

# LES 370 Series

Personal FM System



**User Manual**

# Greetings

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Congratulations on your purchase of the LES 370 Personal FM System! Please take a moment to review this manual as it will help you operate this easy-to-use product, and maximize your investment by caring for and maintaining each component.

Particular attention should be paid to the section discussing batteries and battery charging to maximize battery life and system operation.

Also note that a troubleshooting guide is available near the end of this booklet to assist you.

## Did You Get Everything?

Standard shipping items include:

- 370T Transmitter
- 370R Receiver
- Lapel Microphone
- Headphones
- 2 NiMH Rechargeable Batteries (installed)
- 2 Battery Chargers
- Carry Case

Examine each component carefully to ensure that it arrived safely and was not damaged in shipping.



# Overview

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LightSPEED Personal FM Systems enhance instructor voice information presented to students, whether children or adults, with learning or sensory difficulties.

A teacher or coach wearing the 370T Transmitter with a lapel, optional lavalier or optional headset microphone can communicate privately to a student wearing the 370R Receiver and headphones from anywhere in the classroom, gym, cafeteria, playground, or on the sports field. The instructor's voice is amplified and delivered directly to the ears of the student.

Since the LightSPEED LES 370 is a wireless system, both the teacher and student can move freely and still communicate with crystal clarity at distances up to 300 feet.

Working within the 216-217 MHz assistive listening band, the LES 370 has two frequencies built in. Utilizing two quartz crystals, the LES 370 can operate on one of two frequencies by changing channels with a slide switch. (A frequency is a special segment of the "airwaves" designated by the Federal Communications Commission so that the Transmitter can "talk" to the Receiver.)

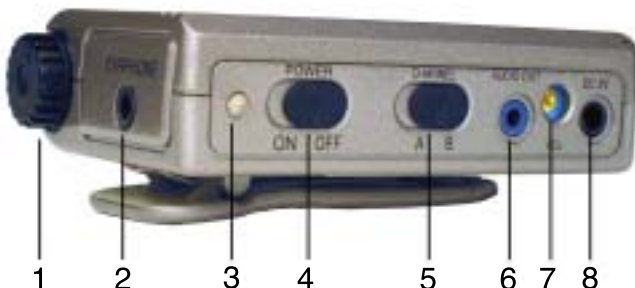
The LES 370 operating frequencies correspond with the frequencies that Phonak uses in their MicroLink™ systems. If properly matched, the LES 370 may be used with matching Phonak system frequencies.

# Controls/Functions

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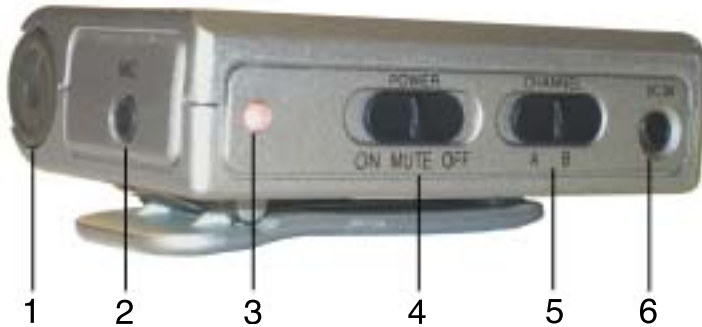
## LES 370R Receiver

1. **LISTENER VOLUME KNOB:** Increase or decrease headphone sound by turning this knob. Level is increased by turning the knob clockwise.
2. **EARPHONE JACK:** Plug your headphones or earphones into this jack to transmit the sound received from the transmitter to the listener's ear. This jack accepts a 3.5 mm (1/8 inch) mini-plug; any standard stereo headphones may be used.
3. **POWER LIGHT:** When power is switched to the ON position, this red LED indicator will light.
4. **POWER SWITCH:** Slide switch to the left to turn power ON; slide switch to the right to turn power OFF.
5. **CHANNEL SELECTOR:** This slide switch is used to change the operating channel on the Receiver. The Transmitter must be set to the same channel (A or B) to send a signal to this Receiver.
6. **AUDIO OUT:** This is used to connect the 370 Receiver to a computer rather than listener headphones. This jack accepts a 2.5 mm mini-plug. The level is adjustable from 0 to 10 millivolts with the Audio Out Adjust (see below).
7. **AUDIO OUT ADJUST:** This functions similar to a volume control for the Audio Out feature. Output level is increased by turning this control clockwise using a small screwdriver.
8. **DC 3V CHARGING JACK:** This jack is used to recharge the battery while installed in the Receiver using one of the Battery Chargers included in your system.



