Lightspeed

Redcat®

Instructional Audio System

User Manual

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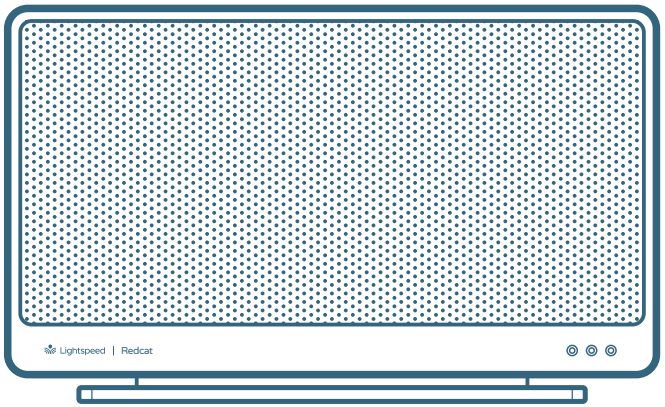
Important Safety Instructions

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. (1) The battery pack is not serviceable. Do not open, disassemble, or service any battery pack. (2) Do not crush or cut or puncture the internal battery cell. (3) Do not short-circuit the battery, or expose it to water or other liquids. (4) Do not touch the internal battery cell for any reason. (5) Keep the battery away from fire or a hot oven. Do not dispose of the battery into fire or a hot oven. (6) Keep the product with battery away from extremely low air pressure or high temperature surrounding environment. Battery subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas. (7) Stop using the battery pack if it is damaged, or if you notice any discharge or the buildup of foreign materials on the battery contacts. (8) Do not put the battery in trash that is disposed of in landfills. When disposing of the battery pack, comply with local ordinances or regulations.
14. CAUTION: Risk of explosion if battery is replaced by any battery other than Lightspeed Part # L3.7V

System Components and Unpacking

The standard configuration of Redcat will contain:

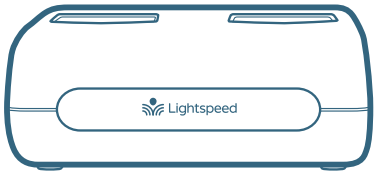


Redcat

Receiver/Amplifier and Power Supply

Clearmike

Teacher Microphone

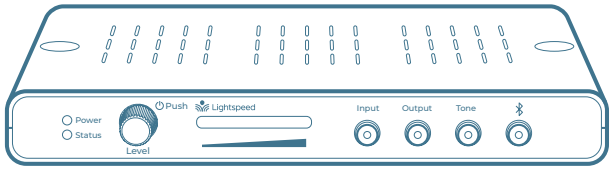


Microphone Cradle Charger

and Power Supply

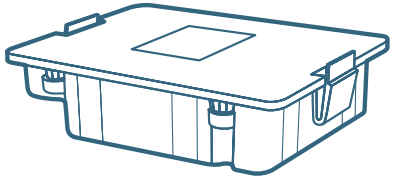
PLEASE NOTE: Redcat and any wireless components (microphones, Media Connector) are paired together at the factory. Please keep all components together as a system. Moving them from one system or room to another will result in the need to re-pair them.

Optional Accessories



Media Connector
with power adapter and cable

Sharemike
Handheld Microphone

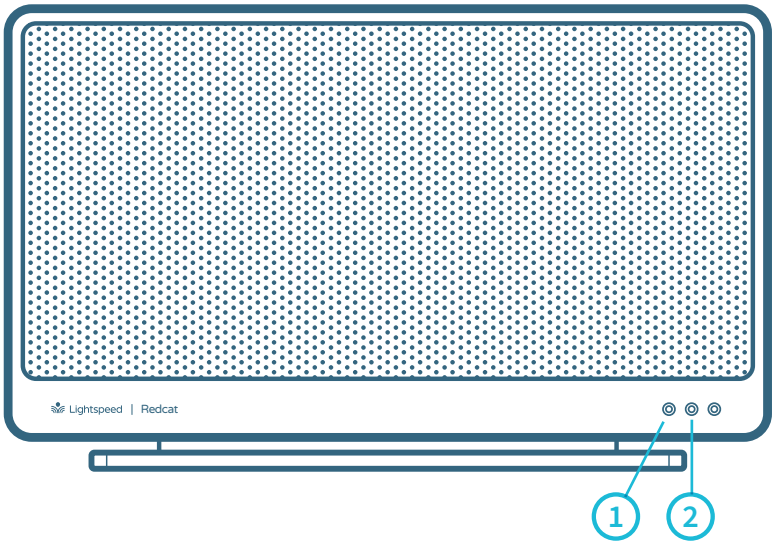


Redcat Battery Pack

Controls and Connections

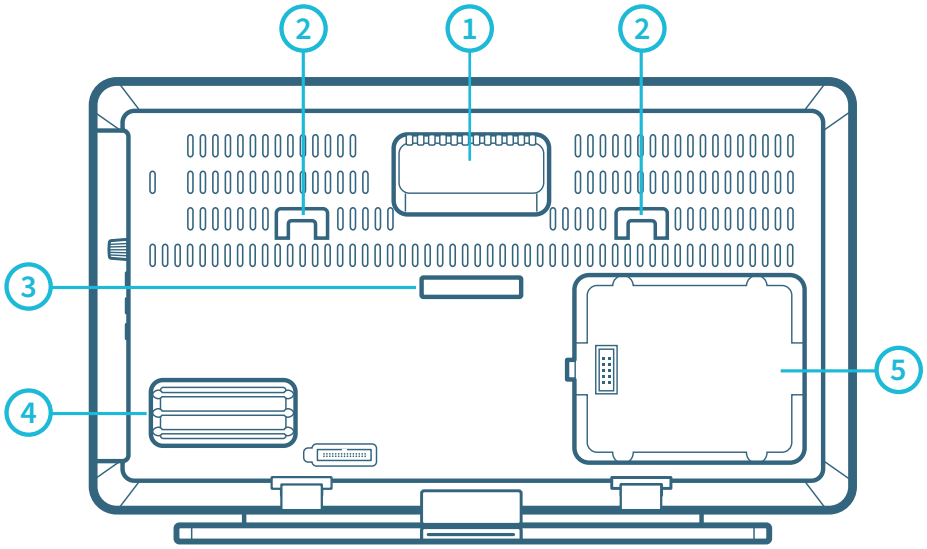
FRONT PANEL

1. **STATUS LIGHT:** Microphone link and pair indicators
   Solid blue: Audio link has been established
   Alternating blue/white: Pairing in process
   Off: Unpaired or nothing linked
2. **POWER LIGHT**
   Solid white: Indicates power on



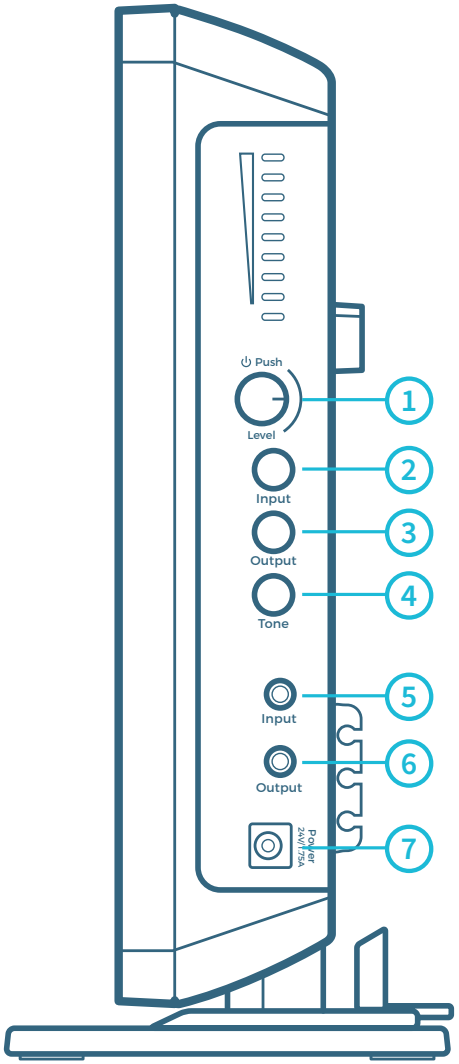
REAR PANEL

1. **CARRYING HANDLE INSET**
2. **WALL MOUNTING SLOTS**
3. **SECURITY BRACKET SLOT**
4. **CABLE MANAGEMENT AND STRAIN RELIEF**
5. **COMPARTMENT FOR OPTIONAL BATTERY PACK**



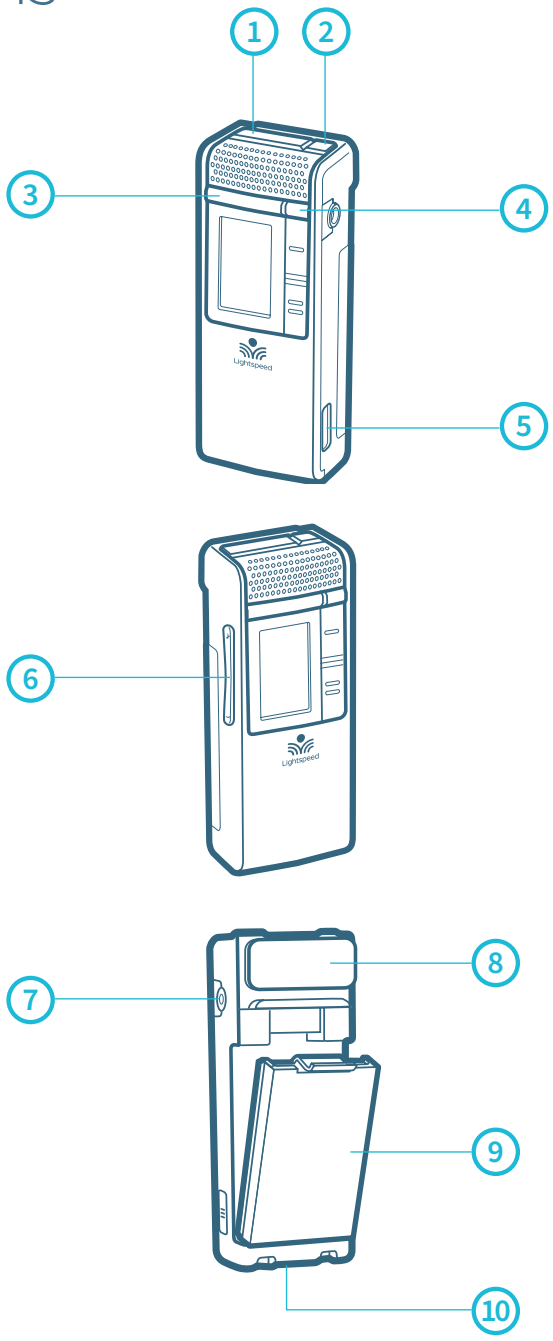
Side Panel Controls and Connections

1. **POWER BUTTON / LEVELS ADJUSTMENT:** Press this button to turn the system power on or off. This also functions as an adjustment knob for the volume and tone depending on the mode selected (see 2, 3, 5 below).
2. **AUDIO INPUT VOLUME SELECTOR:** Selects Volume as the mode for the adjustment knob (1) for the audio sources connected to the audio input jack below.
3. **AUDIO OUTPUT VOLUME SELECTOR:** Selects Volume as the mode for the adjustment knob (1) for the audio device connected to the audio output jack below.
4. **TONE SELECTOR:** Selects tone as the mode for the adjustment knob (1) that adjusts the bass or treble that is heard through the Redcat.
5. **AUDIO INPUT JACK:** 3.5mm stereo connector for connecting to a computer or mobile device as an audio source.
6. **AUDIO OUTPUT JACK:** 3.5mm stereo connector for connecting to an assisted listening device (ALD) or to a computer for recording.
7. **POWER:** Plug the power supply (24V/1.75A) into this jack.

