

LRG2/3 Pulsed Infra Red Laser Operating Instructions 810

This laser can be used with a suitable detector such as our PGD70 series

All New 3 Volt Pulsed 10 Watt 904 nm Laser

Intended for long-range laser beam home and property alarm systems, target illumination, long-range optical control, covert signaling, etc. Special circuit allows extended operating time from conventional batteries and is very compatible for solar powering.



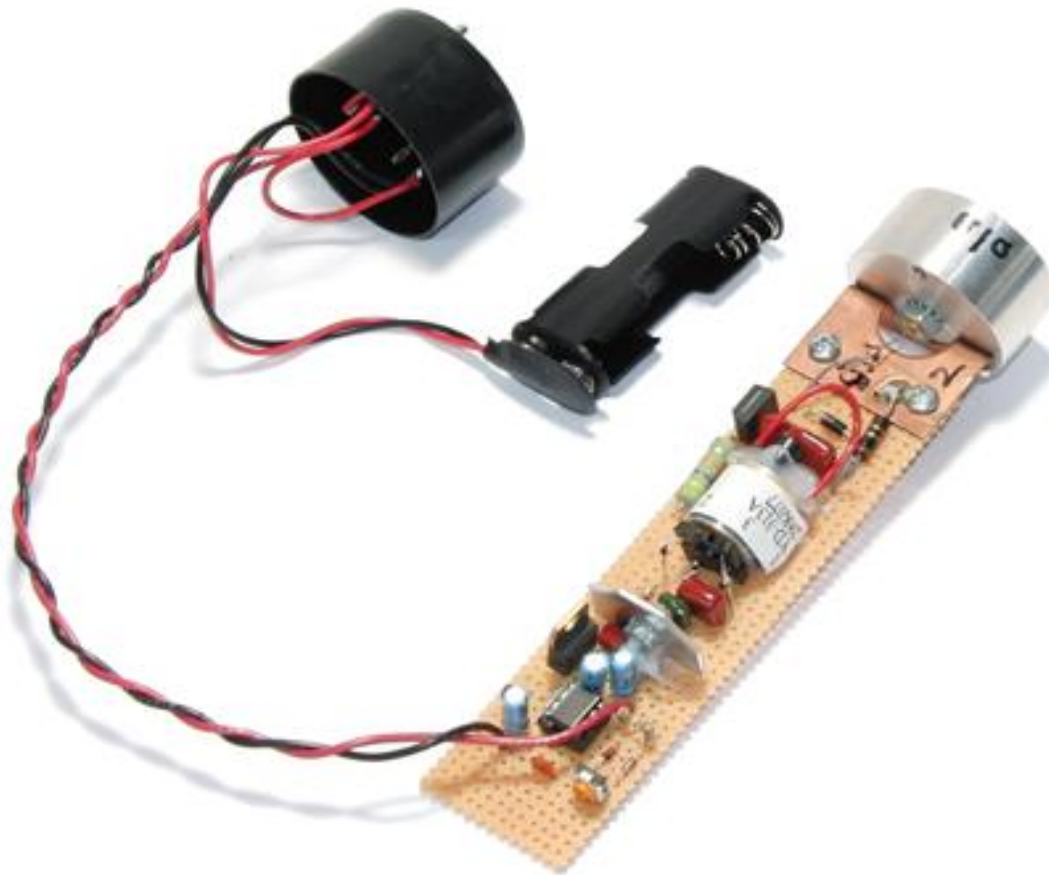
Unique circuit produces 200 nanosecond pulses/sec at a peak power of 10 watts. This invisible infra red laser power is at 904 nm. And are adjustable in repetition rate of 10 to 250 pps.

These pulses are highly suitable for long range detection yet only require 30 milliwatts of input power when set at a 10 pps rep rate. The current drawn from a 3 volt battery is only 30 ma! Pulses are stable for all ranges of input voltages from 3 to 6 volts. Pulse rate may be set to 200+ pulses/sec but will draw more power.

This feature makes this laser a great candidate for solar powering using a small cell such as that used in a solar powered accent lamps selling for less than \$20.00.

