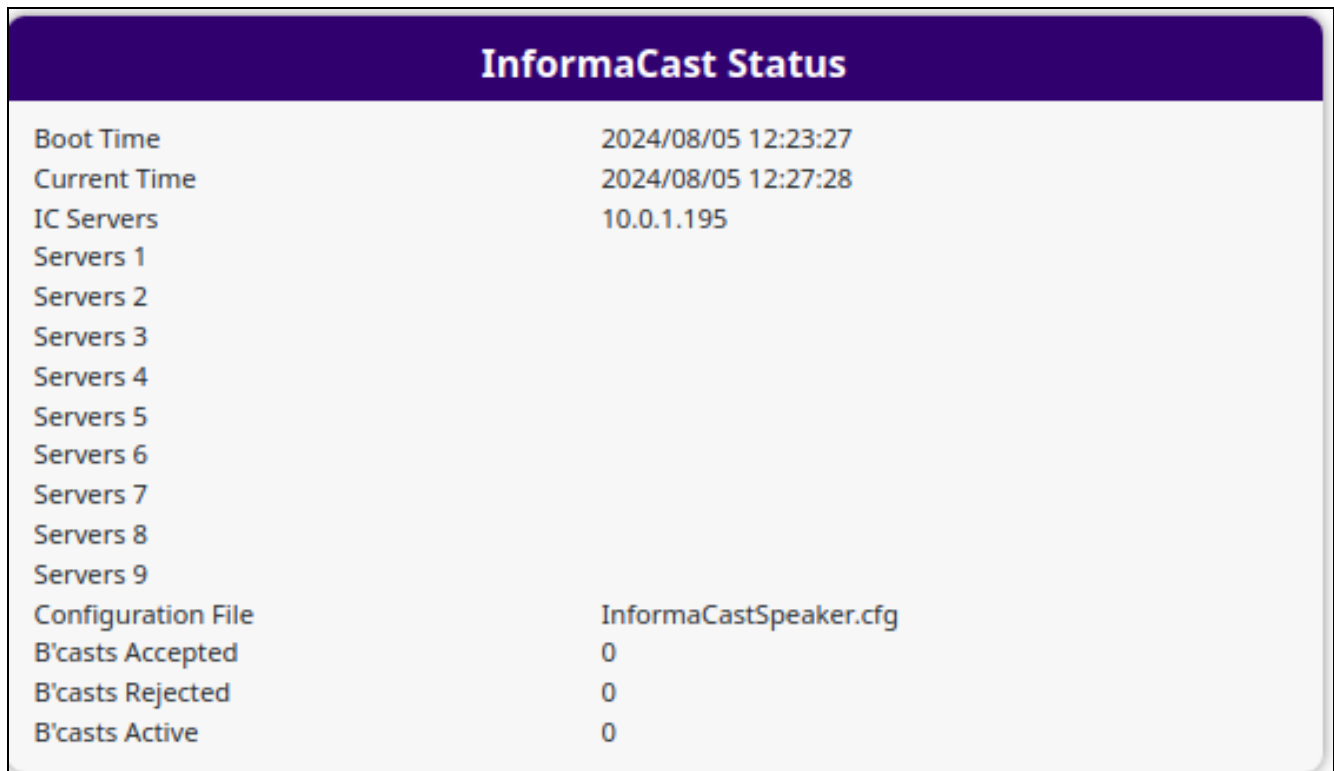
The screenshot displays the CyberData Home Page for a SIP Speaker device. The page is organized into a header section with device metadata and a main content area with six configuration panels. A sidebar on the left contains navigation icons, and a footer at the bottom provides contact information.

Device Configuration	Network Status	SIP Registration
Serial Number: 394203569	IP Address Protocol: DHCP	SIP Mode: Enabled
Mac Address: 00:20:f7:05:7f4a	IP Address: 10.10.1.79	Primary Server: Not registered
Firmware Version: v22.0.0	Subnet Mask: 255.0.0.0	Backup Server 1: Not registered
Partition 2: v22.0.0	Default Gateway: 10.0.0.1	Backup Server 2: Not registered
Partition 3: v22.0.0	DNS Server 1: 10.0.1.56	Nightringer Server: Not registered
Booting Partition: partition 3	DNS Server 2:	Monitor Server: Not registered

Audio Configuration	Sensor Status	System Configuration
SIP Volume: 1	Relay Status: Unknown	SIP Mode: Enabled
Multicast Volume: 1	Door Status: Unknown	Multicast Mode: Disabled
Ring Volume: 1	Intrusions: Unknown	Event Mode: Disabled
Sensor Volume: 1	RGB Strobe: Not Installed	
Push to Talk Volume: 4		
Volume Boost: None		
Microphone Gain: 4		
Push to Talk Microphone Gain: 4		

If you are using an InformaCast enabled device, you will see the following:

Figure 2-4. InformaCast enabled Device



InformaCast Status	
Boot Time	2024/08/05 12:23:27
Current Time	2024/08/05 12:27:28
IC Servers	10.0.1.195
Servers 1	
Servers 2	
Servers 3	
Servers 4	
Servers 5	
Servers 6	
Servers 7	
Servers 8	
Servers 9	
Configuration File	InformaCastSpeaker.cfg
B'casts Accepted	0
B'casts Rejected	0
B'casts Active	0

2.3 Device

The **Device** page allows for adjustment of settings that pertain to the physical device such as relay settings and time zone.

