

Lightspeed C25 Networked Instructional Audio System



Lightspeed C25 Networked Instructional Audio System Instructions

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Lightspeed C25 Networked Instructional Audio System



Product Information

Specifications

- Product: Networked Instructional Audio System

- **Software:** Virtual Cascadia Server
- **System Requirements:** As specified in the manual
- **Integration:** LDAP Setup available
- **Dashboard:** Provides status of C25 bases

Product Usage Instructions

Installation & Setup

1. **System Requirements:** Ensure your system meets the specified requirements.
2. **Download Virtual Cascadia Server:** Access the server files either manually or through the Cascadia Web Console.
3. **Setting Up the Virtual Cascadia Server:** Load the virtual machine file into your virtual machine software.
4. **Logging In to the Cascadia Web Console:** Use your credentials to log in to the web console.
5. **LDAP Setup:** Integrate with LDAP by providing the required server information.

Cascadia Web Console

- **Dashboard:** Monitor C25 base status and manage devices.
- **C25 Base Setup:** Access detailed settings by double-clicking on a base in the dashboard.
- **Paired Devices:** Manage connected devices.
- **Facility Maps:** Access maps for location management.

Frequently Asked Questions (FAQ)

- **Q: How can I remove a C25 base from the dashboard?**
A: Bases can only be removed when in a Disconnected state. Double-click on the base and select the 'Remove Base' option if available.
- **Q: What happens if a C25 base loses network connection?**
A: If a base loses network connection, its status will change to Disconnected after missing 3 status packets. It can then be removed from the dashboard.

INSTALLATION & SETUP

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.

