Rangefinder LED with Tilt Activated On/Off
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Overview

The rangefinder LED board will fit inside a hollow rangefinder head. It has 2 ultra bright red LEDs to fit on top of the rangefinder. It also includes a third LED to illuminate the back side of the viewfinder.

Here is a pic of the unit:
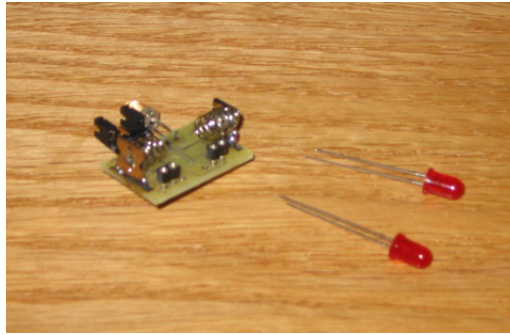
The tilt switch is installed so when the unit is on its side it will come on automatically. The unit can run off 2 or 3 watch batteries (model 357). There are also 4 different sequencing/pinging modes on the board.

LED hookup

Our new version of the LED unit has sockets for the red LEDs. This allows you to trim the LED leads to the size you need, then reinsert the LEDs in the sockets for easy installation.

Note: the positive "+" signs are printed on the circuit board next to each red LED socket. The longer leg of the red LED is the "+" side and goes into this side of the socket.

LED polarity
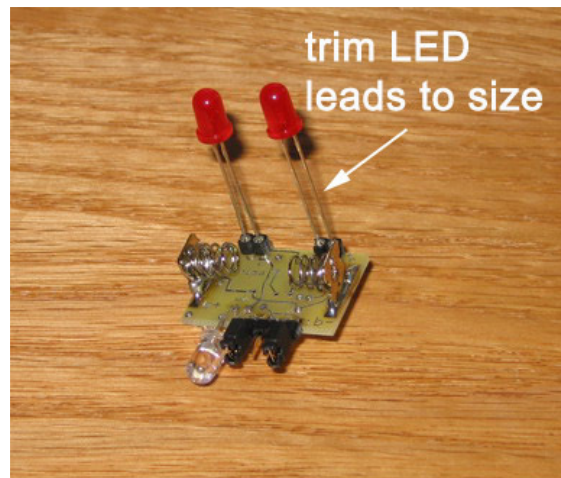
The included LEDs are super bright red 5mm LEDs. You can replace them with any color LEDs that will work off 4V. This includes yellow, green and some lower power blue LEDs.

Battery hookup

The battery springs are already connected to the board for easy hookup. Stack the three 357 batteries together (one after another) and *tape them together with some electrical tape*. The flat (+) end of the battery stack goes on the spring nearest the white LED. The circuit board also has a "b+" printed on it to denote the battery positive side, and a "b-" to denote the battery negative side. See the below picture for reference.
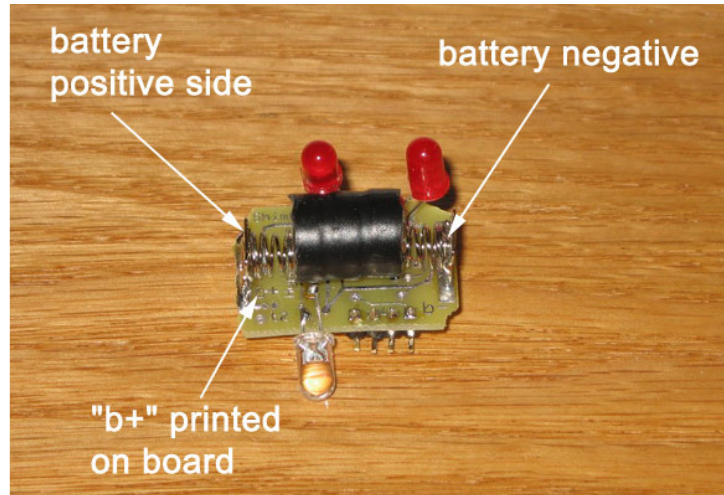
Mode selection

When the board powers up, it selects its sequencing mode based on the jumpers placed on the header on the board. The header has 4 pins, and the jumpers can be placed in one of 4 configurations.
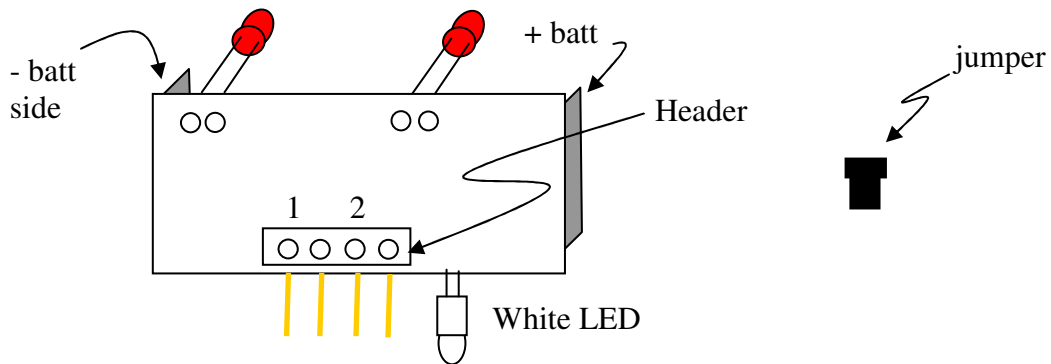
The header is shown in the above picture. 2 pins are labeled "1" and the other 2 pins are labeled "2. Use the included jumper connectors to choose the mode you want by shorting the pins per the below diagram.

