CyberData
The IP Endpoint Company

# IP66 Indoor/Outdoor Horn
# Operations Guide

Part #*011457, 011472*
Document Part #*932058A*
for Firmware Version *22.0.0*

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

**IP66 Indoor/Outdoor Horn Operations Guide 932058A**
**Part # 011457, 011472**

DISCLAIMER: Except as expressly and specifically stated in a written agreement executed by CyberData Corporation, CyberData Corporation makes no representation or warranty, express or implied, including any warranty or merchantability or fitness for any purpose, with respect to this manual or the products, software, firmware, and/or hardware described herein, and CyberData Corporation assumes no liability for damages or claims resulting from any use of this manual or such products, software, firmware, and/or hardware. CyberData Corporation reserves the right to make changes, without notice, to this manual and to any such product, software, firmware, and/or hardware.

OPEN SOURCE STATEMENT: Certain software components included in CyberData products are subject to the GNU General Public License (GPL) and Lesser GNU General Public License (LGPL) “open source” or “free software” licenses. Some of this Open Source Software may be owned by third parties. Open Source Software is not subject to the terms and conditions of the CyberData COPYRIGHT NOTICE or software licenses. Your right to copy, modify, and distribute any Open Source Software is determined by the terms of the GPL, LGPL, or third party, according to who licenses that software

Software or firmware developed by CyberData that is unrelated to Open Source Software is copyrighted by CyberData, subject to the terms of CyberData licenses, and may not be copied, modified, reverse-engineered, or otherwise altered without explicit written permission from CyberData Corporation.

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 932058A, which corresponds to firmware version 22.0.0, was released on November 19, 2024.

## Pictorial Alert Icons

| | |
|---|---|
| ⚠<br>GENERAL ALERT | General Alert<br>*This pictoral alert indicates a potentially hazardous situation. This alert will be followed by a hazard level heading and more specific information about the hazard.* |

| | |
|---|---|
| ⏚ | Ground<br>*This pictoral alert indicates the Earth grounding connection point.* |

## 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.

| | |
|---|---|
| ⚠<br>GENERAL ALERT | Warning<br>*Electrical Hazard:* This product should be installed by a licensed electrician according to all local electrical and building codes. |

| | |
|---|---|
| ⚠<br>GENERAL ALERT | Warning<br>*Electrical Hazard:* To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions. |

| | |
|---|---|
| ⚠<br>GENERAL ALERT | Warning<br>The PoE connector is intended for intra-building connections only and does not route to the outside plant. |

# 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 |

# Contents

# 1 Device Setup

## 1.1 Setup and Factory Default settings

Configure each IP66 Indoor/Outdoor Horn and verify its operation before you mount it.

Use a standard web browser to configure the Horn online.

When configuring more than one IP66 Indoor/Outdoor Horn, attach the IHorns to the network and configure one at a time to avoid IP address conflicts.

When you are ready to mount the Horns, refer to the Quick Reference Placemat for instructions. The placemat is available in the **Documentation** tab of the CyberData product webpage for your device.

CyberData delivers each IP66 Indoor/Outdoor Horn with the factory default values indicated in Table 1-1.

**Table 1-1. Factory Default Settings**

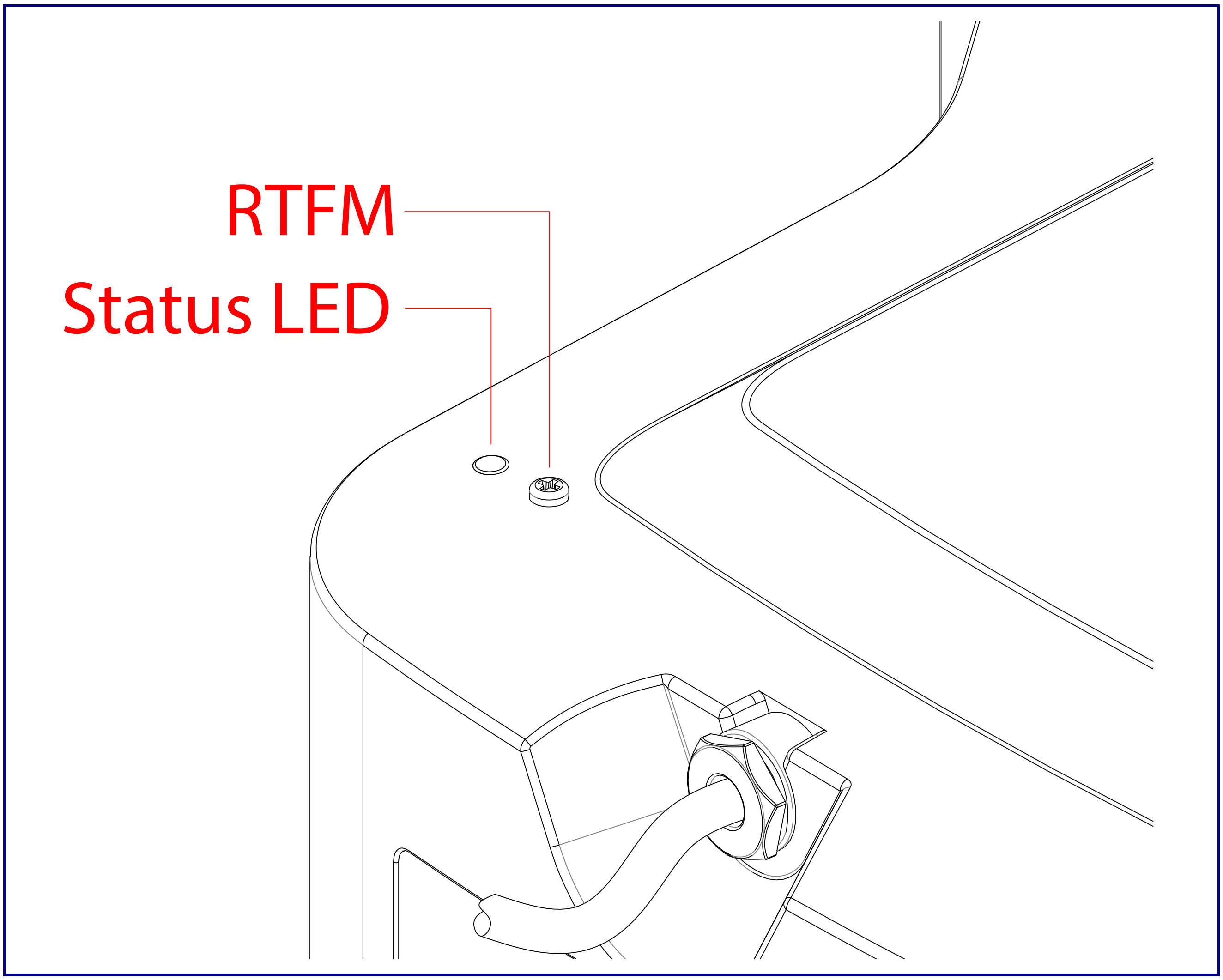
| Parameter | Factory Default Setting |
|---|---|
| IP Addressing | DHCP |
| IP Address[a] | 192.168.1.23 |
| Web Access Username | admin |
| Web Access Password | admin |
| Subnet Mask[a] | 255.255.255.0 |
| Default Gateway[a] | 192.168.1.1 |

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

## 1.2 Power Test and Status LED

1. Plug in the CyberData device and monitor the Status LED activity on the bottom side of the horn during the initialization process. See Figure 1-1.

**Figure 1-1. Status LED**



2. After about 20 seconds, the **GREEN Status** LED will blink fast to indicate that the device is acquiring an IP address and attempting to autoprovision. It will turn off thereafter until the device has finished booting. When the device has fully booted, the **GREEN Status** LED will turn on solid.

   If there is no DHCP server available on the network, it will try 12 times for 60 seconds and eventually fall back to the programmed static IP address (by default 192.168.1.23) or the previously used DHCP address if a prior lease was established. This process will take approximately 80 seconds.

3. When the device has completed the initialization process, pressing and holding the RTFM switch for a couple of seconds will announce the IP address. See Section 1.3, "RTFM Switch"

   This concludes the power test.

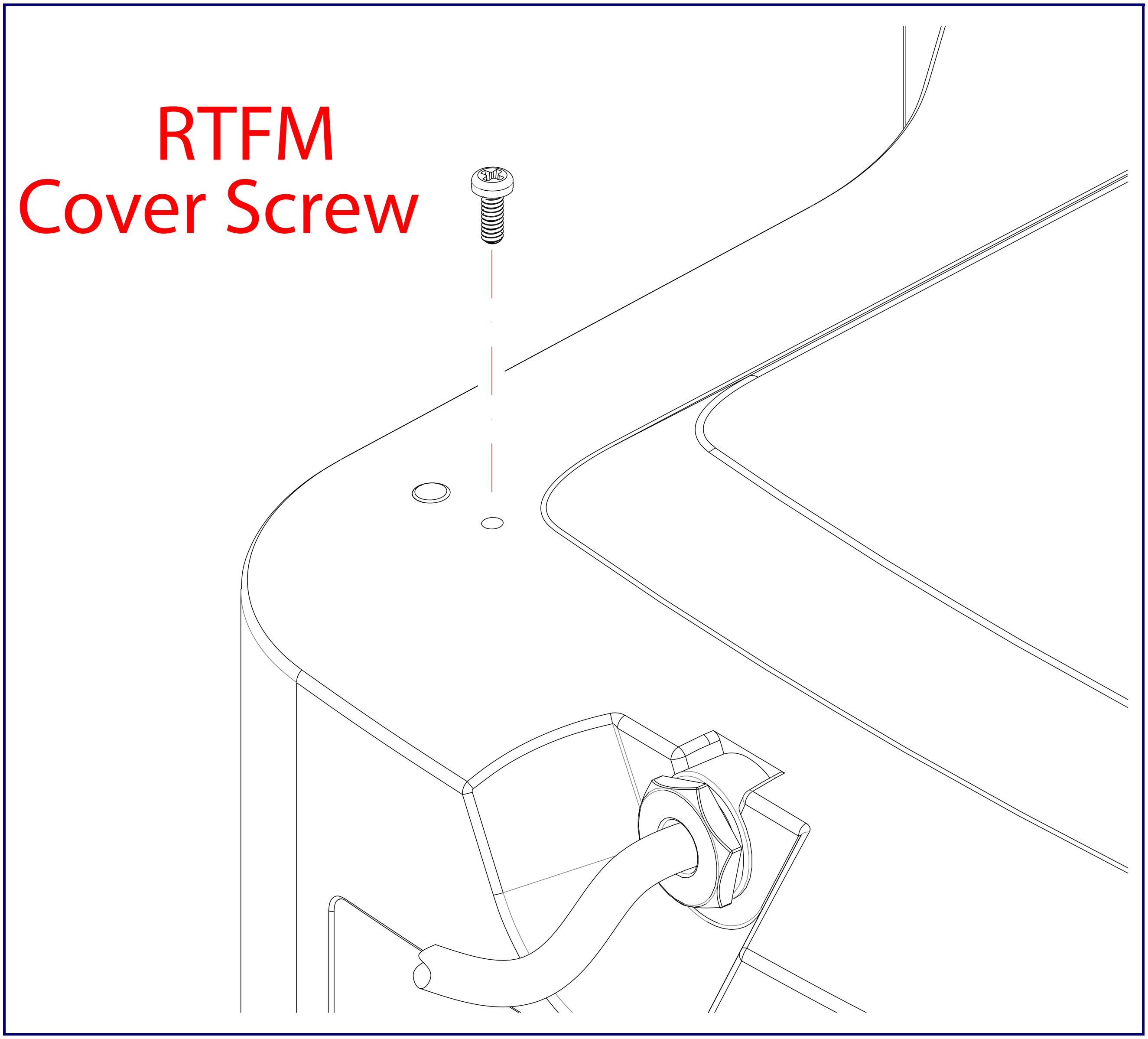
## 1.3 RTFM Switch

When the IP66 Indoor/Outdoor Horn is operational and linked to the network, use the Reset Test Function Management **(RTFM)** switch (Figure 1-3) (located behind the hole on the device) to announce and confirm the device's IP Address and test the audio to verify that it is working.

