

## Classroom Audio System



## User Manual

## CONGRATULATIONS!



**Congratulations** on your purchase of the FP 100 Infrared Wireless Microphone System! This simple, yet powerful technology adds the benefits of Classroom Audio to an existing amplifier and speakers. This system will seamlessly integrate into a sophisticated A/V control system. With its small footprint, the FP 100 can mount in any discrete location— whether it is an audio visual cabinet or below-ceiling tray.

The FP 100 is a compact, two-channel receiver that allows the use of up to two wireless microphones simultaneously in the classroom. A standard IR sensor provides high quality reception in rooms up to 1600 square feet. By connecting additional infrared sensors to the receiver, the coverage area can be expanded to provide optimal reception in varying room sizes and configurations.

The FP 100 comes standard with the REDMIKE™ pendant-style classroom microphone. The system may be used with two microphones accommodating team teaching or student interaction. The second microphone can be an additional REDMIKE, LightMic™ or the HM-70 handheld microphone.

## SAFETY INSTRUCTIONS AND CERTIFICATIONS



### CAUTION



#### RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK  
DO NOT REMOVE COVER (OR BACK)  
NO USER-SERVICEABLE PARTS INSIDE  
REFER SERVICING TO QUALIFIED PERSONNEL



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

- 1. Read Instructions**—All safety and operation instructions should be read before this Lightspeed product is operated.
- 2. Retain Instructions**—The safety and operating instructions should be kept for future reference.
- 3. Heed Warnings**—All warnings on this Lightspeed product and in these instructions should be followed.
- 4. Follow Instructions**—All operating and other instructions should be followed.
- 5. Water and Moisture**—This Lightspeed product should not be used near water.
- 6. Heat**—This Lightspeed product should be situated away from heat sources such as radiators, etc.
- 7. Power Sources**—This Lightspeed product should be connected to a power supply only of the type described in the operation instructions or as marked on this Lightspeed product.
- 8. Power Cord Protection**—Power supply cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them.
- 9. Object and Liquid Entry**—Care should be taken so that objects do not fall onto and liquids are not spilled into the Lightspeed product.
- 10. Damage Requiring Service**—This Lightspeed product should be serviced only by qualified service personnel. The user should not attempt to service this Lightspeed product.
- 11. Prevent Electric Shock**—Do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

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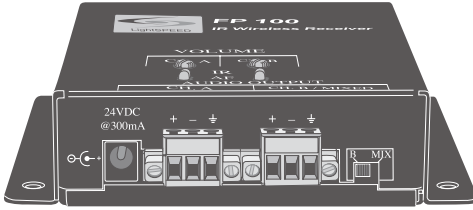
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## SECTION 1

# System Overview

## SYSTEM COMPONENTS



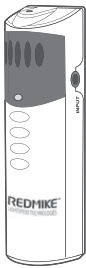
**FP 100 Infrared Wireless Microphone System**



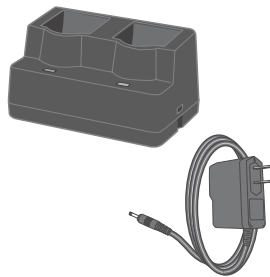
**Power Supply**



**Audio Patch Cable**



**REDMIKE Classroom Microphone**



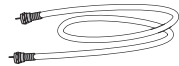
**Charging Cradle and Power Supply**



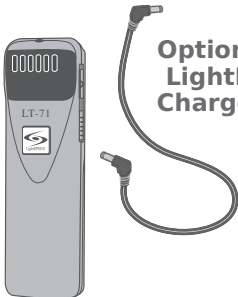
**SR-70F Infrared Sensor**



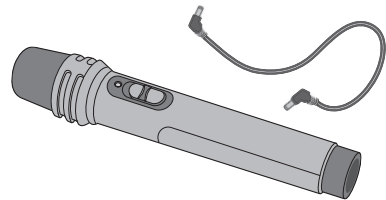
**Standard Option Sensor Cable (50 ft.)**



**Optional Tray Mount Sensor Cable (6 ft.)**



**Optional LT-71 LightMic and Charger Cable**



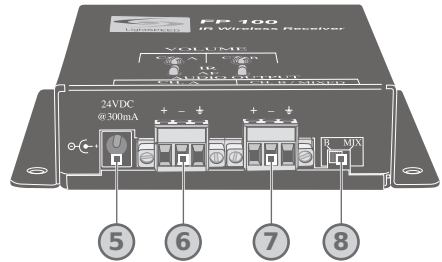
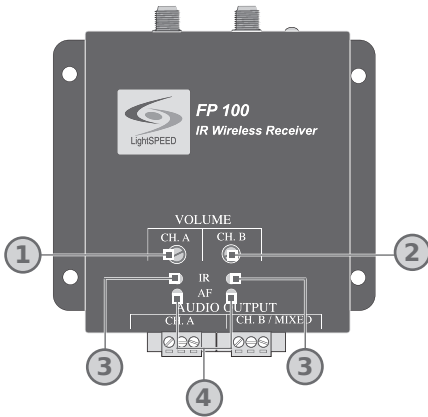
**Optional HM-70 Handheld Microphone and Charger Cable**



## Helpful Hint

Keep ALL packaging materials. If the system must be returned, using the original packing material will be quick, convenient and prevent damage.

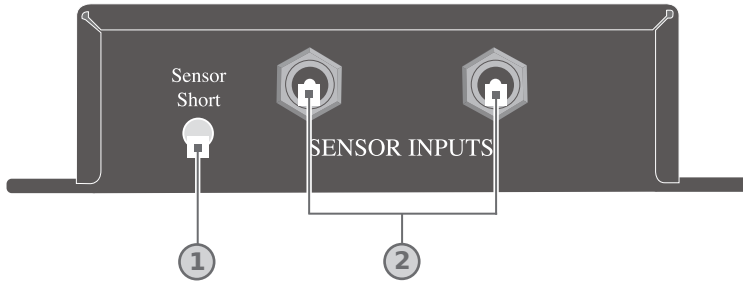
## CONTROLS AND CONNECTIONS



### Front and Top Panel Controls

- 1. CH. A VOLUME:** sets the nominal volume level of the teacher microphone (transmitter switched to CH A). Rotating the adjustment knob clockwise increases the output level.
- 2. CH. B VOLUME:** sets the nominal volume level of the optional second microphone (transmitter switched to CH B). Rotating the adjustment knob clockwise increases the output level.
- 3. IR INDICATORS (IR):** These lights will glow red when the corresponding transmitter is turned on and being received. This light confirms the FP 100 is receiving a steady infrared signal.
- 4. AF INDICATORS (IR):** These lights flash green when audio (voice) from the microphone is detected.
- 5. DC POWER INPUT:** Plug the 24V power supply into this jack.
- 6. CH. A AUDIO OUTPUT:** This balanced audio output can be connected to a microphone or line input on a mixer/amplifier to amplify the audio signal from the CH. A transmitter.
- 7. CH. B / MIXED AUDIO OUTPUT:** This balanced audio output sends the audio from the microphone set to CH. B. Both CH. A and CH. B transmitters (depending on the position of the B/MIX switch) are output to a microphone or line input on a mixer/amplifier.
- 8. B/MIX SWITCH:** This switch determines the audio source that is output through the CH.B/ MIXED Audio Output jack. When the switch is set to 'MIX' (default), both the CH. A and CH. B signal are output through this jack.

