

**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 Access™ All-in-one Classroom Audio System, including the following:
1. All-in-one unit with integrated receiver, amplifier, and speaker
  2. Optional Lithium ion rechargeable battery pack for portable use
  3. Flat sound panel speaker with exciter technology
  4. Up to 2 microphones for whole room instruction, team-teaching or student sharing
  5. Pendant-style Flexmike™ classroom microphone with audio input
  6. One audio input with volume control
  7. One audio output with level control
  8. Tone Control
  9. System must have easily accessible audio output to connect with a computer or other recording device for lesson capture.
  10. Optional wireless Media Connector utilizing Access Technology for wireless integration of up to 4 additional devices
  11. Optional Activate Charging Station with Access Technology, Bluetooth and Wireless Media Connectivity for integration with mobile devices and laptops:
    - a. Includes 2 channels of 2-way Bluetooth Audio
    - b. 4 audio input connections, 2 audio outputs with volume controls
    - c. Cradle charging for 2 pendant microphones, eight (8) 2-way audio Pods
    - d. USB ports to charge up to four (4) additional 2-way audio Pods
    - e. Bluetooth connection with Activate mobile app for control, streaming and audio/video recording of classroom instruction and interaction
    - f. Mobile device control of system volume levels, Activate Pod selection, and advanced system settings.
    - g. Table-top or wall-mount
  12. Optional Activate Pods with 2-way audio communication featuring the following functionality:
    - a. Integrated speaker and microphone to enable 2-way communication between the teacher and each small group
    - b. Wireless audio communication and battery power for maximum portability.
    - c. Up to 12 speaker Pods can be connected to Redcat for each small student group.
    - d. Enables student sharing directly from the Pods so students can be clearly heard by the whole class.
    - e. Must include a call button allowing students to notify the teacher when they need assistance.
  13. Optional handheld remote control to select and direct communication with small Activate Pods volume levels when mobile device is not present
  14. Optional carry bag

- 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 must be operational off battery or AC power. It should have the capability to be plugged in for long periods of time without adverse effect to battery life.
- D. 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. A Daily Use Guide is included with system to provide information on how to use the system. In addition, instruction materials and detailed Owner's manual shall be available on manufacturer's website to cover complete operational and basic maintenance procedures.

## 1.3 ALL-IN-ONE SYSTEM SPECIFICATIONS

- A. Overall System:
  - 1. Power output: 15 Watts Total
  - 2. Acoustic Frequency response: 120 Hz to 13 kHz
  - 3. Power supply (UL Listed): 24V/1.75A
  - 4. Signal-to-noise: >60 dB
  - 5. Total Harmonic Distortion: <1%, 10 W
  - 6. Wireless Communication: Access Technology (1.9 GHz) + RF4CE
  - 7. Automatic power on when Flexmike is powered on and linked
  - 8. Dimensions (W x D x H): 16" x 2" x 9" (406 x 51 x 229mm)
  - 9. Weight: 2.9 lbs. (1.3 kg), with battery pack: 3.6 lbs (1.6 kg)
  - 10. Controls:
    - a. (1) Power switch with front panel LED
    - b. (1) Microphone volume control
    - c. (1) Audio input volume control
    - d. (1) Audio output level control
    - e. (1) Tone Control
  - 11. Connections:
    - a. (1) Audio input (3.5mm)
    - b. (1) Mixed audio output (3.5mm)
    - c. (1) DC Power/charging input
  - 12. Battery run time: up to 8 hours
  - 13. Device Registration: push button for transmitter(s), remote(s), Activate Pods
  - 14. Reception Coverage: up to 2500 square feet (230 square meters)
- B. Integrated Flat-panel Speaker:

1. Description: sound panel with exciter technology
  2. Panel Size: 13.75" x 6.75" (349 x 171mm)
  3. Frequency Response: 100 Hz – 15 kHz  $\pm$  6dB
  4. Impedance: 8  $\Omega$
  5. Power Handling: 20 W
- C. 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.