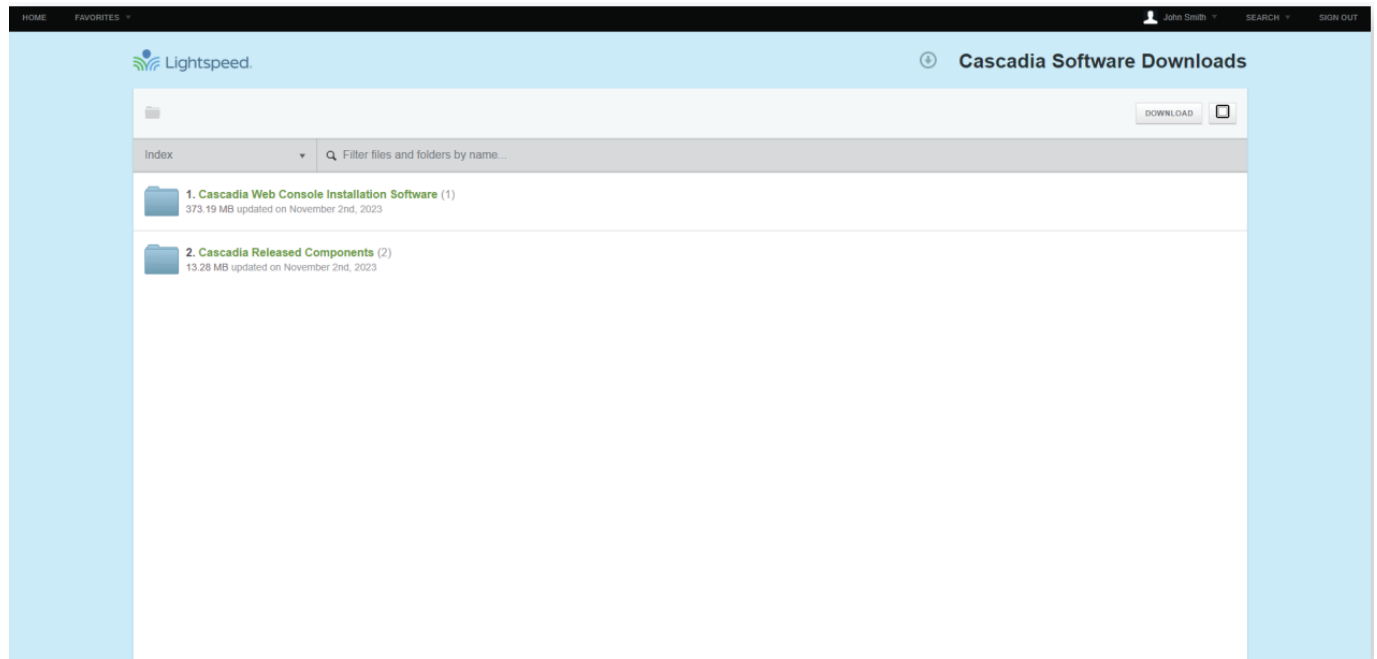
MINIMUM HARDWARE REQUIREMENTS

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

Download Virtual Cascadia Server

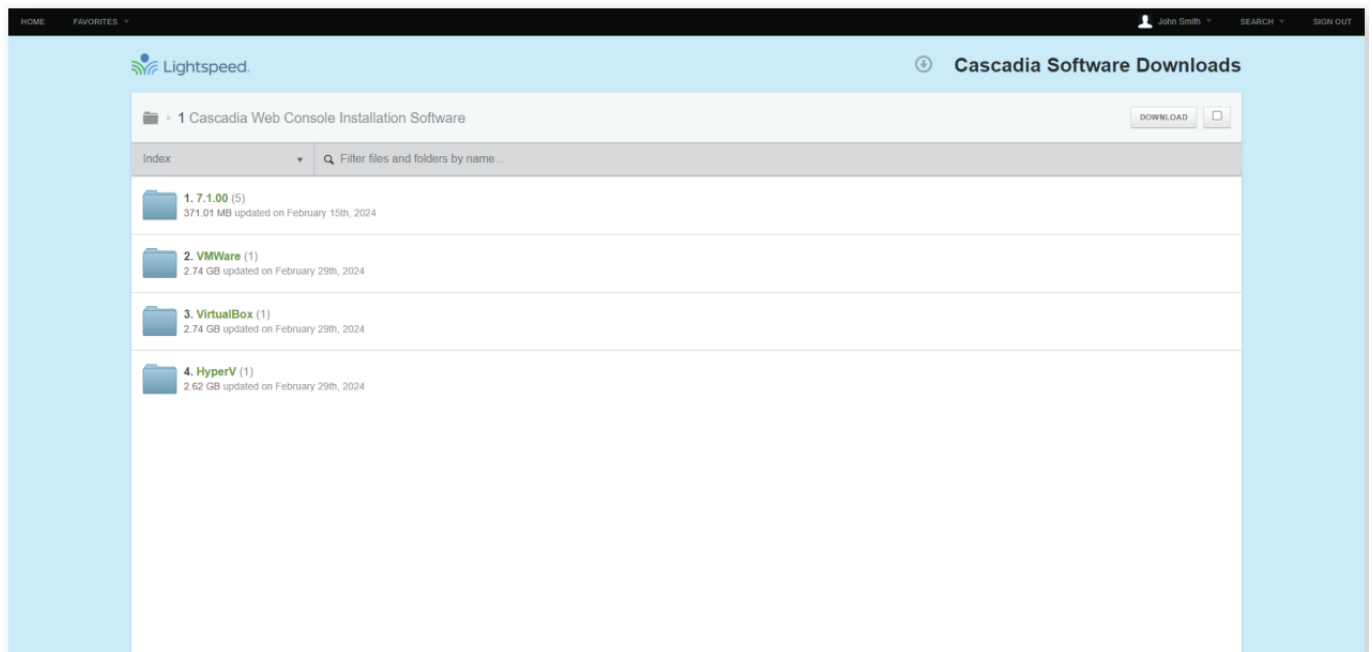
The Cascadia Web Console software is available for download at downloads.lightspeed-tek.com.