## REAR PANEL CONTROLS

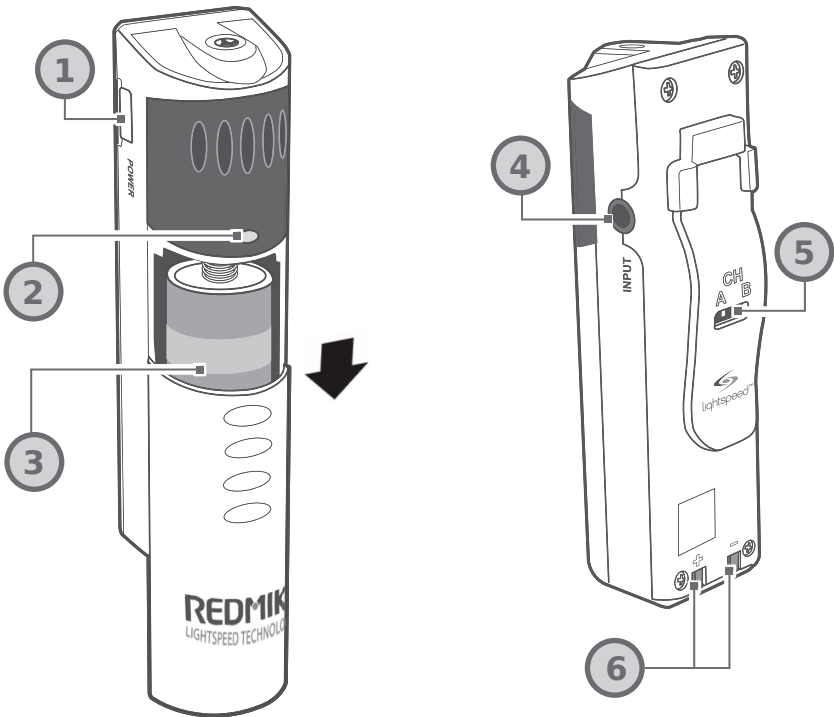


**1. SENSOR SHORT:** This LED glows when there is a short in one of the sensor cables.

**2. SENSOR INPUT:** The IR sensor cable connects to the sensor input jacks. Connect additional sensors to the FP 100 to cover large or odd-shaped rooms.

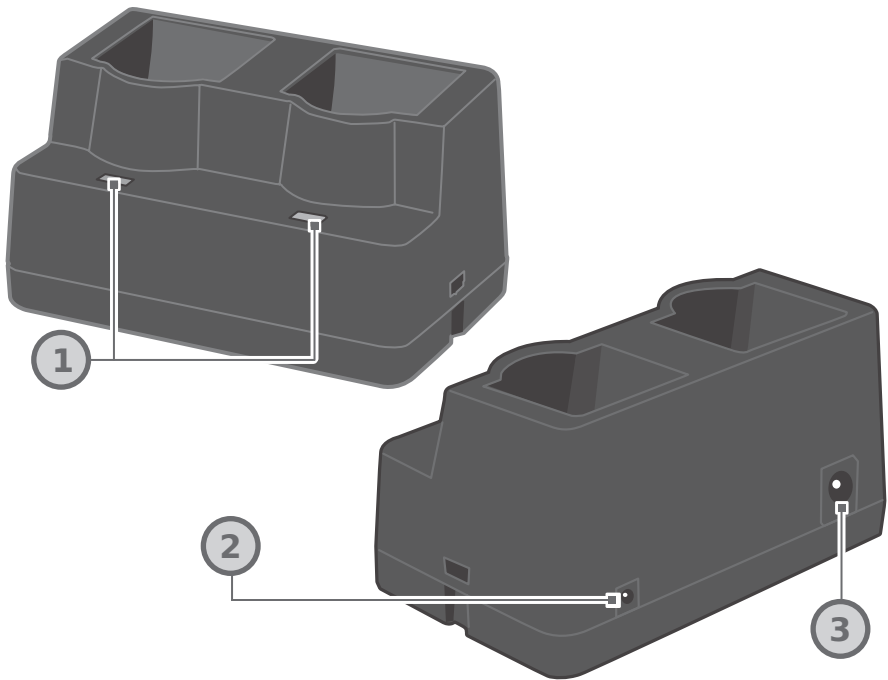


## REDMIKE CONTROLS AND CONNECTIONS



- 1. POWER BUTTON:** Press this button to turn the REDMIKE ON, press again to turn it OFF (mute).
- 2. POWER/LOW BATTERY INDICATOR:** A BLUE light indicates the REDMIKE is on and fully charged. A RED light indicates a charge is needed.
- 3. BATTERY COMPARTMENT:** To access the battery compartment, slide the door downward. The battery should only be replaced by a Lightspeed AA rechargeable sensing battery (part # BA-NH2A27).
- 4. AUDIO/MICROPHONE INPUT:** Use this input to plug in a laptop, MP3 player or other audio source to wirelessly transmit audio to be played through the system. Alternatively, an external microphone can be connected.
- 5. CHANNEL SELECT SWITCH (CH A/B):** This switch allows for selection between Channel A or B. If you are using a single microphone, we recommend using Channel A.
- 6. CHARGER CONTACTS (+ -):** These contacts interface with the charging tabs in the BC-RMCC cradle charger for daily charging. Simply place the REDMIKE in the charger.

## CRADLE CHARGER CONTROLS AND CONNECTIONS

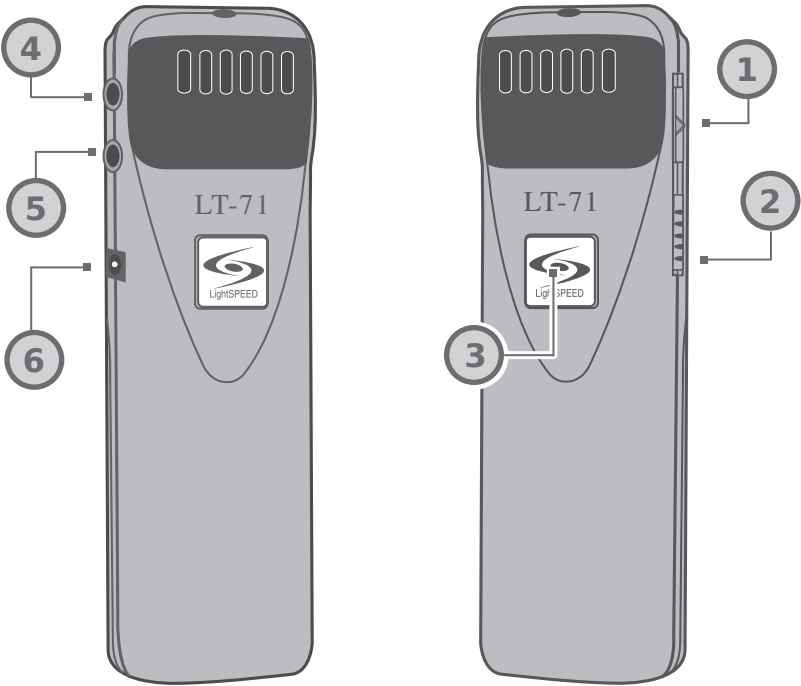


**1. CHARGE INDICATORS:** The light glows RED while the REDMIKE is charging. When fully charged, the light will glow GREEN.

**2. DC POWER PORT:** Connect the DC power cord here.

**3. OPTIONAL CHARGING PORT:** Plug the charging cord for the optional LT-71 or the HM-70 microphones here.

## OPTIONAL LT-71 CONTROLS AND CONNECTIONS



**1. ON/OFF/MUTE Switch:** This switch turns LT-71 ON or OFF (mute).

**2. Channel Select Switch (CH A/B):** This switch allows for selection of Channel A or B. If you are using a single microphone, we recommend using Channel A.

