

Redcat®

Instructional Audio System

User Manual





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OVERVIEW

Important Safety Instructions

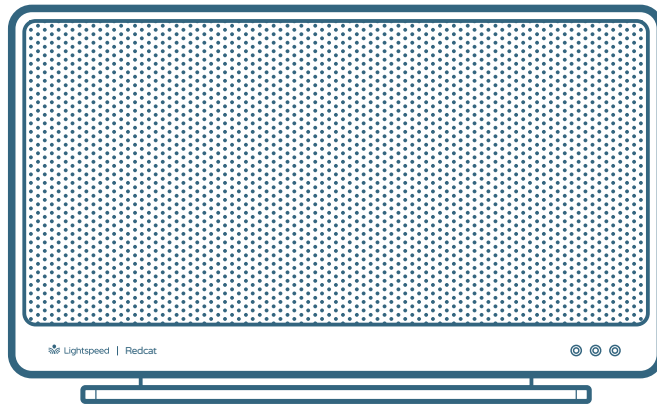
1. Do not use the apparatus near water.
2. Clean only with dry cloth.
3. Do not block any ventilation openings.
4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
5. Do not defeat the safety purpose of the polarized 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



OVERVIEW

System Components and Unpacking

The standard configuration of Redcat will contain:



Redcat

Receiver/Amplifier and Power Supply



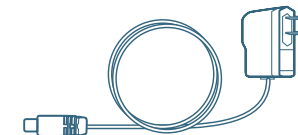
Clearmike

Teacher Microphone



Microphone Cradle Charger

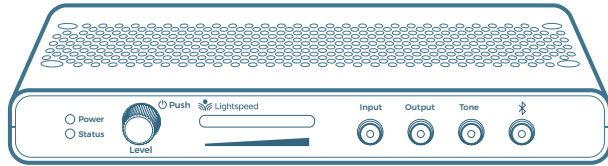
and Power Supply



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.



