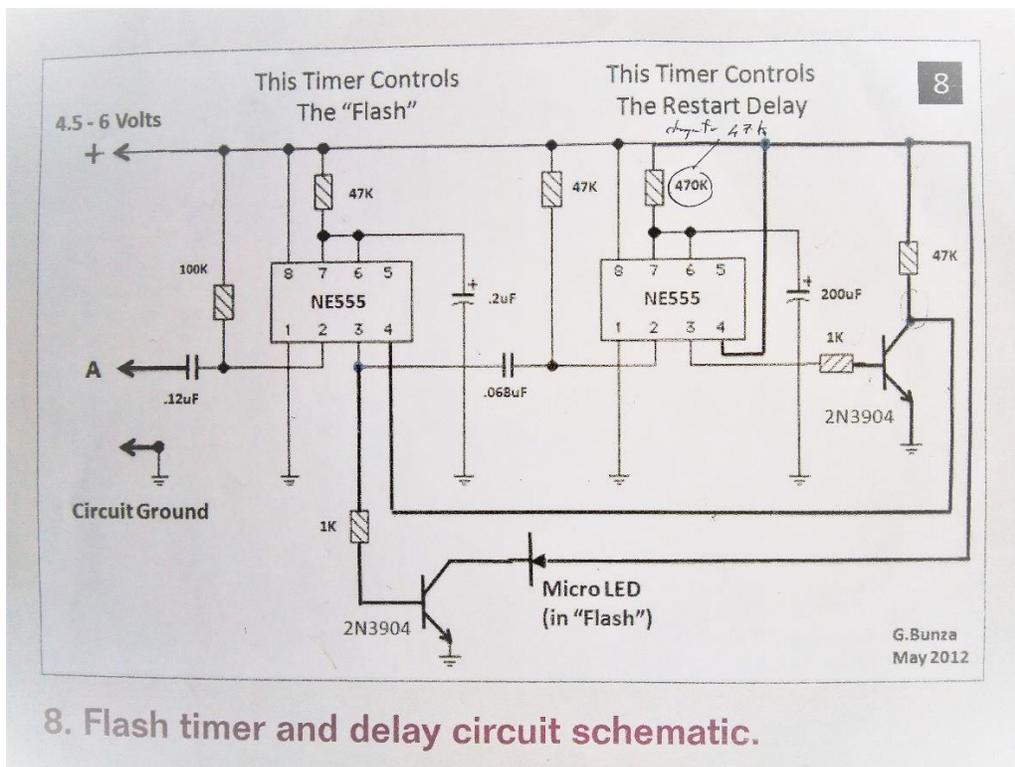


+Remote Activated Camera Flash

For several months I have been looking for a circuit that would simulate a camera flash and eventually found an article in an issue of Model Railroad Hobbyist magazine when searching the web. Whilst I have also recently found modules that can perform the same function, they can be expensive and do not provide the learning opportunity. Although in recent years I have built circuits where connections on strip board were clearly shown it has been many years since I have constructed a circuit directly from a circuit diagram. Recalling the saying nothing ventured nothing gained I set about planning the layout of the circuit on strip board. For those individuals that have been designing and building circuits over the years I am certain that it would be possible for them to reduce the size of strip board used and improve on the quality of soldering. When I tested the circuit on breadboard it did not operate but after changing the value of a resistor to pin 7 of the second 555IC from 470k to 47k the flash operated, leading me to the conclusion the value of the resistor in the circuit diagram had been wrong.

Circuit Diagram

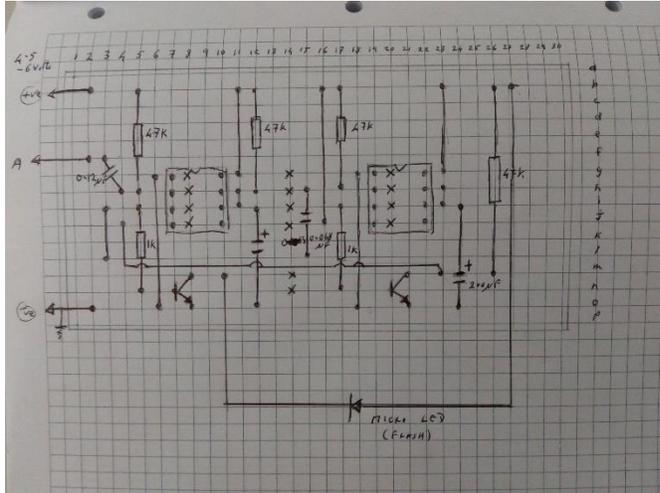


Source: Model Railroad Hobbyist magazine, July 2013, Dr Geoff Bunze

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Strip Board Layout

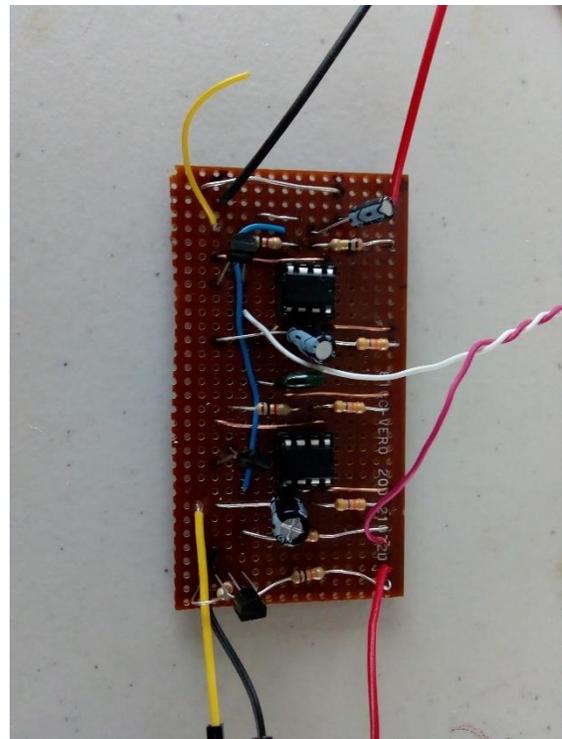
The drawing below shows my attempt at producing the layout for strip board and whilst it is not of a high standard, I was able to use this to guide me in placing the components in the correct place for soldering



