

ALGO

8300 Controller

Installation & Configuration Guide



MOMENTUM

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Important Safety Information

This product is powered by a certified limited power source (LPS), Power over Ethernet (PoE); through CAT5 or CAT6 connection wiring to an IEEE 802.3af compliant network PoE switch. The product is intended for installation indoors. All wiring connections to the product must be in the same building. If the product is installed beyond the building perimeter or used in an inter-building application, the wiring connections must be protected against over voltage / transient. Algo recommends that this product be installed by a qualified electrician.

If you are unable to understand the English language safety information then please contact Algo by email for assistance before attempting an installation support@algosolutions.com.

Consignes de Sécurité Importantes

Ce produit est alimenté par une source d'alimentation limitée certifiée (alimentation par Ethernet); des câbles de catégorie 5 et 6 joignent un commutateur réseau à alimentation par Ethernet homologué IEEE 802.3af. Le produit est conçu pour être installé à l'intérieur. Tout le câblage rattaché au produit doit se trouver dans le même édifice. Si le produit est installé au-delà du périmètre de l'édifice ou utilisé pour plusieurs édifices, le câblage doit être protégé des surtensions transitoires. Algo recommande qu'un électricien qualifié se charge de l'installation de ce produit.

Si vous ne pouvez comprendre les consignes de sécurité en anglais, veuillez communiquer avec Algo par courriel avant d'entreprendre l'installation au support@algosolutions.com.

Información de Seguridad Importante

Este producto funciona con una fuente de alimentación limitada (Limited Power Source, LPS) certificada, Alimentación a través de Ethernet (Power over Ethernet, PoE); mediante un cable de conexión CAT5 o CAT6 a un conmutador de red con PoE en cumplimiento con IEEE 802.3af. El producto se debe instalar en lugares cerrados. Todas las conexiones cableadas al producto deben estar en el mismo edificio. Si el producto se instala fuera del perímetro del edificio o se utiliza en una aplicación en varios edificios, las conexiones cableadas se deben proteger contra sobretensión o corriente transitoria. Algo recomienda que la instalación de este producto la realice un electricista calificado.

Si usted no puede comprender la información de seguridad en inglés, comuníquese con Algo por correo electrónico para obtener asistencia antes de intentar instalarlo: support@algosolutions.com.

Wichtige Sicherheitsinformationen

Dieses Produkt wird durch eine zertifizierte Stromquelle mit begrenzter Leistung (LPS – Limited Power Source) betrieben. Die Stromversorgung erfolgt über Ethernet (PoE – Power over Ethernet). Dies geschieht durch eine Cat-5-Verbindung oder eine Cat-6-

Verbindung zu einer IEEE 802.3af-konformen Ethernet-Netzwerkweiche. Das Produkt wurde konzipiert für die Installation innerhalb eines Gebäudes. Alle Kabelverbindungen zum Produkt müssen im selben Gebäude bestehen. Wenn das Produkt jenseits des Gebäudes oder für mehrere Gebäude genutzt wird, müssen die Kabelverbindungen vor Überspannung und Spannungssprüngen geschützt werden. Algo empfiehlt das Produkt von einem qualifizierten Elektriker installieren zu lassenv.

Sollten Sie die englischen Sicherheitsinformationen nicht verstehen, kontaktieren Sie bitte Algo per Email bevor Sie mit der Installation beginnen, um Unterstützung zu erhalten. Algo kann unter der folgenden E-Mail-Adresse erreicht werden:

support@algosolutions.com.

安全须知

本产品由认证的受限电源（LPS），以太网供电（PoE），通过 CAT5 或 CAT6 线路联接至 IEEE 802.3af 兼容的 PoE 网络交换机供电。本产品适用于室内或建筑物周边安装。所有联接本产品的线路必须源自同一建筑物。本产品如需用于超出建筑物周边范围或跨建筑物的安装，线路联接部分必须有过压和瞬态保护。Algo 建议本产品由专业电工安装。

如果您对理解英文版安全须知有问题，安装前请通过电子邮件和 Algo 联系，support@algosolutions.com。

Important Safety Information



EMERGENCY COMMUNICATION

If used in an emergency communication application, the 8300 Controller should be routinely tested. SNMP supervision is recommended for assurance of proper operation.



DRY INDOOR LOCATION ONLY

The 8300 Controller is intended for dry indoor locations only. For outdoor locations Algo offers weatherproof speakers and strobe lights.

CAT5 or CAT6 connection wiring to an IEEE 802.3af compliant network PoE switch must not leave the building perimeter without adequate lightning protection.

No wiring connected to the 8300 Controller may leave the building perimeter without adequate lightning protection.

