



Paging 25V/70V Amplifier Operations Guide

SIP Compliant
Part #011579, 011592

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for Firmware Version 22.0

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Operations Guide 931996F
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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

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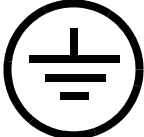
Company and product information is at www.cyberdata.net.

Revision Information

Revision 931996F, which corresponds to firmware version 22.0, was released on December 11, 2024, and has the following changes:

- Updates [Section 1, “Product Overview”](#)
- Updates [Section 2, “Configure the Device”](#)

Pictorial Alert Icons

 <p>GENERAL ALERT</p>	<p>General Alert</p> <p>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.</p>
	<p>Ground</p> <p>This pictorial alert indicates the Earth grounding connection point.</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.

 <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 rack, wall or desktop in accordance with the installation instructions.</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 Product Overview

1.1 General Wire Recommendation for 25V or 70V Speakers

For the majority of installations we recommend the following specifications for the speaker wiring.

16/2 (16AWG/2 Conductor) Gray Stranded In-Wall CL3R Speaker Wire (Figure 1-1)

- Use with speaker systems in an indoor audio system
- Class 3, riser rated for in-wall installation in riser and non-riser spaces
- PVC insulating jacket
- 2 fully annealed class B stranded bare copper conductors
- 16-Gauge
- UL Type CL3R
- Plenum rated

There are many brands that will work, but we have personally tested the Southwire company. The description below are the details on this wire in a 500 foot length.

P50002 SY 16/2 STR CU OAS CMP/CL3P CMP/CL3P/FPLP FT6 PLENUM SHIELDED STRANDED 185 25.07

Note Different gauge wiring can be used from our standard 16/2 recommendation if specific distances or power levels are trying to be maintained. Feel free to consult with our Design Services Group for additional assistance.

Figure 1-1. 16/2 (16AWG/2 Conductor) Gray Stranded In-Wall CL3R Speaker Wire

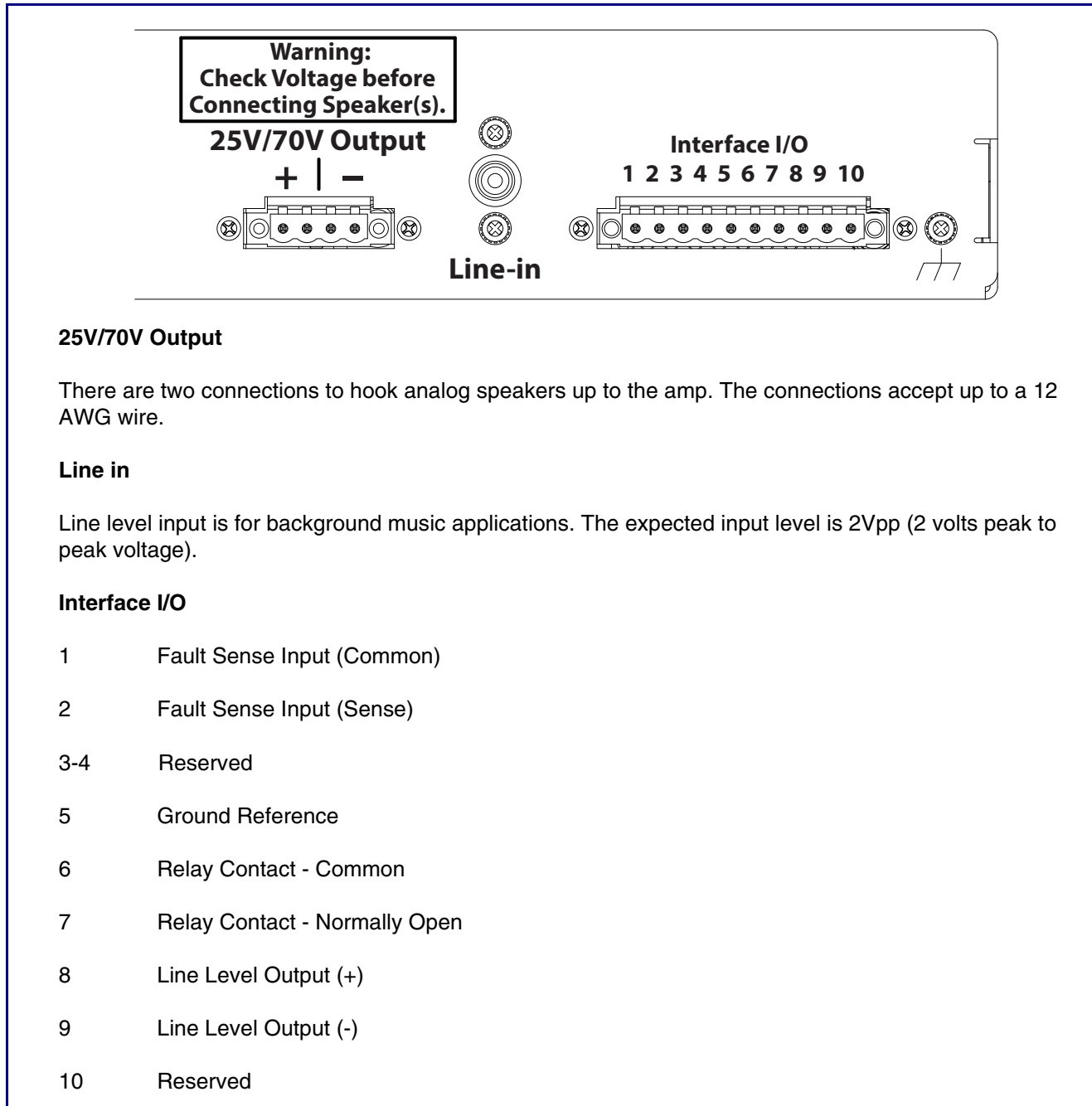


1.2 Connecting the Paging 25V/70V Amplifier

Before you connect the Paging 25V/70V Amplifier be sure that you have received all of the parts of the device on the Quick Reference Placemat which comes with the product.

See [Figure 1-2](#) for the connection options that are available for the Paging 25V/70V Amplifier.

Figure 1-2. Connection Options



1.2.1 Ground Connection

This connection allows you to connect the device to an electrical ground.

1.2.2 Line In

This RCA 10K Ohm Hi-Z input connection allows you to connect an external music player to the internal amplifier.



ESD Sensitivity: This equipment may be sensitive to ESD (electro-static discharge). It may cause the system to become unresponsive in some higher than normal ESD environments. As a precaution, during installation, it is best to make all external connections to the unit before powering on.

1.3 Page Port Output Connections

Table 1-1. Page Port Output Connections

Pin	Description
Pin 1	Fault Sense Input (Common). See Section 1.3.1, "Pin 1 and 2—Fault Sense Input (Common/Sense)."
Pin 2	Fault Sense Input (Sense). See Section 1.3.1, "Pin 1 and 2—Fault Sense Input (Common/Sense)."
Pin 3	Reserved
Pin 4	Reserved
Pin 5	Ground Reference
Pin 6	Relay Contact - Common ^a . See Section 1.3.2, "Pin 6 and 7—Relay Contact (Common/Normally Open)."
Pin 7	Relay Contact - Normally Open ^a . See Section 1.3.2, "Pin 6 and 7—Relay Contact (Common/Normally Open)."
Pin 8	Line Level Output (+). See Section 1.3.3, "Pin 8 and 9 - Line Out."
Pin 9	Line Level Output (-). See Section 1.3.3, "Pin 8 and 9 - Line Out."
Pin 10	Reserved

a. 1 Amp at 30 VDC for continuous loads

1.3.1 Pin 1 and 2—Fault Sense Input (Common/Sense)

This input was designed as a method of monitoring an external amplifier that is equipped with a fault sense relay.

When enabled via the web interface ([Section 2.10, "Fault"](#)), this input (when closed) will play a user uploadable audio file out of the line-out connection and/or place a SIP call to a pre-determined extension and play that file.

1.3.2 Pin 6 and 7—Relay Contact (Common/Normally Open)

When enabled on the web interface ([Section 2.3, "Device"](#)), every time an audio file is played out of the local line-out or 600 Ohm output, the relay will close, thereby enabling amplifiers with a remote turn-on capability to become active.



