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 (milliseconds, no units will be displayed)

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. Edgerton responds to the jack differently based on the delay setting selected. If a delay setting of 0 is selected, the unit will fire within microseconds of a trigger. 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. Shorting the tip to the base will trigger the flash.

If a delay greater than 0 is selected, the trigger behaviour is inverted: the flash will not trigger while the tip is shorted to the base. Once connection between the tip and base are opened, the flash will start a 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.

ERROR CODE	DESCRIPTION	SOLUTION
E01	Low Input Voltage	Replace batteries
E02	Capacitors Not Charging	Replace batteries, check internal components