Figure 2-5. Device Page

The screenshot displays the 'Device Page' configuration interface for a CyberData SIP Speaker. The top navigation bar includes the CyberData logo, product details (SIP Speaker, Firmware: v22.0.0), device identification (Serial: 394203569, MAC: 00:20:F7:05:7F:4a), storage information (1380MB available), and status (Idle). Action buttons for Test, Save, Cancel, Reboot, and Logout are located in the top right. The main content area is divided into six settings panels:

- Relay Settings:** Control Relay with DTMF Code (OFF), DTMF Pulse Code (123), DTMF Pulse Code Duration (10 seconds), DTMF Activation Code (456), DTMF Deactivation Code (789), Relay During Ring (OFF), Relay During Night Ring (OFF), Relay While Call Active (OFF), Relay On Button Press (OFF), Relay On Button Press Duration (5 seconds), Relay While Sensor Active (ON).
- Time Settings:** NTP Server (north-america.pool.ntp.org), NTP Timezone (America/Los_Angeles (-8)), Current Time (Wed, 06 Nov 2024 14:53:32).
- DTMF Settings:** Require Security Code (ENABLED), Security Code (****), Monitor DTMF Toggle Key (* (Star Symbol)).
- Clock Kit Settings:** Status (Not Installed), Ambient Light Sensor (OFF), Brightness (5), Color Type (BLINK), Time Format (24 hrs).
- Power Settings:** 802.3AT Mode (Not detected, Disabled), Force 802.3AT Mode (OFF).
- Misc Settings:** Device Name (new_1105), Beep on Init (OFF), Two Speakers Connected (OFF).

If you are using an InformaCast enabled device, you will see the following:

Figure 2-6. InformaCast enabled Device

The screenshot shows the 'InformaCast Settings' section of the device configuration page. It features a dark blue header with the title 'InformaCast Settings'. Below the header, the 'InformaCast Server:' label is followed by a text input field containing the URL: `http://10.0.1.195:8081/InformaCast/resources`.

2.4 Audio

Figure 2-7. Audio Page

The screenshot displays the configuration interface for a CyberData SIP Speaker. The top header includes the product name 'SIP Speaker', serial number '394203569', and available storage '1380MB'. The interface is divided into three main sections: Audio Settings, Talkback Settings, and Health Check Settings.

Audio Settings: Includes Ambient Noise Compensation (OFF), Volume Boost (None), and volume controls for SIP, Multicast, Ring, Sensor, and Push to Talk (all set to 4). Microphone Gain is also set to 4.

Talkback Settings: Includes Full-Duplex (OFF) and a Voice-Operated Switch (OFF).

Push to Talk: Includes Push to Talk (PTT) and DTMF Push to Talk (PTT), both set to OFF.

Health Check Settings: Includes a Schedule Health Check (OFF), Run once per (Day), Time of Day (0-23), Day of Week (Sunday), and Day of Month (1-31). A log of health check results is shown, with all tests passing.

Buttons at the bottom of the Health Check section include 'Run Health Check', 'Configure Health Check', 'Delete Health Check Log', and 'Download Health Check Log'.

2.5 Network

The **Network** tab provides access to network-related settings. Assigning the device a static IP address or VLAN is done on this page.

Figure 2-8. Network Page

The screenshot displays the Network configuration page for a CyberData device. The page is divided into three main sections: Network Status, Network Settings, and VLAN Settings. At the top, there is a header bar with device information and control buttons.

Header Bar:

- CyberData** (The IP Endpoint Company)
- Product:** SIP Speaker, **Firmware:** v22.0.0
- Serial:** 394203569, **MAC:** 00:20:f7:05:7f:4a
- Available Storage:** 1380MB, **Device Status:** Idle
- Buttons: Test, Save, Cancel, Reboot, Logout

Network Status Panel:

IP Address Protocol	DHCP
IP Address	10.10.1.79
Subnet Mask	255.0.0.0
Default Gateway	10.0.0.1
DNS Server 1	10.0.1.56
DNS Server 2	

Network Settings Panel:

- Addressing Mode: DHCP (dropdown)
- Hostname: SipDevice0574a
- IP Address: 10.10.10.10
- Subnet Mask: 255.0.0.0
- Default Gateway: 10.0.0.1
- DNS Server 1: 10.0.0.1
- DNS Server 2: 10.0.0.1
- DHCP Timeout: 60 seconds

VLAN Settings Panel:

- VLAN ID: 0
- VLAN Priority: 0

Footer: CyberData • Support

2.6 SIP (Session Initiation Protocol)

This page sets the options for phone calls. Configure up to 3 servers, with 2 acting as backup, and a server for the nightringer. The nightringer is a second sip extension that only rings, never connects to a call. Many customers use the nightringer in a hunt group.

Use this page to configure the options for security, transport, codec, and others.

