

# Cascadia

Networked Instructional Audio System



## Software Installation





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# System Requirements

Below are the suggested minimum hardware requirements for the Cascadia Web Console server software. Each instance of the software can support a single site. The software can be run as a virtualized server using local computer resources, which is the recommended installation.

## **MINIMUM HARDWARE REQUIREMENTS**

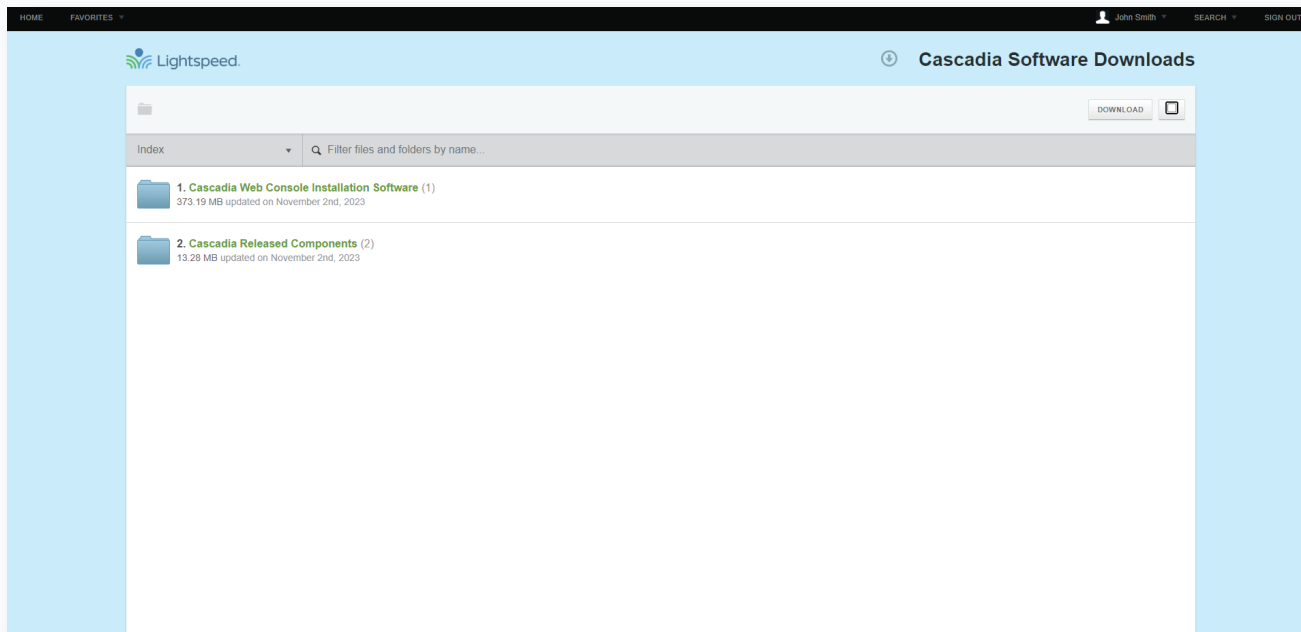
- 2 GHz dual-core processor or better
- 12 GB RAM
- 50 GB hard drive space (available)
- Internet accessible network connection



# Download Virtual Cascadia Server

The Cascadia Web Console software is available for download at [downloads.light-speed-tek.com](https://downloads.light-speed-tek.com).

