Lightspeed

Topcat® Cascadia

Networked Instructional Audio System

Installation Guide

⚠ Important Safety Instructions

1. Do not use the apparatus near water.

2. Clean only with dry cloth.

3. Do not block any ventilation openings.

4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

5. 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 is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the outlet.

6. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

7. Unplug this apparatus during lightning storms or when unused for long periods of time.

8. 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.

9. When the mains plug or appliance coupler is used as the disconnect device, it shall remain readily operable.

10. Please keep the unit in a good ventilation environment.

11. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

12. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

13. WARNING: Battery pack shall not be exposed to excessive heat such as sunshine, fire or the like.

Table of Contents

System Components and Unpacking

The standard configuration includes:
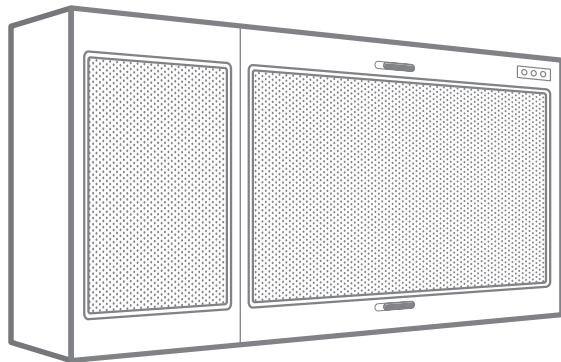
Topcat Cascadia

Clearmike
Volume Control Microphone
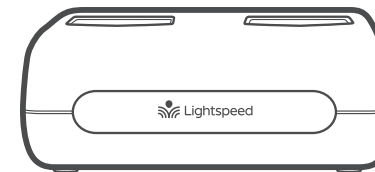
Microphone Cradle Charger
& Power Supply
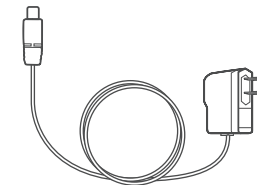
NOTE ON PAIRING: Topcat Cascadia , microphone(s), and Media Connector are paired together at the Lightspeed factory as required for proper operation.

Optional Components

Optional equipment which may be part of your Topcat Cascadia system:

Media Connector
& Power Supply

Wallplate
Audio IO Options

Sharemike
Handheld Microphone

Installation Planning
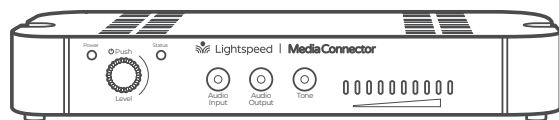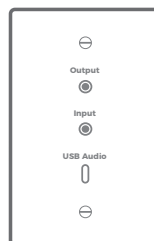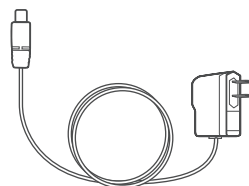
Before beginning installation, make sure you have the necessary tools and materials on hand and that the area underneath the proposed Topcat Cascadia location is cleared.

NOTE: *Topcat Cascadia is designed for installation in a 2' x 2' or 2' x 4' suspended ceiling grid. If you do not have this type of ceiling, please contact your local Lightspeed Account Executive.*

TOOLS AND MATERIALS

In addition to the contents of the Topcat Cascadia system, you may need the following tools & materials:

- Flat blade screwdriver (small)
- Pliers + Wire cutters
- Drill
- Utility knife
- Safety wire anchors
- Wire ties

SELECTING MOUNTING LOCATION

The Topcat Cascadia is shipped ready to mount in a standard suspended ceiling grid. All hardware needed to secure the Topcat Cascadia into the ceiling grid is provided. Additional hardware may be required if building structure tie-points are metal. A licensed electrician will need to provide necessary materials if Topcat Cascadia is permanently connected to the building AC mains.

Topcat Cascadia will distribute sound throughout a classroom of up to 1200 sq ft (112 sq m) with ceiling heights of 9 to 12 ft. The location of the Topcat Cascadia is critical to ensure even sound distribution.

1. Identify the center of the listening area of the classroom for optimum location.

2. Select a ceiling tile that is free of fixtures (lighting, HVAC, etc.) nearest to the center point.

3. Remove the selected ceiling tile for Topcat Cascadia installation.

4. If there is an obstruction at the ideal location, move the Topcat Cascadia one grid space further from the teaching position.

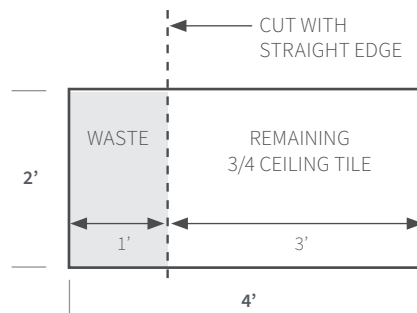IDENTIFY THE CENTER OF THE LISTENING AREA
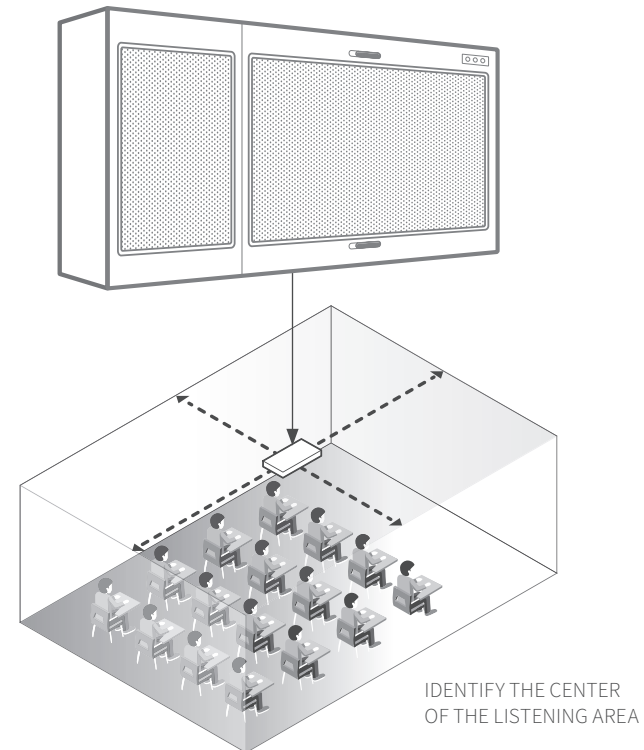
⚠ TOPCAT CASCADIA CEILING INSTALLATION (U.S. & CANADA)

The dimensions of Topcat Cascadia are 1' x 2' and it is designed to fit into any standard 2' x 2' or 2' x 4' suspended ceiling tile grid.

1. The ceiling tile will need to be cut to accommodate Topcat Cascadia.

2. Set the ceiling tile on a flat work surface with the patterned side facing up.

3. Using a straight edge, cut a 1' x 2' section from the ceiling tile, leaving a 1' x 2' section and a 2' x 3' section (Figure 2), or two 1' x 2' sections .

4. Locate the 2' ceiling grid T-bar provided. Locate the attachment slot in the existing ceiling grid and snap the new T-bar into place to create two openings to create a 1' x 2' and a 2' x 3' opening or two 1' x 2' openings.

2' X 4' CEILING TILE

CUT WITH STRAIGHT EDGE

WASTE · REMAINING 3/4 CEILING TILE

2' · 1' · 3' · 4'

CUT THE 2' X 4' TILE TO CREATE A 1' X 2' SECTION AND A 2' X 3' SECTION

2' X 2' CEILING TILE

CUT WITH STRAIGHT EDGE

WASTE

2' · 1' · 1' · 2'
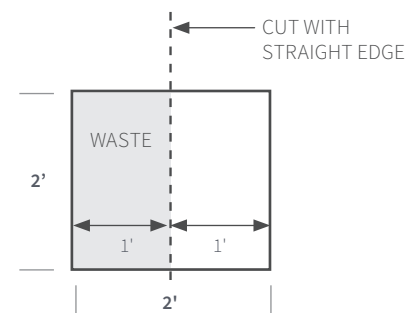
CUT THE 2' X 2' TILE TO CREATE TWO 1' X 2' SECTIONS

EXISTING TILE GRID
NEW T-BAR
TCC
3/4 TILE
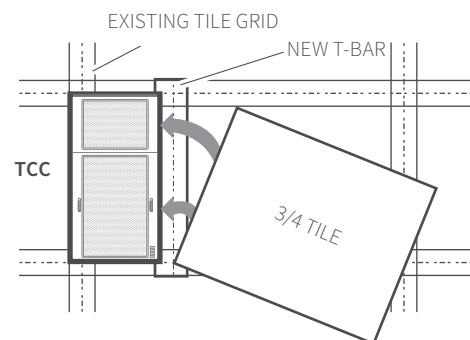
SNAP THE T-BAR INTO PLACE TO CREATE A 1' X 2' OPENING AND A 3' X 2' OPENING

EXISTING TILE GRID
NEW T-BAR
TCC
1/2 TILE
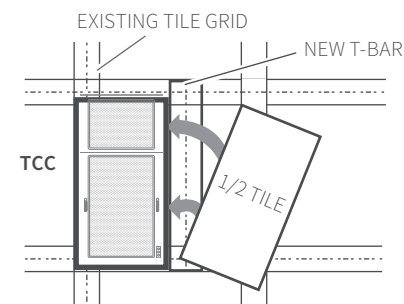
SNAP THE T-BAR INTO PLACE TO CREATE TWO 1' X 2' OPENINGS

Topcat Cascadia dimensions

4.4" (106mm)

11.8" (301mm)

END

23.7" (603mm)
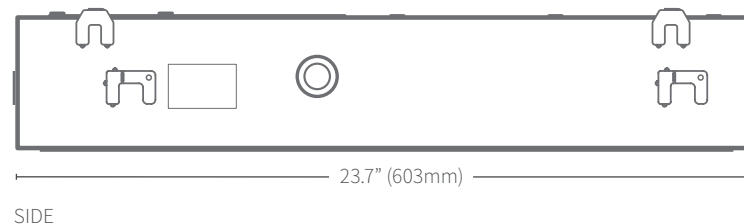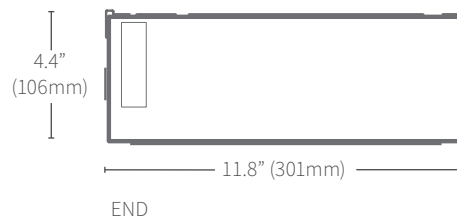
SIDE

PREPARING TOPCAT CASCADIA (U.S. & CANADA)

1. There are four fold out tabs on the Topcat Cascadia, two on each side of the housing. These need to be prepared before installing the system in the ceiling.

2. Use a screwdriver to bend out tab and pliers to the bend tab out far enough that it can be hooked over the T-bar rails.