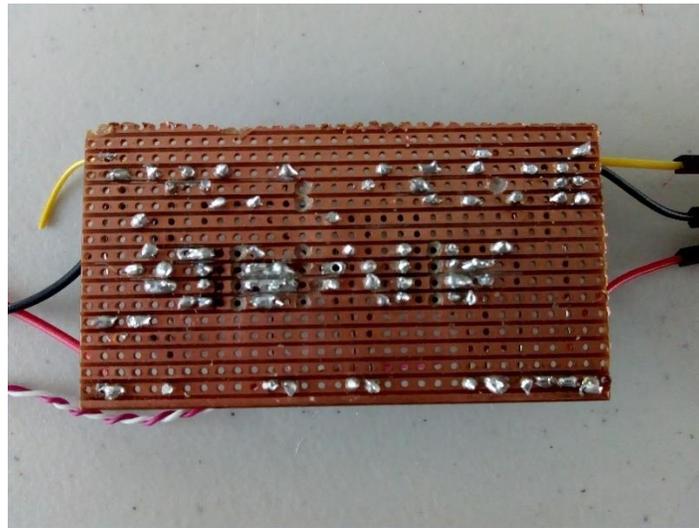
Circuit Board

Initially I connected a push button switch between A- output and circuit ground to trigger the flash although there are several other methods that could be used.

Top view of strip board



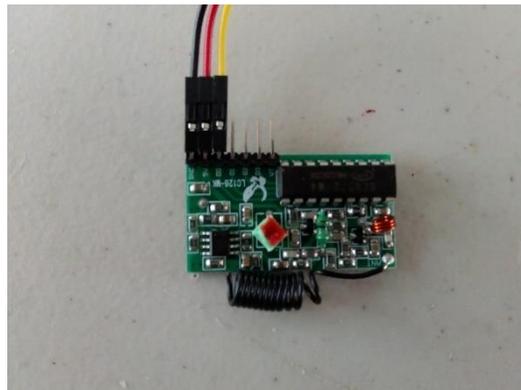
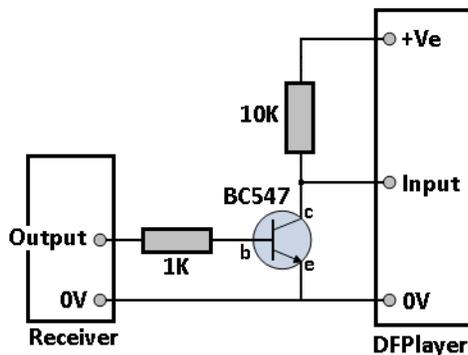
Bottom view of strip board



For the photographer camera flash I used a bright white Microlitz LED with a 1k resistor and for the camera van I used a 3mm bright white LED 6v, no resistor fitted. I connected both LEDs in parallel, using a quick fix connector block, which means they are currently triggered at the same time. Not a major issue if placed at distance on a layout, although a separate circuit could be built for each. A future option might be to explore linking with the Event Sequencer Kit PMP26 .

Remote Operation

Then I remembered the remote keyfob I had purchased at one of the MERG meetings. Not being sure how to connect the receiver to the circuit or whether it would work I contacted Davy Dick. Davy advised that the flash appears to be set off by the input being brought down to 0V. The keyfob receiver goes high when activated; he suggested an addition to the original circuit - an inverter. Note the top and bottom views of the strip board include the addition of the inverter.



Power Supply

I opted for a switched battery box with 2.1mm connector plug which uses x4 AA size batteries, available from KitroniK. Cost £1.50 and 2.1mm panel socket £0.60



The photographer

The photographer and tripod were purchased as part of a set of figures from Preiser. The tripod and photographer were glued to a base which had been drilled to feed the wires from the Microlitz LED from the top. Once the LED was shown to operate it was then glued to the top of the tripod using super glue, taking care that the LED was facing forward.

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The Camera Van

An Oxford 1:76 scale van was used to accommodate a 3mm LED. After taking the vehicle apart a hole was drilled in the side panel of the van and two holes drilled in the interior plastic insert which were used to separate anode and cathode and allow the LED to be positioned inside the van.. With the leads soldered to the LED another hole was drilled to allow the wires to be passed through and out beside the rear wheel arch. The sides of the LED were painted to prevent any stray light.

Click [HERE](#) for Video

Fred Cullum

August 2020

List of Components, etc.

Resistors: 1k (x4), 10k (x1), 47k (x4), 100k (x1)

Capacitors: 0.12uF (x1), 0.2uF (x1), 0.068uF (x1), 200uF (x1)

IC: NE555 (x2)

Transistors: 2N3904 (x2), BC547 (x1)

Strip board

LED Microlitz Cool white (x1)

LED 3mm Cool white (x1)

Receiver and transmitter keyfob

Battery box and switch with 2.1mm plug

Panel mount connector socket 2.1mm

Wire, connector leads, figures and van, batteries