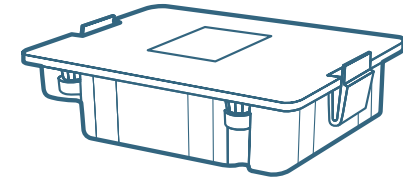
Optional Accessories



Media Connector
with power adapter and cable



ShareMike
Handheld Microphone



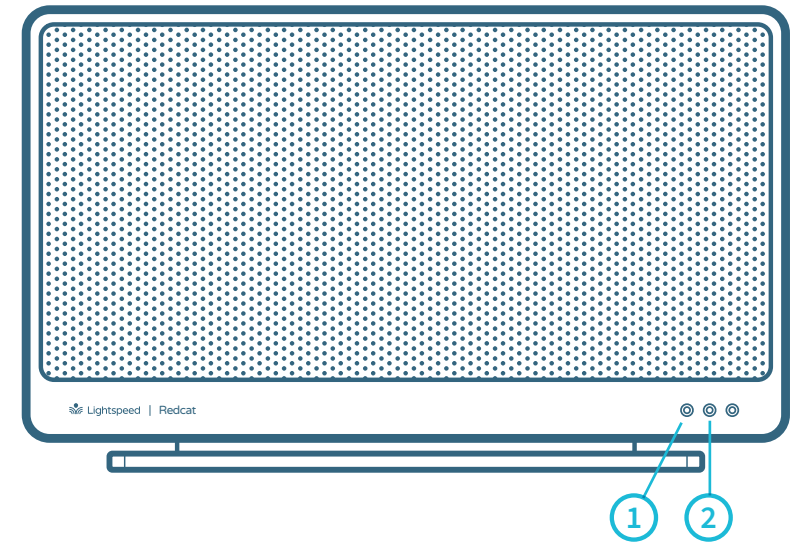
Redcat Battery Pack



Controls and Connections

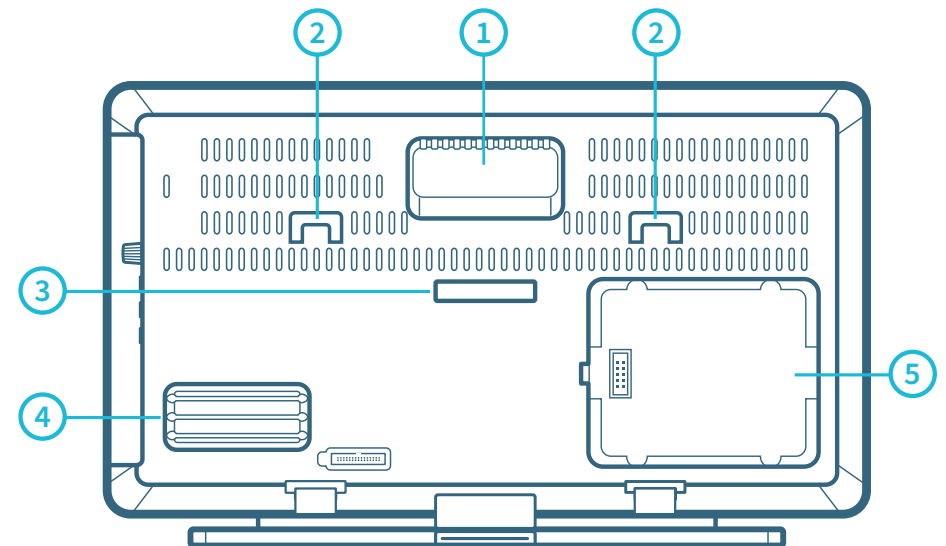
FRONT PANEL

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

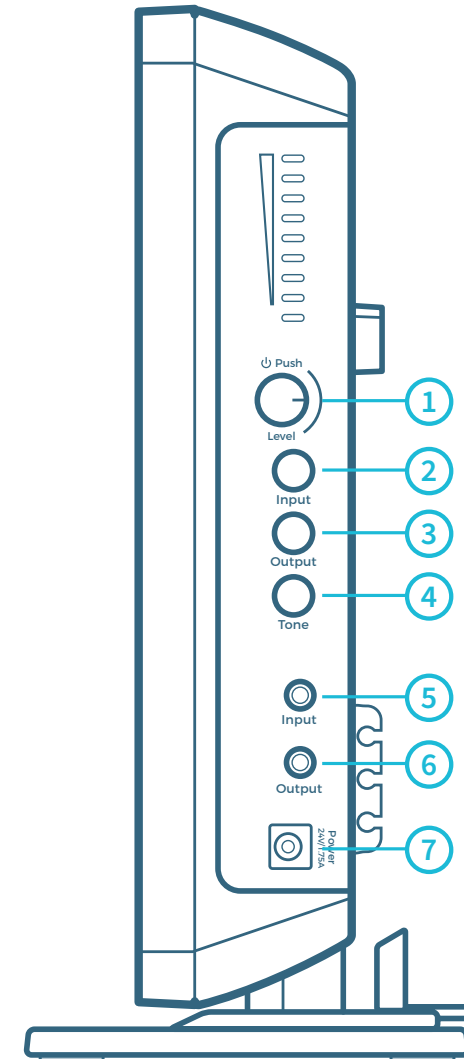
1. **CARRYING HANDLE INSET**
2. **WALL MOUNTING SLOTS**
3. **SECURITY BRACKET SLOT**
4. **CABLE MANAGEMENT AND STRAIN RELIEF**
5. **COMPARTMENT FOR OPTIONAL BATTERY PACK**





Side Panel Controls and Connections

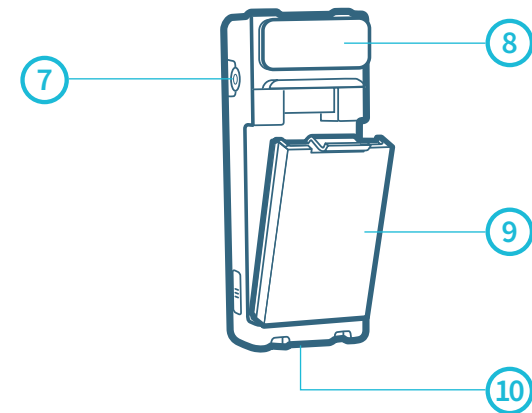
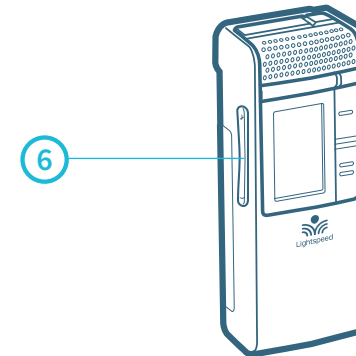
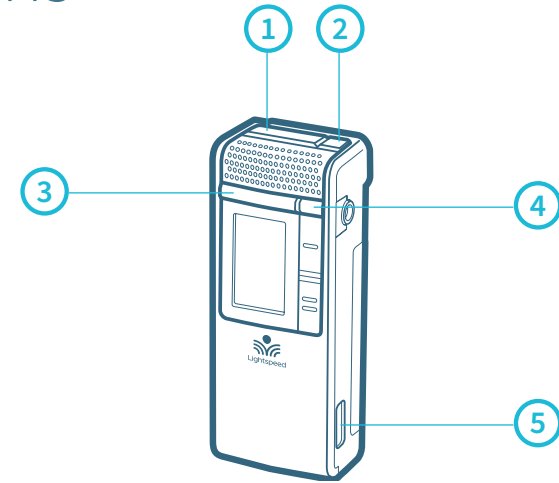
1. **POWER BUTTON / LEVELS ADJUSTMENT:** Press this button to turn the system power on or off. This also functions as an adjustment knob for the volume and tone depending on the mode selected (see 2, 3, 5 below).
2. **AUDIO INPUT VOLUME SELECTOR:** Selects Volume as the mode for the adjustment knob (1) 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.