Laser is housed in a 1.5" telescoping enclosure that extends to 15" with collimating lens. Out pulses can be detected and processed into a controlling relay using out [PGD70](#) high speed optical detector providing an excellent property protection intrusion guard fence.

- 10 PPS: 3 Volts @ 10ma (10 watt 200ns pulses)
- 40 PPS: 3 Volts @ 40ma (10 watt 200ns pulses)
- 10 PPS: 6 Volts @ 22ma (10 watt 200ns pulses)
- 100 PPS: 6 Volts @ 130ma (10 watt 200ns pulses)

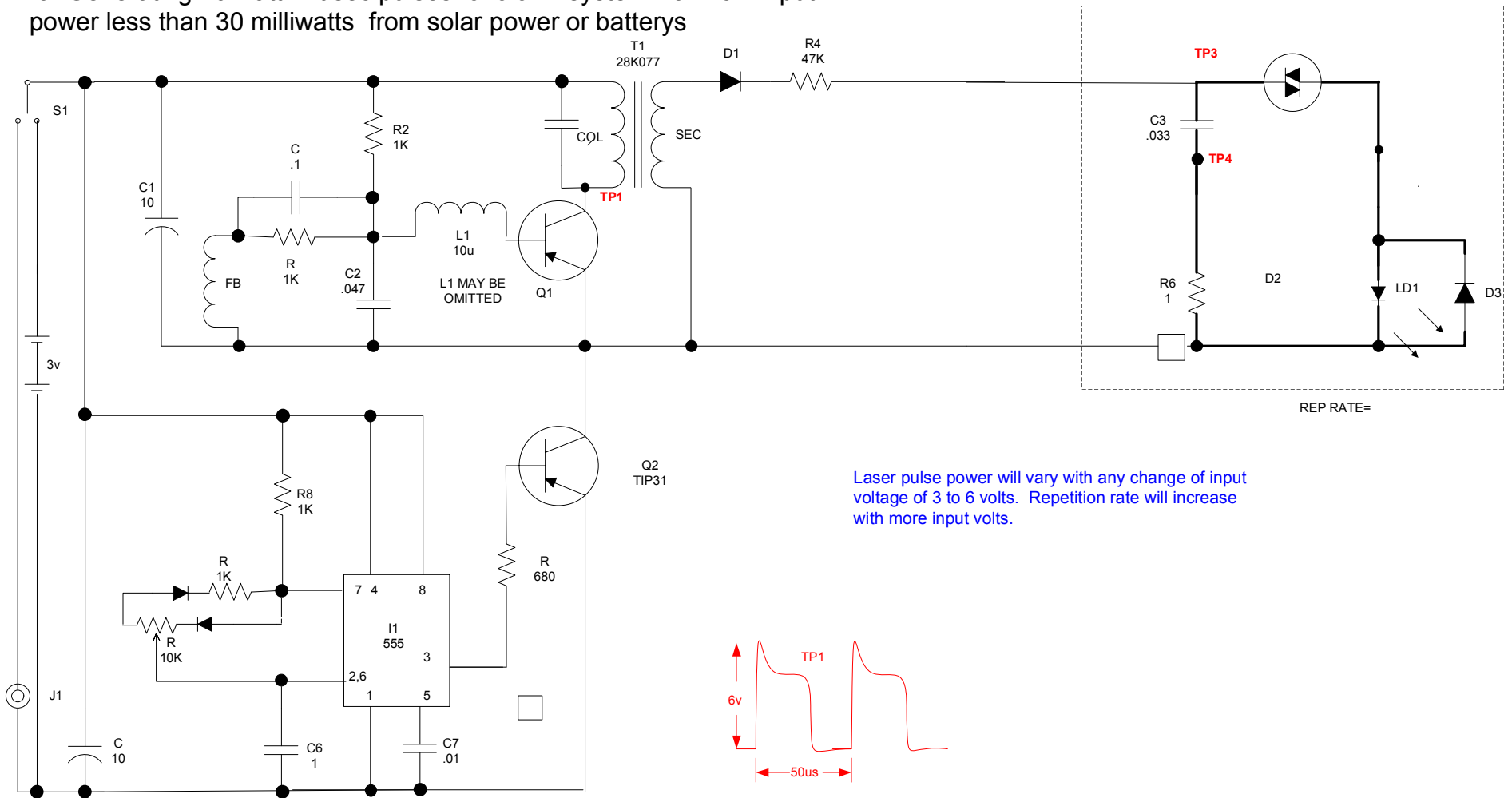


Operation steps:

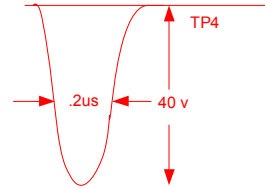
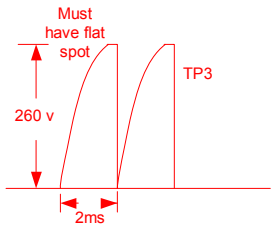
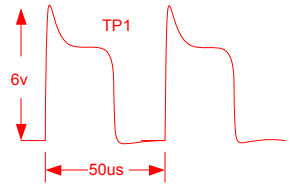
1. Slide off rear cap and pull out battery holder. Insert 2 AA cells noting proper polarity.
2. Obtain a device that will detect the 908 nm wavelength. C-MOS cameras will detect at close range, night vision scope will also work. A suggested receiver is noted in these instructions.
3. You may adjust focal length of lens by adjustment of the lens holder. You will note the three 6-32 holes for mounting to an adapter fitting for a "C" mount for fitting to a **collimator** or other optical system. You may order this part #LAHOLD1. You may contact Edmunds Optics for a collimator /beam expander
4. You will note the small orange adjustment trimpot. This simple adjustment allows you to select the pulse repetition rate from 10-40 pps. See chart in red on pulse rates
5. A test point across a 1 ohm resistor allows viewing the actual laser pulse with a 200 MHz scope.
6. Your laser may be powered by a 3 to 6 volt wall adapter. You may order our 3V/1 AMP for 115 vac operation.
7. Application for this laser can be a protective beam of invisible light that when broken by an intruder sounds an alarm.
Target designating by illuminating with infra red laser pulses
Long range optical control
Signaling
Light beam shooting gallery for firearm practice both short and long range
8. Schematics are included of the lease for those who may want to make modifications along with a detection circuit

This is an engineering prototype of our laser intended for perimeter detection, target designation and long range remote control. Please keep this circuit confidential 8/10/09

Figure 1 LRG2 3 volt Adjustable Pulse Rate Infra-red Laser Schematic for Generating 10 watt .2 usec pulses for alarm system from low input power less than 30 milliwatts from solar power or batteries



Laser pulse power will vary with any change of input voltage of 3 to 6 volts. Repetition rate will increase with more input volts.



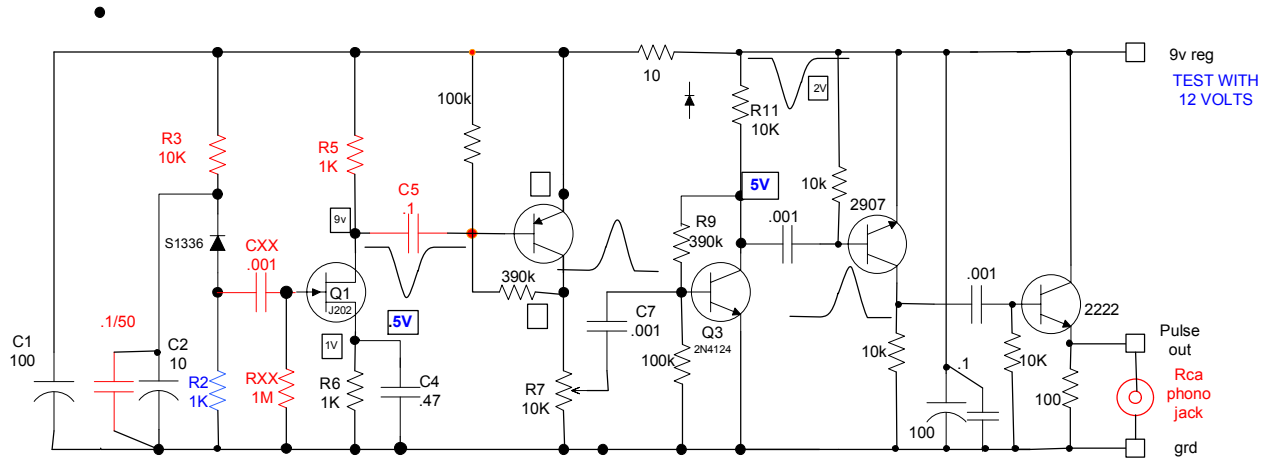
Operational Parameters PPS pulses/sec range of 10k trimpot for 3 volts and 5 volt input