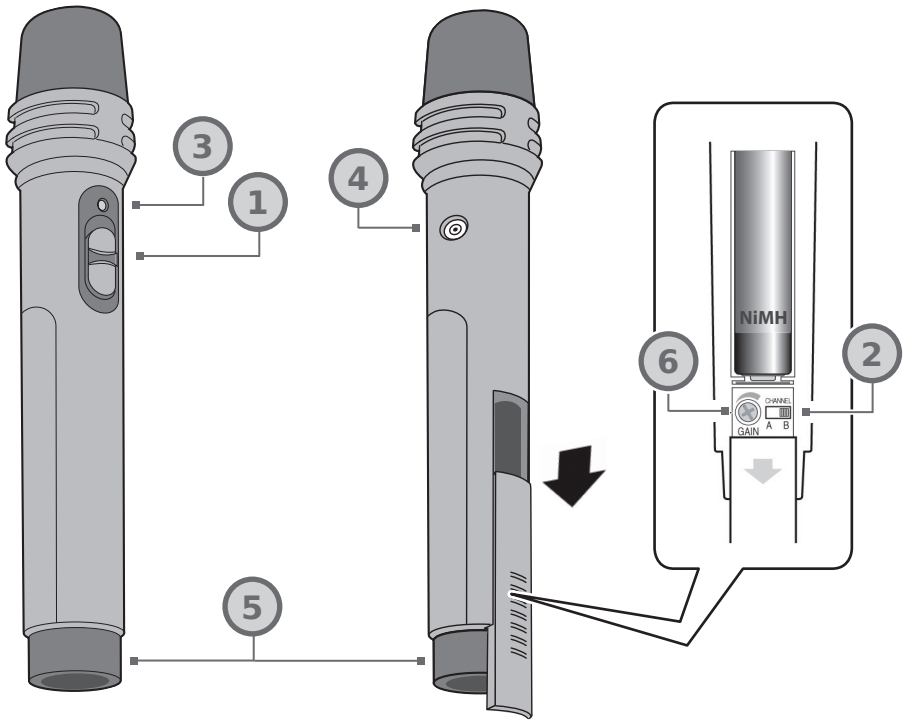
**3. Power/Charge Indicator:** The light glows BLUE when the LT-71 is powered ON, RED when being charged.

**4. External Microphone Input (MIC):** Use the 3.5mm MIC jack for the optional TK-250 headset microphone (part# MC-TK250LTM).

**5. Auxiliary (AUX):** Plug a laptop, MP3 player or other audio source into this jack to wirelessly transmit the audio signal to be played through the system.

**6. Charger Input (CHARGER):** Plug the charging cable from the charger into this jack for daily charging. The LED on the front will glow RED to indicate charging.

## OPTIONAL HM-70 CONTROLS AND CONNECTIONS



**1. ON/OFF/MUTE Switch:** This switch turns the unit ON, OFF or MUTE.

**2. Channel Select Switch (CH A/B):** Located in the battery compartment, the switch is set to Channel B at the factory.

**3. Power/Charge Indicator:** The light glows RED when the HM-70 is powered ON, GREEN when charging.

**4. Charger Input (CHARGER):** Plug the charging cable from the charger into this jack for daily charging.

**5. Infrared Emitters:** Avoid covering the emitters as you grip the HM-70 as this could interrupt signal transmission from the microphone.

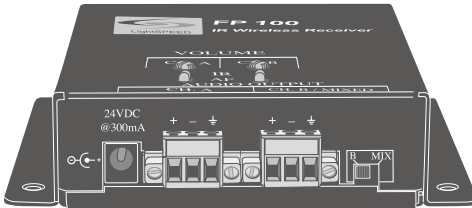
**6. Volume Gain Adjustment:** Optimum volume level is pre-set at the factory and no adjustment should be necessary.

## SECTION 2

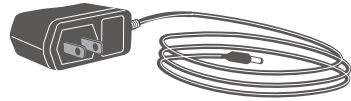
### **Installation**

# 1. UNPACKING YOUR SYSTEM

*Ensure that you have received all of the components of your system.*



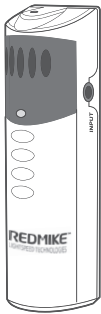
**FP 100 Infrared Wireless  
Microphone System**



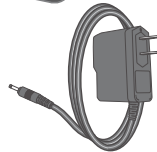
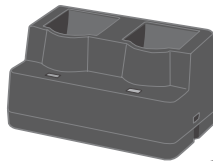
**Power Supply**



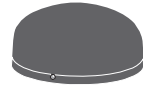
**Audio Patch Cable**



**REDMIKE Classroom  
Microphone**



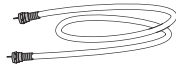
**Charging Cradle and  
Power Supply**



**SR-70F Infrared  
Sensor**



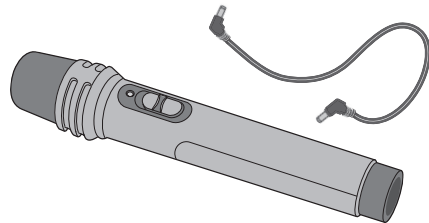
**Sensor Cable**



**Optional Tray Mount  
Sensor Cable (6 ft.)**



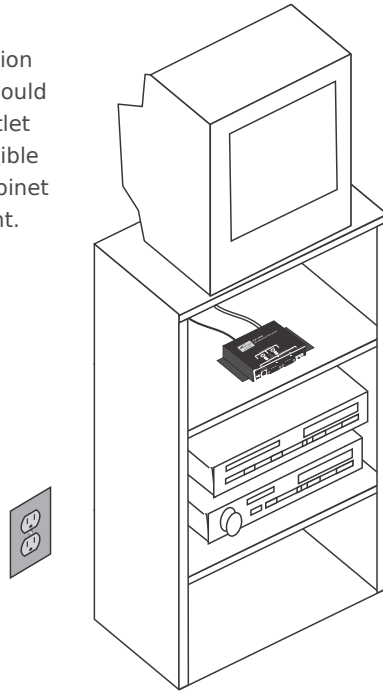
**Optional LT-71  
LightMic and  
Charger Cable**



**Optional HM-70  
Handheld Microphone  
and Charger Cable**

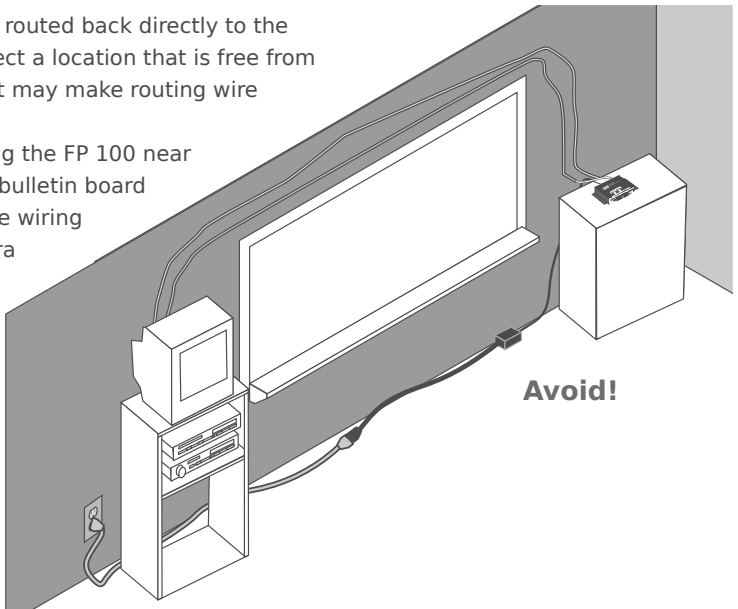
## 2. LOCATION OF THE RECEIVER/AMPLIFIER

- Before running wires to the FP 100 or plugging in, find a suitable, stable location for the amplifier. Ideally, the teacher should have ready access and an electrical outlet should be within six feet. The best possible location for the FP 100 is in a media cabinet with any existing audio/video equipment.