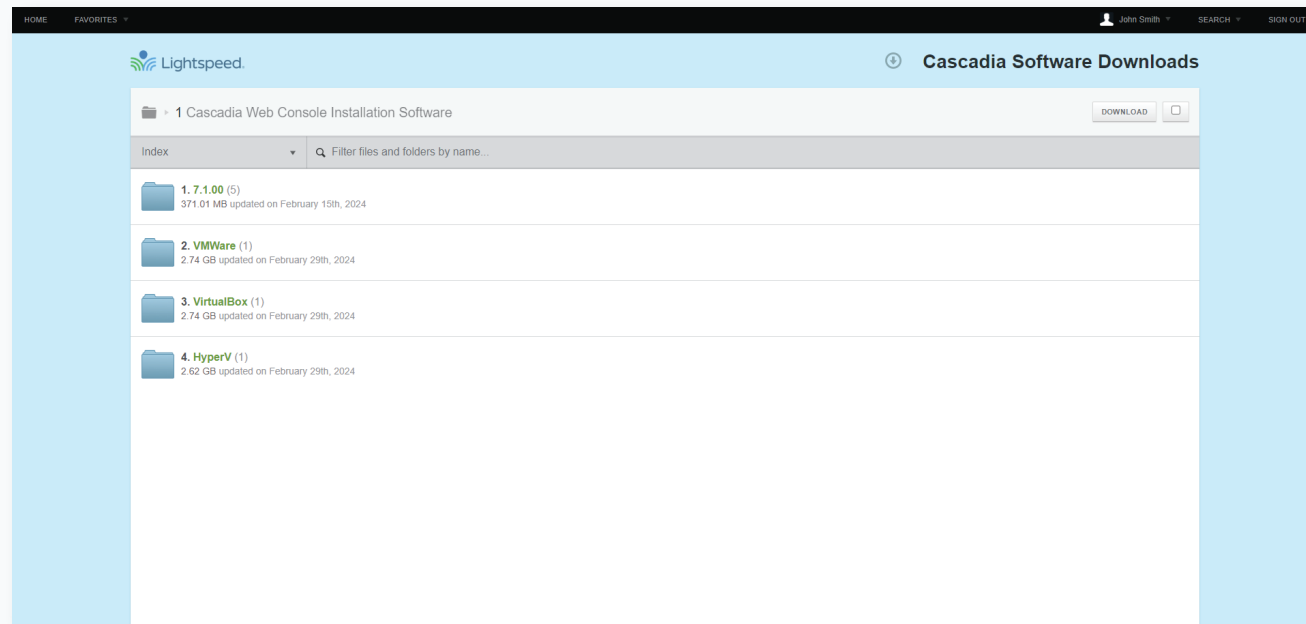
- To request access to the files, send a request to [Service@light-speed-tek.com](mailto:Service@light-speed-tek.com) or contact Lightspeed at 800.732.8999. Lightspeed will send you an invitation email to create an account to access the downloads.
- Once signed in, click on the Cascadia Software Download folder.
- Download the files in the Cascadia Web Console Installation Software folder to use in the installation of the Cascadia Web Console.
- The files in the Cascadia Released Components folder contain the latest firmware for the Cascadia products. These firmware files can be manually downloaded or accessed directly from within the Cascadia Web Console





# Download Virtual Cascadia Server

- The Cascadia Web Console Installation Software folder includes multiple installation options.
- The Cascadia Software has been tested for deployment in a virtual environment.
- Virtualized servers are available for VirtualBox, VMWare, or Hyper-V.





# Setting Up the Virtual Cascadia Server

Load the appropriate virtual machine file into the virtual machine software that will be used.

## **VIRTUAL MACHINE SETTINGS**

- 1 processor
- 4GB RAM
- 50GB disk space

## **NETWORK SETTINGS**

When a C25 base is connected to the same network as the Cascadia Web Console, the base will look for the the web console using a specific DNS entry.

- Reserve an IP address for the Cascadia Web Console server using the server's MAC address.
- Add a DNS entry using "cascadia-console" for the server IP address.
- This will enable the C25 bases to find the server when they are connected to the network.