1.3.3 Pin 8 and 9 - Line Out

These RCA 10K Ohm Hi-Z output connections allow you to connect the device to The RCA line-in (10K Ohm Hi-Z) of an external audio amplifier.

1.4 Connect to the Power Source

To supply power, connect the Paging 25V/70V Amplifier to a standard 100-240VAC 50/60Hz power supply. If required, connect the earth grounding wire to the chassis ground on the back of the unit. See [Figure 1-3](#).

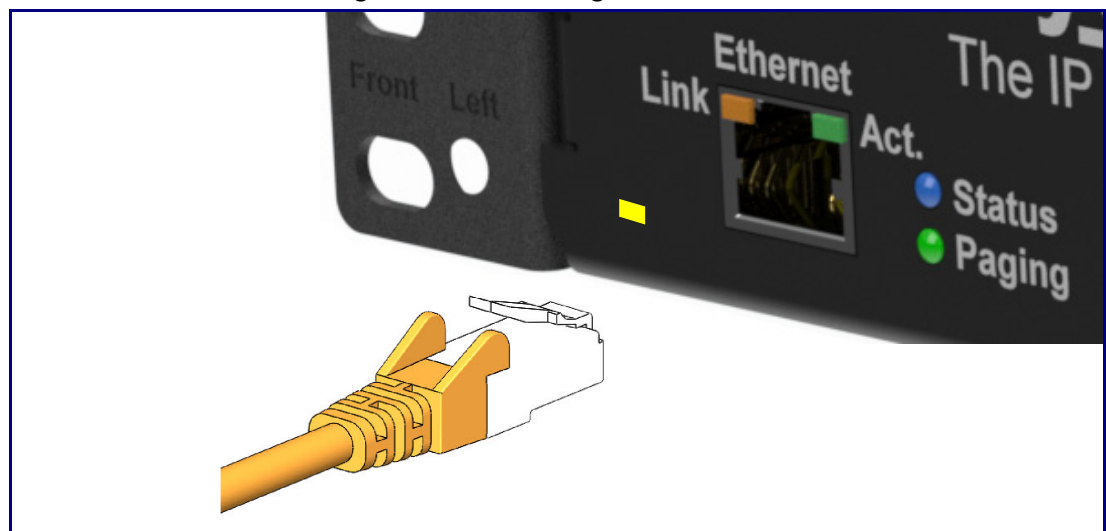
Figure 1-3. Connecting to the Power Source

<p>Power Supply</p>  <p>100-240V AC Power Input</p>	<p>To set up the device, connect the device to your network:</p> <p>Power Supply</p> <ul style="list-style-type: none">• Connect the Amplifier to a standard 100-240VAC, 50/60Hz external power supply <p>Chassis Ground</p> <ul style="list-style-type: none">• Connect the earth grounding wire to the Chassis Ground. See the figure on the left.
<p>Chassis Ground</p>  <p>Chassis ground</p>	

1.5 Connect to the Network

Plug one end of a standard Ethernet cable into the device **Ethernet** port. Plug the other end into your network.

Figure 1-4. Connecting to the Network



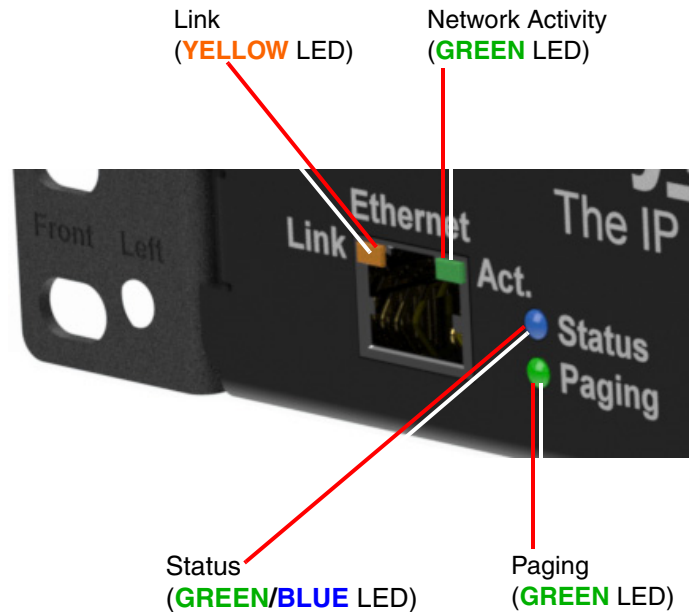
1.6 Confirm that the Paging 25V/70V Amplifier is Up and Running

The LEDs on the front of the Paging 25V/70V Amplifier verify the unit's operations.

Figure 1-5. LEDs

When you apply power, turn ON the Power switch and connect the Ethernet to a live network:

- The square, **YELLOW Link** LED above the **Ethernet** port indicates that the network connection has been established at 100Mbit speed.
- The square, **GREEN Network Activity** LED above the Ethernet port will blink to indicate network activity.
- The round **GREEN/BLUE Status** LED is **BLUE**, indicating power is **ON**. Once the device is initialized, the LED will blink **GREEN** at one second intervals.
- The round **GREEN Paging** LED comes on after the device is booted and initialized. This LED blinks when a page is in progress. You can disable **Beep on Initialization** on the **Device Configuration** page.



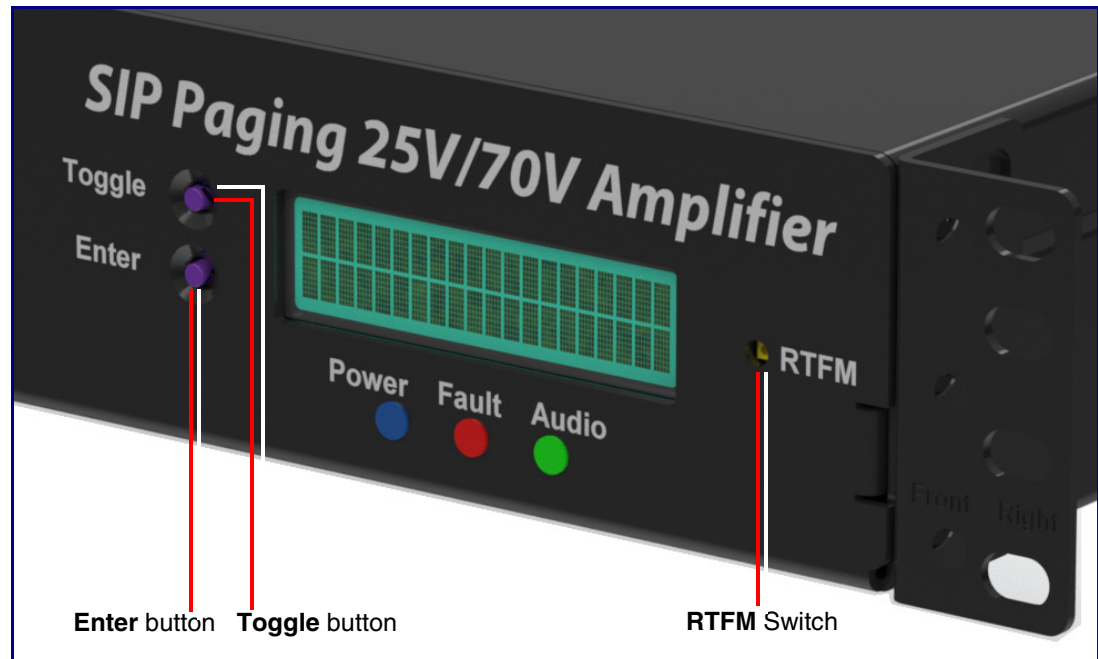
1.6.1 Verify Network Activity

The square, **GREEN Network Activity** LED blinks when there is network traffic.

1.7 LCD Display Explanation

- The LCD Display can be interacted with via the **Toggle** and **Enter** buttons on the front panel of the device. See [Figure 1-6](#).