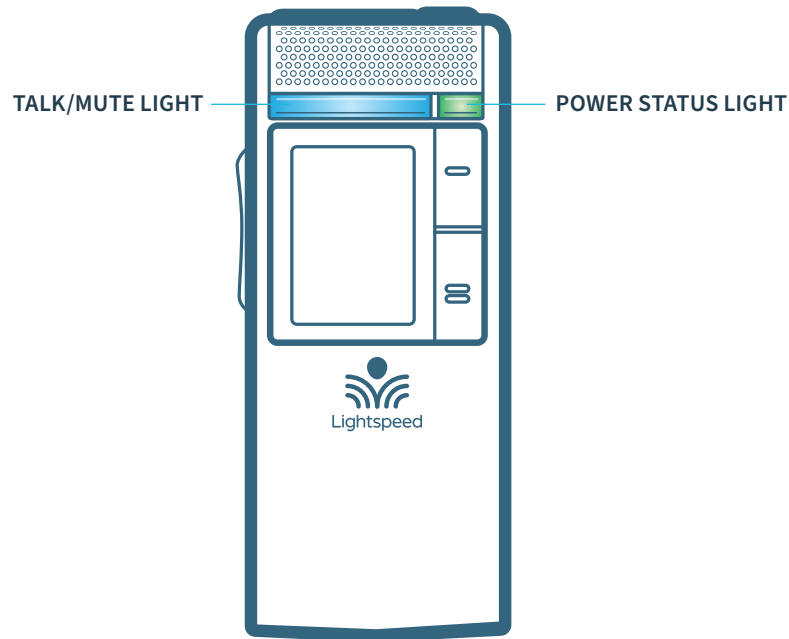
Clearmike Controls and Connections

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

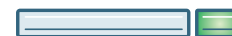


OFF / BLINKING ORANGE: Firmware update in progress

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)