### 1.3.1 RTFM Access

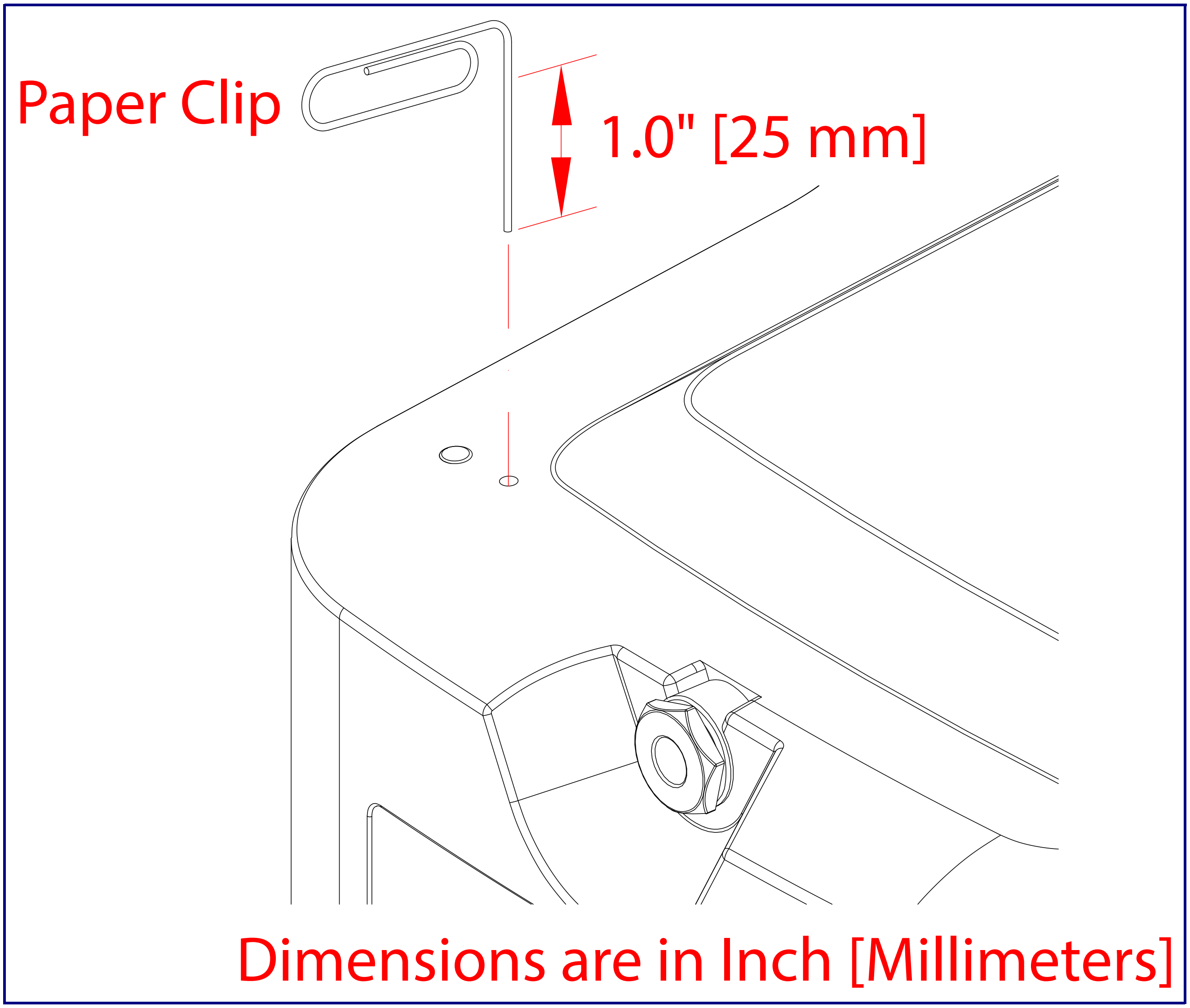
The RTFM switch access will be on the bottom side of the horn hidden under a screw (Figure 1-2) that will be used to keep the unit IP66 sealed with the gasket washer. Remove the screw to gain access to the RTFM switch (Figure 1-3).

**Figure 1-2. Remove the screw to gain access to the RTFM switch**



4. Use a paper clip to feed through the hole to press the RTFM switch. See Figure 1-3.

**Figure 1-3. RTFM Switch**



## 1.3.2 Announcing the IP Address

To announce a device's current IP address:

- Use a bent paperclip or a similar object to press and hold the RTFM switch for a couple of seconds and then release it.

| | |
|---|---|
| ⚠<br>GENERAL ALERT | Caution<br>*Equipment Caution:* Pressing and holding the RTFM switch for more than five seconds will restore the device to the factory default settings. See the "Restoring the Factory Default Settings" section. |

## 1.3.3 Restoring the Factory Default Settings

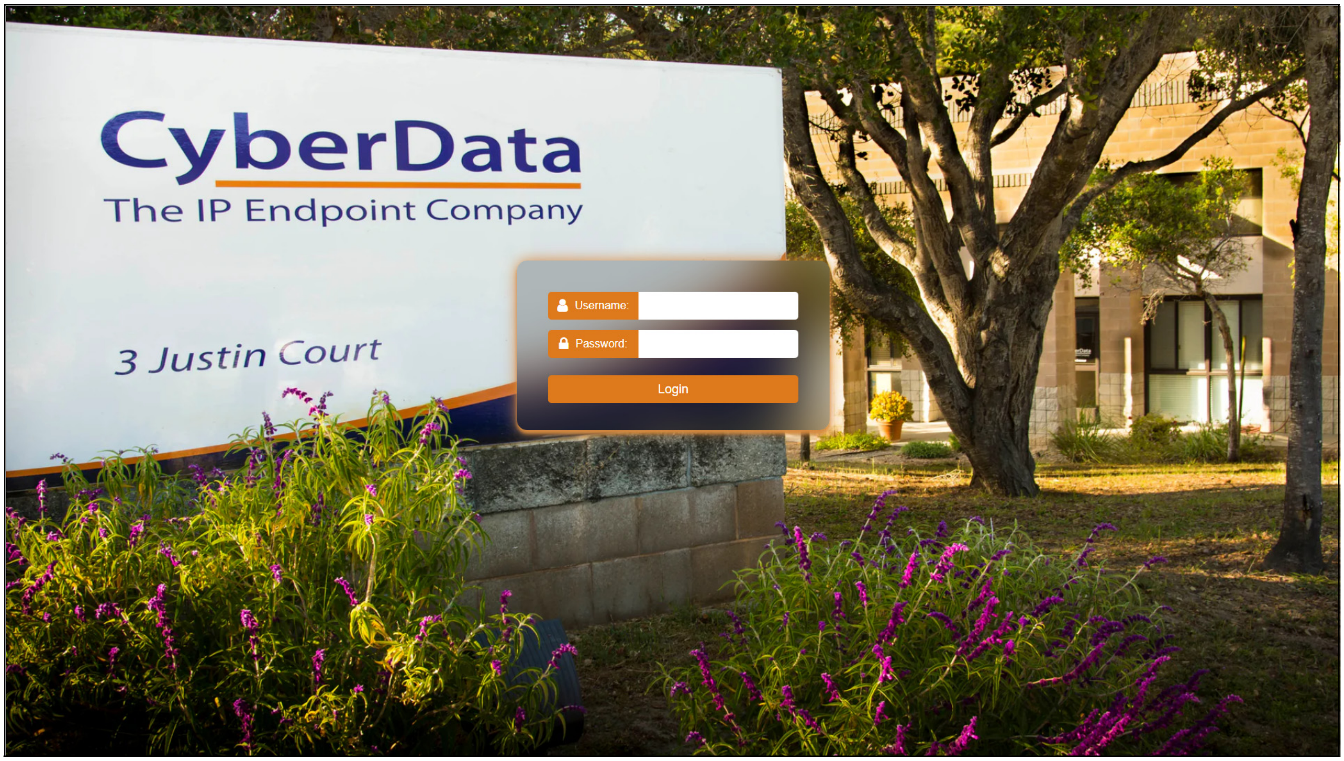
To restore the factory default settings, complete the following steps:

1. Use a bent paperclip or a similar object to press and hold the RTFM switch until you hear the device announce the words, "restoring defaults" and "rebooting".
2. Release the RTFM switch. The device will be restored to the factory default settings.

# 2 Configure the Device

## 2.4 Home Page

**Figure 2-4. Log In Page**



1. Open your browser to the IP66 Indoor/Outdoor Horn 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 IP66 Indoor/Outdoor Horn.

**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**

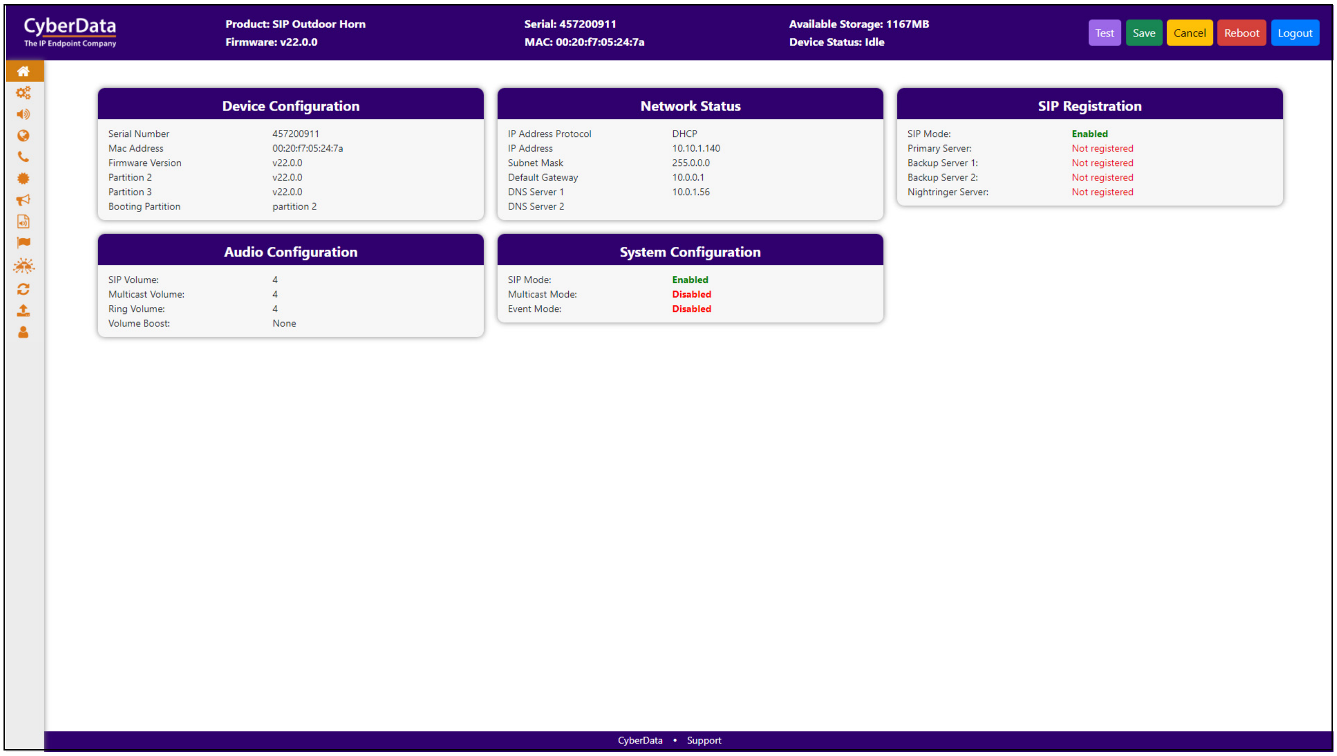
**Note** The Intercom ships in DHCP mode. To get to the **Home** page, use the discovery utility to scan for the device on the network and open your browser from there.