Overview

About the Algo 8300 Controller

The 8300 is designed for centralized Algo endpoint monitoring and supervision. Any Algo SIP endpoint device can be monitored on the network via the 8300 dashboard. Common application environments include education, healthcare, manufacturing, plant/utility, retail, and more.

The 8300 is capable of providing notifications such as audio output or SIP Call, as well as email. Recipients will be alerted when a monitored device is unreachable.

A multicast feature allows the 8300 to broadcast an audio notification tone to multiple Slave endpoints. Multicasting allows for a scalable and cost-effective means of designing large scale paging and alerting solutions, with minimal network traffic and as few as one SIP extension for the registered Master endpoint sending the multicast. Any number and combination of Algo IP speakers, paging adapters and strobe lights can be part of an RTP multicast.

The 8300 is configured by accessing a web interface using browsers such as Google Chrome or Firefox.

What is Included

- 8300 Controller
- Network Cable
- Wall Mount Bracket

Setup and Installation

Getting Started – Quick Install & Test

 *This guide provides important safety information which should be read thoroughly before permanently installing the device.*

1. Connect the 8300 Controller to an IEEE 802.3af compliant PoE network switch. The blue lights on the front will remain on until boot up is completed – about 30 seconds.
2. After the blue lights turn off, press the reset switch (RESET) on the front to hear the IP address over the analog output (e.g. headset can be connected to the green output port). The IP address may also be discovered by downloading the Algo Locator Tool to find Algo devices on your network: www.algosolutions.com/locator
3. Access the 8300 web page by entering the IP address into a browser (Chrome, Firefox etc) and login using the default password: **algo**
4. Connect another Algo device that you want to monitor to the network. Wait until boot up is completed.

5. Add the device to the list of monitored devices by going to **Dashboard > Devices** and selecting the Unmanaged Devices tab. Find the connected device in the list and add it to managed devices.

Device Management

Devices

*Note: SNMP must be enabled to monitor devices correctly. Enable SNMP in "Advanced Settings > Admin" tab of the target device.

Search devices... ☐ All ☐ Online ☐ Offline

Manually Add Device ▼ Add Selected

Managed Devices **1. Unmanaged Devices (1)**

	IP ↑↓	MAC ↑↓	Product ↑↓	Name ↑↓	Add to Managed Devices
☐	10.0.17.75	00:22:ee:07:06:5b	8188	sipceiling	2. Add

6. Return to the Managed Devices list and view the device status. If the status displays (Warning) SNMP Disabled, you must enable SNMP support on the monitored device by logging into the device's web interface and enable SNMP under the **Advanced Settings > Admin** tab.

Managed Devices (1/1) Unmanaged Devices

	IP ↑↓	MAC ↑↓	Product ↑↓	FW ↑↓	Name ↑↓	Status ^	Remove from Managed Devices
☐	10.0.17.75	00:22:ee:07:06:5b	8188	1.7.3_beta2	sipceiling	Online	Remove

7. Disconnect the monitored device. Device will show as disconnected in the list. See full user guide for further details on setting up additional notifications, including email alerts.

Managed Devices (1/1) Unmanaged Devices

	IP ↑↓	MAC ↑↓	Product ↑↓	FW ↑↓	Name ↑↓	Status ^	Remove from Managed Devices
☐	10.0.17.75	00:22:ee:07:06:5b	8188		sipceiling	Error Unreachable	Remove

Installation

The 8300 is wall mountable in a horizontal orientation using the supplied bracket.



Example installation on ½" drywall:

Use appropriate drywall anchors for #8 screws, and pre-drill per anchor manufacturer's instructions. Insert 4 anchors into the wall, and then attach bracket to wall anchors using #8 screws. Snap the 8300 into the bracket. Connect the 8300 to a PoE network switch.

Web Interface

The 8300 Controller is configurable using the web interface.

After boot up the blue lights on the front will turn off and the controller will have obtained an IP address. If there is no DHCP server the 8300 Controller will default to the static IP address **192.168.1.111**.

Press the reset switch (RESET next to the Ethernet port) momentarily to hear the IP address over Aux Out port. The reset switch will not cause a reset unless pressed during power up.

The IP address may also be discovered by downloading the Algo locator tool to find Algo devices on your network: www.algosolutions.com/locator

Enter the IP address (e.g 192.168.1.111) into a browser such as Google Chrome, Firefox, or Internet Explorer (other than IE9). The web interface should be visible and the default password will be **algo** in lower case letters.

Wiring Connections

Network Connection

The 8300 provides a RJ45 jack for network connection. A cable run from the switch can be terminated to a modular jack with connection by patch cord, or terminated with a RJ45 plug.