- To request access to the files, send a request to Service@lightspeed-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

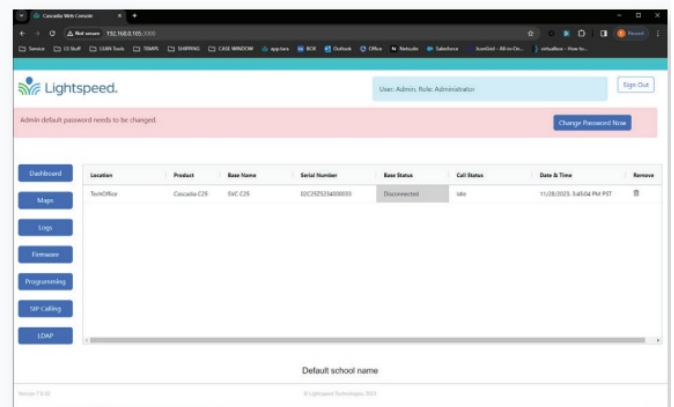
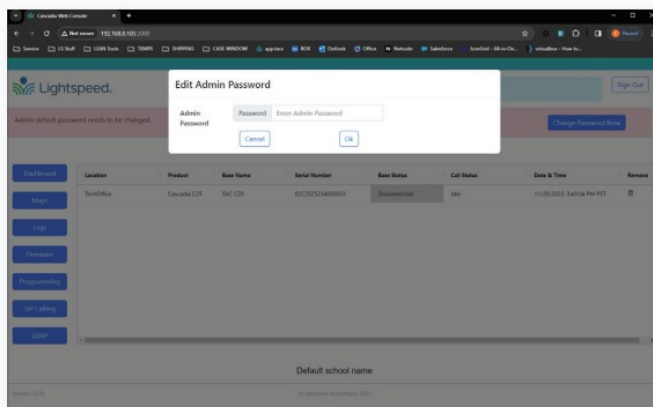
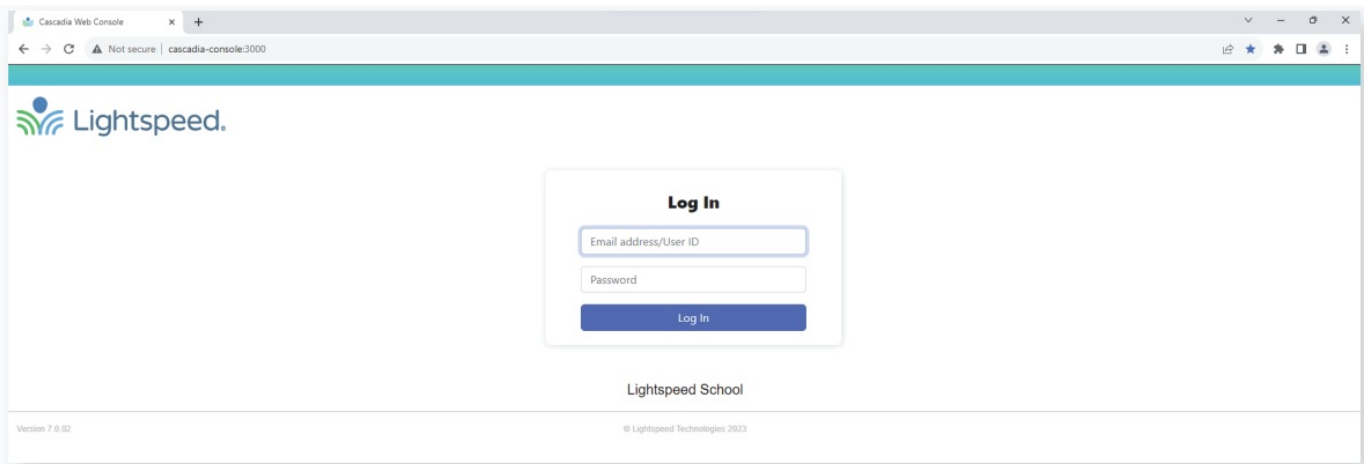
NETWORK SETTINGS

When a C25 base is connected to the same network as the Cascadia Web Console, the base will look for the 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 the first login. Click the “Change Password Now” button to enter a new password. For instructions 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/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"/>		

- **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 web app user accounts reside.
- **ATTRIBUTE:** Name of LDAP user attribute that provides web app access.

CASCADIA WEB CONSOLE

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.