# Logging In to the Cascadia Web Console

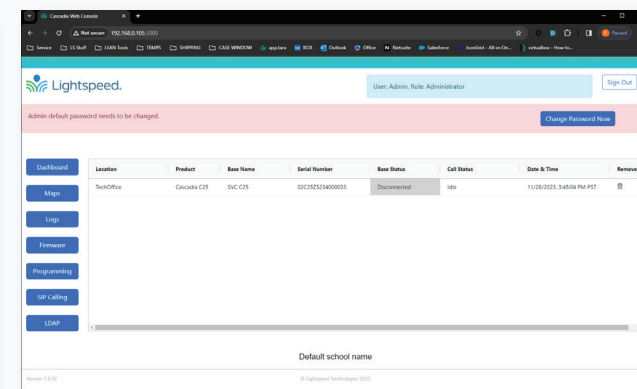
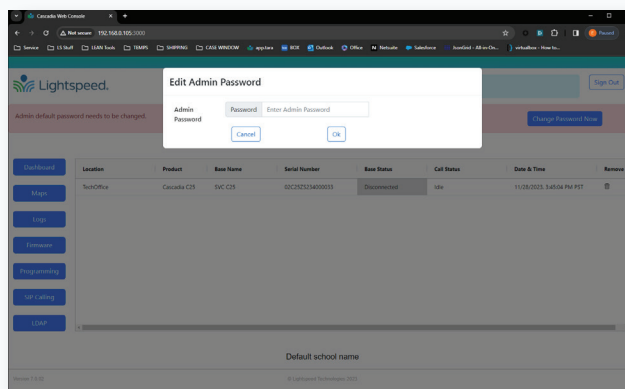
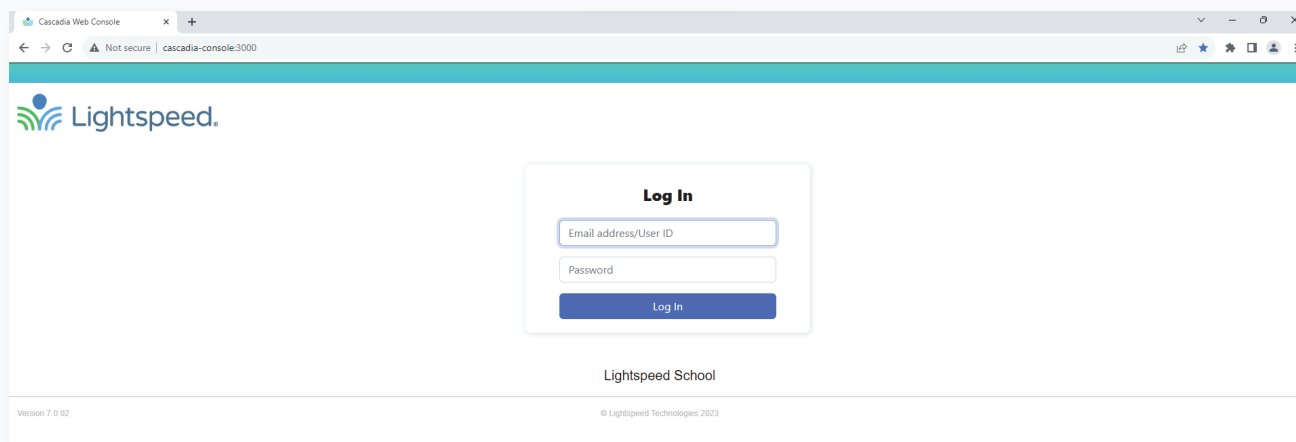
Enter **http://cascadia-console:3000** into a web browser to access the Cascadia Web Console.

User ID: **admin**

Password: **lightspeed**

This is the default login for the Cascadia Web Console. It is recommended to change the default password to something more secure after first login. Click the “Change Password Now” button to enter a new password. For instruction on how to reset the admin password again, contact Lightspeed at 800.732.8999.

New users can be set up as admins using the LDAP setup page in the web console.



# LDAP Setup

Use the LDAP web page to integrate with a school's LDAP system.

**SERVER:** IP address or system name of LDAP server.

**SERVER PORT:** Port number to communicate with LDAP server.

**ADMIN DN:** Distinguished name of LDAP account with read access.

**ADMIN PASSWORD:** Password for above LDAP account.

**SEARCH BASE DN:** Distinguished name of LDAP organizational unit where webapp user accounts reside.

**ATTRIBUTE:** Name of LDAP user attribute that provides webapp access.

Server	IP/DNS	dc.yourcompany.com
Server Port	Port	389
Admin DN	DN	CN=ldapsvc,OU=Users,DC=yourcompany,DC=cc
Admin Password	Password	*****
Search Base DN	DN	OU=Users,DC=yourcompany,DC=com
Attribute	Role	cascadiaRole
<input type="button" value="Ok"/>		



# Dashboard

When a C25 base is connected to the same network as the Cascadia Web Console, the base will automatically show up in the Dashboard. The bases will send a status packet to **cascadia-console:3000**, the web address that was assigned to the console, every 5 seconds. Base Status will show as either “Ready” or “Low Power Mode”.

If a base loses network connection from unplugging or some other action, the Base Status will change to “Disconnected” after 3 missed status packets. C25 bases can be removed from the dashboard only when in the “Disconnected” state.