PoE (Power over Ethernet) must be 48V 350 mA IEEE 802.3af compliant whether provided by the network switch or injector.

There are two lights on the Ethernet jack:

Green light: On when Ethernet is working, flickers off to indicate activity on the port.

Amber light: Off when successful 100Mbps link is established. Typically on only briefly at power up.

Under normal conditions, the Amber light will turn on immediately after the Ethernet cable is first connected. This indicates that PoE power has been successfully applied. Once the device connects to the network, it will switch to the Green light instead, which will typically flicker indicating traffic on the network.

Blue LED Indicators

All 4 blue lights will be on during power up and the boot process.

SIP

Steady light will appear when the SIP extension is registered. The light will blink when the device is engaged in an outbound SIP alert.

MCAST

The Multicast light will appear when 8300 sends multicast messages to Slaves as a Master.

ALARM

The ALARM light is 'on' when the Controller has detected that one or more devices is currently offline.

OUTPUT

The OUTPUT light is on when the analog output is enabled.

Reset Button

A recessed reset button (RESET) next to the Ethernet Jack can only be used to reset the 8300 Controller at time of power up. To reset, reboot or power cycle the 8300 Controller, wait until the SIP LED flashes and then press and hold the reset button until the SIP LED begins a double flash pattern. Release the reset button and allow the unit to complete its boot process. **Do not press the reset button until the SIP LED begins flashing.**

A reset will set all configuration options to factory default including the password.

Once booting has completed, pressing the reset button will cause the Controller to announce its IP address over the Aux Out port.

Features

Visual Notifications

The *Managed Devices* on the *Dashboard > Devices* tab displays the current status of each monitored device. By default the devices are sorted by of status.

Device status:

Error: Unreachable	Device is offline
Error: Software Failure	Device is reachable but there is a software error that effect normal operation. A reboot may be necessary to return normal operations.

Warning: Trying...	Controller is attempting to reach device.
Warning: SNMP Disabled	Device is reachable but SNMP is not enabled
Online	Device is reachable and functioning correctly

Additionally, when one or more offline devices are detected, an error message will be shown at the top of the Dashboard > Devices page:

One or more devices have been disconnected. The alarm is ringing, click here to deactivate the alarm: [Deactivate](#)
 *Note: New offline devices will automatically reactivate the alarm.

Audio Notification

The 8300 Controller can be configured to play audio notifications by setting “Action” to “Play Tone” under the *Dashboard > Audio Notification* tab. Custom files can be used as the audio notifications by uploading an audio file to the “tones” directory under *Advanced Settings > File Manager* tab.

Additional Notifications

Multicast Notification

In addition to playing an audio notification locally, the 8300 can multicast the audio notification to multiple Slave endpoints. Any number and combination of Algo IP speakers, paging adapters, and strobe lights can be a Slave endpoint.

Call Notification

The 8300 can be configured to dial an extension and play a pre-recorded message.

Email Notification

Email Notifications can be sent when a device goes offline, when a device goes back online, and/or periodic heartbeat messages. When devices go offline/online momentarily, alerts may be missed, Emails can provide a history of the status of devices over large periods of time so that device malfunctions are always detected.

Multicast IP Addresses

Each 8300 Controller has its own IP address, and shares a common multicast IP and port number (multicast zone) for multicast packets. The 8300 transmits to a configurable multicast zone, and the slave units listen to all the multicast zones assigned to them.

The network switches and router see the packet and deliver it to all the members of the group. The multicast IP and port number must be the same on all the master and slave units of one group. The user may define multiple zones by picking different multicast IP addresses and/or port numbers.

1. Multicast IP addresses range: 224.0.0.0/4 (from 224.0.0.0 to 239.255.255.255)
2. Port numbers range: 1 to 65535

- By default, the 8300 Controller is set to use the multicast IP address 224.0.2.60 and the port numbers 50000-50008

Make sure that the multicast IP address and port number do not conflict with other services and devices on the same network.

Web Interface Login

The web interface requires a password which is "**algo**" by default. This password can be changed using the *Admin* tab after logging in the first time.

ALGO 8300 Controller Control Panel

Status

Status and Login

Welcome to the Algo 8300 Controller Control Panel

Setting up your Controller:

Step 1: Configure your Controller

Log in with the default password and use the Basic Settings pages to set up the basic information.

Step 2: Check network settings (Optional)

Use the Network page under the Advanced Settings tab to change network settings. The default setting for the device is to obtain its IP address from a DHCP server. Contact your Network System administrator if you plan to assign a static IP address, Mask, and Gateway to the device.