- **Wires** should be routed back directly to the amplifier, so select a location that is free from obstructions that may make routing wire difficult.

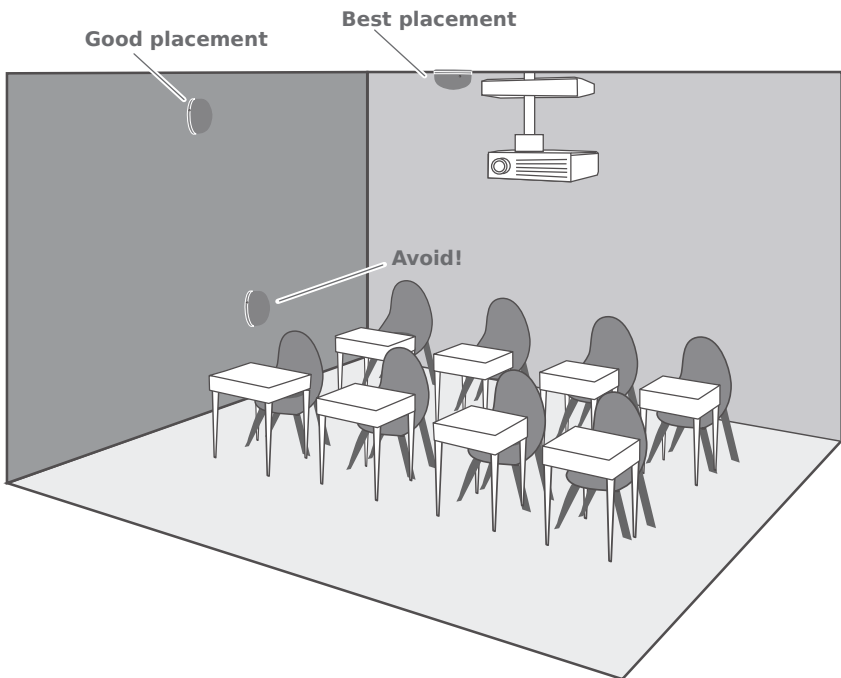
(Example: placing the FP 100 near a whiteboard or bulletin board would require the wiring to be run an extra distance in order to reach the amplifier.)



### 3. IR SENSOR INSTALLATION

Sensor location is very important for optimum performance of the FP 100 Classroom Audio System.

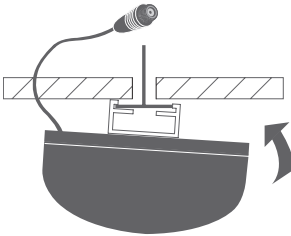
- **BEST:** On the ceiling at or near the middle of the classroom.
- **GOOD:** High and centered on the long wall.
- **AVOID:** Locations in corners, on walls at heights lower than 7 feet, or in places where the line of sight could be obstructed.





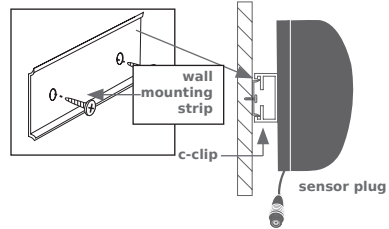
## IR SENSOR INSTALLATION (cont'd)

### Suspended Ceiling Mount



- 1. Lift** the ceiling tile nearest the grid rail in your desired sensor location. Guide one side of the C-clip over one edge of the grid rail. Providing firm support to the back of the grid rail with one hand (to prevent bending), firmly and carefully snap the second side of the C-clip over the edge of the rail.
- 2. Uncoil** sensor wire. Connect one end of the sensor cable to the plug on the sensor. Secure wire overhead and route it back to the system.
- 3. Connect** the other end of the sensor cable into one of the sensor inputs on the back of the system.

### Wall/Solid Ceiling Mount



- 1. Screw** the plastic mounting strip to a place high on the wall or in the middle of the solid ceiling. Mount the strip horizontally as shown above.
- 2. Firmly** snap the C-clip on the back of the IR sensor onto the plastic mounting strip with the sensor plug hanging down (if a wall mount) or toward the receiver location (if ceiling mount).
- 3. Uncoil** the sensor wire. Screw one end of the sensor cable to the plug on the sensor. Route the wire back to the system, securing it along the way.
- 4. Connect** the other end of the sensor cable to one of the sensor inputs on the back of the system.

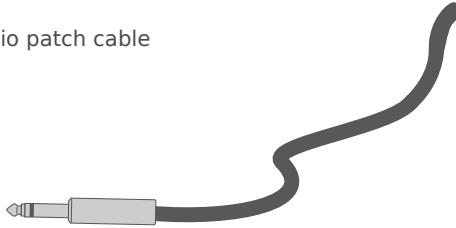


## Helpful Hint

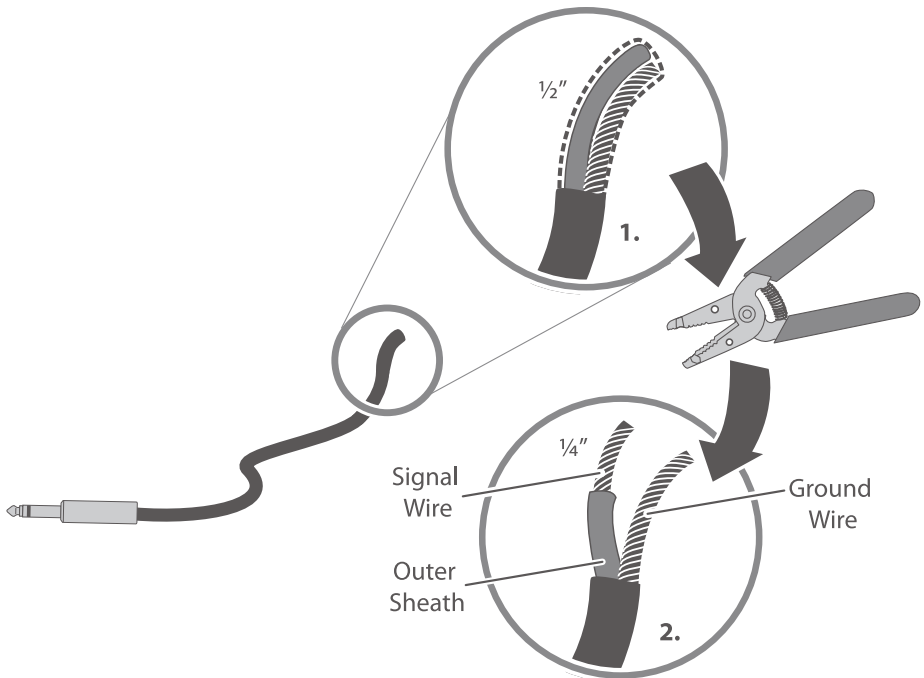
Note that the sensor cable included for the optional tray mount version of the FP 100 is only 6 feet long.

