# MULTIMIKE DETAILED SPECIFICATIONS

## 2-WAY WIRELESS AUDIO HUB

## PART 1. GENERAL

### 1.1 OVERALL SYSTEM DESCRIPTION

A. The system must have specifications and features that are equivalent to the Lightspeed Multimike wireless audio hub, including the following:

1. Multimike audio hub with integrated Access Technology 2-way wireless audio communication
2. Pendant-style Flexmike® classroom microphone with audio input utilizing Access Technology (1.9 GHz) for transmission. IR not acceptable.
3. Handheld Sharemike microphone with audio input utilizing Access Technology (1.9 GHz) for transmission. IR not acceptable.
4. Up to five (5) microphones per system, maximum of twelve (12) in one space
5. Wireless transmission range of up to 200 feet
6. Mic/Line level balanced and unbalanced audio outputs for connection to virtually any audio amplifier
7. One audio input with volume control
8. Tone Control
9. Optional wireless Media Connector utilizing Access Technology for multimedia integration
10. Table-top or wall-mount

B. The system shall carry a standard warranty equivalent to the Lightspeed 5-year Warranty.

C. The system shall carry a “No Audio Dropout Guarantee” between the wireless microphone and the sound system. The guarantee applies to operation in any room up to its expected range of 200 feet (assuming no walls). The guarantee does not extend into other rooms separated by walls as this can limit transmission range significantly. Should any dropout in audio transmission occur, the manufacturer would correct it at no additional charge.

D. Systems utilizing Infrared (IR) or 2.4 GHz wireless transmissions are unacceptable due to the possibility of interference with wireless networks and other classroom technologies.

### 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 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.

## PART 2. PRODUCTS

### 2.1 MULTIMIKE WIRELESS AUDIO HUB SPECIFICATIONS

A. Wireless communication: Access Technology (1.9 GHz + RF4CE)

B. Wireless transmission range: up to 200 ft (60m) open field

C. Line level audio output (nominal): 316 mV RMS (2V RMS max)

D. Mic level audio output: -40 dB of line level mode

E. Frequency response: 120 Hz to 8 kHz

F. DC power input: 5V/250mA micro-B USB connection

G. Total Harmonic Distortion: <1% @ 10 W

H. Automatic power on when Flexmike is powered on and linked

I. Dimensions (W x D x H): 7.6" x 5" x 1.13" (193 x 127 x 29mm)

J. Weight: 9.5 oz. (269g)

K. Controls:
   1. (1) Power button with LED
   2. (1) Master Microphone volume control
   3. (1) Audio input volume control
   4. (1) Tone Control
   5. (1) Mic/Line audio output level control

L. Connections:
   1. (1) Audio input (3.5mm)
   2. (1) Unbalanced audio output (3.5mm)
   3. (1) Balanced audio output (3-pin euro-block)
   4. (1) Lightspeed amplifier interface: audio out + DC power in (RJ45)
   5. (1) USB power input

M. Device Registration: push button for transmitter(s) and Media Connector

N. The wireless audio hub and its components must be UL Listed to meet the standards and requirements for electrical safety by Underwriters Laboratories Inc.

### 2.2 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 lavaliere cord or to be used as a handheld student pass-around microphone. The Flexmike must be rechargeable via cradle charger 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 use with optional Lightspeed EMA earset mic, or LMA lapel mic)

H. Registraton: push button for registration with Multimike

I. Microphone input impedance: 2.2k Ω

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. Charging: 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 Audio: interface with computer USB audio while charging

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

2.3 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 Multimike

G. Power: on/off/mute button

H. Indicators: 2 Blue/Red LEDs for registration, Mic 1/Mic 2 indicator, power, mute

I. Charging: 5V USB; 3.5mm DC jack plugged into back of cradle charger when system is sold with combination of Flexmikes and Sharemikes

J. Charging: USB3DC 3-port charging adapter charges up to 3 Sharemikes

K. Battery Power: 2 AA NiMH rechargeable battery pack

L. Battery run time: up to 8 hours

M. Alkaline Charge Protection: Yes

N. Dimensions (L x W x D): 8.25” x 1.3 x 1.3” (209 x 33 x 33mm)

O. Weight (with batteries): 7.9 oz (224g)

2.4 OPTIONAL WIRELESS MEDIA CONNECTOR

A. Description: Integrates with classroom audio sources to send the audio wirelessly to the Multimike 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
1. (1) Microphone volume control
2. (1) Audio input volume control
3. (1) Audio output volume control
4. (1) Power button with LED
5. (1) Tone control
6. (1) Registration button with Registration LED and linked LED

F. Audio frequency response: 80 Hz to 7 kHz ±3 dB

G. Audio distortion: <1%

H. DC Power Input: USB 5V/1.5A

I. Mounting: table-top or wall

J. Dimensions (W x D x H): 7.6”x 4.1”x 1.1” (194mm x 150mm x 27mm)

2.5 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).

## 2.6 INTEGRATING THE MULTIMIKE WITH OTHER AUDIO SOURCES

The Multimike with amplifier must have up to four 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 amplifier using appropriate patch cords. See the systems integration chart below.