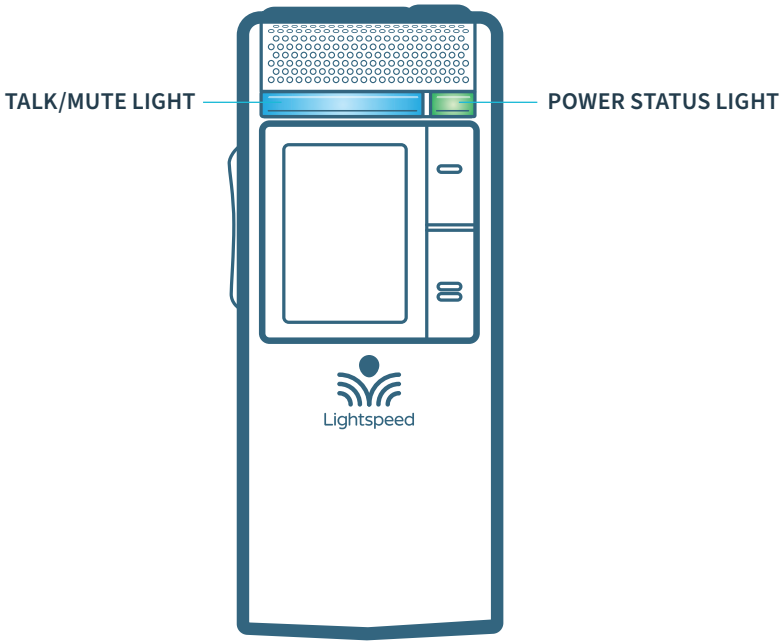


Clearmike Controls and Connections

1. **POWER/MUTE BUTTON:** Press and hold 1 second to power on. Press and hold for 2 seconds to power off. Tap to mute or talk. Press and hold for 5 seconds to initiate pairing.
2. **IR TRANSMITTER:** For pairing to base unit.
3. **TALK/MUTE LIGHT:** See page 10 for light color descriptions.
4. **POWER STATUS LIGHT**: See page 10 for light color descriptions.
5. **EMERGENCY ALERT BUTTON:** Press and hold 2 seconds to activate alert.
6. **MICROPHONE VOLUME UP/DOWN**
7. **EARBUD/MIC CONNECTION:** For use with optional EMA (earset) or LMA (lapel) microphones..
8. **LANYARD INTERFACE:** Insert the lanyard into this hook to wear the Clearmike.
9. **BATTERY:** Rechargeable battery pack can be replaced by the user.
10. **USB INPUT:** Connect audio source to send to Redcat. USB input can also be used for charging.



Microphone Lights



LEFT LIGHT / RIGHT LIGHT

OFF: Mic off

SOLID WHITE / SOLID GREEN: Mute, live link with base

SOLID BLUE / SOLID GREEN: Talk

ANY COLOR / BLINKING RED: Low Battery

BLUE/WHITE ALTERNATING / OFF: Pairing

OFF / BLINKING ORANGE: Firmware update in progress

In Charger:

OFF / SOLID RED: Charging

OFF / SOLID GREEN: Charged

Plugged into USB:

SOLID BLUE / SOLID RED: Charging

SOLID BLUE / SOLID GREEN: Charged

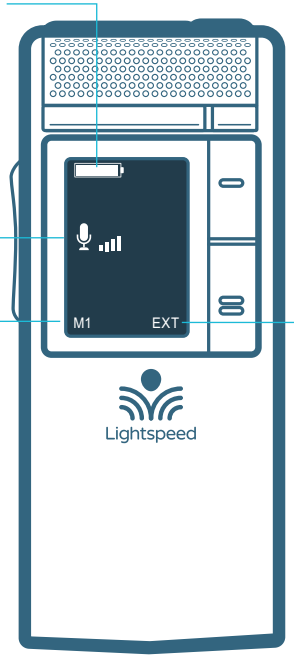
Clearmike Display

BATTERY INDICATOR
(Full, half, empty)

MUTE INDICATOR/ VOLUME

MIC NUMBER (M1 OR M2)

DEFAULT SCREEN

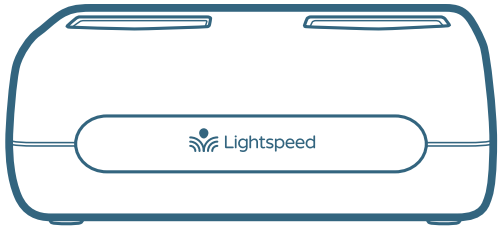


EXTERNAL MIC DETECTION

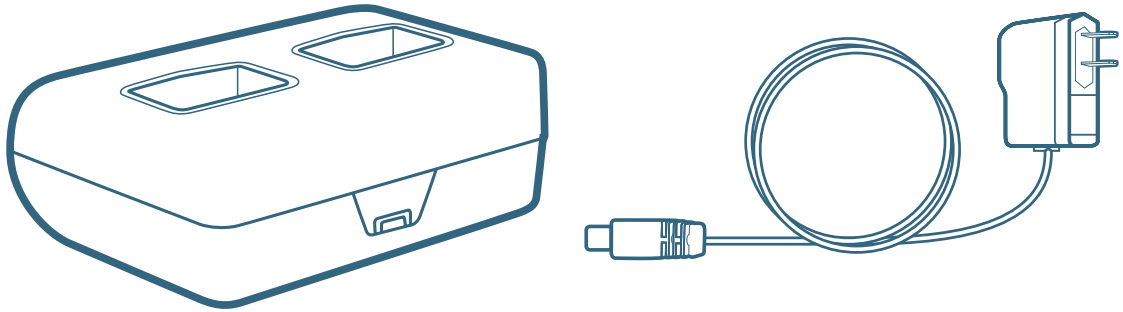
The 3.5mm audio jack on the microphone can be used with an earbud or an external microphone.

Plugging in an external mic will disable the internal microphone on the Clearmike

Clearmike/Sharemike Cradle Charger



DC POWER PORT: Connect the 5V/1.0A DC power cord



Determine Set-Up Location

Redcat is shipped with an installed base to stand on a cabinet or tabletop. Alternatively, the base can be used as a wall-mount bracket

- Redcat should be placed within 7 feet of an electrical outlet and on a surface about 6 feet off the ground.
- Find a location as far away as possible from the teacher who will be using the mic.
- The best place is against the wall opposite where the teacher will be speaking.
- If this is not possible, other good locations are along either wall next to the teacher or in a corner.
- Avoid placing Redcat next to where the teacher instructs. Putting Redcat in close proximity to the teacher's mic can result in feedback.

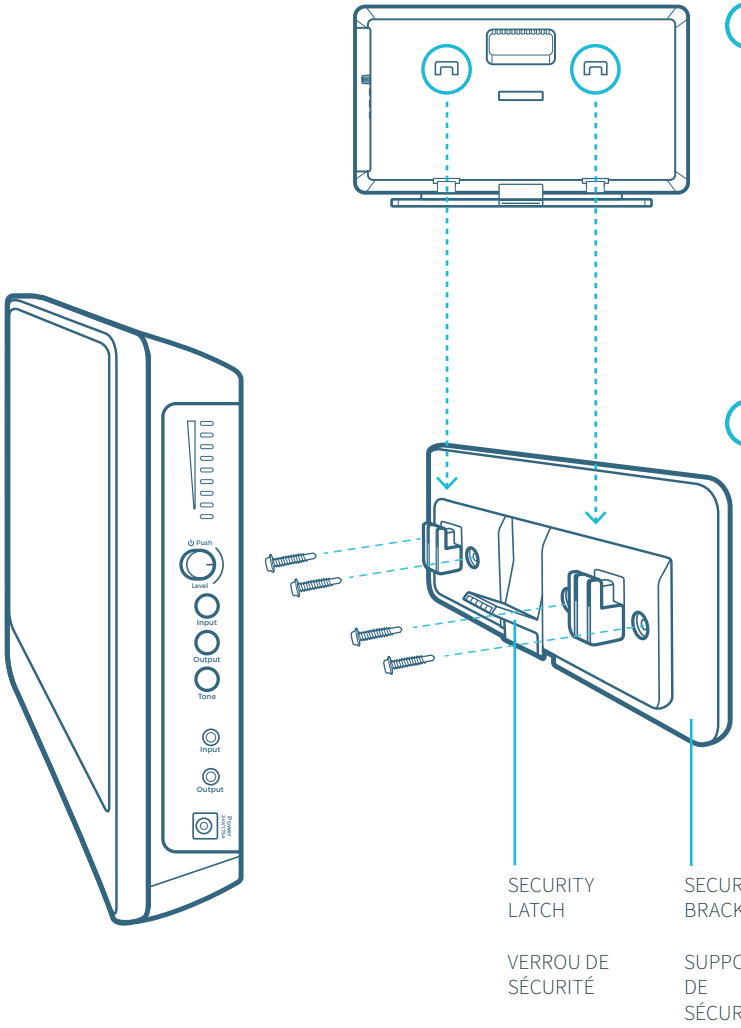
A. TABLE-TOP SET-UP (RECOMMENDED)

Virtually no setup time, greater flexibility to change locations

B. MOUNTED ON A WALL

More permanent setup, greater security

Install Wall-Mounted Security Bracket



2 ATTACH REDCAT TO BRACKET

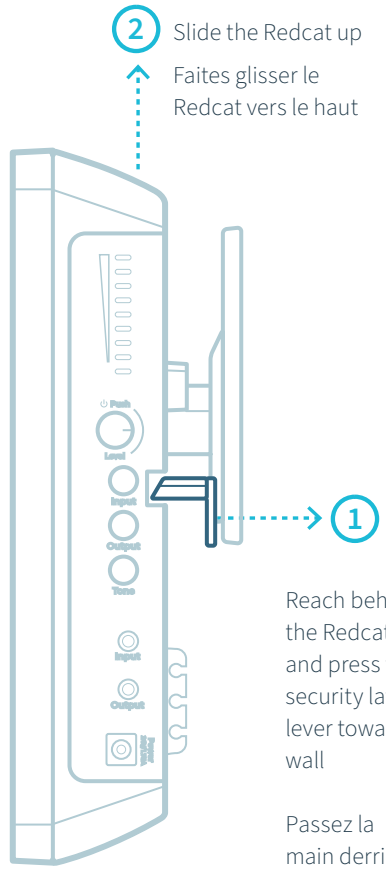
Slide the back of Redcat onto the security bracket mounting points until the tabs on the back are firmly seated and the security latch is snapped into the back of the Redcat

Faites glisser le Redcat sur les points de fixation jusqu'à ce que les languettes à l'arrière soient fermement en place et que le loquet de sécurité s'enclenche à l'arrière du Redcat

1 ATTACH SECURITY BRACKET TO WALL

1. Determine location and attach security bracket to the wall
   Déterminez l'emplacement et fixez le support de sécurité au mur
2. Level bracket and mark position of drill holes
   Placez le support de niveau sur le mur et marquez l'emplacement des trous de perçage.
3. Drill holes and insert wall anchors appropriate for the mounting surface
   Percez des trous et insérez des chevilles murales adaptées à la surface de montage
4. Secure to wall with screws
   Fixez-le au mur à l'aide de vis