2. On the Log In Page (Figure 2-4), use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-5):

   Web Access Username: **admin**

   Web Access Password: **admin**

**Figure 2-5. Home Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0

Serial: 457200911
MAC: 00:20:f7:05:24:7a

Available Storage: 1167MB
Device Status: Idle

**Device Configuration**

| | |
|---|---|
| Serial Number | 457200911 |
| Mac Address | 00:20:f7:05:24:7a |
| Firmware Version | v22.0.0 |
| Partition 2 | v22.0.0 |
| Partition 3 | v22.0.0 |
| Booting Partition | partition 2 |

**Network Status**

| | |
|---|---|
| IP Address Protocol | DHCP |
| IP Address | 10.10.1.140 |
| Subnet Mask | 255.0.0.0 |
| Default Gateway | 10.0.0.1 |
| DNS Server 1 | 10.0.1.56 |
| DNS Server 2 | |

**SIP Registration**

| | |
|---|---|
| SIP Mode: | Enabled |
| Primary Server: | Not registered |
| Backup Server 1: | Not registered |
| Backup Server 2: | Not registered |
| Nightringer Server: | Not registered |

**Audio Configuration**

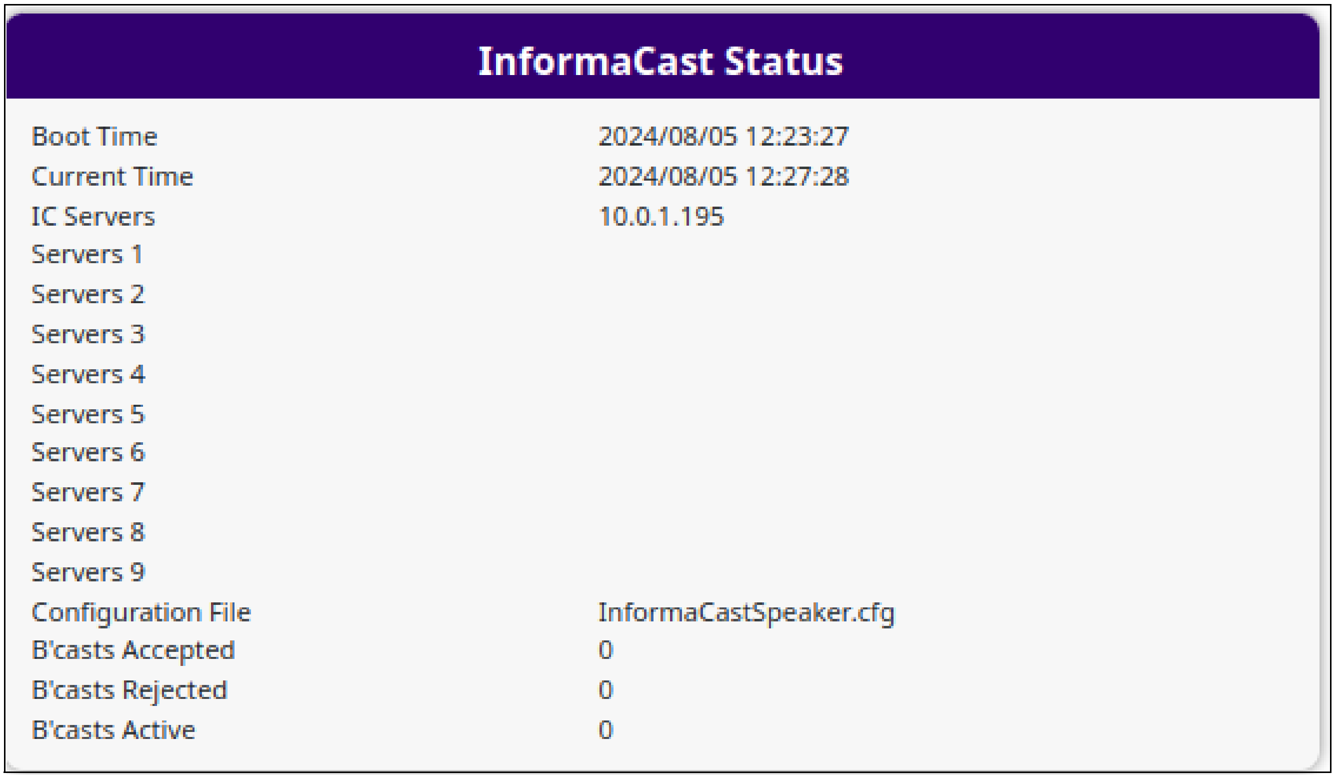
| | |
|---|---|
| SIP Volume: | 4 |
| Multicast Volume: | 4 |
| Ring Volume: | 4 |
| Volume Boost: | None |

**System Configuration**

| | |
|---|---|
| SIP Mode: | Enabled |
| Multicast Mode: | Disabled |
| Event Mode: | Disabled |

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

**Figure 2-6. InformaCast enabled Device**

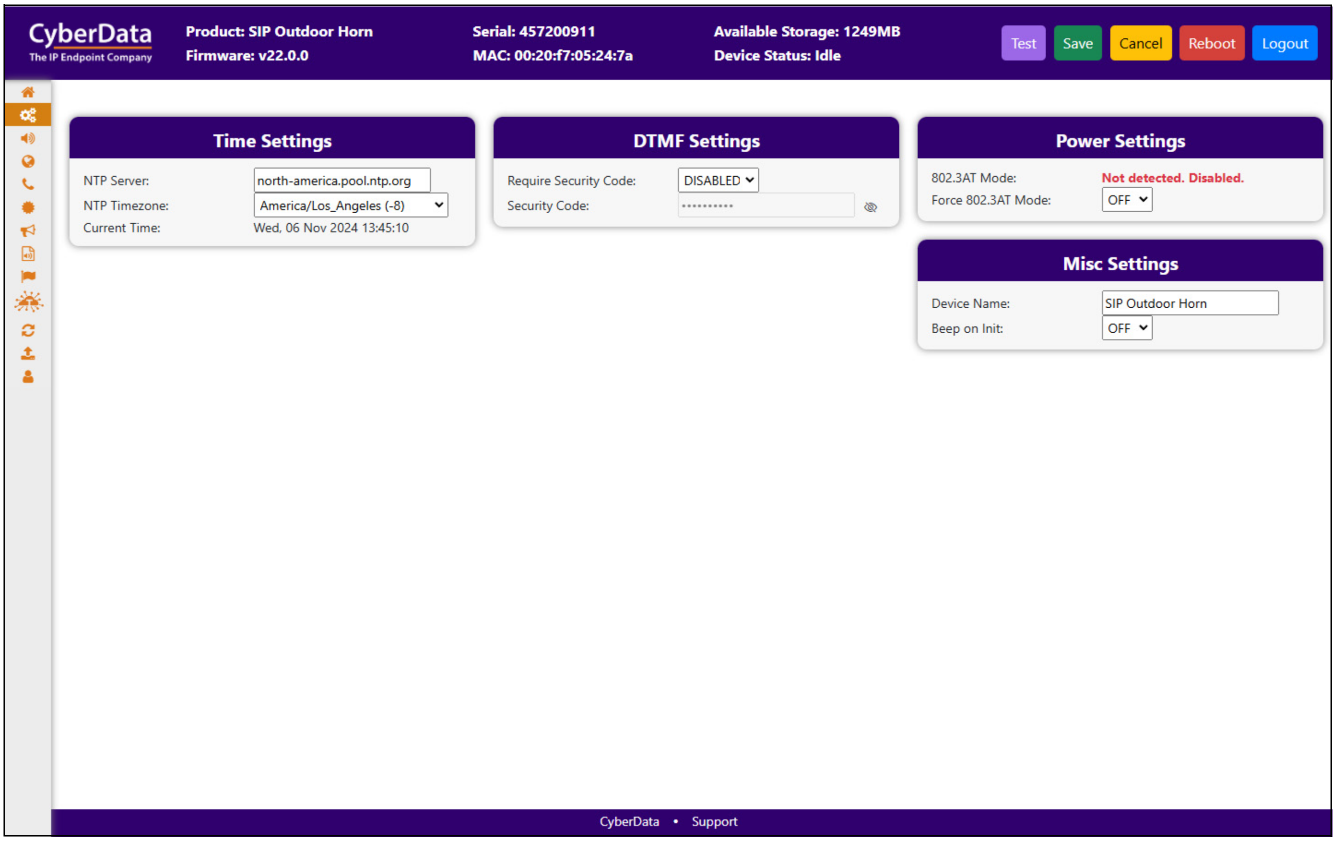


**InformaCast Status**

| | |
|---|---|
| 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 |

# 2.5 Device

Figure 2-7. Device Configuration Page



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1249MB
Device Status: Idle

**Time Settings**

NTP Server: north-america.pool.ntp.org
NTP Timezone: America/Los_Angeles (-8)
Current Time: Wed, 06 Nov 2024 13:45:10

**DTMF Settings**

Require Security Code: DISABLED
Security Code: ••••••••••

**Power Settings**

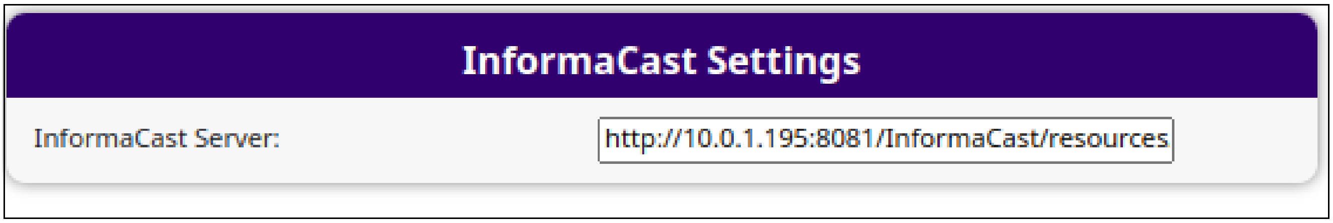
802.3AT Mode: Not detected. Disabled.
Force 802.3AT Mode: OFF

**Misc Settings**

Device Name: SIP Outdoor Horn
Beep on Init: OFF

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

Figure 2-8. InformaCast enabled Device

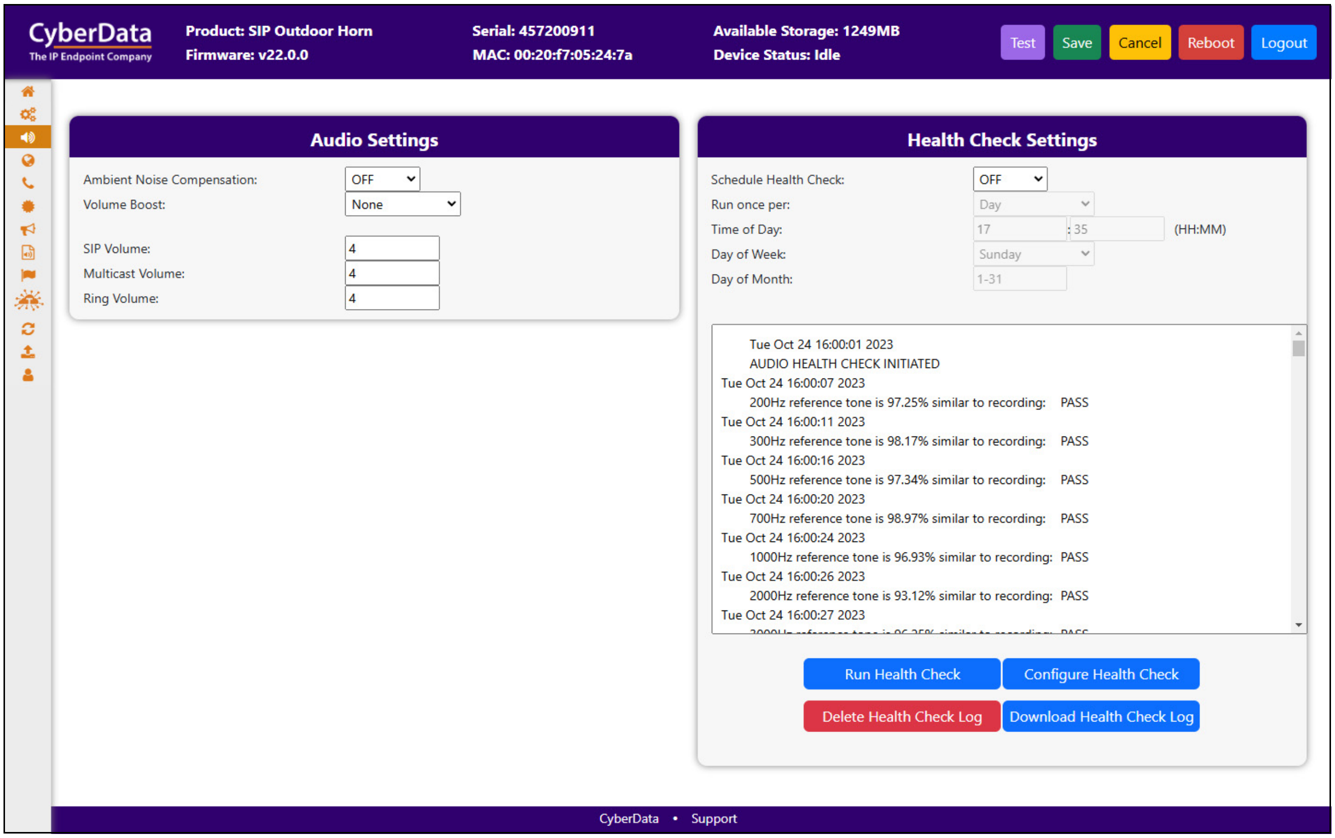


**InformaCast Settings**

InformaCast Server: http://10.0.1.195:8081/InformaCast/resources

# 2.6 Audio

**Figure 2-9. Audio Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1249MB
Device Status: Idle

**Audio Settings**

| | |
|---|---|
| Ambient Noise Compensation: | OFF |
| Volume Boost: | None |
| SIP Volume: | 4 |
| Multicast Volume: | 4 |
| Ring Volume: | 4 |