See following page for definitions

The screenshot shows the Lightspeed Web Console Dashboard. At the top, there is a navigation bar with the Lightspeed logo on the left and a user profile on the right showing 'User: Admin, Role: Administrator' and a 'Sign Out' button. Below the navigation bar is a sidebar with menu items: Dashboard, Maps, Logs, Firmware, Programming, SIP Calling, and LDAP. The main content area is a table with columns: Location, Product, Base Name, Serial Number, Base Status, Call Status, Date & Time, and Remove. The table contains several rows of data for different bases. At the bottom of the dashboard, the school name 'Lightspeed School' is displayed, with a note '(click on footer to edit)'. Eight numbered callouts point to specific features: 1. LOCATION OF BASE USER DEFINED (points to the Location column), 2. PRODUCT MODEL NUMBER (points to the Product column), 3. BASE NAME USER DEFINED (points to the Base Name column), 4. SERIALNUMBER OF BASE (points to the Serial Number column), 5. BASE STATUS (points to the Base Status column), 6. CALL STATUS (points to the Call Status column), 7. DATE & TIME (points to the Date & Time column), and 8. REMOVE BASE (points to the Remove column).

Location	Product	Base Name	Serial Number	Base Status ↓	Call Status	Date & Time	Remove
C109	Cascadia C25	Math 1	02C25ZS234300244	Ready	Idle	11/9/2023, 4:17:51 PM PST	
C108	Cascadia C25	Math 2	02C25ZS234300079	Ready	Idle	11/9/2023, 4:17:51 PM PST	
C107	Cascadia C25	Physics 1	02RBNZS231800074	Low Power Mode	Idle	11/9/2023, 4:17:48 PM PST	
C101	Cascadia C25	ELA 1	02RBNZS231800060	Low Power Mode	Idle	11/9/2023, 4:17:52 PM PST	
DV49	Cascadia C25	Mike DV49	02C25ZS233900049	Disconnected	Idle	11/1/2023, 7:04:25 AM PDT	🗑️
	Cascadia C25		02C25ZS233900037	Disconnected	Idle	11/9/2023, 3:24:49 PM PST	🗑️
	Cascadia C25		02C25ZS233900051	Disconnected	Idle	11/8/2023, 12:33:45 PM PST	🗑️

Navigation: Dashboard, Maps, Logs, Firmware, Programming, SIP Calling, LDAP

User: Admin, Role: Administrator [Sign Out]

Lightspeed School  
(click on footer to edit)



# Dashboard Definitions


1. **Location:** Alphanumeric user defined location of the base. New bases on the network will have no location data.
2. **Product:** Product model number
3. **Base Name:** Alphanumeric user defined name of the base. New bases on the network will have no name data. If left blank this field will default to the location data.
4. **Serial Number:** Serial number of base
5. **Base Status:** Current status of the base
  - **Disconnected:** Base has missed 3 network health checks and can no longer be found on the network.
  - **Emergency/Emergency Nearby:** If an emergency alert is triggered from a base on the network with a paired mic, the status of that base will change to Emergency. If the alert comes from a non-paired mic, the status will change to Emergency Nearby.
  - **Help Requested/Help Requested Nearby:** If a non-emergency alert is triggered from a base on the network with a paired mic, the status of that base will change to Help Requested. If the alter comes from a non-paired mic, the status will change to Help Requested Nearby.
  - **Low Power Mode:** After 1 hour of inactivity or audio input, the base will enter a low power mode. Check manual for mention of low power/standby
  - **Idle:** Base is in full power mode and has passed a network health check.
6. **Call Status:** Current call status of the base
  - **Idle:** No call currently being made
  - **Ringing:** Call in progress
  - **Busy:** Destination phone not available
  - **Connected:** Call connected and in progress
  - **Failed:** Call not able to be initiated for unknown reason
  - **Disconnected:** Base status is Disconnected.
7. **Date & Time:** Timestamp of the last known good network health check for a base. Health checks are performed every 5 seconds and the timestamp will flash green.
8. **Remove:** Remove a base from the dashboard. Only available for disconnected bases.

# C25 Base Setup

Double-clicking on a C25 base in the dashboard brings up further details and settings for that base.