Step 3: Secure your Controller (Optional)

Use the Admin page under the Advanced Settings tab to change the administrator password.

⚠ Changing the password is extremely important if the device is directly connected to a public network.

Step 4: Register your Controller (Optional)

Please register your product using the link below:

<http://www.algosolutions.com/register>

Registration ensures your access to the latest upgrades to this product and important service notices.

Login

Password (default: **algo**)

Status

Device Name	controller	
SIP Registration	Page	No Account
Call Status	Idle	
Proxy Status	Single proxy mode	
Security	TLS	Disabled
	SRTP	Disabled
MAC	00:22:ee:08:00:51	
IPv4	10.30.26.93/8, Gateway: 10.0.0.1	
IPv6	Invalid	
Date / Time	Tue May 21 19:04:13 UTC 2019	

Status

The device's Status page will be available before and after log on. The section can be used to check 8300's SIP Registration status of the Page extensions, Call Status, Proxy Status, and general MAC, IP, Netmask, Date/Time, and Timezone information.

Web Interface Dashboard Settings

Dashboard Tab – Devices

Managed Devices Tab

This tab shows the devices that the 8300 is currently monitoring. See *Unmanaged* Tab to select new devices to monitor.

The screenshot shows the 'Managed Devices' tab in the web interface. At the top, there are tabs for 'Status', 'Dashboard', 'Advanced Settings', 'System', and 'Logout'. Below these, there are sub-tabs for 'Devices', 'Email Configurations', 'SIP', and 'Audio Notifications'. The 'Devices' tab is active, showing a 'Device Management' section. A note states: '*Note: SNMP must be enabled to monitor devices correctly. Enable SNMP in "Advanced Settings > Admin" tab of the target device.' There is a search bar labeled 'Search devices...' and radio buttons for 'All', 'Online', and 'Offline'. Below this, there are buttons for 'Manually Add Device' and 'Remove Selected'. The main area is divided into two sections: 'Managed Devices (2/2)' and 'Unmanaged Devices'. The 'Managed Devices' section contains a table with the following data:

	IP	MAC	Product	FW	Name	Status	Remove from Managed Devices
☐	10.30.14.228	00:22:ee:07:01:c4	8188	3.1_alpha5	sipcelling	Online	Remove
☐	10.0.15.40	00:22:ee:07:06:79	8188	1.7.6_rc2	sipcelling	Online	Remove

Below the table, there is a 'Monitor Settings' section with a 'Monitor Interval' dropdown set to '30 seconds' and an 'Apply' button. A note below the dropdown states: '*Interval at which devices are queried for their status changes. Choosing a shorter interval will result in faster detection of offline devices but will increase network traffic.'

Monitor Interval

Interval at which devices are queried for their status changes. Choosing a shorter interval will result in faster detection of offline devices but will increase network traffic.

Manually Add Devices

Manually add a device to managed devices. IP Address and MAC are required.

The screenshot shows the 'Manually Add Device' form in the web interface. It is similar to the previous screenshot, but with the 'Manually Add Device' button clicked, opening a form to add a new device. The form has the following fields:

- IP Address: 172.31.255.255
- MAC: XX-XX-XX-XX-XX-XX
- Name: optional
- Product Name: optional

There are 'Submit' and 'Cancel' buttons at the bottom of the form. Below the form, the 'Managed Devices (2/2)' section shows a table with one device:

	IP	MAC	Product	FW	Name	Status	Remove from Managed Devices
☐	10.30.14.228	00:22:ee:07:01:c4	8188	3.1_alpha5	sipcelling	Online	Remove

Unmanaged Devices Tab

This tab show the Algo devices that can be selected to be monitored.

[Status](#) | [Dashboard](#) | [Advanced Settings](#) | [System](#) | [Logout](#)

[Devices](#) | [Email Configurations](#) | [SIP](#) | [Audio Notifications](#)

Device Management

Devices

*Note: SNMP must be enabled to monitor devices correctly. Enable SNMP in "Advanced Settings > Admin" tab of the target device.

Search devices:

☒ All
 ☐ Online
 ☐ Offline

[Manually Add Device](#) [Add Selected](#)

[Managed Devices](#) | [Unmanaged Devices \(39\)](#)

	IP	MAC	Product	Name	Add to Managed Devices
☐	10.0.15.20	00:22:ee:0e:00:3a	8190	classroomspk	Add
☐	10.0.15.70	00:22:ee:12:00:6f	8180G2	kelly-8180g2	Add
☐	10.30.0.131	00:22:ee:02:00:2f	8180	sipalerter	Add
☐	10.30.10.124	00:22:ee:00:10:23	8301	pagingadapter	Add
☐	10.30.11.235	00:22:ee:0b:00:5b	8039	videodoorphone	Add
☐	10.30.12.149	00:22:ee:00:00:5e	8036	ipmi	Add
☐	10.30.13.149	00:22:ee:0b:00:86	8039	videodoorphone	Add

Filters/sorting

Devices can be filtered in both the Managed or Unmanaged Devices table by using the search bar in the right corner. Clicking on the icon next to column name will sort the entries by that selected column.