3. Do this for all four tabs.

BEND AND FOLD TABS OUT

EXTEND ALL FOUR TABS OUT
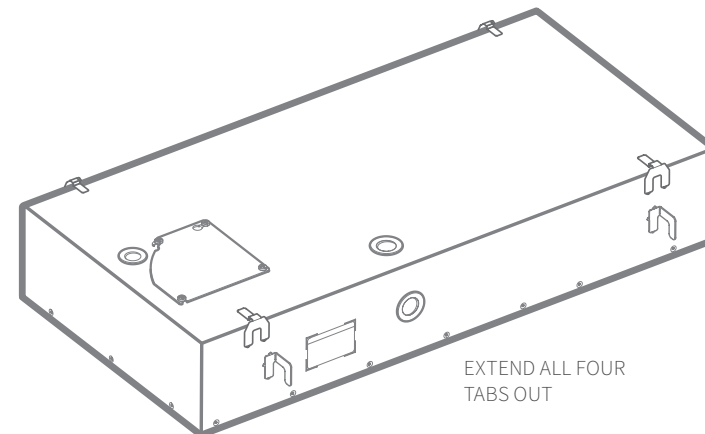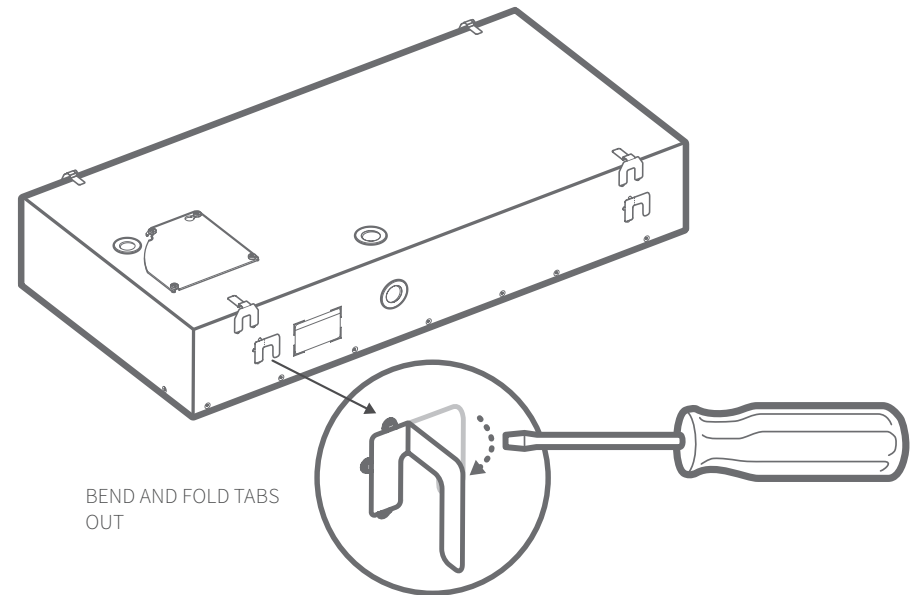
SECURING TOPCAT CASCADIA (U.S. & CANADA)

To comply with Building Codes, the Topcat Cascadia must be secured with two safety wires, using the support brackets on the sides of the housing.

1. Install anchors (or eye screws if necessary) into the building structure.

2. Loop one end of the safety wire through the anchor (or eye screw), then twist it around itself at least five times. Repeat for second anchor.

3. Lift the Topcat Cascadia up and lay it into the desired ceiling grid location.

   CAUTION: Ensure that Topcat Cascadia is stable on the grid rails with the fold out tabs hooked over the rails. If not stable, there could be a danger of it falling until safety wires are attached.

4. Loop the other end of the safety wire through the hole in one of the support brackets. Pull the wire through until it is taut and twist it around itself at least five times to secure Topcat Cascadia. Cut off excess wire if needed.

5. Repeat process for a second support bracket. It is recommended to pick support brackets that are on opposite sides of the metal housing.

PLACE TOPCAT CASCADIA INTO THE CEILING GRID

HOOK FOLD OUT TAB OVER THE T-BARS
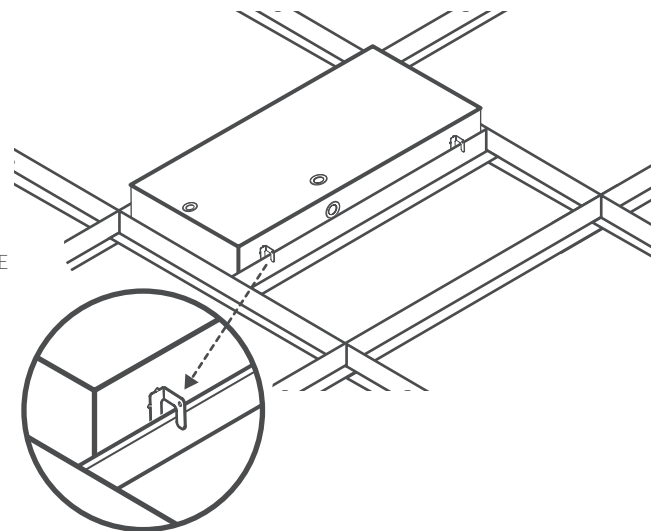
CEILING

ANCHOR OR EYE SCREW

SECURE WITH TWO SAFETY WIRES ATTACHED TO SUPPORT BRACKETS

⚠ TOPCAT CASCADIA INSTALLATION AU PLAFOND (U.S. & CANADA)

Les dimensions du Topcat Cascadia sont de 1' x 2' et il est conçu pour s'adapter à n'importe quelle grille de dalle de plafond suspendu standard de 2' x 2' ou 2' x 4'.

1. La dalle de plafond devra être coupée pour accueillir Topcat Cascadia.

2. Placez la dalle de plafond sur une surface de travail plane, le côté à motifs vers le haut.

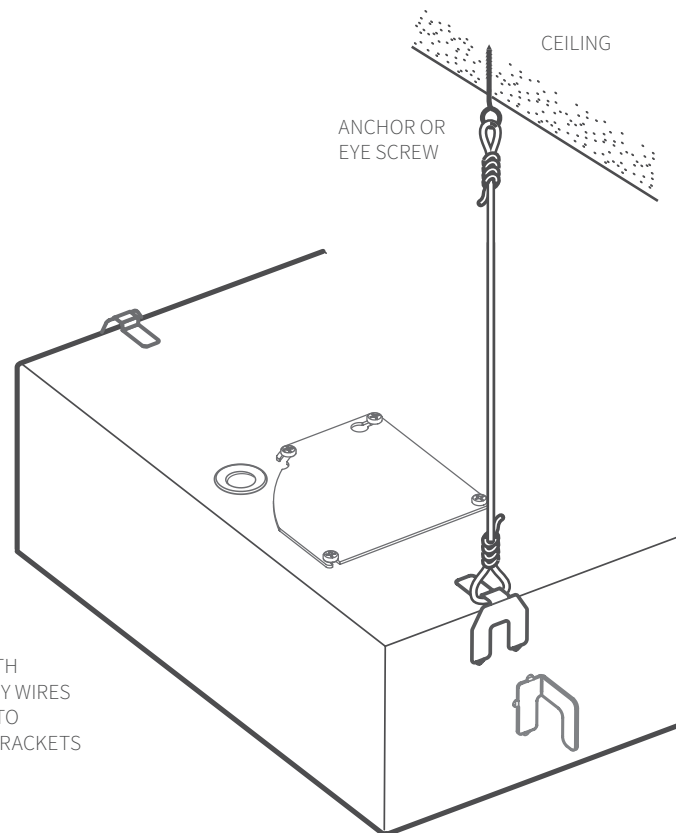3. À l'aide d'une règle droite, coupez une section de 1' x 2' de la dalle de plafond, en laissant une section de 1' x 2' et une section de 2' x 3' (Figure 2), ou deux sections de 1' x 2'.

4. Localisez la barre en T de la grille de plafond de 2 pi fournie. Localisez la fente de fixation dans la grille de plafond existante et enclenchez la nouvelle barre en T en place pour créer deux ouvertures afin de créer une ouverture de 1' x 2' et une ouverture de 2' x 3' ou deux ouvertures de 1' x 2'.

2' X 4' DALLE DE PLAFOND

COUPER AVEC UN BORD DROIT

DÉCHETS | DALLE DE PLAFOND 3/4 RESTANTE

2'

1'　3'

4'
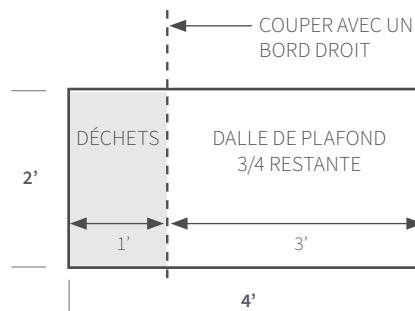
COUPEZ LA TUILE DE 2' X 4' POUR CRÉER UNE SECTION DE 1' X 2' ET UNE SECTION DE 2' X 3'

2' X 2' DALLE DE PLAFOND

COUPER AVEC UN BORD DROIT

DÉCHETS

2'

1'　1'

2'
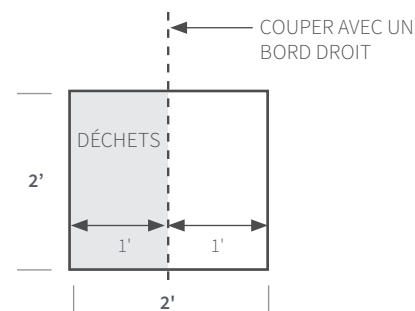
COUPEZ LA TUILE DE 2' X 2' POUR CRÉER DEUX SECTIONS DE 1' X 2'

GRILLE DE TUILES EXISTANTE
NOUVELLE BARRE EN T

TCC

3/4 TUILE
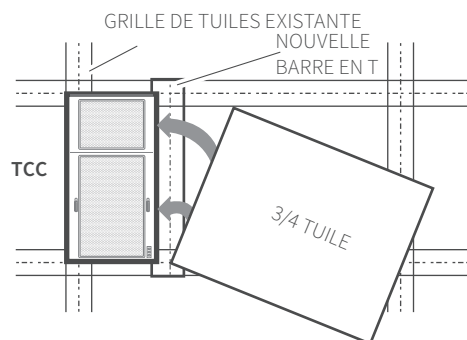
ENCLENCHEZ LA BARRE EN T EN PLACE POUR CRÉER UNE OUVERTURE DE 1' X 2' ET UNE OUVERTURE DE 3' X 2'