## STATUS

- For new C25 systems, the Name and Location information in will be blank.
- It is recommended that at least a location be assigned to every base.
- The Name and Location information is user defined and can be any alphanumeric set of characters.
- The location information is required to use the map function in the Cascadia Web Console and is beneficial for integrations with third party life safety system.
- If a Location is entered, but the Name is left blank, the Name will default to the location. Once assigned, the Name and Location is stored in the C25 base and will be saved even if the C25 is disconnected from the network.

PageFirst Sensitivity	
PageFirst Sensitivity	Edit
14	

## PAGEFIRST SENSITIVITY

- When using the analog PageFirst sensor with the C25, the sensitivity of the sensor can be adjusted in this C25 base details page.
- When the PageFirst sensor senses electrical activity in the speaker it is attached to, this will activity will mute the C25. To test this functionality, install the sensor on the paging/intercom classroom speaker and then play sounds through that speaker. Adjust the sensitivity until the C25 system mutes.
- When the C25 mutes due to the PageFirst sensor, the SafetyMute line in the status box will change from “Inactive” to “Active” as a secondary way to verify functionality.

## Status

Name:	Math 1
Location:	C109
Item	Status
Dashboard:	Low Power Mode
Network:	Active
Emergency:	Inactive
Help Request:	Inactive
SIP Call:	Idle
Low Power Mode:	Active
SafetyMute:	Inactive
Power Source:	PoE+ 802.3at
Serial Number:	02C25ZS234300244
MAC Address:	CE:C4:1A:EE:A1:52
IP Address:	10.1.100.131
DECT ID:	03C1A00360
C25 App Version:	7.0.03
C25 FW Version:	7.0.11
C25 OS Version:	7.0.05
C25 HW Version:	R04
Runtime:	214 hours
Last Restart:	11/21/2023, 3:55:21 PM PST
Last Update:	11/30/2023, 1:35:20 PM PST



# Paired Devices

The base details page also contains information on paired devices.

Microphones and Media Connectors are paired at the factory and will appear on this list when the paired base is connected to the network.

- Pairing can be removed in this section by using the Unpair icon associated with each device.
- For the Clearmike, this section can be used to toggle Student Mode or Ext Mic Detect on and off. Student Mode disables the programmable buttons and alert button on the microphone so the microphone can be passed around the class and used by students.
- To use an external microphone with the Clearmike, the Ext Mic Detect must be turned on. This will enable the Clearmike to know when an external mic is plugged in and will then turn off the Clearmike internal microphone.

Serial Number	Type	Connected	FW Version	Student Mode	Ext Mic Detect	Unpair
03CMTZS234200134	Clearmike	connected	7.0.12	<input type="checkbox"/>	<input type="checkbox"/>	
03SMNZR203900013	Sharemike	connected	6.1.08			
03MCNAR222601115	Media Connector	connected	6.1.06			

# Facility Maps

The Cascadia Web Console has a map feature that can be set up to give a visual representation of the Base Status from the Dashboard.

- Click the Maps menu item on the left side of the screen to access the Maps web page.
- Click the “Add Map” tab to add a new map and enter the map name.
- It is recommended that a new map be created for every level of the building to make each map easier to view.
- The first map created will be the default map that comes up when browsing to the Maps web page.

For a detailed instructions on how to add a map, see the Map Setup Addendum on the Lightspeed website.

The screenshot displays the Lightspeed web console interface. At the top, the Lightspeed logo is on the left, and the user information 'User: Admin, Role: Administrator' is on the right. A navigation menu on the left side contains buttons for Dashboard, Maps, Logs, Firmware, Programming, SIP Calling, and LDAP. The main content area shows a facility map titled 'Example Map' with an 'Add Map' button. The map depicts a building layout with rooms labeled 'CAFETERIA', 'KITCHEN', 'OFFICE', and 'BOOK ROOM'. Numerous green circles are placed on the map, representing the status of devices in each room. A legend on the left side of the map area defines the status indicators: a red circle for 'Emergency', a yellow circle for 'Help Requested', a green circle for 'Ready', a light green circle for 'Low Power Mode', and a grey circle for 'Disconnected'. The map shows that most devices are in a 'Ready' state, with one device in the 'CAFETERIA' area being 'Disconnected'.

# SIP Calling Setup

**Microphones need to be programmed to place calls before this feature can be used. Use the Programming webpage to assign the Call function to one of the programmable buttons. Microphones will be able to initiate a phone call, but not receive a phone call.**

Use the SIP Calling webpage to integrate the Cascadia C25 systems with a school's IP based telephone system.