Figure 1-6. LCD Display



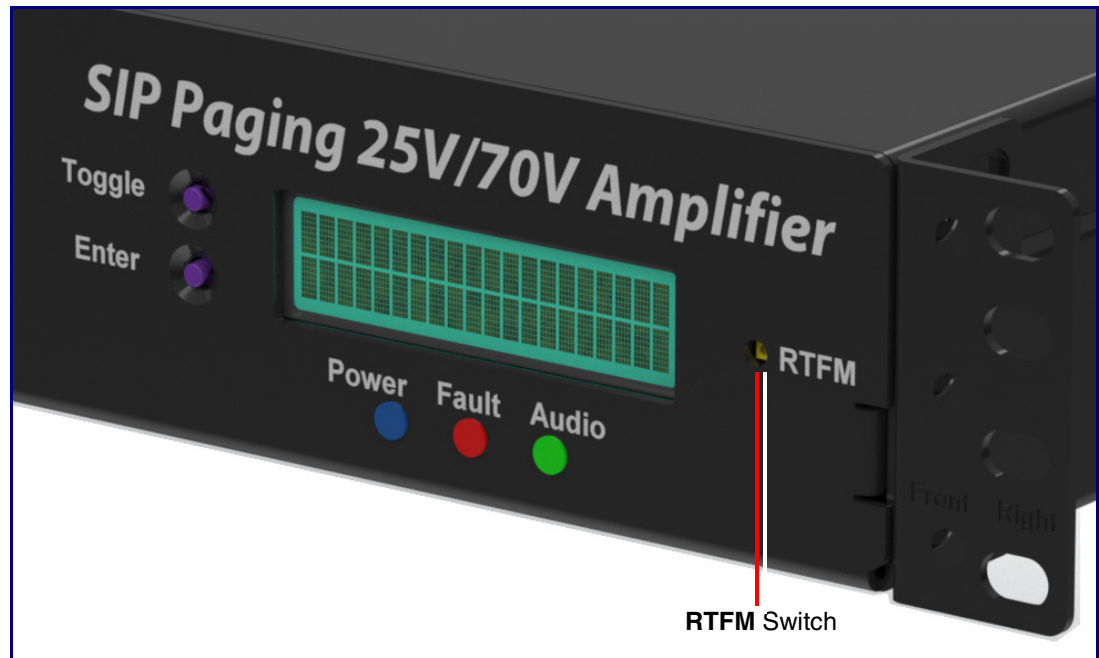
- The **Toggle** button is used to switch between menu pages and on specific pages to toggle between options.
- The **Enter** button is used on specific pages to confirm a setting.
- LCD Display menu pages:
 - Screen 1: CyberData Splash Screen
 - Screen 2: Serial Number and Mode (25v or 70v)
 - Screen 3: Temperature (Celsius /Fahrenheit) and fan status (on or off)
 - Screen 4: IP Address and MAC Address
 - Screen 5: Firmware Version and Part Number
 - Screen 6: Master Volume Level
 - Screen 7: Test Audio (Shows in Green)

1.8 Announcing the IP Address

To announce the IP address for the Paging 25V/70V Amplifier, complete the following steps:

1. Use a paper clip to press the RTFM button, bringing up the RTFM screen. See [Figure 1-7](#).
2. Use the toggle button to select **Speak IP Address** and then **Enter** to activate.
3. If a speaker is connected, the device will announce the IP address.

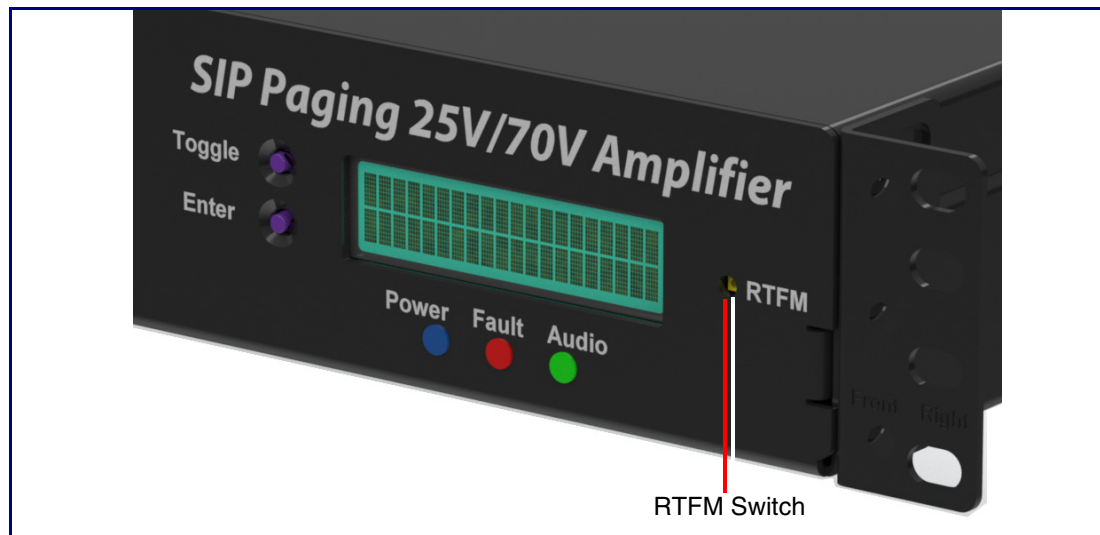
Figure 1-7. RTFM Switch



1.9 Restore the Factory Default Settings

The Paging 25V/70V Amplifier is delivered with factory set default values for the parameters in [Table 1-2](#). Use the **RTFM** switch (see [Figure 1-8](#)) on the front of the unit to restore these parameters to the factory default settings.

Figure 1-8. RTFM Switch



Note When you perform this procedure, the factory default settings are restored. The default parameters for access are shown in [Table 1-2](#).

Table 1-2. 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.

To restore these parameters to the factory default settings:

4. Use a paper clip to press the RTFM button, bringing up the RTFM screen.
5. Use the toggle button to select **Restore Defaults**, and then **Enter** to activate.
6. Selecting **Restore Defaults** will bring up the confirmations screen, where selecting **Enter** will restore defaults.
7. If a speaker is connected, the device will announce, "restoring default configuration" and "rebooting."

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 Paging 25V/70V Amplifier.

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>

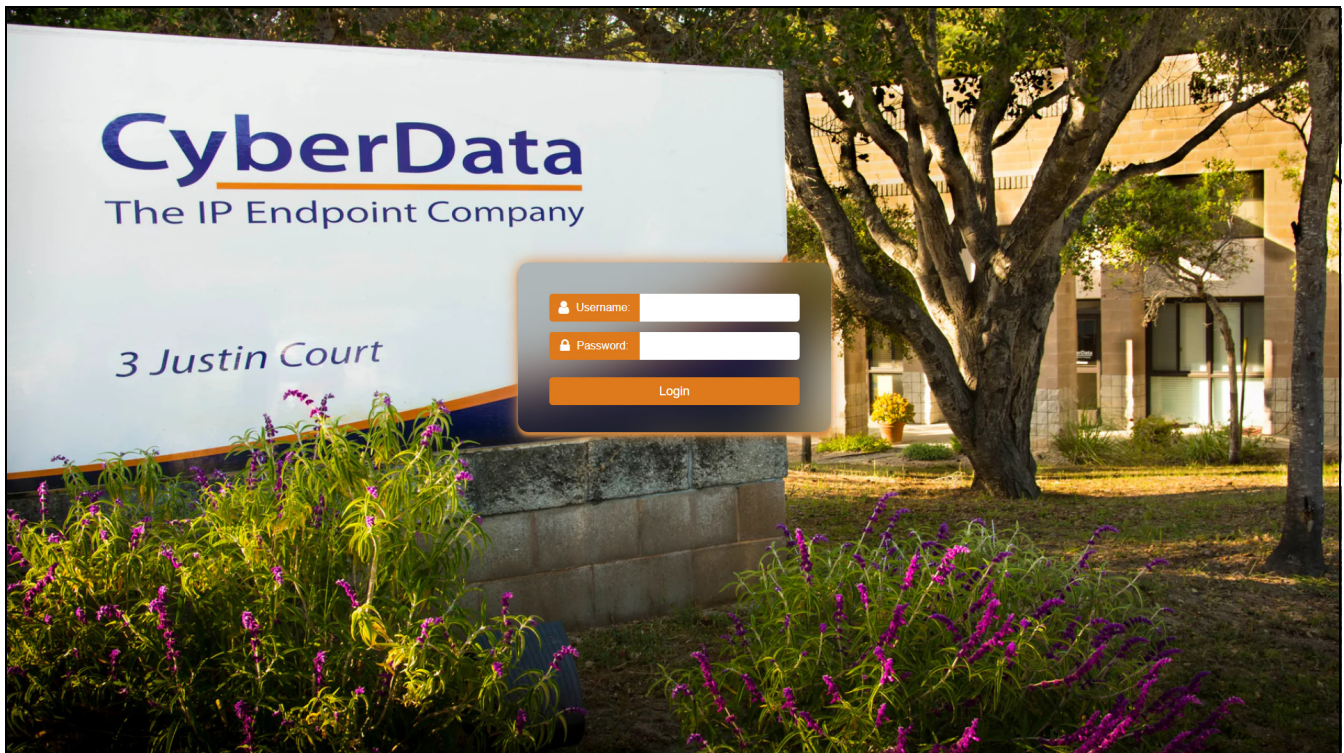
Note The Intercom ships in DHCP mode. To get to the **Home** page, use the discovery utility to scan for the device on the network and open your browser from there.