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

DEFAULT SCREEN

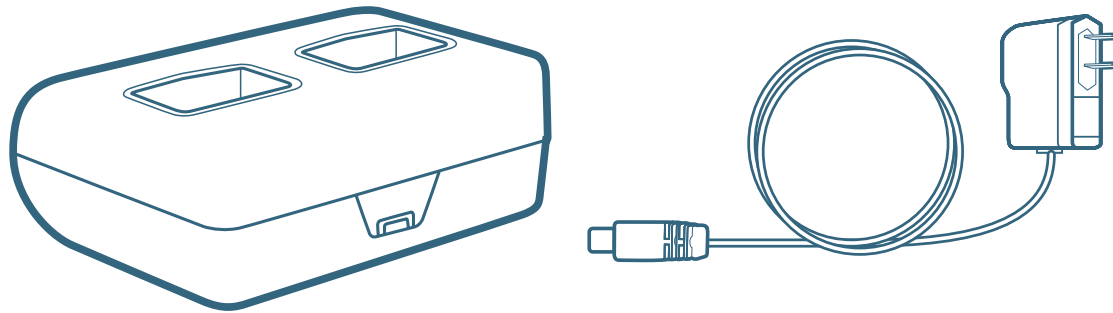




Clearmike/Sharemike Cradle Charger



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





SET-UP & OPERATION

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

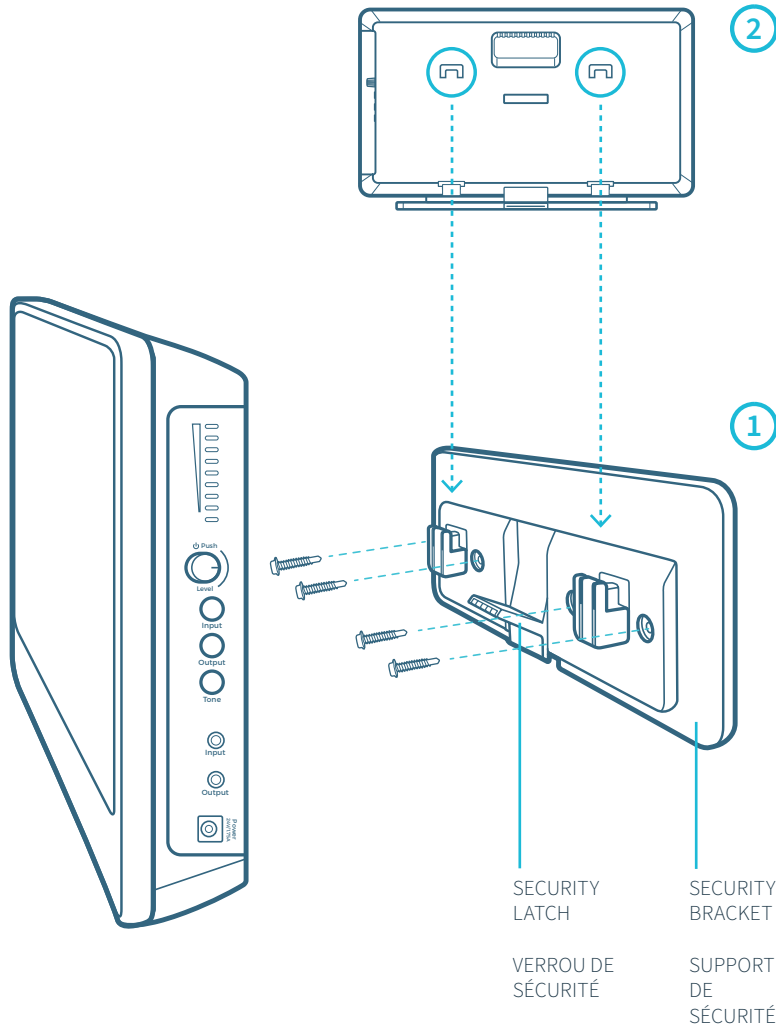
B. MOUNTED ON A WALL

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

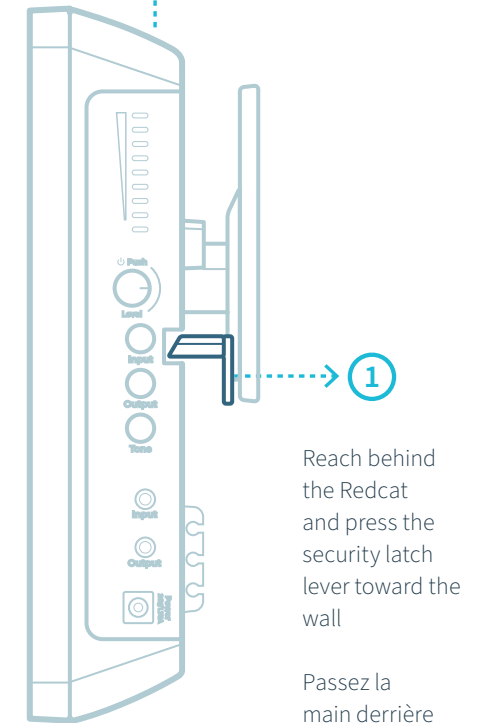
Faites glisser le Redcat sur les points de fixation jusqu'à ce que les languettes à l'arrière soient fermement en place et que le loquet de sécurité s'enclenche à l'arrière du Redcat

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

- 2 Slide the Redcat up
Faites glisser le Redcat vers le haut



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

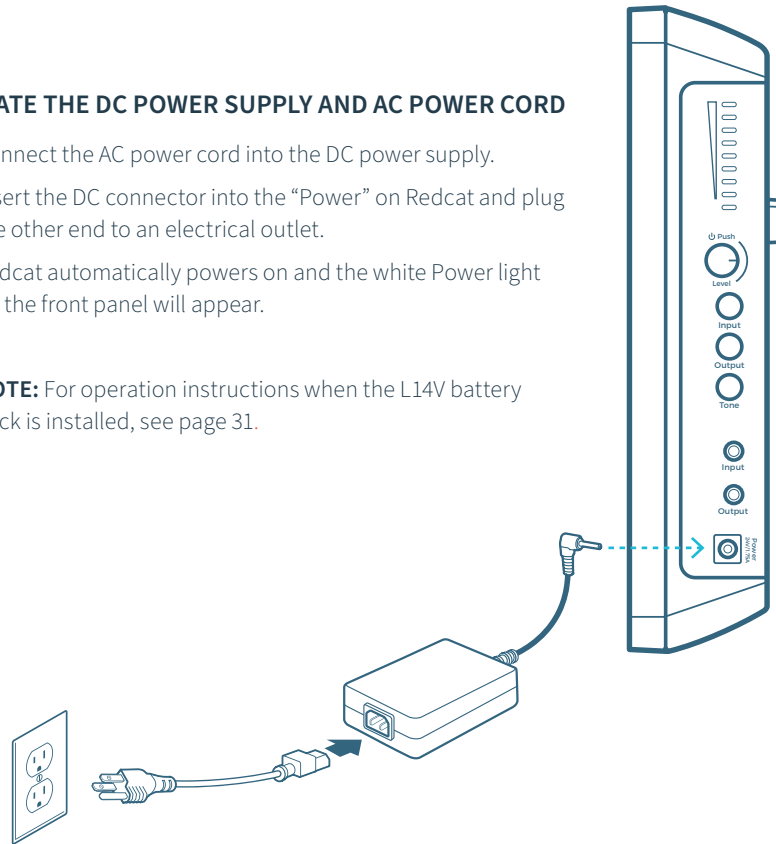


Connecting the Power Supply

LOCATE THE DC POWER SUPPLY AND AC POWER CORD

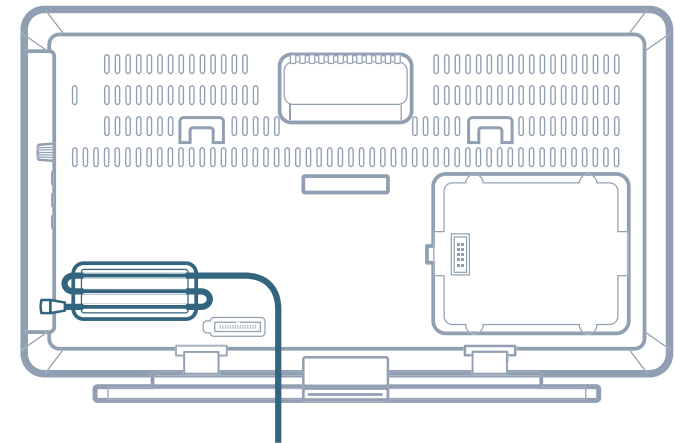
- Connect the AC power cord into the DC power supply.
- Insert the DC connector into the “Power” on Redcat and plug the other end to an electrical outlet.
- Redcat automatically powers on and the white Power light on the front panel will appear.

