



## **Infrared Classroom Audio System**

Models **PAIRSYSBCS** (w/ four *ClearSound*™ Ceiling Speakers)  
**PAIRSYSCS** (w/ two *ClearSound* Ceiling Speakers)

**Califone understands that the proper utilization of audio technology can assist classroom learning and student comprehension.**

**Acknowledged research has validated the use of enhanced sound field amplification in learning areas. The Infrared Classroom Audio System delivers all of the benefits of sound field amplification with greater audio coverage & reception with dual ceiling sensors to expand the coverage area and avoids “drop out” of the infrared signal from each mic to the sensors.**

**The Califone Infrared Classroom Audio Systems will help:**

- **Improve academic achievement**
- **Increase on-task behavior**
- **Increase attention to verbal instruction**
- **Improve comprehension for English Language Learners**
- **Improve ease of listening and teaching**
- **Reduce vocal strain and fatigue on teachers**
- **Works with PC/MAC teleconferencing systems such as Microsoft® Netmeeting so the entire class can participate in distance learning applications**

**The benefits of the Infrared Classroom Audio System are enhanced by its use of *ClearSound* ceiling speakers. Available with the Classroom Audio System with a choice of two or four speakers, they are engineered with a frequency response that’s optimal for vocal reproduction and multimedia presentations. With their superior coverage, the *ClearSound* speakers create whole room audio immersion.**



PAIRSYSCS shown

**“We know that this technology is helping our students. We know they are able to hear the teacher better, which creates a more language-focused learning environment.”**

Debra Drysdale, Principal  
G.W. Carver Elementary School  
Yuma, AZ

**“We believe that using the Califone audio system in the classroom helps to naturalize the teacher’s speaking voice, allowing for the appropriate tone and pitch to reach each student. With this system, teachers tend to speak at a lower volume into the microphone, allowing a wider range of pitches to come through, and ultimately this helps to reduce strain on their voices”**

Jim Dieckmann, Library Media Teacher, in a Case Study on  
Clear View Charter Elementary School  
Chula Vista, CA

Califone® International Inc. 800-722-0500  
califone.com



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## Features

1. *ClearSound* ceiling speakers engineered for optimal frequency response for vocal reproduction and multimedia presentations
2. Two ceiling-mounted IR receivers (twice as many as other brands offer as standard equipment) deliver twice the reception from the two mics with less signal drop out and allows increased wireless coverage within classrooms of up to 2,000 sq. ft. and ensures full wireless mobility to move about the classroom with its 40' transmission range
3. Beltpack transmitter & headset mic (batteries for mics must be purchased separately) will operate all day long on a single charge.
4. Quick operating guide printed onto the inside of the cabinet for easy referral. Lockable metal case safely stores equipment while not in use
5. Lockable metal case safely stores equipment while not in use
6. Built in charging station for the wireless handheld mic. Includes a 2nd infrared frequency enabling both mics to function at the same time
7. Balanced and unbalanced (3.5mm, XLR, 1/4") mic inputs and aux-in connects the audio from a computer, LCD projectors, and other media players for enhanced audio amplification
8. Built-in mixing panel on the front with separate volume levels for both wireless mics, bass, treble controls, IR receiver, and an overnight recharger for the belt-pack transmitter
9. Exterior flange for surface or flush-mounting the panel box



PAIRSYSBCS shown

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## Specifications

### Infrared Mic Specifications\*

Transmitting & Receiving Mode	IR
Transmitting & Receiving Frequency	2.35MHZ
Wireless Transmission Range:	Approximately 40 ft., for rooms up to 2,000 sq. feet
Current Consumption	240mA
AF Output	650mV AF 1kHz
Mic Inputs:	Balanced and unbalanced, condenser (XLR, 1/4", 3.5mm)
Line Output:	1/4"
AC Power Requirements:	110 – 125 VAC, 50/60 Hz
Modulation:	FM (Frequency Modulation)
Sensitivity:	7 microvolts
Frequency Response:	50 Hz - 15 KHz +/- 3dB
Wireless Transmission Range:	Approximately 40 ft.
Dynamic Range:	100 dB
Distortion	<1%
Battery	Two 1.2V (AA) or Two 1.5V (not included)

