



Laser is a relative new technology first patented to Laser Technologies Inc., in 1989. Einstein theorized laser in 1917 and Theodore Maiman developed the first working laser in 1960. As with radar, it was slow to move into law enforcement's arsenal against speeders. German scientist Heinrich C. Hertz in 1887 confirmed British mathematician James Clark Maxwell's 1860 discovery of microwaves traveling at the speed of light being 186,282.4 miles per second or 32.9 round trips from Los Angeles to New York in one second. Scottish engineer Watson Watt developed the Doppler Principle, named after Austrian physicist Christian Doppler of 1842, applied to radar for World War II use in 1935.



Laser uses infrared light rather than radar's microwave. It's precise beam divergence of only 18" at 500 feet compared to an X band radar gun of 159 feet. You can't see it. It's outside the human visual spectrum of 390-780 nanometers transmitting at 904 nanometers. You can't see the infrared light from your television remote, but it's there. To get the idea, park your car 200 feet down the street from your house on a dark night. Point a laser pointer at the your car's front and then a flashlight. You'll see the laser pointer can be aimed at specific areas of your car. The flashlight, simulated radar gun, can't. It covers the entire car and then some. Law enforcement is dramatically increasing laser use. First laser guns were bulky and heavy. They couldn't be used shooting through the windshield or in inclement weather. Now, lasers are less than a pound, binocular, can be shot through the windshield and used in bad weather. Some laser's tell the operator they are being jammed and Laser Atlanta claims its Stealth Mode can't be jammed. Honolulu, HI has no radar guns, only laser. Big cities opt for laser as radar is of no use in rush hour traffic. Motor officers now swear by their laser guns. Radar detector's problem was to detect laser and give advanced notification of its use. They still can't. If you get a laser alert, you usually get a ticket. The further you are away from the laser gun, the better chances of you getting a warning. Laser is aimed at your front license plate or where it should be. First test vehicles were at the 1,000 foot cone and with laser first at the windshield three times where the detector was located and then three times at laser's aim point, the front bumper. Next, test vehicles moved to the 500 foot cone and again fired three times first at the windshield and then at the front bumper. We used the Kustom Pro Laser III set in the range mode and a LTI TruSpeed laser gun. As a benchmark, a Blinder M-25 laser counter measure was used. It has receivers and transmitters located next the front bumper. Y means the detector detected laser. N means the detector did not detect laser. r means remote. PRS STi r comes from Tiger Lily and is a combination unit with a remote Bel STi detector. Contact us at [speed@speedinglimits.com](mailto:speed@speedinglimits.com).

Detector	1000 feet		500 feet		Detector	1000 feet		500 feet	
	windshield	plate	windshield	plate		windshield	plate	windshield	plate
<b>TPX</b>	y	y	y	y	<b>Cobra XRS</b>	y	y	y	y
	y	y	y	y		y	y	Y	n
	y	y	y	y		y	n	y	n
<b>Bel RX 65</b>	y	y	y	y	<b>Bel STi</b>	y	y	y	n
	y	n	y	n		y	y	y	n
	y	n	y	n		y	n	y	n
<b>Blinder</b>	y	y	n	y	<b>Escort 9500i</b>	y	y	y	y
	y	y	n	y		y	y	y	y
	y	y	n	y		y	y	y	y
<b>PRSSTi (r)</b>	y	n	y	y	<b>Valentine One</b>	y	y	y	y
	y	n	y	n		y	y	y	y
	y	y	y	n		y	y	y	y
<b>Whistler 695</b>	y	n	y	n	<b>Cobra XRSR9G</b>	y	y	n	n
	y	y	y	n		y	y	n	n
	y	y	y	n		y	y	n	n

The laser receiver's location is critical. Blinder's laser receiver is located where the laser is aimed on the bumper. When laser is aimed at the windshield at 500 feet it did not alert. Its receiver is not there. Conversely, with laser was pointed at the detectors mounted on the windshield they alerted to laser. In many cases, with laser was aimed at the bumper, especially at 500 feet, windshield mounted detectors did not alert to laser. You must understand laser's beam width. At 1,000 feet the laser beam is 36" wide meaning many detectors reported it regardless of the laser's aiming point. At 500 feet, the laser's beam is only 18" meaning many detectors did not report it as they could not see it. The exception here was *AdaptivTechnologies TPX* as it is mounted on a motor cycle which is much smaller than a car. We tested Whistler's Laser Signature ID. We found it to be accurate when exposed to many laser guns. It correctly reported the following pulse rates: LTI 20/20-125, LTI Ultralyte LR-120, LTI TruSpeed-120, Kustom Pro II-238, Kustom Pro III-200, Kustom ProLite-200, Stalker LZ-1-130, Laser Atlanta Speedlaser-238, Laser Atlanta Stealth-70, and a hand held laser tester-360. The LSID feature eliminates laser false alerts. Only the dash mount Valentine One and Passport 9500i saw laser each time.



**Summary:** The Valentine One and the Passport 9500i were the only two detectors mounted in test vehicles to see laser transmissions each of the twelve transmissions regardless of the aiming point on the vehicle or the distance from the laser gun.