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.



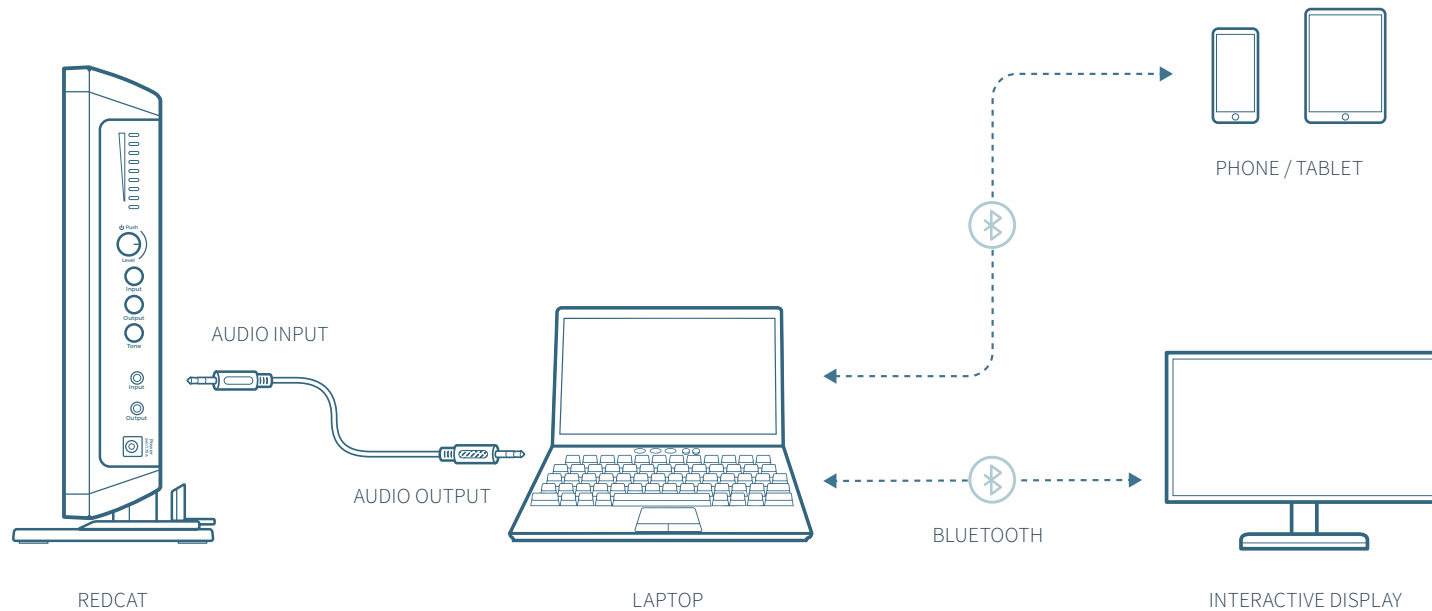


Audio Integration

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.





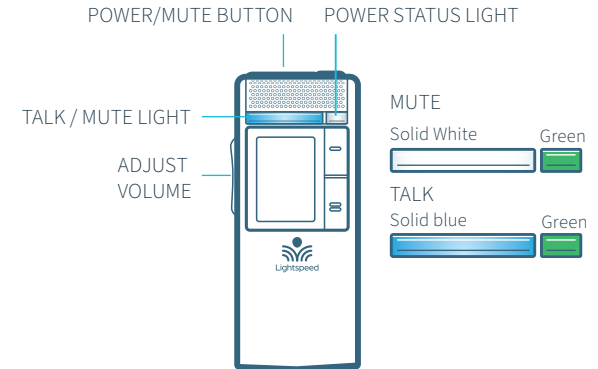
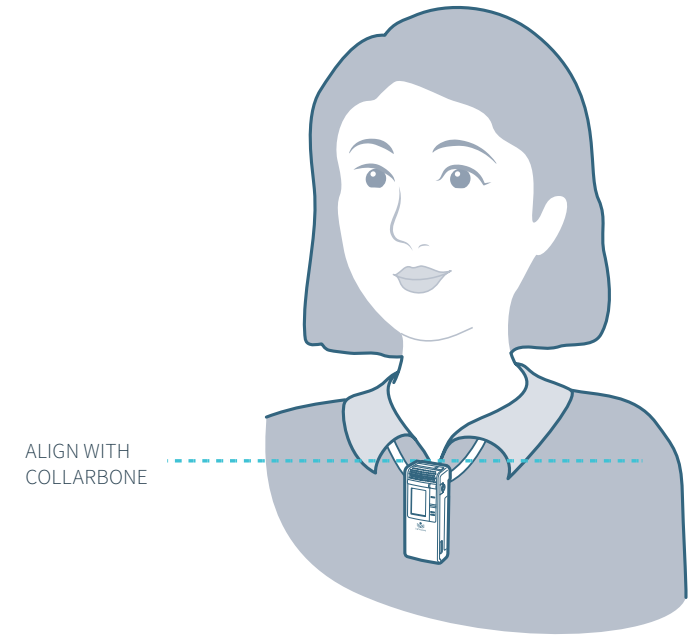
Setting Up the Clearmike

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.