GRILLE DE TUILES EXISTANTE
NOUVELLE BARRE EN T

TCC

1/2 TUILE
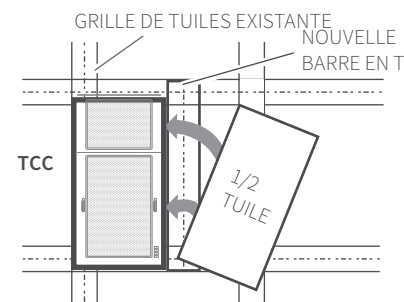
ENCLENCHEZ LA BARRE EN T EN PLACE POUR CRÉER DEUX OUVERTURES DE 1' X 2'

TOPCAT CASCADIA DIMENSIONS

4.4"
(106mm)

11.8" (301mm)

END

23.7" (603mm)

SIDE
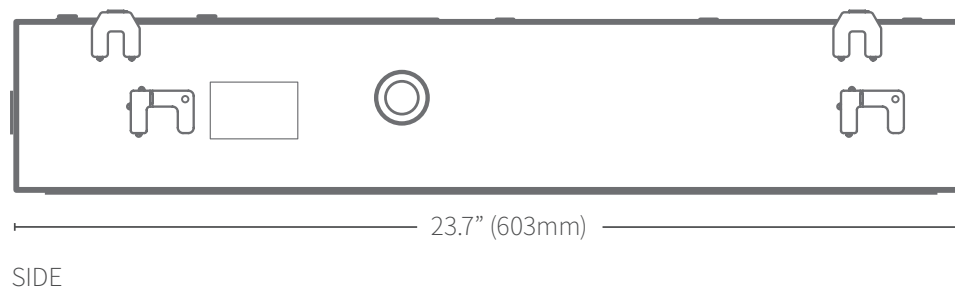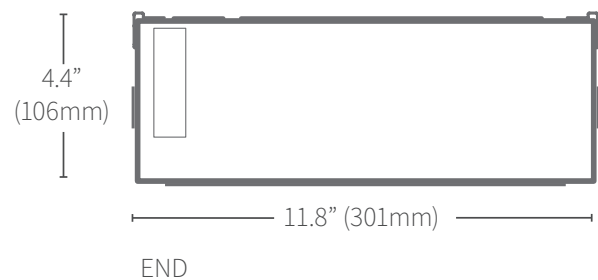
PRÉPARATION DU TOPCAT CASCADIA (U.S. & CANADA)

1. Le Topcat Cascadia est doté de quatre languettes dépliables, deux de chaque côté du boîtier. Celles-ci doivent être préparées avant l'installation du système au plafond.

2. Utilisez un tournevis pour plier la languette et une pince pour la plier suffisamment loin pour qu'elle puisse être accrochée sur les rails de la barre en T.

3. Faites ceci pour les quatre onglets.

PLIER ET DÉPLIER LES LANGUETTES

ÉTENDU LES QUATRE ONGLETS
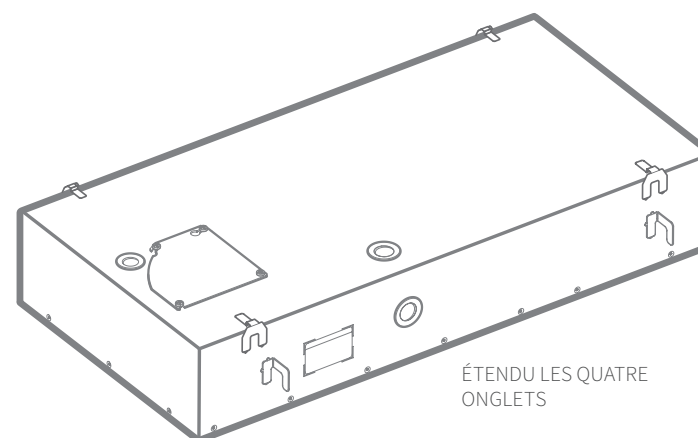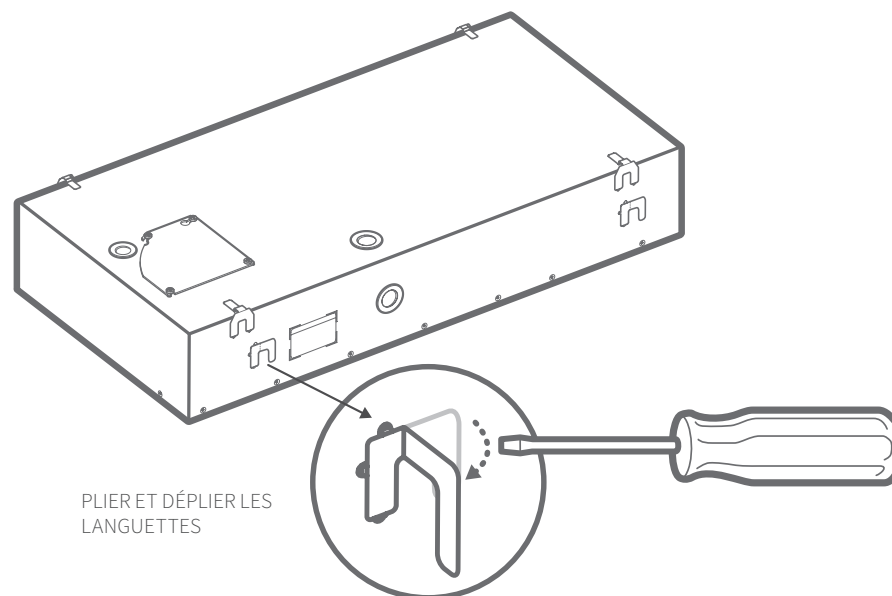
SÉCURISATION DU TOPCAT CASCADIA (U.S. & CANADA)

Pour être conforme aux normes de construction, le Topcat Cascadia doit être fixé avec deux câbles de sécurité, à l'aide des supports situés sur les côtés du boîtier.

1. Installez les ancrages (ou des vis à œil si nécessaire) dans la structure du bâtiment.

2. Enroulez une extrémité du fil de sécurité dans l'ancrage (ou la vis à œil), puis enroulez-le sur lui-même au moins cinq fois. Répétez l'opération pour le deuxième ancrage.

3. Soulevez le Topcat Cascadia et placez-le dans l'emplacement de grille de plafond souhaité.

⚠️ **PRUDENCE:** Assurez-vous que le Topcat Cascadia est stable sur les rails de la grille, les languettes rabattables étant accrochées aux rails. Dans le cas contraire, il risque de tomber jusqu'à ce que les câbles de sécurité soient fixés.

4. Passez l'autre extrémité du fil de sécurité dans le trou de l'un des supports. Tendez le fil jusqu'à ce qu'il soit bien tendu et faites-le tourner sur lui-même au moins cinq fois pour fixer le Topcat Cascadia. Coupez l'excédent de fil si nécessaire.

5. Répétez l'opération pour un deuxième support. Il est recommandé de choisir des supports situés de part et d'autre du boîtier métallique.

PLACEZ TOPCAT CASCADIA DANS LA GRILLE DU PLAFOND

ACCROCHEZ LA LANGUETTE DÉPLIABLE SUR LES BARRES EN T
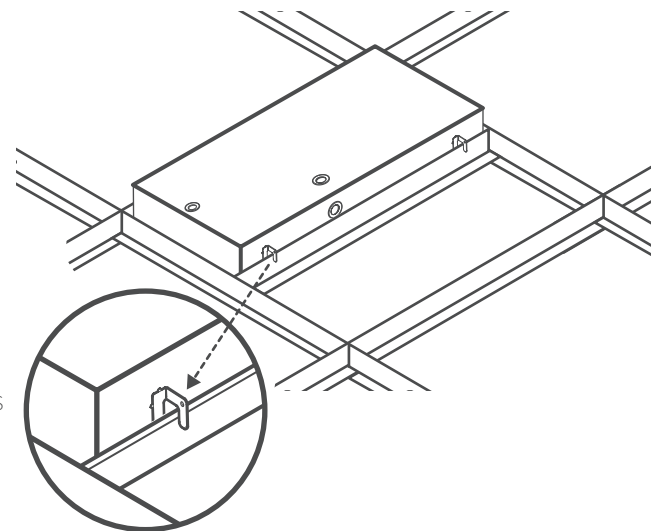
PLAFOND

ANCRE OU VIS À ŒIL
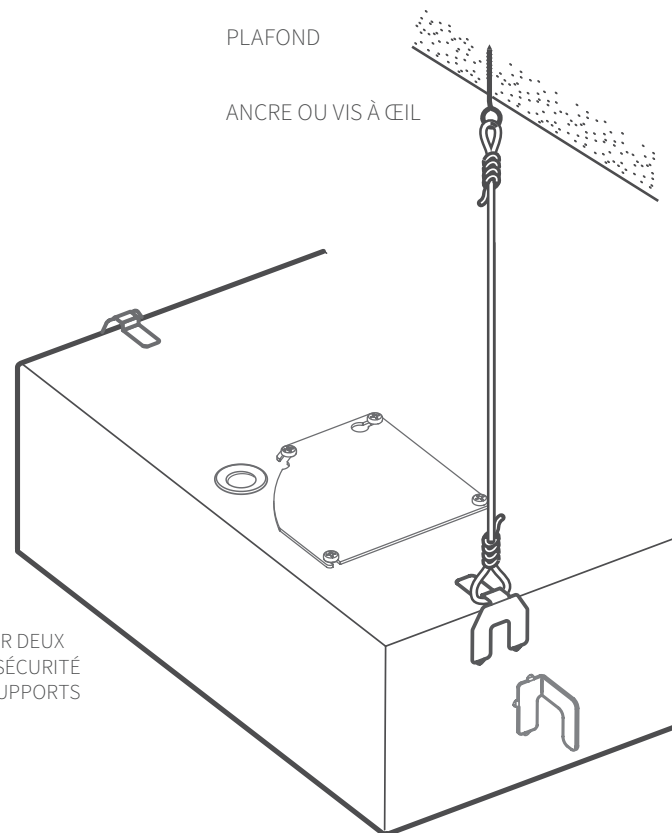
FIXATION PAR DEUX CÂBLES DE SÉCURITÉ FIXÉS AUX SUPPORTS

THREE OPTIONS TO CONNECT TO ELECTRICAL POWER

1. **Connect directly to the building's AC mains.**
2. **Use Power over Ethernet (PoE) to power directly from the building's network.**
3. **DC extension cable to plug into DC power socket.**

OPTION 1: CONNECT TO AC MAINS

SUPPLY POWER TO THE SELECTED LOCATION

⚠ **WARNING!** USE A LICENSED ELECTRICIAN FOR POWER CONNECTIONS.

Topcat Cascadia uses standard 100 – 240VAC power. Obtain the services of a licensed electrician when supplying and connecting power to the Topcat Cascadia chassis. Be sure electrical installation complies with local building codes. Improperly installing and / or connecting power to the system may result in EQUIPMENT DAMAGE, serious INJURY and / or DEATH.

