

What is Classroom Amplification

*White Paper by Bruce Bebb, Marketing Communications Director,
LightSPEED Technologies*

Simple solutions are often times overlooked. Today's classrooms are more interactive and with added technologies, are becoming noisy and sometimes distracting learning environments. Teachers are now using a simple infrared microphone to insure every child hears all the instruction, all of the time.

*"Adults demand clear speech. Children require it." —Karla Goddard,
Audiologist*



880iR Classroom Amplification System

“Systems are differentiated by how many auxiliary audio sources will be run through the amplifier, and by what features are required.”

What is Classroom Amplification Technology?

Classroom Amplification Technology, known as CAT, is a wireless microphone system that clarifies the teacher’s voice and evenly distributes sound throughout the learning environment. These systems allow every child to clearly hear the spoken instruction. A second microphone is often employed to promote student participation and interaction. CAT systems also integrate with other audio sources providing a surround-sound effect for multimedia presentations.

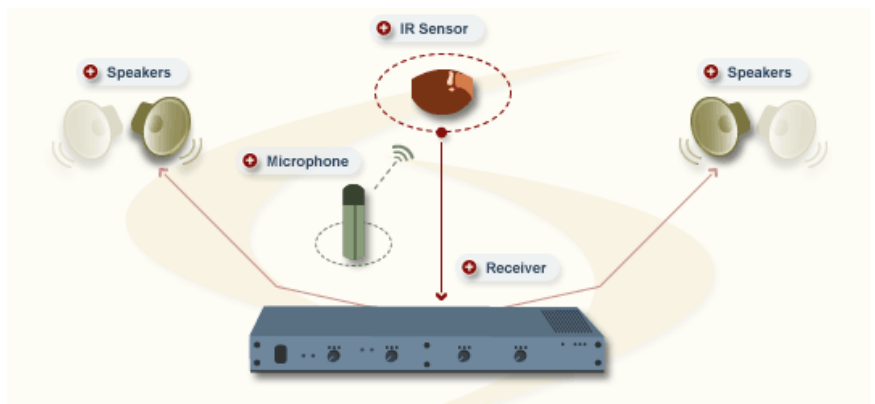
Research over two decades is conclusive—classroom amplification improves academic performance, reduces vocal stress, and helps create an optimum learning environment. The most important benefit of this instructional technology is that all students are given an equal opportunity to learn.

Classroom Amplification Components

Classroom amplification systems vary from a simple plug & play, all-in-one unit like the REDCAT, to a fully installed system with multiple ceiling speakers. Systems are differentiated by how many auxiliary audio sources will be run through the amplifier, and by what features are required.

A typical installed classroom amplification system consists of four primary components:

1. Receiver/amplifier
2. Infrared sensor
3. Infrared microphone/transmitter
4. Speaker(s)



“In most cases, after the system is turned on and volume is set, there is no need to touch the amplifier again.”

LT-71 LightMic™ Microphone/Transmitter



Auxiliary input jack allows any audio source to be plugged into the LightMic, allowing the computer, CD player or iPod™ audio to instantly fill the room.

1. Receiver/amplifier:

The receiver/amplifier is the heart of the system and provides all controls and connection points. A receiver/amplifier can be mounted on a wall shelf, placed on a desk or counter top, or secured in a cabinet.

Front panel: Designed with the teacher in mind;

- Power on/off switch
- Volume controls for microphones and connected audio sources

Back panel: Connection points and adjustments including;

- Power supply
- Speaker(s)
- Mic charger
- Assistive Listening Device (ALD) connections
- Auxiliary audio inputs
- IR sensor

2. Infrared Sensor:

The infrared sensor receives the IR signal from the LightMic and sends it to the receiver/amplifier through a coaxial cable. This small dome sensor is typically mounted in the center of the ceiling, but can be mounted on the wall if necessary.

3. Microphone/transmitter:

The LightMic is the most innovative component of the system. It is very small, has an exceptional voice pick-up pattern and is virtually indestructible. The dual functionality of the LightMic allows it to be worn as a pendent style microphone or used as a pass around microphone for student participation. Other features of the LightMic include:

- Two channels allow two mics to be used simultaneously for team teaching or student interaction
- Auxiliary input jack allows any audio source to be plugged into the LightMic, allowing the computer, CD player or iPod audio to instantly fill the room
- The LightMic weighs in at only 3.2 ounces
- NiMH rechargeable batteries stay in the microphone

Choosing a speaker that produces highly intelligible sound to every corner of the room is important. LightSPEED offers a variety of ceiling and wall mounted speakers that have been designed specifically for the classroom.