Important: The search filter and sort are persistent between tabs. The filter must be cleared to see all devices.

Dashboard Tab – Email Configurations

ALGO 8300 Controller Control Panel Firmware: 1.7.5

[Status](#) | [Dashboard](#) | [Advanced Settings](#) | [System](#) | [Logout](#)

[Devices](#) | [Email Configurations](#) | [SIP](#) | [Audio Notifications](#)

Email Configurations

Account

Email Account

Email can be the same as the recipient.

Password

Outgoing Mail Server

e.g. mainserver.example.net:port

From

Descriptive name that will appear in email headings.

Recipient

Recipient [Test](#)

e.g. user@domain.com

Notification Settings

Email will be sent when a managed device goes offline. Additional settings are available below.

Disconnected Device(s) Reminder

Dashboard Heartbeat

Send update if all managed devices are online.

Disconnected Device(s) Back Online ☐ Enabled ☒ Disabled

Send update when disconnected devices come back online.

[Save](#)

Email Account

Email account that the email will be sent from.

Password

Password to email account.

Outgoing Mail Server

The host name of the outgoing SMTP server, such as smtp.example.com.

From

Descriptive name that will appear in email headings.

Recipient

Notification recipient email address.

Disconnected Device(s) Reminder

Send additional email reminders of disconnected devices for a specific interval.

Dashboard Heartbeat

Send heartbeat emails periodically, even if no devices are offline. Heartbeat emails help to provide confirmation that the 8300 is operating correctly.

Disconnected Device(s) Back Online

Send an email notification when a disconnected device comes back online.

Dashboard Tab – SIP

SIP Server information and Credentials should be obtained from your telephone system administrator or hosted account provider. After saving the settings, see the Status tab to confirm the registration was successful.

ALGO 8300 Controller Control Panel Firmware: 1.7.5

Status Dashboard Advanced Settings System Logout

Devices Email Configurations SIP Audio Notifications

SIP Settings

SIP

ⓘ This section allows the SIP server information & account credentials to be entered. This information should be obtained from your telephone system administrator or hosted account provider. After saving these settings, see the [Status](#) tab to confirm successful registration.

SIP Domain (Proxy Server)
ⓘ Default port is 5060. To specify a different port, enter PROXY:PORT, e.g. my_proxy.com:5070, or 192.168.1.10:5080.

SIP Extension

Authentication ID

Authentication Password

Display Name (Optional)



Important: Any time changes are made to settings in the Web Interface the "Save" key must be clicked to save the changes

SIP Domain (Proxy Server)

SIP Server Name or IP Address.

Page Extension

This is the SIP extension for the 8300 Controller. The device will reject any inbound call received on this extension.

Authentication ID

May also be called Username for some SIP servers and in some cases may be the same as the SIP extension.

Authentication Password

SIP password provided by the system administrator for the SIP account.

Dashboard Tab– Audio Notifications

Action

The action to be performed when a device goes offline. If “Play Tone” is selected, the subsection “Play Tone” and “Multicast Settings” will be visible:

The screenshot shows the 'Audio Notifications' configuration page. At the top, there are tabs for 'Status', 'Dashboard', 'Advanced Settings', 'System', and 'Logout'. Below these are sub-tabs for 'Devices', 'Email Configurations', 'SIP', and 'Audio Notifications'. The main heading is 'Audio Notifications'. Under 'Action When Device Offline', the 'Action' is set to 'Play Tone' (selected with a radio button). A note states: 'Play Tone will play a sound on the Aux Out port or multicast if configured.' The 'Play Tone' section shows 'Tone' set to 'warble2-med.wav', 'Tone Volume' set to '10', and 'Tone Duration' set to 'Play Once'. The 'Multicast Settings' section shows 'Multicast Mode' set to 'Master/Sender', 'Number of Zones' set to 'Basic Zones Only', and 'Master Zone' set to 'Zone 1'. Under 'Speaker Playback Zones', checkboxes for 'Priority Call', 'All Call', and 'Music' are all checked. Individual zone checkboxes for 'Zone 1' through 'Zone 6' are also checked. A note at the bottom states: 'Allows master device to play audio for selected zones only.' A 'Save' button is at the bottom right.