When routing power to Topcat Cascadia, avoid interference with lighting and other noise possibilities.

⚠ **CAUTION:** These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

WIRE AC POWER TO TOPCAT CASCADIA

1. Turn off the circuit at the main breaker. The all-pole main breaker shall be incorporated in the electrical installation of the building. Using copper wire attach the electrical wiring to the Topcat Cascadia ceiling module as shown.

2. On the back can of the Topcat Cascadia, loosen the four screws holding the AC connection cover in place and rotate the cover out of the way.

3. Find the power conduit hole on the Topcat Cascadia back can and remove the metal plug. Insert the armored conduit and secure it in place.

4. Attach the wires to the terminal block screws as shown.

TO BUILDING
AC MAINS

N
NEUTRAL

GROUND

L
LIVE
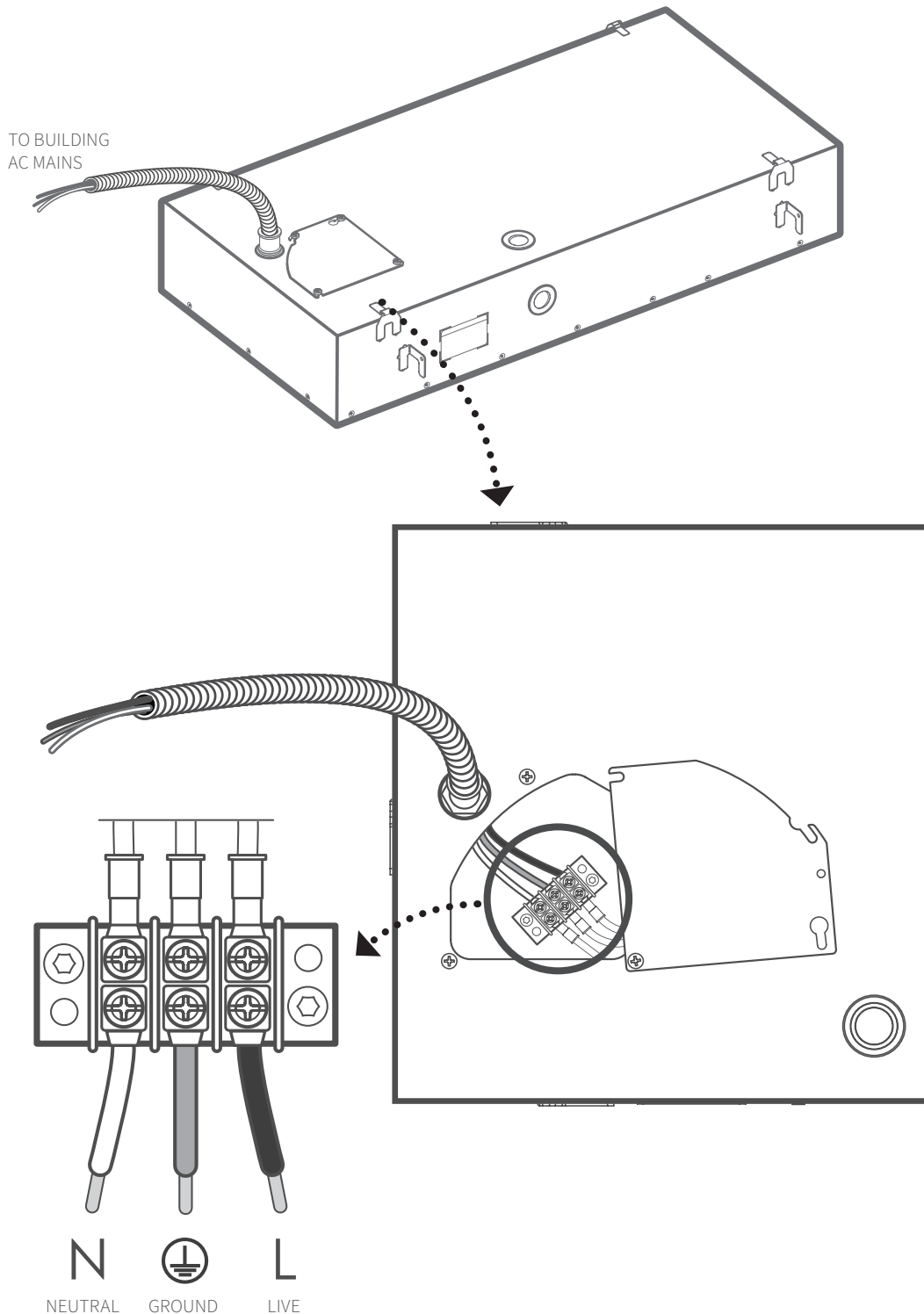
OPTION 2: POWER OVER ETHERNET (POE)

Ensure the network drop for the Topcat Cascadia has the correct power available. The C25 requires a PoE+ 802.3at for full operation.

1. Open the front panel of the Topcat Cascadia to give access to the C25 inside.

2. There are two available ports for cables on the back can of the Topcat Cascadia, one on the back and one on the side. Pick a port, remove the cover, and install the grommet.

3. Pass the RJ45 ethernet cable through the port.

4. Plug the RJ45 ethernet cable into the Ethernet connector on the back side of the C25.
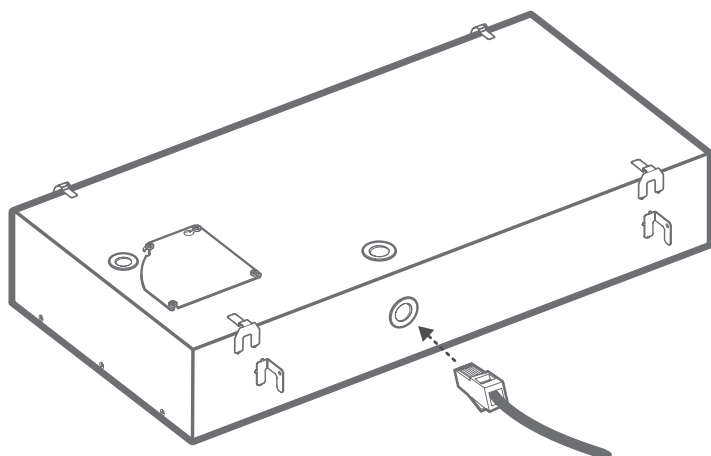
PASS THE RJ45 ETHERNET CONNECTOR THROUGH A PORT ON TOPCAT CASCADIA
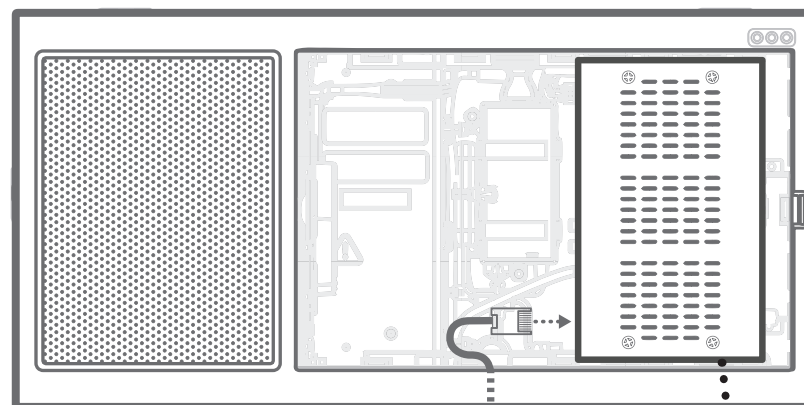
CONNECTING THE RJ45 ETHERNET CONNECTOR TO C25

C25
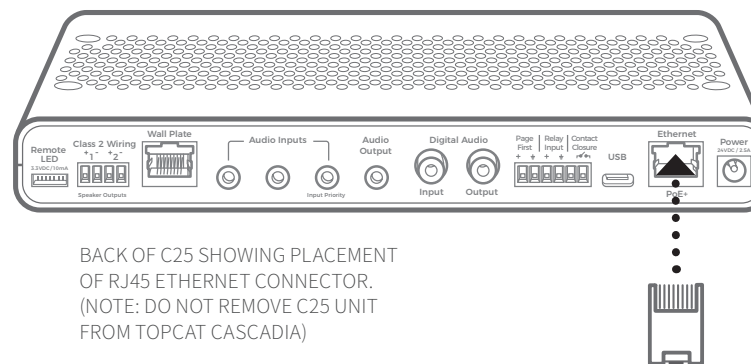
BACK OF C25 SHOWING PLACEMENT OF RJ45 ETHERNET CONNECTOR. (NOTE: DO NOT REMOVE C25 UNIT FROM TOPCAT CASCADIA)

OPTION 3: EXTERNAL POWER CONNECTION

When electrical AC power or PoE+ power is not available above the ceiling for installation with Topcat Cascadia, a direct DC power connection is a third option using an optional 50' DC extension cord *(Part # DCPEX-NA)*.

1. Remove the factory installed 24V 2.5 amp power supply by unstrapping the velcro holding it in place. Disconnect the AC power plug from the power supply. Disconnect the DC output cable from the back of the C25. Unlatch the quick release zip ties holding the DC output cable in place. Unplug and remove the short AC power cable, cutting the zip ties holding it in place, to prevent the power cable from rattling around inside the speaker box.
    NOTE: The 24V power supply brick must be placed in the room below the suspended ceiling. Faceplates and electrical boxes should be provided by the installer as required.

2. There are two available ports for cables on the back can of the Topcat Cascadia, one on the back and one on the side. Pass the 50' DC extension cable through one of the two ports and plug the female connector into the 24V 2.5 amp power connection on the back of the C25.
    NOTE: The 50' DC extension cable is plenum rated, suitable for air handling spaces.