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 2-2](#)):

Web Access Username: **admin**

Web Access Password: **admin**

Figure 2-1. Log In Page



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 2-2. Home Page

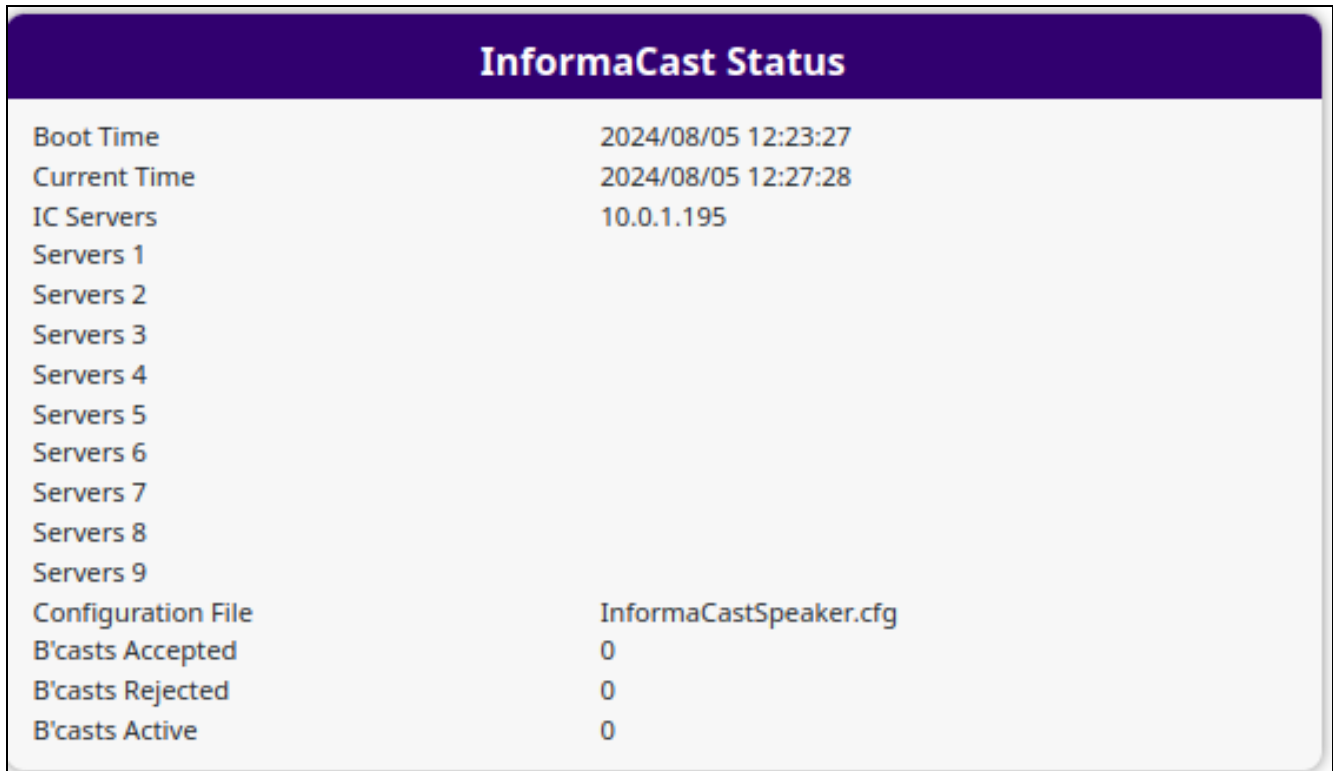
The screenshot displays the CyberData Home Page for a 25/70 Paging Amplifier. The page is organized into a header section and five main configuration panels. The header includes the CyberData logo, product and firmware information, serial and MAC addresses, available storage, and device status, along with control buttons for Test, Save, Cancel, Reboot, and Logout. A vertical sidebar on the left contains navigation icons. The main content area is divided into five panels: Device Configuration, Network Status, SIP Registration, Audio Configuration, and System Configuration.

Device Configuration		Network Status		SIP Registration	
Serial Number	579200003	IP Address Protocol	DHCP	SIP Mode:	Enabled
Mac Address	00:20:f7:05:1c:19	IP Address	10.10.1.161	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 2	DNS Server 2			

Audio Configuration		System Configuration	
Master Volume:	8	SIP Mode:	Enabled
		Multicast Mode:	Disabled
		Event Mode:	Disabled

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

Figure 2-3. 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 2-4. Device Page

The screenshot displays the 'Device Page' configuration interface for a CyberData 25/70 Paging Amplifier. The interface is organized into several sections:

- Header:** Displays the product name '25/70 Paging Amplifier', firmware version 'v22.0.0', serial number '579200003', MAC address '00:20:f7:05:1c:19', available storage '1484MB', and device status 'Idle'. Action buttons for 'Test', 'Save', 'Cancel', 'Reboot', and 'Logout' are present.
- Line-in Settings:**
 - Line-in to Line-out Loopback: OFF
 - Line-in to Multicast: OFF
 - Multicast Address: 224.1.2.3
 - Multicast Port: 2000
 - Detect Line-in Silence: OFF
 - Multicast Polycom Paging: OFF
 - Multicast Polycom Channel: 1
 - Line-in Playback Volume: 8
 - Advanced Settings button
- Relay Settings:**
 - Relay on Local Audio: OFF
- Time Settings:**
 - NTP Server: north-america.pool.ntp.org
 - NTP Timezone: America/Los_Angeles (-8)
 - Current Time: Thu, 05 Dec 2024 15:23:38
- Misc Settings:**
 - Device Name: 2570 Paging Amplifier
 - Bypass DTMF Menu: DISABLED
 - Beep on Init: OFF
 - Multicast TTL: 255

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

Figure 2-5. InformaCast enabled Device

The screenshot shows the 'InformaCast Settings' section of the configuration page. It features a single input field for the 'InformaCast Server' with the following value:

InformaCast Server:

2.4 Amplifier

Figure 2-6. Amplifier Page

The screenshot displays the CyberData Amplifier Settings interface. At the top, the header includes the CyberData logo, product information (25/70 Paging Amplifier, Firmware: v22.0.0), serial and MAC addresses (57920003, 00:20:f7:05:1c:19), available storage (1484MB), and device status (Idle). Action buttons for Test, Save, Cancel, Reboot, and Logout are located in the top right.

The main content area features a central 'Amplifier Settings' panel with the following configuration options:

- LCD Enter Button:** ENABLED (dropdown), Master Volume: 8 (input), Voltage Mode: 25V (dropdown). Includes an 'Advanced Settings' button.
- Threshold Temp Action:** DISABLED (dropdown), Audio File: Choose a MSG (dropdown), Times to Play: 1 (input), Place SIP Call: DISABLED (dropdown), Dial Out Extension: 204 (input), Dial Out ID: id204 (input), PGROUP: DISABLED (dropdown). Includes a 'Test' button.
- Protection Mode Action:** DISABLED (dropdown), Audio File: Choose a MSG (dropdown), Times to Play: 1 (input), Place SIP Call: DISABLED (dropdown), Dial Out Extension: 204 (input), Dial Out ID: id204 (input), PGROUP: DISABLED (dropdown). Includes a 'Test' button.
- Recovery Temp Action:** DISABLED (dropdown), Audio File: Choose a MSG (dropdown), Times to Play: 1 (input), Place SIP Call: DISABLED (dropdown), Dial Out Extension: 204 (input), Dial Out ID: id204 (input), PGROUP: DISABLED (dropdown). Includes a 'Test' button.