3 PPS 3Volts@ 10ma.....10 watt 200ns pulses
40 PPS 3Volts@ 40ma.....10 watt 200ns pulses

10 PPS 5Volts@ 22ma.....10 watt 200ns pulses
100 PPS 5Volts@ 130ma.....10 watt 200ns pulses

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Revised NSEA High Speed Laser Pulse Detector Schematic



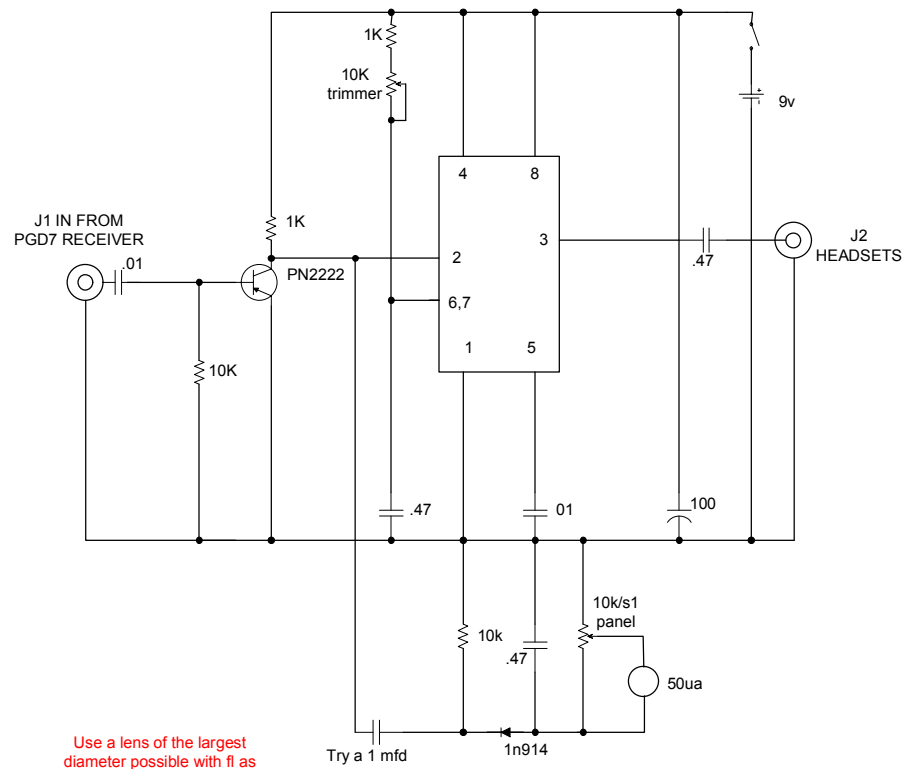
Twist these three leads

USE A PIN10
 LPIN1X.....S1223-01.....20 pfd
 HI SENS S13365BK...65 pfd

Feed back loop omitted as we run saturated for this application