NOTE: you can also hook these pins up to switches if you want to be able to change the mode without opening up the RF head and changing connector locations.

Mode summary   (● = connector over header pin)

ESB pinging LED sequence (no connectors)

Wigwag LED sequence

| ● ● ○ ○ | Random LED sequence 1 |

| ● ● ● ● | Random LED sequence 2 (both connectors) |

Tilt switch

The tilt switch is the metal can on the board. When upright, the switch turns on and supplies power to the circuit. Do not crush or break open this can as it contains mercury! You can replace this switch with a different switch if you like. The switch can be a momentary switch, mercury glass tilt switch, SPST, etc.
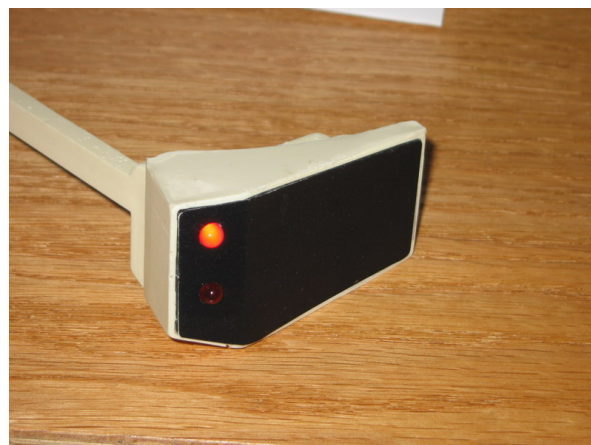
Install

To install the board in your RF, drill 2 holes for the top red LEDs and install the board. You can hot glue the red LEDs to the top lid of the RF to keep it more secure. Make sure batteries do not rub up against the inside of the RF lid. If the board is not coming on, make sure the tilt switch is at an angle off the board (45 degress is optimal).

Here is the board laying down on the inside of the RF lid. The batteries should conveniently fit between the 2 ridges. You can bend the LED legs if they are still too long, this should give you some flexibility in fitting the board and LEDs flush.

Also make sure the tilt switch doesn't push up against any circuit board traces. This could cause the board to behave unpredictably. You can use a small amount of heat shrink or electrical tape and wrap the tilt switch casing if this becomes an issue.
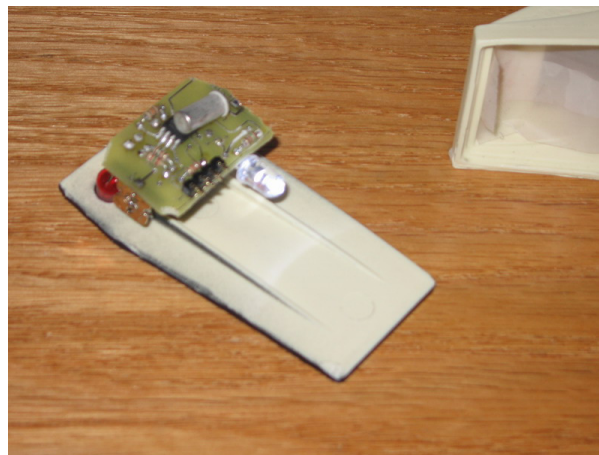
Here is a pic of a finished RF with a board installed:

You can bend the white LED to shine down in the hollow viewing area to backlight the inside of the RF shell!
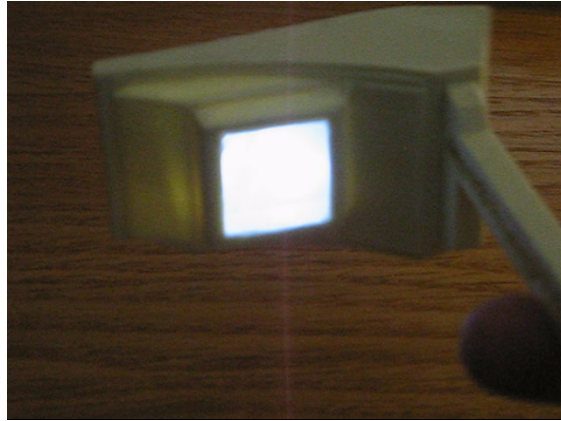
Here is an install into a "SingleSeat" RF version. You might have to play with the white LED and header pins to make it fit with the clear piece.

NOTE: You can snip the header pins if you don't need to change pinging modes. You can always just short out the pads on the circuit board to change pinging modes later on.

Good luck and enjoy!