A vertical sidebar on the left contains various system icons. The footer of the page reads 'CyberData • Support'.

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 2-7. Network Page

The screenshot displays the Network configuration page for a CyberData device. The interface is organized into a header, a left sidebar, and three main content panels.

Header: CyberData logo, Product: 25/70 Paging Amplifier, Firmware: v22.0.0, Serial: 57920003, MAC: 00:20:f7:05:1c:19, Available Storage: 1484MB, Device Status: Idle. Action buttons: Test, Save, Cancel, Reboot, Logout.

Network Status Panel:

IP Address Protocol	DHCP
IP Address	10.10.1.161
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
Hostname:	SipDevice051c19
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 2-8. SIP Page

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

Figure 2-9. InformaCast enabled Device

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

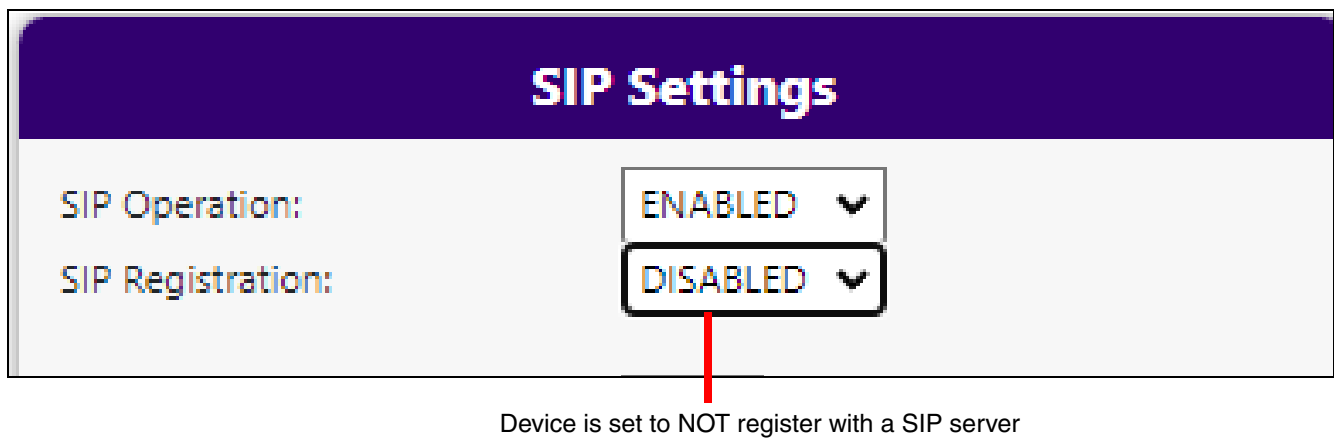
2.6.1 Dial Out Extension Strings and DTMF Tones (using rfc2833)

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 2-10](#).

Figure 2-10. SIP Page Set to Point-to-Point Mode



2.7 Paging Groups (PGROUPS)

Figure 2-11. PGROUPS Page

The screenshot displays the CyberData web interface for configuring Paging Groups. At the top, the header includes the CyberData logo, product information (25/70 Paging Amplifier, Firmware: v22.0.0), serial and MAC addresses (579200003, 00:20:f7:05:1c:19), and available storage (1484MB). Action buttons for Test, Save, Cancel, Reboot, and Logout are present.

The main content area features a 'Stored Message Recording' section with a dropdown menu set to 'DISABLED' and a security code field. Below this is the 'Paging Groups' table, which lists 10 groups with their respective addresses, ports, names, codes, TTL values, and lineout settings. Each row includes an 'Edit' button for configuration.

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

At the bottom of the page, there is a navigation bar with page numbers 1 through 10, and a footer with 'CyberData • Support'.

2.8 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 SSL configuration interface for a CyberData device. At the top, the header shows the device name 'CyberData The IP Endpoint Company', product '25/70 Paging Amplifier', firmware 'v22.0.0', serial '579200003', MAC '00:20:f7:05:1c:19', available storage '1484MB', and device status 'Idle'. Action buttons for 'Test', 'Save', 'Cancel', 'Reboot', and 'Logout' are present.

Three main certificate management panels are visible:

- Web Server Certificate:** Shows certificate details (subject: US, California, Monterey, Cyberdata, 8028f7851c19) and validity dates (notBefore: Apr 28 20:57:01 2023 GMT, notAfter: Apr 25 20:57:01 2033 GMT). Includes 'Choose Files' (No file chosen), 'Import Web Certificate', and 'Restore Web Certificate' buttons.
- SIP Client Certificate:** Shows identical certificate details and validity dates. Includes 'Choose Files' (No file chosen), 'Import SIP Certificate', 'Restore SIP Certificate', and a 'Password (optional):' field.
- Autoprovisioning Client Certificate:** Shows identical certificate details and validity dates. Includes 'Choose Files' (No file chosen), 'Import Autoprovisioning Certificate', 'Restore Autoprovisioning Certificate', and a 'Password (optional):' field.

Below these panels is the **List of Trusted CAs** section, which includes an 'Upload CA Certificate:' field with a 'Choose Files' button and an 'Import CA Certificate' button. Below this are buttons for 'Download CyberData CA', 'Generate Cyberdata CSR', 'Remove All', and 'Restore Defaults'.

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
9	DigiCert_Trusted_Root_G4.crt	Info	Remove