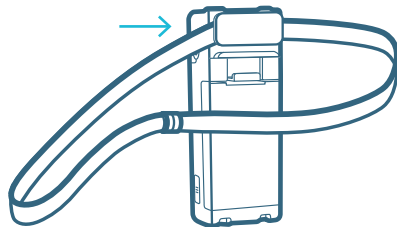


Charging the Clearmike

BEFORE USE, THE CLEARMIKE SHOULD BE CHARGED

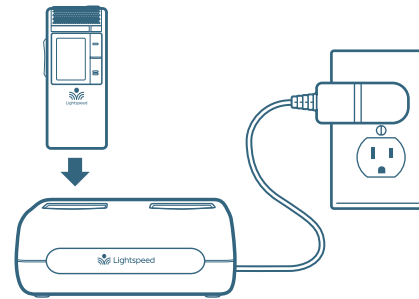
It will take 5-6 hours for the Clearmike to obtain a full charge. A fully charged Clearmike will last for up to 8 hours of use. If microphones are used daily, they should be charged each night.

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



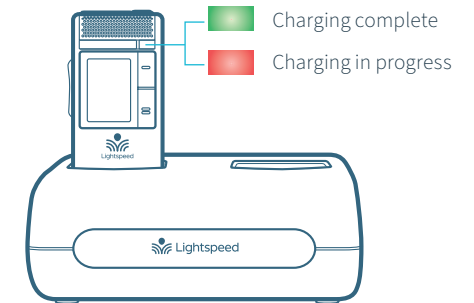
ATTACH LANYARD

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



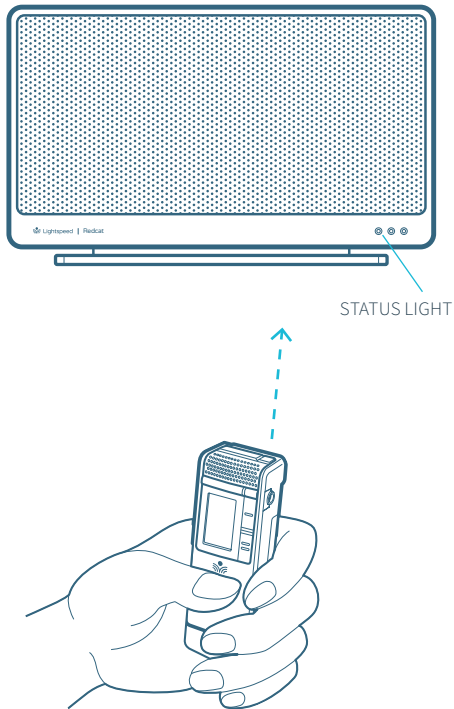
Your system is shipped with microphones and base units pre-paired for quick and easy use.

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.

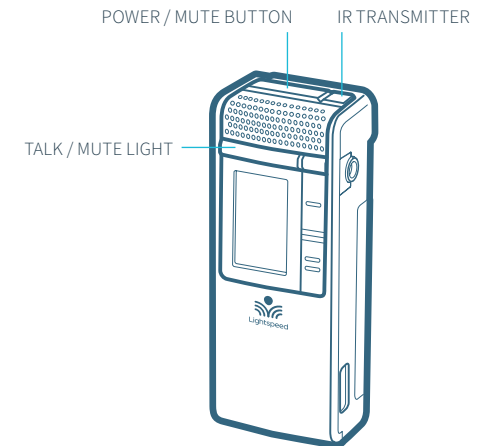


2

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

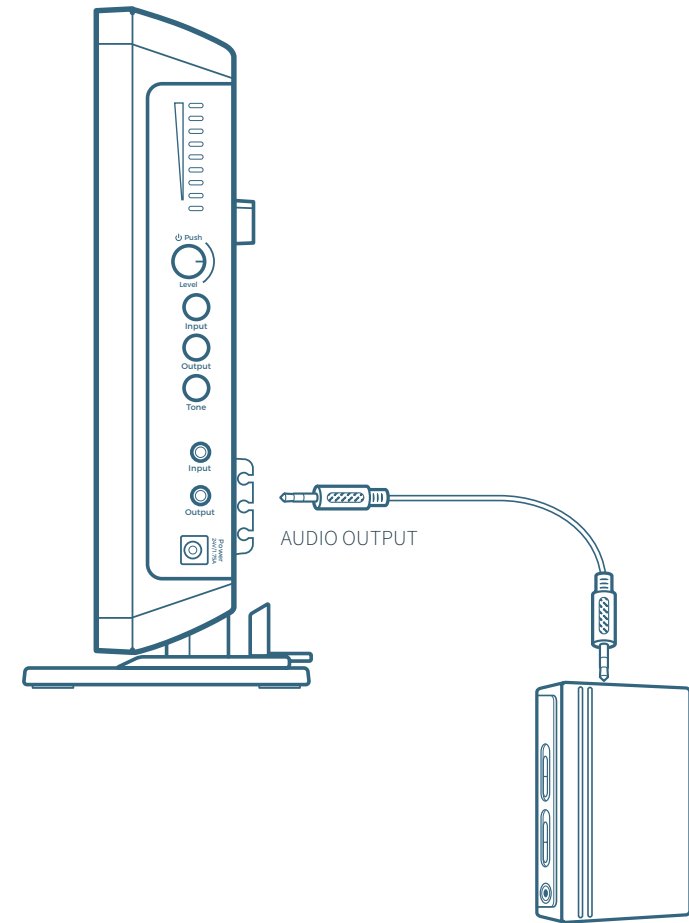
When complete, the Status light on the Redcat will turn blue, the Talk/Mute light on the microphone will be white, and the display on the microphone will say "Pair Success".