RELEASE THE SECURITY LATCH



Reach behind the Redcat and press the security latch lever toward the wall

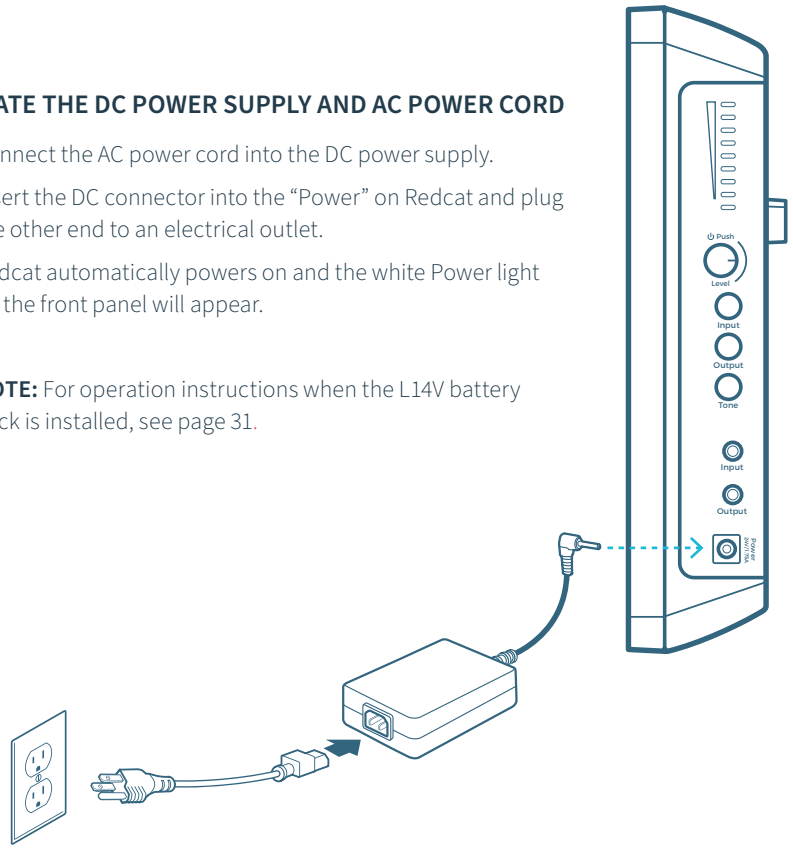
Passez la main derrière le Redcat et appuyez sur le levier de verrouillage de sécurité en direction du mur

Connecting the Power Supply

LOCATE THE DC POWER SUPPLY AND AC POWER CORD

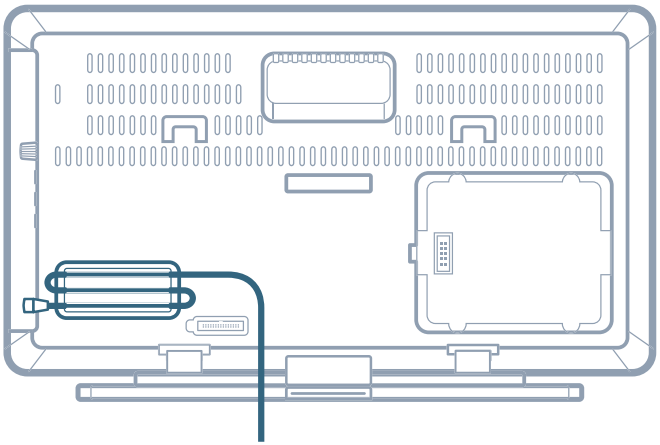
- Connect the AC power cord into the DC power supply.
- Insert the DC connector into the “Power” on Redcat and plug the other end to an electrical outlet.
- Redcat automatically powers on and the white Power light on the front panel will appear.

NOTE: For operation instructions when the L14V battery pack is installed, see page 31.



CABLE MANAGEMENT

Use the slots on the back of Redcat for cable management and strain relief.

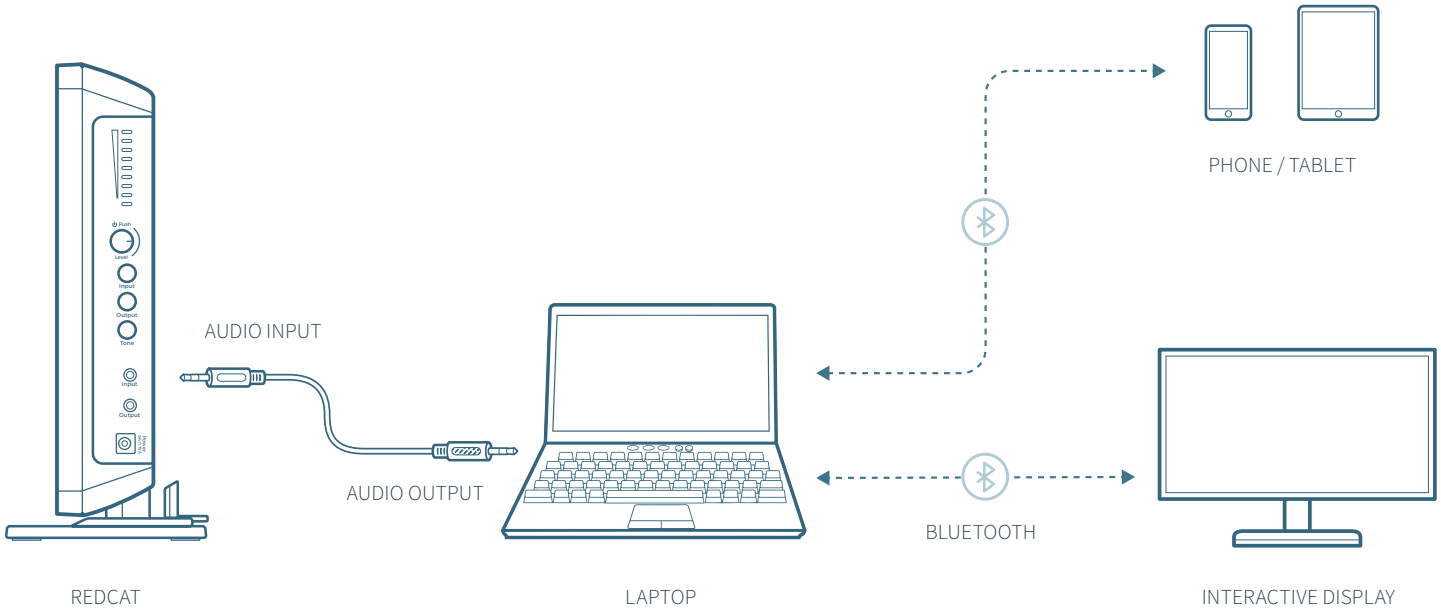


Audio Integration

In this section you will find instructions on how to connect an external audio device like a TV, interactive display or computer directly into Redcat.

AUDIO INPUT

Redcat has one AUDIO INPUT with volume control for connecting to classroom audio sources. Use a patch cable (not included) to connect a computer, phone, tablet, or other audio source.



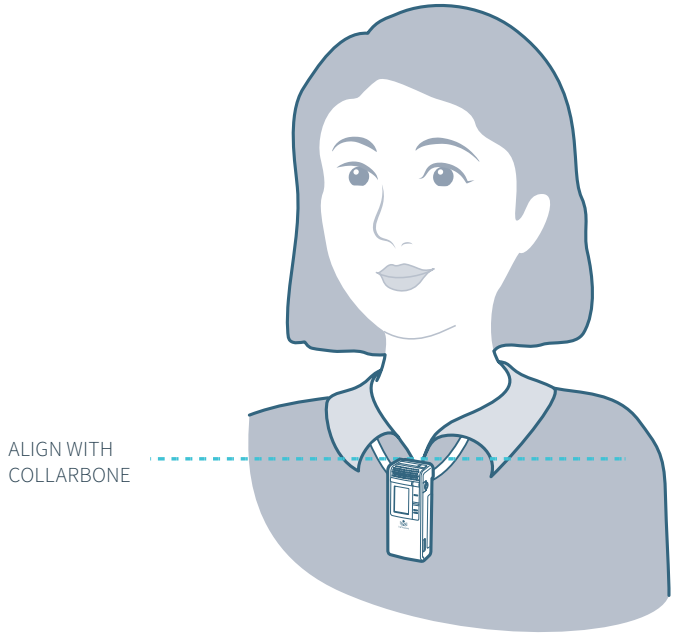
Setting Up the Clearmike

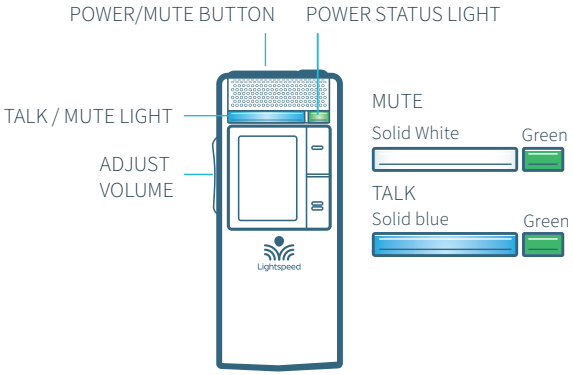
Once the Clearmike is charged, follow these steps for use.

1. Remove the Clearmike from the charger and put it on by connecting the magnetic clasps behind your neck. Adjust the lanyard so that the top of the Clearmike aligns with the collarbone.
2. The Clearmike will automatically power on and mute when it is removed from the charger.
3. The microphone volume on the Clearmike is set at the factory to the midpoint. It is adjusted by the up/ down buttons on the side of the mic. The volume can only be adjusted while the microphone is in talk mode.
4. While speaking in a normal voice, fine tune the microphone volume. Proper volume level should be as follows:
    - 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 unless you are too close to a speaker (2-3 feet). If there is, turn the volume down slightly.

REMEMBER: This equipment supplements the user’s voice so they are able to speak in a conversational tone. Having the volume set too high will result in feedback and listener fatigue.

- Once initial volume level is set, walk around the room and listen for overall audio quality.
- If further fine tuning is required, you may need to adjust the Tone Control on the side of the Redcat.



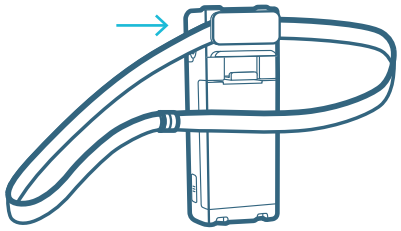


Charging the Clearmike

BEFORE USE, THE CLEARMIKE SHOULD BE CHARGED

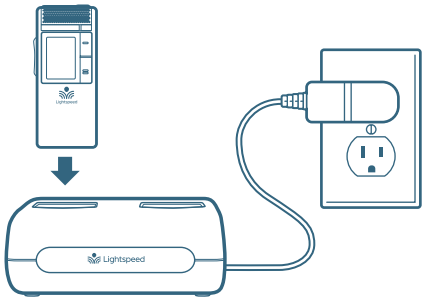
It will take 5-6 hours for the Clearmike to obtain a full charge. A fully charged Clearmike will last for up to 8 hours of use. If microphones are used daily, they should be charged each night.

Replacement lithium polymer battery packs may only be purchased through Lightspeed (part # L3.7V).



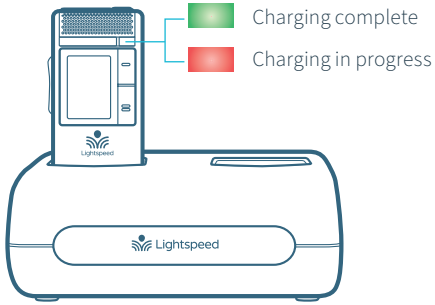
ATTACH LANYARD

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.



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.