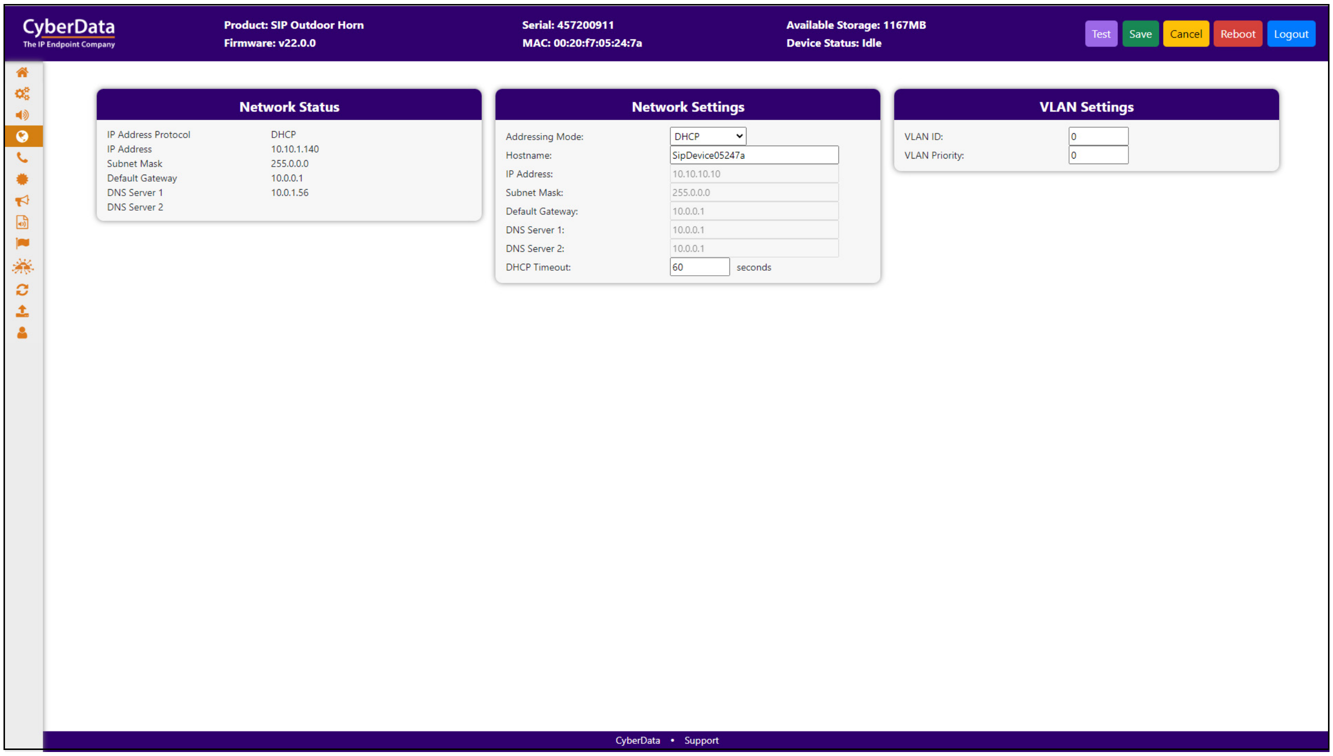
**Health Check Settings**

| | |
|---|---|
| Schedule Health Check: | OFF |
| Run once per: | Day |
| Time of Day: | 17 : 35 (HH:MM) |
| Day of Week: | Sunday |
| Day of Month: | 1-31 |

```
        Tue Oct 24 16:00:01 2023
        AUDIO HEALTH CHECK INITIATED
Tue Oct 24 16:00:07 2023
        200Hz reference tone is 97.25% similar to recording:    PASS
Tue Oct 24 16:00:11 2023
        300Hz reference tone is 98.17% similar to recording:    PASS
Tue Oct 24 16:00:16 2023
        500Hz reference tone is 97.34% similar to recording:    PASS
Tue Oct 24 16:00:20 2023
        700Hz reference tone is 98.97% similar to recording:    PASS
Tue Oct 24 16:00:24 2023
        1000Hz reference tone is 96.93% similar to recording:  PASS
Tue Oct 24 16:00:26 2023
        2000Hz reference tone is 93.12% similar to recording:  PASS
Tue Oct 24 16:00:27 2023
        3000Hz reference tone is 96.25% similar to recording:  PASS
```

## 2.7 Network

**Figure 2-10. Network Page**



**Product: SIP Outdoor Horn**
**Firmware: v22.0.0**

**Serial: 457200911**
**MAC: 00:20:f7:05:24:7a**

**Available Storage: 1167MB**
**Device Status: Idle**

**Network Status**

| | |
|---|---|
| IP Address Protocol | DHCP |
| IP Address | 10.10.1.140 |
| Subnet Mask | 255.0.0.0 |
| Default Gateway | 10.0.0.1 |
| DNS Server 1 | 10.0.1.56 |
| DNS Server 2 | |

**Network Settings**

| | |
|---|---|
| Addressing Mode: | DHCP |
| Hostname: | SipDevice05247a |
| 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**

| | |
|---|---|
| VLAN ID: | 0 |
| VLAN Priority: | 0 |

# 2.8 SIP (Session Initiation Protocol)

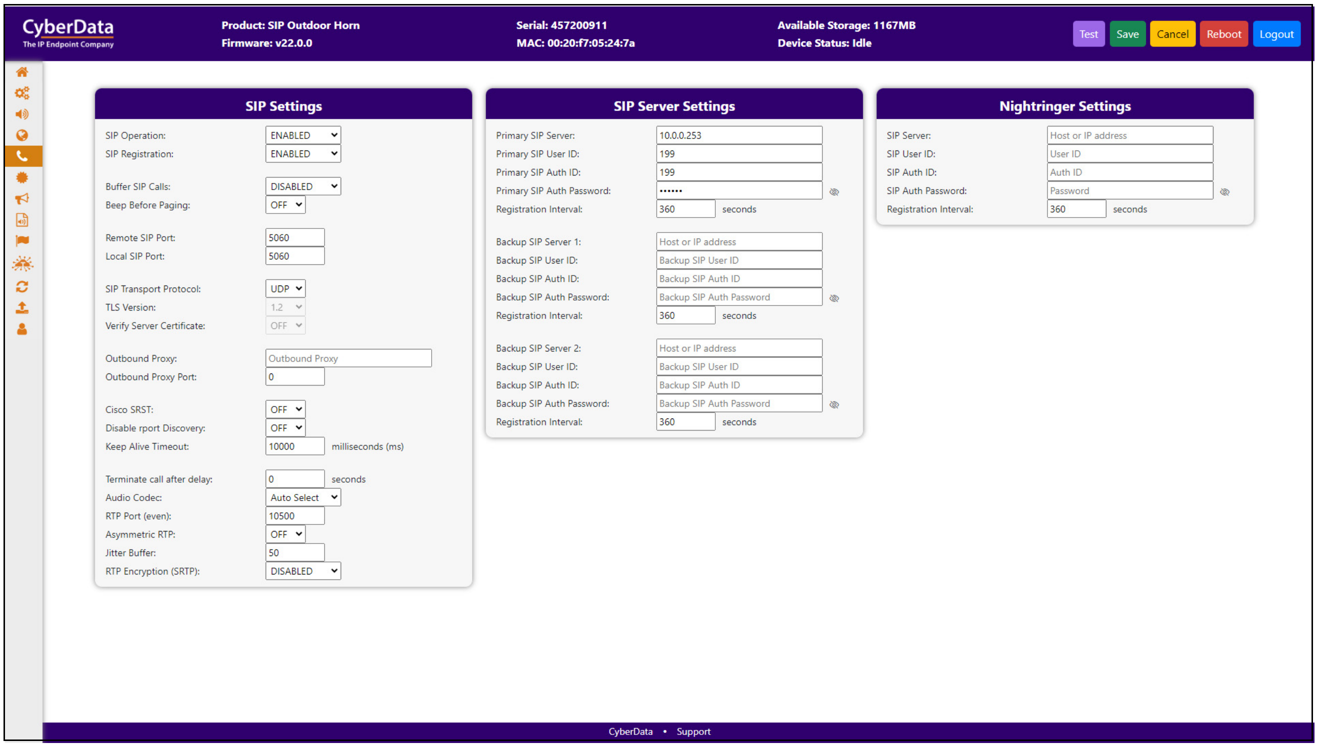
This page sets the options for phone calls. Configure up to 3 servers, with 2 acting as backup, and a server for the nightringer. The nightringer is a second sip extension that only rings, never connects to a call. Many customers use the nightringer in a hunt group.

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 2-11. SIP Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1167MB
Device Status: Idle

**SIP Settings**

| | |
|---|---|
| SIP Operation: | ENABLED |
| SIP Registration: | ENABLED |
| Buffer SIP Calls: | DISABLED |
| Beep Before Paging: | OFF |
| Remote SIP Port: | 5060 |
| Local SIP Port: | 5060 |
| SIP Transport Protocol: | UDP |
| TLS Version: | 1.2 |
| Verify Server Certificate: | OFF |
| Outbound Proxy: | Outbound Proxy |
| Outbound Proxy Port: | 0 |
| Cisco SRST: | OFF |
| Disable rport Discovery: | OFF |
| Keep Alive Timeout: | 10000 milliseconds (ms) |
| Terminate call after delay: | 0 seconds |
| Audio Codec: | Auto Select |
| RTP Port (even): | 10500 |
| Asymmetric RTP: | OFF |
| Jitter Buffer: | 50 |
| RTP Encryption (SRTP): | DISABLED |

**SIP Server Settings**

| | |
|---|---|
| Primary SIP Server: | 10.0.0.253 |
| Primary SIP User ID: | 199 |
| Primary SIP Auth ID: | 199 |
| Primary SIP Auth Password: | •••••• |
| Registration Interval: | 360 seconds |
| Backup SIP Server 1: | Host or IP address |
| Backup SIP User ID: | Backup SIP User ID |
| Backup SIP Auth ID: | Backup SIP Auth ID |
| Backup SIP Auth Password: | Backup SIP Auth Password |
| Registration Interval: | 360 seconds |
| Backup SIP Server 2: | Host or IP address |
| Backup SIP User ID: | Backup SIP User ID |
| Backup SIP Auth ID: | Backup SIP Auth ID |
| Backup SIP Auth Password: | Backup SIP Auth Password |
| Registration Interval: | 360 seconds |

**Nightringer Settings**

| | |
|---|---|
| SIP Server: | Host or IP address |
| SIP User ID: | User ID |
| SIP Auth ID: | Auth ID |
| SIP Auth Password: | Password |
| Registration Interval: | 360 seconds |

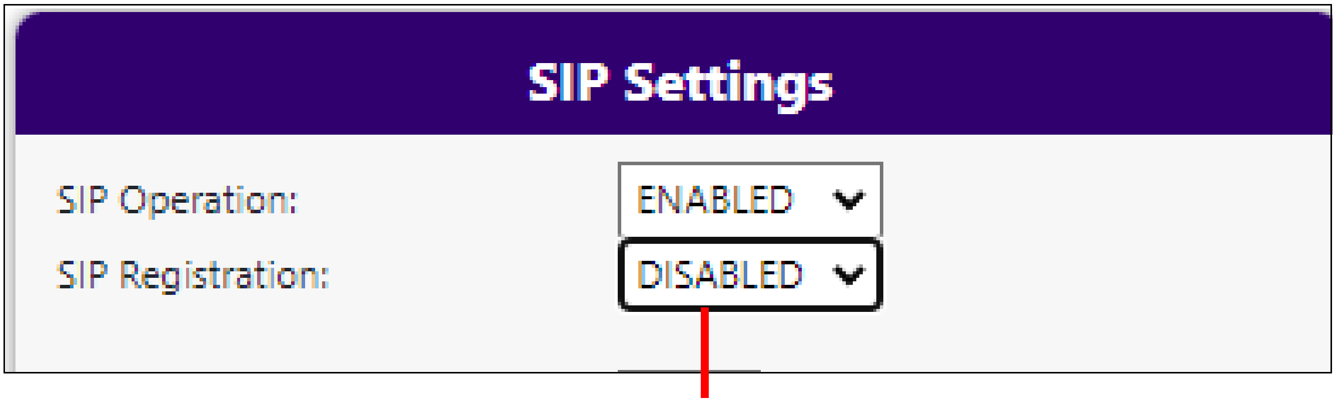
## 2.8.1 Dial Out Extension Strings and DTMF Tones (using rfc2833)