## 4. CONNECTION TO THE AMPLIFIER

1. **Locate** the audio patch cable

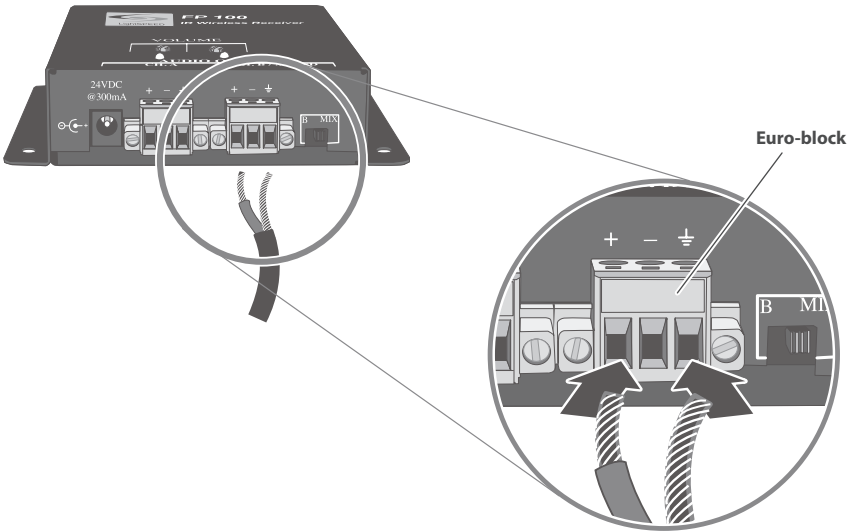


2. **Strip** the cable's rubber insulation  $\frac{1}{2}$ " and then strip the outer sheath of the signal wire leaving  $\frac{1}{4}$ " exposed.

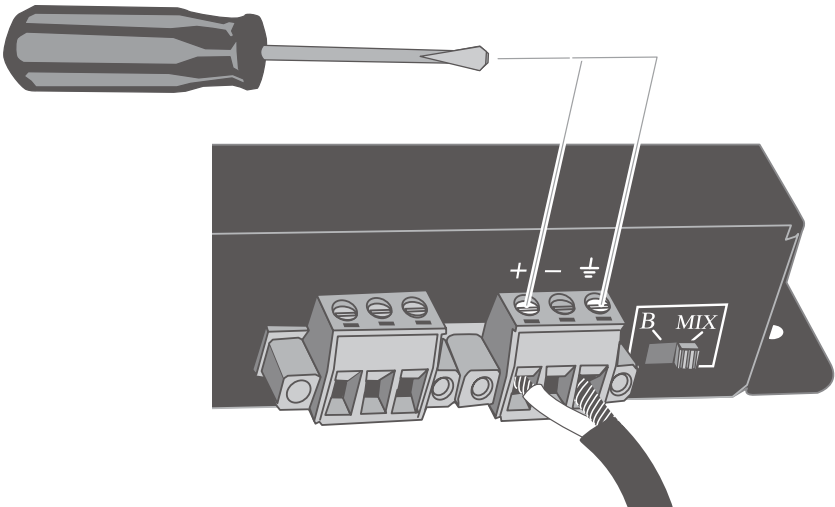


## CONNECTION TO THE AMPLIFIER (cont'd)

- 3. Insert** the stripped wires into the marked openings, left and right, in the Euro-block.

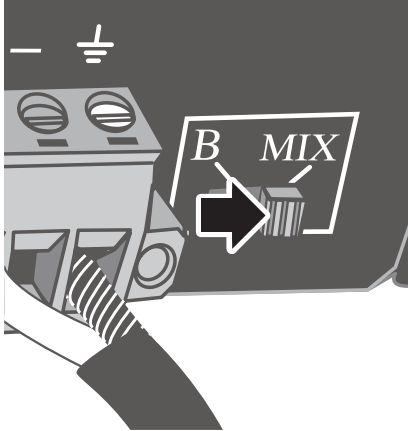


- 4. Secure** the inserted wires by tightening the retaining screws.

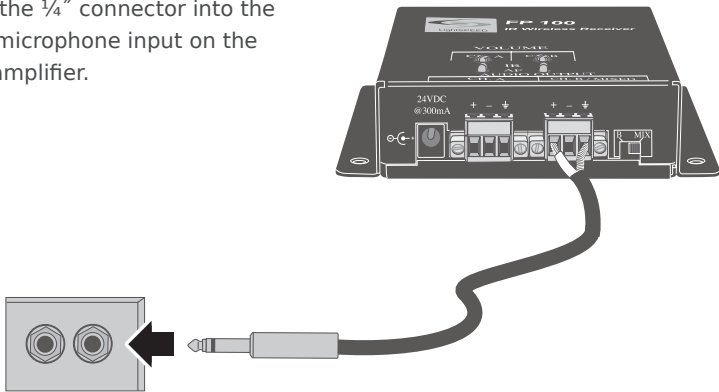


## CONNECTION TO THE AMPLIFIER (cont'd)

- 4. Ensure** the B/MIX switch is pushed to the right to select the MIXED output.



- 5. Connect** the 1/4" connector into the audio or microphone input on the existing amplifier.



### FP 100 Mixed Audio Connection (Not Recommended)

This method allows for individual control of each microphone channel from the amplifier being used.

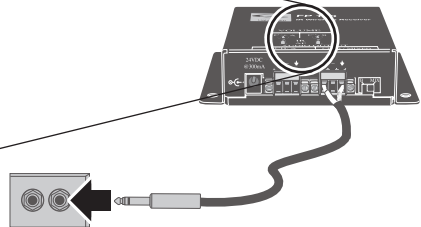
- a. Obtain** a second balanced audio cable.
- b. Strip** the wire to reveal the positive, negative, and grounded conductors.
- c. Fasten** the wire to the available CH A euro-block connector using a small screw driver (observe the proper polarity).

## FINALIZING CONNECTIONS

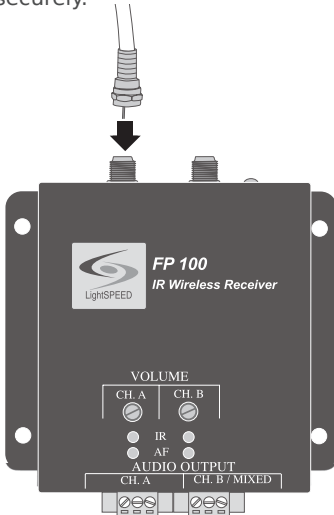
- 1. Ensure** all top panel volume controls are turned fully counterclockwise.



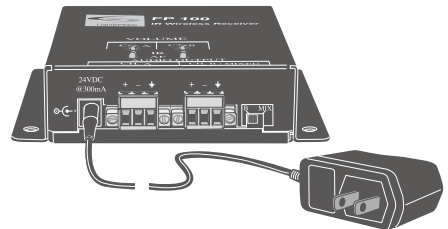
- 2. Ensure** audio output connection(s) are securely connected into the FP 100 and the mixer/amplifier. Make sure the CH.B/MIX switch is in the appropriate setting based on your output method (see pg. 11 for more info).



- 3. Ensure** sensor cable is attached securely.



- 4. Ensure** DC barrel end of the power supply is connected to the DC input on the FP 100.



- 5. Ensure** AC adaptor end of the power supply is connected to a standard 110 VAC electrical wall outlet.

## FINAL CHECK

- 1. Ensure** all cables are appropriately routed out of walking paths and work areas to prevent safety hazards to individuals in the room.
- 2. The receiver** packing material should be kept for warranty shipping purposes. Dispose of remaining system-packing material in the appropriate refuse containers.