Daily Use of the Clearmike

1. **AT THE START OF THE DAY, REMOVE CLEARMIKE FROM THE CHARGER**
   - The microphone will default to the Mute position, the status light will turn to white.
   - Place the microphone around your neck.
   - Press the power/mute button. The light will turn blue, indicating the microphone is active and ready to use.
   - Adjust volume with the UP/DOWN buttons if necessary.
   - If Clearmike needs to be powered down for some time, press and hold the power button. To power Clearmike again, press and hold the power button until the LED lights.
2. **PRIVATE CONVERSATIONS**
   - Mute the Clearmike during private conversations by momentarily pressing the power button. When muted, the blue light turns white.
   - When conversation is over, momentarily press the power button again to unmute the Clearmike.
3. **END OF DAY**
   - Place the Clearmike into the cradle charger and make sure the Power Supply is plugged in to an electrical outlet.
   - The Clearmike will stay powered on during charging, but will automatically be muted.
   - It is not necessary to turn off Redcat at end of day, but you may do so by pressing the power button on the side panel.
   - If you do want to power it down, when Clearmike is removed from charging the next day, it will automatically power Redcat on.

TIPS TO OBTAIN OPTIMUM AUDIO PERFORMANCE

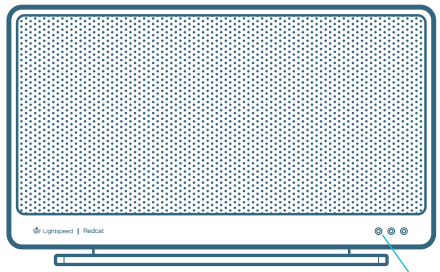
- Speak in a natural voice. A normal conversational speech level will provide an adequate signal. It is not necessary to increase the intensity of your voice—the audio system provides adequate amplification (approximately 5 – 10 dB) above ambient room noises.
- Avoid wearing jewelry that may rub or bump against the microphone.
- Mute the Clearmike, with a momentary press of the power button, during private conversations with a student, parent, or other classroom visitor. An additional momentary press of the power button will unmute the Clearmike.
- Recharge microphone(s) each night. When recharged nightly, the microphone will last through a typical school day.

Pairing your Clearmike

Your system is shipped with microphones and base units pre-paired for quick and easy use.

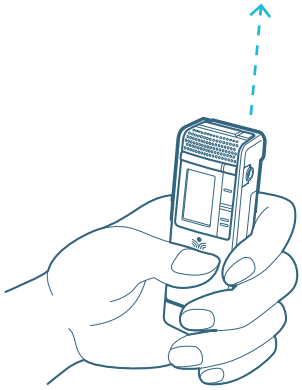
If for any reason you need to pair new components, follow this pairing process:

PLEASE NOTE: All microphones must be out of the charger while pairing.



1

With the Clearmike powered off, point the IR transmitter lens toward the Redcat.

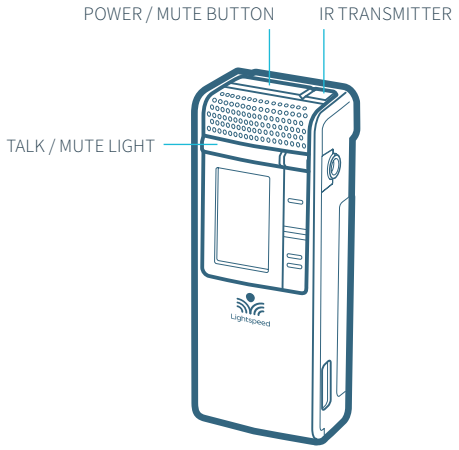


2

Press and hold the Power/Mute button for 5 seconds until the Talk/Mute light starts flashing blue and white. The Status light on the Redcat will also start flashing blue and white.

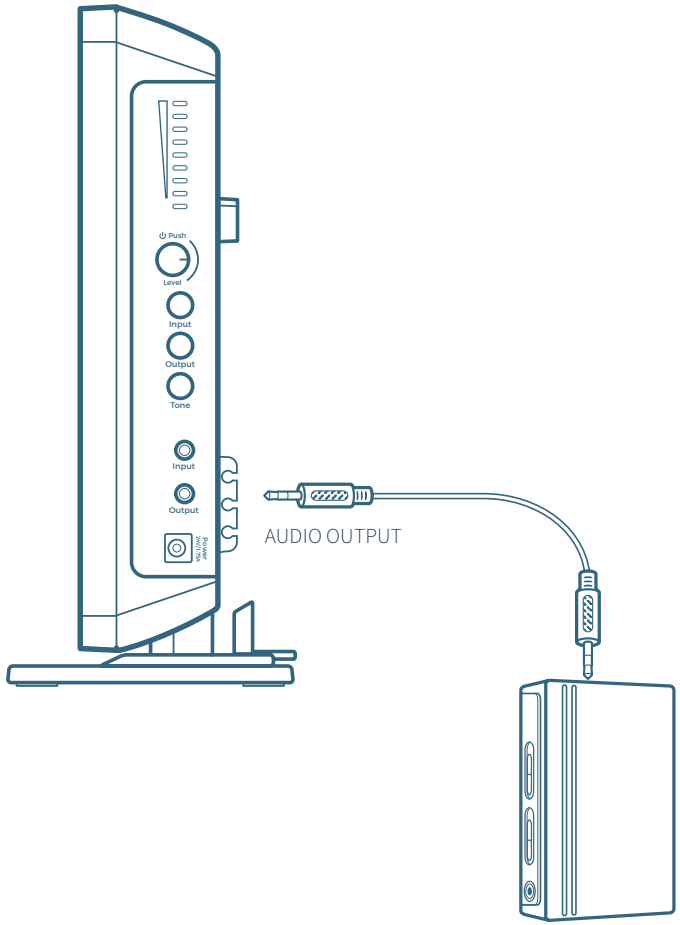
3

When complete, the Status light on the Redcat will turn blue, the Talk/Mute light on the microphone will be white, and the display on the microphone will say “Pair Success”.



Output to Assistive Listening Device (ALD)

1. Turn the ALD (Assistive Listening Device) volume control on Redcat side panel counterclockwise all way the down.
2. Determine the size and type of audio input jack on the device as many manufacturers' products differ in connector size and shape. Many personal FM transmitters require a 3.5mm to 3.5mm patch cable (part# MSC3535, not included).
3. Connect a patch cable from the ALD's microphone jack or AUX input to the 3.5mm audio jack labeled "ALD OUT" on the side of Redcat.
4. With Redcat and ALD turned on, speak into the Clearmike and slowly adjust the ALD volume control until the appropriate audio level is attained in the ALD's receiver headphones.
5. It may be necessary to also adjust the volume on the Personal FM receiver to achieve appropriate volume level.



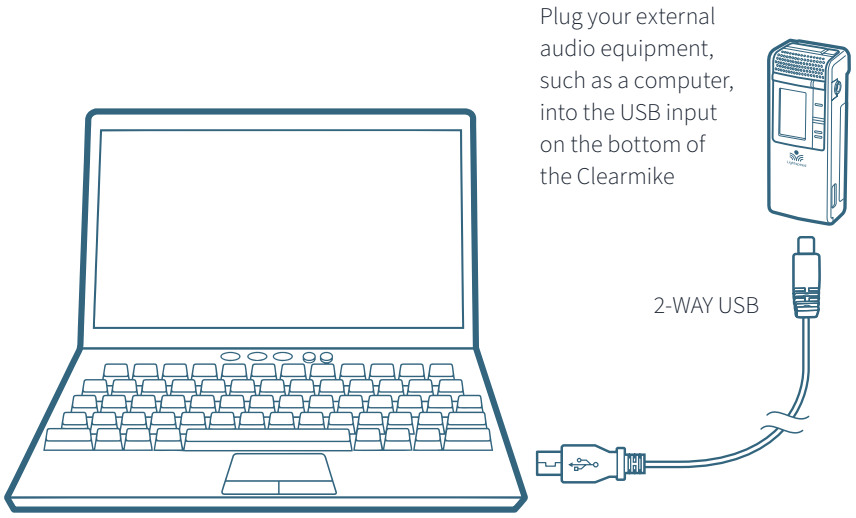
Using Your Microphone as a Wireless Audio Link

You can connect your 2nd (or 3rd) microphone to your computer's USB port to enable a wireless 2-way audio link.

SEND AUDIO FROM THE COMPUTER to Redcat to ensure all audio from the computer (videos, video conferencing, audio books, music, etc.) can be played.

SEND AUDIO TO THE COMPUTER from Redcat to ensure the teacher's Clearmike and any student microphones are clearly picked up by a video conferencing solution.

1. With the appropriate USB cable (USB-C for Clearmike/Sharemike) connect your microphone to your computer's USB port.
   This will also power/charge your microphone.
2. Open sound settings on your computer:
   - Select Lightspeed Audio as the Output source to send all computer audio to Redcat system
   - Select Lightspeed Audio as the Input source to use the Lightspeed microphones as the computer microphone audio for video conferencing and recording applications.
3. You may also need to select Lightspeed Audio as the speaker and microphone audio in your video conferencing application the first time you use it.

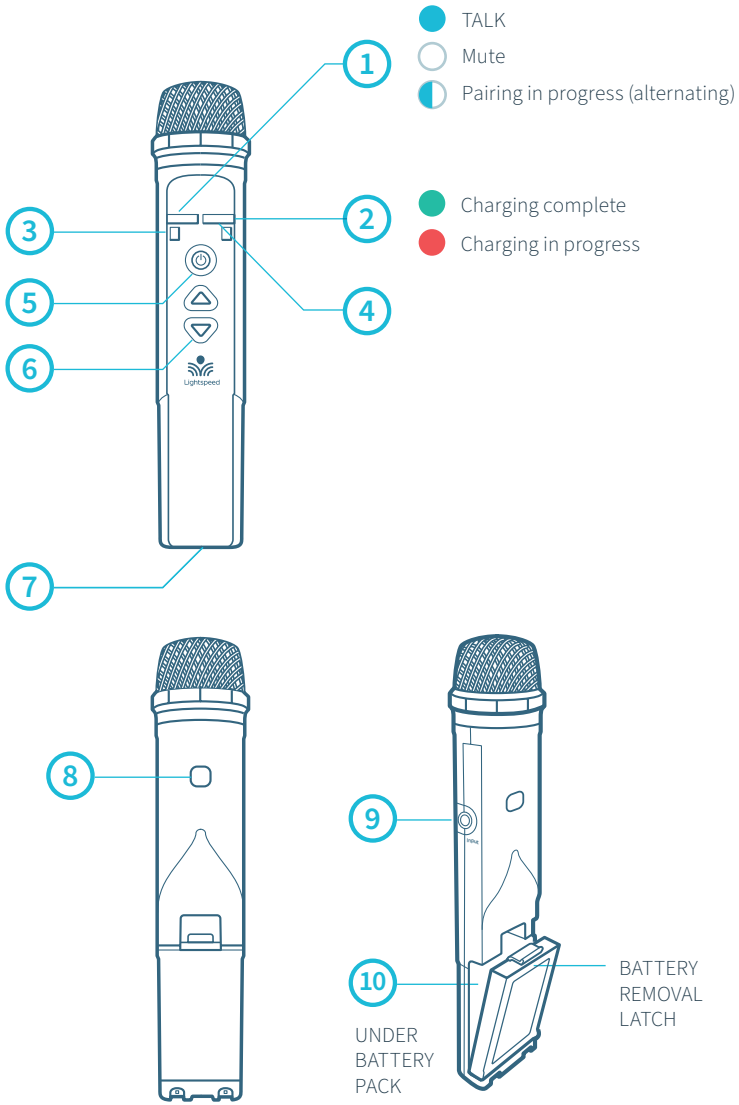


TIP: If your system includes two Clearmikes, you can use one mic for instruction and the second mic to transmit audio through the system.