3. Route the DC extension cable across the ceiling and to the closest standard AC power outlet. Cable routing should follow all lo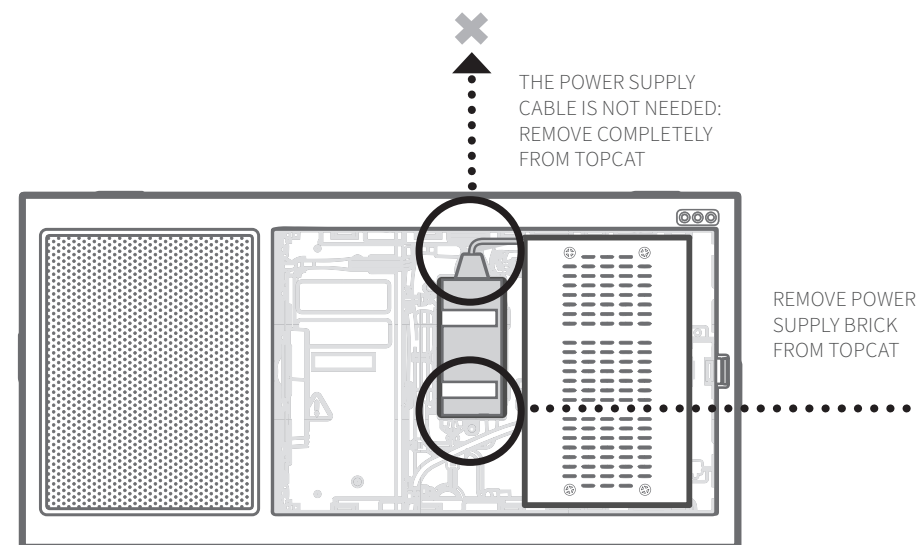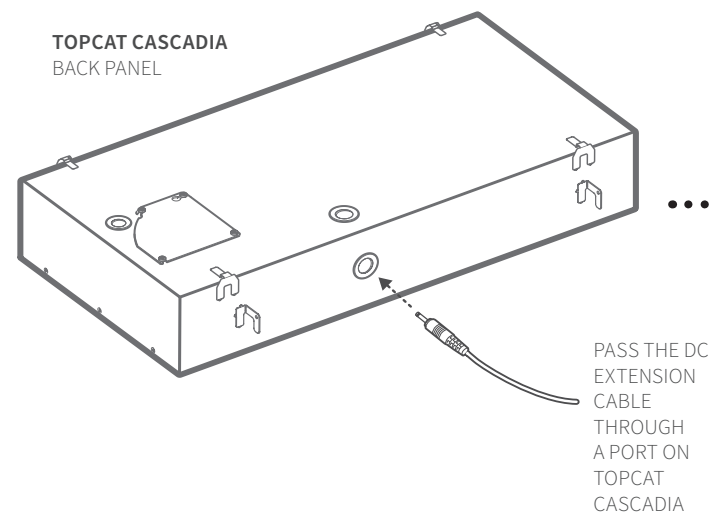cal electrical codes and installation procedures. (If the DC extension cable is to be run inside the wall, install a mud ring or electrical box in the wall close to the AC power outlet. If the DC extension cable is run on the surface of the wall using wire molding, mount a surface-mount electrical box to house the connection of the DC extension cable and the power supply.

4. Plug the DC cable end of the 24V supply into the DC extension cable. There must be a strain relief loop created and the loop attached to the barrel connection using a wire tie to secure the connection.

5. Plug the AC power cord into the power supply and into a standard AC outlet.

6. When power is applied to the Topcat Cascadia, it will automatically power on.

7. After wiring electrical power is complete, close the speaker door securely and lock it into place.

TOPCAT CASCADIA
BACK PANEL

PASS THE DC EXTENSION CABLE THROUGH A PORT ON TOPCAT CASCADIA

THE POWER SUPPLY CABLE IS NOT NEEDED: REMOVE COMPLETELY FROM TOPCAT

REMOVE POWER SUPPLY BRICK FROM TOPCAT

OPEN THE
FRONT PANEL

CONNECT THE DC
EXTENSION CABLE TO C25

DO NOT
REMOVE C25
UNIT FROM
TOPCAT
CASCADIA

C25
BACK PANEL SHOWING DC POWER JACK

Power
24v/2.5a

DC
EXTENSION
CABLE

DC EXTENSION
CABLE - 50 FT (15M)

(Part # DCPEX-NA)

*Wall plate
not included*

USE ZIP TIE ON
STRAIN-RELIEF
LOOP TO SECURE
DC POWER CABLE
TO DC EXTENSION
CABLE

POWER SUPPLY
BRICK

RECOMMENDED

SECURE THE POWER SUPPLY BRICK
TO THE BACK OF A DISPLAY PANEL

The power supply brick must be supported
to prevent strain on the power connection.
The power brick should either :

1. Lay flat on the floor.

2. Be positioned inside the recessed box
   often used for flat panel installations.

3. Be secured via wire ties to an
   appropriate support such as the TV/Flat
   Panel mount or projector.

WALL
OUTLET

SETUP AND USING THE CLEARMIKE

NOTE: This procedure is easier with two people.

1. Ensure that Topcat Cascadia is powered on. The power LED will glow white.

2. Remove the Clearmike from the cradle charger. The Clearmike will automatically power on and mute when it is removed from the charger.

3. Fasten the Clearmike lanyard around the neck by connecting the magnetic clasps. Adjust the lanyard so that the top of the microphone is at the collarbone.

4. Tap the power/mute button to toggle the microphone between mute and unmute states. The Talk/Mute light will turn blue when the microphone is unmuted.

5. While speaking in a normal voice, fine-tune the microphone volume by adjusting the up or down buttons on the microphone.

   • Your voice should be clearly heard by another person on the other side of the room.

   • You should barely be able to hear your own voice.

   • There should not be any audio "feedback" or squealing outside of 2-3 feet (if there is, turn the volume down slightly).

6. Once initial volume level is set, walk around the room and listen for overall audio quality.

7. The teacher can now use the controls on the Clearmike to adjust the volume level from anywhere in the room.

8. Repeat step 6 for a second Clearmike, if purchased.

9. If a Sharemike was purchased, set the Sharemike volume.

TIPS TO OBTAIN OPTIMUM AUDIO PERFORMANCE

• Speak in a natural voice. A normal conversational speech level will provide an adequate signal. It is not necessary to increase the intensity of your voice—the audio system provides adequate amplification (approximately 15 dB) above ambient room noises.

• Avoid wearing jewelry that may rub or bump against the microphone.

• Mute the Clearmike during private conversations by momentarily pressing the power button. When muted, the blue light turns white.

• When the conversation is over, unmute the Clearmike by momentarily pressing the power button again. The white light will turn blue.

• Recharge microphone(s) each night. When recharged nightly, the microphone will last through a typical school day.

POWER / MUTE BUTTON   IR TRANSMITTER

TALK / MUTE LIGHT
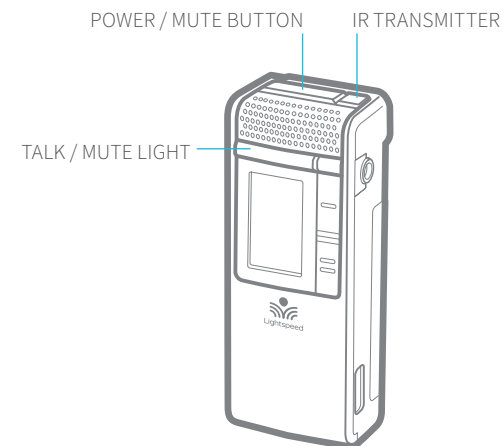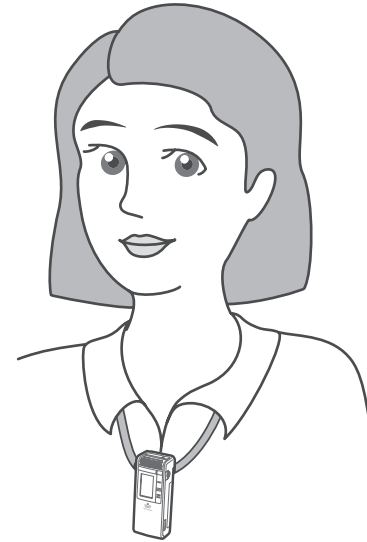
CHARGING THE CLEARMIKE

Before use, the Clearmike should be charged. It will take 5-6 hours for the Clearmike to obtain a full charge. A fully charged Clearmike will last for up to 8 hours of use. If microphones are used daily, they should be charged each night.

When properly inserted into a cradle charger the Power Status light on the Clearmike will turn red indicating that the battery pack is charging. The power status light will glow green to indicate that charging is complete and a full charge has been reached.

Replacement Lithium Ion battery packs may only be purchased through Lightspeed Technologies (part #L3.7V).
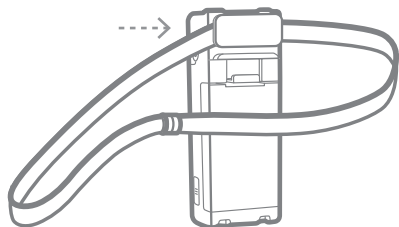
ATTACH LANYARD

Hang the Clearmike on the lanyard opposite the magnetic clasp.
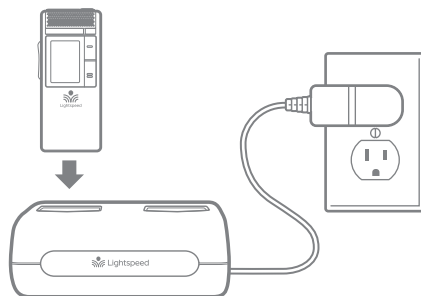
CONNECT CRADLE CHARGER

Plug power cord into the cradle charger and then plug the AC end into an electrical outlet.
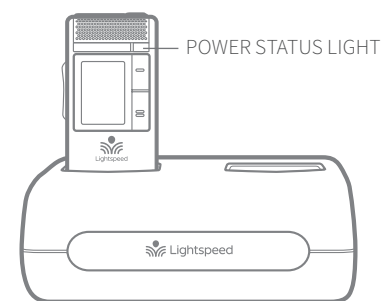
POWER STATUS LIGHT

CHARGE CLEARMIKE

Place the microphones into the cradle charger. The power status light will glow red when it is charging.

When charging is complete, the power status light will glow green.

It takes about 5-6 hours to fully charge the microphone battery.

PageFirst Installation

The following components are included when the PageFirst option is purchased as an add-on:

- PageFirst Sensor Clip with wire pigtail (PFSC)

- 50' length of shielded plenum wire, wire nuts

CONNECT PAGEFIRST SENSOR CLIP TO PAGING SPEAKER

If possible, the PageFirst Sensor Clip (PFSC) should be hung around one of the 8-ohm lead wires that connects directly to the paging speaker. If it's a sealed ceiling speaker, where only the 25V/70V wire is accessible, then connect the page first sensor clip as follows:

1. Locate the paging speaker in the classroom.

2. Locate the PageFirst Sensor Clip. The clip is designed to hang around a single conductor (either + or -) of the 25V/70V paging speaker wire. **NOTE:** The PageFirst sensor operates via induction and is not compatible with telephone or IP Paging Systems as these digital signals do not produce sufficient induction current.

3. Strip back the outer cable jacket of the 25V/70V speaker cable to gain access to the two speaker cable conductors. Hang the PageFirst Sensor Clip around one of the two conductors. It's a best practice to wrap the single conductor around the clamp three times to ensure current induction (Figure 1).