- This enables the Clearmikes to place calls to a single designated phone number in the school's phone network like the administration office or a security office.
- Use the Global SIP settings section to enter the SIP address that will be called, the IP address of the telephone server, and the protocol to be used (UDP or TCP).
- After setup information is entered for each individual base, click "OK" to save the data and register the bases.

Every active C25 base on the network will show up in the Individual Base SIP Settings section and can be assigned a SIP address.

- Follow the instructions for setting up a 3rd party SIP device for the specific telephone system being used.
- Each device will need to be set up in the telephone system and assigned a SIP address and password.
- In the Cascadia Web Console SIP calling webpage, double click on a base to enter the assigned SIP address and password.

## CURRENT COMPATIBLE PBX SYSTEMS

- Cisco Unified Connection Manager (V14.0); NEC Univerge SV9100; FreePBX V16, Mitel MiVoice Business V9.4

The screenshot shows the SIP Calling Setup form with the following fields:

- Destination URI: URI sip:1002@10.1.100.90
- Server: Server 10.1.100.90:5060
- Register: True
- Protocol: udp
- Ok button

Below the form is the "Individual Base SIP settings (active bases only)" table:

Base	Serial Number	Location	Base URI	Display Name	Password
Physics 1	02RBNZS231800074	C107	sip:1007@10.1.100.90	1007	794kffgvejf9gk4of0ck4i50gkfk...
ELA 1	02RBNZS231800060	C101	sip:1001@10.1.100.90	1001	54kdldofihis4i6k43aaal3ahdcbn...
Math 1	02C25ZS234300244	C109	sip:1009@10.1.100.90	1009	dcd0f470496990e3ea5ad8aac4...
Math 2	02C25ZS234300079	C108	sip:1008@10.1.100.90	1008	44cb3d032932504b001217f792...

The screenshot shows the "Edit Base SIP Settings" dialog box with the following fields:

- Base URI: URI sip:1007@10.1.100.90 ✓
- Display Name: Display Name 1007 ✓
- Password: Password 794kffgvejf9gk4of0ck4i50gkfk ✓
- Cancel button
- Ok button

# Updating Device Firmware

Firmware updates for C25 bases and all paired devices can be uploaded over the network using the Cascadia Web Console using the Firmware webpage.

- If the Cascadia Web Console has access to the internet, firmware updates can be downloaded by clicking the “Login to Cascadia Downloads” button. This will download the latest Cascadia firmware bundle to the Cascadia Web Console.

The update will require logging in to the **downloads.lightspeed-tek.com** website using the same account used to download the Cascadia Web Console install files. Or a new account can be requested by contacting Lightspeed at **service@lightspeed-tek.com**, or calling 800.732.8999.

- If internet access is not available to the Cascadia Web Console, the firmware bundle can be downloaded directly from **downloads.lightspeed-tek.com** and manually imported using a USB drive. The firmware bundle will be in the “Cascadia Released Components” folder in a .tgz file. Download the file and import it using the “Manually Import Bundle” option on the Firmware webpage. The compressed file does not need to be unpacked.

## Cascadia Available Updates

Login to Cascadia Downloads

Login to download all available updates from  
downloads.lightspeed-tek.com

## Manually Import Bundle

Choose File

No file chosen

Upload

Choose a file before Pressing the Upload button

# Updating Device Firmware

## Updated firmware bundles will appear in the “Select Firmware Bundle” list.

- Selecting a bundle will highlight the devices that have a different software version than contained in the bundle.
- Individual bases or all bases can be selected to apply the updates.
- After selecting the bases to be updated, press the “Apply Updates” button to start the update process.
- Updates are sent simultaneously to all bases selected.
- Updates will only be performed on bases and paired devices that have a different version than contained in the bundle.
- It will take a few minutes to update each base or paired device that needs updating.