Sharemike Controls and Connections

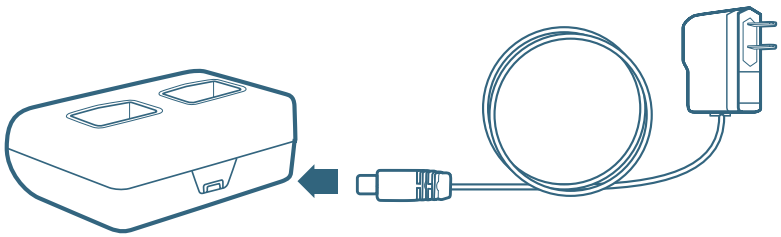
1. **MUTE/TALK STATUS LIGHT**
   Blue: solid = Talk
   White: solid = Mute
   Blue/White alternating = Pairing in process
2. **POWER STATUS LIGHT**
   Blinking red light: During operation, turns red to indicate low battery.
   Green light: Normal operation, microphone is powered on.
   Amber light: Paired as a T3 Microphone, microphone is powered on.

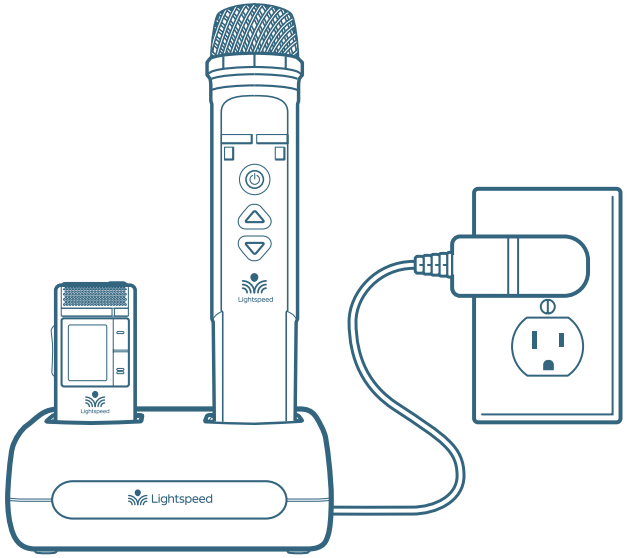
   WHEN CHARGING IN CRADLE CHARGER:
   Red light: Charging
   Green light: Charging complete
3. **MIC 1 STATUS:** Lighted to indicate microphone is registered as Mic 1
4. **MIC 2 STATUS:** Lighted to indicate microphone is registered as Mic 2
   Mic 1 / Mic 2 both white: Microphone is registered as Mic 3
5. **POWER BUTTON**
6. **MICROPHONE VOLUME UP/DOWN**
7. **USB INPUT:** Connect audio source to send to Redcat.
   USB input can also be used for charging.
8. **IR TRANSMITTER:** For pairing to base unit
9. **AUDIO INPUT:** Plug a laptop or other audio device into this jack to wirelessly transmit the audio signal to be played through the system.
10. **VOLUME LOCK:** Disables volume controls.



Sharemike: Charging

1. Make sure the charger is plugged into a wall outlet.
2. The power status light on the microphone will glow red to indicate charging.
3. Leave the Sharemike in the charger overnight to obtain a full charge. It takes about 5-6 hours to fully charge the battery. The light will turn green when charging is complete.

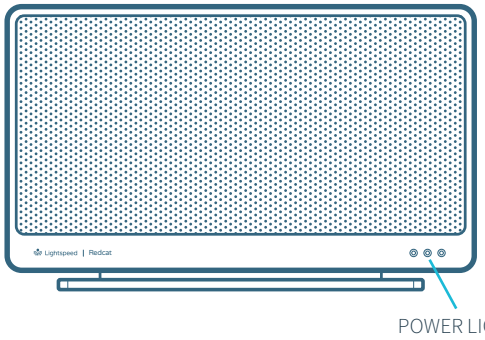


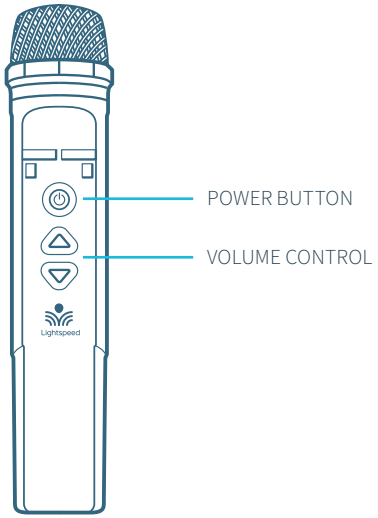


PLEASE NOTE: The Redcat and microphone(s) are paired together at the factory and all components should be kept together as a system. Moving them from one system, or room, to another will result in the need to re-pair.

Sharemike: Initial Set-Up

1. Ensure Redcat is on. The white power light will glow.
2. Turn on the Sharemike by pressing and holding the power button until the LED lights.
3. While speaking in a normal voice, increase the volume with the Sharemike until your voice is barely audible.



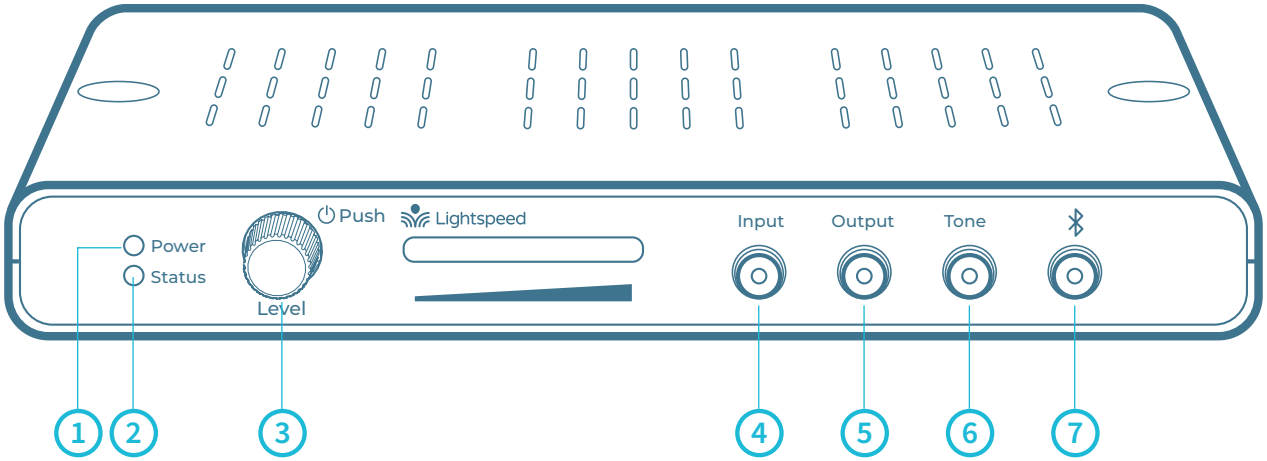


PLEASE NOTE: This equipment is designed to supplement and distribute the user's voice so they are able to speak in a conversational tone. Having the volume set too high will result in feedback and listener fatigue.

Media Connector Controls and Indicators

FRONT PANEL

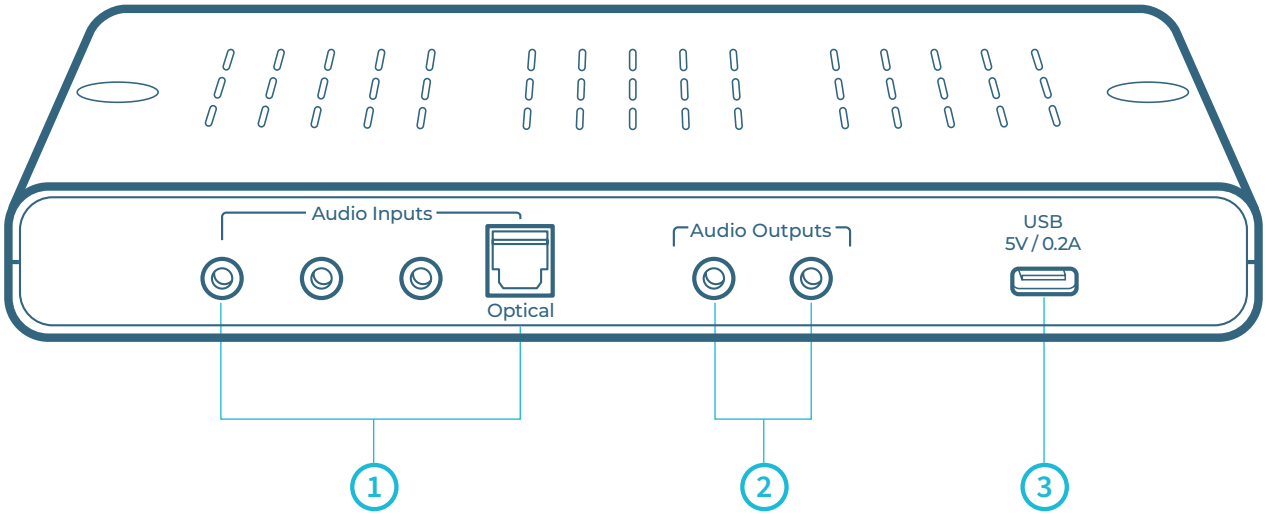
1. **POWER LIGHT**
   White light: Power on
2. **STATUS LIGHT:** Media Connector link and pair indicators.
   Solid white: Media Connector is paired to the system
   Off: Media Connector is not paired to the system
3. **POWER BUTTON / VOLUME ADJUSTMENT:** Press and hold this button to turn the system power on or off. This also functions as an adjustment knob for the volume and tone of the paired Redcat depending on the mode selected (see 4, 5, 6 below)
4. **AUDIO INPUT VOLUME SELECTOR:** Selects Audio Input as the mode for the adjustment knob (2) for the audio sources connected to the audio inputs on the back of the Media Connector.
5. **AUDIO OUTPUT VOLUME SELECTOR:** Selects Audio Output as the mode for the adjustment knob (3) for the audio devices connected to the audio outputs on the back of the Media Connector.
6. **TONE SELECTOR:** Selects Tone as the mode for the adjustment knob (2) for the microphone. This adjusts the bass or treble that is heard through the classroom speaker.
7. **BLUETOOTH:** Press and hold button for 5 seconds to initiate Bluetooth pairing. While paired, the button light will glow blue.



Media Connector Controls and Indicators

BACK PANEL

1. **AUDIO INPUTS:** Three analog 3.5mm stereo connectors and one digital optical connector for connecting classroom audio sources to be played through audio system.
2. **AUDIO OUTPUTS:** 3.5mm stereo connectors for connecting to an assisted listening device (ALD) or to a computer for recording.
3. **USB INPUT:** Plug the USB-C end of the power cable into this USB port on the Media Connector.
    - The USB port supplies power to Media Connector when connected to the Media Connector power supply, or from a laptop.
    - It also acts as an input for a digital audio when connected to an audio source. Note that when the USB is used for audio input, the other four audio input jacks are not operational.



Media Connector Set Up and Operation

DETERMINE LOCATION

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

WALL-MOUNT OR DESKTOP

The Media Connector can be placed on a table surface or wall-mounted.

- Choose a location that is convenient to the classroom audio sources and power supply.
- It should be located 3-6 feet off of the floor to allow for good transmission.
- Do not enclose in a metal cabinet or in a location where the signal will be obstructed.