PAGING SPEAKER

25V/70V SPEAKER WIRE

FIGURE 1 PAGEFIRST SENSOR CLIP

CONNECTING THE PAGEFIRST CONNECTOR TO C25 INSIDE TOPCAT CASCADIA

SHIELDED PLENUM WIRE

C25

BACK OF C25 SHOWING PLACEMENT OF PAGEFIRST CONNECTOR (NOTE: DO NOT REMOVE C25 UNIT FROM TOPCAT CASCADIA)
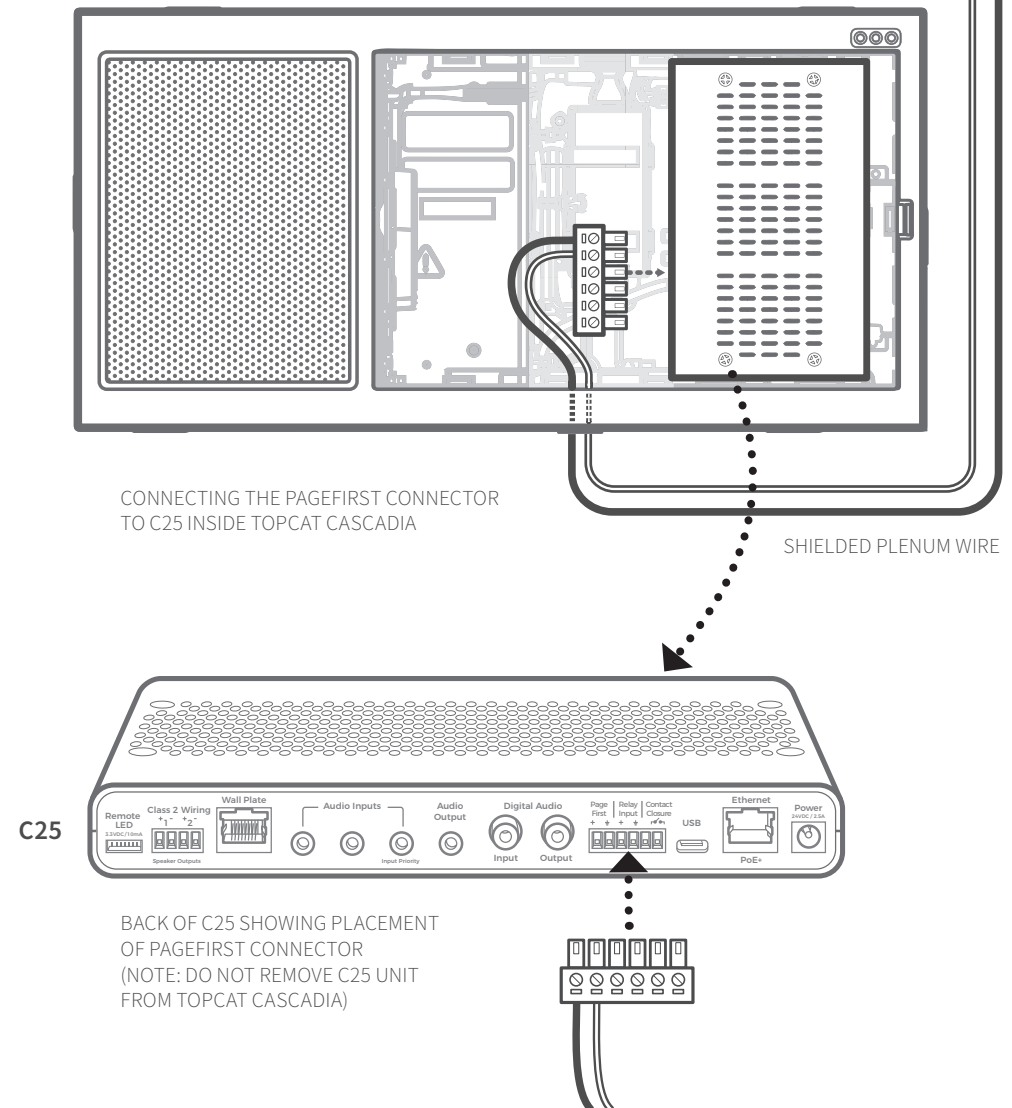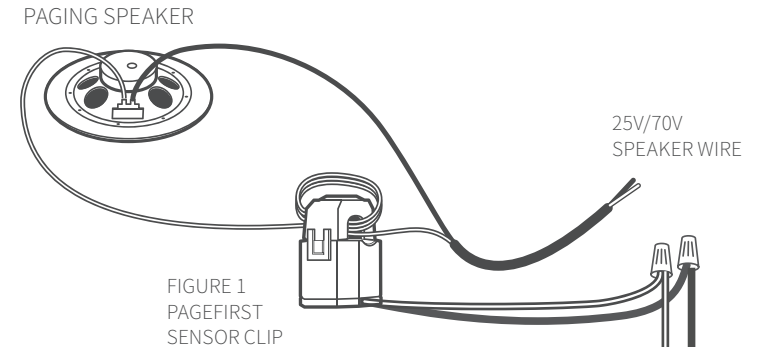
PageFirst Installation CONT'D

CONNECTING THE PAGEFIRST SENSOR TO TOPCAT CASCADIA

The sensor needs to be hard-wired back to Topcat Cascadia.

1. Insert the euro-block connector of the wire into the PageFirst input jack on the C25 inside the Topcat Cascadia. Secure with a screw driver by tightening the screw on the left and right sides of the terminals (Figure 2, previous page).

2. Route the wire from Topcat Cascadia to the paging speaker.
   NOTE: When routing wire, make sure to secure the wire to the building structure, as electrical and building codes require.

3. Connect the pigtail of the sensor clip to the length of wire, using the provided wire nuts. Coil and secure excess wire as needed. Wire can be cut and stripped to the appropriate length if necessary.

TESTING PAGEFIRST

A page will need to be broadcast through the system to verify PageFirst is properly sensing the audio signal.

1. Turn on the system and begin speaking.

2. Broadcast a page through the central paging system.

3. Topcat Cascadia should mute as the page is broadcast. When the broadcast is over, Topcat Cascadia should amplify the mic as normal.

4. While walking around the room, continue talking into the microphone. Verify that the system is not muting during times there is no page being broadcast.

ADJUSTING THE SENSITIVITY

Adjusting the sensitivity of the PageFirst senor requires the C25 to be plugged into the building's network and active in the Cascadia Web Console server software.

Find the C25 base in the Console dashboard and double click on the base to access the PageFirst sensitivity controls.

Sensitivity can be adjusted between a setting of 0 to 20, with a default level of 14. Higher number indicates higher sensitivity.

1. If the systems does not mute while a page is being broadcast, increase sensitivity for the C25 in the Cascadia Web Console.
   NOTE: If mute is not still achieved after ADJ is adjusted to maximum, it might be necessary to make additional loops of the paging cable conductor around the PageFirst Sensor Clip. A maximum of five loops is recommended.

2. If the system mutes during times when a page is not being broadcast, decrease sensitivity for the C25 in the Cascadia Web Console.
   NOTE: If the system continues to mute prematurely, the paging cable conductor might be wrapped around the Page First Sensor Clip too many times. Reduce the conductor wraps to a single wrap.

NOTE: The PageFirst function works via current induction. The above instructions represent the most common method to achieve sufficient induction. If sufficient induction is not achieved to trigger this function, please contact Lightspeed regarding alternate installation methods.

Take precautions as necessary to prevent and guard against electromagnetic and electrostatic noise interference. Unshielded and/ or poorly shielded cable, multiple ground paths and improper grounding may all contribute to the production of a low frequency noise which could result in PageFirst muting incorrectly.

Analog Life Safety Solutions

DC VOLTAGE

RELAY INPUT

The C25 contains an input connection to detect a signal from Fire Alarm, IP Paging System or other device. When triggered, audio from the C25 is muted to ensure emergency alerts from external systems can be heard.

The Relay Input can be triggered with either DC voltage between .5V and 24V from a powered relay switch or a resistive short from a fire alarm system.

RESISTIVE SHORT
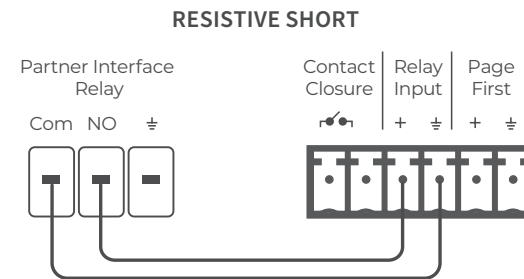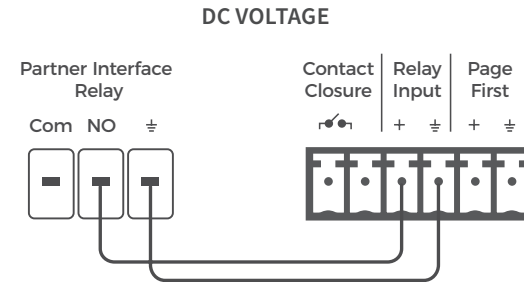
CONTACT CLOSURE

If your building is equipped with an alert notification system, the microphone can be programmed so the teachers can use the microphone to send an alert.

This activates the contact closure function on the C25, which external systems use to perform a prescribed action, such as notifying the appropriate parties of a classroom alert.

Programming the contact closure can be done using the Cascadia Web Console.

EMERGENCY ALERT BUTTON

Media Connector Set-Up

DETERMINE SET-UP LOCATION

Choose a location for the Media Connector that is convenient to the classroom audio sources and power supply.

The Media Connector can be placed on a counter or wall mounted. Determine the best location for your room. Use the guidelines below when selecting the site.

Set it up in a convenient place near a power source that is highly accessible for both teachers and students. If plugging in multimedia audio sources, it should be located in close proximity to minimize cable runs.

Key considerations:

• Near multimedia audio sources if desired

• Do not place in a fully enclosed metal cabinet

COUNTER OR DESKTOP
• Locate 3-6 feet off of the floor to allow for best transmission.

WALL MOUNTING
• Find a location on the wall that is near the computer or other AV equipment that will be connected to the Media Connector.

• Power for the Media Connector must be within 6 ft of this location.

1. Hold Media Connector up to the wall and ensure that it is level. Mark the mounting holes with a pencil. The back of the Media Connector that contains the inputs may be mounted in any position that is desirable.

2. For sheetrock walls, use screw-in sheetrock anchors and screws (not supplied) to secure the Media Connector to the wall. It is best to drill a 1/4" pilot hole at the two mounting locations before inserting the anchors.

3. Once the anchors are installed, place the Media Connector over the mounting anchors and insert screws through the mounting holes and into the anchor.