#### 1.4 FLEXMIKE PENDANT-STYLE MICROPHONE / TRANSMITTER

- A. Description: the pendant-style Flexmike transmitter shall contain microphone volume control on the unit allowing users to adjust volume level from anywhere in the classroom. The Flexmike 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 Flexmike must be rechargeable via cradle charger, computer, or Activate Bluetooth Charging Station and must have alkaline charge protection.
- B. Wireless communication: Access Technology (1.9 GHz)
- C. Transmission range: up to 200 ft (60m)
- D. Audio distortion: <1%
- E. Integrated microphone type: uni-directional electret
- F. Input jack for audio source or optional external microphone: 3.5mm
- G. Earbud input: 3.5mm TRRS (for monitoring optional Activate Pods)
- H. Registraton: push button for registration with Redcat Access
- I. Microphone input impedance: 2.2k  $\Omega$
- J. Volume control range: (7 dB (total range = 12 dB)
- K. Volume control level: 7 levels ( 2 dB change per level)
- L. Power: on/off/mute button
- M. Indicators: 2 Blue/Red LEDs on top of Flexmike for registration, Mic 1/Mic 2 indicator, power, mute
- N. Alkaline Charge Protection: Yes
- O. Battery Charger: Integrated battery charger. The 5V power can be supplied via a cradle charger (charges two Flexmike transmitters)
- P. Battery run time: up to 8 hours
- Q. USB connection: Type micro-B for charging and audio
- R. Battery Power: 2.4V NiMH rechargeable battery (Part# NH2.4V)
- S. Dimensions (L x W x D): 2.9" x 1.1" x 1.0"; (73 x 28 x 25mm)
- T. Weight (with battery): 1.8 oz. (51g)

U. Lanyard: Magnetic clasp

#### 1.5 OPTIONAL SHAREMIKE WIRELESS HANDHELD MICROPHONE

- A. Wireless communication: Access Technology (1.9 GHz)
- B. Transmission range: up to 200 ft (60m)
- C. Audio distortion: <1%
- D. Integrated microphone type: uni-directional electret
- E. Auxiliary Input: 3.5mm
- F. Registraton: push button for registration with Redcat Access
- G. Power: on/off/mute button
- H. Indicators: 2 Blue/red LEDs for registration, Mic 1 / Mic 2 indicator, power, mute
- I. Battery Charger input: 3.5mm DC jack
- J. Battery Power: 2 AA NiMH rechargeable battery pack
- K. Battery run time: up to 8 hours
- L. Alkaline Charge Protection: Yes
- M. Dimensions (L x W x D): 8.25" x 1.3 x 1.3" (209 x 33 x 33mm)
- N. Weight (with batteries): 7.9 oz (224g)

#### 1.6 OPTIONAL WIRELESS MEDIA CONNECTOR

- A. Description: Integrates with classroom audio sources to send the audio wirelessly to the Redcat Access system anywhere in the room.
- B. Wireless communication: Access Technology (1.9 GHz)
- C. Transmission range: up to 200 ft (60m)
- D. Audio Inputs: (4) 3.5mm stereo jacks connect to classroom audio sources.
- E. Audio Outputs: (2) 3.5mm jack with volume control
- F. (1) Microphone volume control
- G. (1) Audio input volume control
- H. (1) Audio output volume control
- I. (1) Power button with LED
- J. (1) Tone control
- K. (1) Registration button with Registration LED and linked LED
- L. Audio frequency response: 80 Hz to 7 kHz  $\pm 3$  dB
- M. Audio distortion: <1%

- N. DC Power Input: USB 5V/1.5A
- O. Mounting: table-top or wall
- P. Dimensions (W x D x H): 7.6"x 4.1"x 1.1" (194mm x 150mm x 27mm)