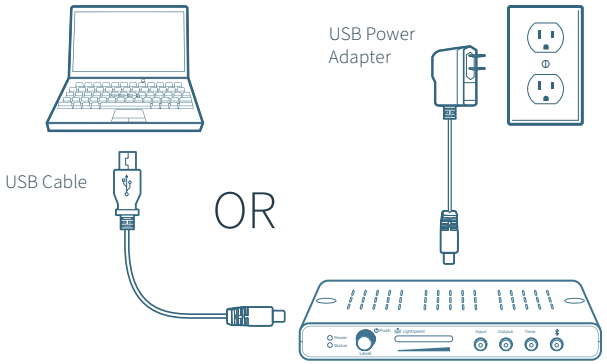
NOTE: The Media Connector does not require a direct line of sight to the Redcat. However it functions best when no obstructions are between the two devices.

CONNECT TO POWER

Connect the USB power cord to a computer.
Plug the USB cable into the USB input on the back of the Media Connector.

OR

Use the USB power adapter to plug into a wall outlet.



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 Redcat to ensure all audio can be played through the Topcat speaker.

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

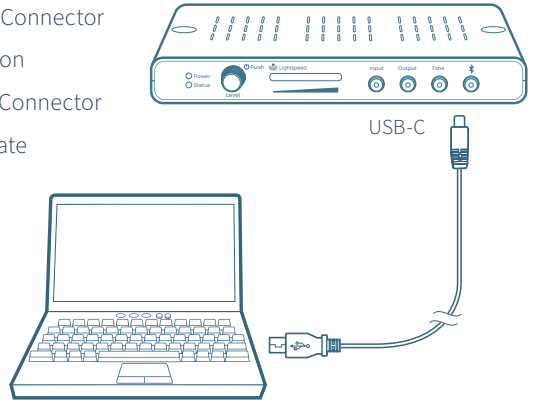
DISABLE/ENABLE USB Audio

To disable USB Audio and use computer USB for power only

- Unplug USB cable from Media Connector
- Press and hold Audio Output button
- Plug USB cable back to Media Connector
- Status light turns white to indicate USB disabled
- Release Audio Output button and system will reboot with disabled USB-C audio
- Analog Audio Inputs are now active

To enable USB Audio on your Media Connector

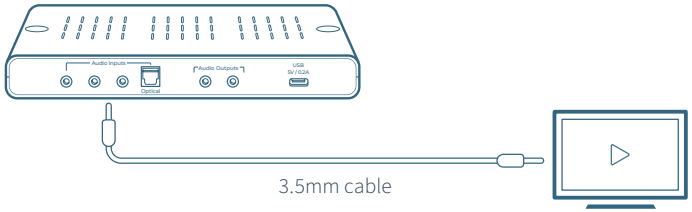
- Unplug USB cable from Media Connector
- Press and hold Audio Out button
- Plug USB cable back to Media Connector
- Status light turns blue to indicate USB-C is enabled
- Release Audio Out button and system will reboot with enabled USB-C audio
- Analog Audio Inputs are now inactive



Analog Audio

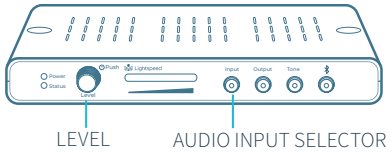
Plug your external audio equipment (e.g., video display) into one of the Audio input jacks.

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



Computer settings

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



SETTING THE VOLUME LEVELS

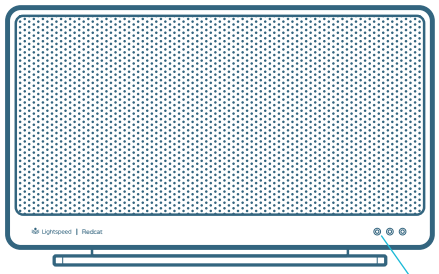
For recording, or to interface with an Assistive Listening Device, connect a 3.5mm cable to the Audio Output of the Media Connector to the microphone input on the device. Press the button for the desired level adjustment.

- Turn the knob to adjust volumes up or down for Audio Input/Output
- To adjust the Tone (bass/treble) of the speaker, press Tone and use the adjustment knob to turn the bass up and down

Pairing Redcat to Media Connector

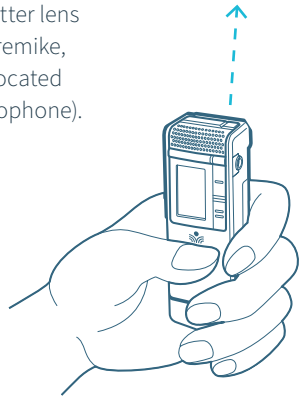
Your system is shipped with microphones and base units pre-paired for quick and easy use. If, for any reason, you need to pair new components, follow this pairing process:

PLEASE NOTE: Microphones should be out of the charger while pairing.



1

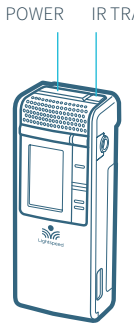
With the microphone turned on, point the IR transmitter lens toward Redcat (for Sharemike, the transmitter lens is located on the back of the microphone).



2

Press and hold the Clearmike power button for 5 seconds until the status light on Redcat starts flashing, then release the button. At this point, the status light on Redcat will blink for 30 seconds.

If after 30 seconds the status light blinks rapidly, you will need to start the pairing process again.



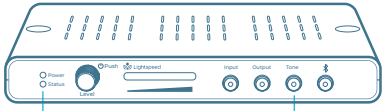
CLEARMIKE

3

On the Media Connector, press and hold the Tone Selector button for 5 seconds to put it into pairing mode.

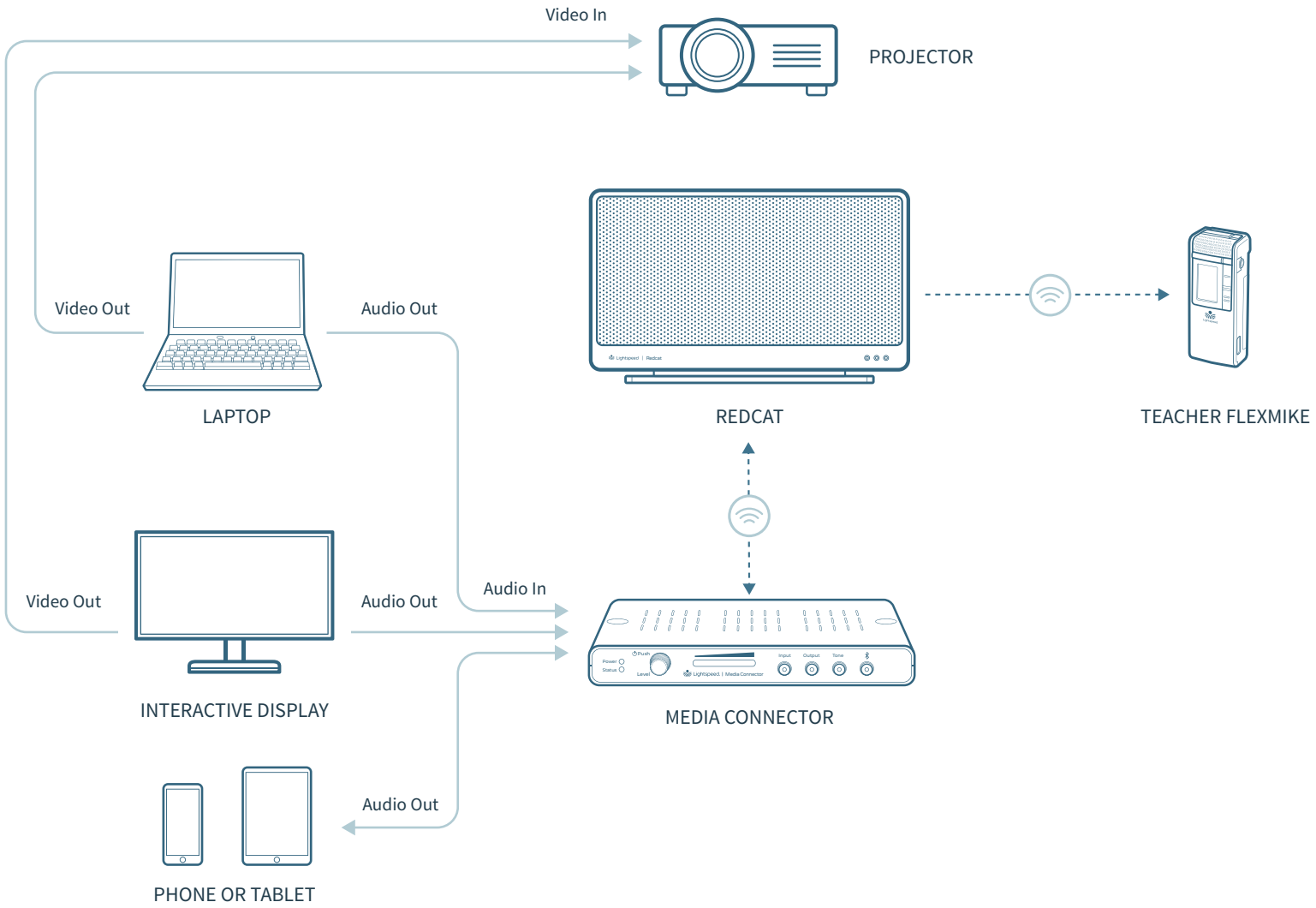
When the status lights are solid on both Redcat and Media Connector, pairing is successful.

MEDIA CONNECTOR



Audio Integration with Media Connector

The Media Connector is designed to integrate multiple audio sources quickly and easily.

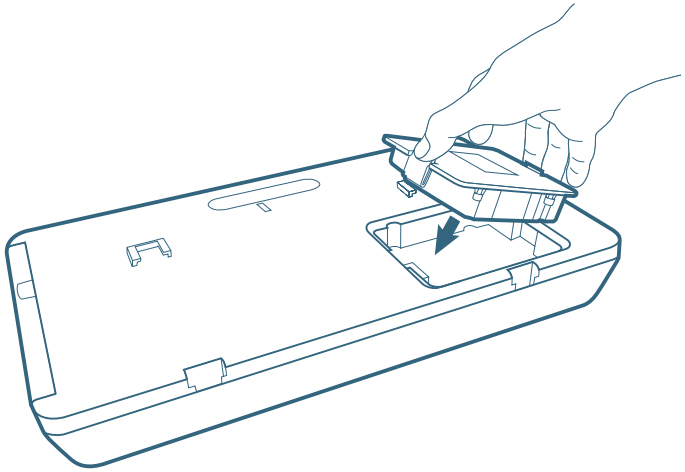


Lightspeed Access transmission protocol

Battery Pack for Redcat

ADDING A BATTERY PACK TO REDCAT (PART # L14V)

1. Find and open the battery compartment by squeezing together the tabs located on each side of the compartment door. Remove and recycle door.
2. Place the battery pack into the compartment by squeezing together the tabs on either side of the battery pack and inserting it into the compartment. Match the connection on the battery pack with the connection in the battery compartment on the back of Redcat.
3. Ensure that the battery pack snaps firmly into Redcat.
4. Redcat will automatically power on when battery pack is inserted properly.
5. If Redcat has been powered down, press the ON/OFF button to power on the unit. The front panel POWER light will glow blue.