If “Make a SIP Call” is selected, the subsection “Call Settings” will be visible:

The screenshot shows the 'Audio Notifications' configuration page in the 8300 Controller interface. The page has a top navigation bar with tabs: Status, Dashboard, Advanced Settings, System, and Logout. Below this is a sub-navigation bar with tabs: Devices, Email Configurations, SIP, and Audio Notifications (which is selected). The main content area is titled 'Audio Notifications' and contains two sections: 'Action When Device Offline' and 'Call Settings'.

Action When Device Offline

Action: ☐ Play Tone ☒ Make a SIP Call
Play Tone will play a sound on the Aux Out port or multicast if configured.

Call Settings

Dialing Extension:
SIP account required in SIP User Settings fields in order to make a call.

Tone:

Outbound Ring Limit:
1 ring = 6 seconds

Maximum Call Duration:

Save

Play Tone – Tone

Select WAV file to play when an offline device is detected. The WAV file may be played immediately over Aux Out port. During multicast, the device will broadcast an audio stream using this tone.

Play Tone – Volume

Output volume of tone.

Play Tone – Tone Duration

Select the maximum tone duration. The tone will be terminated once the maximum time is reached.

Multicast Settings - Multicast Mode

If master mode is enabled the 8300 Controller will broadcast an IP stream (of the tone selected in “Play Tone” section) when a device goes offline in addition to playing the audio over Aux Out port.

Multicast Settings - Number of Zones

Select “basic” zones if configuring nine or fewer multicast zones or “expanded” to configure up to 50 zones. The expanded zones have the same behavior as the basic Slave zones, but are hidden by default to simplify the interface.

Multicast Settings - Playback Zones

Allows Master device to play audio for selected zones only.

Call Settings - Dialing Extension

Extension to dial when a offline device is detected. Valid SIP Credentials are required in *Dashboard > SIP* to in order to make a call.

Call Settings – Tone

Select WAV file to play during call when an offline device is detected.

Call Settings – Outbound Ring Limit

Typically set to ensure that a call will not reach voicemail. This feature is used to set a limit on how long the 8300 will ring before timing out.

Call Settings - Maximum Call Duration

Select the maximum call length. The call will be terminated once the maximum time is reached. In the event that a call inadvertently reaches voicemail or gets accidentally left on hold, this setting ensures that the 8300 returns on-hook. Audio files will play in a loop once the call is answered, until hung up or time limit is reached.

Web Interface Advanced Settings

Advanced Settings Tab - Network

Protocol

DHCP is an IP standard designed to make administration of IP addresses simpler. When selected, DHCP will automatically configure IP addresses for each 8300 on the network. Alternatively the 8300 can be set to a static IP address.

VLAN Mode

Enables or Disables VLAN Tagging. VLAN Tagging is the networking standard that supports Virtual LANs (VLANs) on an Ethernet network. The standard defines a system of VLAN tagging for Ethernet frames and the accompanying procedures to be used by bridges and switches in handling such frames. The standard also provides provisions for a quality of service prioritization scheme commonly known as IEEE 802.1p and defines the Generic Attribute Registration Protocol.

VLAN ID

Specifies the VLAN to which the Ethernet frame belongs. A 12-bit field specifying the VLAN to which the Ethernet frame belongs. The hexadecimal values of 0x000 and 0xFF are reserved. All other values may be used as VLAN identifiers, allowing up to 4094 VLANs.

The reserved value 0x000 indicates that the frame does not belong to any VLAN; in this case, the 802.1Q tag specifies only a priority and is referred to as a priority tag. On bridges, VLAN 1 (the default VLAN ID) is often reserved for a management VLAN; this is vendor specific.

VLAN Priority

Sets the frame priority level. Otherwise known as Priority Code Point (PCP), VLAN Priority is a 3-bit field which refers to the IEEE 802.1p priority. It indicates the frame priority level. Values are from 0 (lowest) to 7 (highest).

Differentiated Services (6-bit DSCP value)

Provides quality of service if the DSCP protocol is supported on your network. Can be specified independently for SIP control packets versus RTP audio packets.

DNS Caching Mode

In "SIP" mode, only the results of DNS queries for SIP requests will be cached. In "All" mode, the results of all DNS queries will be cached.

Advanced Settings Tab – Admin

Password

Password to log into the 8300 Controller web interface. You should change the default password *algo* in order to secure the device on the network. If you have forgotten your password, you will need to perform a reset using the Reset Button in order to restore the password (as well as all other settings) back to the original factory default conditions.

For additional password security see “Force Strong Password” below.