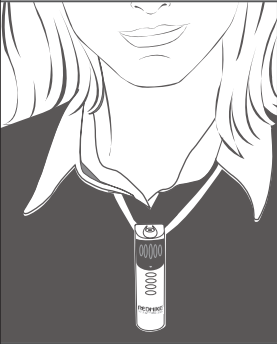
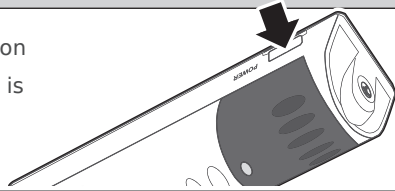
***Leave microphones charging so they are ready for use.  
Microphones will need to be charged on a daily basis.***

## SECTION 3

### **Initial Set-up, Charging and Optional Features**

## INITIAL SET-UP: REDMIKE

- 1. Turn** on the REDMIKE. The RED IR LED on the FP 100 will light to indicate a signal is being received.



- 2. Slip** the REDMIKE with lanyard around the neck and position the top of the microphone just below the collarbone. **NOTE:** Positioning of the REDMIKE is critical for proper volume adjustment.

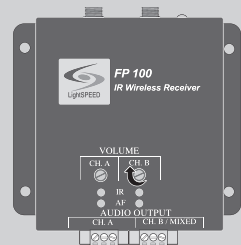
- 3. Set** the volume on the mixer/amplifier at a normal level. This will be the primary control the teacher will use to turn the microphone volume(s) up and down.

- 4. While** speaking in a normal voice, increase the A VOLUME level until your own voice is barely audible. **REMEMBER:** this equipment is designed to supplement and distribute the teacher's voice so he or she is able to speak at a normal, conversational tone. Having the volume set too high will result in feedback and listener fatigue.



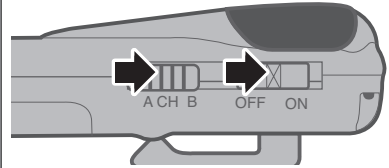
- 5. If** a second REDMIKE was purchased, repeat steps 2-4. **NOTE:** Each REDMIKE has its Channel pre-set to either A or B. No further adjustment is necessary.

- 6. Once** the normal level is set on the FP 100, the user will now use the mixer/amplifier volume control to adjust the microphone up or down during normal classroom operation.



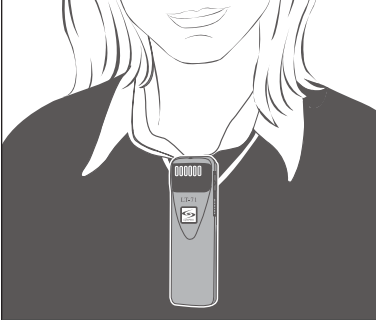
## INITIAL SET-UP: OPTIONAL LT-71

1. **Turn** on the LT-71 and set the operating channel to "B".



2. **Slip** the LT-71 with lanyard around the neck and position the top of the microphone just below the collarbone.

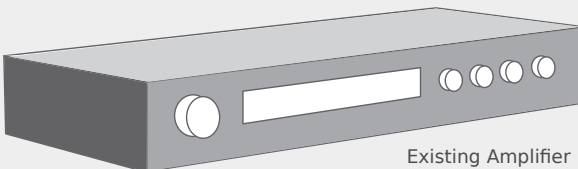
**NOTE:** Positioning of the LT-71 is critical for proper volume adjustment.



3. **While** speaking in a normal voice, increase the B VOLUME level until your own voice is barely audible. **REMEMBER:** this equipment is designed to supplement and distribute the teacher's voice so he or she is able to speak at a normal, conversational tone. Having the volume set too high will result in feedback and listener fatigue.



4. **Once** the normal level is set on the FP 100, the user will now use the mixer/ amplifier volume control to adjust the microphone up or down during normal classroom operation.

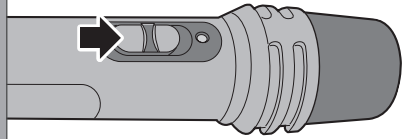


Existing Amplifier



## INITIAL SET-UP: OPTIONAL HM-70

**2. Turn** on the HM-70 by sliding the switch to the top position.

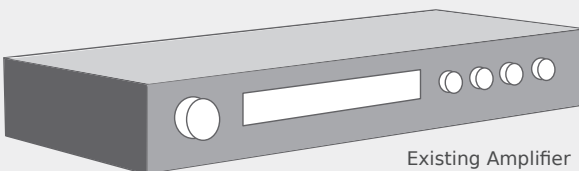


**3. Grip** the barrel in the center section. Avoid covering the infrared emitters circling the base. This could interrupt signal transmission.

**3. While** speaking in a normal voice, increase the B VOLUME level until your own voice is barely audible. **REMEMBER:** this equipment is designed to supplement and distribute the teacher's voice so he or she is able to speak at a normal, conversational tone. Having the volume set too high will result in feedback and listener fatigue.



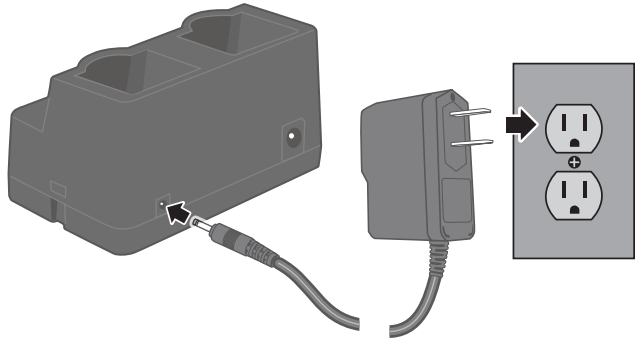
**4. Once** the normal level is set on the FP 100, the user will now use the mixer/ amplifier volume control to adjust the microphone up or down during normal classroom operation.



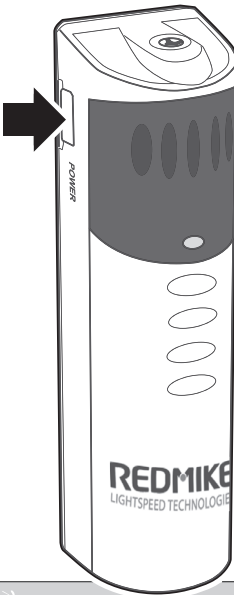
Existing Amplifier

## CHARGING THE REDMIKE

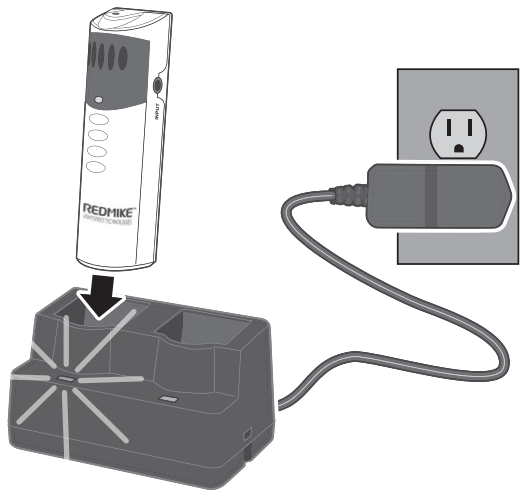
- 1. Plug** power cord into the cradle charger and then plug the AC end into an electrical outlet.



- 2. Ensure** that the REDMIKE is turned OFF.



- 3. Place** the REDMIKE into the cradle. The LED on the cradle will glow RED indicating charging has started. When the REDMIKE is fully charged the LED on the cradle charger will change to GREEN.

