# Bluetooth®

Projection Keyboard

# Epic*
User Guide

## Safety Precautions

1. Avoid exposing this product to direct sunlight for extended periods of time, and keep it away from heat sources.
2. There is a risk of malfunction if product is used in places where sudden or extreme temperature changes occur.
3. Applying excessive force or impact to this product may result in product damage, and will void warranty.
4. To ensure safety and prevent damage, use only the dedicated Micro-USB to USB cable supplied with this product.
5. Never attempt to disassemble or service this product yourself. Doing so can result in electrical shock and void warranty.
6. This is a Class 1 Laser product. For your safety, please do not stare directly into the laser source. Doing so could damage your eyes.

7. Avoid placing any object within the space between main unit and laser projection keyboard layout.
8. Please do not use this product on uneven or irregular surfaces. Place the product on a flat surface. Avoid table or surface that is reflective, such as glass or mirror.

## FCC Compliance Information
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 to another device.
2. This device must accept any interference received, including interference that may cause undesired operation.

## FCC Class Notice
This equipment has been tested and found to comply within the limits for a Class B digital device, pursuant to Part15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment.
This equipment generates, uses, and radiates 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 with special installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one of the following measures:
- Reorient or relocate the receiving antenna.
- Increase separation between the equipment and receiver.

- Connect the equipment to an outlet on a circuit different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician.

## FCC Caution
Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## CE Caution
Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

## Industry Canada Statement
This device complies with Industry Canada license- exempt RSS standard(s).
Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

## IEC-60825-1 Caution
Use of control or adjustments or performances of procedures other than those specified here in may result in hazardous radiation exposure.

### RF Exposure Information
The antenna used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

### Caution:
1. Battery may explode if replaced with an incompatible battery. Dispose the used batteries according to the instructions.
"This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter."
2. Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be touched during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit.

## Certification

| | | |
|---|---|---|
| IC No : KCC-CRM-CLK-Epic | FCC ID : TCLEPIC | RoHS |
| CE | TELEC No. | |
| IC No : 10Z11A-EPIC | Class 1 : IEC-60825-1 | |
| Industry Canada / Industrie Canada | CLASS 1 LASER PRODUCT | |

## Environmentally Friendly Disposal and Recycling

To protect the environment, dispose this product separately from household waste once it has reached its end of life, or take it to your local electronic waste disposal center.

### Built-in Battery

**Rechargeable Lithium-ion Polymer Battery:**
**Battery Operating Time:** Approx. 120 minutes (with continuous use)
**Capacity:** 660 mAh (Max) @ 3.7V
**Charging the Battery:** Use supplied USB cable to begin charging the battery. When charging is complete, battery status LED turns green.
**Charging Time:** Approx. 180 minutes

## Note
If you charge the battery while using the product, it may take longer to charge.
When Epic is extremely low on power, it needs to charge for up to 5 minutes before you can use it.

## Cautions
1. For Safety reasons, be sure to use only the Micro USB to USB cable specified for this product.
2. Make sure to fully charge the battery before using the product for the first time.
3. Battery charging times may vary slightly depending on the ambient temperature.
4. The battery may not be charged to 100 percent of its rated cell capacity even when the battery status LED indicates green light.
5. Using or storing the battery in high temperature, humidity and pressure environments may cause the battery to explode.
6. Since the battery is a consumable item, its storage capacity decreases gradually through charge cycles.

## Contents

## 1. Product Features
+ English QWERTY keyboard layout
+ Truly portable design: perfect for on-the-go
+ Full size key pitch and shortcut keys for ease of operation
+ Superior durability (no moving parts inside)
+ Built-in lithium-ion rechargeable battery for mobility and convenience
+ **Compatible with latest operating systems:** Windows XP/Vista/7/8 (not compatible with Windows Phone 7 and 8), iOS 4 and later (most iPhone and iPad), Android 4.0 and later, Mac OS X, Blackberry 10

## 2. Package Contents
+ Epic
+ Micro USB Cable
+ User Manual
+ Quick Start Guide

## 3. How It Works: Technology
This product emits infrared light from the lower end of the device to detect objects such as fingers. When an object passes through they are illuminated by the infrared light source, any infrared light reflecting off of an object is detected by the sensor.
Information on the position and movement of the object is then analyzed to perform the product's role as a keyboard.

**Sensitivity:** Difference in thickness, shape, and color of the user's fingers or operating environment will result in differences in the amount of reflected infrared light.
Please adjust sensitivity that best suits your environment.

Refer to "Section 6: Making Adjustments" on how to adjust sensitivity.

### Conditions to Avoid:
1. Avoid direct sunlight.
2. Avoid low color temperature light source, such as tungsten, halogen, or incandescent lamp.
3. Avoid uneven or irregular surfaces. Place the product on flat surfaces.
**when using Epic on slanted surfaces such as an airplane tray table, please note that device and/or projected keyboard layout may shift.
4. Avoid a table or surface that is as transparent or reflective as glass or mirror.
5. Avoid placing any objects within the space between the main unit and the laser projected keyboard layout.

### Note
Because this product uses infrared rays, strong infrared radiation from direct or reflected sunlight or from tungsten (halogen or incandescent) lighting may cause operating error.

### Caution
Although this equipment is classified as Class 1 Laser product, for your safety, do not directly expose your eyes to pattern projection beams or infrared rays.
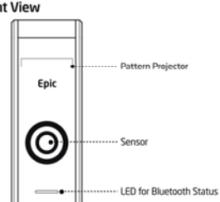
## 4. Identifying Parts
(1) Pattern Projector: laser projects an image of keyboard pattern onto a flat surface in front of the typist.
(2) Sensor: detects reflection of infrared and triangulates the location to determine a keystroke.
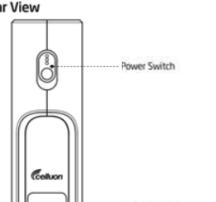(3) IR: emits an invisible plane of light to blanket operational area.