# Controls/Functions

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## LES 370T Transmitter

1. **TEACHER VOLUME KNOB:** Turning this knob increases or decreases output volume. Turn clockwise to increase volume of the teacher's voice signal.
2. **MIC JACK:** Insert your microphone plug securely into this jack. This jack accepts a 3.5 mm mini-plug if you are connecting another audio input signal.
3. **POWER LIGHT:** When power is switched ON, the red LED will light.
4. **POWER/MUTE SWITCH:** This switch has three positions, ON, MUTE and OFF. Slide switch all the way left to turn power ON; slide switch all the way right to turn power OFF. The center MUTE position turns the microphone off without turning the Transmitter power off.
5. **CHANNEL SELECTOR SWITCH:** This switch is used to change between channel A and B. Remember, the Receiver must be set on the same channel (A or B).
6. **DC 3V CHARGING JACK:** Use this jack and one of the enclosed Battery Chargers to recharge the battery while it is installed in the Transmitter.

# Operation

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## Battery Charging

Your system will work best with fully charged batteries each day. Batteries last longest (up to three years) when charged each night. It's best if batteries are not drained completely before charging. **When you first receive your system, charge the batteries overnight.**

1. Use only the BC 370 Battery Chargers (included) to charge the batteries.
2. Fold out the wall-plug 90 degrees.
3. Plug the Battery Charger into a standard 120-volt electrical outlet.
4. After the Transmitter and Receiver are turned OFF, insert the charging cord into the DC 3V charging jack. The green LED on the charger will light.
5. Let the Transmitter and Receiver batteries charge for 8 hours.



## Transmitter Set-Up

1. Slide power switch all the way right to OFF.
2. Plug the microphone cable plug securely into the MIC jack on top of the Transmitter. Be sure plug is seated all the way into the jack.
3. Select the desired channel (A or B) on the side of the Transmitter. This must match the channel on the Receiver you are using.
4. Position microphone according to type selected. (See Microphones in the Control & Function section.)
5. Rotate the volume knob to approximately mid-way. You may need to adjust this later, dependent on the teacher's voice volume and the student's hearing needs.
6. Slide power switch all the way left to the ON position. (Avoid the center MUTE position.)
7. Transmitter can be worn clipped to a pocket or belt.

# Operation

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## Receiver Set-Up

1. Slide power switch to OFF.
2. Plug headphone plug securely into EARPHONE jack on the top of the Receiver.
3. Check that the channel switch is set to the same channel (A or B) as the Transmitter.
4. Put on the headphones, checking for correct/comfortable fit and placement over ears.
5. Rotate Receiver volume control to mid-point. You may need to adjust this once the system is operational, dependent on the teacher's voice volume and the student's hearing needs.
6. Slide the power switch to ON, and adjust volume. The Transmitter may be clipped to a belt or pocket, or placed in the protective Carry Case and worn at the waist.

LES 370 systems are available with eight different frequencies in four pairs. Multiple Receivers will operate from one Transmitter, providing that all Receivers are channel-selected to match the Transmitter.

If you are experiencing interference on channel A, switch the Transmitter and Receiver to channel B.

The frequency numbers listed below correspond with MicroLink™ frequency channels. Frequencies are paired as follows:

No 1 216.0125 & No 9 216.2125

No 12 216.2875 & No 18 216.4375

No 64 216.5875 & No 72 216.7875

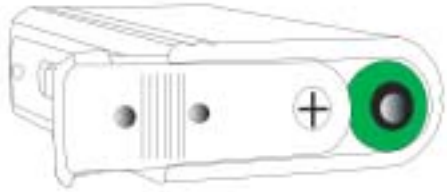
No 77 216.9125 & No 80 216.9875

# Operation

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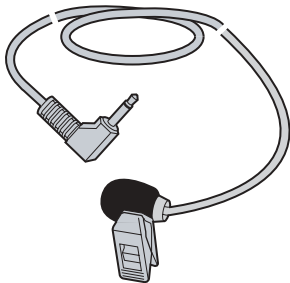
## Battery Replacement

To access the rechargeable battery for replacement, push down at the ribbing on the bottom and slide the cover off. This will expose the plus (+) end of the battery. Slide the battery out, replace with a new NiMH “AA” battery. Observe polarity, the plus (+) end should be showing when installed. Slide cover back into place.



## Microphones

LightSPEED offers three different microphones for use with the LES 370 system:

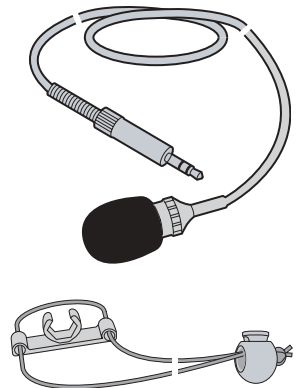


### Lapel Microphone

This microphone is standard with most LES 370 systems. Best performance is achieved when the microphone clip is attached to your clothing two to four inches below your chin.

### Lavaliere Microphone

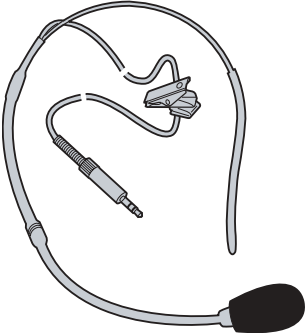
The lavaliere microphone is worn on an adjustable cord with the microphone resting on your collarbone. Adjust the cord length by squeezing the adjuster together and then sliding it up or down the cord until the microphone rests against the collar bone.