### Select Firmware Bundle

Bundle Name	C25 APP	C25 FW	CMT	MCN	SMN	remove
<input type="checkbox"/> Cascadia_Release_Bundle_23-10-31	0.6.1	7.0.11	7.0.11	6.1.06	6.1.08	
<input type="checkbox"/> Cascadia_Release_Bundle_23-11-02	0.6.2	7.0.11	7.0.11	6.1.06	6.1.08	
<input checked="" type="checkbox"/> release0.6.3	0.6.3	7.0.11	7.0.11	6.1.06	6.1.08	

### Select one or more bases to update

Location	Product	Base Name	Serial Number	C25 APP	C25 FW	Paired Devices
<input type="checkbox"/> C107	Cascadia C25	Physics 1	02RBNZS231800074	0.6.2	7.0.11	CMT 1 : 7.0.11 CMT 2 : 7.0.11
<input type="checkbox"/> C101	Cascadia C25	ELA 1	02RBNZS231800060	0.6.2	7.0.11	CMT 1 : 7.0.11 CMT 2 : 7.0.11
<input type="checkbox"/> C109	Cascadia C25	Math 1	02C25ZS234300244	0.6.3	7.0.11	CMT 1 : 7.0.11
<input type="checkbox"/> C108	Cascadia C25	Math 2	02C25ZS234300079	0.6.3	7.0.11	CMT 1 : 7.0.11 SMN 2 : 6.1.08 MCN : 6.1.06

### Apply Bundle

Pressing the Apply Updates button will push the update packages to the selected bases.

bundle to be applied: release0.6.3  
number of bases to apply to: 0



# Microphone Programming/Alerts Setup

The programming web page has options to pick an integration partner and to program the buttons on the paired Clearmike.

## SELECT AN INTEGRATION PARTNER

The **Standalone** selection can be used for generic integrations if a building is equipped with an alert notification system.

The **Alert Button** can be programmed to control the contact closure on the rear panel of the C25, which external systems can use to perform a prescribed action, such as notifying the appropriate parties of a classroom alert.

Alternatively, the **Alert Button** can be programmed to activate a contact closure followed by a SIP call to control both functions with a single button press.

## ALERT TIMEOUT VALUE

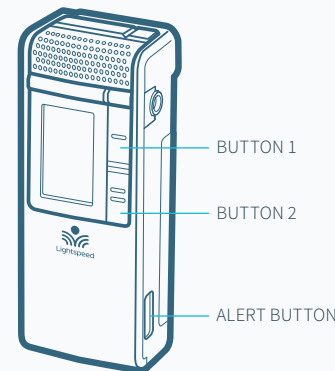
The Alert Timeout Value controls how long alerts are displayed in the Dashboard. This is a Cascadia Web Console specific setting and does not control other third-party systems. Value can be set between 0 and 3600 seconds.

## PROGRAM BUTTONS ON THE CLEARMKIE

**Button 1** or **Button 2** can be programmed to initiate a SIP call, if that feature is set up using the SIP Calling web page.

**Disable buttons:** All buttons can be disabled by selecting the None option.

Select Integration Partner Standalone ▾



Button 1 None ▾ None  
SIP call

Button 2 None ▾ None  
Contact closure

Alert Button None ▾ None  
Contact closure with SIP call

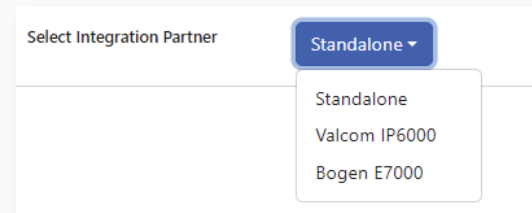
Alert Timeout Value 600

Ok

# 3rd-Party Integrations

## OPTIONS OTHER THAN STANDALONE

For options other than Standalone, the integration is handled through the network.