### LED Indicator

| Battery | | Bluetooth HID | |
|---|---|---|---|
| | Lower LED | | Upper LED |
| Charging | Red | Searching last device | Blue ( Blinking ) |
| Full | Green | Searching new device | Blue ( Blinking ) |
| Low | Red ( Blinking ) | Successful pairing | Blue |
| | | Disconnected | Blue ( Blinking ) |

### Front View
Epic
Pattern Projector
Sensor
LED for Bluetooth Status
LED for Charging Status
IR Light

### Rear View
Power Switch
Twining Switch
Micro USB connector for charging

## 5. Connecting Epic
Epic pairs via Bluetooth.
- **Compatible with any Bluetooth HID devices:**
iOS 4 and later (most iPhone and iPad)
Android 4.0 or later
Windows XP/Vista/7/8
Mac OS X
Blackberry 10
PS3

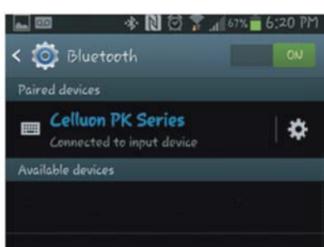** Pass code is not required for Bluetooth HID connection.

## Bluetooth connection instructions for iOS/Android/Windows
1. Power on Epic.
2. On primary device, go to Bluetooth setting: search for Bluetooth devices.
3. When the device discovers "Celluon PK Series", tap to connect.
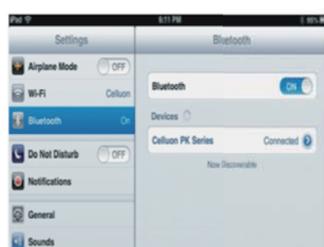4. Solid blue LED indicates successful pairing.

### Enabling Pairing Mode
1. Turn on Epic.
2. Locate pairing switch ( refer to illustration on page 15 ).
3. Press and hold pairing switch for about 2 seconds.
4. Pair with device.

Screen shot of successful pairing on Android

Screen shot of successful pairing on iOS

## 6. Making Adjustments

### Sound Feedback Adjustment
+ There are total of 5 levels; sound level remains as adjusted when device is turned off and on.
+ To increase sound level : Tap and hold "FN" key and tap UP arrow key.
+ To decrease sound level : Tap and hold "FN" key and tap DOWN arrow key.

### Projection Brightness Adjustment
+ There are total of 5 brightness levels.
+ To increase brightness : Tap and hold "FN" key and tap RIGHT arrow key.
+ To lower brightness : Tap and hold "FN" key and tap LEFT arrow key.

### Sensitivity Adjustment
+ To increase sensitivity : Tap and hold "FN" key and tap ">." key.
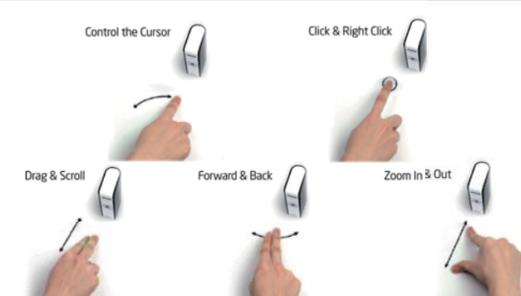+ To lower sensitivity : Tap and hold "FN" key and tap "<." key.

**Note :** All adjustments must be repeated for each level.

### Power Saving Mode
+ Tap and hold "FN" and tap "BACK" key to disable laser projection.
+ To turn on laser projection, tap the operational area with 3 fingers (fingers must be separated).

### Multi-Touch Mouse Mode
+ Multi-touch mouse function is only available on devices that support such feature (windows 7 and later, Mac OS).
+ Mouse/cursor function is available on devices that support such feature (Most Windows, Android and Mac OS).

**Note :** iOS devices do not support mouse function.

1. From keyboard mode, press and hold "FN" and tap on cursor button, located adjacent to space bar to switch to mouse function. Blinking LED indicates mouse mode.
2. Tap on cursor key to switch back to keyboard mode. Solid LED indicates keyboard mode.

Control the Cursor
Click & Right Click
Drag & Scroll
Forward & Back
Zoom In & Out

## 7. Specification
### Pattern Projector

| Item | Specification |
|---|---|
| Light Source | Red Laser Diode |
| Keyboard Layout | Approx. 19mm Pitch, QWERTY Layout |
| Keyboard Size | Approx. Width : 240mm, Height : 100mm |
| Keyboard Location | Approx. 100mm from the bottom of device |
| Projection Surface | Flat, opaque surface |

| Item | Specification |
|---|---|
| Recognition Rate | Approx. up to 350 characters per minute |
| Operating Surface | Any firm flat surface |

### Electrical Characteristics

| Item | Specification |
|---|---|
| External Power Supply | USB Power / less than 5V 500nA |
| Battery & Capacity | Lithium-ion Polymer Battery, 660 mAh (MAX) @3.7V |
| Battery Operating Time | Approx. 120min |
| Battery Charging Time | Approx. 180min |
| Bluetooth | V3.0(class2), HID Profile Ver 1.0 |
| Frequency Range | 2402-2480Mhz |
| Channel | 79 |
| Modulation | GFSK |

### Environmental Conditions

| Item | Specification |
|---|---|
| Operating Temperature | 0~35℃/90%RH |
| Storage Temperature | -5~35℃~90%RH |

### Dimensions and Specifications

| Item | Specification |
|---|---|
| Size (mm) | 70mm x 20mm x 35mm |
| Weight (g) | Approx. 60g |

**MEMO**