The screenshot shows the Lightspeed dashboard interface. At the top, eight numbered callouts point to specific elements: 1. LOCATION OF BASE USER DEFINED (points to the Location column header), 2. PRODUCT MODEL NUMBER (points to the Product column header), 3. BASE NAME USER DEFINED (points to the Base Name column header), 4. SERIAL NUMBER OF BASE (points to the Serial Number column header), 5. BASE STATUS (points to the Base Status column header), 6. CALL STATUS (points to the Call Status column header), 7. DATE & TIME (points to the Date & Time column header), and 8. REMOVE BASE (points to the Remove column header). The dashboard includes a sidebar with navigation links: Dashboard, Maps, Logs, Firmware, Programming, SIP Calling, and LDAP. The main content area displays a table of base information. The table has columns for Location, Product, Base Name, Serial Number, Base Status, Call Status, Date & Time, and Remove. The table contains several rows of data, including bases with statuses like 'Ready', 'Low Power Mode', and 'Disconnected'. At the bottom of the dashboard, there is a section for 'Lightspeed School' with the text 'SCHOOL NAME: USER DEFINED (click on footer to edit)'.

1. LOCATION OF BASE USER DEFINED

2. PRODUCT MODEL NUMBER

3. BASE NAME USER DEFINED

4. SERIAL NUMBER OF BASE

5. BASE STATUS

6. CALL STATUS

7. DATE & TIME

8. REMOVE BASE

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

SCHOOL NAME: USER DEFINED (click on footer to edit)

Dashboard Definitions

- Location:** Alphanumeric user-defined location of the base. New bases on the network will have no location data.
- Product:** Product model number
- 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.
- Serial Number:** Serial number of base
- 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 alert 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 the manual for mention of low power/standby
 - Idle:** Base is in full power mode and has passed a network health check.
- Call Status:** The current call status of the base
 - Idle:** No call currently being made
 - Ringng:** Call in progress
 - Busy:** Destination phone not available
 - Connected:** Call connected and in progress
 - Failed:** Call not able to be initiated for an unknown reason
 - Disconnected:** Base status is Disconnected.
- 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 systems.
- 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

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




- 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.

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.

Paired Devices

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			


- 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.


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.

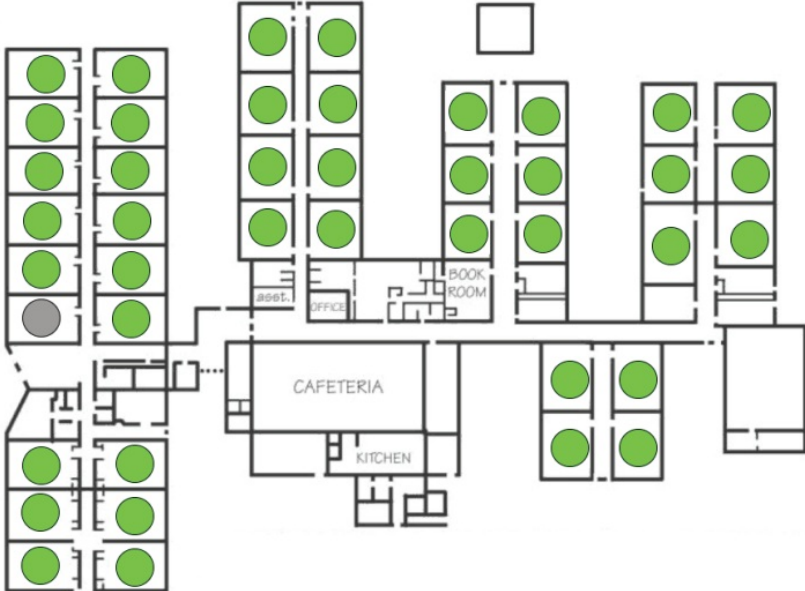
For detailed instructions on how to add a map, see the Map Setup Addendum on the Lightspeed website.