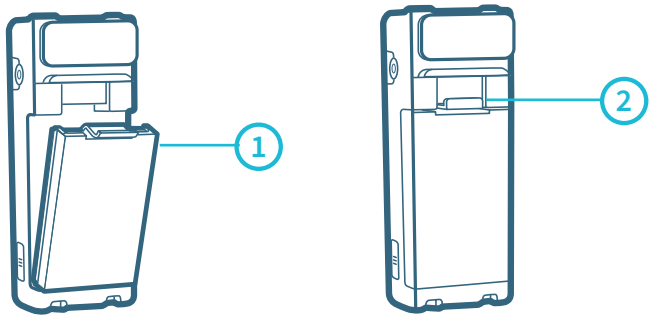
USING REDCAT WITH BATTERY PACK

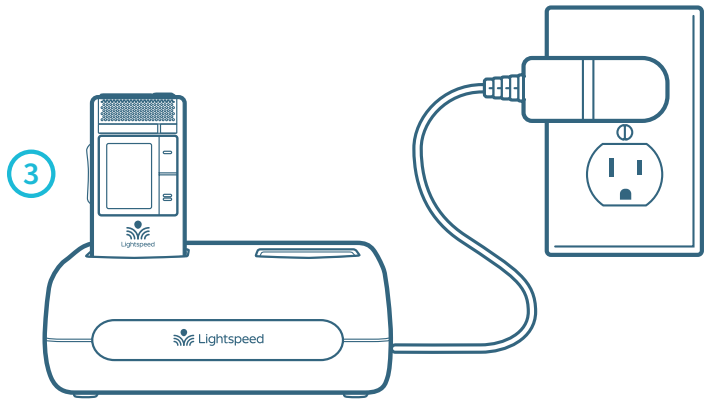
1. When Redcat is in use with the battery pack, the POWER light will blink red if battery is low.
2. Charge battery pack by plugging Redcat into the 24V / 1.75A power supply.
    - If Redcat is turned on, the POWER light will turn red for two seconds when power supply is first plugged in, and then turn solid white.
    - The POWER light will be solid red while charging if Redcat is turned off. The light will turn green when charging is complete.
3. Redcat will continue to operate while battery pack is being charged.
4. When Redcat is being charged while turned on, you can check charging status by pressing the ON/OFF button. The POWER LED will glow green for a fully charged battery and red to indicate more charge is necessary. The ON/OFF button must be pressed again to turn Redcat back on.
5. When Redcat is powered by the battery pack only, it can be turned off completely by pushing the ON/OFF button. To help maintain battery life, it will automatically turn off after two hours of inactivity.
6. When Redcat is powered by battery pack only, it cannot be turned on again by Clearmike, Sharemike, Activate Station or Media Connector. The ON/OFF button must be pushed.
7. It is not necessary to unplug the power supply for every day use.

Clearmike Battery Replacement

Battery part #L3.7V

1. Push down on the latch and carefully pull the battery pack away from the Clearmike.
2. Insert new battery pack as shown and make sure the latch is secure.
3. Place the Clearmike in a cradle charger to charge the battery pack.

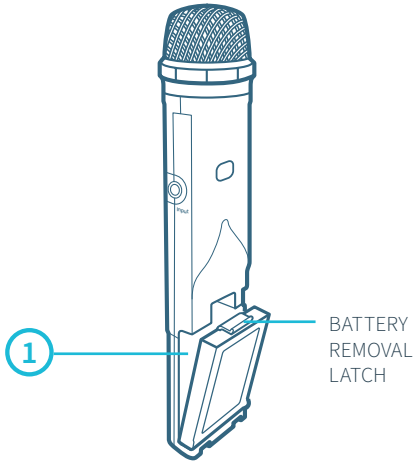


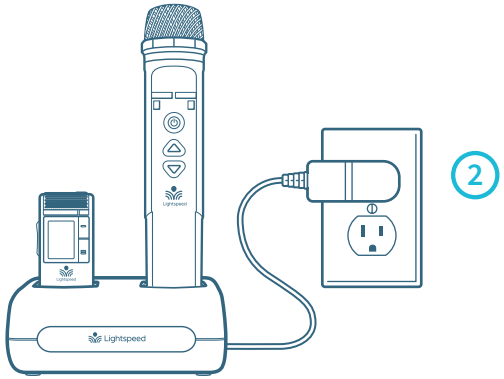


Sharemike Battery Replacement

Battery part #L3.7V

1. Push down on the latch and carefully pull the battery pack away from the Sharemike.
2. Insert new battery pack as shown and make sure the latch is secure.
3. Place the Sharemike in a cradle charger to charge the battery pack.



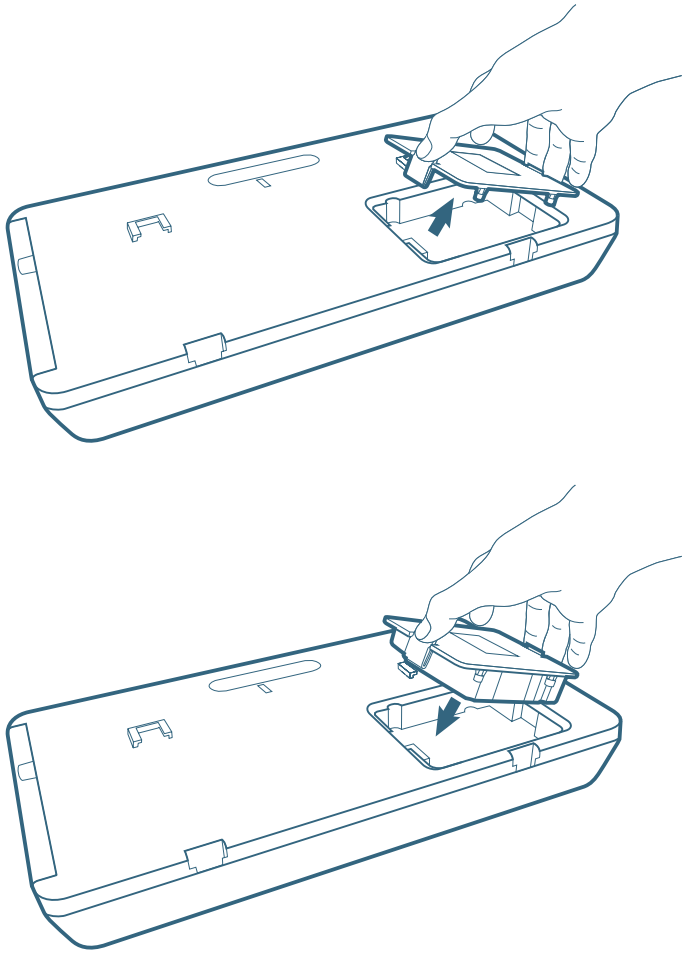


Redcat Battery Replacement

Remplacement de la batterie Redcat

BATTERY PART # L14V

1. Find and remove the battery pack on the back of Redcat by pinching the tabs located on each side of the battery pack.
   Localisez et retirez le bloc-batterie situé à l'arrière du Redcat en pinçant les languettes situées de chaque côté du bloc-batterie.
2. Place the new battery pack into the compartment by pinching the tabs on either side of the battery pack and inserting it into the compartment. Ensure that the connection on the battery pack matches up with the connection on the back of Redcat.
   Insérez le nouveau bloc-batterie dans son compartiment en pinçant les languettes situées de chaque côté du bloc-batterie et en l'insérant dans le compartiment. Assurez-vous que le connecteur de la batterie corresponde au connecteur situé à l'arrière du Redcat.
3. Ensure that the battery pack snaps into Redcat.
   Assurez-vous que le bloc-batterie s'enclenche correctement dans le Redcat.
4. Redcat will automatically power on when battery pack is inserted properly.
   Le Redcat s'allumera automatiquement lorsque la batterie sera correctement insérée.
5. Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.
   Jetez la pile usagée sans tarder. Tenir hors de portée des enfants. Ne pas démonter et ne pas jeter au feu.



Troubleshooting

PROBLEM: Low battery indication: Most problems are directly related to low battery power. Please run through the "Battery Check" items first. For remaining troubleshooting, use known good, fully-charged batteries.

SOLUTION: Battery Check

- Confirm batteries are charged each night. A solid red light on the battery status light indicates a low battery.
- Confirm proper batteries are used: Clearmike and Sharemike require the Lightspeed #L3.7V rechargeable battery pack.
- Make sure the microphones obtain a full charge. A full charge takes 5-6 hours.
- When charging the transmitter, the red charging light is solid. The green light will be solid when a full charge is reached.

PROBLEM: Microphone doesn't indicate a "Ready" signal (solid white light)

SOLUTION: Follow these steps to ensure the system is ready to use.

- Ensure the power button on the microphone is turned on. Once turned on, the white light should begin blinking.
- Power the microphone off, then on again after a few seconds. Wait for up to 30 seconds for the white light to turn solid, indicating READY for operation.

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

PROBLEM: Low volume or feedback

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

- If the volume is too high, feedback will occur. Adjust accordingly.
- Adjust the volume level on the Clearmike.

PROBLEM: No Sound From Amplifier.

SOLUTION: Follow these steps to produce sound from Redcat.

- Confirm that the blue POWER light located on the front panel of Redcat is on.
- Confirm that microphone is not muted. A solid white light on the top of microphone will indicate it is muted.
- Check volume level of Redcat. Make sure that the microphone volume level on Redcat, or the Media Connector if present, is not turned down all the way. Slowly turn up the volume level while talking into the microphone.
- If using the optional L14V battery pack, make sure the battery pack is fully charged. The power light on the front on Redcat should be solid blue.

Five-Year Limited Warranty

Lightspeed Classroom Audio Systems are guaranteed against malfunction due to defects in materials and workmanship for a period of five (5) years, beginning at the date of the purchase invoice. If such malfunction occurs, the product will be repaired or replaced (at Lightspeed's option) without charge during the warranty period.

Lightspeed's Warranty Exchange Program applies to all classroom audio systems within the five (5) year warranty period. If a classroom audio product or component has an issue that requires service, a refurbished replacement will immediately be sent to the customer to minimize downtime. Customers will receive the exchange product(s) or component(s) within 2-3 days. A prepaid return label will be included with exchanged products so original malfunctioned equipment can be returned to Lightspeed. Any exchanged equipment will remain covered under the original five-year warranty.

1. Warranty on the Redcat is five (5) years.
2. Warranty on Lightspeed NiMH and Lithium Polymer rechargeable batteries is one (1) year.
3. A prepaid shipping label will be provided by Lightspeed for warranty repairs within the United States. Customers outside the U.S. should refer to the Lightspeed website (www.lightspeed-tek.com) for warranty repair instructions.
4. Warranty does not extend to finish, appearance items, or malfunctions due to abuse or operation other than specified conditions, nor does it extend to incidental or consequential damages. Repair by other than Lightspeed or its authorized service agencies will void this warranty. Information on authorized service agencies is available from Lightspeed Technologies, Inc.

Our Service Department (800.732.8999, 5am–5pm, PST) will handle your repair or replacement needs.

Customers outside the U.S. should contact their local reseller.

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.

CAUTION: The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above 35 degrees C, or incinerate. Replace battery with Lightspeed Part Number L14V only. Use of another battery may present a risk of fire or explosion.

WARNING: Battery pack shall not be exposed to excessive heat such as sunshine, fire or the like. (1) The battery pack is not serviceable. Do not open, disassemble, or service any battery pack. (2) Do not crush or cut or puncture the internal battery cell. (3) Do not short-circuit the battery, or expose it to water or other liquids. (4) Do not touch the internal battery cell for any reason. (5) Keep the battery away from fire or a hot oven. Do not dispose of the battery into fire or a hot oven. (6) Keep the product with battery away from extremely low air pressure or high temperature surrounding environment. Battery subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas. (7) Stop using the battery pack if it is damaged, or if you notice any discharge or the buildup of foreign materials on the battery contacts. (8) Do not put the battery in trash that is disposed of in landfills. When disposing of the battery pack, comply with local ordinances or regulations. CAUTION: Risk of explosion if battery is replaced by any battery other than Lightspeed Part # L3.7V

Wall mount using #8 screws with a minimum head diameter of 0.3 inches, in all four mounting holes.

