

# Erika Microphone System

## User Manual

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++720-221-3861

## Safety

**CHOKING HAZARD** - The Erika Microphone/Receiver are small devices, and can be mistakenly swallowed by unsupervised children. Not suitable for children under age 3.

The Erika Microphone/Receiver is not a toy, and should not be used by any children except under direct adult supervision.

**PACEMAKER HAZARD** – American Health Association recommends keeping cell phones at least six inches away from the pacemaker location. The same restriction should be used with the Erika Microphone.

DO NOT submerge the Erika Microphone/Receiver in any liquids.

DO NOT make unauthorized alterations to Erika Microphone/Receiver.

DO NOT expose products containing batteries to excessive heat (e.g. from storage in direct sunlight, fire, oven, microwave, etc).

Please dispose of properly, following local regulations. DO NOT incinerate.

DO NOT insert anything into Erika.



This symbol means the product must not be discarded as household waste, and should be delivered to an appropriate collection facility for recycling. Proper disposal and recycling helps protect natural resources, human health and the environment. For more information on disposal and recycling of this product, contact your local municipality, disposal service, or the location where you purchased this product. The battery in this product is not removable or replaceable.

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## Operation of the Erika Mic System

When starting Erika up the FIRST TIME ONLY – Please plug Erika into a power source. This will switch the Erika out of Shipping mode that ensures the drain on the battery during shipment is ultra-low. If Erika LED flashes blue, keep it on charge until it is solid blue. It should take less than 3 hours to complete a full charge.

Turning Erika Microphone on – To wake up a sleeping Erika, firmly tap or flick on the microphone. A Green LED will flash Indicating that it has started up and is pairing with the receiver. If you see other LED colors, see LED Definitions below.

## How to Wear the Erika Mic

When wearing Erika, keep the microphone in a vertical orientation with the input facing forward USB port DOWN to keep it powered on.

When placing Erika inside of a pocket, carefully drop it in ensuring that the vertical orientation is maintained. Using the magnet behind the pocket to keep it vertical in the pocket is recommended.

When you are completed with Erika, turn the microphone input port down and return it to the carrying case to turn it OFF and save battery life.

The wearer can hide Erika behind a lapel, or piece of matching fabric with little or no effect on the audio quality.

The Erika receiver is easily used with any smartphone, just connect the included cable to the or Android USB-C port from the Erika Receiver. Your smartphone will supply power to Erika receiver. It takes so little power that it is estimated that it will use less than 5% of your total battery charge. Estimated battery life of the Erika transmitter is estimated at 16+ hours between charging.

## How do I charge the Erika Microphone?

To charge the Erika Microphone, it is recommended that you use a laptop/computer USB port, AC to USB 5V charging device, or wirelessly charge your phone and connect the Microphone to your phone, any of these options will charge the Microphone. And in the case of wireless charging the cellphone/microphone the cell phone battery will be charged at the same time. Use of USB power banks/batteries will not allow charging of the Erika Microphone, because Erika requires so little power that the power bank/battery will turn off the USB port. Note that attaching an Erika to a laptop, then closing the screen of the laptop will STOP the charging. Erika microphone will flash the Blue LED while charging, and SOLID Blue LED means it is fully charged. Note that the Erika microphone will NOT work during charging, the radio is turned off during charging of the Microphone battery.

## Erika Wi-Fi information

The Erika system makes use of the 2.4GHz Wi-Fi network spectrum to communicate between transmitter and receiver. Unlike a laptop or desktop computer we do not lock into a single channel in the Wi-Fi spectrum and communicate back and forth, Erika utilizes frequency hopping many times per second across the entire Wi-Fi spectrum. This improves the security of your microphone transmissions because it is very difficult to lock on to the signal and follow it. And if your location has a heavy use of a single channel of Wi-Fi Erika will automatically skip that area of the Wi-Fi spectrum to minimize degraded signal strength.

When using a smartphone with Erika, it is recommended that you turn off the smartphone Wi-Fi and Bluetooth to minimize Erika/Smartphone Wi-Fi signals interfering with each other. Another option is to only connect the smartphone a 5GHz Wi-Fi router signal. See the online resources at the end of the user manual for guidelines about 5 GHz Wi-Fi network setup.



## LED Indications – Defined

Slow Flash is defined as on every 3 seconds, Fast flash defined as on every second.

### **BLUE:**

Slow Flash Blue: Erika microphone battery is charging.

Long Solid Blue LED – Fully charged Erika microphone battery.

Fast Flashing Blue intermittently during recording – Packet loss, needs better connectivity

### **GREEN:**

Green – Erika microphone will flash green LED 3 times at startup to indicate at least 3 hours of battery capacity.