Ceiling Speakers:



CNXQ

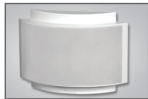


DRQ

Wall Speakers:



WMQ



CSQ



NXQ

4. Speakers:

Speaker options are important as classrooms may have limitations as to where speakers can be mounted. Classroom acoustics is also a factor when choosing the appropriate speaker. Four distributed ceiling speakers are most common, however a single, flat panel speaker provides superior sound coverage and are easier to install.

Integrating CAT with Other Multimedia Instructional Tools:

Classroom amplification is being integrated with many of the audio sources common in today's intelligent classrooms. Computers, electronic white boards, LCD projectors, iPods, etc., can now plug into CAT systems to provide clear, surround sound presentations.



“It’s not about cranking up the volume; it’s about intelligibility.”

“Even teachers who thought their voices were loud enough have seen the difference in their students’ performance and their own energy level.”
—Shirley Duncan, CCC-SP
Whiteland Elementary, IN

Why Classroom Amplification Technology is a Good Idea

Classrooms can be noisy and distracting learning environments. CAT is designed as a low volume amplification system that overcomes ambient noise, clarifies the teacher’s voice and evenly distributes sound throughout the learning environment. The result is that every child is able to clearly hear every word of instruction. CAT is one of the most effective instructional technologies available today with benefits that include:

- Higher composite test scores
- Improved reading and language test scores for all students at all levels
- Attention and on-task times improve
- Class interaction and participation increases
- Classroom management and transition times improve
- Student motivation and confidence increase
- Greater word recognition by ELL students
- Classroom stress is lowered
- Reduced throat/voice fatigue and related absenteeism
- No changes to curriculum or teaching style required

Classroom amplification is no longer employed just for students with hearing issues. It is now widely accepted for general education classrooms and has a proven track record of benefiting all students. In fact, some states and school districts have mandated classroom amplification for every room. The ease of implementation coupled with no changes in curriculum or teaching methods makes this instructional technology an easy choice. Classroom Amplification Technology is a simple concept... with powerful results

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Local LightSPEED Classroom Amplification Consultants are available to tour your school and help determine what systems are appropriate for optimizing the learning environment. LightSPEED representatives are also available to speak at parent teacher meetings, school board meetings or other venues where information about this simple, yet powerful technology is requested.

LightSPEED offers several types of system and speaker combinations to meet the various classroom configurations and acoustic challenges.



High Value Solution: 820iR

The 820iR delivers the essential features for schools that want a simple, high value classroom amplification system.



Interface with Multimedia: 850iR

The 850iR is designed for traditional classroom environments that need to amplify multimedia equipment such as TVs and computers, as well as the teacher's voice.



REDCAT™ Infrared Classroom Amplification Technology

The REDCAT is an all-in-one system that requires no installation. It can be mounted on the wall like a picture frame, or placed on a bookshelf or desk top. It distributes sound evenly throughout the classroom and is specifically engineered to deliver outstanding voice intelligibility.

Questions?

If you have any questions about Classroom Amplification Technology, or would like to speak with a customer service representative regarding specific classroom applications, please call LightSPEED Technologies at 800.732.8999.

About LightSPEED

Established in 1990, LightSPEED is the leader in Classroom Amplification Technology. We are passionate about improving the listening and learning environment for every child. Built with the teacher in mind and designed specifically for the classroom, our systems are easy to use and proven to increase overall student achievement—without changing curriculum.

LightSPEED Advantages

LightSPEED classroom amplification systems are designed for classrooms of today and tomorrow...

- Commitment to Student Achievement
- Professional Audio Quality
- Virtually Unbreakable LightMic™
- 5-year Warranty
- No Audio Drop-out, Guaranteed
- Personal Service and Support

Corporate Headquarters:

11509 SW Herman Rd

Tualatin, OR 97062

800.732.8999 (from the US)

+1.503.684.5538 (from outside the US)

info@lightspeed-tek.com • www.lightspeed-tek.com

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