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.





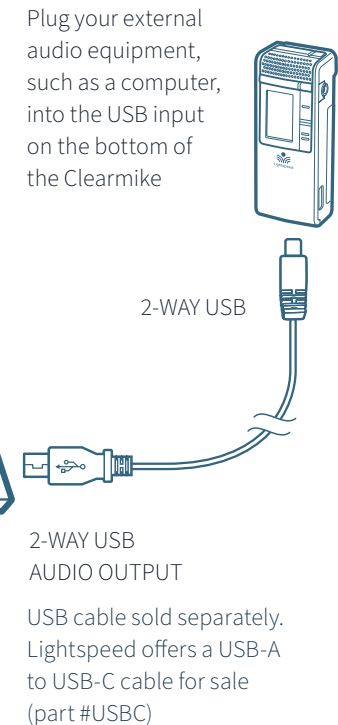
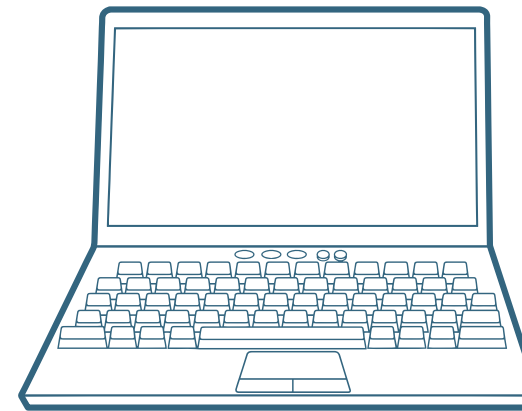
Using Your Microphone as a Wireless Audio Link

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.



OPTIONAL ACCESSORIES

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

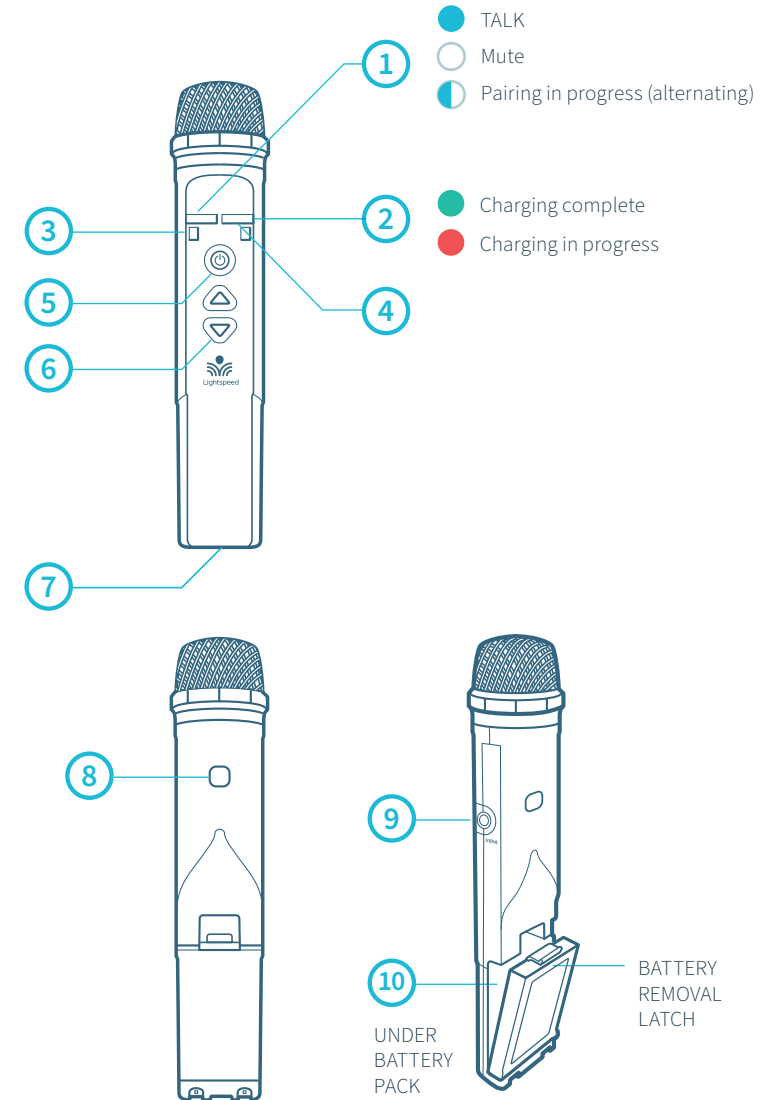
6. MICROPHONE VOLUME UP/DOWN

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.