4. If walls are concrete or cinder block, appropriate mounting hardware should be purchased locally.

WALL MOUNTED

COUNTER OR DESK

Media Connector

POWER LIGHT
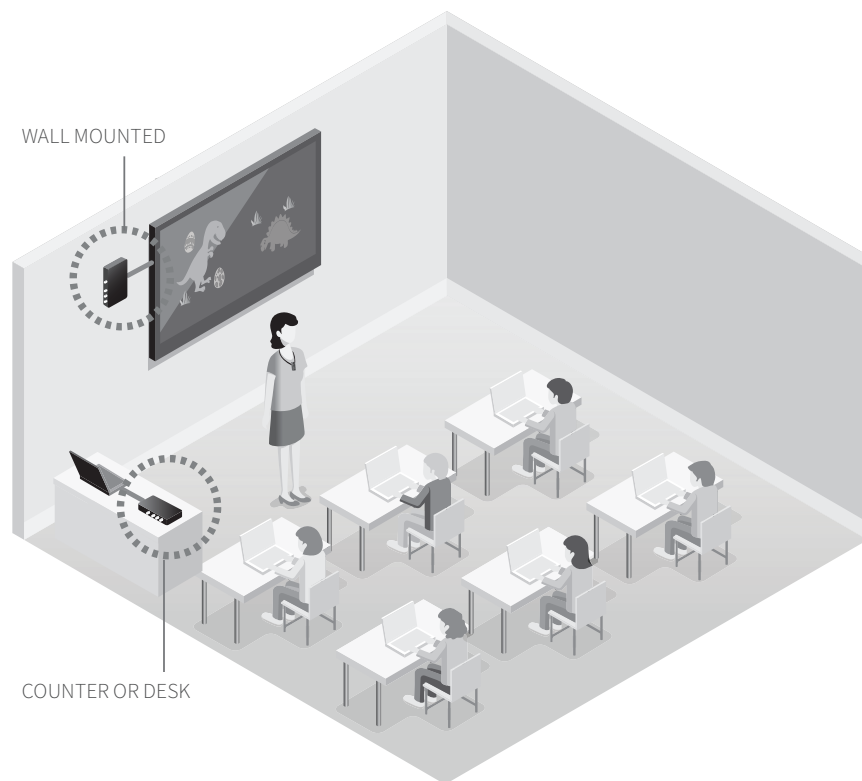
(1) DETERMINE LOCATION

Media Connector is designed to be connected to the primary media source in the classroom, usually the computer or display panel.

(2) CONNECT TO POWER

Connect the USB cable power cord to a computer, or use the USB power adapter to plug into wall outlet.

Plug the USB cable into the USB input on the back of the Media Connector.

(3) POWER ON

When powered on, the white LED on the front panel will glow.

Topcat Cascadia does not need to be powered off at the end of day, but if desired, you may power down Topcat Cascadia by powering down the Media Connector.
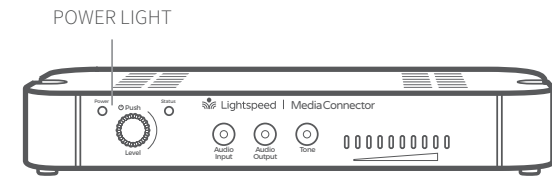

CONNECTING MEDIA CONNECTOR TO AUDIO

Audio can be connected using either a digital 2-way USB audio or analog audio.

USB Audio

If locating and connecting to computer USB, Media Connector will default to digital USB audio (3.5mm analog audio ports will be disabled). USB audio enables a 2-way audio link to:

Send audio from the computer to the Topcat Cascadia to ensure all audio can be played through the Topcat Cascadia speaker.

Send audio to the computer from the Topcat Cascadia to ensure the teacher's Clearmike and any student microphones are clearly picked up by a video conferencing solution.

USB-C
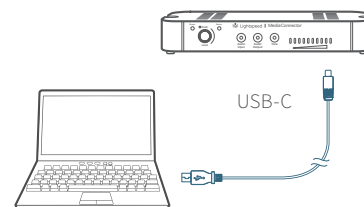
COMPUTER SETTINGS

Once connected, open computer sound setting to select "Lightspeed Audio" as the microphone and speaker.

3.5MM CABLE
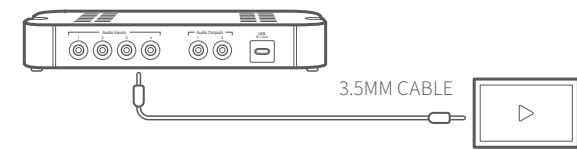
Analog Audio

Plug your external audio equipment (e.g., video display) into one of the Audio input jacks.

LEVEL   AUDIO INPUT SELECTOR

Adjust the volume as needed by pressing the Audio Input selector and adjusting the level knob as needed.

VOLUME ADJUSTMENT FOR THE MEDIA CONNECTOR

The Media Connector can be used as the primary volume control for the audio sources to be connected.

1. Connect the audio source(s) to the Media Connector using the 3.5mm cables provided.

2. Press the power button to power on the unit.

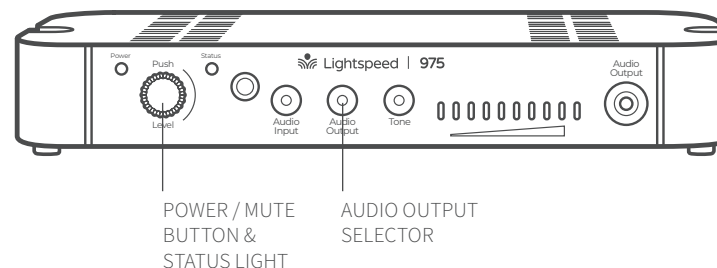3. Set the audio source volume to provide sound through Topcat Cascadia.

4. Use the Media Connector Audio In volume control to increase or decrease the sound level.

POWER / MUTE
BUTTON &
STATUS LIGHT

AUDIO OUTPUT
SELECTOR

NORMALIZING AUDIO SOURCE VOLUME LEVELS

Use the Media Connector as the master audio volume control for the classroom. When two or more audio sources are connected, you will need to normalize volume settings by setting all connected audio sources to the same sound level while leaving the Media Connector Audio In volume control set to its center setting. The Media Connector is an audio mixer using a master volume control to adjust the volume of all audio sources at once. Use the following procedure to set audio source volumes:

1. Connect the multimedia audio sources to the Media Connector using the 3.5mm cables provided.

2. Set the Audio In volume control on the Media Connector to its center position.

3. Turn on an audio source that does not have an accessible audio level control. (DVD player)

4. Adjust the Media Connector Audio In volume control so the audio level playing through the speaker is appropriate for the classroom.

5. Turn off the first audio source.

6. Turn on the second audio source. Use its volume control to balance the audio output to the same audio level played through the speaker as the first source.

7. Repeat steps 5 and 6 for the remaining audio sources.

8. Now, the Media Connector's Audio In volume can be used to increase or decrease the volume level for all audio sources as desired.

USB AUDIO INPUT INTERFACE

- To disable USB interface:
1. Remove power from Media Connector.
2. Press and hold Audio Out button while powering Media Connector back on.
3. USB interface is set to disable.
4. Status light will turn white to indicate USB is disabled.
5. Reboot Media Connector by removing and plugging in power supply.

- To enable USB interface:
1. Remove power from Media Connector.
2. Press and hold Audio Out button while powering Media Connector back on.
3. USB interface is set to enable.
4. Status light will turn blue to indicate USB enabled.
5. Reboot Media Connector by removing and plugging in power supply.

NOTE ON REGISTRATION: The Topcat Cascadia and Media Connector are paired together as a pair at the Lightspeed factory as required for proper operation. If paired Topcat Cascadia and Media Connector are separated and swapped during the installation process, they must be re-paired. Please refer to the pairing instructions at www.lightspeed-tek.com.

OPTIONAL MEDIA CONNECTOR AUDIO INTEGRATION

The Media Connector is designed to integrate multiple audio sources quickly and easily allowing other instructional technologies to be clearly heard throughout the classroom quickly and easily.
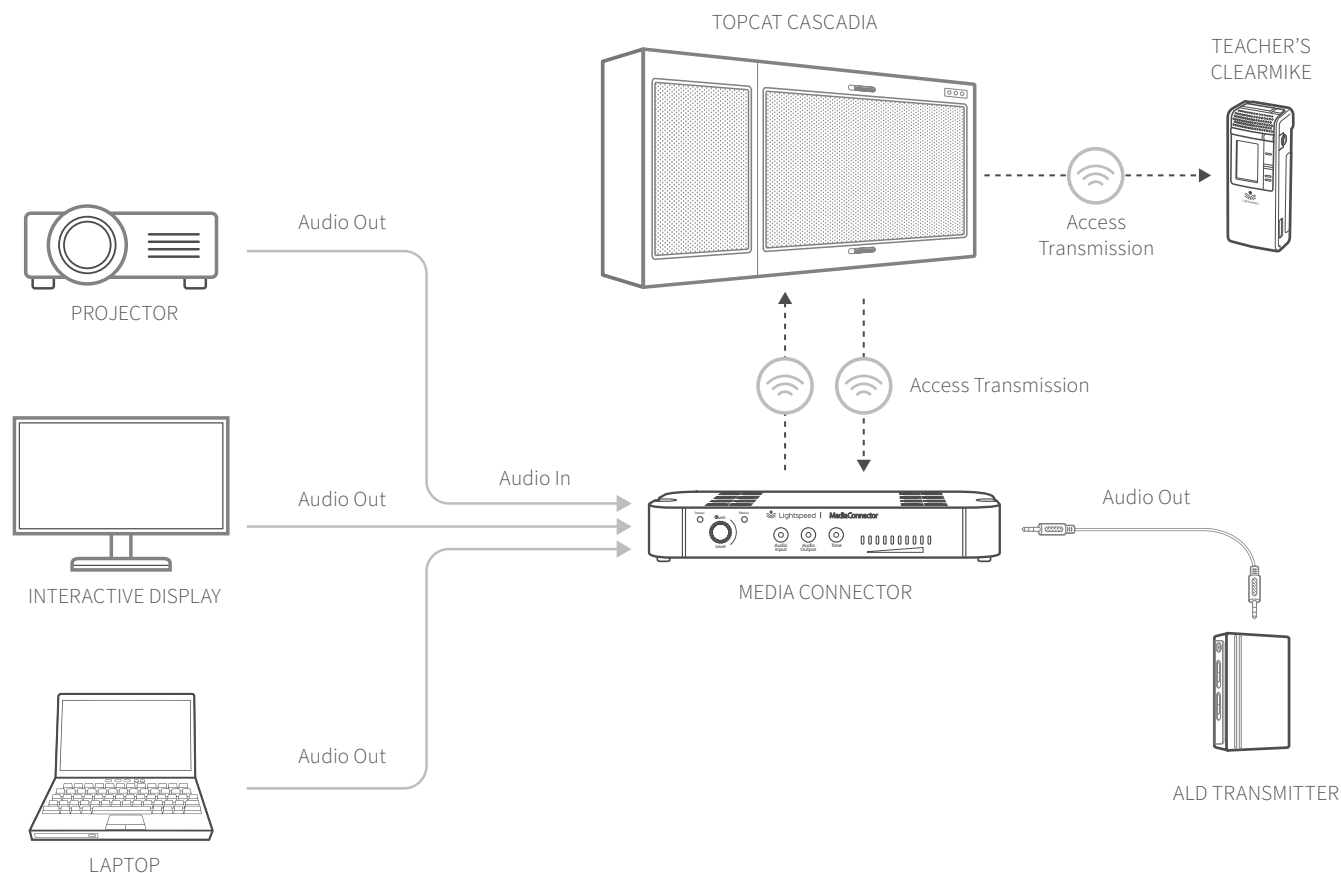
NOTE ON INTEGRATION: If Media Connector is not included in installation, a 3.5mm audio cable may be connected from the audio source to the audio inputs of the C25 inside the Topcat Cascadia. Take precautions as necessary to prevent and guard against electromagnetic and electrostatic noise interference. Long cable runs, unshielded and / or poorly shielded cable, multiple ground paths and improper grounding may all contribute to the production of a low frequency hum. In most cases a ground loop isolator (not provided) placed in line will attenuate or possibly eliminate the hum.