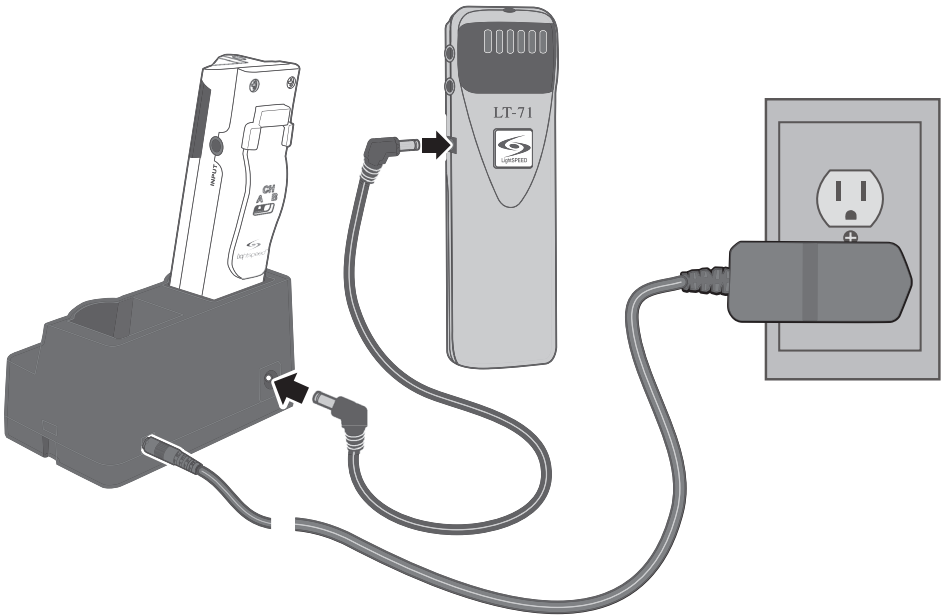


## Helpful Hint

- REDMIKE incorporates alkaline protection into the microphone design. Replacement AA NiMH batteries may only be purchased through Lightspeed Technologies (part # BA-NH2A27).
- A blinking LED indicates a charging error. Be sure to use a Lightspeed rechargeable sensing battery.

## CHARGING THE OPTIONAL LT-71

1. **Ensure** that the LT-71 is turned OFF.
2. **Make** sure the cradle charger is plugged into a wall outlet. Connect one end of the charging cable into the jack labeled CHARGER on the side of the LT-71 and plug the other end into the charging jack on the rear of the REDMIKE cradle charger. The LT-71's rechargeable batteries are factory installed. The LED on the front of the LT-71 will glow RED when charging.
3. **Leave** the LT-71 plugged in overnight (8–10 hrs.) to obtain a full charge.

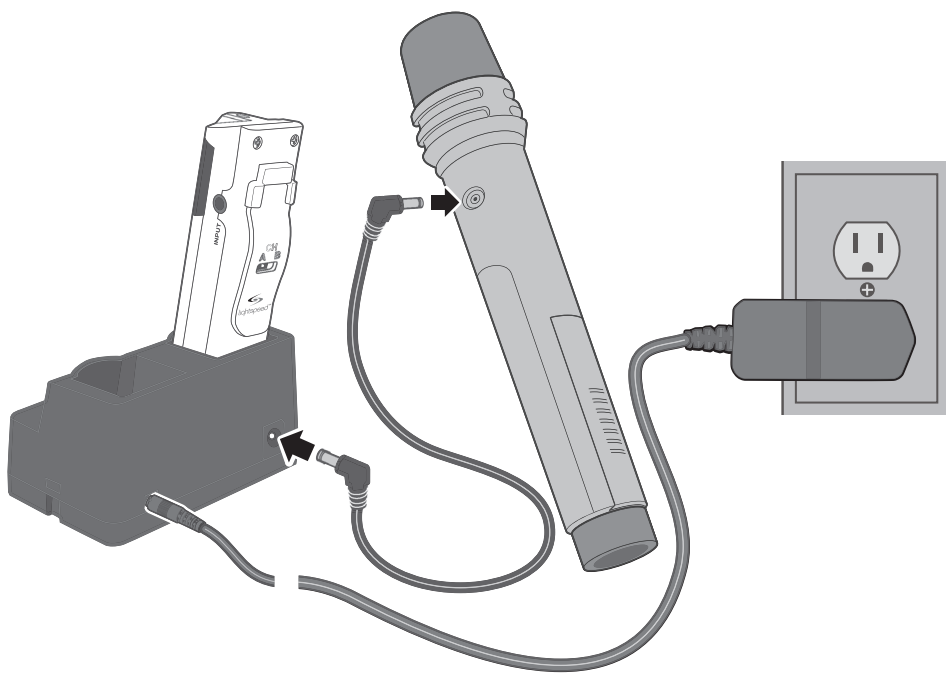


### Helpful Hint

- Microphones can be left in the charger for up to two weeks without degradation to battery life.
- A full charge will be attained in 8-10 hours.
- Fully charged Lightspeed microphones will last over 7 hours.

## CHARGING THE OPTIONAL HM-70

1. **Ensure** that the HM-70 is turned OFF.
2. **Make** sure the cradle charger is plugged into a wall outlet. Connect one end of the charging cable into the jack labeled CHARGER on the side of the HM-70 and plug the other end into the charging jack on the rear of the cradle charger. The HM-70's rechargeable batteries are factory installed. The LED on the front of the Handheld Mic will glow GREEN when charging.
3. **Leave** the HM-70 plugged in overnight (8–10 hrs.) to obtain a full charge. The GREEN light will turn off when fully charged.



### Helpful Hint

**Do not attempt to charge alkaline batteries. They can overheat and expand, creating a significant hazard and damaging the LT-71 and HM-70. (This is not covered by the warranty.)**

## SECTION 4

# **Troubleshooting, Daily Use and Warranty**

## TROUBLESHOOTING GUIDE

*Note: 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.*

### Battery Check

- **Confirm** batteries are charged each night.
- **Confirm** proper batteries are used. The REDMIKE requires the Lightspeed BA-NH2A27 rechargeable sensing battery for proper charging. The LT-71 & HM-70 require NiMH AA rechargeable batteries.
- **Make** sure the microphones are turned off while charging so a full charge is attained. Full charge will last eight hours.
- **Inspect** the battery contacts. Clean and adjust if necessary.

### Hearing Static

- **Ensure** sensor is in optimum location (refer to sensor placement in manual). A single sensor will cover a 1600 sq. ft. enclosed classroom.
- **Ensure** that no other REDMIKE/LT71/HM70 is operating on the same channel.

### Low Volume or Feedback

- **Ensure** microphone is positioned appropriately, just below the collar bone.
- **Check** volume level on the amplifier. If the volume is too high, feedback will occur. Adjust accordingly.
- **Check** volume levels on the FP 100. The screwdriver adjust controls should be set at a normal level so that volume is appropriate for the classroom when the corresponding mixer/amplifier volume level is at mid-range. Adjust the levels up or down accordingly.

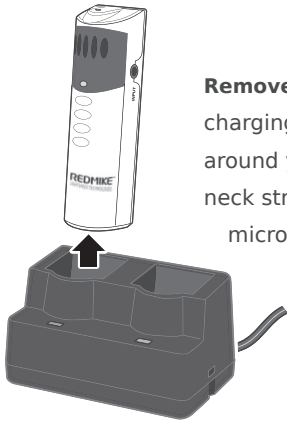
### No Sound From Speaker

- **Ensure** the FP 100 is powered on. Unplug the DC power cable and plug it back in. The LED lights will blink to indicate the unit is powered on.
- **Confirm** signal is being received at the FP 100. The IR signal light will be RED indicating a signal is being received.
- **Confirm** that REDMIKE is turned on. There will be a BLUE LED on the microphone to indicate it is powered on.
- **Ensure** the IR sensor is receiving power as indicated by a red LED on one side of the unit—this should be easily visible from the ground.
- **If** no indicator lights are present on the FP 100, ensure it is receiving power. Unplug the DC power jack and re-connect. If the receiver is receiving power, the IR and AF lights will flash on when reconnected to a power source.
- **Ensure** the separate mixer/amplifier is operating properly as a stand-alone system.