### Student Hand Held Microphone\*

Sub-carrier frequencies	2.35MHz
Microphone	Unidirectional, dynamic
Power	2-'AA' NiMH Rechargeable batteries (not included)
Microphone Recharging Station	Included

### "Project Intercept"

Please contact us immediately if you experience any difficulties with your Infrared Classroom Audio System. Our "Project Intercept" customer service program will quickly repair or replace items under warranty. Simply contact us via phone or email [warranty@califone.com](mailto:warranty@califone.com)

Visit our website at [www.califone.com](http://www.califone.com) to learn more about the complete line of *Califone*® audio enhancing and visual technology products including: Wired and Wireless public address systems and lecterns, wireless microphones, headphones & headsets, group listening centers, multimedia players and computer peripheral products.

*We are proud of helping teachers enhance student understanding and achievements since 1947, with your satisfaction as our first priority.*

The Infrared Classroom Audio System carries a limited six-year warranty and service support available through authorized dealers nation-wide. Its warranty covers school use - unlike some other PA products whose warranties would be voided if used in schools.

Distributed by:

### Receiver/Amplifier

Audio Power	30 Watts RMS
Power Requirements	18VAC 50 VA
Speaker Connections	for 2 speakers
Mono inputs	2 - (RCA type, Hi Z, Mixed)
Auxiliary Volume Control	1
Sub-carrier frequencies	2.35 MHz or 2.85 MHz
Type	Super heterodyne - crystal controlled
Signal-to-noise	>80 dB
Image rejection	40 dB
Reception sensitivity	>25dBuV
Reception selectivity	±40kHz
Condensor, balanced and unbalanced (3.5mm, XLR, 1/4") mic inputs, aux in and line out	

### Belt-Pack Transmitter with hands-free headset mic (HBM-316)

Single carrier	2.35MHz
Audio distortion	<1.0%
Mic input impedance	2.2k ohms
Auxiliary Mic input jack	3.5mm
Built-in mic	unidirectional electret
Microphone gain adjustment	Max to -50dB
Power	2-'AA' NiMH rechargeable batteries (not included)

### ClearSound Ceiling Speakers (CS308)

Color	White
Cone Size	2-way speaker; 1" tweeter + 6" woofer
Cone Material	Polypropylene with Mica
Impedance	8 ohms
Rated Power	30W RMS, 60W peak
Sensitivity	87dB
Frequency Response	45Hz to 20kHz
Back Cover Material	UL fire-rated ABS plastic
Bracket Material	Steel (18 awg)
Hole Diameter	A 8-1/8" circular hole is required
Dimensions	Depth 6", width 9.5"
Mounting Bracket	Included for each speaker

### External Infrared Dome Sensors

Two (2) 360 degree ceiling mounted infrared sensors for optimal coverage of infrared signal pickup throughout the entire classroom	
Cable length	30 ft standard
Power	Powered by receiver
Size	3.9" (D) x 1.2" (thick)
Weight	7.5 oz each
Sensor Type	Lensed infrared diode
Number of Lensed Diodes	6
Reception Angle	360 degrees

### Storage Cabinet

Construction	Lockable steel case stores mics
Built-in charging ports	For belt-pack transmitter & handheld mic
Dimensions (L x W x H)	10.6" x 4.75" x 11.8"

### Total System Weights :

<b>PAIRSYSBCS:</b> ship weight 74 lbs. shipped in 3 cartons; 2 @ 28 lbs each, 1 @ 18 lbs.
<b>PAIRSYSCS:</b> ship weight 46 lbs., shipped in 2 cartons, 1 @ 28 lbs., 1 @ 18 lbs.

### Safety Approvals: Warranty

AC Wall adapter is C-UL/CE approved 6 years from date of purchase (PA only, all other parts one year)