



REDCAT (RC2) DETAILED SPECIFICATIONS

ALL-IN-ONE CLASSROOM AUDIO SYSTEM

1.1 OVERALL SYSTEM DESCRIPTION

- A. The system must have specifications and features that are equivalent to the Lightspeed REDCAT® All-in-one Classroom Audio System including the following:
 - 1. All-in-one unit with integrated infrared receiver, infrared sensors, amplifier, and speaker
 - 2. Flat sound panel speaker with exciter technology
 - 3. Two IR channels with independent volume controls
 - 4. Pendant-style REDMIKE® classroom microphone with audio input
 - 5. One audio input with volume control
 - 6. One audio output with level control
 - 7. Tone Control
 - 8. Table-top or wall-mount
- B. The system must be capable to be set up in a classroom without installation. The system must be fully operational without speaker wires or sensor cables.
- C. The system shall carry a standard warranty equivalent to the Lightspeed 5-year Warranty.

1.2 OWNER INSTRUCTION

- A. Owner's Instruction: user-training will be performed by the manufacturer's local representative. The training will include a video on the research and benefits of classroom audio, system operation, simple troubleshooting guidelines, and incorporating the classroom audio into teaching styles. The manufacturer will also provide additional training in trouble-shooting techniques and product return procedures to one specified person per campus.
- B. Instruction materials and detailed Owner's manual shall be provided to cover operational and basic maintenance procedures.

1.3 ALL-IN-ONE SYSTEM SPECIFICATIONS

- A. Overall System:
 - 1. Power output: 20 Watts Total
 - 2. Acoustic Frequency response: 120 Hz to 13 kHz
 - 3. Power supply (UL Listed): 24V/1.75A
 - 4. Signal-to-noise: >77 dB
 - 5. Image and Spurious Rejection: >70 dB
 - 6. Total Harmonic Distortion: <1%, 1 kHz
 - 7. Standard sub-carrier frequencies: 2.06/2.54 MHz
Alternative sub-carrier frequencies: 3.20/3.70 MHz
 - 8. Receiver Sensitivity: 6 μ V for 60 dB S/N
 - 9. Reception Selectivity: \pm 40 kHz
 - 10. Dimensions (W x D x H): 16" x 2" x 9"
 - 11. Weight: 3.2 lbs.
 - 12. Controls:
 - a. (1) Power switch with front panel LED
 - b. (2) IR microphone volume controls
 - c. (1) Audio input volume control
 - d. (1) Audio output level control



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- e. (1) Tone Control
 - 13. Connections:
 - a. (1) Audio input (3.5mm)
 - b. (1) Mixed audio output (3.5mm)
 - c. (1) DC Power input
 - B. Integrated Infrared Sensors:
 - 1. 2 Vertical Arrays
 - 2. Total Diodes: 68
 - 3. Reception Coverage: up to 1200 square feet
 - C. Integrated Flat-panel Speaker:
 - 1. Description: sound panel with exciter technology
 - 2. Panel Size: 13.75" x 6.75"
 - 3. Frequency Response: 100 Hz – 15 kHz ± 6dB
 - 4. Impedance: 8 Ω
 - 5. Power Handling: 20 W
 - D. The all-in-one audio system and its components must be UL Listed to meet the standards and requirements for electrical safety by Underwriters Laboratories Inc.
 - E. The all-in-one audio system shall be manufactured using lead-free processes and free of other materials harmful to the environment (RoHS compliant).
 - F. The receiver/amplifier shall be CE certified.
- 1.4 REDMIKE PENDANT-STYLE IR MICROPHONE / TRANSMITTER
- A. Description: the pendant-style REDMIKE transmitter shall be capable of being worn around a teacher's neck as a hands-free microphone via the lavalier cord or to be used as a handheld student pass-around microphone. The REDMIKE must be rechargeable via cradle charger and must have alkaline charge protection.
 - B. Standard sub-carrier frequencies: 2.06/2.54 MHz
Alternative sub-carrier frequencies: 3.20/3.70 MHz
 - C. Audio distortion: <1%
 - D. Integrated microphone type: uni-directional electret
 - E. Input jack for audio source or optional external microphone: 3.5mm
 - F. Microphone input impedance: 2.2k Ω
 - G. Alkaline Charge Protection: Yes
 - H. Battery Charger: cradle charger (charges two REDMIKE transmitters)
 - I. Cradle Charger input: mini DC jack
 - J. Cradle Charger Output Jack: 3.5mm DC output jack for LT-71 or HM-70 transmitters
 - K. Battery Power: One (1) AA NiMH Lightspeed rechargeable battery (Part# BA-NH2A27)
 - L. Dimensions: 3.5" (h) x 0.9" (w) x 1.0" (d)
 - M. Weight (with battery): 2.1 oz.
 - N. The REDMIKE pendant-style transmitter shall be manufactured using lead-free processes and free of other materials harmful to the environment (RoHS compliant).