#### 1.7 OPTIONAL ACTIVATE CHARGING STATION WITH ACCESS TECHNOLOGY, BLUETOOTH AND WIRELESS MEDIA CONNECTIVITY

- A. Description: Device charging station with wireless audio and Bluetooth connectivity. Activate utilizes 2-way audio communication to integrate audio sources and mobile devices with Redcat anywhere in the room.
  - 1. Integration with Activate mobile app for control, streaming and audio/video recording of classroom instruction and interaction.
  - 2. Mobile device control of system volume levels, Activate Pod selection, and advanced system settings.
- B. Mobile app functionality: Bluetooth interface with companion mobile application with the following functionality:
  - 1. Control and connect to small group 2-way audio Pods
  - 2. Adjust system audio levels and tone control
  - 3. Mobile device audio streaming from audio books, podcasts, music, etc.
  - 4. Audio/video recording synched with microphone and Pod audio
  - 5. Enable advanced system features
- C. Wireless Communication: Access Technology (1.9 GHz + RF4CE), Bluetooth audio (2 channels), Bluetooth LE (2 channels)
- D. Wireless range: Up to 200 ft. (60m) from Redcat, up to 100 ft. (30m) from mobile device.
- E. Audio frequency response: 80 Hz to 7 kHz  $\pm 3$  dB
- F. Audio distortion: <1%
- G. Cradle charging: 2 Flexmikes; 8 Pods
- H. USB charging ports: Two (2) 5V/0.3A charging for Pods, remotes, or Sharemikes; Two (2) 5V/1.0A charging for mobile devices or Pods.
- I. DC Power Input: 24V/1.75A
- J. Auxiliary Power Input: 5V USB from portable power source (no device charging)
- K. Audio Inputs: (4) 3.5mm stereo jacks with volume control
- L. Bluetooth Audio: (2) independent 2-way Bluetooth audio channels
- M. Audio Outputs: (2) 3.5mm jack with volume control
- N. Volume controls: Master microphone, audio input, audio output with 10-segment level indicator
- O. Device Pairing: (2) Push buttons for Bluetooth device pairing, (1) push button for Access device registration.

- P. Mounting: table-top
- Q. Dimensions (W x D x H): 13.3"x 5.9"x 1.9" (340 x 150 x 52mm)
- R. Weight: 1.85 lbs. (0.84kg)

#### 1.8 OPTIONAL 2-WAY AUDIO PODS FOR SMALL GROUPS

- A. Description: 2-way audio Pod with integrated speaker and microphones. Up to 12 Pods can be connected to a single audio system.
- B. Wireless Communication: Access Technology (1.9 GHz)
- C. Wireless range: Up to 200 ft. (60m) from Redcat; up to 100 ft. (30m) with walls
- D. Integrated speaker: 1" high output speaker
- E. Power output: 1 Watt per Pod speaker
- F. Integrated microphones: Two (2) Omni-directional electret with noise rejection
- G. Headphone output: 3.5mm
- H. Controls: Power on/off button, volume up/down buttons, teacher call button
- I. Battery power: 2.5V NiMH rechargeable battery pack
- J. Battery charging: 2 contact for cradle charging + 5V/0.3A micro-USB
- K. Battery life: 10+ hours (fully charged)
- L. Dimensions: 5.2" x 2.1" x 1.1" (132 x 54 x 28mm)
- M. Weight: 6.4 oz. (181g)

#### 1.9 OPTIONAL HANDHELD REMOTE (1-2)

- A. Description: Handheld remote control to select and direct communication with small student groups
- B. Battery Power: 2.4V NiMH battery pack
- C. Charging: 5V USB
- D. Wireless communication: Access Technology (RF4CE)
- E. Controls: Pod selection 1-6; whole class selection; microphone mute; earbud volume
- F. Registration: push button and LED for registration with Redcat
- G. Dimensions (L x W x H): 4.25" x 2.0" x 1.0" (108 x 51 x 25mm)
- H. Weight: 3.4 oz (98g)