Confirmation

Re-enter network admin password.

Device Name (Host name)

Name to identify the device in the Algo Network Device Locator Tool.

Introduction Section on Status Page

Allows the introduction text to be hidden from the login screen.

Show Status Section on Status Page when Logged Out

Use this option if you wish to block access to the status page when logged out. The settings and configurations, on the status page, will be hidden entirely unless you're logged in – this feature is useful when you want only trusted users to view possible sensitive device information.

Web Interface Session Timeout

Set the maximum period of inactivity after which the web interface will log out automatically.

Play Tone at Startup

A tone can be played at startup to confirm that the device has booted.

Log Level

Use on the advice of Algo technical support only.

Log Method

Allows the 8300 Controller to write to external Syslog server if the option for external (or both) is selected.

Log Server

If external (or both) is selected this is the address of the Syslog server on the network.

Web Interface Protocol

HTTPS is always enabled on the device. Use this setting to disable HTTP. When HTTP is disabled, requests will be automatically redirected to HTTPS. Also note that since the device can have any address on the local network, no security certificate exists, and thus most browsers will provide a warning when using HTTPS.

Force Strong Password

When enabled, ensures that a secure password is provided for the device's web interface for additional protection. The password requirements are:

- Must contain at least 10 characters
- Must contain at least 1 uppercase character
- Must contain at least 1 digit (0 – 9)
- Must contain at least 1 special character

Allow Secure SIP Password

Allows SIP passwords to be stored in the configuration file in an encrypted format, to prevent viewing and recovery. Once enabled, the SIP "Realm" field should be entered and all the configured Authentication Password(s) must be re-entered in the Basic Settings > SIP tab, and any other locations where SIP extension have been configured, to save the encrypted password(s).

If the Realm is changed at a later time, all the passwords will also need to be re-entered again to save the passwords with the new encryption.

To obtain your SIP Realm information, contact your SIP Server administrator (or check the SIP log file for a registration attempt). The Realms may be the same or different for all the extensions used.

SNMP Support (v1 get only)

Additional SNMP support is anticipated for future, but the 8300 Controller will respond to a simple status query for automated supervision. Contact Algo technical support for more information.

System Integrity Checking

This feature verifies installed system packages to ensure they have not been tampered with by running 'Perform Check'. Enabling this feature may cause reboots and upgrades to take 30 seconds longer. Verification results can be found on the Status page.

Advanced Settings Tab – Time

Network time is used for logging events into memory for troubleshooting.

Time Zone

Select time zone.

NTP Time Servers 1/2/3/4

The 8300 will attempt to use Timer Server 1 and work down the list if one or more of the time servers become unresponsive.

NTP Time Server Source

When "Use DHCP Option 42" is chosen, if an NTP Server address is provided via the DHCP Option 42, that NTP Server will be used instead of the 4 mentioned above.

Alternatively, “Ignore DHCP Option 42” can be chosen to only use servers mentioned above.

Device Date/Time

This field shows the current time and date as set on the device. If testing the device on a lab network that may not have access to an external NTP server, the “Sync with browser” button can be used to temporarily set the time on the device.



Note: This time value will be lost at power down, or overwritten if NTP is currently active. Time and date are used only for logging purposes and are not typically required.

Advanced Settings Tab – File Manager

Uploading Custom Audio Files

Custom audio files (WAV format) may be uploaded into memory (1 GB) to play for notification applications. Place your audio files into the **tones** directory.

An existing file may also be modified by downloading the original by right clicking the tone and selecting ‘Download’, making the desired changes, and then uploading the new version with a different name. Audio files must be in the following format:

- WAV format
- 8kHz or 16kHz sampling rate
- 16-bit PCM, or u-law
- Mono
- Smaller than 200MB

File names must be limited to 32 characters, with no spaces.

Tone Files Included in Memory

The 8300 includes several pre-loaded WAV files that can be selected to play for various events. Files may also be deleted or renamed.

Advanced Settings Tab – Advanced SIP

SIP Transportation

Which transport layer protocol to use for SIP messages. Setting ‘SIP Transportation’ to ‘TLS’, ensures the encryption of SIP traffic.

SIPS Scheme

Only visible when ‘SIP Transportation’ set to ‘TLS’. Enabling SIPS Scheme requires the SIP connection from endpoint to endpoint to be secure.

SDP SRTP Offer

Setting ‘SDP SRTP Offer’ to ‘Optional’, means the SIP call’s RTP data will be left unencrypted if the other party does not support SRTP. Setting ‘SDP SRTP Offer’ to ‘Standard’, encrypts RTP voice data, meaning the normal audio RTP packets will now be secure (SRTP). This means SIP calls will be rejected if other party does not support

SRTP. The 'Standard' option secures the audio data between parties, by making sure that it's not left out in the open for third parties to later reconstruct and listen to.