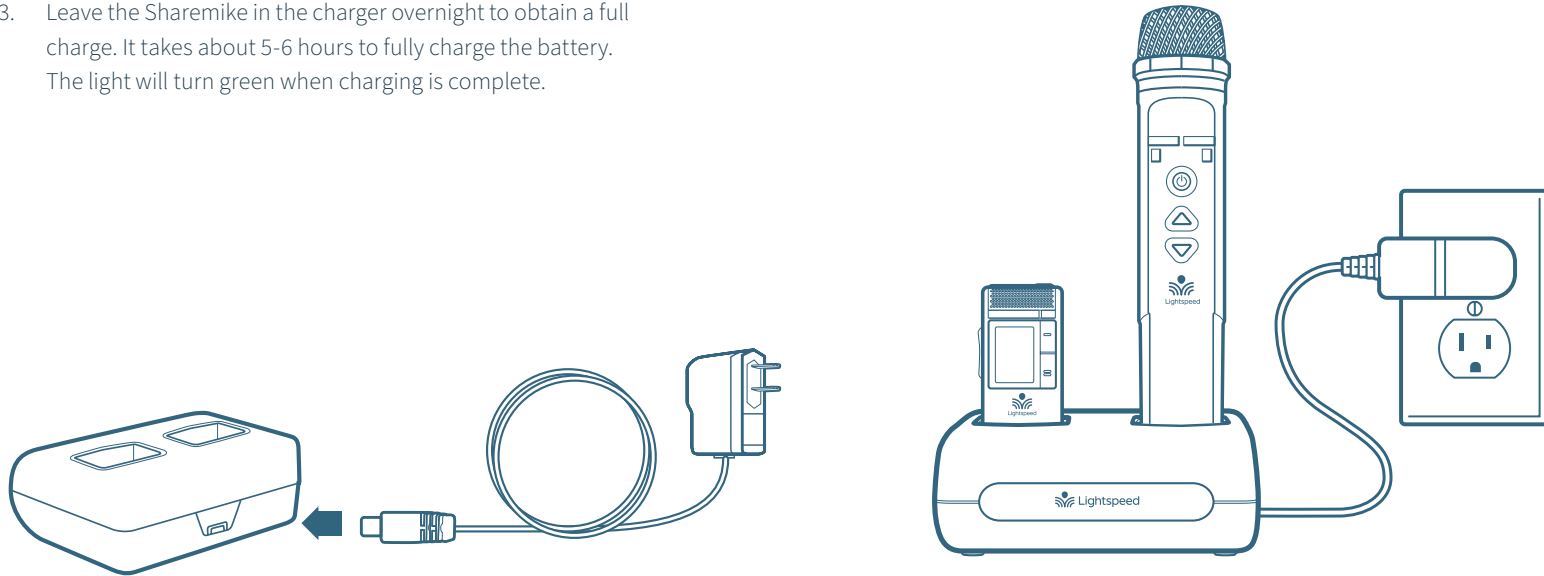
10. **VOLUME LOCK:** Disables volume controls.





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.

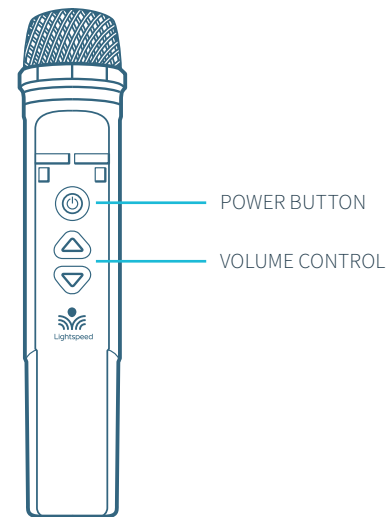
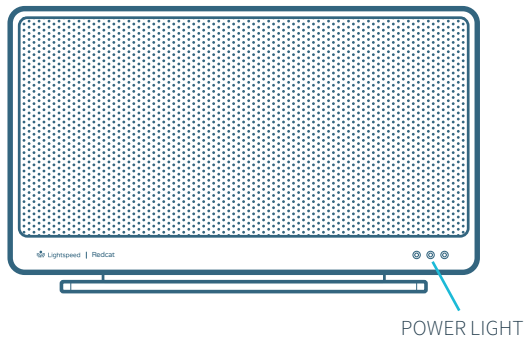



PLEASE NOTE: The Redcat and microphone(s) are paired together at the factory and all components should be kept together as a system. Moving them from one system, or room, to another will result in the need to re-pair.



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.