Wall Plate Installation

Integrate all multimedia audio sources with an installed wall plate anywhere in the classroom.

- Route a Cat5e cable through the ceiling and wall between the Topcat Cascadia and Wall Plate.
- Terminate both cable ends with RJ45 connectors.
- Plug the RJ45 connector into the back of the Wall Plate.
- Mount the Wall Plate to the wall box or mud ring using the included screws.
- Plug the RJ45 connector on the other end of the Cat5e cable into the Wall Plate port on the Topcat Cascadia.

NOTE: ADD A
CABLE LOOP
IN WALL BOX

Output

Input

USB Audio

PLUG RJ45 INTO
TOPCAT CASCADIA

ELECTRICAL
WALL BOX

CAT5e CABLE WITH
RJ45 CONNECTOR

PLUG RJ45
INTO SOCKET

INSTALLED
WALL PLATE
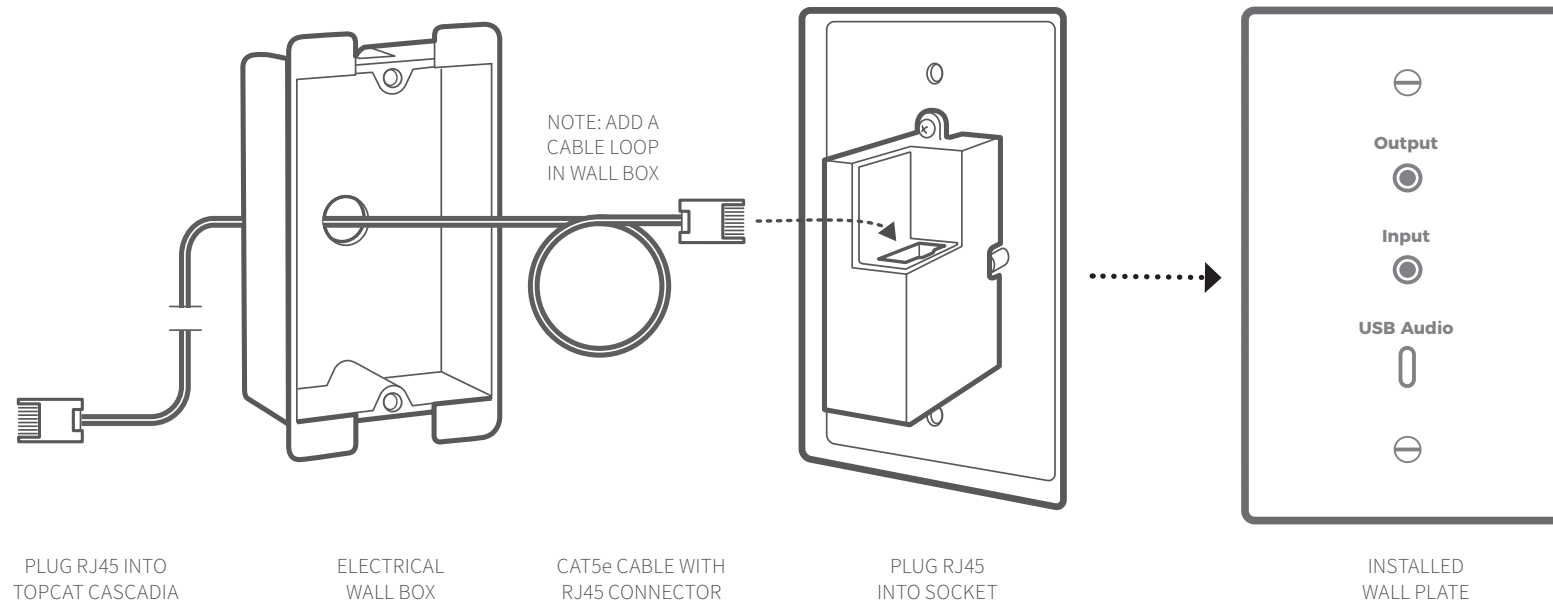
Safety Warnings and Certifications

CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN

THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.

The lightning flash with arrowhead symbol inside an equilateral triangle is intended to alert the user to the presence of non insulated "hazardous voltage" within the product's enclosure, which may be of sufficient magnitude to induce a risk of electric shock to persons.

The exclamation mark inside an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying this product.

USE A LIGHTSPEED SUPPLIED BATTERY ONLY

USE 12-14 AWG WIRING ONLY

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

CERTIFICATIONS

This product is listed to UL standards and requirements for electrical safety by Underwriters Laboratories Inc.

This product conforms with the essential requirements of the following European Union Directives: 2014/30/EU Electromagnetic Compatibility (EMC), 2014/35/EU Low Voltage Directive (LVD) and 2014/53/EU Radio Equipment (RED).

Lightspeed Technologies launched a formal product recycle program in Europe that complies with the European Union Directive 2012/19/EU on Waste Electrical and Electronic Equipment ("WEEE Directive"). Please visit our website at www.Lightspeed-tek.com for more information.

This product is manufactured using lead-free processes and is free of other materials harmful to the environment. It conforms to the most stringent new European guidelines for consumer products (RoHS).

Précautions De Sécurité et Certifications

ATTENTION
RISQUE D'ÉLECTROCUTION NE PAS OUVRIR

CONFORMÉMENT AUX NORMES D'INSTALLATION APPLICABLES, CE PRODUIT DOIT ÊTRE INSTALLÉ PAR UNE PERSONNE FAMILIARISÉE AVEC LA CONCEPTION ET LE FONCTIONNEMENT DU PRODUIT ET CONSCIENTE DES RISQUE ENCOURUS.

L'éclair flèche dans un triangle équilatéral avertit l'utilisateur de la présence d'une "tension dangereuse" non isolée a l'interieur de l'appareil, qui peut être d'une ampleur suffisante pour constituir un risque d'électrocution.

Le point d'exclamation contenu dans un triangle équilatéral avertit l'utilisateur de la présence d'importantes instructions d'exploitation et de maintenance dans la documentation qui accompagne ce produit.

UTILISEZ UNIQUEMENT LA BATTERIE LIGHTSPEED FOURNIE

UTILISER 12-14 AWG UNIQUEMENT

ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebus les batteries usagées selon les instructions.

CERTIFICATIONS

Ce produit est certifié conforme aux normes et aux exigences UL en matière de sécurité électrique par Underwriters Laboratories Inc.

Ce produit est conforme aux principales exigences des directives de l'Union Européenne suivantes: 2014/30/ EU Electromagnetic Compatibility (EMC), 2014/35/ EU Low Voltage Directive (LVD) and 2014/53/EU Radio Equipment (RED).

Lightspeed Technologies a lancé un programme de recyclage de produits en Europe conformément à la directive de l'Union Européenne 2012/19/EU relative aux déchets d'équipements électriques et électroniques (directive « DEEE »). Veuillez visiter notre page Web www.Lightspeed-tek.com pour plus de renseignements.

Ce produit est fabriqué en utilisant des processus sans plomb ni aucune autre matière nuisible à l'environnement. Il est conforme aux nouvelles règles européennes les plus strictes en matière de biens de consommation (RoHS).

TROUBLESHOOTING

COMMON PROBLEMS AND SOLUTIONS

Most problems are related to low battery power. Use fully-charged batteries in good condition.

BATTERY CHECK

- Confirm batteries are charged each night. A red light on the battery status light indicates a low battery.
- Make sure the microphones obtain a full charge. A full charge takes 5-6 hours.
- When charging transmitter, ensure the red charging light turns on. The green light will turn on when a full charge is reached.

PROBLEM: Low volume or feedback

SOLUTION: Follow these steps to eliminate low volume or feedback.

- Adjust the volume level on the microphone..
- Check microphone volume level on the amplifier. If the volume is too high, feedback will occur. Adjust accordingly.
- Check input volume level on the amplifier. If the volume is too high, feedback will occur. Adjust accordingly.

PROBLEM: No sound from speaker and wireless components

SOLUTION: Follow these steps to produce sound from amplifier.

- Confirm that the white POWER light located on the front panel of the amplifier is on.
- Confirm the microphone is powered on and linked to the amplifier. The Talk/Mute light will be white on the microphone indicating the microphone is linked to the system.
- Confirm that microphone is not muted. A white Talk/Mute light indicates the microphone is muted. A blue Talk/Mute light indicates the microphone is unmuted.
- If an Activate Station or Media Connector is paired with Topcat Cascadia, make sure that the volume level of the Media Connector is not turned down all the way. Slowly increase the volume level while talking into the microphone.

If you review these instructions and still have questions, call Lightspeed Technical Services at 800.732.8999, 5am – 5pm, PST.
Customers outside the U.S. should contact their local reseller.

TIPS TO OBTAIN OPTIMUM AUDIO PERFORMANCE

- **Speak in a natural voice.** A normal conversational speech level will provide an adequate signal. It is not necessary to increase the intensity of your voice—the audio system provides adequate amplification above ambient room noises.
- **Avoid wearing jewelry that may rub** or bump against the microphone.
- **Mute the microphone during private conversations** with a student, parent, or other classroom visitor. You can tell the mic is muted when the light turns white.
- **Recharge microphones each night.** When recharged nightly, operating time (actual usage) for the microphones will last through a typical school day.

Lightspeed®

Dedicated to Access for All

We create instructional audio and video solutions that unlock student access to learning opportunities and give teachers meaningful insights into moment-by-moment learning.