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

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

CyberData The IP Endpoint Company

Product: 25/70 Paging Amplifier
Firmware: v22.0.0

Serial: 579200003
MAC: 00:20:f7:05:1c:19

Available Storage: 1484MB
Device Status: Idle

Test Save Cancel Reboot Logout

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

CyberData • Support

2.9 Schedules

Figure 2-14. Schedules Page

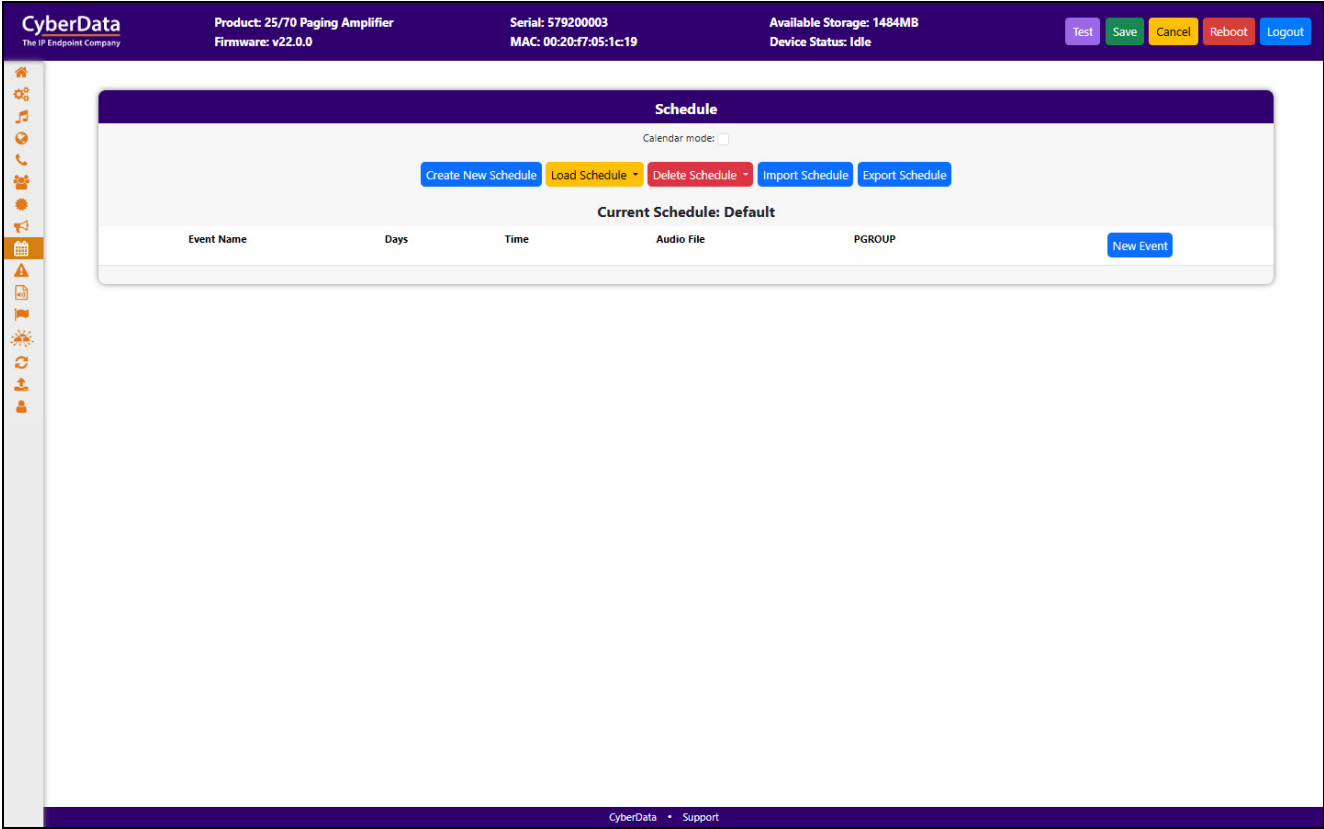


Figure 2-15. Calendar

The screenshot displays the CyberData web interface. At the top, the header includes the CyberData logo, product information (25/70 Paging Amplifier, Firmware: v22.0.0), serial and MAC addresses (579200003, 00:20:F7:05:1c:19), available storage (1484MB), and device status (Idle). Action buttons for Test, Save, Cancel, Reboot, and Logout are visible. A sidebar on the left contains various system icons. The main content area is titled 'Calendar' and features a 'Calendar mode:' dropdown, buttons for 'Create New Calendar', 'Load Calendar', 'Delete Calendar', 'Import Calendar', and 'Export Calendar'. Below this, it shows 'Current Calendar: sample' with a 'New Event' button, navigation arrows, and a 'View Past' button. The calendar grid is for December 2024, with the 5th highlighted in green. The grid shows days of the week (SUN to SAT) and dates from 1 to 31. The bottom of the page has a footer with 'CyberData • Support'.

2.10 Fault

The **Fault** page controls configuration of all Fault or sensor related capabilities of the unit. This can include the fault sensor that is used to have the device take action based on a physical input to the device.

Figure 2-16. Fault Page

The screenshot shows the CyberData web interface for a 25/70 Paging Amplifier. The header includes the CyberData logo, product name, serial number, MAC address, available storage, and device status. A sidebar on the left contains navigation icons. The main content area displays the 'Fault Detection Settings' dialog box with the following configuration options:

Fault Detection Settings	
Message Playbacks:	<input type="text" value="0"/>
Play Message Locally:	<input type="text" value="DISABLED"/>
Call to Extension:	<input type="text" value="DISABLED"/>
Dial Out Extension:	<input type="text" value="204"/>
Dial Out ID:	<input type="text" value="id204"/>
Multicast Audio:	<input type="text" value="DISABLED"/>
Multicast Address:	<input type="text" value="239.168.3.1"/>
Multicast Port:	<input type="text" value="8888"/>
Polycom Paging:	<input type="text" value="DISABLED"/>
Polycom Paging Channel:	<input type="text" value="1"/>

The footer of the interface displays 'CyberData • Support'.

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 device.

Figure 2-17. Audiofiles Page (1 of 3)

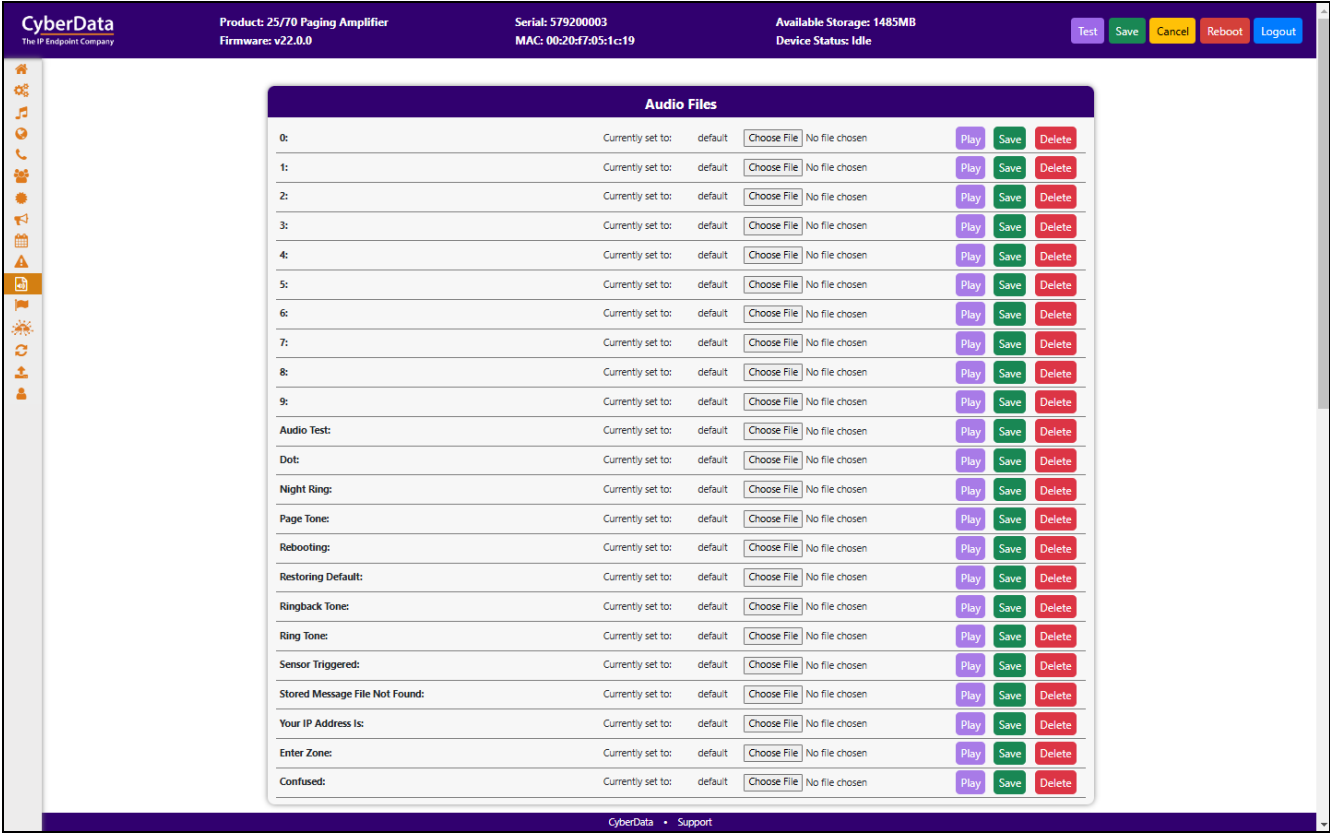


Figure 2-18. Audiofiles Page (2 of 3)

The screenshot displays the 'Audiofiles Page (2 of 3)' interface. At the top, the header includes the CyberData logo, product information (25/70 Paging Amplifier, Firmware: v22.0.0), serial number (579200003), MAC address (00:20:f7:05:1c:19), available storage (1485MB), and device status (Idle). Navigation buttons for Test, Save, Cancel, Reboot, and Logout are visible in the top right.

The main content area is titled 'Menu Audio Files' and contains a table with 20 rows. Each row represents a different audio file type, such as 'Cancel', 'Currently Playing', 'Invalid Entry', 'Page', 'Play Stored Message', 'Pound (#)', 'Press', 'Stored Message', 'To:', 'Enter Code', 'Enter Recording Security Code', 'Invalid Code', 'Press Start To Record Message', 'Or:', 'Record Message Prompt', 'Save Record Message Prompt', 'Assign Zone To Message', 'Message Saved Successfully', 'Message Not Saved Successfully', and 'You Recorded:'. Each row includes a 'Currently set to:' field (set to 'default'), a 'Choose File' button, the text 'No file chosen', and three action buttons: 'Play', 'Save', and 'Delete'.