SIP Outbound Support (RFC 5626)

Enable this option to support best networking practices according to RFC 5626. This option should generally be enabled if the Algo device is being registered with a hosted server or if TLS is being used for SIP Transportation.

Outbound Proxy

IP address for outbound proxy. A proxy (server) stands between a private network and the internet.

Register Period (seconds)

Maximum requested period of time where the 8300 Controller will re-register with the SIP server. Default setting is 3600 seconds (1 hour). Only change if instructed otherwise.

Media NAT

IP address for STUN server if present or IP address/credentials for a TURN server.

Server Redundancy Feature

Two secondary SIP servers may be configured. The 8300 Controller will attempt to register with the primary server but switch to a secondary server when necessary. The configuration allows re-registration to the primary server upon availability or to stay with a server until unresponsive.

If Server Redundancy is selected the web page will expand as shown below.

Backup Server #1

If primary server is unreachable the 8300 Controller will attempt to register with the backup servers. If enabled, the 8300 will always attempt to register with the highest priority server.

Backup Server #2

If backup server #1 is unreachable the 8300 Controller will attempt to register with the 2nd backup server. If enabled, the 8300 will always attempt to register with the highest priority server.

Polling Intervals (seconds)

Time period between sending monitoring packets to each server. Non-active servers are always polled, and active server may optionally be polled (see below).

Poll Active Server

Explicitly poll current server to monitor availability. May also be handled automatically by other regular events, so can be disabled to reduce network traffic.

Automatic Failback

Reconnect with higher priority server once available, even if backup connection is still fine.

Polling Method

SIP message used to poll servers to monitor availability.

Keep-alive Method

If Double CRLF is selected the 8300 will send a packet every 30 seconds (unless changed) to maintain connection with the SIP Server if behind NAT.

Keep-alive Interval

Interval in seconds that the CRLF message should be sent.

Use Outgoing TLS port in SIP headers

Use ephemeral port number from outgoing SIP TLS connection instead of listening port number in SIP Contact and Via headers. This is useful to connect the device to some local SIP servers, like Asterisk or FreeSWITCH.

Do Not Reuse Authorization Headers

When enabled, all SIP authorization information from the last successful request will not be reused in the next request.

Advanced Settings Tab – Advanced Multicast

Master Output Codec (Master Mode)

Audio encoding format used by the Master device when sending output to the slaves.

Master Output Packetization Time (Master Mode)

The size of the audio packets sent by the Master to the Slaves. The default of 20ms is recommended, unless a different value is specifically required for compatibility with other devices.

Zone Definition

The “Expanded” Slave or Master zones can be enabled/disabled in Basic Settings > Multicast. Default IP addresses and ports may be revised for any given zone in the table.

Ensure that the Address and Port settings are the same for all master and slave devices.

Web Interface System Settings

System Tab – Maintenance

Restore Configuration File

Restore settings from a backup file.

Restore Configuration to Defaults

Resets all 8300 Controller device settings to factory default values.

Reboot the Device

Reboots the device.

Method

Specify whether the firmware files will be downloaded from the local computer or a remote URL.

Firmware Image

Point to the firmware image provided by Algo.

MD5 Checksum

Point to the checksum file provided by Algo.

Upgrade 8300 Controller Firmware

1. From the top menu, click on System, then Maintenance.
2. In the Upgrade section, click on Choose File and select the 8300 firmware file to upload. Note that both the FW firmware and MD5 checksum files must be loaded.
3. Click Upgrade
4. After the upgrade is complete, confirm that the firmware version has changed (refer to top right of Control Panel).

System Tab – System Log

System log files are automatically created and assist with troubleshooting in the event the 8300 Controller does not behave as expected.

Specifications

Power Input:	48 V PoE IEEE 802.3af Class 0 Max 4W - Idle nominal 2W
Dimensions:	6.5" x 4.27" x 2.3" (cm x cm x cm)
SIP:	One extension for Paging
Multicast:	Transmit
Audio Codec:	G.711 A-law, G.711 u-law, G.722
Audio Memory:	1 GByte available
Relay Output:	Normally open, activated when 8300 is in use Max 30 V 50 mA
Relay Input:	Normally open or normally closed dry contact
Configuration:	Web interface or provisioning
Supervision:	SNMP
NAT:	STUN, CRLF Keep Alive
Environmental:	+32 to +122 deg F (0 to +50 deg C); Suitable for dry indoor environments only.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.