Slow Flash Green: Erika is pairing with the receiver after startup.

Solid Green – Paired with receiver, should go off after ten seconds.

As soon as you pick up Erika – The Green LED will Flash – 3 times means you have at least 3 hours of battery life

### **RED:**

Slow Flash RED: Erika Microphone Battery needs charging.

Fast Flash RED: Erika microphone is shutting down.

Solid Red on Receiver: Erika Microphone is no longer paired.

### **Special colors: RECEIVER ONLY**

Flash Yellow (red/green combo) - SLOW – Battery life is minimal needs charging (Less than 30 minutes remain)

FAST Yellow -



## Technical Specifications

Welcome all the number lovers, specification nerds, and just plain numerologists. We know you love the numbers, and here they are in all their glory.

Size/dimensions –

Microphone – Black Plastic Enclosure (1.34 x 0.84 x 0.42 inches) - - - (37.8 x 21.4 x10.6 mm)

Receiver – White Plastic Enclosure (1.49 x 0.84 x 0.32 inches) - - - (37.8 x 21.4 x 8.2 mm)

Weight –

Microphone - ½ ounce or 14 grams

Receiver – 0.18 ounces or 5 grams

Microphone type – MEMS (Micro Electrical-Mechanical System) digital mic

Battery Voltage & expected life between charges – 3.7 volts – Greater than 16 hours

Max Distance between mic and receiver – approx. 200 feet outdoors (60 meters)

Latency - < 30ms

SNR (Signal to Noise Ratio) - 65dB

Polar Pattern - Omnidirectional

Firmware update information – Microphone connects via USB to computer and downloads new Firmware updates. **Firmware Updater currently only works on Windows 10**

Smartphone OS / Computer OS requirements

Android – OS Android 10 or greater is mandatory. USB-C connection REQUIRED on phone

iOS – **Not at this time**

PC – Windows 7 or newer

Mac – Mac OS 10.13.6 (High Sierra) or newer

Chromebook – 86 or later



## Warranty Information

Convergent Design warrants Erika, and all included accessories, against defects in material and workmanship for a period of ninety days, and may extend another ninety days for registered units from the original date of purchase.

Convergent Design disclaims all other warranties.

Convergent Design will not be liable for damages of any kind, including, but not limited to, compensation or reimbursement on account of failure of the unit, or any of its accessories, or external storage systems, or any other media or storage systems to record or playback content of any type. Convergent Design's total liability, in all cases, is limited to the actual purchase price.

If you discover a defect, please refer to our Return Merchandise Policy below.

During the warranty period, Convergent Design, at its option, will repair or replace product or product components, which in its opinion prove defective, provided the unit is returned, freight charges prepaid, to Convergent Design. Parts and components used in the repair process may be recycled or repaired, at Convergent Design's sole discretion. This warranty service will be performed at no charge to the registered owner, provided the product is shipped prepaid to Convergent Design.

Convergent Design reserves the right to determine whether a needed repair is subject to the warranty as per its provisions stated herein. Transit damage caused by inadequate packing violates the warranty. The warranty will be void if, in the opinion of Convergent Design, the product has been damaged through accident, misuse, misapplication, or as a result of service or modification not authorized in writing by Convergent Design.

Opening the unit and breaking any warranty seals, voids the warranty, unless specifically authorized in advance by Convergent Design.

### THE FOLLOWING ARE NOT COVERED UNDER WARRANTY, AND ARE ITEMS FOR WHICH CONVERGENT DESIGN DOES NOT ACCEPT ANY RESPONSIBILITY:

Damage due to overheating conditions.

Damage due to exposure to water, or other liquids, or excessive dust or sand.

Damage caused by dropping or other rough handling.

Damage caused by any over-voltage conditions or reverse voltage conditions.

Any physical damage to the transmitter or receiver including cable connections.

Damage to any connector by using excessive force or rough handling.

## Customer Support

Customer support for the Erika Microphone system is available during business hours from 8:00 AM to 5:00 PM Mountain Time

You may also email [cdsupport@convergent-design.com](mailto:cdsupport@convergent-design.com) with any questions, they will be answered during the same business hours.

## Accessories

Hand-Held Erika Mic holder

Receiver cable holder – places receiver in vertical orientation (for optimal RF reception)

## Regulatory Information

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

- Reorient or relocate the Erika Receiver
- Increase separation between affected equipment and Erika Receiver
- Consult the dealer or an experienced Radio/Television technician for assistance.