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

## 2.8.2 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 2-12.

**Figure 2-12. SIP Page Set to Point-to-Point Mode**



SIP Settings

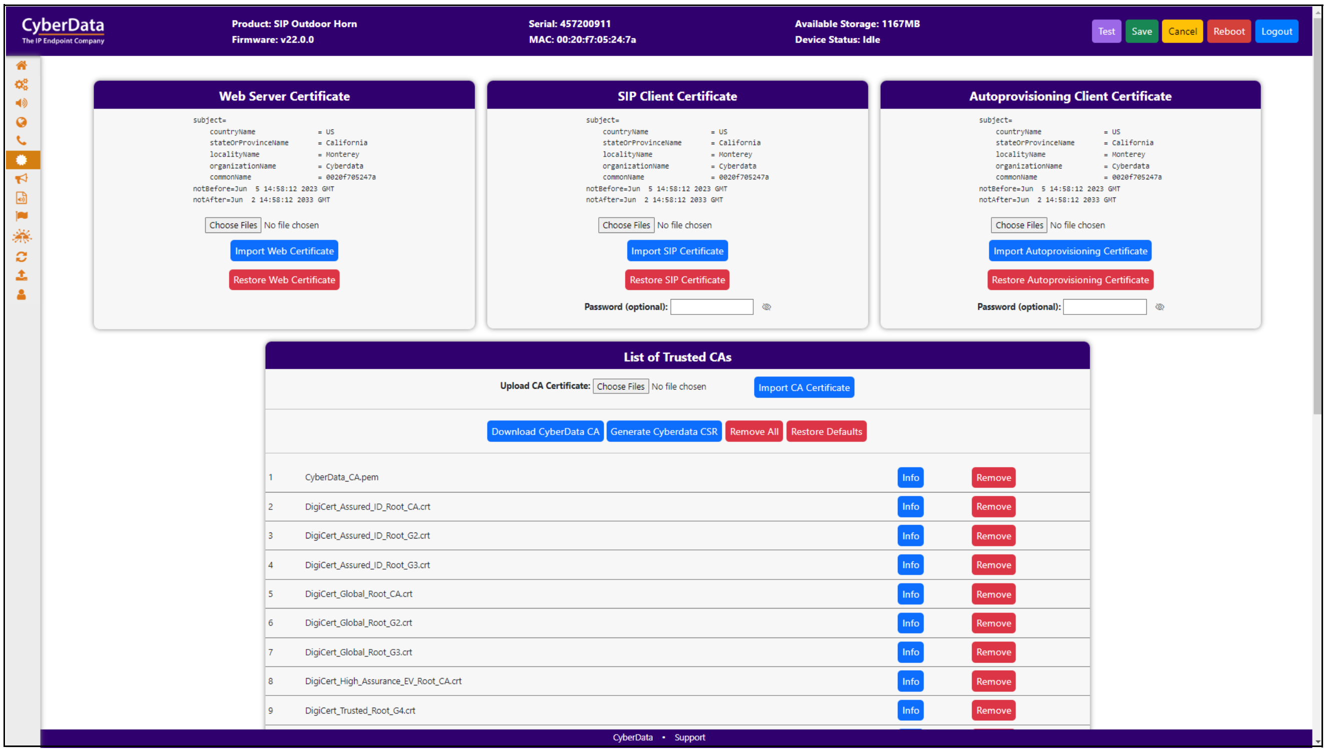
SIP Operation: ENABLED

SIP Registration: DISABLED

Device is set to NOT register with a SIP server

# 2.9 SSL

Figure 2-13. SSL Page



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1167MB
Device Status: Idle

**Web Server Certificate**

```
subject=
    countryName               = US
    stateOrProvinceName       = California
    localityName              = Monterey
    organizationName          = Cyberdata
    commonName                = 0020f705247a
notBefore=Jun  5 14:58:12 2023 GMT
notAfter=Jun  2 14:58:12 2033 GMT
```

Choose Files No file chosen

**SIP Client Certificate**

```
subject=
    countryName               = US
    stateOrProvinceName       = California
    localityName              = Monterey
    organizationName          = Cyberdata
    commonName                = 0020f705247a
notBefore=Jun  5 14:58:12 2023 GMT
notAfter=Jun  2 14:58:12 2033 GMT
```

Choose Files No file chosen

Password (optional):

**Autoprovisioning Client Certificate**

```
subject=
    countryName               = US
    stateOrProvinceName       = California
    localityName              = Monterey
    organizationName          = Cyberdata
    commonName                = 0020f705247a
notBefore=Jun  5 14:58:12 2023 GMT
notAfter=Jun  2 14:58:12 2033 GMT
```

Choose Files No file chosen

Import Autoprovisioning Certificate
Restore Autoprovisioning Certificate

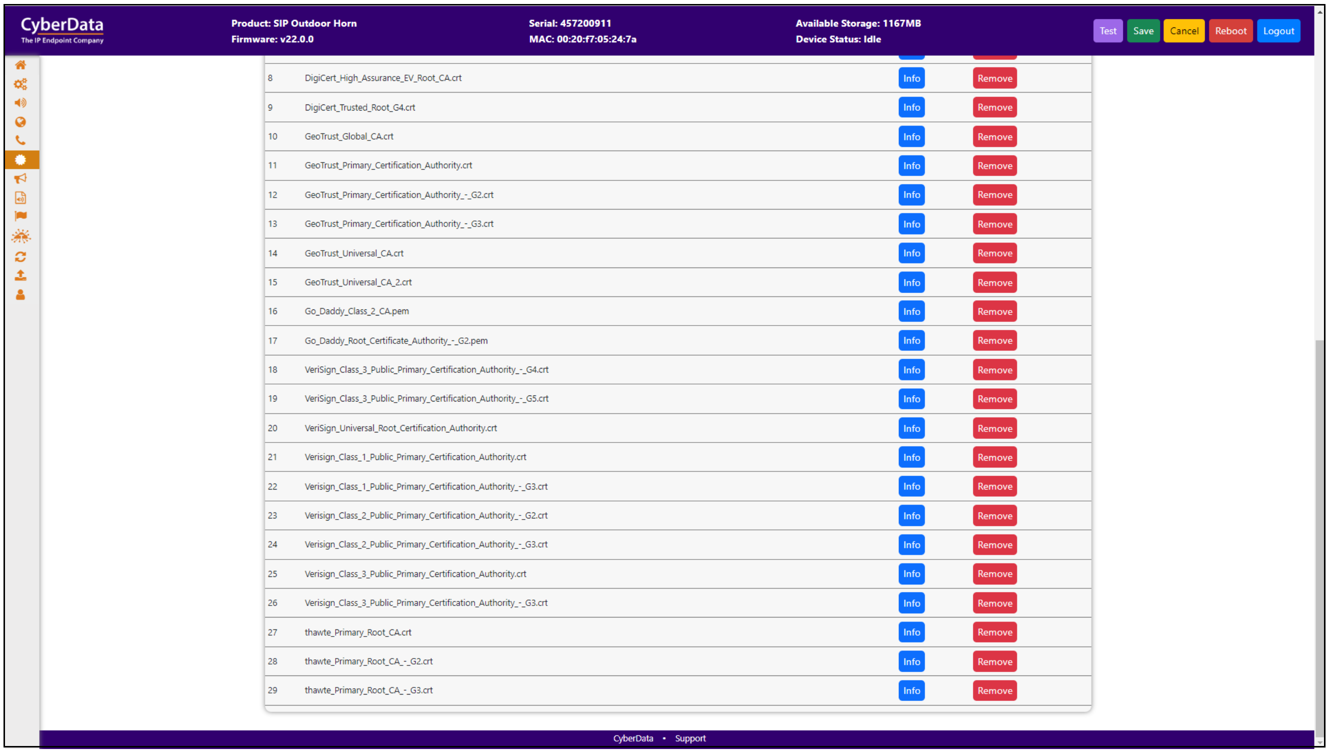
Password (optional):

**List of Trusted CAs**

Upload CA Certificate: Choose Files No file chosen

| | | | |
|---|---|---|---|
| 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 |
| 9 | DigiCert_Trusted_Root_G4.crt | Info | Remove |

Figure 2-14. SSL Page



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1167MB
Device Status: Idle

| | | | |
|---|---|---|---|
| 8 | DigiCert_High_Assurance_EV_Root_CA.crt | 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 |

# 2.10 Multicast

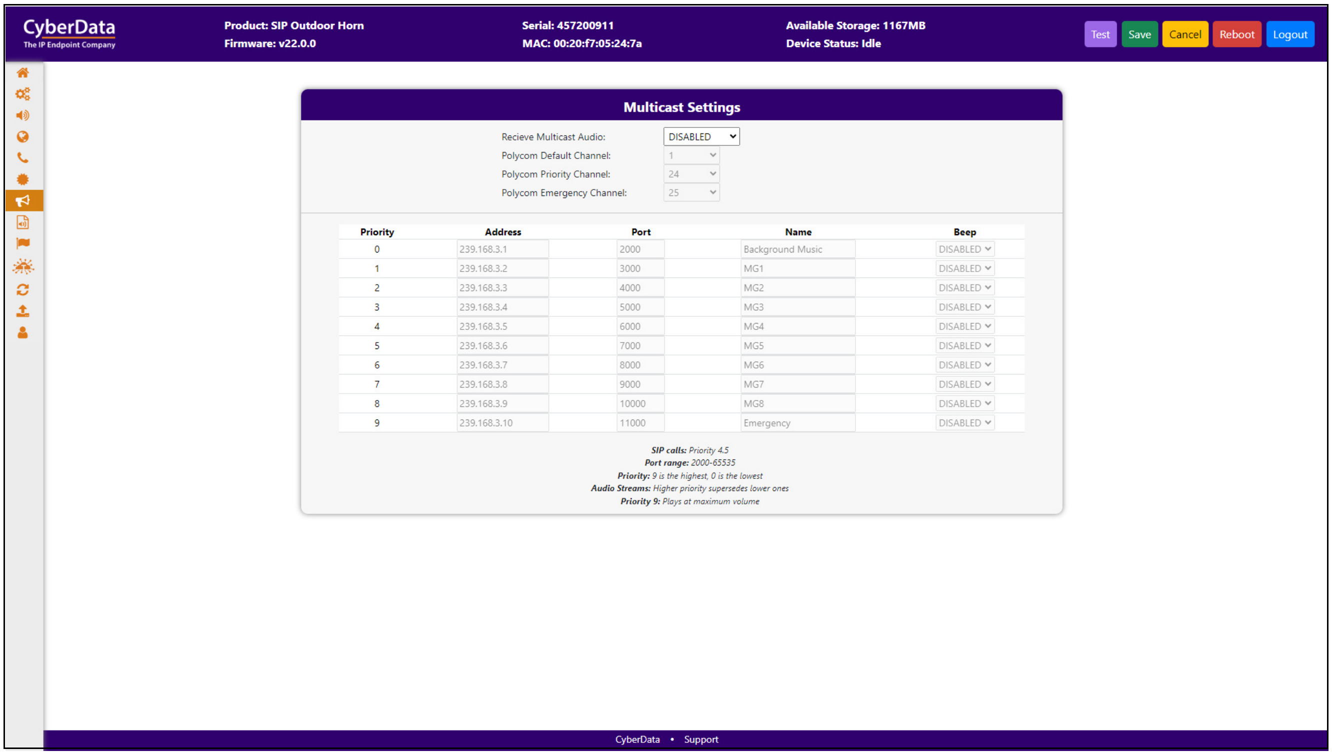
The Multicast Configuration page allows the device to join up to ten paging zones for receiving RTP audio streams. A paging zone can consist of one or many CyberData multicast group-enabled products. There is no limit to how many speakers can participate in a given paging zone. Each multicast group is 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. The device will prioritize simultaneous audio streams according to their priority in the list. If both SIP and Multicast is enabled, SIP audio streams are considered priority 4.5. SIP audio will interrupt multicast streams with priority 0 through 4 and will be interrupted by multicast streams with priority 5 through 9.