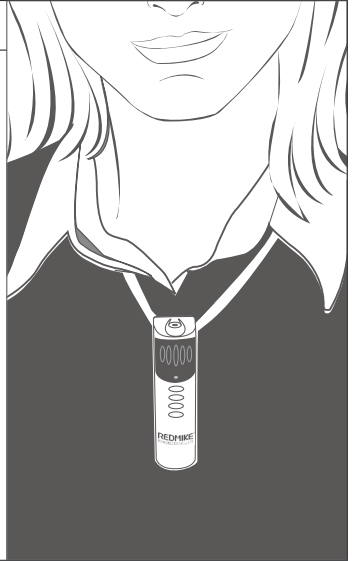
**If you review these instructions and still have questions, write down the serial number and model number of your system and call Lightspeed Technical Services at 800.732.8999, 5 a.m. – 5 p.m., PST.**

## DAILY USE INSTRUCTIONS

### 1. POSITION THE REDMIKE

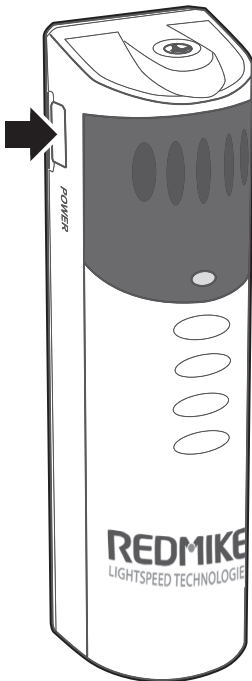


**Remove** the REDMIKE from the charging cradle and place it around your neck. Adjust the neck strap so the top of the microphone rests just below your collarbone.



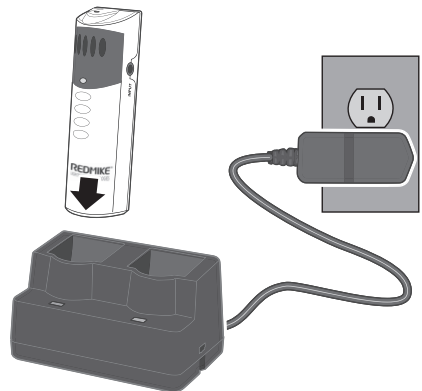
### 2. TURN ON THE REDMIKE

**Turn** the microphone ON using the ON/OFF switch on the side of the REDMIKE and speak normally.



### 3. CHARGE BATTERIES

**Place** the REDMIKE back into the charging cradle to recharge at the end of the day.



## TIPS ON CLASSROOM AUDIO

1

**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.

2

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

3

**Turn** the REDMIKE off during private conversations with a student, parent, or other classroom visitor. You can also cover the LED lens on top of the REDMIKE to block the signal.

4

**Recharge** batteries each night. When recharged nightly, operating time (actual usage) for the transmitters will last through a typical school day.

## 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.

1. Warranty on infrared microphones is FIVE (5) YEARS.
2. Warranty on Lightspeed rechargeable batteries, all external cables and wires provided by Lightspeed is one (1) year.
3. Prepaid shipping labels are provided by Lightspeed factory or an authorized warranty service center for warranty repairs.
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 guarantee. Information on authorized service agencies is available from Lightspeed Technologies, Inc.

**Our Service Department (800.732.8999, 5 a.m. – 5 p.m., PST)  
will handle all your repair/replacement needs.**



## SYSTEM SPECIFICATIONS

### OVERALL SPECIFICATIONS

Carrier Frequencies (IR) .....	2.06/2.54; 3.2/3.7 MHz
Signal-to-Noise Ratio .....	> 73 dB
Dynamic Range .....	> 73 dB
Maximum Deviation .....	±50 Hz
Frequency Stability .....	±3%
Frequency Response .....	100 Hz - 10k Hz
Audio Output Level .....	0 - 1.0 V

### RECEIVER SPECIFICATIONS

Receiver Type .....	Superheterodyne
Receiver Sensitivity .....	6 µV for 60 dB S/N
Image and Spurious Rejection .....	> 70 dB
Reception Selectivity .....	40 kHz
Squelching Mute Level .....	3.2 µV
Dimensions (W x D x H) .....	5" x 5" x 1.25"
Power Supply (UL Listed) .....	24 V/250 mA
Weight .....	15.3 oz

### TRANSMITTER SPECIFICATIONS

#### REDMIKE

Audio Distortion .....	< 1 %
Built-in Microphone .....	Unidirectional Electret
Battery Power (1-year warranty) .....	1 AA NiMH Rechargeable Sensing Battery
Audio Input .....	3.5 mm
Dimensions (W x D x H) .....	0.9" x 1.0" x 3.5"
Weight .....	2.1 oz.

#### LT-71 LightMic

Audio Distortion .....	< 1 %
Built-in Microphone .....	Unidirectional Electret
Battery Power (1-year warranty) .....	2 AA NiMH Rechargeable
Audio Inputs .....	Mic Level 3.5 mm Line Level 3.5 mm
Dimensions (W x D x H) .....	1.375" x .75" x 4.625"
Weight .....	3.7 oz.

#### HM-70 Handheld Microphone

Audio Distortion .....	< 1 %
Built-in Microphone .....	Unidirectional Electret
Battery Power (1-year warranty) .....	2 AA NiMH Rechargeable
Dimensions (W x D x H) .....	2.25" x 2.25" x 8.75"
Weight .....	7.36 oz.

### IR SENSOR SPECIFICATIONS

Working Range .....	Up to 1600 square feet per sensor
Cable .....	50 ft., Plenum-rated
Mounting .....	Ceiling clip/Wall bracket
Dimensions .....	4.25" (Diam.) x 2.0" (H)
Weight .....	4.5 oz.

## INDIVIDUAL COMPONENTS &amp; OPTIONAL ACCESSORIES

Part Number	Description
<b>RX-FP100</b>	Infrared microphone receiver
<b>PS-24V-250</b>	Power supply/battery charger for FP 100
<b>RMT</b>	REDMIKE classroom microphone w/lavaliere cord and rechargeable AA battery
<b>BA-NH2A27</b>	Lightspeed AA rechargeable sensing battery (for REDMIKE)
<b>AC-LTCB</b>	Lavaliere cord for REDMIKE, LT-71
<b>BC-RMCC</b>	REDMIKE cradle charger
<b>PS-5V-1.0</b>	Cradle charger power supply
<b>Optional Accessories</b>	
<b>LT71</b>	LightMic microphone with lavaliere cord, rechargeable batteries and charging cable
<b>HM70</b>	Handheld microphone with rechargeable batteries and charging cable
<b>BA-NH1</b>	AA Rechargeable battery (for LT-71 and HM-70)
<b>MC-TK250LTM</b>	Noise-canceling headset microphone
<b>AC-TCC7</b>	Charging cable for LT-71 and HM-70 microphones

USER NOTES

	Record your system serial numbers and purchase information. This is helpful when ordering additional components, accessories, and/or warranty service.
Components	Serial Number
FP 100	
Microphones	
Sensors	
Accessories	
Purchase Information	
Your School/Organization	
District	
Purchase Date	
Invoice	

## USER NOTES

USER NOTES

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AC-MN100



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Tualatin, OR 97062  
800.732.8999  
[www.lightspeed-tek.com](http://www.lightspeed-tek.com)