Note For specific server configurations, go to the following website address:

<https://www.cyberdata.net/pages/connecting-to-ip-pbx-servers>

Figure 2-9. SIP Page

If you are using an InformaCast enabled device, you will see the following:

Figure 2-10. InformaCast enabled Device

InformaCast SIP Config:	DISABLED ▼
-------------------------	---

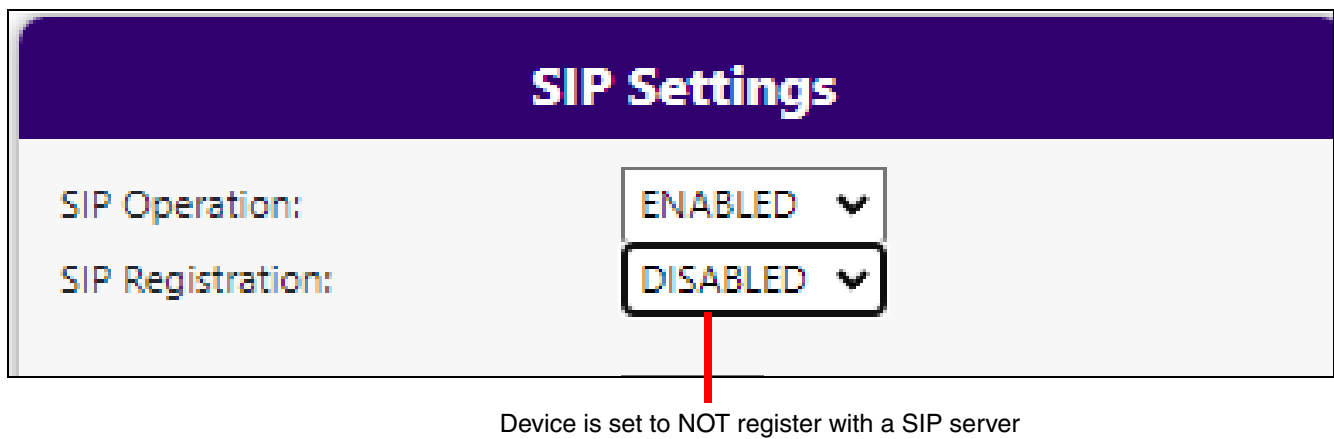
2.6.1 Dial Out Extension Strings and DTMF Tones (using rfc2833)

Outgoing calls support delayed DTMF (rfc2833) with the first comma pausing 2 seconds and subsequent commas pausing 1 second.

2.6.2 Point-to-Point Configuration

Dialing point-to-point allows the device to call and a single endpoint. All CyberData endpoints and many phones can use this option. To do this, enable **SIP Operation**, do not enable **SIP Registration**, and use the endpoint's IP address as the Dial Out extension. Delayed DTMF is supported. See [Figure 2-11](#).

Figure 2-11. SIP Page Set to Point-to-Point Mode



2.7 SSL

The **SSL** tab allows for the adjustment of certificates used by the device. The certificates used for the web server, SIP Client, and Autoprovisioning can be changed here. It is also possible to add additional CA certificates on this page. CA Certificates allow the device to authenticate servers that it contacts.

Figure 2-12. SSL Page (1 of 2)

The screenshot displays the CyberData SSL configuration interface. At the top, the header includes the CyberData logo, product information (SIP Speaker, v22.0.0), serial number (394203569), MAC address (00:20:77:05:7f:4a), available storage (1380MB), and device status (Idle). Navigation buttons for Test, Save, Cancel, Reboot, and Logout are present.

Three main certificate configuration panels are shown:

- Web Server Certificate:** Shows details for a certificate with subject 'Cyberdata' and organization 'Cyberdata'. It includes 'Import Web Certificate' and 'Restore Web Certificate' buttons.
- SIP Client Certificate:** Shows details for a certificate with subject 'Cyberdata' and organization 'Cyberdata'. It includes 'Import SIP Certificate' and 'Restore SIP Certificate' buttons, along with an optional password field.
- Autoprovisioning Client Certificate:** Shows details for a certificate with subject 'Cyberdata' and organization 'Cyberdata'. It includes 'Import Autoprovisioning Certificate' and 'Restore Autoprovisioning Certificate' buttons, along with an optional password field.

Below these panels is the **List of Trusted CAs** section, which includes an 'Upload CA Certificate' field and an 'Import CA Certificate' button. A toolbar contains 'Download CyberData CA', 'Generate Cyberdata CSR', 'Remove All', and 'Restore Defaults' buttons. The table below lists the following CA certificates:

ID	CA Certificate Name	Info	Remove
1	CyberData_CA.pem	Info	Remove
2	DigiCert_Assured_ID_Root_CA.crt	Info	Remove
3	DigiCert_Assured_ID_Root_G2.crt	Info	Remove
4	DigiCert_Assured_ID_Root_G3.crt	Info	Remove
5	DigiCert_Global_Root_CA.crt	Info	Remove
6	DigiCert_Global_Root_G2.crt	Info	Remove
7	DigiCert_Global_Root_G3.crt	Info	Remove
8	DigiCert_High_Assurance_EV_Root_CA.crt	Info	Remove

The footer of the page contains 'CyberData • Support'.

Figure 2-13. SSL Page (2 of 2)

The screenshot displays the SSL configuration interface for a CyberData device. The top header includes the CyberData logo, product information (SIP Speaker, v22.0.0), serial and MAC addresses, storage status (1380MB available), and device status (Idle). Action buttons for Test, Save, Cancel, Reboot, and Logout are visible. The main content is a table listing 21 certificates, each with an 'Info' button and a 'Remove' button.