Below the table is a section titled 'Stored Messages'. It features a 'Choose File' button, the text 'No file chosen', and two buttons: 'Upload Message' and 'Delete All Messages'.

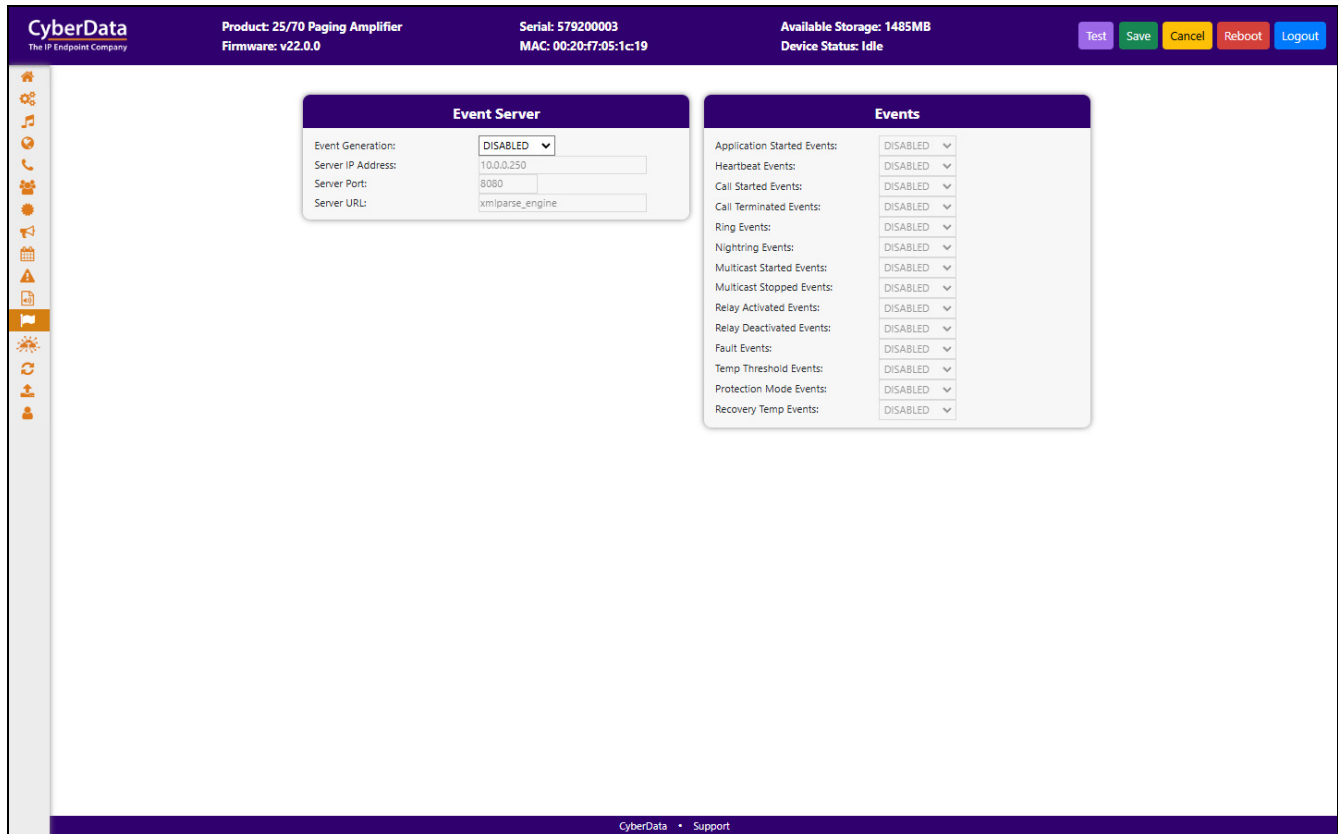
Figure 2-19. Audiofiles Page (3 of 3)

The screenshot displays the 'Bells' section of the Audiofiles Page. It features a 'Choose File' button, the text 'No file chosen', and two buttons: 'Upload Bell' and 'Delete All Bells'.

2.12 Events

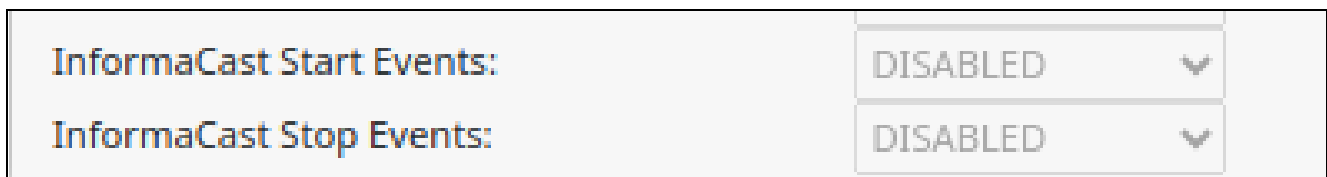
The **Events** page specifies a remote server that can be used to receive HTTP POST events when actions take place on the device.

