

# LED flasher checks fiber-optic strands

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The circuit in **Figure 1** allows you to verify fiber-optic strands, especially in cases in which a link goes through several patch panels. It uses two high-intensity LEDs that you can see at the far end. The flasher shuts itself off after about 50 minutes and has minuscule power drain when off. The circuit works on multimode fiber at dis-

tances greater than 1 km. It also works with single-mode fiber, but is more difficult to see on the receiving end. With short fiber, it is best to look at the far end at a slight angle due to the LED brightness.

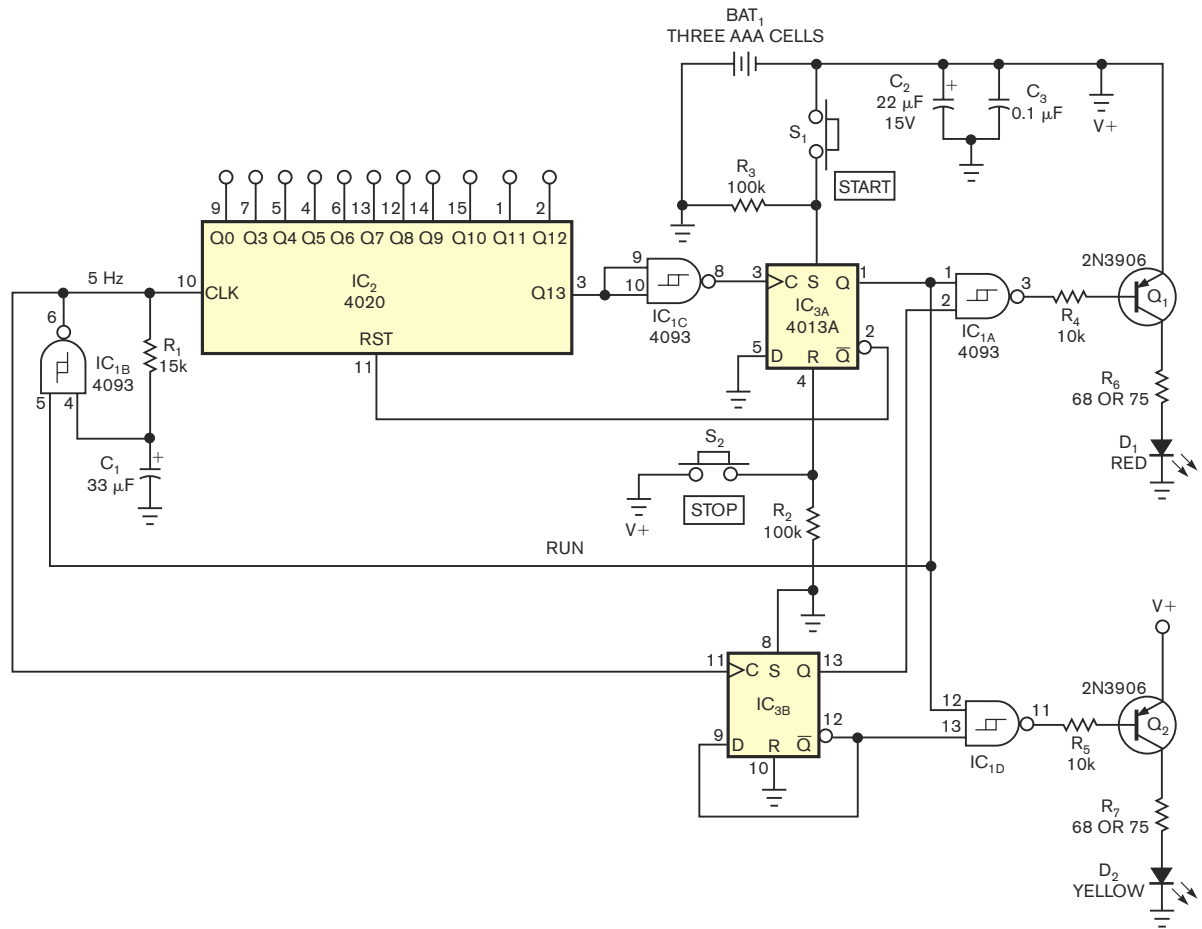
IC<sub>1B</sub>, a Schmitt-trigger oscillator running at approximately 5 Hz, drives IC<sub>2</sub>, a 4020 binary divider. IC<sub>3A</sub> is the

control flip-flop. Pressing pushbutton switch S<sub>1</sub> sets the flip-flop, which starts the oscillator and enables the 4020 to start counting from its all-zero state. It also enables gates IC<sub>1A</sub> and IC<sub>1D</sub>, which control the PNP LED-driver transistors. Pressing pushbutton switch S<sub>2</sub> resets the control flip-flop; alternatively, the 4020 reaches the end of its count sequence, resetting the flip-flop. IC<sub>3B</sub> divides the oscillator frequency by two to provide a 50% duty cycle to the LED drivers. The T1-¾ LEDs fit nicely into ST barrel connectors with some glue

to hold them in place. You can use a patch cable to match the fiber connectors in your network. Using a yellow LED works, considering the fiber at-

tenuation. If you choose to use two red LEDs, however, then drive one of the LEDs at the oscillator frequency and drive the other at half the oscillator

frequency. The component values and placement are not critical; the circuit in **Figure 1** resides in an old, surface-mount fiber-outlet box. **EDN**



**Figure 1** This circuit allows you to verify fiber-optic strands when a link goes through several patch panels.