ID	Certificate Name	Info	Remove
9	DigiCert_Trusted_Root_G4.crt	Info	Remove
10	GeoTrust_Global_CA.crt	Info	Remove
11	GeoTrust_Primary_Certification_Authority_.crt	Info	Remove
12	GeoTrust_Primary_Certification_Authority_._G2.crt	Info	Remove
13	GeoTrust_Primary_Certification_Authority_._G3.crt	Info	Remove
14	GeoTrust_Universal_CA.crt	Info	Remove
15	GeoTrust_Universal_CA_2.crt	Info	Remove
16	Go_Daddy_Class_2_CA.pem	Info	Remove
17	Go_Daddy_Root_Certificate_Authority_._G2.pem	Info	Remove
18	VeriSign_Class_3_Public_Primary_Certification_Authority_._G4.crt	Info	Remove
19	VeriSign_Class_3_Public_Primary_Certification_Authority_._G5.crt	Info	Remove
20	VeriSign_Universal_Root_Certification_Authority.crt	Info	Remove
21	VeriSign_Class_1_Public_Primary_Certification_Authority.crt	Info	Remove
22	VeriSign_Class_1_Public_Primary_Certification_Authority_._G3.crt	Info	Remove
23	VeriSign_Class_2_Public_Primary_Certification_Authority_._G2.crt	Info	Remove
24	VeriSign_Class_2_Public_Primary_Certification_Authority_._G3.crt	Info	Remove
25	VeriSign_Class_3_Public_Primary_Certification_Authority.crt	Info	Remove
26	VeriSign_Class_3_Public_Primary_Certification_Authority_._G3.crt	Info	Remove
27	thawte_Primary_Root_CA.crt	Info	Remove
28	thawte_Primary_Root_CA_._G2.crt	Info	Remove
29	thawte_Primary_Root_CA_._G3.crt	Info	Remove

2.8 Multicast

The Multicast page allows the device to join up to ten paging zones that will activate the strobe when a stream is sent to its address.

A paging zone can consist of one or many CyberData multicast group-enabled products. There is no limit to how many endpoints can be in a given paging zone. Each multicast group is defined by a multicast address and port number.

Each multicast group is assigned a priority, allowing simultaneously arriving pages to be serviced based on importance. Multicast groups are compatible with IGMP through version 3. The device supports simultaneous SIP and Multicast.

Figure 2-14. Multicast Page

CyberData
The IP Endpoint Company

Product: SIP Speaker
Firmware: v22.0.0

Serial: 394203569
MAC: 00:20:F7:05:7F:4a

Available Storage: 1380MB
Device Status: Idle

Test Save Cancel Reboot Logout

Multicast Settings

Relieve Multicast Audio:

Polycom Default Channel:

Polycom Priority Channel:

Polycom Emergency Channel:

Priority	Address	Port	Name	Buffer	Beep	Relay
0	239.168.3.1	2000	Background Music	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
1	239.168.3.2	3000	MG1	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
2	239.168.3.3	4000	MG2	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
3	239.168.3.4	5000	MG3	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
4	239.168.3.5	6000	MG4	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
5	239.168.3.6	7000	MG5	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
6	239.168.3.7	8000	MG6	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
7	239.168.3.8	9000	MG7	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
8	239.168.3.9	10000	MG8	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>
9	239.168.3.10	11000	Emergency	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>	<input type="text" value="DISABLED"/>

SIP calls: Priority 4-5
Port range: 2000-65535
Priority: 9 is the highest, 0 is the lowest
Audio Streams: Higher priority supersedes lower ones
Priority 9: Plays at maximum volume

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2.9 Sensor

The door sensor (pins 5 and 6) on the header can be used to monitor a door's open or closed state. There is an option on the **Sensor** page to trigger on an open or short condition on these pins. The door sensor alarm will be activated when the **Door Open Timeout** parameter has been met.

The intrusion sensor is an optical sensor installed on the Intercom board and will be activated when the Intercom is removed from the case.

Each sensor can trigger up to five different actions:

- Flash the LED until the sensor is deactivated (roughly 10 times/second)
- Activate the relay until the sensor is deactivated
- Loop an audio file out of the Intercom speaker until the sensor is deactivated
- Call an extension and establish two way audio
- Call an extension and play a pre-recorded audio file

Note Calling a preset extension can be set up as a point-to-point call, but currently can't send delayed DTMF tones.

Figure 2-15. Sensor Page

The screenshot displays the CyberData web interface for configuring a SIP Speaker. The top navigation bar includes the CyberData logo, product information (SIP Speaker, v22.0.0), serial and MAC addresses, available storage (1380MB), and device status (Idle). Action buttons for Test, Save, Cancel, Reboot, and Logout are visible. The main content area is divided into two panels: Sensor Settings and Button Settings. The Sensor Settings panel includes fields for Sensor Type (Normally Open), Open Timeout (0 seconds), Play Audio Locally (Disabled), Call Extension (Disabled), Dial Out Extension (204), Dial Out ID (id204), Play Recorded Audio (Disabled), and Repeat Sensor Message (0). The Button Settings panel includes fields for Button Installed (OFF), Button LED Lit when Idle (ON), Button LED Brightness (255), Blink button LED on monitor call (OFF), Prevent Call Termination (OFF), Dial Out Extension (204), and Dial Out ID (id204). A vertical sidebar on the left contains various system icons, and the footer shows the CyberData logo and a support link.

2.10 Audiofiles

The **Audiofiles** page is used to add custom audio to the board. User uploaded audio will take precedence over the audio files shipped with the device.

This device supports stored messages. When stored messages are enabled, the user will hear "Press 0 to page, press 1 to 9 to play stored message" when calling the device.

To configure stored messages, an audio file must be uploaded, using **Choose File** and **Save**. The number of repeats can be specified or set to infinite (where the message plays until cancelled by the # button during a phone call).