# Operation

## Headset Microphone

Position and fit the TK-250 noise-canceling headset microphone as shown below.

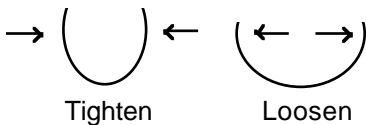


Hold the TK-250 headset microphone on the sides of the U-shaped band. Slide the headband onto your head from behind and set it on the tops of your ears, as if you were putting a pair of glasses on backwards.



The microphone boom, running from the top of your ear to your mouth, ideally follows the curve of your face and jaw, just below your line of sight. For best performance position the microphone one inch in front of your chin and not directly in front of your mouth. Bend the flexible boom until good mic placement is achieved.

To adjust the headband fit around your head, grip each side of the band, holding it in a U-shape. Flex it inwards to tighten or pull it outward to loosen. The band itself is virtually unbreakable.



Cord placement can be individual, depending on what is most comfortable for you. Many people prefer to wear it at the back with the Transmitter

in a back pocket or on the back of your belt so there is no interference with hand movements.

# Troubleshooting

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Please go through this checklist before calling LightSPEED's Service Department. **Note: The majority of system problems are related to low battery power. Check battery and charger function first.**

## Battery Check

- Confirm batteries are charged each night. With proper charging, batteries can last three school years.
- Confirm charging LED is on while charging.
- Confirm Transmitter and Receiver are turned OFF while charging.

## Hearing Static

- Test Transmitter with a fully charged "AA" battery. (A good quality regular alkaline "AA" battery may be used for testing.) **Do not attempt to charge alkaline batteries. System damage may result.**
- Confirm microphone plug is inserted securely into the Transmitter MIC jack.
- Check battery contacts. Clean if necessary.
- If static occurs only when wiggling the mic cord, determine whether the static is coming from the cable or the transmitter jack by firmly holding the plug into the jack and moving the cord along its length.
- If you have access to another microphone, try it in your Transmitter. If it works, your original microphone may need repair. If the system checks out okay, and you still hear some occasional static or popping, you may be experiencing radio frequency interference (RFI). If you think it may be RFI, try switching the channel to the other frequency and see if the interference goes away. Confirm that your frequency is not being duplicated by another wireless FM system within the building. Continued RFI may require exchanging your system for one with a different frequency.

# Troubleshooting

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## Low Volume

- Check volume level on Receiver and adjust as necessary. Clockwise adjustment of the volume knob will increase volume.
- If volume is too low, check to be sure that the batteries are properly charged in the Transmitter and Receiver.

## Sound Fades In and Out (Drop Out)

- Test Transmitter with a fully charged “AA” battery. You can use a regular alkaline “AA” battery if you are uncertain of the rechargeable battery’s condition.
- Make sure the battery in the Receiver is properly charged as well. For testing purposes, you may use a new alkaline “AA” battery.

## No Sound From Headphones:

- Check the Receiver volume level.
- Confirm the Transmitter and Receiver have matching frequencies. (A with A or B with B.)
- Confirm the microphone plug is securely inserted into the Transmitter MIC jack.
- Confirm the Transmitter power switch is turned ON and that its power LED is lit. Confirm that it is not set in the MUTE position.
- Confirm that the teacher volume knob is turned up sufficiently by turning clockwise.
- Confirm that the Receiver is turned on and that the power LED is lit.
- Confirm that there are operational headphones plugged into the headphone jack.

# System Care

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## Transmitter Care:

- Cleaning the microphone jack and battery contacts will help ensure that your system gives you years of reliable operation.
- We recommend using a “deoxidizer” or contact cleaner every two or three months.

## Battery Maintenance & Care:

- Batteries should not be discharged completely. Before storing for extended periods of time, batteries should be fully charged and then removed from the charger. (Charging takes approximately eight hours.)

**If you have gone through this checklist  
and are still having problems,  
write down the serial number and model of your system.  
Call LightSPEED’s Service Department at:**

**800-732-8999**

7:00am - 5:00pm PST

# FCC Notice

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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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment has been tested and found to comply with the limits of 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 instruction may cause harmful interference to radio communication. 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 running the equipment off and on, the user is encouraged to try to correct the interference by increasing the separation between the transmitter and receiver.

# Warranty

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The LightSPEED LES 370 Series Listening Enhancement System is guaranteed against malfunction due to defects in materials and workmanship for a period of one year from purchase. Microphones and batteries are guaranteed for one year. The product will be repaired or replaced at LightSPEED's option during the warranty period. Warranty does not extend to finish, appearance, or malfunctions due to abuse or misuse. Repairs performed by any other party than LightSPEED will void this guarantee. Our Service Department (800.732.8999, 7:00am – 5:00pm PST) will handle all your repair/replacement needs.



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09/1/2003