User: Admin, Role: Administrator

Dashboard
Example Map 
Add Map

Maps
Logs
Firmware
Programming
SIP Calling
LDAP

● Emergency
● Help Requested
● Ready
● Low Power Mode
● 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

Destination URI

URI

sip:1002@10.1.100.90

Server

Server

10.1.100.90:5060

Register

True

Protocol

udp

Ok

Individual Base SIP settings (active bases only).

Base	Serial Number	Location	Base URI	Display Name	Password
Physics 1	02RBNZ5231800074	C107	sip:1007@10.1.100.90	1007	794kfjguej9gk4ofck450gkR...
ELA 1	02RBNZ5231800060	C101	sip:1001@10.1.100.90	1001	54kclsofhls4l6k43aaal3ahdcbr...
Math 1	02C2525234300244	C109	sip:1009@10.1.100.90	1009	dcd0470496990e3ea5ad8aac4...
Math 2	02C2525234300079	C108	sip:1008@10.1.100.90	1008	44cb34032932504b001217f792...

Edit Base SIP Settings

Base URI

URI

sip:1007@10.1.100.90

✓

Display Name

Display Name

1007

✓

Password

Password

794kfjguej9gk4ofck450gkR...

✓

Cancel

Ok

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.

The screenshot displays two distinct sections of the Cascadia Web Console interface. The top section, titled "Cascadia Available Updates", features a button labeled "Login to Cascadia Downloads" and a line of text stating "Login to download all available updates from downloads.lightspeed-tek.com". The bottom section, titled "Manually Import Bundle", contains a file selection interface with a "Choose File" button, a text field showing "No file chosen", and an "Upload" button. Below these elements is a message: "Choose a file before Pressing the Upload button".

- 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.

Updating Device Firmware

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

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

<input type="checkbox"/> Location	Product	Base Name	Serial Number	C25 APP	C25 FW	Paired Devices
<input type="checkbox"/> C107	Cascadia C25	Physics 1	02RBNZ5231800074	0.6.2	7.0.11	CMT 1 : 7.0.11 CMT 2 : 7.0.11
<input type="checkbox"/> C101	Cascadia C25	ELA 1	02RBNZ5231800060	0.6.2	7.0.11	CMT 1 : 7.0.11 CMT 2 : 7.0.11
<input type="checkbox"/> C109	Cascadia C25	Math 1	02C25Z5234300244	0.6.3	7.0.11	CMT 1 : 7.0.11
<input type="checkbox"/> C108	Cascadia C25	Math 2	02C25Z5234300079	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

Apply Updates

- 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.

Microphone Programming/Alerts Setup

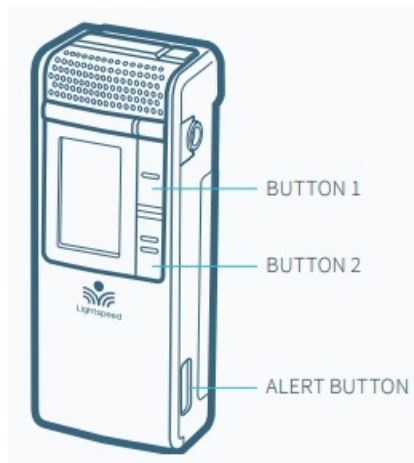
The programming web page has options to pick an integration partner and to program the buttons on the paired Clearmike.

Select Integration Partner

Standalone
▼

• 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.

 A screenshot of a web interface for programming buttons. It shows three rows: 'Button 1', 'Button 2', and 'Alert Button'. Each row has a blue dropdown menu currently set to 'None'. Arrows point from these dropdowns to a list of options: 'None', 'SIP call', 'Contact closure', and 'Contact closure with SIP call'. Below these is a slider for 'Alert Timeout Value' with a blue dot and a text box showing '600'. An 'Ok' button is at the bottom.

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

3rd-Party Integrations

- **OPTIONS OTHER THAN STANDALONE**

For options other than Standalone, the integration is handled through the network. For more information about the different integrations, see the partner addendums.

- **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.

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Documents / Resources

	Lightspeed C25 Networked Instructional Audio System [pdf] Instructions C25 Networked Instructional Audio System, C25, Networked Instructional Audio System, Instru ctional Audio System, Audio System, System
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References

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