Figure 2-16. Audiofiles Page (1 of 3)

The screenshot displays the 'Audio Files' configuration page in the CyberData web interface. The page header includes the CyberData logo and device information: Product: SIP Speaker, Firmware: v22.0.0, Serial: 394203569, MAC: 00:20:f7:05:7f:4a, Available Storage: 1380MB, and Device Status: Idle. A navigation bar at the top right contains buttons for Test, Save, Cancel, Reboot, and Logout. The main content area is a table with 19 rows, each representing a different audio file type. Each row has columns for the file name, current settings, a 'Choose File' button, and 'Play', 'Save', and 'Delete' buttons. The file names include numeric digits (0-9), 'Audio Test', 'Dot', 'Night Ring', 'Page Tone', 'Rebooting', 'Restoring Default', 'Ring Back', 'Ring Tone', 'Sensor Triggered', 'Stored Message File Not Found', and 'Your IP Address Is:'. The 'Currently set to:' column for all rows shows 'default'. The 'Choose File' column for all rows shows 'No file chosen'. The 'Play', 'Save', and 'Delete' buttons are present for each row.

File Name	Currently set to:	Choose File	No file chosen	Play	Save	Delete
0:	default	Choose File	No file chosen	Play	Save	Delete
1:	default	Choose File	No file chosen	Play	Save	Delete
2:	default	Choose File	No file chosen	Play	Save	Delete
3:	default	Choose File	No file chosen	Play	Save	Delete
4:	default	Choose File	No file chosen	Play	Save	Delete
5:	default	Choose File	No file chosen	Play	Save	Delete
6:	default	Choose File	No file chosen	Play	Save	Delete
7:	default	Choose File	No file chosen	Play	Save	Delete
8:	default	Choose File	No file chosen	Play	Save	Delete
9:	default	Choose File	No file chosen	Play	Save	Delete
Audio Test:	default	Choose File	No file chosen	Play	Save	Delete
Dot:	default	Choose File	No file chosen	Play	Save	Delete
Night Ring:	default	Choose File	No file chosen	Play	Save	Delete
Page Tone:	default	Choose File	No file chosen	Play	Save	Delete
Rebooting:	default	Choose File	No file chosen	Play	Save	Delete
Restoring Default:	default	Choose File	No file chosen	Play	Save	Delete
Ring Back:	default	Choose File	No file chosen	Play	Save	Delete
Ring Tone:	default	Choose File	No file chosen	Play	Save	Delete
Sensor Triggered:	default	Choose File	No file chosen	Play	Save	Delete
Stored Message File Not Found:	default	Choose File	No file chosen	Play	Save	Delete
Your IP Address Is:	default	Choose File	No file chosen	Play	Save	Delete

Figure 2-17. Audiofiles Page (2 of 3)

The screenshot displays the 'Audiofiles' configuration page for a CyberData SIP Speaker. The top navigation bar includes the CyberData logo, product information (SIP Speaker, Firmware: v22.0.0), device details (Serial: 394203569, MAC: 00:20:F7:05:7F:4a), storage status (1380MB), and device status (Idle). Action buttons for Test, Save, Cancel, Reboot, and Logout are visible.

The main content area is divided into two sections:

- Menu Audio Files:** A table with 9 rows, each representing a different menu item. Each row includes a 'Currently set to:' field (default), a 'Choose File' button, a 'No file chosen' status, and three action buttons: Play, Save, and Delete.
- Stored Messages:** A table with 8 rows, each representing a stored message. Each row includes a 'Currently set to:' field (default), a 'Choose File' button, a 'No file chosen' status, a 'Repeat' field (0), an 'Infinite' dropdown menu (OFF), and three action buttons: Play, Save, and Delete.

The bottom of the page features a footer with 'CyberData • Support'.

Figure 2-18. Audiofiles Page (3 of 3)

The screenshot displays the 'Audiofiles' configuration page for a CyberData SIP Speaker. The top header includes the CyberData logo, product information (SIP Speaker, Firmware v22.0.0), serial number (394203569), MAC address (00:20:F7:05:7F:4a), available storage (1380MB), and device status (Idle). Action buttons for Test, Save, Cancel, Reboot, and Logout are present.

The main configuration area contains a table of call events, each with a 'Currently set to:' dropdown (default), a 'Choose File' button, a 'No file chosen' status, and 'Play', 'Save', and 'Delete' buttons.

Event	Currently set to:	Choose File	No file chosen	Play	Save	Delete
Cancel:	default	Choose File	No file chosen	Play	Save	Delete
Currently Playing:	default	Choose File	No file chosen	Play	Save	Delete
Invalid Entry:	default	Choose File	No file chosen	Play	Save	Delete
Page:	default	Choose File	No file chosen	Play	Save	Delete
Play Stored Message:	default	Choose File	No file chosen	Play	Save	Delete
Pound (#):	default	Choose File	No file chosen	Play	Save	Delete
Press:	default	Choose File	No file chosen	Play	Save	Delete
Through:	default	Choose File	No file chosen	Play	Save	Delete
To:	default	Choose File	No file chosen	Play	Save	Delete
Enter Security Code Followed by Pound (#) key:	default	Choose File	No file chosen	Play	Save	Delete

Below this is the 'Stored Messages' section, which lists 9 message slots. Each slot includes a 'Currently set to:' dropdown (default), a 'Choose File' button, a 'No file chosen' status, a 'Repeat' input field (set to 0), an 'Infinite' dropdown (set to OFF), and 'Play', 'Save', and 'Delete' buttons.

