

# Edgerton User's Manual

## Description

This is a user's manual manual for Edgerton, the High-Speed LED Flash. The User Interface (UI)

For a complete overview of Edgerton, please visit <https://gerritsendesign.wordpress.com>.

## Batteries

For Edgerton Classic, eight AA batteries are required (8.8 – 12 V). Both alkaline and rechargeable batteries are suitable.

## Calibration

Before using Edgerton, a calibration must be performed. The calibration procedure is described in the assembly manual. DO NOT use Edgerton prior to calibration.

## Usage

### Settings

When Edgerton is turned on, the settings are displayed. There are two settings:

- Flash duration (0.5us, 1us, 2us, 4us)
- Trigger delay (no units will be displayed). The colon acts as a decimal point, making the shortest delay 0.05 milliseconds (50 microseconds).

The settings can be adjusted by turning the encoder. To switch between settings, click the encoder.

### Triggering

The trigger port accepts a 3.5mm jack. The trigger behaves similar to a typical hotshoe-style camera flash: the 3.5mm plug base is grounded and the tip is held high by a pullup resistor. When the state of the trigger changes, the unit will sound a high- or low- frequency chirp to indicate the change. Once in standby mode, the unit will trigger on a change in trigger state (low to high or high to low).

If a delay setting of 0 is selected, the unit will fire within microseconds of a trigger. If a delay greater than 0 is selected, the trigger will start timer and delay until the desired number of milliseconds have elapsed before strobing.

## Charging & Strobing

Once the appropriate settings are selected, the flash can be charged by holding the encoder until a chime is heard. The capacitor voltage will be displayed during charging, which typically takes a couple seconds. When charging is complete, the unit will sound a second chime and the display will turn off.

While the capacitors are charged, the high-voltage converter will be active. This consumes a significant amount of energy from the batteries. To turn the converter off and return to the settings menu, simply press the encoder.

## Troubleshooting

If the flash displays an error code (such as 'E01'), please refer to the chart below.

| <b>ERROR CODE</b> | <b>DESCRIPTION</b>      | <b>SOLUTION</b>                              |
|-------------------|-------------------------|--|
| E01               | Low Input Voltage       | Replace batteries                            |
| E02               | Capacitors Not Charging | Replace batteries, check internal components |