During priority 9 multicast streams, the volume is set to maximum. Ringtones all play at the same priority level. This means that it is possible to have a nightring tone and a normal ringtone playing at the same time.

To use Polycom Group Paging, configure a multicast group with the IP address and port number of the Polycom phone. The default is 224.0.1.116, port 5001, but can be configured through the phone. Polycom defaults to channels 1, 24, and 25, but can also be configured. The payload should be 20 ms and the codec G711mu.

**Figure 2-15. Multicast Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1167MB
Device Status: Idle

**Multicast Settings**

Recieve Multicast Audio: DISABLED
Polycom Default Channel: 1
Polycom Priority Channel: 24
Polycom Emergency Channel: 25

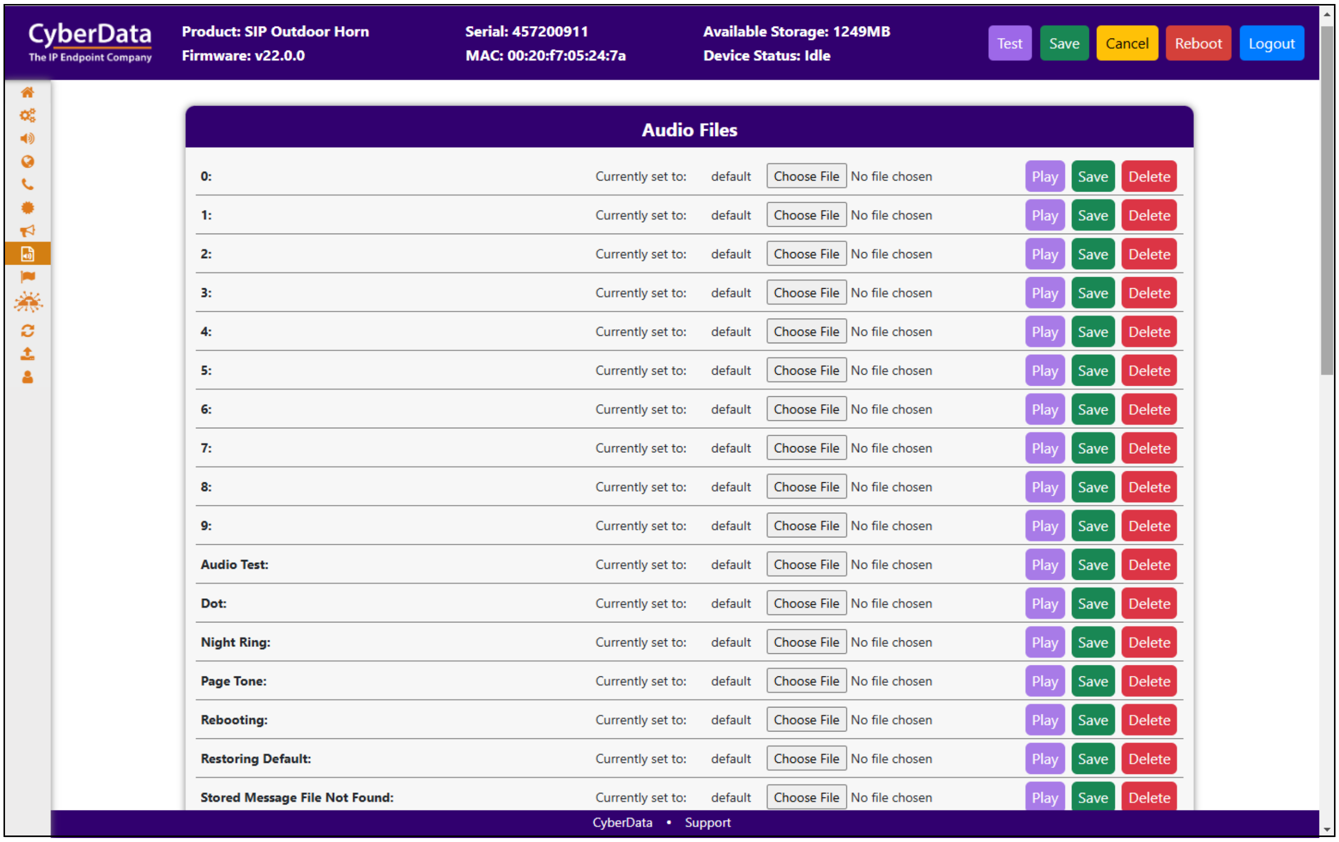
| Priority | Address | Port | Name | Beep |
|---|---|---|---|---|
| 0 | 239.168.3.1 | 2000 | Background Music | DISABLED |
| 1 | 239.168.3.2 | 3000 | MG1 | DISABLED |
| 2 | 239.168.3.3 | 4000 | MG2 | DISABLED |
| 3 | 239.168.3.4 | 5000 | MG3 | DISABLED |
| 4 | 239.168.3.5 | 6000 | MG4 | DISABLED |
| 5 | 239.168.3.6 | 7000 | MG5 | DISABLED |
| 6 | 239.168.3.7 | 8000 | MG6 | DISABLED |
| 7 | 239.168.3.8 | 9000 | MG7 | DISABLED |
| 8 | 239.168.3.9 | 10000 | MG8 | DISABLED |
| 9 | 239.168.3.10 | 11000 | Emergency | 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*

## 2.11 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 Intercom.

**Figure 2-16. Audiofiles Page**



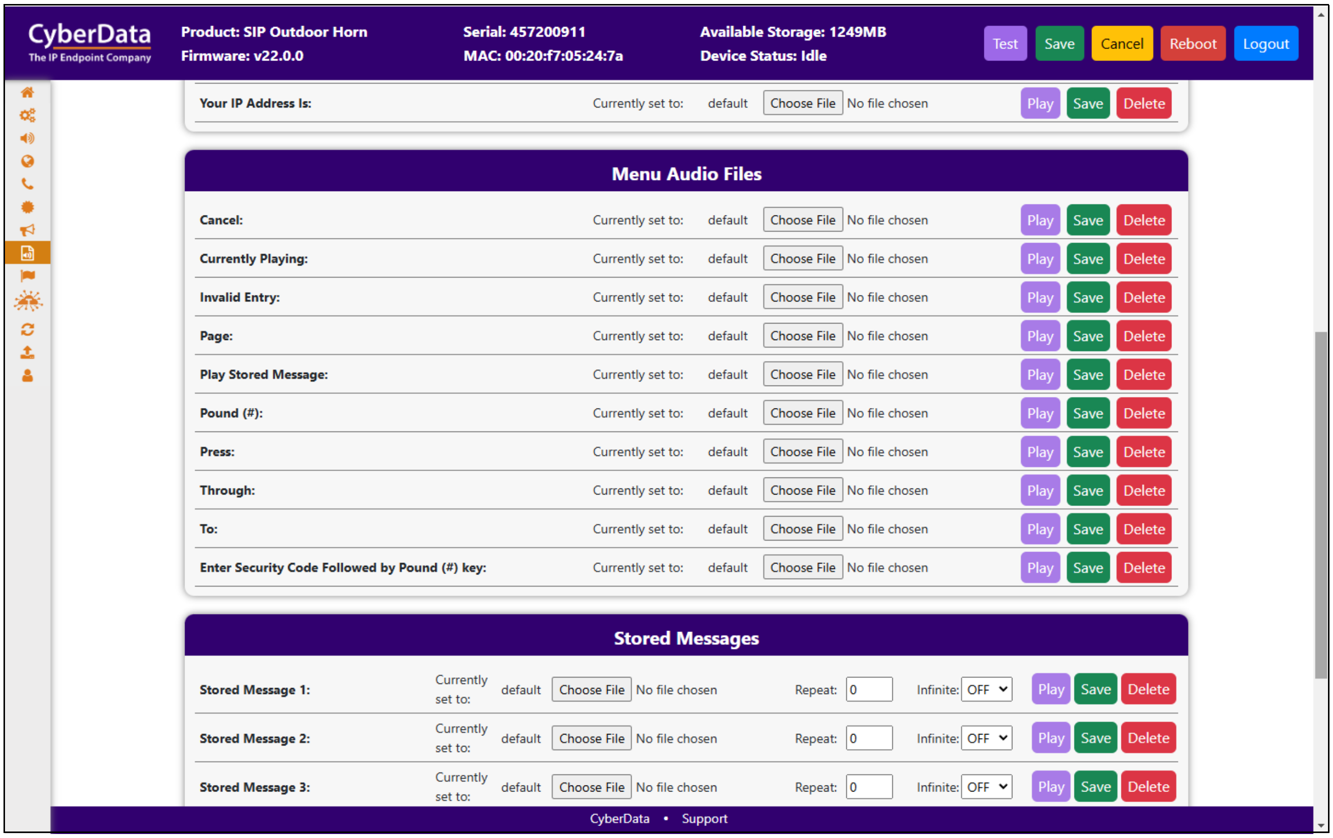
Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1249MB
Device Status: Idle

### Audio Files

| | | | | | |
|---|---|---|---|---|---|
| **0:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **1:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **2:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **3:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **4:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **5:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **6:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **7:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **8:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **9:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **Audio Test:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **Dot:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **Night Ring:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **Page Tone:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **Rebooting:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **Restoring Default:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |
| **Stored Message File Not Found:** | Currently set to: | default | Choose File | No file chosen | Play Save Delete |

CyberData • Support

**Figure 2-17. Audiofiles Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1249MB
Device Status: Idle

| | | | | |
|---|---|---|---|---|
| **Your IP Address Is:** | Currently set to: | default | Choose File No file chosen | Play Save Delete |

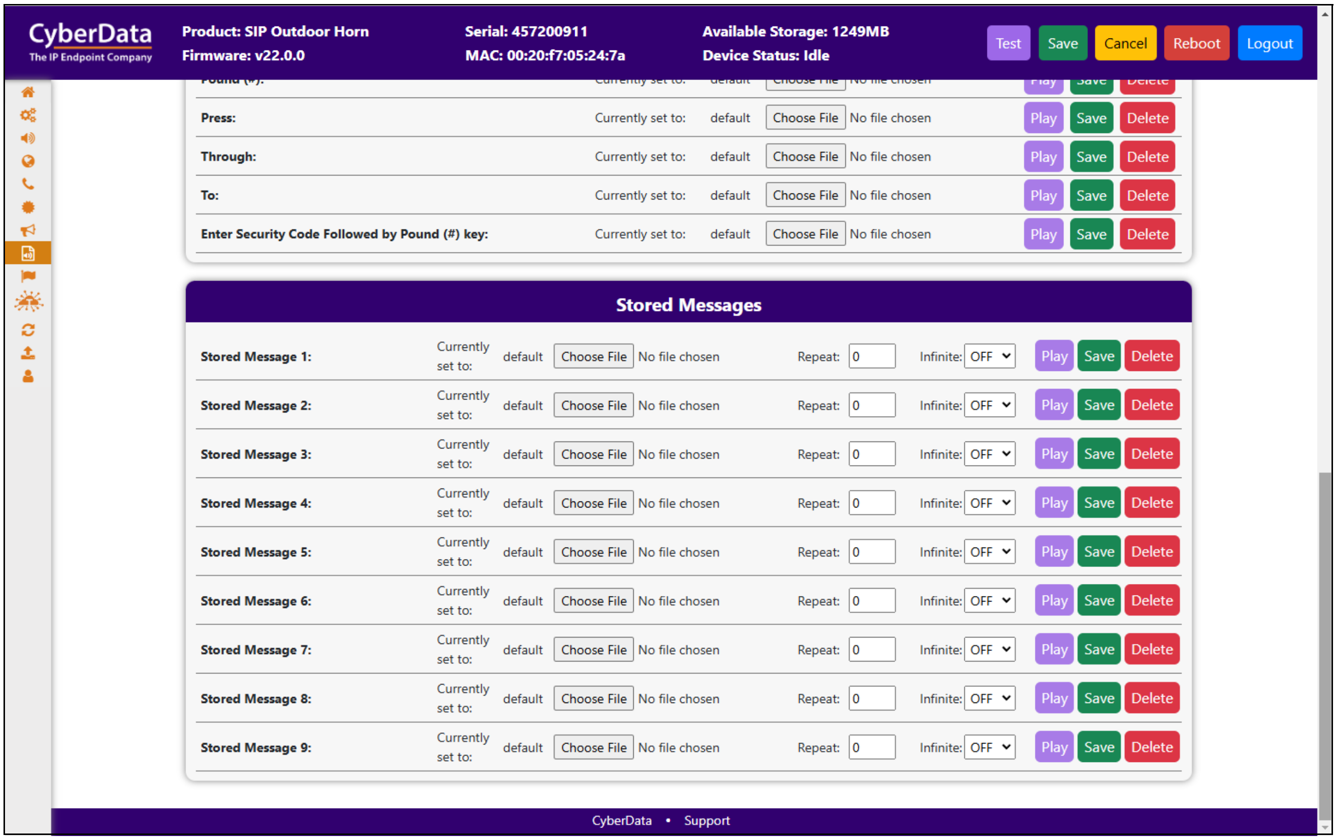
**Menu Audio Files**

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

**Stored Messages**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Stored Message 1:** | Currently set to: | default | Choose File No file chosen | Repeat: 0 | Infinite: OFF | Play Save Delete |
| **Stored Message 2:** | Currently set to: | default | Choose File No file chosen | Repeat: 0 | Infinite: OFF | Play Save Delete |
| **Stored Message 3:** | Currently set to: | default | Choose File No file chosen | Repeat: 0 | Infinite: OFF | Play Save Delete |