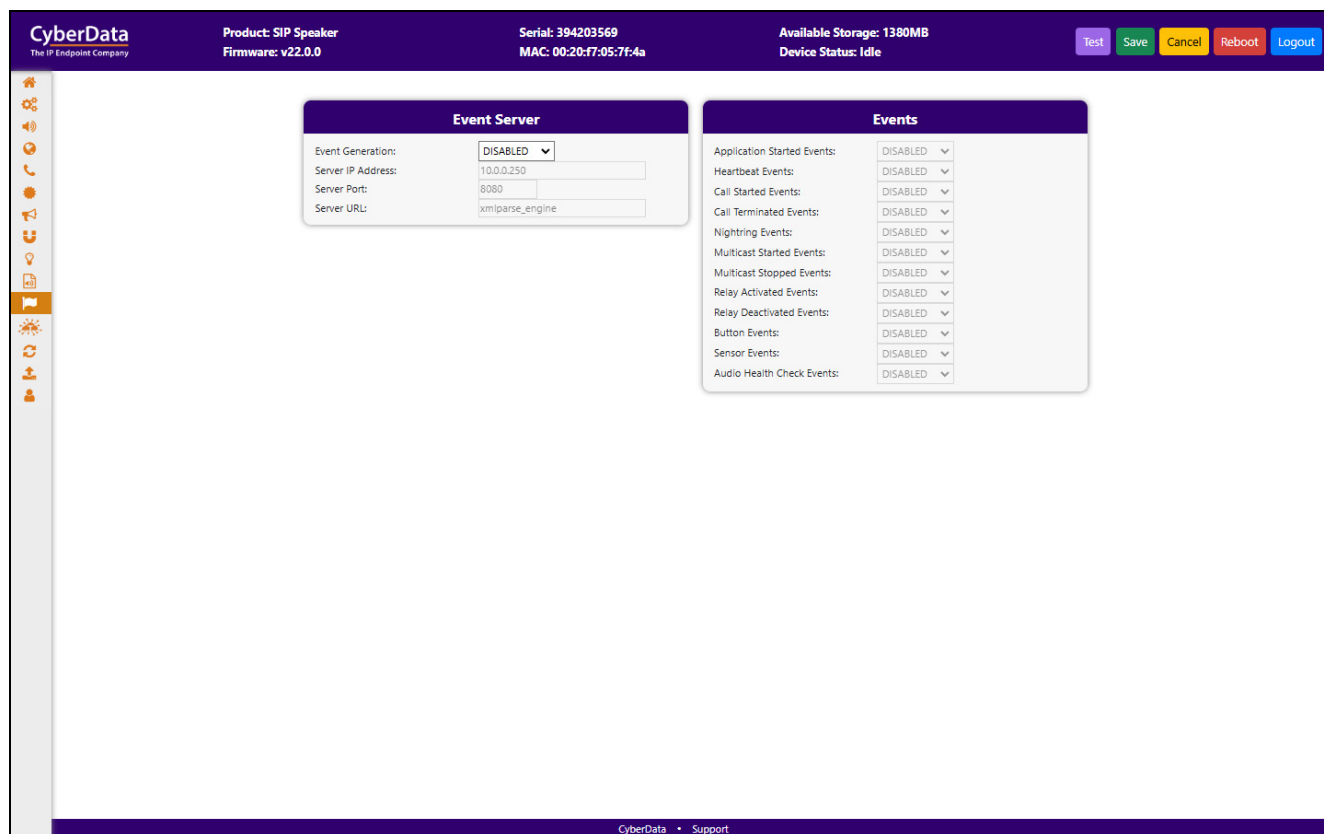
Message	Currently set to:	Choose File	No file chosen	Repeat	Infinite	Play	Save	Delete
Stored Message 1:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 2:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 3:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 4:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 5:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 6:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 7:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 8:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete
Stored Message 9:	default	Choose File	No file chosen	0	OFF	Play	Save	Delete

The footer of the page contains the CyberData logo and a 'Support' link.

2.11 Events

The **Events** page specifies a remote server that can be used to receive HTTP POST events when actions take place on the device.

Figure 2-19. Events Page



If you are using an InformaCast enabled device, you will see the following:

Figure 2-20. InformaCast enabled Device



2.11.1 Example Packets for Events

The server and port are used to point to the listening server and the 'Remote Event Server URL' is the destination URL (typically the script running on the remote server that's used to parse and process the POST events).

Note The XML is URL-encoded before transmission so the following examples are not completely accurate.

Here are example packets for every event:

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 197
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>POWERON</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 199
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>HEARTBEAT</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 196
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>BUTTON</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 201
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>CALL_ACTIVE</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 205
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>CALL_TERMINATED</event>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 197
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>RINGING</event>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>MULTICAST_START</event>
<index>8</index>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 233
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>MULTICAST_STOP</event>
<index>8</index>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>RELAY_ACTIVATED</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>RELAY_DEACTIVATED</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>NIGHTRINGING</event>
</cyberdata>
```

2.12 Terminus

Terminus Cloud Control™ allows users to configure, monitor, and manage notification functions for CyberData's extensive VoIP product line, all from a single, easy-to-use platform. To learn more about Terminus Cloud Control™, go to <https://www.cyberdata.net/pages/terminus>.

The **Terminus** page allows for configuration of settings related to Terminus Cloud Control™.

Figure 2-21. Terminus Page

The screenshot displays the Terminus configuration page within the CyberData web interface. The top header bar contains the CyberData logo and the following information: Product: SIP Speaker, Firmware: v22.0.0, Serial: 394203569, MAC: 00-20-f7-05-7f-4a, Available Storage: 1380MB, and Device Status: Idle. Action buttons for Test, Save, Cancel, Reboot, and Logout are located in the top right corner. A vertical sidebar on the left side of the page contains various navigation icons. The main content area features two configuration panels:

- Discovery Setting:**
 - Multicast Address:
 - Time to Live:
 - Discovery Interval: seconds
- Lockdown Settings:**
 - Lock Down Mode:
 - Relay:

The footer of the page displays "CyberData • Support".

2.13 Autoprovisioning

Enabling autoprovisioning allows the device to download provisioning files from a server. It defaults to using DHCP, with options configured in `dhcpd.conf` on the DHCP server. The file name is `<mac address>.xml` and if not found, `000000cd.xml`.

If a server is named, DHCP is bypassed, and the device will look for a file on the named server..

If a file is named, it will be downloaded instead of `<mac address>.xml`.

If a server is named, **Use tftp** searches for the file on a tftp server instead of http. If the server is secured (with a password), use **Verify Server Certificate** (username/password) to access it. When using DHCP, these options are configured in `dhcpd.conf`.

Autoprov autoupdate, **Autoprov at time**, and **Autoprov when idle** options are available with either DHCP or a named server.

The template is an xml file with all options set to default values.

Figure 2-22. Autoprovisioning Page

The screenshot displays the CyberData Autoprovisioning configuration page. At the top, the device information is shown: Product: SIP Speaker, Serial: 394203569, Available Storage: 1380MB, Firmware: v22.0.0, MAC: 00:20:f7:05:7f:4a, and Device Status: Idle. Action buttons for Test, Save, Cancel, Reboot, and Logout are visible. The main content area is divided into two panels: Autoprov Settings and Autoprov Log. The Autoprov Settings panel includes the following fields: Autoprov (ENABLED), Autoprov Server (text input), Autoprov Filename (text input), Use tftp (DISABLED), Verify Server Certificate (DISABLED), Username (text input), Password (text input), Autoprov autoupdate (0 minutes), Autoprov at time (HHMM), and Autoprov when idle (0 minutes). A 'Download Template' button is located at the bottom of this panel. The Autoprov Log panel shows a list of events with timestamps and descriptions, such as 'Autoprov found server', 'Autoprov downloading', 'Got autoprov file', and several 'Autoprov: ... failed to parse' messages.

2.14 Firmware

Note CyberData strongly recommends that you do not upgrade the firmware when the device is likely to be in use.

To upgrade the firmware of your device:

1. Download the latest firmware from the following CyberData web site, and locate your device:

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

<https://www.cyberdata.net/collections/singlewire> (for InformaCast Enabled devices)

2. Unzip the firmware version file. This file may contain the following:

- Firmware file
- Release notes
- Autoprovisioning template


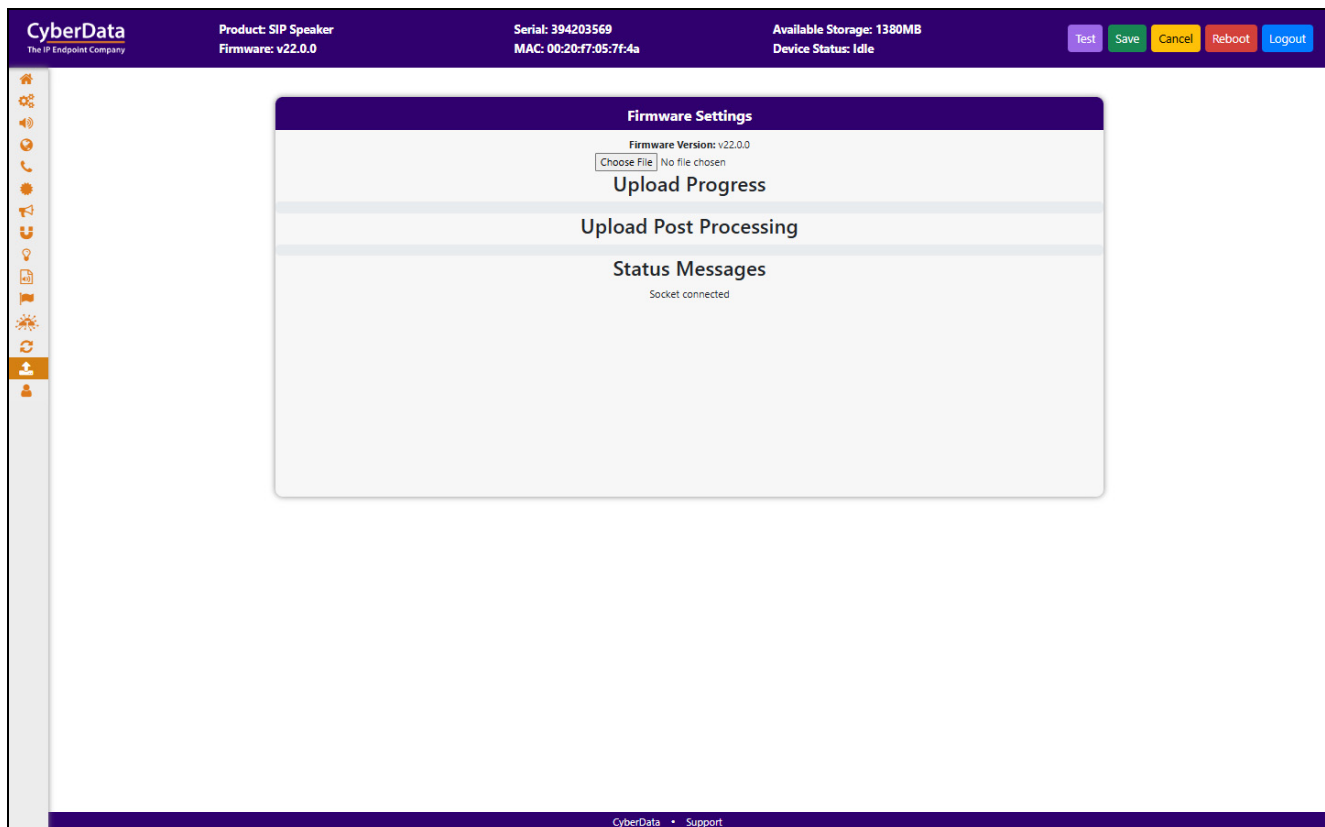
 GENERAL ALERT	<p>Caution</p> <p>Equipment Hazard: Do not reboot the device. It will reboot automatically when the process is complete.</p>
--	--

Figure 2-23. Firmware Page