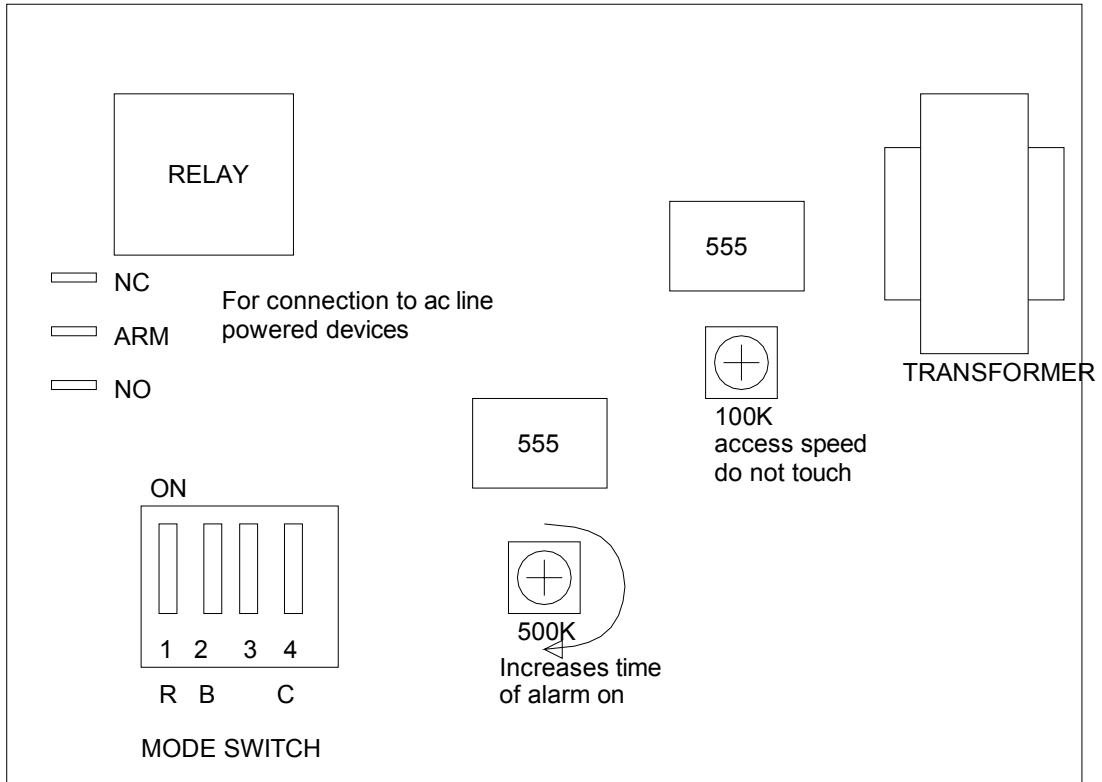
Use a lens of the largest diameter possible with fl as long as possible....F2.5

Audible Detector For Alignment Aid 1209



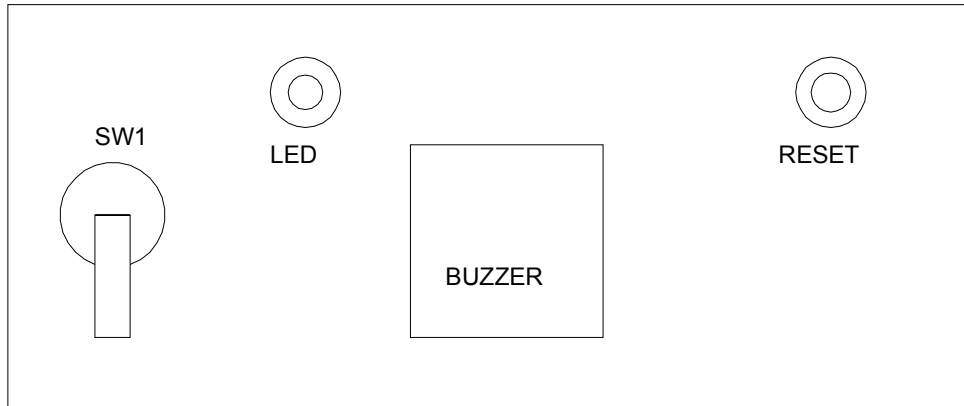
Use a lens of the largest diameter possible with fl as long as possible....F2.5

PGD7 CONTROLLER BOARD POINTS



- "R" Relay
- "B" Buzzer
- "C" Capacitor for extending alarm "on" time

PGD7 FRONT and REAR PANEL



4 prong POWER jack connects to mating plug from receiver

J1 connects to ALIGNMENT BOX