**Figure 2-18. Audiofiles Page**



**Product: SIP Outdoor Horn**
**Firmware: v22.0.0**
**Serial: 457200911**
**MAC: 00:20:f7:05:24:7a**
**Available Storage: 1249MB**
**Device Status: Idle**

| | | | | |
|---|---|---|---|---|
| **Pound (#):** | Currently set to: | default | Choose File No file chosen | Play Save Delete |
| **Press:** | Currently set to: | default | Choose File No file chosen | Play Save Delete |
| **Through:** | Currently set to: | default | Choose File No file chosen | Play Save Delete |
| **To:** | Currently set to: | default | Choose File No file chosen | Play Save Delete |
| **Enter Security Code Followed by Pound (#) key:** | Currently set to: | default | Choose File No file chosen | Play Save Delete |

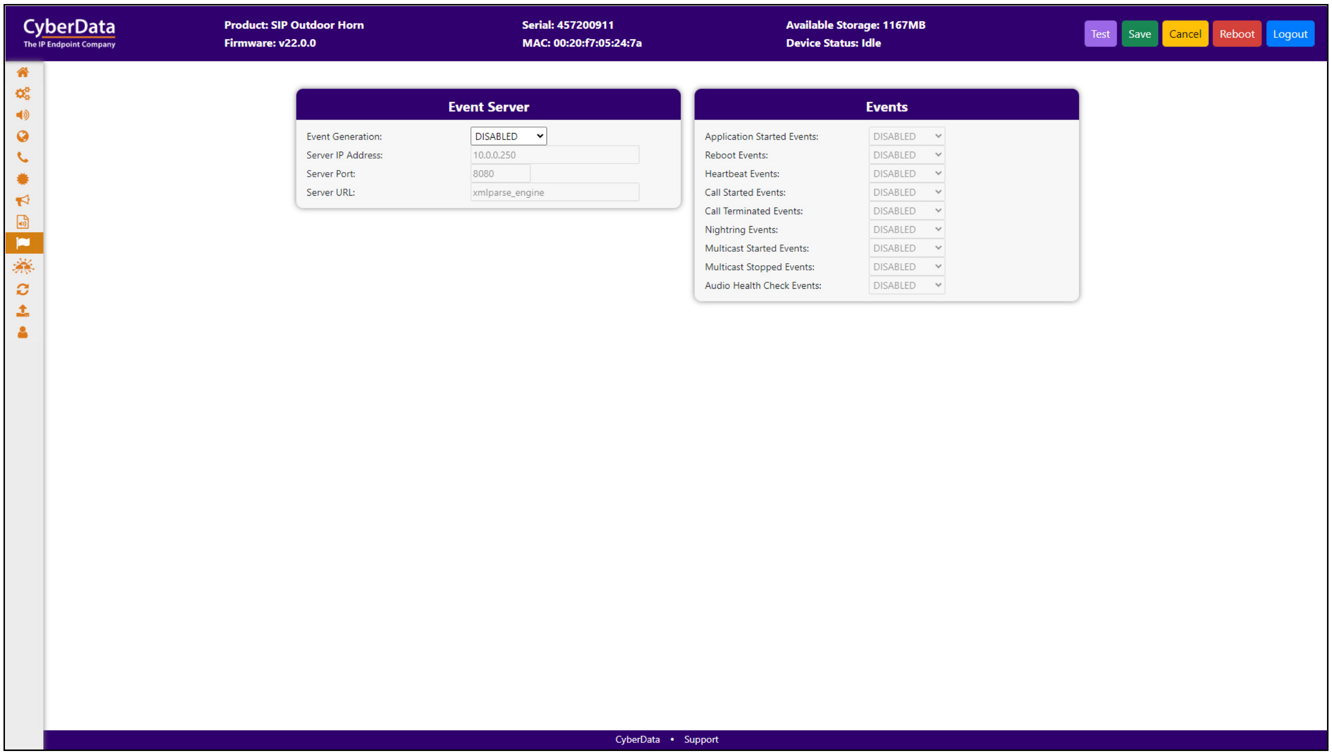
**Stored Messages**

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

# 2.12 Events

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

**Figure 2-19. Events Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1167MB
Device Status: Idle

**Event Server**

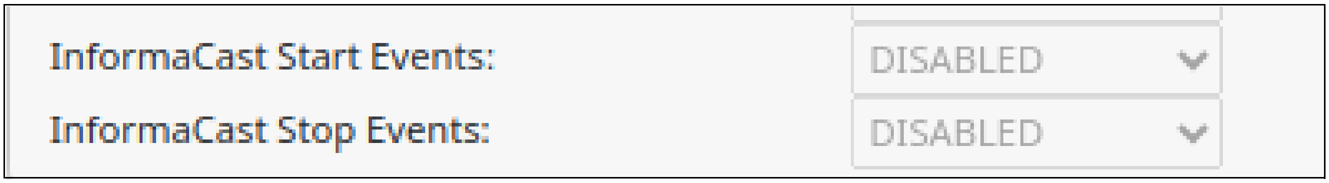
| | |
|---|---|
| Event Generation: | DISABLED |
| Server IP Address: | 10.0.0.250 |
| Server Port: | 8080 |
| Server URL: | xmlparse_engine |

**Events**

| | |
|---|---|
| Application Started Events: | DISABLED |
| Reboot Events: | DISABLED |
| Heartbeat Events: | DISABLED |
| Call Started Events: | DISABLED |
| Call Terminated Events: | DISABLED |
| Nightring Events: | DISABLED |
| Multicast Started Events: | DISABLED |
| Multicast Stopped Events: | DISABLED |
| Audio Health Check Events: | DISABLED |

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

**Figure 2-20. InformaCast enabled Device**



| | |
|---|---|
| InformaCast Start Events: | DISABLED |
| InformaCast Stop Events: | DISABLED |

## 2.12.1 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>
```

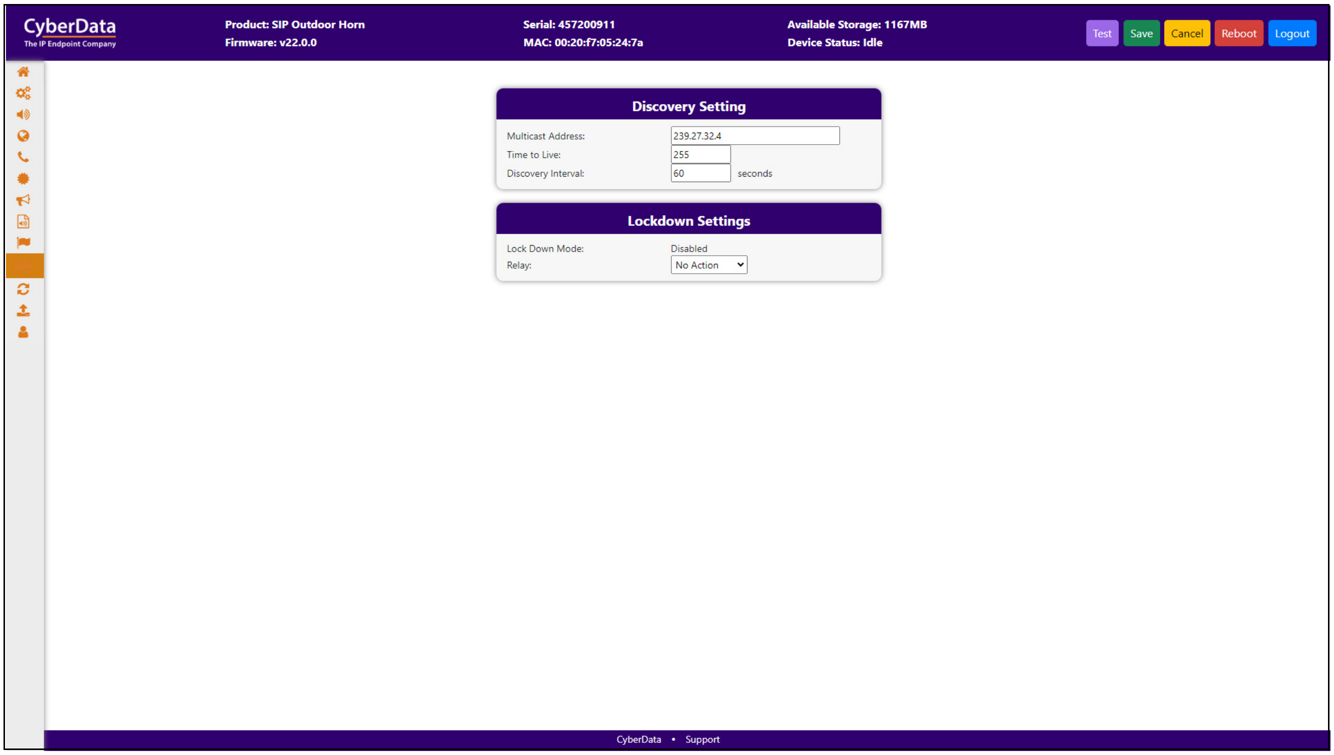
```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 205
Content-Type: application/x-www-form-urlencoded