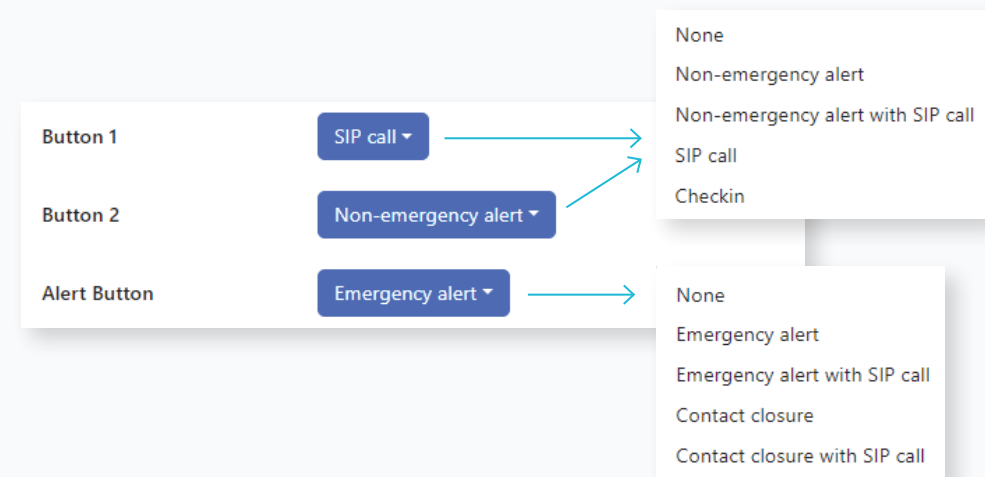
## PROGRAM BUTTONS ON THE CLEARMKIE

The **button programming options** control what is displayed on the microphone screen and the commands sent over the network. The prescribed actions that are activated with the microphone command signals are setup, customized, and controlled by the integration partner system.

**Button 1** and **Button 2** have the same programming options. The options include a Help Request, SIP call, and Check-in commands. One option combines the Help Request and SIP call into a single button.

The **Alert Button** can be programmed to activate an Emergency Alert or the combined action of an Emergency Alert with a SIP call.

**Disable buttons:** All buttons can be disabled by selecting the None option.





## CASCADIA WEB CONSOLE

# Programming Valcom

**SERVER:** IP address of Valcom IP6000 Server

**EMERGENCY ALERT PORT:** TCP Port for the Valcom text monitor assigned to the emergency alert notification from the Cascadia system

**HELP REQUEST PORT:** TCP Port assigned to the help request notification from the Cascadia system

**CHECKIN PORT:** TCP Port assigned to the checkin notification from the Cascadia system

The Valcom system can send mute/unmute commands over the network to the Cascadia system during announcements.

The screenshot shows the Valcom programming interface in the Cascadia Web Console. It features a 'Select Integration Partner' dropdown menu set to 'Valcom IP6000'. Below this, there are several configuration options:

- Button 1:** Help request
- Button 2:** Checkin
- Alert Button:** Emergency alert
- Alert Timeout Value:** A slider control set to 60.
- Server:** IP/DNS field containing 10.1.100.100.
- Emergency Alert Port:** TCP Port Number field containing 11000.
- Help Request Port:** TCP Port Number field containing 10000.
- Checkin Port:** TCP Port Number field containing 13000.

An 'Ok' button is located at the bottom of the configuration panel.



# Programming Bogen

**SERVER:** IP address of Bogen E7000 Server

**EMERGENCY ALERT DTMF CODE:** DTMF Code called by the Cascadia System for the emergency alert notification using the Bogen API

**HELP REQUEST DTMF CODE:** DTMF Code called by the Cascadia System for the help request notification using the Bogen API

**CHECKIN DTMF CODE:** DTMF Code called by the Cascadia System for the checkin notification using the Bogen API

**CERTIFICATE:** Use this button to upload the Bogen Security certificate

**API KEY:** Bogen API Key

The screenshot shows the 'Bogen E7000' configuration page in the Cascadia Web Console. The interface is divided into two main sections: a left sidebar for integration selection and a main configuration area on the right. The sidebar has a 'Select Integration Partner' dropdown menu currently set to 'Bogen E7000'. The main area contains several configuration options:

- Button 1:** A dropdown menu set to 'Help request'.
- Button 2:** A dropdown menu set to 'Checkin'.
- Alert Button:** A dropdown menu set to 'Emergency alert'.
- Alert Timeout Value:** A slider control set to 60.
- Server:** A text input field for 'IP/DNS' containing '10.1.100.100'.
- Emergency Alert DTMF Code:** A text input field for 'DTMF Code' containing '123'.
- Help Request DTMF Code:** A text input field for 'DTMF Code' containing '456'.
- Checkin DTMF code:** A text input field for 'DTMF code' containing '789'.
- Certificate:** A section with an 'Upload Certificate' button and a text input field containing 'data:application/x-x509-ca-cert'.
- API Key:** A text input field for 'API Key' containing '8180dcbbebe06d'.

An 'Ok' button is located at the bottom of the configuration area.



## Dedicated to Access for All

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