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O. The REDMIKE pendant-style transmitter shall be CE certified.

1.5 OPTIONAL REDMIKE VC INFRARED MICROPHONE WITH VOLUME CONTROL

A. Description: the pendant-style REDMIKE VC infrared microphone/transmitter shall contain microphone volume control on the unit allowing teachers to adjust volume level from anywhere in the classroom. The microphone must be capable of being worn around a teacher's neck as a hands-free microphone via the lavalier cord or to be used as a handheld student pass-around microphone. The REDMIKE VC must be rechargeable via cradle charger and must have alkaline charge protection.

B. Standard sub-carrier frequencies: 2.06/2.54 MHz
Alternative sub-carrier frequencies: 3.20/3.70 MHz

C. Audio distortion: <1%

D. Integrated microphone type: uni-directional electret

E. Input jack for audio source or optional external microphone: 3.5mm

F. Microphone input impedance: 2.2k Ω

G. Volume control range: ± 8 dB (total range = 16 dB)

H. Volume control level: 9 levels (2 dB change per level)

I. Alkaline Charge Protection: Yes

J. Battery Charger: cradle charger (charges two REDMIKE or REDMIKE VC transmitters)

K. Cradle Charger input: mini DC jack

L. Cradle Charger Output Jack: 3.5mm DC output jack for LT-71 or HM-70 transmitters

M. Battery Power: One (1) AA NiMH Lightspeed rechargeable battery (Part# BA-NH2A27)

N. Dimensions: 3.5" (h) x 0.9" (w) x 1.0" (d)

O. Weight (with battery): 2.1 oz.

P. The REDMIKE VC shall be manufactured using lead-free processes and free of other materials harmful to the environment (RoHS compliant).

Q. The REDMIKE VC shall be CE certified.

1.6 OPTIONAL LIGHTMIC TRANSMITTER (HANDHELD OR PENDANT-STYLE)

A. Description: the pendant-style LightMic transmitter shall be capable of being worn around a teacher's neck as a hands-free microphone via the lavalier cord or to be used as a handheld student pass-around microphone.

B. Standard sub-carrier frequencies: 2.06/2.54 MHz
Alternative sub-carrier frequencies: 3.20/3.70 MHz

C. Audio distortion: <1%

D. Integrated microphone type: uni-directional electret

E. Input jack for optional external microphone: 3.5mm

F. Microphone input impedance: 2.2k Ω

G. Battery Charger input: 3.5mm DC jack



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- H. Battery Power: 2 AA NiMH Rechargeable Batteries
 - I. Dimensions: 4.625" (l) x 1.375 (w) x 1" (d)
 - J. Weight (with batteries): 3.7 oz.
 - K. The LightMic pendant-style transmitter shall be manufactured using lead-free processes and free of other materials harmful to the environment (RoHS compliant).
 - L. The LightMic pendant-style transmitter shall be CE certified.
- 1.7 OPTIONAL REDMIKE SHARE HANDHELD IR MICROPHONE / TRANSMITTER
- A. Standard sub-carrier frequencies: 2.06/2.54 MHz
Alternative sub-carrier frequencies: 3.20/3.70 MHz
 - B. Audio distortion: <1%
 - C. Integrated microphone type: uni-directional electret
 - D. Auxiliary Input: 3.5mm
 - E. Battery Charger input: 3.5mm DC jack
 - F. Battery Power: 2 AA NiMH rechargeable battery pack
 - G. Alkaline Charge Protection: Yes
 - H. Dimensions: 8.25" (l) x 1.3" (w) x 1.3" (d)
 - I. Weight (with batteries): 7.9 oz
 - J. The REDMIKE Share shall be manufactured using lead-free processes and free of other materials harmful to the environment (RoHS compliant).
 - K. The REDMIKE Share transmitter shall be CE certified.
- 1.8 OPTIONAL WIRELESS INFRARED MEDIA CONNECTOR
- A. Description: infrared transmitter designed to wirelessly transmit audio from multimedia devices to a REDCAT systems located anywhere in the classroom without long and costly wire runs.
 - B. Sub-carrier frequencies: 2.54 MHz and 3.7 MHz
 - C. Audio frequency response: 80 Hz to 10 kHz \pm 3 dB
 - D. Audio distortion: <1%
 - E. Audio inputs: Three (3) 3.5mm stereo jack
 - F. DC power input: 5V / 1.0 Amp, 0.65mm coaxial barrel DC power jack
 - G. USB power input: 5 V mini-B USB connector
 - H. Mounting: wall or table-top