<?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>
```

# 2.13 Terminus

**Figure 2-21. Terminus Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0

Serial: 457200911
MAC: 00:20:f7:05:24:7a

Available Storage: 1167MB
Device Status: Idle

## Discovery Setting

| | |
|---|---|
| Multicast Address: | 239.27.32.4 |
| Time to Live: | 255 |
| Discovery Interval: | 60 seconds |

## Lockdown Settings

| | |
|---|---|
| Lock Down Mode: | Disabled |
| Relay: | No Action |

# 2.14 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..

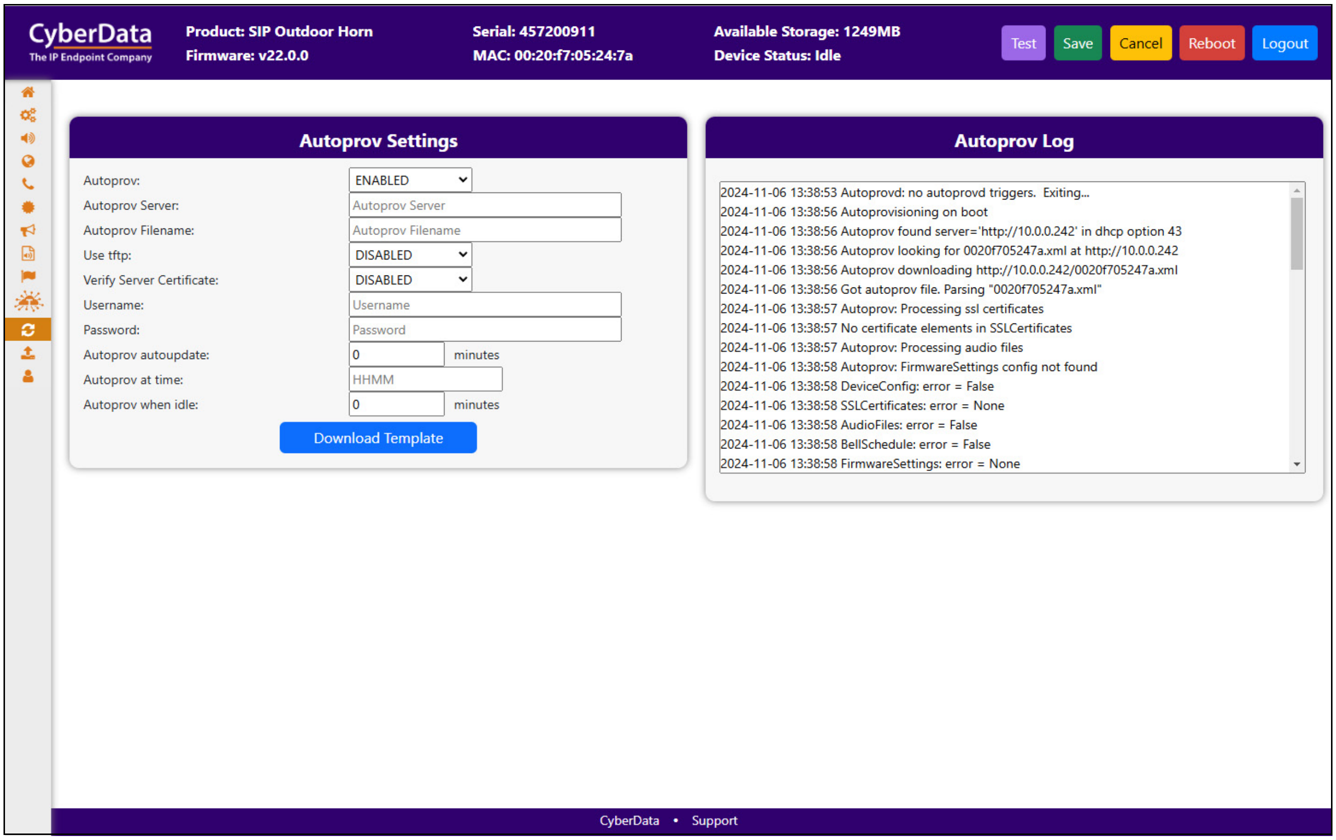
If a file is named, it will be downloaded instead of <mac address>,xml.

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**



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1249MB
Device Status: Idle

**Autoprov Settings**

| | |
|---|---|
| Autoprov: | ENABLED |
| Autoprov Server: | Autoprov Server |
| Autoprov Filename: | Autoprov Filename |
| Use tftp: | DISABLED |
| Verify Server Certificate: | DISABLED |
| Username: | Username |
| Password: | Password |
| Autoprov autoupdate: | 0 minutes |
| Autoprov at time: | HHMM |
| Autoprov when idle: | 0 minutes |

**Autoprov Log**

```
2024-11-06 13:38:53 Autoprovd: no autoprovd triggers.  Exiting...
2024-11-06 13:38:56 Autoprovisioning on boot
2024-11-06 13:38:56 Autoprov found server='http://10.0.0.242' in dhcp option 43
2024-11-06 13:38:56 Autoprov looking for 0020f705247a.xml at http://10.0.0.242
2024-11-06 13:38:56 Autoprov downloading http://10.0.0.242/0020f705247a.xml
2024-11-06 13:38:56 Got autoprov file. Parsing "0020f705247a.xml"
2024-11-06 13:38:57 Autoprov: Processing ssl certificates
2024-11-06 13:38:57 No certificate elements in SSLCertificates
2024-11-06 13:38:57 Autoprov: Processing audio files
2024-11-06 13:38:58 Autoprov: FirmwareSettings config not found
2024-11-06 13:38:58 DeviceConfig: error = False
2024-11-06 13:38:58 SSLCertificates: error = None
2024-11-06 13:38:58 AudioFiles: error = False
2024-11-06 13:38:58 BellSchedule: error = False
2024-11-06 13:38:58 FirmwareSettings: error = None
```

# 2.15 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:

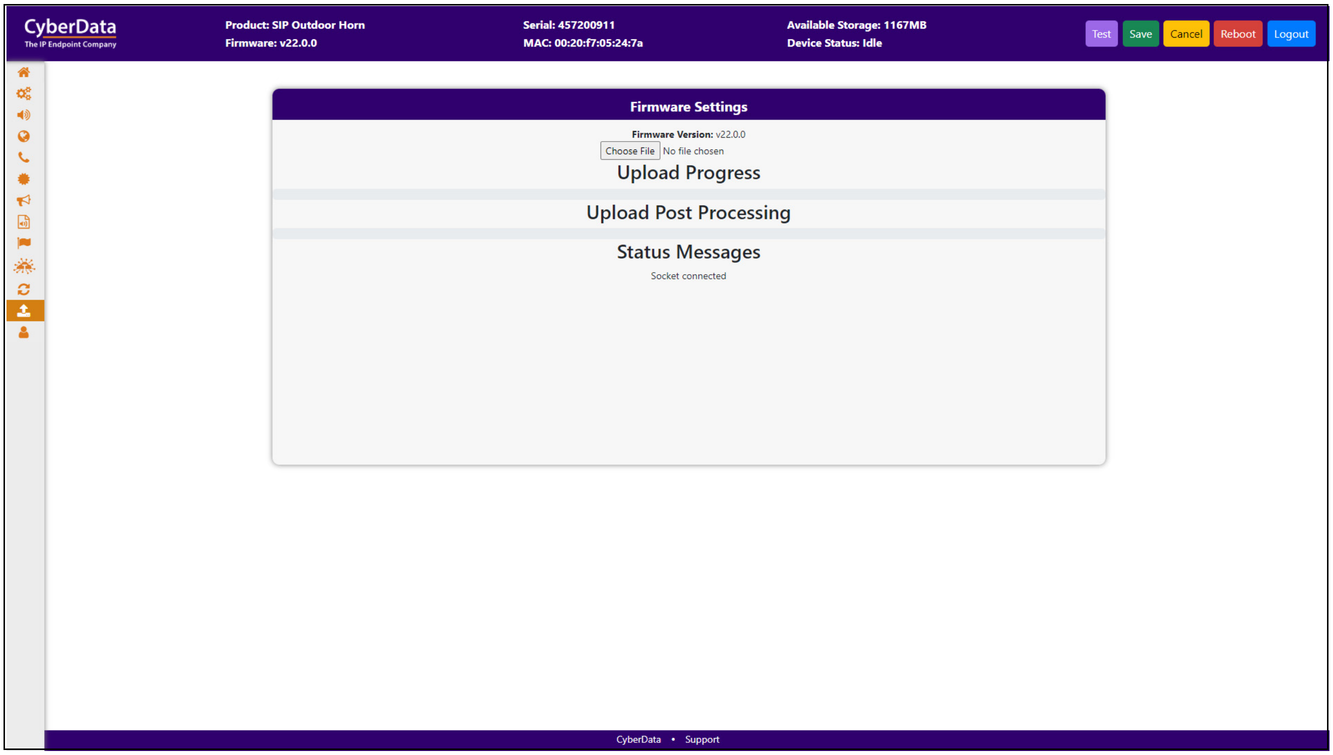
   **https://www.cyberdata.net/collections/sip**

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

- Firmware file
- Release notes
- Autoprovisioning template

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

**Figure 2-23. Firmware Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0
Serial: 457200911
MAC: 00:20:f7:05:24:7a
Available Storage: 1167MB
Device Status: Idle

Firmware Settings

Firmware Version: v22.0.0
Choose File No file chosen

Upload Progress

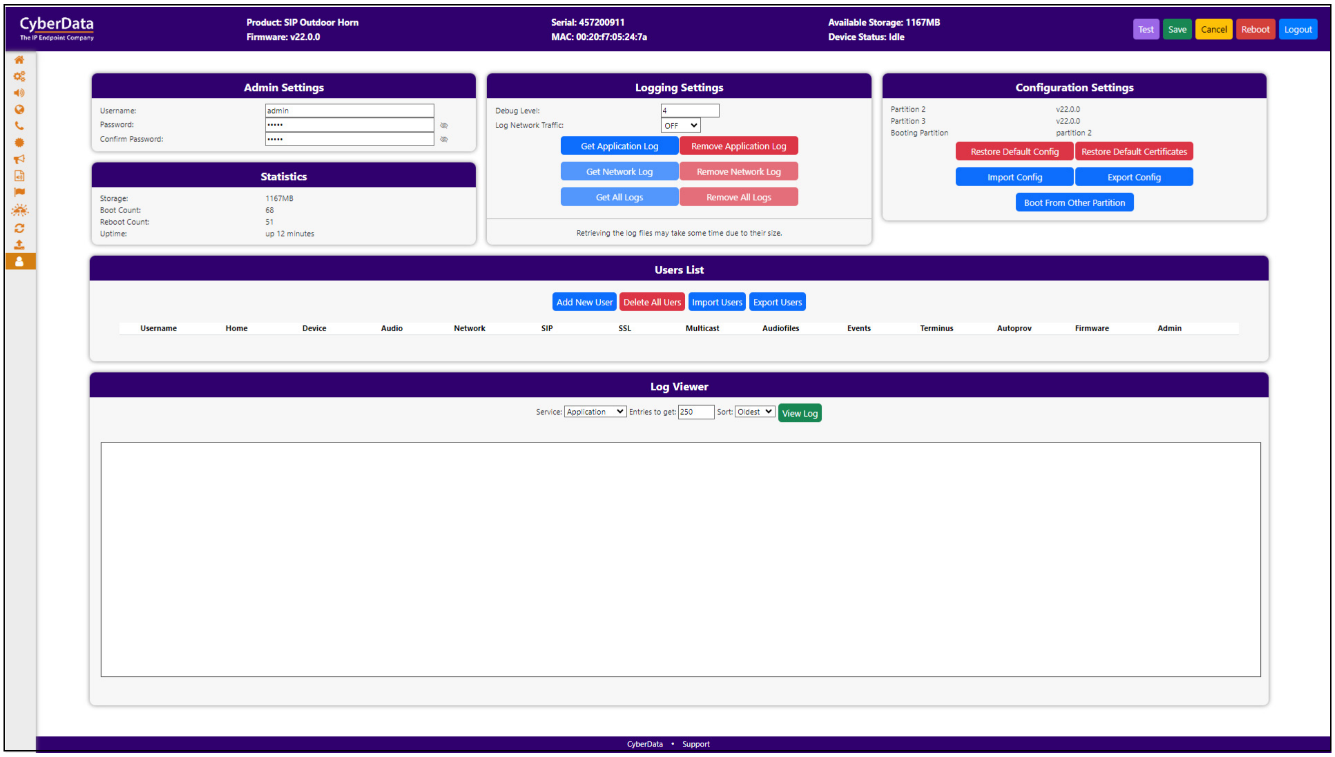
Upload Post Processing

Status Messages

Socket connected

# 2.16 Admin

**Figure 2-24. Admin Page**



Product: SIP Outdoor Horn
Firmware: v22.0.0

Serial: 457200911
MAC: 00:20:f7:05:24:7a

Available Storage: 1167MB
Device Status: Idle

**Admin Settings**

| | |
|---|---|
| Username: | admin |
| Password: | ••••• |
| Confirm Password: | ••••• |

**Statistics**

| | |
|---|---|
| Storage: | 1167MB |
| Boot Count: | 68 |
| Reboot Count: | 51 |
| Uptime: | up 12 minutes |

**Logging Settings**

| | |
|---|---|
| Debug Level: | 4 |
| Log Network Traffic: | OFF |

Retrieving the log files may take some time due to their size.

**Configuration Settings**

| | |
|---|---|
| Partition 2 | v22.0.0 |
| Partition 3 | v22.0.0 |
| Booting Partition | partition 2 |

**Users List**

| Username | Home | Device | Audio | Network | SIP | SSL | Multicast | Audiofiles | Events | Terminus | Autoprov | Firmware | Admin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Log Viewer**

Service: Application Entries to get: 250 Sort: Oldest

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

# 2.17 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.

## 2.17.1 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 | 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" |
| Place call to extension (example: extension 600) | 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" |
| Terminate a call | 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" |
| Speak IP Address | 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" |
| Test Audio | 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" |
| Swap Boot partitions | 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" |

[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<br>3 Justin Court<br>Monterey, CA 93940 USA<br>**www.cyberdata.net**<br>Phone: 831-373-2601<br>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/**

# Index