Figure 2-20. Events Page



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

Figure 2-21. InformaCast enabled Device



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>
```

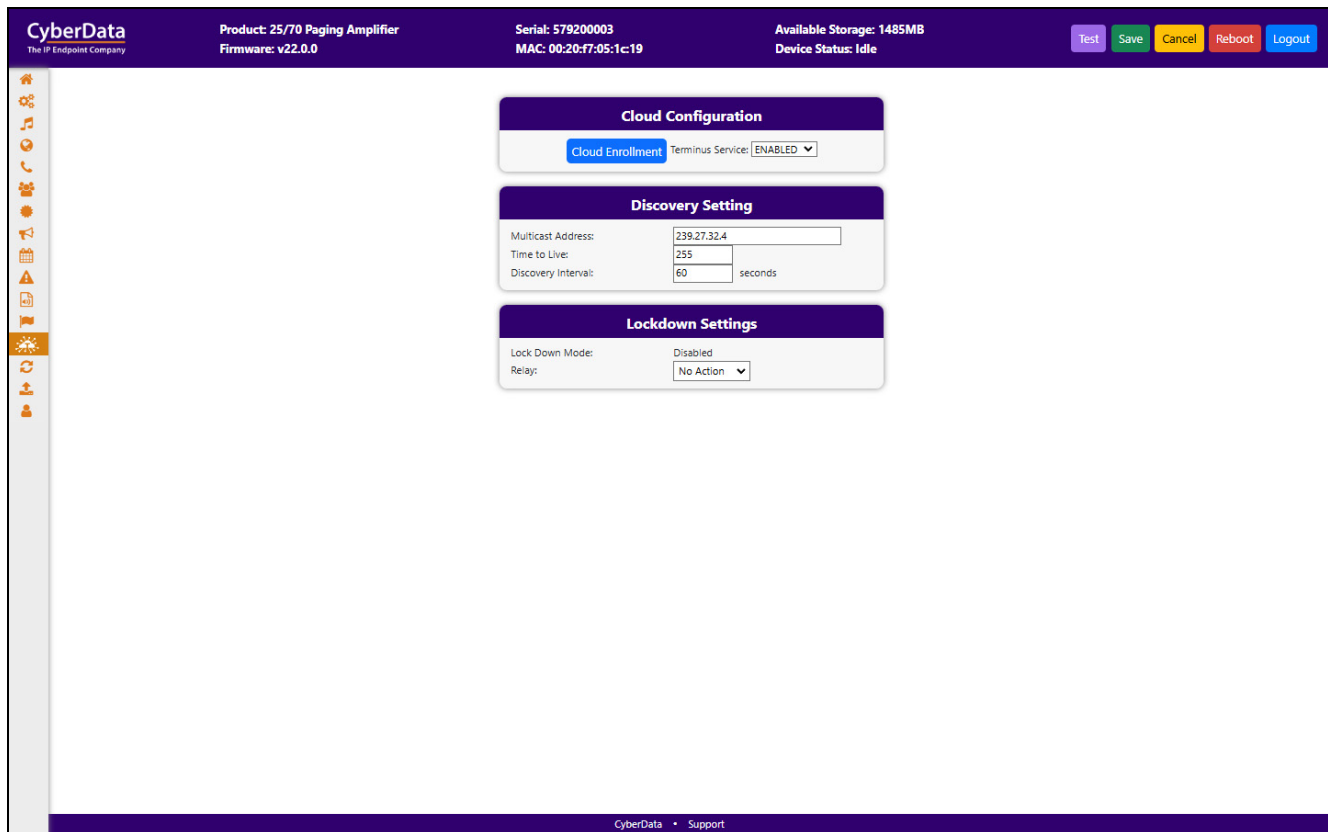
```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>NIGHTRINGING</event>
</cyberdata>
```

2.13 Terminus

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 2-22. Terminus Page



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 2-23. Autoprovisioning Page

The screenshot displays the Autoprovisioning configuration page in the CyberData management interface. At the top, the device information is shown: Product: 25/70 Paging Amplifier, Serial: 579200003, Available Storage: 1485MB, Firmware: v22.0.0, MAC: 00-20-f7-05-1c-19, and Device Status: Idle. Action buttons for Test, Save, Cancel, Reboot, and Logout are present. The main content area is divided into two panels. The 'Autoprov Settings' panel includes fields for Autoprov (set to ENABLED), Autoprov Server, Autoprov Filename, Use tftp (set to DISABLED), Verify Server Certificate (set to DISABLED), Username, Password, 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 log of events: 2024-12-05 15:40:43 Autoprov: no autoprov triggers. Exiting...; 2024-12-05 15:40:50 Autoprovisioning on boot; 2024-12-05 15:40:50 Autoprov found server='http://10.0.0.242' in dhcp option 43; 2024-12-05 15:40:50 Autoprov looking for 0020f7051c19.xml at http://10.0.0.242; 2024-12-05 15:40:50 Autoprov downloading http://10.0.0.242/0020f7051c19.xml; 2024-12-05 15:40:51 Got autoprov file. Parsing '0020f7051c19.xml'; 2024-12-05 15:40:54 Autoprov: Processing ssl certificates; 2024-12-05 15:40:55 No certificate elements in SSLCertificates; 2024-12-05 15:40:55 Autoprov: Processing audio files; 2024-12-05 15:40:56 unpopulated bell scheduler field ignoring 'None'; 2024-12-05 15:40:56 unpopulated bell scheduler field ignoring '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


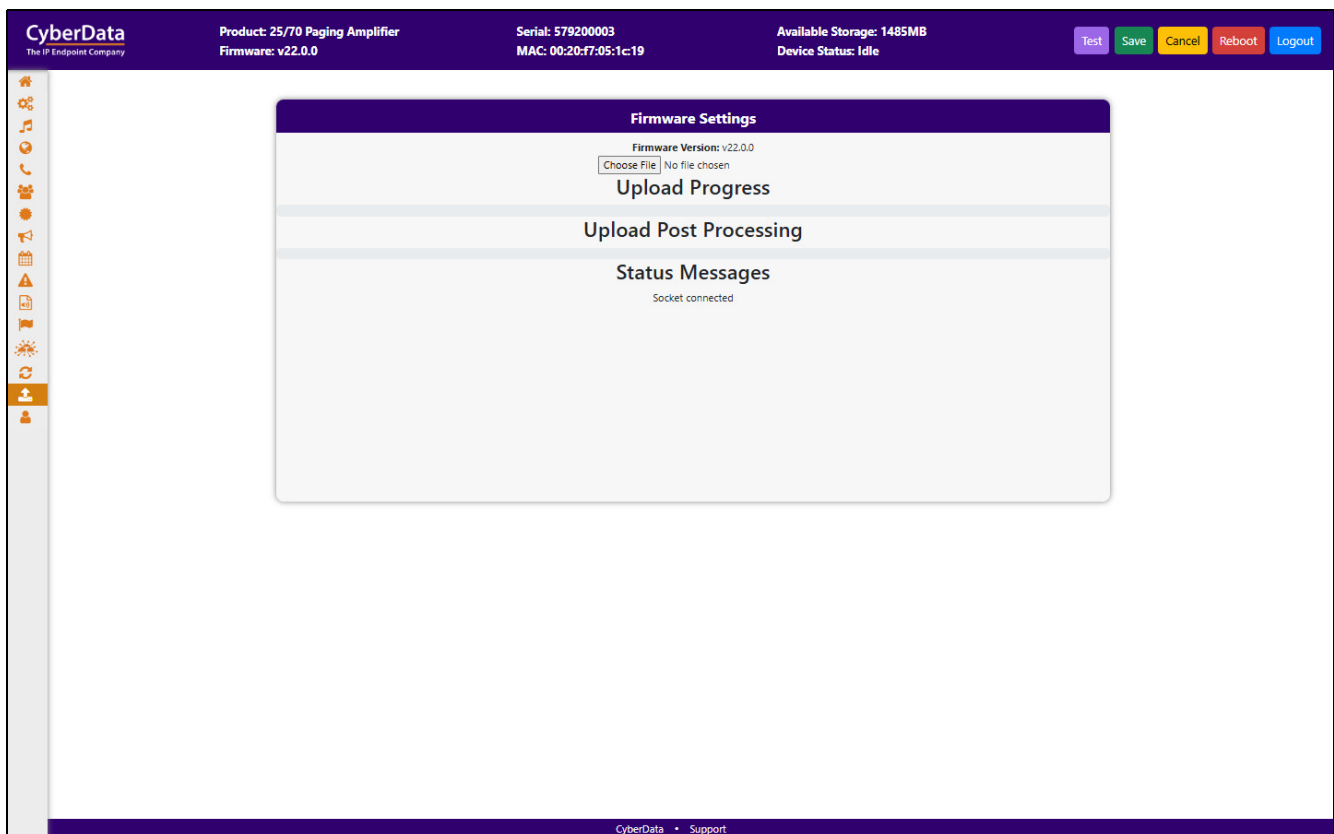
 GENERAL ALERT	<p>Caution</p> <p>Equipment Hazard: Do not reboot the device. It will reboot automatically when the process is complete.</p>
--	--

Figure 2-24. Firmware Page



The screenshot displays the CyberData web interface for a 25/70 Paging Amplifier. The top navigation bar includes the CyberData logo and the following information: Product: 25/70 Paging Amplifier, Firmware: v22.0.0, Serial: 57920003, MAC: 00:20:f7:05:1c:19, Available Storage: 1485MB, and Device Status: Idle. Action buttons for Test, Save, Cancel, Reboot, and Logout are located in the top right corner. 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', which currently displays 'Socket connected'. A vertical sidebar on the left contains various system icons.

2.16 Admin

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

Figure 2-25. Admin Page

The screenshot displays the CyberData Admin Page for a 25/70 Paging Amplifier. The interface includes a top navigation bar with device information and a sidebar with navigation icons. 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) with buttons for Get/Remove Application, Network, and All Logs.
- Configuration Settings:** Partition information and buttons for Restore Default Config, Restore Default Certificates, Import/Export Config, and Boot From Other Partition.
- Statistics:** Storage (1485MB), Boot Count (1153), Reboot Count (214), and Uptime (up 11 minutes).
- Users List:** Buttons for Add New User, Delete All Users, Import Users, and Export Users, followed by a table with columns: Username, Home, Device, Network, SIP, PGROUPS, SSL, Multicast, Schedule, Fault, Audiofiles, Events, Autoprov, Firmware, Admin, Amplifier, and Terminus.
- Log Viewer:** Service (Application), Entries to get (250), Sort (Oldest), and View Log button.

The footer of the page contains the text "CyberData • Support".

2.17 Command Interface

Some functions on the device can be activated using simple POST commands to the web interface. The examples in [Table 2-1](#) use the free unix utility, **wget commands**. However, any program that can send HTTP POST commands to the device should work.

2.17.1 Command Interface Post Commands

The commands in [Table 2-1](#) require an authenticated session (a valid username and password to work).

Table 2-1. Command Interface Post Commands

Device Action	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 call	<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>
Test Relay	<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_relay"</code>
Activate Relay	<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=activate_relay"</code>
Deactivate Relay	<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=deactivate_relay"</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 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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