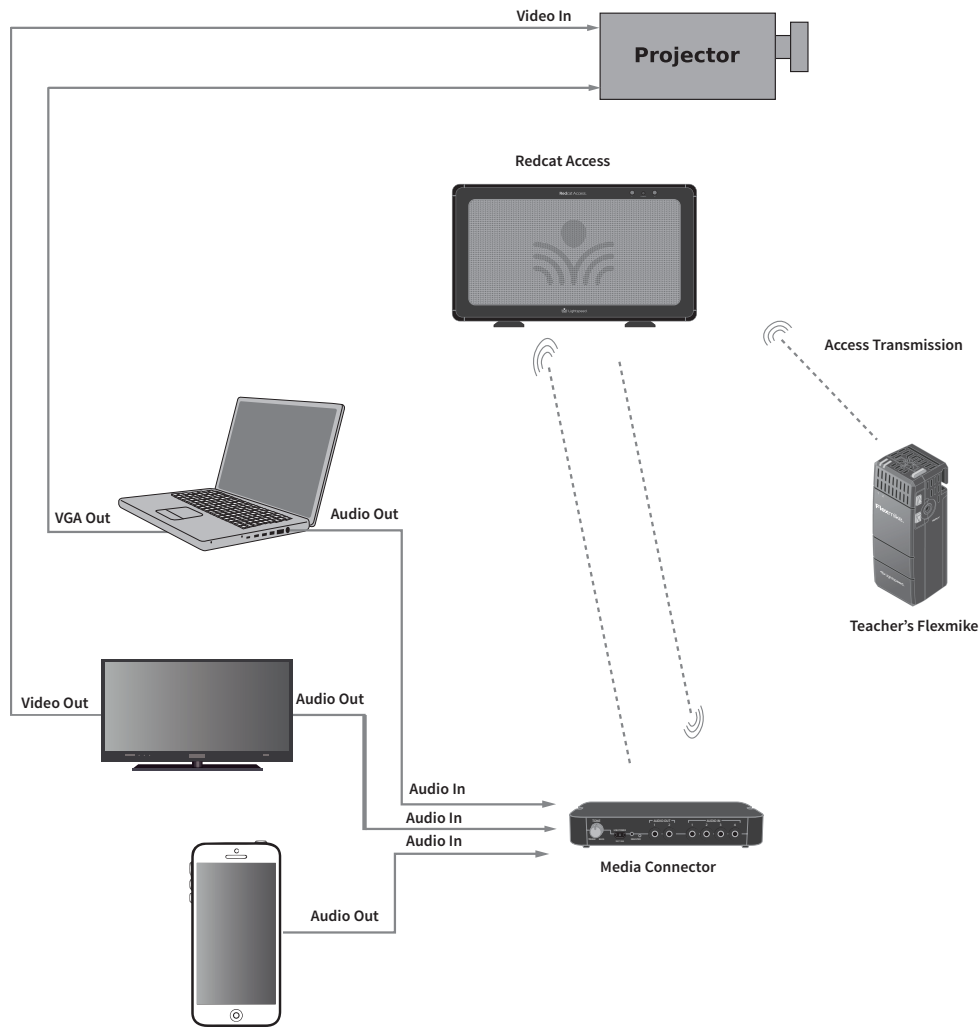
#### 1.10 REGULATORY AND CERTIFICATIONS

- A. The classroom audio system and its components shall be manufactured using lead-free processes and free of other materials harmful to the environment (RoHS and WEEE compliant).

- B. The classroom audio system and its components shall be listed to UL/CUL standards and requirements for electrical safety by Underwriters Laboratories Inc.
- C. The classroom audio system and its components shall be CE Certified and conform with the essential requirements of the following European Union Directives: 2014/30 EU Electromagnetic Compatibility (EMC), 2014/35/EU Low Voltage Directive (LVD) and RED 2014/53/EU.
- D. The classroom audio system and its components shall comply with Part 15 of the FCC rules as a Class B digital device (FCC Certified).

#### 1.11 INTEGRATING THE REDCAT ACCESS WITH OTHER AUDIO SOURCES

The Redcat Access amplifier with Media Connector provides four additional audio inputs to allow other audio sources to be played through the system. Computers, laptops, DVD/VCR's, LCD displays, etc. may be connected into the Media Connector using appropriate patch cords. See the systems integration chart below.



### 1.12 REDCAT ACCESS INTEGRATION USING ACTIVATE STATION

The wireless Activate Station must have four additional audio inputs plus 2 Bluetooth audio channels to allow other audio sources to be wirelessly transmitted and played through the Redcat system. Computers, laptops, mobile devices, DVD/VCR's, LCD displays, etc. may be connected into the Activate Station via Bluetooth or using the appropriate patch cable. The Activate Station must also receive audio back from the Redcat to output the mixed audio signal of both microphone channels as well as selected Pods for audio/video recording to the mobile device and interface with assistive listening devices. Activate Station must also communicate with mobile devices via Bluetooth LE for selection and control of small group audio Pods and system volume levels.



## REDCAT ACCESS DETAILED SPECIFICATIONS