**FCC ID: 2AXWYERIKA**



CAN ICES-3(A)/NMB-3(A)

This device complies with ISED Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and

2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'ISDE Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage;
2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



## Online Resources

### How do I survey my location for Wi-Fi 2.4GHz to check for heavily used channels?

Survey of a location is performed with a Wi-Fi Analyzer – One example is the FREE Net Spot application, available here (<https://www.netspotapp.com/wlan-wifi-analyzer.html>) Net Spot has a beautiful, easy-to-use interface, and is suitable for both beginners and experienced network administrators.

The Net Spot app runs on Windows, Mac, Android, iOS providing you with a visual representation of what Wi-Fi channels are in use and the relative strength of each signal. The more sources sending a Wi-Fi signal out over a single channel, the less desirable that channel is for use because the other signals will cause interference with Erika. Erika will automatically block out channels with heavy interference, it is preferred to have as many channels available for Erika.

Another option to provide more Wi-Fi channels for Erika, is to move your local Wi-Fi network up to the 5GHz band, turning off the 2.4GHz transmission. The Net Spot application does operate on the 5GHz channels as well, so you can see how populated those channels are.

Some other Wi-Fi analyzers available (found through Internet search, Apple App, or Google Play stores) include

InSSIDer – <https://www.metageek.com>

NetCut – <https://arcai.com>

Vistumbler – <https://www.vistumbler.net> – Windows only

WiFi Commander – <https://wifi3d.app>

Wireshark – <https://www.wireshark.org>

### Erika FAQ's

**1.** Can Erika use more than one mic with a receiver

- a. Not at this time, we are looking into the possibility of Multi-Channel receivers. Each Erika Microphone will couple with a single Erika Receiver.

**2.** Can I use more than one Erika Microphone System in a location?

- a. Yes,– As testing proves that as many as EIGHT Erika Microphones and receivers can co-exist in close Proximity! Stay tuned for further developments, we too are excited!



**3.** What is included in the Erika Box?

- a. Included with an Erika Purchase is:
  - i. One Erika Transmitter
  - ii. One Erika Receiver
  - iii. Erika QuickStart Guide
  - iv. USB-C to USB-C (Android) cable
  - v. USB-A to USB-C cable for charging Erika Mic

**4.** Is the battery replaceable?

- a. No, the battery inside is non-replaceable but it is expected to have a lifetime of many years of recharging. And a single charge is expected to last over 16 hours.

**5.** How do I recharge the Erika Battery?

- a. The Erika battery is recharged by plugging it into an Android USB-C smartphone, Laptop, computer or a USB wall charger available worldwide using an USB-A Male to USB-C cable.

**6.** What kind of microphone is used inside of Erika?

- a. Erika makes use of a Digital MEMS Microphone (short for micro-electromechanical system) Which allows for the Erika mic to be the smallest microphone on the market.

**7.** What is the range of the Erika Mic?

- a. Estimated >200 feet clear line of sight

**8.** When speaking of range, how is line of sight affected by a speaker turning around?

- a. When the speaker/mic is blocked by a human body the signal is attenuated or reduced. Which means that if the mic is at the extreme distance, it will have a higher likelihood of dropping connection. It may be able to bounce off of a wall and maintain connection but that is a case by case basis. And wall construction is different, so a wall constructed of wood studs & Drywall will act differently from a wall using metal studs and/or other covering materials.

**9.** Since there are no buttons, how do I turn on the Erika Mic System.

- a. Initially upon removing from the box. A flick on top (microphone side) of the Erika or using the PC/Mac App will wake the Erika. After this, placing the Erika horizontally with the mic facing down will turn the mic off, conserving power. Just pick it up, and install it in a vertical reference and it will remain on and connected.

**10.** Can I use Erika with my smartphone or tablet?

- a. Erika system currently will connect ONLY to Android OS 10 smartphones and tablets. iOS support is under development.

**11.** How can I tell the battery charge status on the Erika Mic?

- a. On the PC/Mac app there will be a readout of approximate number of hours left on the battery. Also, the Erika Mic will turn the LED green for a moment after starting if the minimum Battery life setting in the PC/Mac app is met, it will be red if minimum battery life is not met, so that it is known that it needs to be charged.
- b. When the Erika Mic battery reaches approximately 30 minutes of life left, the Mic (Receiver-in development) will flash its LED Yellow (Red-Green-mix), and repeat to let you know the mic needs to be charged.

**12.** Will I still need assistance with putting on the Mic, like with most wireless mic's and their body packs currently in use?

- a. No, the Erika mic is easily placed or hidden from view on the speaker. If you have a necklace, it can magnetically attach to the necklace, or use our separate magnet to attach to your clothing. With the Erika mic, no assistance is ever needed again. It can be easily hidden behind a lapel or in a pocket vertically with no effect on audio. And if the Erika mic needs to be transferred to another speaker, it is very quick and easy to remove from one person and given to the next person to attach.