The screenshot displays the CyberData web interface for a SIP Speaker. The top navigation bar includes the CyberData logo and the following information: Product: SIP Speaker, Firmware: v22.0.0, Serial: 394203569, MAC: 00:20:f7:05:7f:4a, Available Storage: 1380MB, and Device Status: Idle. Action buttons for Test, Save, Cancel, Reboot, and Logout are visible on the right. The main content area is titled 'Firmware Settings' and shows the current firmware version as v22.0.0. Below this, there is a 'Choose File' button with the text 'No file chosen'. The page is divided into sections for 'Upload Progress', 'Upload Post Processing', and 'Status Messages', with the status message indicating 'Socket connected'.

2.15 Admin

The administrator uses the Users List to create new accounts, assigning user names and passwords, and granting access to specific web pages.

Figure 2-24. Admin Page

The screenshot displays the CyberData Admin interface. At the top, the header includes the CyberData logo, product information (SIP Speaker, Firmware: v22.0.0), serial and MAC addresses, available storage (1380MB), and device status (Idle). Navigation buttons for Test, Save, Cancel, Reboot, and Logout are present.

The main content area is divided into several sections:

- Admin Settings:** Fields for Username (admin), Password, and Confirm Password.
- Logging Settings:** Debug Level (4) and Log Network Traffic (OFF). Buttons for Get Application Log, Remove Application Log, Get Network Log, Remove Network Log, Get All Logs, and Remove All Logs.
- Configuration Settings:** Partition information (v22.0.0) and buttons for Restore Default Config, Restore Default Certificates, Import Config, Export Config, and Boot From Other Partition.
- Statistics:** Storage (1380MB), Boot Count (27), Reboot Count (23), and Uptime (up 4 minutes).
- Users List:** A table with columns for Username, Home, Device, Audio, Network, SIP, SSL, Multicast, Sensor, Strobe, Audiofiles, Events, Terminus, Autopro, Firmware, and Admin. A row for 'audio' is shown with Edit and Delete buttons. Action buttons include Add New User, Delete All Users, Import Users, and Export Users.
- Log Viewer:** A section for viewing logs with a Service dropdown (Application), Entries to get (250), and Sort (Oldest) dropdown, along with a View Log button.

The footer contains the text 'CyberData • Support'.

2.16 Command Interface

Some functions on the device can be activated using simple POST commands to the web interface. The examples in [Table 2-2](#) use the free unix utility, **wget**, but any program that can send http POST commands to the device should work.

2.16.1 Command Interface Post Commands

These commands require an authenticated session (a valid username and password to work).

Table 2-2. Command Interface Post Commands

Device Action	HTTP Post Command ^a
Reboot	<code>wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null --no-check-certificate "https://10.10.1.247/command" --post-data "request=reboot"</code>
Place call to extension (example: extension 600)	<code>wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null --no-check-certificate "https://10.10.1.247/command" --post-data "request=call&extension=600"</code>
Terminate a calli	<code>wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null --no-check-certificate "https://10.10.1.247/command" --post-data "request=terminate"</code>
Speak IP Address	<code>wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null --no-check-certificate "https://10.10.1.247/command" --post-data "request=speak_ip_address"</code>
Test Audio	<code>wget --user admin --password admin --auth-no-challenge --quiet -O /dev/null --no-check-certificate "https://10.10.1.247/command" --post-data "request=test_audio"</code>
Swap Boot partitions	<code>wget --user admin --password admin --auth-no-challenge --no-check-certificate --quiet -O /dev/null "https://10.10.1.81/command" --post-data "request=swap_boot_partition"</code>

a.Type and enter all of each http POST command on one line.

Appendix A: Troubleshooting/Technical Support

A.1 Contact Information

Contact CyberData Corporation
3 Justin Court
Monterey, CA 93940 USA
www.cyberdata.net
Phone: 831-373-2601
Fax: 831-373-4193

Sales Sales 831-373-2601, Extension 334

Technical Support The fastest way to get technical support for your VoIP product is to submit a VoIP Technical Support form at the following website:

<https://support.cyberdata.net/>

The Support Form initiates a ticket which CyberData uses for tracking customer requests. Most importantly, the Support Form tells us which PBX system and software version that you are using, the make and model of the switch, and other important information. This information is essential for troubleshooting. Please also include as much detail as possible in the **Comments** section of the Support Form.

Phone: (831) 373-2601, Extension 333

A.2 Warranty and RMA Information

The most recent warranty and RMA information is available at the following website address:

<https://support.cyberdata.net/>

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