Use only with one of these power supplies:

Manufacturer	Model
Dee Van Enterprise Co Ltd (Lightspeed)	DSA-60PFG-24 1 240250
GlobTek, Inc.	GTM96600-6024-T3
GlobTek, Inc.	GTM96600-6524-T3
Dee Van Enterprise Co Ltd (Lightspeed)	DSA-42PFB-24

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: 2004/108/EC Electromagnetic Compatibility (EMC) and 2006/95/EC Low Voltage Directive (LVD).

Lightspeed Technologies launched a formal product recycle program in Europe that complies with the European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment ("WEEE Directive"). Please visit 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.

AVERTISSEMENT La batterie utilisée dans cet appareil peut présenter un risque d'incendie ou de brûlure chimique en cas de mauvaise manipulation. Ne pas démonter, ne pas chauffer à plus de 35 degrés Celsius et ne pas incinérer. Remplacez la batterie uniquement par une batterie Lightspeed portant la référence L14V. L'utilisation d'une autre batterie peut présenter un risque d'incendie ou d'explosion.

AVERTISSEMENT: La batterie ne doit pas être exposée à une chaleur excessive telle que le soleil, le feu ou similaire. (1) La batterie n'est pas réparable. N'ouvrez, ne démontez et n'entretenez aucun blocpiles. (2) Ne pas écraser, couper ou percer la cellule de batterie interne. (3) Ne court-circuitez pas la batterie et ne l'exposez pas à l'eau ou à d'autres liquides. (4) Ne touchez pas la cellule de la batterie interne pour quelque raison que ce soit. (5) Gardez la batterie à l'écart du feu ou d'un four chaud. Ne jetez pas la batterie au feu ou dans un four chaud. (6) Gardez le produit avec la batterie à l'écart d'une pression d'air extrêmement basse ou d'un environnement à haute température. Une batterie soumise à une pression d'air extrêmement faible peut provoquer une explosion ou une fuite de liquide ou de gaz inflammable. (7) Arrêtez d'utiliser la batterie si elle est endommagée ou si vous remarquez une décharge ou l'accumulation de corps étrangers sur les contacts de la batterie. (8) Ne jetez pas la batterie dans des ordures qui sont jetées dans des décharges. Lors de la mise au rebut de la batterie, respectez les ordonnances ou réglementations locales. Mise en garde: Risque d'explosion si la batterie est remplacée par une batterie autre que Lightspeed partie #L3.7V.

Montage mural à l'aide de #8 vis avec un diamètre de tête minimum de 0.3 pouces, dans les quatre trous de montage.

À utiliser uniquement avec l'une de ces alimentations :

Fabricant	**Modèle**
Dee Van Enterprise Co Ltd (Lightspeed)	DSA-60PFG-24 1 240250
GlobTek, Inc.	GTM96600-6024-T3
GlobTek, Inc.	GTM96600-6524-T3
Dee Van Enterprise Co Ltd (Lightspeed)	DSA-42PFB-24

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 : 2004/108/EC Electromagnetic Compatibility (EMC) and 2006/95/EC Low Voltage Directive (LVD).

Lightspeed Technologies a lancé un programme de recyclage de produits en Europe conformément à la directive de l'Union Européenne 2002/96/CE 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).

FCC Statements

FCC Statements

NOTE: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: Lightspeed Technologies is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm (8") between the radiator & your body

Canada, Industry Canada (IC) Notices

This device complies with Industry Canada license exempt RSS standard(s). This Class B digital apparatus complies with Canadian ICES-003 and CAN ICES-3(B)/NMB-3(B). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. The IC number for this device is 1732B-LST25. This includes accessories such as the Clearmike (IC 1732B-LSCMT), Sharemike (IC 1732B-LSSMN) and Media Connector (IC 1732B-LSMCN).

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiation source and your body.

RF Radiation Exposure Statement

Your microphone is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by Health Canada and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

Canada, Avis d'Industrie Canada (IC)

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-247.Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement. Le numéro IC de cet appareil est 1732B-LST25. Ceci inclus les accessoires comme le Clearmike (IC 1732B-LSCMT), Sharemike (IC 1732B-LSSMN) et un Media Connector (IC 1732B-LSMCN).

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Déclaration d'exposition aux rayonnements RF

Votre pied de micro est un émetteur-récepteur radio. Il est conçu pour ne pas dépasser les limites d'exposition aux ondes radio (champs électromagnétiques de fréquence radio) recommandées par les directives internationales. Les lignes directrices ont été élaborées par Santé Canada et comprennent une marge de sécurité importante destinée à assurer la sécurité de toutes les personnes, indépendamment de l'âge et de la santé.

EU Declaration of Conformity

According to EU Directives EMC 2014/30/EU, LVD 2014/35/EU, RED 2014/53/EU, RoHS 2011/65/EU

Manufacturer: Lightspeed Technologies, Inc.

Address: 11509 SW Herman Rd.
Tualatin, Oregon 97062

We herewith declare that the following systems comply with the appropriate basic safety and health requirements of the Directive based on its design and type, as brought into circulation by us. In case of alteration of the system, not agreed upon by us, this declaration will lose its validity.

Products: Redcat, Topcat, 975, Access Link, Flexmike, Sharemike, Pod, Activate Station, Media Connector, Mobile PA

Model Numbers: RCN, TCN, 975, ALN, FMN, SMN, POD, ACT, MCN, MPA

As applicable, products conform to the standards listed below:

EN 62368-1:2014

IEC 62133:2012

EN 50385:2017

EN 50566:2017

EN 50663:2017

EN 62479:2010

ETSI EN 301 406 V2.2.2 (2016-09)

ETSI EN 301 489-1 V2.2.3 (2019-11)

ETSI EN 301 489-6 V2.2.1 (2019-04)

EN IEC 63000:2018

The Technical Construction File is available to proper authorities and the product is CE marked.

Lightspeed Representative

Date: December 6, 2022

Michael Frost, Compliance Engineer

EU Declaration of Conformity

In accordance with EU Directive and Regulations

Manufacturer: Lightspeed Technologies, Inc.

Address: 11509 SW Herman Rd.
Tualatin, Oregon 97062

As the manufacturer hereby declares under our sole responsibility that the

Product(s): *Wireless Audio Hub and Microphone*

Model: *Cascadia C25, T25, RCT, MCT, SMT and CMT*

is in conformity with the essential requirements of the RE Directive 2014/53EU:

Radio Article: FCC 47 CFR Part 15D
FCC 47 CFR Part 15C
FCC 47 CFR Part 15B
RSS-213, Issue 3, 2015-03
RSS-Gen, Issue 5, 2018-04
ANSI C63.17 :2013
ANSI C63.4 :2014

Safety Article: IEC 62368-1: 2018

We hereby declare that [all essential radio test suites have been carried out and that] the above-named product is in conformity to all the essential requirement of Directive 2014/53/EU.

Lightspeed Representative

Date: December 1, 2025

Zachary Heise, Technical Program Manager

503.218.1216

zach.heise@lightspeed-tek.com

11509 SW HERMAN RD

Tualatin OR 97062, USA

System Components

STANDARD COMPONENTS

RCT	Wireless audio base station
24V-1.75A-NA	24V/1.75A power supply for Redcat
FSC	Transceiver cradle charger, power supply
5V1C	5V power supply for FSCC
CMT	Clearmike classroom transceiver with battery pack and lanyard
L3.7V	Lithium Polymer rechargeable battery pack for Clearmike, one per Flexmike
FL	Microphone lavaliere cord

STANDARD COMPONENTS (outside U.S. and Canada)

RCTG	Wireless audio base station
24V-1.75A	24V/1.75A power supply for Redcat, specify country
FSC -INT	Transceiver cradle charger, power supply
5V1C -INT	International 5V power supply for FSC
CMTG	Clearmike classroom transceiver with battery pack and lanyard
L3.7V	Lithium Polymer rechargeable battery pack for Clearmike, one per Clearmike
FL	Microphone lavaliere cord

OPTIONAL ACCESSORIES

SMT	Sharemike handheld transceiver with battery pack
L3.7V	Lithium Polymer rechargeable battery pack for Sharemike
USB C	Charging cable for Sharemike
EMA	Earset microphone with TRRS connector for Clearmike
LMA	Lapel microphone with TRRS connector for Clearmike
MCT	Media Connector with Access Technology, power adapter and power cord.

System Specifications

REDCAT

Description	Wireless audio hub
Wireless Communication	Access Technology (1.9 GHz)
Frequency Response	100 Hz – 15 kHz ± 6dB Overall, 150 Hz - 6.5 kHz Wireless
Power Supply Options	24VDC/1.75A
Power Output	40 WRMS total (20 WRMS/channel) with 24VDC supply
Tone Control	Bass/Treble control
Audio Inputs	One (1) 3.5mm input
Audio Output	One (1) 3.5mm output
Max Input/Output Level	1.4VRMS / 1.4VRMS
Total Harmonic Distortion	<1%
Dimensions (W x H x D)	9.0” x 6.1” x 1.2” (229mm x 155mm x 30mm)
Weight	17.5 oz (496g)

CLEARMIKE

Description	Pendant-style transceiver
Earbud Lanyard	Magnetic clasp with integrated earbud
Wireless Communication	Access Technology (1.9 GHz)
Integrated Microphone	Uni-directional electret
Analog Audio I/O	3.5mm TRRS
Digital Audio I/O	USB-C
Control Buttons	Power/mute, volume up/down, alert
Volume Control	+/- 12dB
Total Harmonic Distortion	<1%
Display	E-paper display
Battery Power	3.7V LiPo battery pack
Battery Life	8 hours (fully charged)
Charging	Cradle charger or USB-C
Dimensions (L x W x H)	3.0” x 1.2” x 0.9” (76mm x 30mm x 23mm)
Weight	1.3 oz (37g)

SHAREMIKE

Description	Handheld transceiver
Wireless Communication	Access Technology (1.9 GHz)
Total Harmonic Distortion	<1%
Integrated Microphone	Uni-directional electret
Audio input	3.5mm TRRS
Battery Power	3.7V LiPo battery pack
Battery Life	8 hours (fully charged)
Charging	2 contacts for cradle charging
Power	On/off button
Registration	Push button for registration with Access Link
Dimensions (L x W x H)	6.0” x 1.1” x 1.1” (153 x 28 x 28mm)
Weight	2.6 oz (73g)

MEDIA CONNECTOR

Description	Wireless audio transceiver
USB Power	5V USB-C connector
Wireless Communication	Access Technology (1.9 GHz)
Tone Control	1 bass/treble control
Audio Input	Three (3) 3.5mm inputs, One (1) Toslink digital input, .. Bluetooth
Audio Output	Two (2) 3.5mm outputs
Audio Link Indicator	1 LED on front panel
Device registration	Push button for Access Link
Dimensions (W x H x D)	7.5” x 4.2” x 1.14” (190 x 107 x 29mm)
Weight	8.6 oz. (245g)

Lightspeed™

Dedicated to Access for All

We strive to make a remarkable difference for teachers and students by creating Access to powerful in-the-moment insights to the learning process. Our audio and video solutions improve student engagement, enable teachers to activate small groups, and encourage collaboration.

11509 SW HERMAN ROAD

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